

## TFD Balun Test

Dave Typinski, AJ4CO

August, 2012

### Test Equipment

Array Solutions VNA-2180 vector network analyzer, S/N 5249  
Acer Aspire 5570Z laptop computer  
VNA software version 530D

### Device Under Test

Buxcomm 16:1 balun, P/N B15C161  
Balun #1 (Balun 1 returned as defective on 8/23/12, mfgr sent replacement)  
Balun #2  
Balun #3 (Balun 3 rec'd 8/29/12 as replacement for Balun #1)  
Buxcomm 16:1 balun, P/N B1KC161  
Balun #4 New design, rec'd 9/5/12 for test and evaluation  
Buxcomm 800  $\Omega$  resistor, P/N BTRX800  
Resistor #1 (Measured at 803  $\Omega$ )  
Resistor #2 (Measured at 803  $\Omega$ )

### Test Results Directory

Test No.	Date	Calibration File	Data File	Calibration Plane	Notes
1	8/22/12	Cal 25.acal	01- post claibration.csv †	End of 16' RG-58	Calibration sweep
2	"	"	Balun 1 Resistor 1.csv †	"	
3	"	"	Balun 1 Resistor 2.csv †	"	
4	"	"	Balun 2 Resistor 2.csv †	"	
5	"	"	Balun 2 Resistor 1.csv †	"	
6	8/29/12	"	Balun 3 Resistor 1.csv †	"	
7	"	"	Balun 3 Resistor 2.csv †	"	
8	9/7/12	"	02- post claibration.csv	End of 16' RG-58	Calibration sweep
9	"	"	Balun 4 Resistor 1.csv †	"	
10	"	"	Balun 4 Resistor 2.csv †	"	

† Indicates data plotted on following pages

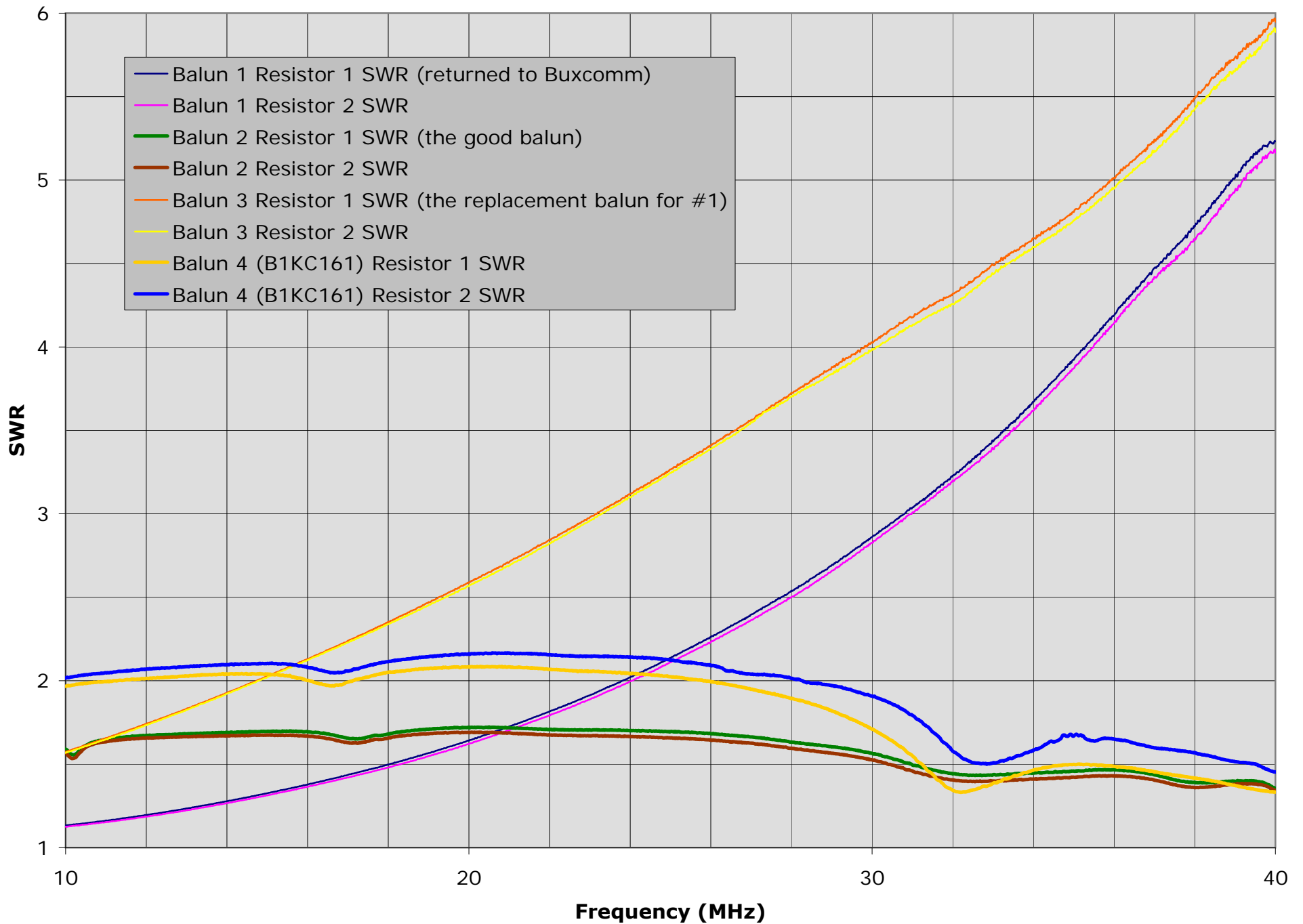


# Differences in parts?

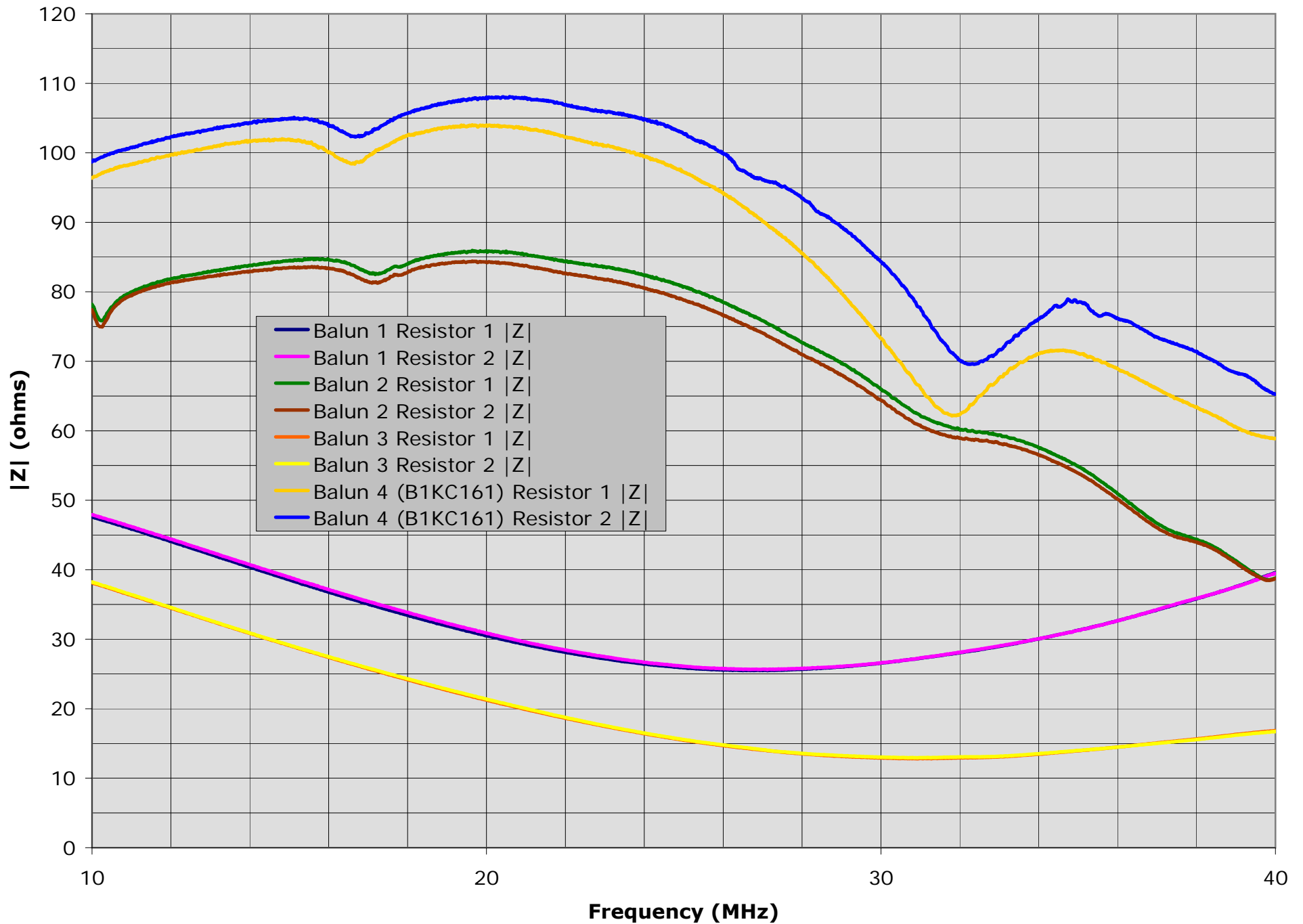




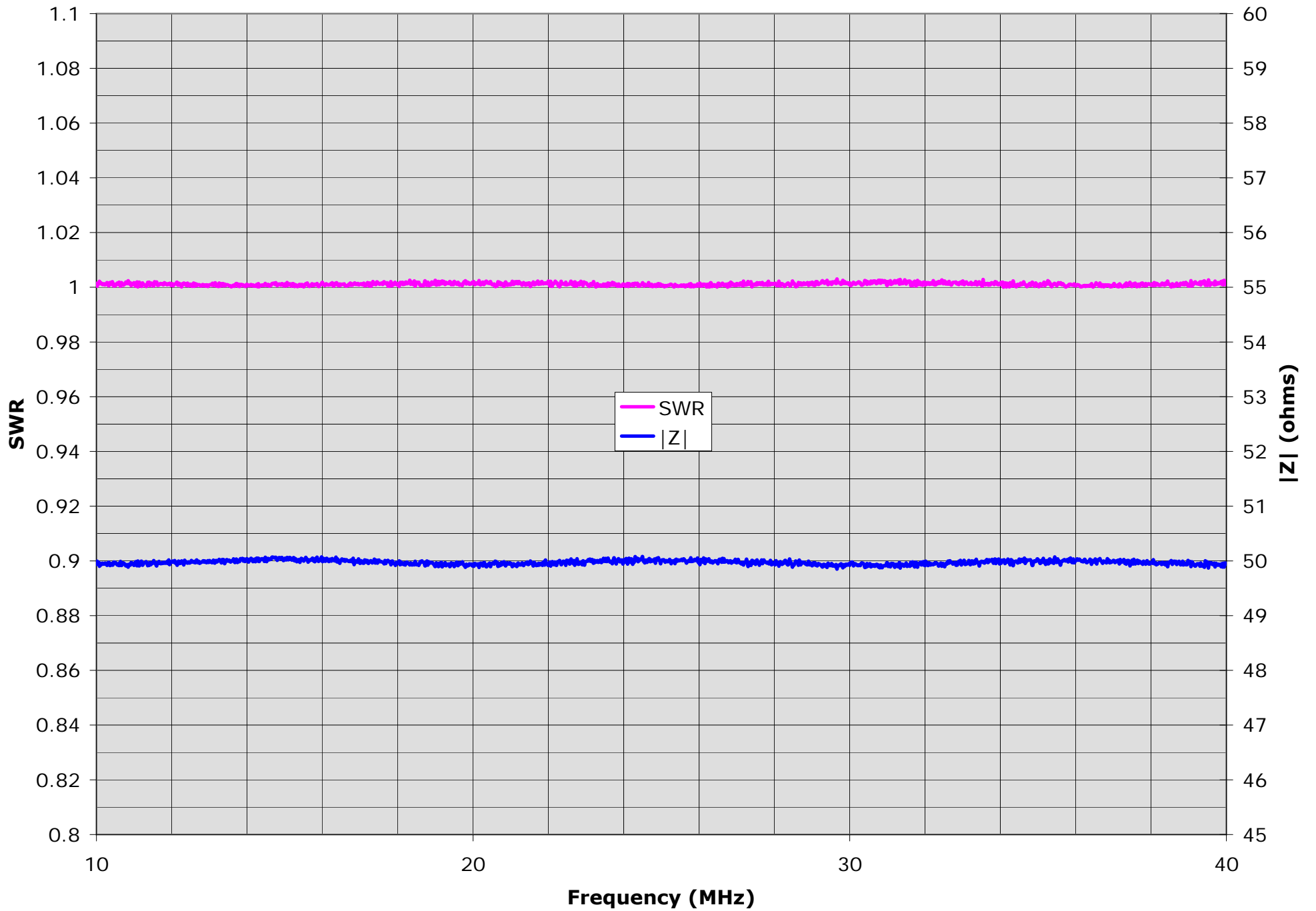
# Buxcomm B15C161 16:1 Balun & BTRX800 Resistor SWR



# Buxcomm B15C161 16:1 Balun & BTRX800 Resistor |Z|



# VNA Calibration Sweep with 50 $\Omega$ Load



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VNA version 530D

**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
10	1.001493	49.93418	-0.03495	49.934192	-0.040102	0.000746	62.548421	0.000056
10.02	1.000415	49.994365	-0.019942	49.994369	-0.022854	0.000207	73.670622	0.000004
10.04	1.001125	49.947041	0.018835	49.947045	0.021606	0.000562	64.999377	0.000032
10.06	1.001214	49.974403	0.054954	49.974433	0.063005	0.000606	64.345009	0.000037
10.08	1.002182	49.899806	0.042553	49.899824	0.04886	0.00109	59.25427	0.000119
10.1	1.001313	49.954809	0.047519	49.954831	0.054502	0.000656	63.661054	0.000043
10.12	1.0016	49.925801	0.029579	49.925809	0.033946	0.000799	61.945017	0.000064
10.14	1.001391	49.939323	0.033757	49.939335	0.038729	0.000695	63.163175	0.000048
10.16	1.000962	49.958401	-0.02411	49.958407	-0.027651	0.000481	66.356995	0.000023
10.18	1.00111	49.945407	0.009667	49.945407	0.01109	0.000555	65.11835	0.000031
10.2	1.001293	49.939493	-0.022481	49.939498	-0.025793	0.000646	63.797058	0.000042
10.22	1.000834	49.959032	0.007556	49.959032	0.008665	0.000417	67.60223	0.000017
10.24	1.000976	49.958551	-0.025676	49.958557	-0.029447	0.000488	66.235525	0.000024
10.26	1.001278	49.953074	0.043294	49.953093	0.049658	0.000639	63.893118	0.000041
10.28	1.001735	49.917193	-0.025422	49.917199	-0.02918	0.000867	61.240253	0.000075
10.3	1.001274	49.940264	0.021954	49.940269	0.025187	0.000637	63.919889	0.000041
10.32	1.00051	49.975654	0.007607	49.975655	0.008721	0.000255	71.864911	0.000007
10.34	1.000804	49.964295	0.018417	49.964298	0.021119	0.000402	67.917748	0.000016
10.36	1.001755	49.914384	0.018441	49.914388	0.021168	0.000877	61.144535	0.000077
10.38	1.001106	49.945378	-0.008192	49.945379	-0.009398	0.000553	65.151311	0.000031
10.4	1.001071	49.952667	0.024923	49.952674	0.028586	0.000535	65.429912	0.000029
10.42	1.002044	49.923362	-0.067346	49.923407	-0.077291	0.001021	59.8193	0.000104
10.44	1.001477	49.926265	0.001744	49.926265	0.002001	0.000738	62.63764	0.000054
10.46	1.000405	49.980735	0.006248	49.980735	0.007162	0.000203	73.868573	0.000004
10.48	1.001097	49.960187	-0.037651	49.960201	-0.043179	0.000548	65.221513	0.00003
10.5	1.000538	49.9745	0.00854	49.974501	0.009791	0.000269	71.405374	0.000007
10.52	1.00103	49.950192	0.012807	49.950193	0.014691	0.000515	65.771587	0.000026
10.54	1.00132	49.934321	-0.005651	49.934321	-0.006484	0.00066	63.613723	0.000044
10.56	1.001571	49.922936	0.014668	49.922938	0.016834	0.000785	62.101749	0.000062
10.58	1.000998	49.950143	-0.000264	49.950143	-0.000303	0.000499	66.041105	0.000025
10.6	1.001901	49.912702	-0.03722	49.912716	-0.042725	0.00095	60.446953	0.00009
10.62	1.001218	49.943234	0.021924	49.943238	0.025151	0.000609	64.309448	0.000037
10.64	1.000378	49.991409	-0.016814	49.991411	-0.019271	0.000189	74.478225	0.000004
10.66	1.001691	49.917777	0.019057	49.917781	0.021874	0.000845	61.465781	0.000071
10.68	1.001551	49.924227	-0.016013	49.92423	-0.018377	0.000775	62.21341	0.00006
10.7	1.000795	49.960298	0.000913	49.960298	0.001047	0.000397	68.017903	0.000016
10.72	1.00077	49.961676	-0.003544	49.961676	-0.004064	0.000385	68.290337	0.000015
10.74	1.000969	49.953065	0.011855	49.953066	0.013597	0.000484	66.297328	0.000023
10.76	1.001228	49.938795	0.003834	49.938795	0.004399	0.000614	64.241958	0.000038
10.78	1.001921	49.907577	-0.025554	49.907583	-0.029337	0.00096	60.356415	0.000092

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VNA version 530D

**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
10.8	1.001435	49.929799	-0.01444	49.929801	-0.01657	0.000717	62.887069	0.000051
10.82	1.001366	49.932024	0.005678	49.932024	0.006515	0.000683	63.316762	0.000047
10.84	1.002397	49.884378	-0.030557	49.884387	-0.035097	0.001197	58.435922	0.000143
10.86	1.001671	49.934652	-0.051847	49.934679	-0.05949	0.000835	61.569177	0.00007
10.88	1.001175	49.941467	-0.004379	49.941467	-0.005024	0.000587	64.622663	0.000034
10.9	1.0017	49.922025	-0.033425	49.922036	-0.038362	0.000849	61.421524	0.000072
10.92	1.000614	49.96941	-0.002566	49.96941	-0.002943	0.000307	70.25521	0.000009
10.94	1.000985	49.955094	0.020171	49.955098	0.023135	0.000493	66.151757	0.000024
10.96	1.001021	49.957151	0.027631	49.957158	0.03169	0.00051	65.847314	0.000026
10.98	1.001456	49.93307	-0.028433	49.933078	-0.032626	0.000728	62.761156	0.000053
11	1.001676	49.917117	-0.01127	49.917119	-0.012936	0.000837	61.543952	0.00007
11.02	1.000905	49.955393	-0.007212	49.955393	-0.008272	0.000452	66.895977	0.00002
11.04	1.000371	49.986345	0.012543	49.986347	0.014377	0.000185	74.63603	0.000003
11.06	1.000861	49.957105	-0.003414	49.957105	-0.003916	0.00043	67.320658	0.000019
11.08	1.001965	49.910042	-0.03901	49.910058	-0.044782	0.000981	60.163088	0.000096
11.1	1.000098	50.000252	0.004876	50.000252	0.005587	0.000049	86.227778	0
11.12	1.001789	49.91474	-0.026534	49.914747	-0.030458	0.000894	60.97615	0.00008
11.14	1.001845	49.90958	-0.017488	49.909583	-0.020076	0.000922	60.707363	0.000085
11.16	1.001151	49.94665	-0.021477	49.946654	-0.024637	0.000575	64.800329	0.000033
11.18	1.000912	49.992427	-0.044943	49.992447	-0.051509	0.000456	66.824481	0.000021
11.2	1.000305	49.991759	-0.01283	49.991761	-0.014705	0.000153	76.33458	0.000002
11.22	1.001583	49.922343	0.01471	49.922346	0.016883	0.000791	62.036581	0.000063
11.24	1.001318	49.935499	0.013126	49.9355	0.01506	0.000659	63.626799	0.000043
11.26	1.000885	49.957245	-0.011297	49.957246	-0.012957	0.000442	67.083463	0.00002
11.28	1.000789	49.963405	-0.01472	49.963407	-0.01688	0.000395	68.077146	0.000016
11.3	1.000846	49.975585	-0.034493	49.975597	-0.039545	0.000423	67.479432	0.000018
11.32	1.000249	49.988112	0.003752	49.988112	0.0043	0.000125	78.084519	0.000002
11.34	1.000619	49.969135	0.002332	49.969135	0.002674	0.00031	70.183359	0.00001
11.36	1.001795	49.910848	0.008806	49.910849	0.010109	0.000897	60.947489	0.00008
11.38	1.001245	49.942609	-0.023855	49.942614	-0.027367	0.000622	64.125963	0.000039
11.4	1.001873	49.914659	-0.038178	49.914674	-0.043823	0.000936	60.577194	0.000088
11.42	1.000531	49.974025	0.005356	49.974026	0.00614	0.000265	71.525955	0.000007
11.44	1.001389	49.930675	0.002241	49.930676	0.002572	0.000694	63.1717	0.000048
11.46	1.00149	49.942137	-0.046784	49.942159	-0.053673	0.000745	62.562326	0.000055
11.48	1.000816	49.959284	0.001802	49.959284	0.002067	0.000408	67.792731	0.000017
11.5	1.000836	49.958302	-0.001946	49.958302	-0.002231	0.000418	67.58457	0.000017
11.52	1.000455	50.007155	-0.021568	50.007159	-0.024712	0.000227	72.870915	0.000005
11.54	1.002003	49.961613	-0.092337	49.961699	-0.105892	0.001	59.996817	0.0001
11.56	1.001425	49.958286	-0.05766	49.958319	-0.066129	0.000712	62.950803	0.000051
11.58	1.001524	49.925731	-0.016543	49.925733	-0.018985	0.000761	62.367063	0.000058



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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
11.6	1.001934	49.907745	-0.028425	49.907753	-0.032633	0.000966	60.298269	0.000093
11.62	1.000712	49.971244	-0.020932	49.971248	-0.024	0.000356	68.976352	0.000013
11.64	1.000875	49.956358	0.00218	49.956358	0.002501	0.000437	67.187217	0.000019
11.66	1.000791	49.991401	-0.038576	49.991415	-0.044213	0.000395	68.062219	0.000016
11.68	1.001095	49.95967	-0.036983	49.959684	-0.042414	0.000547	65.233633	0.00003
11.7	1.001404	49.947873	-0.046872	49.947895	-0.053767	0.000701	63.08095	0.000049
11.72	1.001214	49.95488	-0.040472	49.954897	-0.046419	0.000606	64.345007	0.000037
11.74	1.00134	49.950597	-0.045133	49.950617	-0.05177	0.000669	63.485152	0.000045
11.76	1.000971	49.973523	-0.040663	49.97354	-0.046621	0.000485	66.278695	0.000024
11.78	1.000878	49.956236	-0.002852	49.956236	-0.003271	0.000439	67.155385	0.000019
11.8	1.00166	49.976343	-0.079456	49.976406	-0.091094	0.000829	61.6265	0.000069
11.82	1.001464	49.959487	-0.060882	49.959524	-0.069823	0.000732	62.714579	0.000054
11.84	1.001359	49.956081	-0.05175	49.956108	-0.059353	0.000679	63.362098	0.000046
11.86	1.000997	49.968841	-0.038842	49.968856	-0.044538	0.000498	66.053471	0.000025
11.88	1.000917	49.992493	-0.045221	49.992513	-0.051827	0.000458	66.774514	0.000021
11.9	1.001311	49.951398	-0.043898	49.951417	-0.050353	0.000655	63.672007	0.000043
11.92	1.001033	50.017975	-0.048394	50.017999	-0.055435	0.000516	65.744524	0.000027
11.94	1.001406	49.931139	0.013615	49.931141	0.015623	0.000702	63.068026	0.000049
11.96	1.001438	49.970261	-0.065359	49.970304	-0.07494	0.000718	62.874173	0.000052
11.98	1.000618	49.972219	-0.013494	49.97222	-0.015472	0.000309	70.202589	0.00001
12	1.000958	49.984614	-0.045322	49.984635	-0.051952	0.000479	66.398748	0.000023
12.02	1.001289	49.997583	-0.064384	49.997624	-0.073782	0.000644	63.818157	0.000042
12.04	1.000572	49.974149	-0.012156	49.97415	-0.013937	0.000286	70.880562	0.000008
12.06	1.00111	49.981503	-0.052264	49.981531	-0.059912	0.000555	65.121917	0.000031
12.08	1.00113	50.007314	-0.055996	50.007346	-0.064157	0.000565	64.964018	0.000032
12.1	1.00125	49.954043	-0.042237	49.95406	-0.048444	0.000624	64.089784	0.000039
12.12	1.001665	49.976326	-0.079717	49.976389	-0.091393	0.000832	61.599835	0.000069
12.14	1.001839	49.918666	-0.042508	49.918684	-0.04879	0.000918	60.738725	0.000084
12.16	1.000766	49.963608	-0.011784	49.96361	-0.013514	0.000383	68.343732	0.000015
12.18	1.001145	49.996947	-0.057136	49.996979	-0.065477	0.000572	64.849111	0.000033
12.2	1.001463	49.950244	-0.05353	49.950273	-0.061402	0.000731	62.719352	0.000053
12.22	1.0009	49.96951	-0.033073	49.969521	-0.037922	0.00045	66.936387	0.00002
12.24	1.001062	49.956152	-0.029835	49.956161	-0.034218	0.000531	65.504909	0.000028
12.26	1.00011	49.998725	-0.00537	49.998725	-0.006154	0.000055	85.161508	0
12.28	1.001262	49.986192	-0.061504	49.98623	-0.070498	0.00063	64.007216	0.00004
12.3	1.000956	49.972305	-0.038887	49.97232	-0.044586	0.000478	66.419768	0.000023
12.32	1.001561	49.924556	0.019477	49.92456	0.022353	0.00078	62.160785	0.000061
12.34	1.001156	50.011862	-0.056538	50.011894	-0.064772	0.000578	64.767199	0.000033
12.36	1.001286	49.978807	-0.060664	49.978844	-0.069545	0.000643	63.839489	0.000041
12.38	1.000631	49.988475	-0.029336	49.988484	-0.033624	0.000315	70.027686	0.00001

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
12.4	1.001132	49.965324	-0.044681	49.965344	-0.051236	0.000566	64.947053	0.000032
12.42	1.001481	49.959119	-0.061615	49.959157	-0.070663	0.00074	62.618488	0.000055
12.44	1.0005	49.983545	-0.018823	49.983549	-0.021576	0.00025	72.03944	0.000006
12.46	1.001013	49.961776	-0.033165	49.961787	-0.038034	0.000506	65.912586	0.000026
12.48	1.000756	49.962657	-0.005554	49.962657	-0.006369	0.000378	68.457572	0.000014
12.5	1.001161	49.971801	-0.050703	49.971826	-0.058134	0.00058	64.726481	0.000034
12.52	1.000666	50.009418	-0.03193	50.009428	-0.036582	0.000333	69.55455	0.000011
12.54	1.000343	49.986223	-0.010198	49.986224	-0.01169	0.000171	75.317971	0.000003
12.56	1.000487	49.980626	-0.014769	49.980628	-0.01693	0.000244	72.264314	0.000006
12.58	1.001582	49.97405	-0.074656	49.974106	-0.085594	0.000791	62.041122	0.000063
12.6	1.000337	49.991731	-0.014695	49.991733	-0.016842	0.000169	75.461425	0.000003
12.62	1.001195	49.964733	-0.048159	49.964757	-0.055226	0.000597	64.478686	0.000036
12.64	1.001249	49.974688	-0.057012	49.974721	-0.065365	0.000624	64.09709	0.000039
12.66	1.00051	50.01813	-0.017959	50.018133	-0.020572	0.000255	71.864267	0.000007
12.68	1.001044	49.982448	-0.049145	49.982472	-0.056336	0.000522	65.647527	0.000027
12.7	1.000872	49.966463	-0.027846	49.966471	-0.03193	0.000436	67.209321	0.000019
12.72	1.000869	49.994318	-0.043061	49.994336	-0.049349	0.000434	67.242952	0.000019
12.74	1.000929	49.95372	-0.003602	49.95372	-0.004131	0.000464	66.661923	0.000022
12.76	1.000453	49.978406	-0.006882	49.978406	-0.007889	0.000227	72.891261	0.000005
12.78	1.000627	49.970704	0.01115	49.970706	0.012785	0.000314	70.073823	0.00001
12.8	1.000533	49.980052	-0.017626	49.980055	-0.020206	0.000266	71.49425	0.000007
12.82	1.001039	49.995813	-0.051747	49.99584	-0.059303	0.000519	65.693552	0.000027
12.84	1.000571	50.003755	-0.028295	50.003763	-0.032421	0.000285	70.890396	0.000008
12.86	1.000639	49.9759	-0.020931	49.975904	-0.023997	0.000319	69.916365	0.00001
12.88	1.000814	49.999049	-0.040673	49.999066	-0.046609	0.000407	67.811444	0.000017
12.9	1.000375	49.982723	0.007304	49.982724	0.008372	0.000188	74.535261	0.000004
12.92	1.000886	49.9658	-0.028124	49.965808	-0.032249	0.000443	67.073272	0.00002
12.94	1.000789	49.977629	-0.032438	49.977639	-0.037188	0.000394	68.087187	0.000016
12.96	1.000235	50.005961	-0.010141	50.005962	-0.011619	0.000118	78.590168	0.000001
12.98	1.000745	49.969843	-0.021788	49.969848	-0.024982	0.000372	68.585537	0.000014
13	1.0008	50.006435	-0.039466	50.006451	-0.045219	0.0004	67.962141	0.000016
13.02	1.000988	49.994954	-0.049118	49.994978	-0.056291	0.000494	66.129075	0.000024
13.04	1.000861	49.989123	-0.041647	49.98914	-0.047735	0.00043	67.320715	0.000019
13.06	1.000806	49.96731	0.023493	49.967316	0.026938	0.000403	67.900578	0.000016
13.08	1.001489	49.969257	-0.067698	49.969303	-0.077624	0.000744	62.571533	0.000055
13.1	1.000643	50.012381	-0.029641	50.01239	-0.033958	0.000321	69.8648	0.00001
13.12	1.000832	50.002153	-0.04151	50.002171	-0.047564	0.000416	67.625562	0.000017
13.14	1.001559	49.958621	-0.065953	49.958665	-0.075639	0.000779	62.170259	0.000061
13.16	1.00158	49.99179	-0.07851	49.991852	-0.089981	0.000789	62.053565	0.000062
13.18	1.000416	50.009493	-0.018493	50.009496	-0.021187	0.000208	73.644956	0.000004

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
13.2	1.000931	49.978917	-0.041489	49.978934	-0.047563	0.000465	66.641842	0.000022
13.22	1.000806	50.0022	-0.040232	50.002216	-0.0461	0.000403	67.895812	0.000016
13.24	1.000231	50.002553	0.011245	50.002554	0.012885	0.000115	78.762824	0.000001
13.26	1.001565	50.028904	-0.072651	50.028957	-0.083204	0.000782	62.139539	0.000061
13.28	1.000324	49.992929	-0.014545	49.992931	-0.01667	0.000162	75.823656	0.000003
13.3	1.001335	49.996738	-0.066607	49.996783	-0.076331	0.000667	63.518881	0.000044
13.32	1.000821	49.963103	-0.017876	49.963106	-0.0205	0.00041	67.741204	0.000017
13.34	1.000558	50.026293	0.00935	50.026294	0.010709	0.000279	71.088388	0.000008
13.36	1.001375	49.998068	-0.06869	49.998115	-0.078716	0.000687	63.258587	0.000047
13.38	1.000464	50.022115	-0.006937	50.022116	-0.007946	0.000232	72.700397	0.000005
13.4	1.001181	49.949532	-0.030502	49.949541	-0.034988	0.00059	64.583084	0.000035
13.42	1.000516	49.982955	-0.019372	49.982959	-0.022206	0.000258	71.765109	0.000007
13.44	1.000915	49.989228	-0.044426	49.989248	-0.050919	0.000457	66.798276	0.000021
13.46	1.000946	50.024882	-0.040209	50.024899	-0.046053	0.000473	66.507718	0.000022
13.48	1.000947	50.002456	-0.047244	50.002479	-0.054135	0.000473	66.501534	0.000022
13.5	1.000775	49.994946	-0.038421	49.994961	-0.044032	0.000388	68.233703	0.000015
13.52	1.000575	50.015173	0.024439	50.015179	0.027996	0.000288	70.823723	0.000008
13.54	1.000589	50.005256	-0.028986	50.005265	-0.033212	0.000295	70.616162	0.000009
13.56	1.000524	49.978832	-0.015449	49.978835	-0.01771	0.000262	71.630311	0.000007
13.58	1.000119	49.995056	-0.003303	49.995056	-0.003785	0.000059	84.514818	0
13.6	1.000493	50.00127	-0.024626	50.001276	-0.028219	0.000247	72.160716	0.000006
13.62	1.000355	50.000004	-0.01774	50.000007	-0.020328	0.000177	75.021091	0.000003
13.64	1.000799	50.037499	-0.013703	50.037501	-0.01569	0.000399	67.978456	0.000016
13.66	1.000325	49.990868	-0.013422	49.99087	-0.015383	0.000162	75.790816	0.000003
13.68	1.000591	49.970764	-0.00408	49.970764	-0.004678	0.000295	70.595194	0.000009
13.7	1.001278	50.0265	-0.058132	50.026534	-0.066579	0.000639	63.89406	0.000041
13.72	1.001367	50.031202	-0.060765	50.031239	-0.069589	0.000683	63.313264	0.000047
13.74	1.00124	49.970637	-0.054563	49.970667	-0.062562	0.00062	64.154921	0.000038
13.76	1.000336	50.00354	-0.016402	50.003542	-0.018794	0.000168	75.504593	0.000003
13.78	1.001085	49.996494	-0.054082	49.996523	-0.061977	0.000542	65.320486	0.000029
13.8	1.000249	49.988479	-0.004715	49.988479	-0.005404	0.000124	78.096634	0.000002
13.82	1.000879	50.040417	-0.017283	50.04042	-0.019789	0.000439	67.142875	0.000019
13.84	1.001065	50.032074	-0.042517	50.032092	-0.04869	0.000532	65.475022	0.000028
13.86	1.00083	50.038554	-0.015384	50.038557	-0.017615	0.000415	67.640244	0.000017
13.88	1.000951	50.045052	-0.015243	50.045054	-0.017452	0.000475	66.458985	0.000023
13.9	1.000518	49.995379	-0.025456	49.995386	-0.029173	0.000259	71.743084	0.000007
13.92	1.000718	50.035642	-0.004262	50.035643	-0.00488	0.000359	68.902106	0.000013
13.94	1.000556	49.993033	0.026904	49.99304	0.030835	0.000278	71.121051	0.000008
13.96	1.000263	49.990707	-0.009269	49.990708	-0.010623	0.000131	77.637315	0.000002
13.98	1.000931	50.03187	-0.033893	50.031882	-0.038814	0.000465	66.649244	0.000022

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
14	1.001073	50.040429	-0.03526	50.040442	-0.040373	0.000536	65.412864	0.000029
14.02	1.000482	50.000145	-0.024108	50.000151	-0.027625	0.000241	72.356696	0.000006
14.04	1.000701	49.978822	-0.027918	49.97883	-0.032006	0.00035	69.10641	0.000012
14.06	1.000674	50.020201	-0.026996	50.020209	-0.030923	0.000337	69.444618	0.000011
14.08	1.000506	50.021152	-0.013901	50.021154	-0.015922	0.000253	71.935686	0.000006
14.1	1.001039	50.047212	0.021706	50.047217	0.02485	0.000519	65.690224	0.000027
14.12	1.00085	50.039288	-0.016212	50.039291	-0.018563	0.000425	67.435359	0.000018
14.14	1.000508	49.997734	0.025313	49.99774	0.029008	0.000254	71.89816	0.000006
14.16	1.000877	49.984935	-0.041165	49.984952	-0.047185	0.000438	67.162327	0.000019
14.18	1.000409	50.012217	-0.016406	50.01222	-0.018795	0.000205	73.785004	0.000004
14.2	1.000652	50.032245	-0.004784	50.032246	-0.005478	0.000326	69.738899	0.000011
14.22	1.000348	49.983379	0.005046	49.983379	0.005784	0.000174	75.202668	0.000003
14.24	1.000778	50.036986	-0.012014	50.036988	-0.013757	0.000389	68.206772	0.000015
14.26	1.001014	50.049405	0.011359	50.049407	0.013003	0.000507	65.905111	0.000026
14.28	1.000153	49.995816	0.006403	49.995816	0.007338	0.000076	82.327432	0.000001
14.3	1.001331	50.050331	0.043557	50.05035	0.049863	0.000665	63.539891	0.000044
14.32	1.000199	49.990505	-0.003011	49.990505	-0.003451	0.0001	80.033392	0.000001
14.34	1.000583	50.003002	-0.028987	50.003011	-0.033215	0.000291	70.7098	0.000008
14.36	1.0007	50.034225	-0.007319	50.034225	-0.008381	0.00035	69.121965	0.000012
14.38	1.000658	50.028067	0.017134	50.02807	0.019623	0.000329	69.662769	0.000011
14.4	1.000826	50.041289	-0.001095	50.041289	-0.001254	0.000413	67.683933	0.000017
14.42	1.000641	50.02465	-0.020494	50.024654	-0.023473	0.00032	69.883843	0.00001
14.44	1.00086	50.019287	-0.038393	50.019301	-0.043979	0.00043	67.339325	0.000018
14.46	1.000657	49.991592	-0.031723	49.991602	-0.036358	0.000328	69.676987	0.000011
14.48	1.001422	50.065587	0.027489	50.065594	0.031459	0.000711	62.966546	0.000051
14.5	1.000825	50.03441	-0.022719	50.034415	-0.026016	0.000412	67.697943	0.000017
14.52	1.000645	49.986177	0.029106	49.986186	0.033362	0.000322	69.835833	0.00001
14.54	1.000691	50.029576	-0.017842	50.02958	-0.020434	0.000345	69.235746	0.000012
14.56	1.001054	50.046254	0.025274	50.04626	0.028935	0.000527	65.56644	0.000028
14.58	1.000502	50.020252	-0.014795	50.020254	-0.016947	0.000251	72.015011	0.000006
14.6	1.000421	50.019999	-0.006572	50.02	-0.007528	0.00021	73.536129	0.000004
14.62	1.000838	50.041839	-0.002097	50.041839	-0.002401	0.000419	67.561205	0.000018
14.64	1.000694	50.028256	-0.020152	50.02826	-0.023079	0.000347	69.194528	0.000012
14.66	1.001338	50.066671	-0.005774	50.066671	-0.006607	0.000669	63.494665	0.000045
14.68	1.001402	50.070013	0.003049	50.070013	0.003489	0.0007	63.094322	0.000049
14.7	1.001498	50.060582	0.044021	50.060601	0.050384	0.000748	62.517178	0.000056
14.72	1.001448	50.066186	-0.029292	50.066194	-0.033522	0.000723	62.813601	0.000052
14.74	1.001	50.050005	0.000463	50.050005	0.00053	0.0005	66.023626	0.000025
14.76	1.001683	50.068342	-0.049081	50.068366	-0.056166	0.000841	61.505802	0.000071
14.78	1.001219	50.042057	-0.044124	50.042076	-0.05052	0.000609	64.303284	0.000037

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
14.8	1.000559	50.009007	0.02645	50.009014	0.030304	0.000279	71.075871	0.000008
14.82	1.001156	50.051319	-0.026593	50.051326	-0.030442	0.000578	64.765922	0.000033
14.84	1.001022	50.051051	0.001741	50.051051	0.001993	0.000511	65.839283	0.000026
14.86	1.001234	50.061503	0.004716	50.061503	0.005397	0.000616	64.201967	0.000038
14.88	1.000997	50.048946	0.009515	50.048947	0.010892	0.000498	66.048825	0.000025
14.9	1.000739	50.035019	0.011743	50.03502	0.013447	0.000369	68.654231	0.000014
14.92	1.001336	50.064182	0.018575	50.064185	0.021258	0.000668	63.508027	0.000045
14.94	1.001131	50.045706	-0.033288	50.045717	-0.038111	0.000565	64.956315	0.000032
14.96	1.001142	50.007849	0.056528	50.007881	0.064766	0.000571	64.872454	0.000033
14.98	1.000404	50.011354	-0.016683	50.011357	-0.019113	0.000202	73.90255	0.000004
15	1.001216	50.048123	0.037157	50.048137	0.042537	0.000608	64.326344	0.000037
15.02	1.001066	50.046658	-0.025756	50.046665	-0.029486	0.000533	65.470333	0.000028
15.04	1.000431	50.016742	0.013589	50.016744	0.015566	0.000216	73.327414	0.000005
15.06	1.001785	50.063142	0.06307	50.063182	0.072181	0.000892	60.993799	0.00008
15.08	1.000708	50.030592	0.017795	50.030595	0.020379	0.000354	69.024749	0.000013
15.1	1.000814	50.020119	0.035383	50.020132	0.04053	0.000407	67.80918	0.000017
15.12	1.001184	50.059174	0.001604	50.059174	0.001836	0.000592	64.559272	0.000035
15.14	1.001245	50.062142	0.004033	50.062142	0.004616	0.000622	64.119399	0.000039
15.16	1.001052	50.046673	-0.0243	50.046679	-0.02782	0.000526	65.580988	0.000028
15.18	1.00037	50.016216	-0.008935	50.016217	-0.010235	0.000185	74.651053	0.000003
15.2	1.001294	50.017113	0.062365	50.017152	0.071441	0.000647	63.787336	0.000042
15.22	1.00113	50.05134	0.023577	50.051345	0.026989	0.000565	64.964335	0.000032
15.24	1.001229	50.059155	0.016561	50.059158	0.018955	0.000614	64.237628	0.000038
15.26	1.000257	49.998806	-0.012814	49.998808	-0.014684	0.000129	77.808861	0.000002
15.28	1.000869	50.041831	-0.01168	50.041833	-0.013373	0.000434	67.24757	0.000019
15.3	1.000879	50.029223	0.032841	50.029234	0.037611	0.000439	67.141237	0.000019
15.32	1.000417	49.983199	0.0123	49.983201	0.014099	0.000208	73.628172	0.000004
15.34	1.000215	50.009423	-0.005202	50.009423	-0.00596	0.000108	79.361479	0.000001
15.36	1.000614	50.022693	0.020699	50.022698	0.023708	0.000307	70.254916	0.000009
15.38	1.001005	50.023461	0.044445	50.023481	0.050906	0.000502	65.978102	0.000025
15.4	1.00097	49.97279	0.040087	49.972807	0.045962	0.000485	66.291864	0.000023
15.42	1.000371	50.017698	0.0056	50.017699	0.006415	0.000186	74.628458	0.000003
15.44	1.001035	50.048166	0.018904	50.048169	0.021642	0.000517	65.727189	0.000027
15.46	1.000804	50.015341	0.037159	50.015355	0.042568	0.000402	67.916525	0.000016
15.48	1.000901	50.031875	0.031817	50.031885	0.036436	0.00045	66.93142	0.00002
15.5	1.000139	49.996609	0.006046	49.996609	0.006929	0.000069	83.182309	0
15.52	1.000414	50.007645	0.019239	50.007649	0.022043	0.000207	73.680297	0.000004
15.54	1.001032	50.032773	0.039874	50.032789	0.045662	0.000516	65.74752	0.000027
15.56	1.00135	50.064935	-0.018412	50.064938	-0.021072	0.000675	63.420249	0.000045
15.58	1.00101	50.026796	0.042813	50.026815	0.049034	0.000505	65.935241	0.000025

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
15.6	1.001577	50.027697	0.073778	50.027751	0.084497	0.000788	62.071249	0.000062
15.62	1.000652	49.976491	0.02257	49.976496	0.025876	0.000326	69.736366	0.000011
15.64	1.00039	50.018591	0.005946	50.018591	0.006811	0.000195	74.1925	0.000004
15.66	1.000344	50.001668	0.017131	50.001671	0.01963	0.000172	75.283557	0.000003
15.68	1.000839	50.022451	0.035446	50.022464	0.0406	0.000419	67.545638	0.000018
15.7	1.000555	50.01476	-0.023518	50.014765	-0.026942	0.000278	71.130947	0.000008
15.72	1.001296	50.035859	0.053928	50.035888	0.061753	0.000647	63.77669	0.000042
15.74	1.001016	50.050493	0.005365	50.050493	0.006141	0.000508	65.891043	0.000026
15.76	1.000609	49.998966	0.030441	49.998975	0.034884	0.000305	70.325692	0.000009
15.78	1.001093	50.008507	0.053959	50.008536	0.061822	0.000546	65.252856	0.00003
15.8	1.000754	49.982906	0.033558	49.982917	0.038467	0.000377	68.480771	0.000014
15.82	1.00097	50.045364	0.01714	50.045367	0.019623	0.000485	66.29021	0.000023
15.84	1.001061	50.045058	0.028039	50.045066	0.032102	0.00053	65.506915	0.000028
15.86	1.001373	50.066662	0.016436	50.066665	0.01881	0.000686	63.271915	0.000047
15.88	1.000543	50.006011	0.026494	50.006018	0.030356	0.000272	71.319575	0.000007
15.9	1.000253	49.989451	0.006937	49.989452	0.007951	0.000126	77.974255	0.000002
15.92	1.000492	50.024419	0.002904	50.024419	0.003326	0.000246	72.186468	0.000006
15.94	1.000814	50.009197	0.039645	50.009212	0.045421	0.000407	67.809476	0.000017
15.96	1.000938	50.044959	0.013371	50.044961	0.015309	0.000469	66.579437	0.000022
15.98	1.001609	50.0709	0.037994	50.070915	0.043476	0.000804	61.896855	0.000065
16	1.001797	49.985171	0.088506	49.98525	0.101451	0.000898	60.939023	0.000081
16.02	1.000956	50.030994	0.036353	50.031007	0.041632	0.000478	66.41921	0.000023
16.040001	1.001113	50.04168	0.036852	50.041693	0.042194	0.000556	65.096624	0.000031
16.059999	1.00056	50.002024	0.027924	50.002032	0.031998	0.00028	71.057711	0.000008
16.08	1.000911	49.992725	0.044917	49.992746	0.051479	0.000455	66.838617	0.000021
16.1	1.001315	50.043907	0.048951	50.043931	0.056045	0.000657	63.644935	0.000043
16.120001	1.001018	50.046338	0.021012	50.046342	0.024056	0.000509	65.873253	0.000026
16.139999	1.000969	50.021302	0.043493	50.021321	0.049818	0.000484	66.299595	0.000023
16.16	1.000758	49.992174	0.037051	49.992187	0.042464	0.000379	68.433841	0.000014
16.18	1.000889	49.988664	0.042977	49.988683	0.049259	0.000445	67.042162	0.00002
16.200001	1.000954	50.033273	0.034174	50.033285	0.039135	0.000477	66.433131	0.000023
16.219999	1.001287	50.01746	0.061895	50.017498	0.070902	0.000643	63.835818	0.000041
16.24	1.000896	49.996103	0.044622	49.996123	0.051137	0.000448	66.975768	0.00002
16.26	1.001687	50.044376	0.071669	50.044427	0.082054	0.000843	61.487829	0.000071
16.280001	1.000821	50.015644	0.037916	50.015658	0.043435	0.00041	67.7422	0.000017
16.299999	1.000381	50.019062	-0.000654	50.019062	-0.000749	0.000191	74.393321	0.000004
16.32	1.000895	49.998557	0.044701	49.998577	0.051226	0.000447	66.988937	0.00002
16.34	1.001469	50.025115	0.068963	50.025163	0.078987	0.000734	62.688919	0.000054
16.360001	1.001565	50.068595	0.037586	50.06861	0.043012	0.000782	62.139808	0.000061
16.379999	1.001643	49.982066	0.080061	49.98213	0.091776	0.000821	61.717399	0.000067



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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
16.4	1.000775	50.037497	-0.009765	50.037497	-0.011182	0.000387	68.238448	0.000015
16.42	1.000674	49.977446	0.025037	49.977452	0.028703	0.000337	69.44606	0.000011
16.440001	1.000554	50.008536	0.026348	50.008543	0.030188	0.000277	71.152282	0.000008
16.459999	1.001238	49.954529	0.041897	49.954546	0.048054	0.000619	64.172025	0.000038
16.48	1.000682	50.000846	0.034083	50.000858	0.039056	0.000341	69.346656	0.000012
16.5	1.000974	50.014258	0.046565	50.01428	0.053345	0.000487	66.250749	0.000024
16.52	1.001027	50.036831	0.035754	50.036844	0.040941	0.000513	65.795577	0.000026
16.540001	1.001159	50.011161	0.056862	50.011193	0.065145	0.000579	64.74036	0.000034
16.559999	1.000984	50.001076	0.049156	50.0011	0.056327	0.000492	66.166547	0.000024
16.58	1.001277	50.026844	0.05793	50.026878	0.066348	0.000638	63.899434	0.000041
16.6	1.000519	49.99127	0.024418	49.991276	0.027986	0.000259	71.722673	0.000007
16.620001	1.000557	50.019637	0.019764	50.019641	0.022639	0.000279	71.101745	0.000008
16.639999	1.000402	50.02001	0.001674	50.02001	0.001917	0.000201	73.946327	0.000004
16.66	1.000669	50.008575	0.032344	50.008586	0.037057	0.000335	69.509925	0.000011
16.68	1.000631	49.995652	0.03126	49.995662	0.035825	0.000316	70.016502	0.00001
16.700001	1.001157	49.998974	0.057811	49.999007	0.066248	0.000578	64.758375	0.000033
16.719999	1.000736	49.987108	0.034456	49.98712	0.039494	0.000368	68.684421	0.000014
16.74	1.001591	50.005356	0.079313	50.005419	0.090876	0.000795	61.993815	0.000063
16.76	1.00072	50.016268	0.032087	50.016279	0.036757	0.00036	68.881232	0.000013
16.780001	1.001259	49.983256	0.060639	49.983293	0.06951	0.000629	64.024459	0.00004
16.799999	1.000758	50.016661	0.034008	50.016673	0.038957	0.000379	68.435567	0.000014
16.82	1.001105	50.045156	0.0318	50.045166	0.036408	0.000552	65.160476	0.00003
16.84	1.001392	49.931924	0.013958	49.931926	0.016016	0.000695	63.155321	0.000048
16.860001	1.001601	50.001336	0.079979	50.0014	0.091647	0.0008	61.939349	0.000064
16.879999	1.001027	49.977666	0.046178	49.977688	0.052939	0.000513	65.796592	0.000026
16.9	1.001114	50.000993	0.055654	50.001024	0.063774	0.000557	65.088759	0.000031
16.92	1.001015	49.973841	0.04343	49.97386	0.049794	0.000507	65.897543	0.000026
16.940001	1.001416	50.014195	0.069311	50.014243	0.079402	0.000707	63.006744	0.00005
16.959999	1.000815	50.035924	0.019268	50.035928	0.022063	0.000408	67.797399	0.000017
16.98	1.001131	49.976855	0.051553	49.976882	0.059103	0.000565	64.955399	0.000032
17	1.001033	49.954944	0.025178	49.95495	0.028879	0.000516	65.740751	0.000027
17.02	1.00128	50.00328	0.063858	50.003321	0.073171	0.000639	63.884602	0.000041
17.040001	1.001208	49.99584	0.060198	49.995876	0.068988	0.000603	64.387315	0.000036
17.059999	1.000867	49.959855	-0.016213	49.959858	-0.018593	0.000433	67.267818	0.000019
17.08	1.001065	49.987312	0.051655	49.987339	0.059208	0.000532	65.482206	0.000028
17.1	1.001517	49.95695	0.062369	49.956989	0.071531	0.000758	62.404737	0.000057
17.120001	1.000521	50.019332	0.017485	50.019335	0.020028	0.000261	71.680127	0.000007
17.139999	1.000577	49.992609	0.027868	49.992617	0.031939	0.000288	70.802074	0.000008
17.16	1.000691	50.010475	0.032915	50.010486	0.03771	0.000345	69.233967	0.000012
17.18	1.001271	49.969601	0.055737	49.969632	0.063909	0.000635	63.943531	0.00004

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
17.200001	1.001725	50.006438	0.08594	50.006512	0.098467	0.000862	61.292386	0.000074
17.219999	1.001153	49.953205	0.033574	49.953216	0.03851	0.000576	64.788445	0.000033
17.24	1.000471	49.980063	0.012483	49.980064	0.01431	0.000235	72.568577	0.000006
17.26	1.001572	49.977011	0.075059	49.977067	0.086051	0.000785	62.100513	0.000062
17.280001	1.000393	50.005081	0.018986	50.005084	0.021755	0.000197	74.131262	0.000004
17.299999	1.000559	49.991262	0.026543	49.991269	0.030421	0.000279	71.073481	0.000008
17.32	1.001002	49.962729	0.033417	49.962741	0.038322	0.000501	66.007288	0.000025
17.34	1.0021	49.978604	0.102671	49.978709	0.117702	0.001049	59.58458	0.00011
17.360001	1.001091	49.999506	0.054524	49.999535	0.062481	0.000545	65.26779	0.00003
17.379999	1.00128	50.032194	0.05527	50.032224	0.063294	0.000639	63.884315	0.000041
17.4	1.001233	49.962068	0.048505	49.962091	0.055624	0.000616	64.20854	0.000038
17.42	1.000947	49.977424	0.041604	49.977441	0.047697	0.000473	66.494404	0.000022
17.440001	1.001964	50.01337	0.097215	50.013465	0.11137	0.000981	60.165123	0.000096
17.459999	1.001937	49.957625	0.086963	49.957701	0.099737	0.000968	60.284397	0.000094
17.48	1.00164	49.986154	0.080743	49.986219	0.09255	0.000819	61.730835	0.000067
17.5	1.001256	50.017294	0.060332	50.01733	0.069111	0.000628	64.047668	0.000039
17.52	1.001055	49.991898	0.052071	49.991925	0.059679	0.000527	65.563499	0.000028
17.540001	1.001288	49.98382	0.06229	49.983859	0.071402	0.000644	63.826673	0.000041
17.559999	1.001479	49.989834	0.073208	49.989887	0.083907	0.000739	62.625018	0.000055
17.58	1.001518	49.98447	0.074223	49.984525	0.085079	0.000758	62.401851	0.000058
17.6	1.000997	49.974925	0.043033	49.974943	0.049338	0.000498	66.052178	0.000025
17.620001	1.0019	49.969268	0.089775	49.969349	0.102938	0.000949	60.452989	0.00009
17.639999	1.002006	49.947027	0.08497	49.9471	0.097472	0.001002	59.984082	0.0001
17.66	1.00147	50.008728	0.072938	50.008781	0.083566	0.000735	62.679989	0.000054
17.68	1.001348	49.950342	0.045428	49.950363	0.052109	0.000673	63.435103	0.000045
17.700001	1.001215	49.988967	0.059682	49.989002	0.068406	0.000607	64.336255	0.000037
17.719999	1.001636	49.991719	0.081314	49.991786	0.093194	0.000817	61.75118	0.000067
17.74	1.000393	50.011795	0.015719	50.011798	0.018008	0.000196	74.132804	0.000004
17.76	1.000757	49.982582	0.033605	49.982594	0.038522	0.000379	68.436932	0.000014
17.780001	1.000382	49.990012	0.016278	49.990015	0.018657	0.000191	74.379594	0.000004
17.799999	1.001605	49.986038	0.078954	49.9861	0.090499	0.000802	61.917625	0.000064
17.82	1.002058	49.926506	0.071755	49.926558	0.082346	0.001028	59.761061	0.000106
17.84	1.000562	49.988704	0.025718	49.98871	0.029477	0.000281	71.028259	0.000008
17.860001	1.000804	49.997602	0.040116	49.997619	0.045971	0.000402	67.918024	0.000016
17.879999	1.001368	49.959406	0.054972	49.959437	0.063044	0.000684	63.303567	0.000047
17.9	1.000956	49.953182	0.009351	49.953183	0.010725	0.000478	66.417783	0.000023
17.92	1.001786	49.940607	0.066529	49.940651	0.076327	0.000892	60.989183	0.00008
17.940001	1.00169	49.916872	0.014299	49.916874	0.016413	0.000844	61.471184	0.000071
17.959999	1.001361	49.973307	0.062542	49.973346	0.071706	0.00068	63.347482	0.000046
17.98	1.00083	49.971435	0.030063	49.971444	0.03447	0.000415	67.642832	0.000017

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**01- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	1.001284	49.957652	0.048152	49.957675	0.055225	0.000642	63.855824	0.000041	
18.02	1.000797	49.962061	0.012159	49.962062	0.013943	0.000399	67.990317	0.000016	
18.040001	1.000339	50.001086	0.016932	50.001089	0.019402	0.00017	75.408234	0.000003	
18.059999	1.001744	49.931676	0.053971	49.931705	0.061931	0.000871	61.196801	0.000076	
18.08	1.00146	49.986129	0.071586	49.98618	0.082055	0.000729	62.742149	0.000053	
18.1	1.001303	49.938685	0.021812	49.93869	0.025025	0.000651	63.725818	0.000042	
18.120001	1.001849	49.953443	0.079704	49.953506	0.091419	0.000923	60.691438	0.000085	
18.139999	1.000948	49.957553	0.020954	49.957558	0.024032	0.000474	66.492295	0.000022	
18.16	1.001671	49.932659	0.049271	49.932683	0.056537	0.000835	61.566524	0.00007	
18.18	1.001057	49.964147	0.038751	49.964162	0.044437	0.000528	65.545417	0.000028	
18.200001	1.001537	49.923306	-0.002737	49.923306	-0.003141	0.000768	62.292612	0.000059	
18.219999	1.001973	49.964594	0.091938	49.964679	0.105428	0.000986	60.126454	0.000097	
18.24	1.001249	49.979239	0.058856	49.979273	0.067472	0.000624	64.093056	0.000039	
18.26	1.00155	49.967879	0.07043	49.967929	0.080759	0.000774	62.221404	0.00006	
18.280001	1.001556	49.94977	0.059284	49.949805	0.068002	0.000777	62.187017	0.00006	
18.299999	1.001917	49.947935	0.080323	49.948	0.092139	0.000958	60.375333	0.000092	
18.32	1.00259	49.925196	0.105393	49.925308	0.120952	0.001293	57.765491	0.000167	
18.34	1.00106	49.964105	0.038908	49.964121	0.044618	0.00053	65.521761	0.000028	
18.360001	1.001865	49.935982	0.06757	49.936027	0.077529	0.000931	60.617201	0.000087	
18.379999	1.001666	49.924463	0.03485	49.924475	0.039996	0.000833	61.592085	0.000069	
18.4	1.001407	49.930757	0.011806	49.930758	0.013547	0.000703	63.061964	0.000049	
18.42	1.000956	49.953734	0.011882	49.953736	0.013629	0.000478	66.413399	0.000023	
18.440001	1.002358	49.926495	0.091903	49.926579	0.105468	0.001178	58.579393	0.000139	
18.459999	1.000406	49.994051	0.019403	49.994055	0.022237	0.000203	73.851707	0.000004	
18.48	1.000933	49.96458	0.030306	49.964589	0.034753	0.000466	66.626232	0.000022	
18.5	1.001897	49.929315	0.063024	49.929354	0.072322	0.000948	60.466712	0.00009	
18.52	1.00158	49.937058	0.047561	49.937081	0.05457	0.000789	62.054034	0.000062	
18.540001	1.001751	49.928474	0.050214	49.9285	0.057623	0.000875	61.164368	0.000076	
18.559999	1.001789	49.919023	0.037637	49.919037	0.043199	0.000894	60.976301	0.00008	
18.58	1.000916	49.965228	0.02976	49.965237	0.034126	0.000458	66.785598	0.000021	
18.6	1.000606	49.992402	0.029297	49.99241	0.033577	0.000303	70.380134	0.000009	
18.620001	1.000818	49.972245	0.029985	49.972254	0.03438	0.000409	67.771872	0.000017	
18.639999	1.000772	50.001597	0.038572	50.001611	0.044199	0.000386	68.267324	0.000015	
18.66	1.000685	49.983371	0.029923	49.98338	0.0343	0.000342	69.309656	0.000012	
18.68	1.00052	49.974222	-0.003249	49.974222	-0.003725	0.00026	71.70424	0.000007	
18.700001	1.001219	49.968685	0.052197	49.968712	0.05985	0.000609	64.309269	0.000037	
18.719999	1.002355	49.911422	0.077197	49.911482	0.088618	0.001176	58.591827	0.000138	
18.74	1.001977	49.913692	0.047818	49.913715	0.05489	0.000988	60.108912	0.000098	
18.76	1.000759	49.971862	0.02545	49.971868	0.029179	0.00038	68.415589	0.000014	
18.780001	1.000752	49.997537	0.037511	49.997551	0.042986	0.000376	68.497992	0.000014	

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
18.799999	1.001883	49.922127	0.052585	49.922155	0.060353	0.00094	60.533925	0.000088
18.82	1.000874	49.98283	0.040143	49.982847	0.046016	0.000437	67.196751	0.000019
18.84	1.000579	49.975861	0.015954	49.975863	0.018291	0.000289	70.769393	0.000008
18.860001	1.001194	49.957468	0.041817	49.957485	0.04796	0.000597	64.484627	0.000036
18.879999	1.000832	49.974348	0.032683	49.974358	0.037471	0.000416	67.62678	0.000017
18.9	1.001948	49.970605	0.092732	49.970691	0.106326	0.000973	60.237001	0.000095
18.92	1.00127	49.967555	0.054495	49.967585	0.062488	0.000634	63.952341	0.00004
18.940001	1.001387	49.943488	0.040066	49.943504	0.045965	0.000693	63.183658	0.000048
18.959999	1.001165	49.94283	0.01088	49.942831	0.012482	0.000582	64.697146	0.000034
18.98	1.001989	49.903569	0.023522	49.903574	0.027006	0.000994	60.056258	0.000099
19	1.002515	49.89761	0.072516	49.897662	0.083268	0.001256	58.020407	0.000158
19.02	1.000783	49.964937	0.017393	49.964941	0.019945	0.000392	68.144667	0.000015
19.040001	1.001318	49.935669	0.013825	49.935671	0.015863	0.000658	63.629922	0.000043
19.059999	1.001028	49.951281	0.016256	49.951284	0.018646	0.000514	65.783367	0.000026
19.08	1.002146	49.89467	0.019368	49.894674	0.022241	0.001072	59.395391	0.000115
19.1	1.000941	49.95544	0.014979	49.955442	0.017181	0.00047	66.552245	0.000022
19.120001	1.001393	49.954682	0.052773	49.95471	0.060529	0.000696	63.148723	0.000048
19.139999	1.002058	49.908733	0.04714	49.908756	0.054118	0.001028	59.758793	0.000106
19.16	1.001244	49.976197	0.057425	49.97623	0.065835	0.000622	64.12737	0.000039
19.18	1.0023	49.88952	0.030939	49.88953	0.035533	0.001149	58.796829	0.000132
19.200001	1.001484	49.939636	0.042975	49.939655	0.049306	0.000741	62.598495	0.000055
19.219999	1.002173	49.916829	0.06959	49.916878	0.079877	0.001085	59.288641	0.000118
19.24	1.001206	49.942066	0.016523	49.942069	0.018956	0.000603	64.396707	0.000036
19.26	1.001028	49.967116	0.039447	49.967131	0.045233	0.000514	65.785356	0.000026
19.280001	1.001806	49.910252	-0.008359	49.910253	-0.009596	0.000902	60.894235	0.000081
19.299999	1.001498	49.93755	0.041168	49.937567	0.047234	0.000748	62.516695	0.000056
19.32	1.001498	49.926511	0.013835	49.926513	0.015877	0.000748	62.517932	0.000056
19.34	1.00144	49.940483	0.04034	49.9405	0.046282	0.000719	62.860273	0.000052
19.360001	1.00139	49.943586	0.040422	49.943602	0.046373	0.000694	63.167777	0.000048
19.379999	1.002126	49.893941	0.00274	49.893941	0.003146	0.001062	59.476916	0.000113
19.4	1.00184	49.908387	0.006202	49.908387	0.00712	0.000919	60.732993	0.000084
19.42	1.000901	49.963923	0.026941	49.963931	0.030894	0.00045	66.927606	0.00002
19.440001	1.001644	49.928682	0.0406	49.928698	0.046591	0.000821	61.710661	0.000067
19.459999	1.001405	49.931399	0.014671	49.931401	0.016835	0.000702	63.073216	0.000049
19.48	1.000905	49.955126	-0.00561	49.955127	-0.006434	0.000452	66.8889	0.00002
19.5	1.002143	49.893889	0.013081	49.893891	0.015022	0.00107	59.410072	0.000115
19.52	1.001524	49.938377	0.044679	49.938397	0.051261	0.000762	62.365143	0.000058
19.540001	1.001716	49.92334	0.038241	49.923354	0.043889	0.000857	61.336841	0.000074
19.559999	1.001199	49.980241	0.056524	49.980273	0.064798	0.000599	64.452911	0.000036
19.58	1.001119	49.944141	-0.002206	49.944141	-0.002531	0.000559	65.046509	0.000031

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**01- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	1.001837	49.91245	0.027293	49.912458	0.031331	0.000918	60.744492	0.000084	
19.620001	1.001141	49.944026	0.010796	49.944027	0.012386	0.00057	64.876777	0.000033	
19.639999	1.000766	49.969221	0.022754	49.969226	0.026091	0.000383	68.33856	0.000015	
19.66	1.001237	49.938351	-0.003851	49.938351	-0.004418	0.000618	64.179213	0.000038	
19.68	1.000871	49.961213	-0.019732	49.961217	-0.022628	0.000435	67.223369	0.000019	
19.700001	1.000708	49.964948	0.004888	49.964948	0.005605	0.000354	69.019022	0.000013	
19.719999	1.000677	49.984404	0.030015	49.984413	0.034405	0.000338	69.413964	0.000011	
19.74	1.001505	49.936286	0.039823	49.936302	0.045692	0.000752	62.477538	0.000057	
19.76	1.001982	49.917707	0.054926	49.917738	0.063044	0.00099	60.085488	0.000098	
19.780001	1.002132	49.900004	0.036228	49.900018	0.041598	0.001065	59.456066	0.000113	
19.799999	1.002339	49.885209	0.020937	49.885213	0.024047	0.001168	58.649747	0.000136	
19.82	1.001194	49.94157	0.01197	49.941572	0.013732	0.000597	64.483699	0.000036	
19.84	1.001901	49.905667	-0.01022	49.905668	-0.011733	0.00095	60.447824	0.00009	
19.860001	1.001565	49.925609	0.023961	49.925615	0.027498	0.000782	62.134434	0.000061	
19.879999	1.001732	49.914038	0.009259	49.914038	0.010629	0.000865	61.256253	0.000075	
19.9	1.00107	49.946746	-0.004219	49.946746	-0.00484	0.000534	65.441105	0.000029	
19.92	1.00136	49.935615	0.021671	49.93562	0.024865	0.00068	63.352673	0.000046	
19.940001	1.001245	49.938146	0.006354	49.938147	0.00729	0.000622	64.121734	0.000039	
19.959999	1.001278	49.940253	0.022484	49.940258	0.025795	0.000639	63.893347	0.000041	
19.98	1.001896	49.908284	-0.023252	49.908289	-0.026693	0.000947	60.472564	0.00009	
20	1.001374	49.941702	0.036175	49.941715	0.041502	0.000686	63.267189	0.000047	
20.02	1.002084	49.900133	0.029061	49.900141	0.033368	0.001041	59.649849	0.000108	
20.040001	1.000923	49.955402	0.011712	49.955403	0.013433	0.000461	66.720109	0.000021	
20.059999	1.001584	49.925373	0.026209	49.92538	0.030079	0.000792	62.030459	0.000063	
20.08	1.001237	49.943866	-0.0258	49.943872	-0.029598	0.000618	64.178214	0.000038	
20.1	1.001384	49.937171	0.028788	49.937179	0.03303	0.000692	63.203695	0.000048	
20.120001	1.001612	49.919587	-0.002987	49.919587	-0.003428	0.000805	61.880535	0.000065	
20.139999	1.001209	49.946693	-0.028385	49.946701	-0.032561	0.000604	64.37568	0.000037	
20.16	1.002471	49.877844	-0.016502	49.877847	-0.018956	0.001234	58.172584	0.000152	
20.18	1.001352	49.940036	0.031015	49.940046	0.035583	0.000676	63.407441	0.000046	
20.200001	1.000849	49.957589	-0.000064	49.957589	-0.000073	0.000424	67.446673	0.000018	
20.219999	1.001454	49.928828	-0.014321	49.92883	-0.016434	0.000727	62.775224	0.000053	
20.24	1.001228	49.959037	0.045645	49.959058	0.052348	0.000614	64.242963	0.000038	
20.26	1.00193	49.905761	-0.020001	49.905765	-0.022963	0.000964	60.31583	0.000093	
20.280001	1.000997	49.950184	-0.000034	49.950184	-0.00004	0.000498	66.048306	0.000025	
20.299999	1.001142	49.972121	0.049775	49.972146	0.057069	0.000571	64.87242	0.000033	
20.32	1.001596	49.920727	0.00808	49.920727	0.009274	0.000797	61.965668	0.000064	
20.34	1.002179	49.897743	0.036874	49.897757	0.042341	0.001088	59.266346	0.000118	
20.360001	1.002168	49.892634	0.013234	49.892636	0.015197	0.001083	59.307836	0.000117	
20.379999	1.001547	49.924524	-0.01646	49.924526	-0.01889	0.000773	62.235439	0.00006	

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
20.4	1.001581	49.937336	0.047987	49.937359	0.055058	0.00079	62.050071	0.000062
20.42	1.001635	49.91893	0.009469	49.918931	0.010869	0.000817	61.75691	0.000067
20.440001	1.001331	49.959805	-0.052947	49.959833	-0.060722	0.000665	63.543217	0.000044
20.459999	1.00212	49.89451	0.007805	49.894511	0.008963	0.001059	59.502891	0.000112
20.48	1.001642	49.923736	-0.030002	49.923745	-0.034432	0.00082	61.722055	0.000067
20.5	1.000993	49.954014	0.018563	49.954017	0.021291	0.000496	66.087816	0.000025
20.52	1.000861	49.95756	-0.006969	49.95756	-0.007993	0.00043	67.325235	0.000019
20.540001	1.000786	49.963516	-0.014587	49.963518	-0.016728	0.000393	68.110778	0.000015
20.559999	1.001219	49.941399	0.016423	49.941402	0.018841	0.000609	64.30845	0.000037
20.58	1.000356	49.993726	-0.016647	49.993729	-0.019079	0.000178	74.995703	0.000003
20.6	1.000235	49.991449	0.008087	49.99145	0.009269	0.000118	78.583987	0.000001
20.620001	1.000803	49.982592	-0.036168	49.982605	-0.04146	0.000401	67.927059	0.000016
20.639999	1.000477	49.976458	0.003784	49.976458	0.004338	0.000238	72.450425	0.000006
20.66	1.002058	49.897407	-0.004683	49.897407	-0.005377	0.001028	59.75967	0.000106
20.68	1.001258	49.946222	-0.032447	49.946233	-0.037221	0.000628	64.035014	0.000039
20.700001	1.001893	49.907521	-0.019352	49.907524	-0.022217	0.000946	60.484938	0.000089
20.719999	1.000923	49.953898	-0.000537	49.953898	-0.000615	0.000461	66.721076	0.000021
20.74	1.001617	49.920906	0.016156	49.920908	0.018543	0.000808	61.852703	0.000065
20.76	1.000793	49.974254	-0.030102	49.974263	-0.034512	0.000396	68.041586	0.000016
20.780001	1.001289	49.93599	0.006755	49.93599	0.007751	0.000644	63.821384	0.000041
20.799999	1.000831	49.958851	0.005377	49.958851	0.006166	0.000415	67.6357	0.000017
20.82	1.000284	49.985876	0.001403	49.985876	0.001608	0.000142	76.957207	0.000002
20.84	1.001211	49.939601	0.003485	49.939601	0.003998	0.000605	64.359776	0.000037
20.860001	1.001949	49.908125	-0.031862	49.908135	-0.036578	0.000973	60.234882	0.000095
20.879999	1.001624	49.927724	-0.036736	49.927738	-0.042157	0.000811	61.815885	0.000066
20.9	1.000757	49.965181	-0.014792	49.965183	-0.016962	0.000378	68.440014	0.000014
20.92	1.000744	49.962863	-0.001747	49.962863	-0.002003	0.000372	68.591054	0.000014
20.940001	1.001077	49.947852	-0.013222	49.947854	-0.015167	0.000538	65.380109	0.000029
20.959999	1.001207	49.941231	-0.013511	49.941233	-0.015501	0.000603	64.388211	0.000036
20.98	1.000821	49.966006	0.022912	49.966011	0.026273	0.00041	67.742502	0.000017
21	1.001254	49.941532	0.022378	49.941537	0.025673	0.000626	64.062922	0.000039
21.02	1.000998	49.950558	0.006393	49.950558	0.007334	0.000499	66.041775	0.000025
21.040001	1.002181	49.893456	0.022104	49.893461	0.025383	0.001089	59.257148	0.000119
21.059999	1.001612	49.926368	-0.032486	49.926379	-0.037282	0.000805	61.879868	0.000065
21.08	1.00104	49.948163	0.003239	49.948163	0.003715	0.00052	65.685807	0.000027
21.1	1.001792	49.914671	-0.026803	49.914679	-0.030767	0.000895	60.96203	0.00008
21.120001	1.001992	49.916708	-0.054254	49.916738	-0.062274	0.000995	60.044752	0.000099
21.139999	1.001374	49.933702	-0.017712	49.933706	-0.020323	0.000687	63.264886	0.000047
21.16	1.002066	49.896926	-0.000017	49.896926	-0.00002	0.001032	59.728079	0.000106
21.18	1.001552	49.950959	-0.060022	49.950995	-0.068848	0.000775	62.208699	0.00006



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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
21.200001	1.001309	49.960628	-0.05218	49.960655	-0.059841	0.000654	63.689404	0.000043
21.219999	1.002119	49.924968	-0.074553	49.925024	-0.085559	0.001059	59.50602	0.000112
21.24	1.001337	49.938227	-0.02537	49.938234	-0.029108	0.000668	63.501786	0.000045
21.26	1.001587	49.925514	-0.027	49.925522	-0.030986	0.000793	62.015933	0.000063
21.280001	1.00135	49.932748	-0.004488	49.932749	-0.00515	0.000674	63.420808	0.000045
21.299999	1.000733	49.965192	-0.011453	49.965194	-0.013134	0.000367	68.717006	0.000013
21.32	1.001142	49.943465	0.007452	49.943466	0.00855	0.000571	64.873981	0.000033
21.34	1.00172	49.914157	-0.000564	49.914157	-0.000647	0.000859	61.318246	0.000074
21.360001	1.001264	49.936904	0.000228	49.936904	0.000261	0.000631	63.994382	0.00004
21.379999	1.000904	49.956105	0.010513	49.956106	0.012058	0.000452	66.905612	0.00002
21.4	1.000737	49.963243	0.002396	49.963243	0.002747	0.000368	68.671633	0.000014
21.42	1.001463	49.945515	-0.048701	49.945538	-0.055868	0.000731	62.71949	0.000053
21.440001	1.000866	49.982687	-0.039651	49.982703	-0.045453	0.000433	67.27558	0.000019
21.459999	1.001549	49.933616	0.039632	49.933632	0.045476	0.000774	62.229043	0.00006
21.48	1.001077	49.947323	-0.010902	49.947325	-0.012506	0.000538	65.380933	0.000029
21.5	1.001566	49.949029	-0.059309	49.949065	-0.068032	0.000782	62.131222	0.000061
21.52	1.000242	49.999555	-0.012095	49.999556	-0.01386	0.000121	78.342186	0.000001
21.540001	1.000884	49.955916	-0.002386	49.955916	-0.002737	0.000442	67.097808	0.00002
21.559999	1.000977	49.951459	-0.004916	49.951459	-0.005639	0.000488	66.229283	0.000024
21.58	1.001329	49.936121	0.018073	49.936124	0.020737	0.000664	63.552816	0.000044
21.6	1.001942	49.907294	-0.028315	49.907302	-0.032507	0.00097	60.26249	0.000094
21.620001	1.000854	49.977984	-0.036545	49.977998	-0.041897	0.000427	67.396754	0.000018
21.639999	1.001576	49.926453	-0.027892	49.926461	-0.032009	0.000787	62.078769	0.000062
21.66	1.001043	49.950936	-0.017575	49.950939	-0.02016	0.000521	65.656203	0.000027
21.68	1.001716	49.914338	-0.001457	49.914338	-0.001672	0.000857	61.335583	0.000074
21.700001	1.001647	49.937644	-0.053587	49.937673	-0.061483	0.000823	61.695236	0.000068
21.719999	1.002263	49.916952	-0.076532	49.91701	-0.087846	0.00113	58.936246	0.000128
21.74	1.001047	49.955926	-0.028114	49.955934	-0.032245	0.000523	65.629921	0.000027
21.76	1.001531	49.924184	-0.009623	49.924185	-0.011044	0.000765	62.328845	0.000058
21.780001	1.00172	49.949415	-0.069406	49.949463	-0.079614	0.000859	61.31738	0.000074
21.799999	1.001169	49.942065	-0.007144	49.942066	-0.008195	0.000584	64.670688	0.000034
21.82	1.002107	49.959262	-0.096972	49.959357	-0.111213	0.001052	59.557683	0.000111
21.84	1.001671	49.916814	-0.005947	49.916814	-0.006826	0.000835	61.569586	0.00007
21.860001	1.001259	49.964585	-0.051975	49.964612	-0.059601	0.000629	64.024819	0.00004
21.879999	1.001326	49.983366	-0.064115	49.983407	-0.073494	0.000662	63.576527	0.000044
21.9	1.001563	49.923649	-0.016181	49.923652	-0.01857	0.000781	62.146287	0.000061
21.92	1.001352	50.016708	-0.065471	50.016751	-0.074999	0.000676	63.406451	0.000046
21.940001	1.001624	49.967328	-0.074263	49.967384	-0.085154	0.000812	61.813346	0.000066
21.959999	1.001375	49.949035	-0.046043	49.949056	-0.052816	0.000687	63.258524	0.000047
21.98	1.001484	49.926479	-0.009187	49.92648	-0.010543	0.000741	62.598127	0.000055

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**01- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	1.002292	49.916313	-0.077963	49.916373	-0.089489	0.001145	58.826066	0.000131	
22.02	1.00126	49.937145	-0.003013	49.937145	-0.003457	0.00063	64.017743	0.00004	
22.040001	1.000386	49.982768	-0.00866	49.982769	-0.009927	0.000193	74.293801	0.000004	
22.059999	1.002139	49.905929	-0.050421	49.905954	-0.057888	0.001068	59.425952	0.000114	
22.08	1.000858	49.966549	-0.026784	49.966557	-0.030713	0.000429	67.357633	0.000018	
22.1	1.000306	49.986706	0.007527	49.986707	0.008627	0.000153	76.31826	0.000002	
22.120001	1.00131	49.971697	-0.059012	49.971732	-0.067661	0.000655	63.679574	0.000043	
22.139999	1.00146	49.929035	-0.016746	49.929038	-0.019217	0.00073	62.737621	0.000053	
22.16	1.00139	49.979865	-0.066458	49.979909	-0.076186	0.000695	63.165862	0.000048	
22.18	1.002224	49.969043	-0.106615	49.969156	-0.122248	0.001111	59.089391	0.000123	
22.200001	1.001612	49.922414	-0.021429	49.922418	-0.024594	0.000806	61.878302	0.000065	
22.219999	1.001713	49.918861	-0.02698	49.918868	-0.030967	0.000856	61.352886	0.000073	
22.24	1.001388	49.985429	-0.067781	49.985475	-0.077694	0.000693	63.180406	0.000048	
22.26	1.00051	49.975093	-0.005468	49.975093	-0.006269	0.000255	71.866805	0.000007	
22.280001	1.000503	49.993173	-0.024208	49.993179	-0.027745	0.000252	71.987706	0.000006	
22.299999	1.000188	50.007528	-0.005624	50.007529	-0.006443	0.000094	80.541007	0.000001	
22.32	1.001398	49.95803	-0.055814	49.958061	-0.064012	0.000699	63.115062	0.000049	
22.34	1.002208	49.929131	-0.084393	49.929202	-0.096845	0.001103	59.149996	0.000122	
22.360001	1.001189	49.942362	-0.014352	49.942364	-0.016465	0.000594	64.519578	0.000035	
22.379999	1.001333	49.981327	-0.063935	49.981368	-0.073292	0.000666	63.528085	0.000044	
22.4	1.001284	49.995192	-0.06396	49.995233	-0.0733	0.000641	63.856883	0.000041	
22.42	1.00129	49.980047	-0.061281	49.980085	-0.070251	0.000645	63.814187	0.000042	
22.440001	1.000943	49.983495	-0.044139	49.983515	-0.050597	0.000471	66.533662	0.000022	
22.459999	1.001897	49.917757	-0.046894	49.917779	-0.053825	0.000948	60.468378	0.00009	
22.48	1.00086	50.010384	-0.041731	50.010401	-0.04781	0.00043	67.330899	0.000018	
22.5	1.001106	49.995753	-0.055083	49.995783	-0.063126	0.000552	65.153543	0.000031	
22.52	1.001117	49.989878	-0.054895	49.989908	-0.062918	0.000558	65.063224	0.000031	
22.540001	1.001039	50.005187	-0.051651	50.005214	-0.059182	0.000519	65.695232	0.000027	
22.559999	1.001328	49.943626	-0.034889	49.943638	-0.040025	0.000663	63.56526	0.000044	
22.58	1.001593	49.953135	-0.064262	49.953176	-0.073708	0.000796	61.984684	0.000063	
22.6	1.002248	50.036386	-0.106269	50.036499	-0.121687	0.001123	58.993584	0.000126	
22.620001	1.001043	49.988841	-0.050933	49.988867	-0.058378	0.000521	65.655425	0.000027	
22.639999	1.001381	49.99208	-0.068544	49.992127	-0.078558	0.00069	63.222297	0.000048	
22.66	1.001692	49.951203	-0.068984	49.951251	-0.079128	0.000845	61.45881	0.000071	
22.68	1.000477	50.007893	-0.022486	50.007898	-0.025763	0.000238	72.457692	0.000006	
22.700001	1.001974	49.91916	-0.056279	49.919192	-0.064595	0.000986	60.124197	0.000097	
22.719999	1.001766	49.98814	-0.087421	49.988216	-0.1002	0.000882	61.087492	0.000078	
22.74	1.000413	49.980544	0.006961	49.980544	0.00798	0.000207	73.693959	0.000004	
22.76	1.000869	50.039626	-0.017818	50.039629	-0.020402	0.000434	67.244067	0.000019	
22.780001	1.001292	49.945016	-0.033766	49.945028	-0.038736	0.000646	63.800756	0.000042	

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
22.799999	1.00156	49.937803	-0.0469	49.937825	-0.05381	0.000779	62.16407	0.000061
22.82	1.000826	49.961505	-0.014864	49.961508	-0.017046	0.000413	67.685073	0.000017
22.84	1.001297	49.947936	-0.038538	49.947951	-0.044207	0.000648	63.767335	0.000042
22.860001	1.002202	49.9564	-0.100902	49.956501	-0.115727	0.0011	59.174721	0.000121
22.879999	1.001777	49.986417	-0.087709	49.986494	-0.100535	0.000888	61.034976	0.000079
22.9	1.001567	49.927913	-0.030453	49.927922	-0.034947	0.000783	62.123431	0.000061
22.92	1.000573	50.002546	-0.028524	50.002554	-0.032685	0.000286	70.861405	0.000008
22.940001	1.001908	49.963685	-0.088059	49.963762	-0.100981	0.000953	60.419283	0.000091
22.959999	1.001634	49.921136	-0.020792	49.921141	-0.023863	0.000816	61.763779	0.000067
22.98	1.001529	49.980437	-0.073841	49.980492	-0.084648	0.000764	62.337792	0.000058
23	1.001637	49.988847	-0.081015	49.988912	-0.092857	0.000818	61.746235	0.000067
23.02	1.001366	49.992237	-0.067818	49.992283	-0.077725	0.000683	63.315953	0.000047
23.040001	1.000758	49.995977	-0.037652	49.995991	-0.04315	0.000379	68.434549	0.000014
23.059999	1.000827	50.024738	-0.033103	50.024749	-0.037914	0.000413	67.677835	0.000017
23.08	1.000302	49.997642	-0.014894	49.997644	-0.017069	0.000151	76.431785	0.000002
23.1	1.000913	50.033568	-0.03094	50.033578	-0.03543	0.000456	66.813796	0.000021
23.120001	1.001355	49.992133	-0.067219	49.992178	-0.07704	0.000677	63.390373	0.000046
23.139999	1.001144	49.995841	-0.057035	49.995873	-0.065363	0.000572	64.853722	0.000033
23.16	1.000674	50.026471	-0.020887	50.026476	-0.023922	0.000337	69.444779	0.000011
23.18	1.001327	49.973973	-0.060985	49.974011	-0.06992	0.000663	63.56665	0.000044
23.200001	1.002083	49.958314	-0.095259	49.958405	-0.10925	0.00104	59.657298	0.000108
23.219999	1.00085	50.010113	-0.041286	50.01013	-0.047301	0.000425	67.431726	0.000018
23.24	1.001057	49.972535	-0.045105	49.972555	-0.051715	0.000528	65.543413	0.000028
23.26	1.000104	49.996723	0.004007	49.996723	0.004592	0.000052	85.718295	0
23.280001	1.000552	49.986489	-0.024071	49.986495	-0.027591	0.000276	71.179504	0.000008
23.299999	1.001333	50.007624	-0.066189	50.007667	-0.075836	0.000666	63.527698	0.000044
23.32	1.000883	49.973971	-0.035604	49.973983	-0.04082	0.000441	67.108195	0.000019
23.34	1.000386	49.980771	-0.001838	49.980771	-0.002107	0.000193	74.279912	0.000004
23.360001	1.000399	49.980984	-0.00607	49.980984	-0.006959	0.0002	73.994382	0.000004
23.379999	1.000875	50.018361	-0.039723	50.018377	-0.045503	0.000438	67.179789	0.000019
23.4	1.000595	49.970502	-0.00359	49.970502	-0.004117	0.000297	70.537825	0.000009
23.42	1.000472	49.978176	-0.008995	49.978177	-0.010312	0.000236	72.538183	0.000006
23.440001	1.000481	49.994462	-0.023383	49.994467	-0.026798	0.00024	72.384615	0.000006
23.459999	1.001188	50.047972	-0.034986	50.047984	-0.040053	0.000593	64.532164	0.000035
23.48	1.000452	50.013317	-0.018256	50.01332	-0.020914	0.000226	72.920292	0.000005
23.5	1.000824	49.992488	-0.040476	49.992504	-0.046389	0.000412	67.708413	0.000017
23.52	1.001161	50.045483	-0.03603	50.045496	-0.04125	0.00058	64.731672	0.000034
23.540001	1.000444	49.995846	-0.021803	49.995851	-0.024986	0.000222	73.074544	0.000005
23.559999	1.000317	49.990482	-0.012656	49.990484	-0.014506	0.000158	76.00646	0.000003
23.58	1.001566	50.051965	-0.058518	50.052	-0.066988	0.000782	62.133598	0.000061

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**01- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	1.00049	50.02312	-0.008139	50.023121	-0.009322	0.000245	72.214755	0.000006	
23.620001	1.001421	49.995728	-0.070853	49.995778	-0.081199	0.00071	62.976707	0.00005	
23.639999	1.000728	49.976095	-0.027399	49.976102	-0.031412	0.000364	68.785053	0.000013	
23.66	1.001	49.992874	-0.049442	49.992899	-0.056665	0.0005	66.028169	0.000025	
23.68	1.00082	49.975321	-0.032737	49.975331	-0.037533	0.00041	67.74273	0.000017	
23.700001	1.001813	49.94838	-0.074359	49.948435	-0.085298	0.000906	60.860592	0.000082	
23.719999	1.00073	50.019152	-0.031069	50.019162	-0.035589	0.000365	68.756336	0.000013	
23.74	1.001567	50.058123	-0.052532	50.058151	-0.060128	0.000783	62.124802	0.000061	
23.76	1.001163	50.034134	-0.047055	50.034157	-0.053885	0.000581	64.714597	0.000034	
23.780001	1.000622	49.999763	-0.031108	49.999773	-0.035648	0.000311	70.14223	0.00001	
23.799999	1.001152	49.943372	-0.010236	49.943373	-0.011743	0.000576	64.794785	0.000033	
23.82	1.000843	50.002387	-0.042054	50.002404	-0.048188	0.000421	67.51003	0.000018	
23.84	1.000343	50.007382	-0.015466	50.007384	-0.01772	0.000171	75.321748	0.000003	
23.860001	1.001188	50.041929	-0.042085	50.041947	-0.048186	0.000594	64.526858	0.000035	
23.879999	1.000976	50.007594	-0.048203	50.007617	-0.055228	0.000488	66.232672	0.000024	
23.9	1.000375	49.981257	-0.000871	49.981257	-0.000998	0.000188	74.531997	0.000004	
23.92	1.000392	50.014185	0.013557	50.014187	0.01553	0.000196	74.146753	0.000004	
23.940001	1.0004	50.016513	-0.011259	50.016514	-0.012897	0.0002	73.986875	0.000004	
23.959999	1.000543	50.002697	-0.027002	50.002704	-0.03094	0.000271	71.329309	0.000007	
23.98	1.001209	49.940224	-0.008668	49.940225	-0.009944	0.000604	64.373952	0.000037	
24	1.000766	50.022394	-0.031047	50.022404	-0.035561	0.000383	68.342334	0.000015	
24.02	1.00106	49.979942	-0.048993	49.979966	-0.056165	0.00053	65.522553	0.000028	
24.040001	1.000307	49.987729	0.009219	49.987729	0.010566	0.000154	76.277692	0.000002	
24.059999	1.000932	50.044337	-0.014319	50.044339	-0.016394	0.000466	66.637679	0.000022	
24.08	1.00067	50.032728	-0.007194	50.032729	-0.008239	0.000335	69.499404	0.000011	
24.1	1.001367	49.940994	-0.034278	49.941006	-0.039327	0.000683	63.314083	0.000047	
24.120001	1.00023	50.005213	-0.010245	50.005214	-0.011738	0.000115	78.790593	0.000001	
24.139999	1.001254	50.049576	-0.038404	50.049591	-0.043964	0.000627	64.057396	0.000039	
24.16	1.001151	49.983554	-0.05511	49.983585	-0.063173	0.000575	64.803439	0.000033	
24.18	1.000655	49.9752	-0.021352	49.975204	-0.02448	0.000327	69.700069	0.000011	
24.200001	1.00083	50.039343	-0.013249	50.039345	-0.015171	0.000415	67.639531	0.000017	
24.219999	1.000925	49.988135	-0.044684	49.988155	-0.051216	0.000462	66.700088	0.000021	
24.24	1.001331	49.937777	-0.023328	49.937782	-0.026766	0.000665	63.544343	0.000044	
24.26	1.000467	49.999699	-0.023324	49.999705	-0.026727	0.000233	72.643224	0.000005	
24.280001	1.00093	49.973186	-0.037978	49.973201	-0.043543	0.000465	66.6505	0.000022	
24.299999	1.001512	50.075472	0.004243	50.075473	0.004855	0.000755	62.437078	0.000057	
24.32	1.001085	50.054137	-0.003484	50.054137	-0.003988	0.000542	65.316935	0.000029	
24.34	1.000935	50.005408	-0.046402	50.00543	-0.053168	0.000467	66.611055	0.000022	
24.360001	1.001484	50.049498	-0.055284	50.049528	-0.063289	0.000742	62.595641	0.000055	
24.379999	1.000351	49.983196	0.00501	49.983197	0.005743	0.000175	75.120579	0.000003	

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
24.4	1.000995	50.035199	-0.035152	50.035211	-0.040253	0.000497	66.067936	0.000025
24.42	1.000346	50.006653	-0.015982	50.006655	-0.018312	0.000173	75.233929	0.000003
24.440001	1.000787	50.022826	-0.032065	50.022836	-0.036727	0.000394	68.101046	0.000015
24.459999	1.000838	50.035118	-0.022879	50.035123	-0.026199	0.000419	67.555975	0.000018
24.48	1.001107	50.05431	-0.010665	50.054311	-0.012208	0.000553	65.142867	0.000031
24.5	1.001704	50.079173	-0.031497	50.079183	-0.036036	0.000851	61.397239	0.000072
24.52	1.001227	49.994193	-0.061013	49.99423	-0.069924	0.000613	64.251882	0.000038
24.540001	1.000345	49.988378	-0.012757	49.98838	-0.014622	0.000173	75.259584	0.000003
24.559999	1.001136	49.961738	-0.041895	49.961756	-0.048046	0.000568	64.91923	0.000032
24.58	1.00069	50.014618	-0.031268	50.014628	-0.03582	0.000345	69.240808	0.000012
24.6	1.000756	50.008594	-0.036812	50.008608	-0.042177	0.000378	68.450399	0.000014
24.620001	1.000582	49.971267	-0.004547	49.971267	-0.005213	0.000291	70.722411	0.000008
24.639999	1.000678	50.01634	-0.029711	50.016349	-0.034035	0.000339	69.395477	0.000011
24.66	1.00173	50.031187	-0.08061	50.031252	-0.092315	0.000864	61.269148	0.000075
24.68	1.000857	50.042044	-0.008176	50.042044	-0.009361	0.000428	67.36847	0.000018
24.700001	1.000368	49.984916	-0.010506	49.984917	-0.012042	0.000184	74.710789	0.000003
24.719999	1.000544	49.997535	-0.027077	49.997542	-0.03103	0.000272	71.311824	0.000007
24.74	1.0011	50.018753	0.051709	50.018779	0.059231	0.00055	65.19375	0.00003
24.76	1.000212	49.994286	0.008934	49.994287	0.010239	0.000106	79.489368	0.000001
24.780001	1.00061	50.008888	-0.029144	50.008897	-0.033391	0.000305	70.323432	0.000009
24.799999	1.000381	50.009532	0.016475	50.009535	0.018875	0.00019	74.410488	0.000004
24.82	1.000895	50.033717	-0.029379	50.033726	-0.033643	0.000447	66.992668	0.00002
24.84	1.000911	49.957022	0.015018	49.957024	0.017224	0.000455	66.830938	0.000021
24.860001	1.000257	50.011403	0.005949	50.011403	0.006816	0.000129	77.815359	0.000002
24.879999	1.001019	50.049449	0.012231	50.04945	0.014002	0.000509	65.863252	0.000026
24.9	1.001001	50.014377	-0.047901	50.0144	-0.054875	0.0005	66.019768	0.000025
24.92	1.001343	50.059138	0.031816	50.059148	0.036416	0.000671	63.463828	0.000045
24.940001	1.000359	50.012689	0.012709	50.012691	0.01456	0.00018	74.915324	0.000003
24.959999	1.001165	49.997071	0.058153	49.997105	0.066642	0.000582	64.697315	0.000034
24.98	1.001148	49.946033	-0.019359	49.946037	-0.022208	0.000574	64.82703	0.000033
25	1.000641	50.007443	-0.031152	50.007452	-0.035692	0.00032	69.889968	0.00001
25.02	1.000433	50.018454	0.01133	50.018456	0.012978	0.000217	73.290539	0.000005
25.040001	1.000805	50.004222	0.040004	50.004238	0.045837	0.000402	67.910249	0.000016
25.059999	1.000508	50.021975	0.012776	50.021977	0.014634	0.000254	71.898621	0.000006
25.08	1.000116	50.005816	-0.00003	50.005816	-0.000035	0.000058	84.708226	0
25.1	1.000592	49.974295	-0.014637	49.974298	-0.016781	0.000296	70.577869	0.000009
25.120001	1.000593	50.00386	0.029413	50.003869	0.033702	0.000297	70.555417	0.000009
25.139999	1.000313	50.0053	-0.014729	50.005302	-0.016877	0.000157	76.107938	0.000002
25.16	1.000649	49.987108	-0.029736	49.987116	-0.034084	0.000324	69.785147	0.000011
25.18	1.000759	49.985575	0.035079	49.985588	0.040209	0.000379	68.41936	0.000014

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
25.200001	1.000762	50.00514	-0.037738	50.005154	-0.04324	0.000381	68.385035	0.000015
25.219999	1.000678	50.029412	-0.016887	50.029415	-0.01934	0.000339	69.39467	0.000011
25.24	1.001111	49.999603	-0.055524	49.999634	-0.063626	0.000555	65.110185	0.000031
25.26	1.001115	49.946453	-0.015226	49.946456	-0.017467	0.000557	65.083025	0.000031
25.280001	1.000891	50.000235	-0.044524	50.000255	-0.051021	0.000445	67.02795	0.00002
25.299999	1.000678	49.9793	0.026851	49.979307	0.030782	0.000339	69.393165	0.000011
25.32	1.000266	49.986971	0.002663	49.986971	0.003052	0.000133	77.523161	0.000002
25.34	1.000122	50.004431	-0.004174	50.004431	-0.004783	0.000061	84.311269	0
25.360001	1.00107	49.947823	0.011607	49.947825	0.013314	0.000535	65.436189	0.000029
25.379999	1.000505	50.025172	-0.00201	50.025172	-0.002302	0.000252	71.956217	0.000006
25.4	1.000604	50.028848	-0.008891	50.028849	-0.010183	0.000302	70.406034	0.000009
25.42	1.000634	49.993388	0.030971	49.993397	0.035495	0.000317	69.986718	0.00001
25.440001	1.000297	50.013047	-0.00706	50.013047	-0.008088	0.000148	76.575671	0.000002
25.459999	1.000447	50.017096	0.014392	50.017098	0.016486	0.000223	73.016876	0.000005
25.48	1.00046	50.003874	0.022675	50.003879	0.025981	0.00023	72.764601	0.000005
25.5	1.0004	50.01192	-0.016038	50.011922	-0.018374	0.0002	73.987889	0.000004
25.52	1.000796	50.012245	0.037873	50.012259	0.043388	0.000398	68.002755	0.000016
25.540001	1.00078	50.031304	-0.023219	50.031309	-0.02659	0.00039	68.187001	0.000015
25.559999	1.000381	50.002766	-0.018837	50.002769	-0.021584	0.00019	74.407571	0.000004
25.58	1.000653	50.032305	-0.004675	50.032305	-0.005353	0.000326	69.727445	0.000011
25.6	1.00088	50.036913	-0.023973	50.036919	-0.027451	0.00044	67.131312	0.000019
25.620001	1.000274	50.005114	-0.012735	50.005115	-0.014592	0.000137	77.251336	0.000002
25.639999	1.000168	50.008109	0.002218	50.008109	0.002542	0.000084	81.507808	0.000001
25.66	1.000792	49.960482	-0.002263	49.960482	-0.002596	0.000396	68.046477	0.000016
25.68	1.00072	49.972192	0.022813	49.972198	0.026156	0.00036	68.879276	0.000013
25.700001	1.000657	49.996304	0.032606	49.996314	0.037366	0.000328	69.678384	0.000011
25.719999	1.000469	49.997182	-0.023277	49.997187	-0.026675	0.000234	72.598018	0.000005
25.74	1.001198	50.015481	-0.057828	50.015514	-0.066245	0.000599	64.458031	0.000036
25.76	1.000197	49.990192	-0.000659	49.990192	-0.000756	0.000098	80.148189	0.000001
25.780001	1.001334	50.05784	0.03323	50.057851	0.038035	0.000667	63.521677	0.000044
25.799999	1.000197	49.990458	-0.002479	49.990458	-0.002841	0.000099	80.122787	0.000001
25.82	1.00085	50.009625	0.041387	50.009642	0.047417	0.000425	67.434824	0.000018
25.84	1.000521	49.996044	0.02572	49.996051	0.029475	0.00026	71.692695	0.000007
25.860001	1.000156	49.999859	-0.007778	49.999859	-0.008912	0.000078	82.181751	0.000001
25.879999	1.000792	50.02906	0.026888	50.029068	0.030793	0.000396	68.050577	0.000016
25.9	1.000423	50.012795	0.016823	50.012797	0.019273	0.000211	73.50077	0.000004
25.92	1.000368	50.018124	0.003227	50.018124	0.003696	0.000184	74.700956	0.000003
25.940001	1.000478	50.001897	0.023841	50.001903	0.027319	0.000239	72.426203	0.000006
25.959999	1.001203	50.053038	-0.028321	50.053046	-0.032419	0.000601	64.423468	0.000036
25.98	1.000741	49.966247	-0.015212	49.96625	-0.017443	0.00037	68.627881	0.000014



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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
26	1.000442	50.018212	0.012511	50.018214	0.014332	0.000221	73.115542	0.000005
26.02	1.00154	49.928882	0.029216	49.928891	0.033526	0.000769	62.276998	0.000059
26.040001	1.000791	50.023903	0.031478	50.023913	0.036054	0.000395	68.064653	0.000016
26.059999	1.000391	50.001548	-0.019502	50.001552	-0.022347	0.000196	74.171351	0.000004
26.08	1.001009	50.02022	0.046208	50.020241	0.052929	0.000504	65.946521	0.000025
26.1	1.000558	49.975057	0.012443	49.975058	0.014266	0.000279	71.093592	0.000008
26.120001	1.001127	50.055364	0.010465	50.055366	0.011979	0.000563	64.987731	0.000032
26.139999	1.000816	49.988826	0.039201	49.988841	0.044931	0.000408	67.793812	0.000017
26.16	1.001066	49.951967	0.023024	49.951972	0.026409	0.000533	65.466746	0.000028
26.18	1.000768	50.037185	0.009664	50.037186	0.011066	0.000384	68.312094	0.000015
26.200001	1.000078	49.996282	0.001136	49.996282	0.001302	0.000039	88.206214	0
26.219999	1.001087	50.015075	0.052185	50.015102	0.059781	0.000543	65.302388	0.000029
26.24	1.0002	49.995546	0.008969	49.995547	0.010279	0.0001	79.987182	0.000001
26.26	1.001141	50.041012	0.039651	50.041028	0.0454	0.00057	64.879097	0.000033
26.280001	1.000098	49.995826	-0.002604	49.995826	-0.002984	0.000049	86.160787	0
26.299999	1.001646	49.971367	0.07707	49.971426	0.088366	0.000822	61.698289	0.000068
26.32	1.001546	49.988711	0.076391	49.988769	0.087557	0.000772	62.244354	0.00006
26.34	1.000238	49.997835	0.011677	49.997837	0.013382	0.000119	78.506282	0.000001
26.360001	1.0009	49.960225	0.021013	49.96023	0.024098	0.00045	66.935427	0.00002
26.379999	1.000358	49.983853	0.007752	49.983853	0.008886	0.000179	74.935962	0.000003
26.4	1.000927	49.982113	0.042745	49.982131	0.049	0.000463	66.679914	0.000021
26.42	1.00087	50.002543	0.043405	50.002561	0.049736	0.000435	67.234477	0.000019
26.440001	1.000551	49.998391	0.027474	49.998398	0.031484	0.000275	71.206507	0.000008
26.459999	1.000511	49.979578	0.015375	49.97958	0.017625	0.000256	71.846106	0.000007
26.48	1.000087	49.998242	-0.003953	49.998242	-0.00453	0.000043	87.277504	0
26.5	1.001339	49.946571	0.040176	49.946587	0.046088	0.000669	63.493418	0.000045
26.52	1.001489	50.000779	0.074391	50.000835	0.085245	0.000744	62.569144	0.000055
26.540001	1.001221	50.030494	0.052858	50.030522	0.060534	0.00061	64.292733	0.000037
26.559999	1.000515	50.018639	0.017765	50.018642	0.02035	0.000257	71.786375	0.000007
26.58	1.000684	50.029376	0.017543	50.02938	0.020091	0.000342	69.318007	0.000012
26.6	1.001111	49.973358	0.048718	49.973381	0.055856	0.000555	65.107614	0.000031
26.620001	1.001488	50.047278	0.05743	50.047311	0.065748	0.000744	62.574205	0.000055
26.639999	1.000666	49.978077	0.025058	49.978083	0.028727	0.000333	69.55062	0.000011
26.66	1.001042	50.042161	0.030564	50.042171	0.034994	0.000521	65.671201	0.000027
26.68	1.000594	49.979829	0.021784	49.979834	0.024973	0.000297	70.546398	0.000009
26.700001	1.000641	49.991222	0.030805	49.991231	0.035306	0.00032	69.887818	0.00001
26.719999	1.001159	49.995788	0.057752	49.995822	0.066185	0.000579	64.745195	0.000034
26.74	1.0005	50.00513	0.024461	50.005135	0.028027	0.00025	72.04422	0.000006
26.76	1.000037	49.999093	0.001616	49.999093	0.001852	0.000019	94.643331	0
26.780001	1.001302	49.966453	0.055712	49.966484	0.063884	0.000651	63.734522	0.000042

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**01- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	1.001016	49.983348	0.047957	49.983371	0.054973	0.000508	65.887208	0.000026	
26.82	1.000316	50.000608	0.015809	50.000611	0.018116	0.000158	76.015524	0.000003	
26.84	1.001883	49.999241	0.094047	49.999329	0.107772	0.000941	60.532731	0.000088	
26.860001	1.000847	49.957708	0.001128	49.957708	0.001293	0.000423	67.468138	0.000018	
26.879999	1.00149	49.982877	0.072452	49.982929	0.083053	0.000745	62.56144	0.000055	
26.9	1.000741	49.982839	0.032821	49.98285	0.037623	0.00037	68.625984	0.000014	
26.92	1.000703	49.997193	0.035014	49.997205	0.040126	0.000351	69.087029	0.000012	
26.940001	1.001081	49.979805	0.050079	49.97983	0.05741	0.00054	65.350738	0.000029	
26.959999	1.000654	50.030536	-0.011662	50.030538	-0.013356	0.000327	69.715022	0.000011	
26.98	1.000661	49.980377	0.026579	49.980384	0.030469	0.00033	69.617956	0.000011	
27	1.00138	49.96335	0.058391	49.963384	0.06696	0.00069	63.227445	0.000048	
27.02	1.000704	50.013422	0.032534	50.013433	0.037271	0.000352	69.071852	0.000012	
27.040001	1.001222	50.026425	0.055049	50.026455	0.063049	0.00061	64.286744	0.000037	
27.059999	1.000908	49.972031	0.035713	49.972044	0.040947	0.000454	66.863885	0.000021	
27.08	1.00075	49.969247	0.021391	49.969252	0.024528	0.000375	68.525755	0.000014	
27.1	1.00161	49.955945	0.067285	49.955991	0.077171	0.000805	61.888425	0.000065	
27.120001	1.00117	49.944224	-0.017485	49.944228	-0.020059	0.000585	64.659161	0.000034	
27.139999	1.001452	49.944181	0.046268	49.944202	0.053079	0.000725	62.788173	0.000053	
27.16	1.000476	49.976324	0.002374	49.976325	0.002721	0.000238	72.468514	0.000006	
27.18	1.002285	49.922876	0.083983	49.922947	0.096386	0.001141	58.85348	0.00013	
27.200001	1.000912	49.968961	0.03339	49.968972	0.038287	0.000456	66.820087	0.000021	
27.219999	1.000765	49.96227	0.006034	49.96227	0.006919	0.000382	68.353251	0.000015	
27.24	1.001429	49.987346	0.070258	49.987395	0.08053	0.000714	62.926334	0.000051	
27.26	1.000813	50.03274	0.024123	50.032746	0.027624	0.000407	67.817977	0.000017	
27.280001	1.001355	49.96375	0.057179	49.963782	0.065569	0.000677	63.384897	0.000046	
27.299999	1.002123	49.89568	0.018385	49.895683	0.021111	0.00106	59.490756	0.000112	
27.32	1.001009	49.959912	0.030577	49.959921	0.035067	0.000504	65.944711	0.000025	
27.34	1.001786	49.972453	0.084839	49.972525	0.097272	0.000892	60.99035	0.00008	
27.360001	1.001596	49.942679	0.055389	49.942709	0.063544	0.000798	61.964809	0.000064	
27.379999	1.001984	49.919863	0.058177	49.919897	0.066773	0.000991	60.077917	0.000098	
27.4	1.000157	50.00674	0.004013	50.00674	0.004598	0.000078	82.109303	0.000001	
27.42	1.000713	50.007111	0.03494	50.007123	0.040033	0.000357	68.957821	0.000013	
27.440001	1.000909	49.958659	0.0188	49.958663	0.021561	0.000454	66.85252	0.000021	
27.459999	1.00109	49.975349	0.048546	49.975372	0.055657	0.000545	65.278504	0.00003	
27.48	1.000741	49.991071	0.035951	49.991084	0.041205	0.00037	68.62496	0.000014	
27.5	1.001296	49.935368	-0.003599	49.935368	-0.00413	0.000648	63.771991	0.000042	
27.52	1.000779	49.988023	0.037016	49.988037	0.042428	0.000389	68.198714	0.000015	
27.540001	1.00169	50.018893	0.082302	50.018961	0.094276	0.000844	61.470379	0.000071	
27.559999	1.001032	49.96611	0.038868	49.966125	0.04457	0.000516	65.749385	0.000027	
27.58	1.00112	49.979885	0.052215	49.979912	0.059859	0.00056	65.041324	0.000031	

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
27.6	1.001643	49.918674	0.010563	49.918675	0.012124	0.000821	61.7157	0.000067
27.620001	1.001491	49.979348	0.071582	49.979399	0.082061	0.000745	62.554844	0.000056
27.639999	1.00093	49.958431	0.020785	49.958435	0.023837	0.000465	66.651922	0.000022
27.66	1.001377	50.018361	0.066319	50.018405	0.075968	0.000688	63.248121	0.000047
27.68	1.001769	49.951024	0.073533	49.951079	0.084345	0.000884	61.071636	0.000078
27.700001	1.000848	49.978681	0.036643	49.978694	0.042008	0.000424	67.452054	0.000018
27.719999	1.000812	50.018727	0.036003	50.01874	0.041241	0.000406	67.834975	0.000016
27.74	1.001256	49.978265	0.058844	49.9783	0.067459	0.000627	64.048671	0.000039
27.76	1.000833	49.978188	0.035425	49.978201	0.040612	0.000416	67.61586	0.000017
27.780001	1.000989	49.977315	0.043907	49.977335	0.050336	0.000494	66.119895	0.000024
27.799999	1.00154	49.958704	0.06489	49.958746	0.07442	0.000769	62.2761	0.000059
27.82	1.000695	49.972321	0.021	49.972325	0.024078	0.000348	69.179956	0.000012
27.84	1.002205	49.974856	0.107176	49.974971	0.122876	0.001101	59.163214	0.000121
27.860001	1.001259	49.945414	-0.031163	49.945424	-0.03575	0.000629	64.028419	0.00004
27.879999	1.000803	49.979274	-0.034342	49.979286	-0.03937	0.000401	67.932773	0.000016
27.9	1.001195	50.009704	0.05893	50.009738	0.067516	0.000597	64.477909	0.000036
27.92	1.00141	49.929703	0.003972	49.929703	0.004558	0.000705	63.041347	0.00005
27.940001	1.001026	49.958318	0.029835	49.958327	0.034217	0.000513	65.800877	0.000026
27.959999	1.001343	49.950826	0.045581	49.950847	0.052284	0.000671	63.467778	0.000045
27.98	1.00121	49.968774	0.051735	49.968801	0.059322	0.000604	64.372428	0.000037
28	1.001123	49.951	0.027308	49.951007	0.031324	0.000561	65.017063	0.000031
28.02	1.001507	49.929835	-0.027177	49.929842	-0.031187	0.000753	62.464365	0.000057
28.040001	1.001035	50.003741	0.051565	50.003767	0.059085	0.000517	65.730353	0.000027
28.059999	1.000534	49.977193	0.013831	49.977195	0.015856	0.000267	71.476518	0.000007
28.08	1.001074	49.947347	0.010179	49.947348	0.011677	0.000537	65.407599	0.000029
28.1	1.000698	49.966111	-0.008298	49.966112	-0.009516	0.000349	69.143067	0.000012
28.120001	1.00224	49.901518	0.052819	49.901546	0.060646	0.001119	59.026322	0.000125
28.139999	1.000545	49.974322	-0.009059	49.974323	-0.010387	0.000272	71.297062	0.000007
28.16	1.000527	49.987107	-0.022997	49.987113	-0.02636	0.000264	71.578506	0.000007
28.18	1.000967	49.961939	0.02979	49.961947	0.034162	0.000484	66.311796	0.000023
28.200001	1.001325	49.935056	0.012679	49.935058	0.014548	0.000662	63.581179	0.000044
28.219999	1.001106	49.950151	0.023795	49.950156	0.027294	0.000553	65.151015	0.000031
28.24	1.001035	49.949838	0.012546	49.94984	0.014391	0.000517	65.724658	0.000027
28.26	1.000272	49.98943	0.008547	49.989431	0.009796	0.000136	77.332667	0.000002
28.280001	1.000462	50.008721	0.021406	50.008726	0.024526	0.000231	72.72297	0.000005
28.299999	1.000668	50.005321	0.032985	50.005332	0.037794	0.000334	69.522588	0.000011
28.32	1.001199	49.952421	0.036361	49.952434	0.041706	0.000599	64.449928	0.000036
28.34	1.001307	49.937531	-0.018891	49.937534	-0.021675	0.000653	63.701196	0.000043
28.360001	1.001572	49.924545	-0.021596	49.924549	-0.024784	0.000785	62.097737	0.000062
28.379999	1.001354	49.940606	0.032308	49.940617	0.037066	0.000677	63.39433	0.000046

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
28.4	1.000723	50.035312	-0.007833	50.035313	-0.00897	0.000362	68.83598	0.000013
28.42	1.000353	50.003776	0.017227	50.003779	0.019739	0.000176	75.072301	0.000003
28.440001	1.000782	49.97245	0.027691	49.972458	0.031749	0.000391	68.162663	0.000015
28.459999	1.001074	49.947027	0.008538	49.947028	0.009794	0.000537	65.40299	0.000029
28.48	1.002315	49.88465	0.005942	49.884651	0.006825	0.001156	58.73815	0.000134
28.5	1.001424	49.940185	0.03847	49.9402	0.044137	0.000712	62.955162	0.000051
28.52	1.001571	49.921671	0.003551	49.921671	0.004076	0.000785	62.105794	0.000062
28.540001	1.001092	49.947102	-0.013282	49.947104	-0.015236	0.000546	65.261144	0.00003
28.559999	1.000193	49.996969	0.009148	49.99697	0.010483	0.000096	80.320816	0.000001
28.58	1.000468	49.988189	0.020179	49.988193	0.023129	0.000234	72.621605	0.000005
28.6	1.000271	49.986486	-0.00068	49.986486	-0.000779	0.000135	77.372047	0.000002
28.620001	1.00103	49.952604	0.020061	49.952608	0.02301	0.000515	65.765389	0.000027
28.639999	1.001749	49.921827	0.038867	49.921842	0.044609	0.000874	61.172661	0.000076
28.66	1.000895	50.017518	0.041144	50.017535	0.047131	0.000447	66.991884	0.00002
28.68	1.001181	49.941244	-0.005145	49.941244	-0.005903	0.00059	64.580616	0.000035
28.700001	1.001619	49.927138	0.034991	49.92715	0.040155	0.000809	61.842383	0.000065
28.719999	1.000836	49.978899	0.036043	49.978912	0.04132	0.000418	67.581795	0.000017
28.74	1.000978	49.958721	0.026121	49.958728	0.029957	0.000489	66.219332	0.000024
28.76	1.000961	49.977733	0.04253	49.977751	0.048758	0.00048	66.37199	0.000023
28.780001	1.001662	49.95944	0.072418	49.959492	0.083052	0.00083	61.614645	0.000069
28.799999	1.001046	49.971461	0.043786	49.97148	0.050204	0.000523	65.633213	0.000027
28.82	1.001026	49.951719	-0.017256	49.951722	-0.019793	0.000513	65.798273	0.000026
28.84	1.001389	49.934934	0.024024	49.934939	0.027566	0.000694	63.172177	0.000048
28.860001	1.0015	49.93981	-0.044544	49.939829	-0.051105	0.000749	62.507427	0.000056
28.879999	1.001705	49.930128	0.048614	49.930151	0.055785	0.000852	61.393285	0.000073
28.9	1.000731	49.993159	0.035899	49.993172	0.041143	0.000365	68.742833	0.000013
28.92	1.000894	49.976597	0.038073	49.976611	0.043648	0.000447	66.993691	0.00002
28.940001	1.001703	49.92779	0.044904	49.927811	0.051531	0.000851	61.401981	0.000072
28.959999	1.001039	49.957456	0.029704	49.957464	0.034067	0.000519	65.695022	0.000027
28.98	1.001108	49.94981	0.023275	49.949816	0.026698	0.000554	65.137394	0.000031
29	1.001901	49.910632	0.031791	49.910642	0.036495	0.000949	60.451081	0.00009
29.02	1.001438	49.934582	0.029578	49.93459	0.033938	0.000718	62.872499	0.000052
29.040001	1.000696	49.968001	-0.013664	49.968003	-0.015667	0.000348	69.167126	0.000012
29.059999	1.001616	49.924744	0.029122	49.924752	0.033422	0.000808	61.856591	0.000065
29.08	1.000683	49.965866	0.000851	49.965866	0.000975	0.000342	69.330692	0.000012
29.1	1.002026	49.921512	0.063768	49.921553	0.073188	0.001012	59.89583	0.000102
29.120001	1.001803	49.919538	0.040325	49.919554	0.046284	0.000901	60.908012	0.000081
29.139999	1.001992	49.909278	0.040641	49.909295	0.046656	0.000995	60.043626	0.000099
29.16	1.001083	49.950161	0.021022	49.950165	0.024113	0.000541	65.333146	0.000029
29.18	1.001038	49.948306	0.003871	49.948306	0.00444	0.000519	65.702452	0.000027

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
29.200001	1.001428	49.929445	0.010145	49.929446	0.011641	0.000713	62.934406	0.000051
29.219999	1.00141	49.935892	0.029133	49.9359	0.033427	0.000705	63.040874	0.00005
29.24	1.001568	49.922233	-0.008852	49.922233	-0.01016	0.000783	62.121374	0.000061
29.26	1.002257	49.895698	0.042436	49.895716	0.04873	0.001127	58.959853	0.000127
29.280001	1.002397	49.88755	0.040631	49.887566	0.046664	0.001197	58.438099	0.000143
29.299999	1.00182	49.93682	0.065294	49.936863	0.074916	0.000909	60.827342	0.000083
29.32	1.001506	49.93698	0.041046	49.936997	0.047094	0.000753	62.469253	0.000057
29.34	1.001449	49.928472	-0.010882	49.928474	-0.012488	0.000724	62.804933	0.000052
29.360001	1.002083	49.897987	0.02	49.897991	0.022965	0.001041	59.654257	0.000108
29.379999	1.001667	49.920823	-0.025667	49.92083	-0.029459	0.000833	61.587207	0.000069
29.4	1.002548	49.879794	-0.041279	49.879811	-0.047417	0.001272	57.906907	0.000162
29.42	1.000964	49.955705	0.018933	49.955708	0.021715	0.000482	66.340263	0.000023
29.440001	1.001397	49.943116	0.040418	49.943133	0.046368	0.000698	63.120335	0.000049
29.459999	1.001242	49.938192	0.005019	49.938192	0.005758	0.000621	64.145162	0.000039
29.48	1.001827	49.912032	0.024078	49.912038	0.02764	0.000913	60.792141	0.000083
29.5	1.001413	49.929646	0.004975	49.929647	0.005709	0.000706	63.026481	0.00005
29.52	1.001022	49.951723	-0.016566	49.951725	-0.019001	0.000511	65.837544	0.000026
29.540001	1.001992	49.906686	0.034251	49.906698	0.039322	0.000995	60.044036	0.000099
29.559999	1.00153	49.927103	0.022875	49.927109	0.026251	0.000765	62.331644	0.000058
29.58	1.001703	49.915868	0.012247	49.915869	0.014058	0.000851	61.402364	0.000072
29.6	1.002095	49.901436	0.034866	49.901448	0.040033	0.001047	59.605027	0.00011
29.620001	1.002062	49.901902	-0.031062	49.901912	-0.035664	0.00103	59.743345	0.000106
29.639999	1.001334	49.933386	-0.000066	49.933386	-0.000075	0.000667	63.522841	0.000044
29.66	1.003035	49.849892	0.019075	49.849896	0.021924	0.001515	56.389321	0.00023
29.68	1.002006	49.899945	0.003526	49.899945	0.004049	0.001002	59.981098	0.0001
29.700001	1.001644	49.921759	-0.024802	49.921765	-0.028465	0.000821	61.708654	0.000067
29.719999	1.001633	49.919685	0.013959	49.919687	0.016021	0.000816	61.767877	0.000067
29.74	1.001737	49.913356	-0.002507	49.913356	-0.002878	0.000868	61.234035	0.000075
29.76	1.001108	49.945128	0.007003	49.945129	0.008034	0.000553	65.138112	0.000031
29.780001	1.001147	49.945065	-0.0162	49.945068	-0.018584	0.000573	64.836112	0.000033
29.799999	1.001741	49.913721	-0.010157	49.913722	-0.011659	0.00087	61.214598	0.000076
29.82	1.002552	49.872814	-0.004661	49.872814	-0.005355	0.001274	57.894321	0.000162
29.84	1.00136	49.932323	-0.005644	49.932323	-0.006476	0.00068	63.355193	0.000046
29.860001	1.002129	49.89669	-0.024677	49.896696	-0.028336	0.001063	59.467191	0.000113
29.879999	1.001678	49.916445	0.005817	49.916445	0.006677	0.000838	61.532283	0.00007
29.9	1.001343	49.940801	-0.031495	49.940811	-0.036134	0.000671	63.466162	0.000045
29.92	1.001697	49.918839	0.02427	49.918845	0.027857	0.000848	61.433992	0.000072
29.940001	1.001596	49.932042	-0.041616	49.932059	-0.047753	0.000797	61.966209	0.000064
29.959999	1.00146	49.940637	0.042346	49.940655	0.048583	0.00073	62.738057	0.000053
29.98	1.001027	49.948713	0.000312	49.948713	0.000358	0.000513	65.795229	0.000026

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
30	1.001639	49.918178	-0.000623	49.918178	-0.000715	0.000819	61.735208	0.000067
30.02	1.000618	49.970262	-0.008377	49.970262	-0.009605	0.000309	70.199507	0.00001
30.040001	1.000657	49.969105	0.011072	49.969106	0.012695	0.000328	69.674815	0.000011
30.059999	1.000948	49.979159	-0.042528	49.979177	-0.048754	0.000474	66.489945	0.000022
30.08	1.001279	49.972274	0.057577	49.972307	0.066015	0.000639	63.886885	0.000041
30.1	1.001857	49.907958	-0.010829	49.907959	-0.012432	0.000928	60.652547	0.000086
30.120001	1.001247	49.949459	-0.036411	49.949472	-0.041767	0.000623	64.107037	0.000039
30.139999	1.001437	49.93876	0.037384	49.938774	0.042891	0.000718	62.878441	0.000052
30.16	1.001091	49.947233	-0.013518	49.947235	-0.015507	0.000545	65.272098	0.00003
30.18	1.0015	49.925229	-0.004272	49.925229	-0.004902	0.000749	62.50463	0.000056
30.200001	1.001518	49.924261	-0.002549	49.924261	-0.002925	0.000758	62.402115	0.000058
30.219999	1.001825	49.911929	-0.02322	49.911934	-0.026656	0.000912	60.803793	0.000083
30.24	1.001995	49.926979	0.067668	49.927025	0.077655	0.000996	60.032446	0.000099
30.26	1.001433	49.929834	0.013877	49.929836	0.015925	0.000716	62.90472	0.000051
30.280001	1.001723	49.914125	0.00444	49.914126	0.005096	0.000861	61.303654	0.000074
30.299999	1.00104	49.949944	0.013906	49.949946	0.015951	0.00052	65.683705	0.000027
30.32	1.000719	49.96408	0.000864	49.96408	0.000991	0.000359	68.887546	0.000013
30.34	1.001014	49.952346	-0.017166	49.952349	-0.019689	0.000507	65.904062	0.000026
30.360001	1.000989	49.955719	-0.021909	49.955724	-0.025129	0.000494	66.120865	0.000024
30.379999	1.00143	49.932396	-0.022935	49.932401	-0.026317	0.000714	62.921549	0.000051
30.4	1.002467	49.879974	-0.027083	49.879981	-0.031109	0.001232	58.188367	0.000152
30.42	1.002158	49.894177	-0.019738	49.894181	-0.022666	0.001078	59.35066	0.000116
30.440001	1.00229	49.887429	-0.019423	49.887433	-0.022307	0.001144	58.834299	0.000131
30.459999	1.001012	49.952406	0.017066	49.952409	0.019575	0.000506	65.919519	0.000026
30.48	1.002	49.900468	-0.007027	49.900468	-0.008069	0.000999	60.010489	0.0001
30.5	1.001683	49.92642	-0.040607	49.926436	-0.0466	0.000841	61.50375	0.000071
30.52	1.001471	49.938789	-0.040579	49.938805	-0.046557	0.000735	62.675986	0.000054
30.540001	1.001216	49.94812	0.031599	49.94813	0.036247	0.000608	64.325169	0.000037
30.559999	1.002257	49.88939	-0.021154	49.889394	-0.024295	0.001127	58.95848	0.000127
30.58	1.001693	49.915773	0.006711	49.915773	0.007703	0.000846	61.456155	0.000072
30.6	1.001459	49.928764	-0.015137	49.928766	-0.017371	0.000729	62.747998	0.000053
30.620001	1.002271	49.903657	-0.059692	49.903693	-0.068534	0.001134	58.904249	0.000129
30.639999	1.001787	49.929858	-0.055105	49.929888	-0.063234	0.000893	60.986705	0.00008
30.66	1.002313	49.901134	-0.059541	49.90117	-0.068364	0.001155	58.746509	0.000133
30.68	1.002214	49.906033	0.058111	49.906067	0.066715	0.001106	59.12585	0.000122
30.700001	1.001352	49.93535	-0.019377	49.935354	-0.022233	0.000675	63.409471	0.000046
30.719999	1.001363	49.932424	0.007926	49.932425	0.009094	0.000681	63.338986	0.000046
30.74	1.0017	49.932669	-0.051669	49.932696	-0.059289	0.000849	61.418906	0.000072
30.76	1.002537	49.888214	-0.059307	49.888249	-0.068114	0.001267	57.945419	0.00016
30.780001	1.001664	49.920744	-0.024904	49.920751	-0.028583	0.000831	61.603597	0.000069

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
30.799999	1.002567	49.872735	-0.014064	49.872737	-0.016157	0.001282	57.842049	0.000164
30.82	1.001469	49.92772	-0.012424	49.927721	-0.014258	0.000734	62.686868	0.000054
30.84	1.002324	49.885554	-0.018566	49.885558	-0.021324	0.001161	58.705231	0.000135
30.860001	1.002508	49.875605	-0.013352	49.875607	-0.015339	0.001253	58.043374	0.000157
30.879999	1.001949	49.906628	0.027208	49.906636	0.031236	0.000973	60.233646	0.000095
30.9	1.001747	49.912841	-0.002107	49.912841	-0.002419	0.000873	61.183676	0.000076
30.92	1.002437	49.913719	-0.085661	49.913793	-0.09833	0.001217	58.295156	0.000148
30.940001	1.001843	49.910752	0.02235	49.910757	0.025657	0.000921	60.716087	0.000085
30.959999	1.002145	49.914126	-0.063881	49.914167	-0.073328	0.001071	59.402567	0.000115
30.98	1.000738	49.963915	-0.007607	49.963915	-0.008723	0.000369	68.66145	0.000014
31	1.000717	49.964276	-0.002829	49.964277	-0.003245	0.000358	68.910647	0.000013
31.02	1.002069	49.898581	-0.019298	49.898585	-0.022158	0.001033	59.714377	0.000107
31.040001	1.001739	49.929362	-0.050507	49.929387	-0.057959	0.000869	61.219725	0.000076
31.059999	1.001263	49.941209	-0.022784	49.941214	-0.02614	0.000631	64.00091	0.00004
31.08	1.002442	49.891125	-0.054688	49.891155	-0.062804	0.00122	58.27489	0.000149
31.1	1.001055	49.948756	-0.012182	49.948757	-0.013974	0.000527	65.563875	0.000028
31.120001	1.00153	49.953714	-0.060784	49.953751	-0.069718	0.000764	62.334053	0.000058
31.139999	1.001455	49.941745	-0.043409	49.941764	-0.049801	0.000727	62.770264	0.000053
31.16	1.001481	49.948214	-0.052822	49.948242	-0.060593	0.00074	62.614069	0.000055
31.18	1.002256	49.895778	-0.042502	49.895796	-0.048806	0.001127	58.963642	0.000127
31.200001	1.002374	49.884699	-0.027017	49.884706	-0.031031	0.001186	58.521157	0.000141
31.219999	1.001545	49.933744	-0.039522	49.93376	-0.04535	0.000772	62.247733	0.00006
31.24	1.001793	49.939745	-0.066223	49.939789	-0.075977	0.000896	60.955124	0.00008
31.26	1.002357	49.919952	-0.086204	49.920027	-0.098941	0.001177	58.582067	0.000139
31.280001	1.002396	49.891963	-0.051156	49.891989	-0.058747	0.001197	58.440639	0.000143
31.299999	1.002631	49.909138	-0.094735	49.909228	-0.108756	0.001314	57.629122	0.000173
31.32	1.001101	49.972003	-0.047353	49.972026	-0.054293	0.00055	65.188702	0.00003
31.34	1.002873	49.866618	-0.052308	49.866645	-0.060101	0.001435	56.86518	0.000206
31.360001	1.001281	49.940437	-0.023296	49.940442	-0.026727	0.00064	63.877108	0.000041
31.379999	1.001817	49.914448	-0.030124	49.914457	-0.034579	0.000908	60.840335	0.000082
31.4	1.001458	49.93785	-0.037919	49.937864	-0.043506	0.000728	62.751426	0.000053
31.42	1.001359	49.933413	-0.013172	49.933415	-0.015114	0.000679	63.359746	0.000046
31.440001	1.001955	49.902592	-0.005078	49.902593	-0.00583	0.000976	60.20789	0.000095
31.459999	1.002725	49.922527	-0.111733	49.922652	-0.128236	0.001361	57.324744	0.000185
31.48	1.001901	49.934353	-0.068516	49.9344	-0.078617	0.00095	60.449895	0.00009
31.5	1.001201	49.962479	-0.046786	49.9625	-0.053653	0.0006	64.437625	0.000036
31.52	1.002147	49.90024	-0.039084	49.900256	-0.044876	0.001072	59.392101	0.000115
31.540001	1.001748	49.920414	-0.03578	49.920427	-0.041066	0.000873	61.176914	0.000076
31.559999	1.002242	49.924446	-0.0825	49.924514	-0.094681	0.00112	59.019231	0.000125
31.58	1.001808	49.924422	-0.049312	49.924446	-0.056594	0.000903	60.885198	0.000082

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
31.6	1.002249	49.902025	-0.054723	49.902055	-0.062831	0.001123	58.989964	0.000126
31.620001	1.000603	49.975916	0.018089	49.97592	0.020739	0.000301	70.420691	0.000009
31.639999	1.001851	49.917293	-0.041206	49.91731	-0.047297	0.000925	60.679092	0.000086
31.66	1.000531	49.977033	0.013289	49.977035	0.015235	0.000265	71.521913	0.000007
31.68	1.001213	49.97921	-0.056897	49.979242	-0.065227	0.000606	64.352098	0.000037
31.700001	1.000822	49.965866	-0.022795	49.965871	-0.026139	0.000411	67.731645	0.000017
31.719999	1.0022	49.891081	-0.013725	49.891083	-0.015762	0.001099	59.180045	0.000121
31.74	1.00199	49.900813	-0.004841	49.900813	-0.005558	0.000994	60.051972	0.000099
31.76	1.00044	49.978358	0.003998	49.978358	0.004584	0.00022	73.14642	0.000005
31.780001	1.001355	49.934882	-0.018372	49.934886	-0.02108	0.000677	63.387712	0.000046
31.799999	1.002517	49.884996	-0.050369	49.885022	-0.057852	0.001257	58.013643	0.000158
31.82	1.000961	49.952024	0.00138	49.952024	0.001583	0.00048	66.371689	0.000023
31.84	1.001747	49.94644	-0.068843	49.946488	-0.078973	0.000873	61.182644	0.000076
31.860001	1.001961	49.945634	-0.081435	49.9457	-0.093419	0.00098	60.178288	0.000096
31.879999	1.000905	49.977082	-0.039003	49.977097	-0.044714	0.000452	66.888022	0.00002
31.9	1.001541	49.92708	-0.024539	49.927086	-0.028161	0.00077	62.27084	0.000059
31.92	1.001566	49.943876	-0.054439	49.943905	-0.062453	0.000782	62.132164	0.000061
31.940001	1.000709	49.984546	-0.031882	49.984556	-0.036545	0.000354	69.011213	0.000013
31.959999	1.001911	49.926122	-0.060344	49.926158	-0.069252	0.000955	60.403427	0.000091
31.98	1.001351	49.987981	-0.066412	49.988026	-0.076121	0.000675	63.414023	0.000046
32	1.001845	49.91215	0.027547	49.912157	0.031622	0.000921	60.710203	0.000085
32.02	1.000818	49.995646	-0.040645	49.995662	-0.046579	0.000409	67.769997	0.000017
32.040001	1.001689	49.929492	-0.046221	49.929513	-0.05304	0.000844	61.476563	0.000071
32.060001	1.001198	49.965104	-0.048604	49.965128	-0.055735	0.000599	64.458053	0.000036
32.080002	1.001724	49.91456	0.010144	49.914561	0.011644	0.000861	61.29858	0.000074
32.099998	1.001335	49.958886	-0.05251	49.958914	-0.060222	0.000667	63.515098	0.000045
32.119999	1.001019	49.962134	-0.034012	49.962146	-0.039004	0.000509	65.862658	0.000026
32.139999	1.001626	49.922689	-0.024654	49.922695	-0.028295	0.000812	61.807899	0.000066
32.16	1.001492	49.947636	-0.053034	49.947665	-0.060836	0.000746	62.548986	0.000056
32.18	1.001138	49.943871	-0.008887	49.943872	-0.010195	0.000569	64.903911	0.000032
32.200001	1.001532	49.932218	-0.035445	49.93223	-0.040672	0.000765	62.321946	0.000059
32.220001	1.002434	49.931779	-0.100526	49.93188	-0.115352	0.001216	58.303327	0.000148
32.240002	1.000967	49.956632	-0.021221	49.956637	-0.024339	0.000483	66.320608	0.000023
32.259998	1.001364	49.940239	-0.03264	49.940249	-0.037448	0.000681	63.332619	0.000046
32.279999	1.000829	49.972986	-0.031389	49.972996	-0.035988	0.000414	67.655002	0.000017
32.299999	1.001798	49.956628	-0.078592	49.95669	-0.090138	0.000898	60.934053	0.000081
32.32	1.001251	49.957001	-0.045304	49.957021	-0.051959	0.000625	64.084069	0.000039
32.34	1.001387	49.941437	-0.036989	49.94145	-0.042436	0.000693	63.184438	0.000048
32.360001	1.002136	49.903987	-0.046301	49.904008	-0.053159	0.001067	59.436984	0.000114
32.380001	1.001499	49.925233	0.003697	49.925234	0.004242	0.000749	62.508757	0.000056



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**01- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	1.001429	49.937541	-0.034532	49.937553	-0.039621	0.000714	62.924352	0.000051	
32.419998	1.001572	49.960863	-0.068057	49.96091	-0.078049	0.000785	62.098331	0.000062	
32.439999	1.002671	49.902295	-0.090608	49.902377	-0.104032	0.001334	57.498048	0.000178	
32.459999	1.002437	49.939408	-0.105477	49.939519	-0.121014	0.001217	58.293093	0.000148	
32.48	1.001281	49.951649	-0.041904	49.951666	-0.048065	0.00064	63.874544	0.000041	
32.5	1.001481	49.932588	-0.030422	49.932597	-0.034908	0.00074	62.614327	0.000055	
32.52	1.002316	49.892305	-0.041862	49.892323	-0.048074	0.001157	58.735654	0.000134	
32.540001	1.001391	49.944429	-0.041639	49.944446	-0.047768	0.000695	63.162924	0.000048	
32.560001	1.001168	49.954462	-0.036482	49.954476	-0.041844	0.000584	64.675344	0.000034	
32.580002	1.001851	49.941011	-0.071133	49.941062	-0.081609	0.000925	60.680479	0.000085	
32.599998	1.001291	49.987085	-0.0632	49.987125	-0.07244	0.000645	63.806918	0.000042	
32.619999	1.001191	49.994526	-0.05925	49.994561	-0.067902	0.000595	64.508915	0.000035	
32.639999	1.002148	49.957697	-0.098567	49.957794	-0.113046	0.001073	59.387437	0.000115	
32.66	1.001328	50.003737	-0.066233	50.003781	-0.075892	0.000663	63.565061	0.000044	
32.68	1.00103	49.982556	-0.048415	49.982579	-0.055499	0.000515	65.768719	0.000026	
32.700001	1.000789	49.976923	-0.031996	49.976934	-0.036682	0.000395	68.077081	0.000016	
32.720001	1.001194	49.967048	-0.049692	49.967072	-0.056981	0.000596	64.48855	0.000036	
32.740002	1.001785	49.94094	-0.066708	49.940985	-0.076532	0.000891	60.997783	0.000079	
32.759998	1.001752	49.963549	-0.079552	49.963613	-0.091226	0.000875	61.156152	0.000077	
32.779999	1.001842	49.960691	-0.083176	49.96076	-0.095388	0.00092	60.721099	0.000085	
32.799999	1.001768	49.972716	-0.083957	49.972786	-0.096261	0.000883	61.080437	0.000078	
32.82	1.001926	49.919666	-0.052821	49.919694	-0.060626	0.000962	60.334578	0.000093	
32.84	1.001222	49.939869	0.010515	49.93987	0.012064	0.000611	64.28201	0.000037	
32.860001	1.00154	49.925902	-0.02057	49.925907	-0.023606	0.00077	62.275055	0.000059	
32.880001	1.001124	49.983896	-0.053776	49.983925	-0.061643	0.000561	65.013854	0.000032	
32.900002	1.001001	49.991645	-0.049293	49.99167	-0.056495	0.0005	66.020523	0.000025	
32.919998	1.001782	49.955662	-0.077145	49.955721	-0.08848	0.00089	61.010416	0.000079	
32.939999	1.00145	50.0115	-0.071548	50.011551	-0.081969	0.000725	62.798283	0.000053	
32.959999	1.001942	49.927677	-0.064559	49.927719	-0.074086	0.00097	60.263145	0.000094	
32.98	1.001193	49.945526	0.024084	49.945532	0.027628	0.000596	64.496142	0.000036	
33	1.002327	49.979105	-0.114273	49.979236	-0.131002	0.001162	58.69652	0.000135	
33.02	1.001815	49.985605	-0.089529	49.985685	-0.102622	0.000907	60.848637	0.000082	
33.040001	1.00095	50.01097	-0.046194	50.010991	-0.052923	0.000475	66.470984	0.000023	
33.060001	1.001285	49.937853	-0.015938	49.937855	-0.018286	0.000642	63.84951	0.000041	
33.080002	1.001827	49.936197	-0.065203	49.93624	-0.074812	0.000913	60.792101	0.000083	
33.099998	1.001907	49.957438	-0.085173	49.957511	-0.097684	0.000953	60.422174	0.000091	
33.119999	1.001483	49.947776	-0.052482	49.947803	-0.060202	0.000741	62.606328	0.000055	
33.139999	1.001107	49.952338	-0.028036	49.952346	-0.032158	0.000553	65.141935	0.000031	
33.16	1.001103	50.008604	-0.054458	50.008634	-0.062393	0.000551	65.172465	0.00003	
33.18	1.001133	49.977745	-0.052071	49.977772	-0.059695	0.000566	64.937568	0.000032	

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
33.200001	1.001454	49.930149	-0.019835	49.930153	-0.022761	0.000727	62.773724	0.000053
33.220001	1.001808	49.959631	-0.080767	49.959696	-0.092627	0.000903	60.883292	0.000082
33.240002	1.000947	50.000756	-0.047344	50.000778	-0.054252	0.000474	66.493591	0.000022
33.259998	1.001249	49.98435	-0.060386	49.984386	-0.06922	0.000624	64.09751	0.000039
33.279999	1.001266	49.942087	0.025354	49.942094	0.029087	0.000633	63.977949	0.00004
33.299999	1.001152	49.998021	-0.057528	49.998054	-0.065925	0.000576	64.797093	0.000033
33.32	1.001071	49.947936	-0.012297	49.947937	-0.014106	0.000535	65.428898	0.000029
33.34	1.002039	49.978644	-0.099551	49.978743	-0.114126	0.001018	59.841819	0.000104
33.360001	1.001911	50.030297	-0.090549	50.030379	-0.103699	0.000955	60.404099	0.000091
33.380001	1.000839	49.976829	-0.034958	49.976841	-0.040077	0.000419	67.545457	0.000018
33.400002	1.001321	49.975666	-0.061332	49.975704	-0.070316	0.00066	63.609267	0.000044
33.419998	1.001765	49.945169	-0.068993	49.945217	-0.079147	0.000882	61.092984	0.000078
33.439999	1.001975	49.906788	-0.031992	49.906798	-0.036729	0.000986	60.118828	0.000097
33.459999	1.001047	49.952138	-0.021123	49.952142	-0.024228	0.000523	65.623108	0.000027
33.48	1.001333	49.982753	-0.064331	49.982794	-0.073744	0.000666	63.528589	0.000044
33.5	1.000766	49.992894	-0.037615	49.992908	-0.04311	0.000383	68.339924	0.000015
33.52	1.000403	49.989158	-0.016959	49.989161	-0.019438	0.000201	73.923003	0.000004
33.540001	1.002871	49.971029	-0.140344	49.971226	-0.160916	0.001433	56.872375	0.000205
33.560001	1.001411	49.99002	-0.069802	49.990069	-0.080003	0.000705	63.03396	0.00005
33.580002	1.001346	49.958168	-0.052647	49.958196	-0.06038	0.000673	63.443406	0.000045
33.599998	1.000821	50.000058	-0.041043	50.000074	-0.047032	0.00041	67.735162	0.000017
33.619999	1.00135	49.984288	-0.065598	49.984331	-0.075194	0.000675	63.418497	0.000046
33.639999	1.001156	50.025959	-0.051635	50.025985	-0.059139	0.000578	64.764763	0.000033
33.66	1.00142	49.975551	-0.066588	49.975596	-0.076341	0.00071	62.980755	0.00005
33.68	1.000757	49.970014	-0.023082	49.970019	-0.026466	0.000379	68.438209	0.000014
33.700001	1.001315	50.019822	-0.062653	50.019861	-0.071766	0.000657	63.648632	0.000043
33.720001	1.000841	49.992897	-0.041418	49.992914	-0.047468	0.00042	67.529729	0.000018
33.740002	1.001003	50.009617	-0.049196	50.009641	-0.056363	0.000501	65.99944	0.000025
33.759998	1.001654	50.001096	-0.082623	50.001164	-0.094677	0.000826	61.657301	0.000068
33.779999	1.001586	50.027819	-0.074212	50.027874	-0.084994	0.000792	62.02187	0.000063
33.799999	1.00148	49.982338	-0.071799	49.982389	-0.082304	0.00074	62.620981	0.000055
33.82	1.001098	49.956998	-0.034072	49.95701	-0.039078	0.000549	65.210457	0.00003
33.84	1.000972	50.006176	-0.048189	50.006199	-0.055214	0.000486	66.270874	0.000024
33.860001	1.002093	50.033929	-0.098931	50.034027	-0.113289	0.001046	59.613394	0.000109
33.880001	1.001499	49.951218	-0.056797	49.951251	-0.065148	0.000749	62.509597	0.000056
33.900002	1.001881	50.020407	-0.091718	50.020491	-0.105059	0.000939	60.542826	0.000088
33.919998	1.000973	49.977146	-0.042923	49.977164	-0.049209	0.000486	66.260264	0.000024
33.939999	1.001248	50.014917	-0.060552	50.014954	-0.069367	0.000624	64.102875	0.000039
33.959999	1.000924	50.031702	-0.033621	50.031713	-0.038502	0.000462	66.708029	0.000021
33.98	1.00134	49.943191	-0.035357	49.943204	-0.040562	0.00067	63.484899	0.000045

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
34	1.001334	50.016312	-0.06465	50.016354	-0.074059	0.000667	63.522044	0.000044
34.02	1.001846	49.95724	-0.081672	49.957307	-0.09367	0.000922	60.702722	0.000085
34.040001	1.000705	49.990854	-0.034019	49.990866	-0.03899	0.000352	69.061801	0.000012
34.060001	1.001886	50.012027	-0.093451	50.012114	-0.107062	0.000942	60.517986	0.000089
34.080002	1.000029	50.000887	0.001146	50.000887	0.001313	0.000014	96.778614	0
34.099998	1.001234	50.020921	-0.058026	50.020955	-0.066466	0.000617	64.198561	0.000038
34.119999	1.001593	49.949743	-0.06168	49.949781	-0.070751	0.000796	61.981501	0.000063
34.139999	1.001466	49.990456	-0.072602	49.990509	-0.083211	0.000732	62.705839	0.000054
34.16	1.000059	49.997134	0.00069	49.997134	0.000791	0.000029	90.610945	0
34.18	1.001511	49.975065	-0.071217	49.975116	-0.081649	0.000755	62.443986	0.000057
34.200001	1.000701	50.03505	-0.000646	50.03505	-0.000739	0.00035	69.107751	0.000012
34.220001	1.001272	49.973935	-0.057962	49.973969	-0.066454	0.000636	63.935031	0.00004
34.240002	1.000087	49.997692	0.003689	49.997692	0.004227	0.000044	87.226739	0
34.259998	1.001729	49.924694	-0.042128	49.924712	-0.048348	0.000864	61.274341	0.000075
34.279999	1.000609	50.022694	-0.020273	50.022698	-0.023221	0.000304	70.335726	0.000009
34.299999	1.000388	50.014545	-0.012803	50.014546	-0.014666	0.000194	74.255764	0.000004
34.32	1.000941	50.000459	-0.047012	50.000481	-0.053871	0.00047	66.555477	0.000022
34.34	1.00236	49.910957	-0.077081	49.911016	-0.088486	0.001179	58.57144	0.000139
34.360001	1.001183	49.974809	-0.05345	49.974838	-0.06128	0.000591	64.567699	0.000035
34.380001	1.00036	49.989278	-0.014456	49.989281	-0.016569	0.00018	74.894635	0.000003
34.400002	1.000844	49.993131	-0.041595	49.993149	-0.047671	0.000422	67.501761	0.000018
34.419998	1.000112	49.996564	-0.004391	49.996564	-0.005032	0.000056	85.074088	0
34.439999	1.000707	49.977726	-0.027427	49.977733	-0.031443	0.000353	69.034594	0.000012
34.459999	1.001086	49.961049	-0.037792	49.961063	-0.04334	0.000543	65.305138	0.000029
34.48	1.000617	49.978929	-0.0225	49.978934	-0.025794	0.000308	70.219927	0.00001
34.5	1.000957	50.034181	-0.03347	50.034192	-0.038328	0.000478	66.4073	0.000023
34.52	1.000664	49.972713	-0.018873	49.972716	-0.021639	0.000332	69.580583	0.000011
34.540001	1.00155	50.02135	-0.074448	50.021405	-0.085274	0.000774	62.221611	0.00006
34.560001	1.001046	50.009707	-0.051386	50.009733	-0.058873	0.000523	65.631696	0.000027
34.580002	1.000936	50.028926	-0.036784	50.028939	-0.042127	0.000468	66.598531	0.000022
34.599998	1.001214	49.989135	-0.059657	49.989171	-0.068377	0.000606	64.344155	0.000037
34.619999	1.00199	49.988665	-0.098765	49.988763	-0.113202	0.000994	60.050171	0.000099
34.639999	1.001058	50.051909	-0.010126	50.05191	-0.011591	0.000529	65.537491	0.000028
34.66	1.001017	49.952094	-0.01694	49.952097	-0.01943	0.000508	65.876385	0.000026
34.68	1.00063	50.025565	-0.018438	50.025569	-0.021117	0.000315	70.030438	0.00001
34.700001	1.000196	49.992622	0.006477	49.992623	0.007423	0.000098	80.159539	0.000001
34.720001	1.000422	50.012271	-0.017173	50.012274	-0.019674	0.000211	73.512665	0.000004
34.740002	1.000969	50.017438	-0.045212	50.017458	-0.051791	0.000484	66.294223	0.000023
34.759998	1.000861	50.014499	-0.040525	50.014516	-0.046425	0.00043	67.323647	0.000019
34.779999	1.001399	50.016871	-0.067856	50.016917	-0.077731	0.000699	63.109235	0.000049

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
34.799999	1.000608	50.021585	-0.021368	50.021589	-0.024476	0.000304	70.352167	0.000009
34.82	1.000905	49.98737	-0.043412	49.987389	-0.049759	0.000452	66.893903	0.00002
34.84	1.001832	49.921018	-0.046121	49.92104	-0.052935	0.000915	60.768324	0.000084
34.860001	1.001712	49.916998	-0.020381	49.917002	-0.023394	0.000855	61.356703	0.000073
34.880001	1.000787	49.96814	-0.023045	49.968146	-0.026425	0.000393	68.104807	0.000015
34.900002	1.000514	50.000917	-0.025678	50.000923	-0.029424	0.000257	71.803466	0.000007
34.919998	1.000374	49.991428	-0.016631	49.991431	-0.019061	0.000187	74.55766	0.000004
34.939999	1.001612	49.987532	-0.079536	49.987595	-0.091164	0.000805	61.88221	0.000065
34.959999	1.000618	50.009066	-0.029528	50.009074	-0.033831	0.000309	70.204889	0.00001
34.98	1.001073	50.037438	-0.038447	50.037453	-0.044024	0.000536	65.40967	0.000029
35	1.000525	50.026036	0.003242	50.026036	0.003713	0.000262	71.624007	0.000007
35.02	1.000161	50.00676	-0.004401	50.00676	-0.005042	0.000081	81.867034	0.000001
35.040001	1.000815	49.965798	-0.022102	49.965802	-0.025344	0.000407	67.800406	0.000017
35.060001	1.001322	49.952469	-0.045849	49.95249	-0.05259	0.000661	63.599682	0.000044
35.080002	1.00055	49.98417	0.022502	49.984175	0.025793	0.000275	71.208187	0.000008
35.099998	1.000653	50.012735	-0.03005	50.012744	-0.034426	0.000326	69.726786	0.000011
35.119999	1.001224	49.973244	-0.05498	49.973274	-0.063036	0.000612	64.270557	0.000037
35.139999	1.001093	50.04875	-0.024638	50.048756	-0.028206	0.000546	65.256797	0.00003
35.16	1.001896	49.972269	-0.090534	49.972351	-0.103801	0.000947	60.471923	0.00009
35.18	1.00052	50.002728	-0.025847	50.002735	-0.029617	0.00026	71.703946	0.000007
35.200001	1.001368	49.935992	-0.023828	49.935998	-0.02734	0.000683	63.306159	0.000047
35.220001	1.001369	49.984415	-0.066585	49.984459	-0.076324	0.000684	63.299506	0.000047
35.240002	1.001142	50.006025	-0.056764	50.006057	-0.065039	0.000571	64.870413	0.000033
35.259998	1.002424	49.952191	-0.111139	49.952315	-0.127478	0.00121	58.341162	0.000147
35.279999	1.001426	49.946347	-0.046839	49.946369	-0.053732	0.000713	62.943016	0.000051
35.299999	1.002014	50.031319	-0.095635	50.031411	-0.109521	0.001006	59.94798	0.000101
35.32	1.000839	50.033575	-0.025164	50.033582	-0.028817	0.000419	67.546487	0.000018
35.34	1.001213	49.969436	-0.052347	49.969464	-0.060022	0.000606	64.345527	0.000037
35.360001	1.000152	50.00703	0.002899	50.00703	0.003322	0.000076	82.379887	0.000001
35.380001	1.000859	50.007796	-0.042214	50.007814	-0.048366	0.000429	67.345899	0.000018
35.400002	1.000864	49.966139	-0.026765	49.966146	-0.030691	0.000432	67.295136	0.000019
35.419998	1.001223	49.955844	-0.042207	49.955862	-0.048409	0.000611	64.277662	0.000037
35.439999	1.001454	50.072149	-0.009057	50.07215	-0.010364	0.000727	62.773786	0.000053
35.459999	1.001036	50.030777	-0.041675	50.030794	-0.047727	0.000518	65.714748	0.000027
35.48	1.000821	49.982444	-0.037083	49.982458	-0.042509	0.00041	67.736719	0.000017
35.5	1.000568	49.97213	-0.005345	49.97213	-0.006128	0.000284	70.937964	0.000008
35.52	1.001102	50.038408	-0.039494	50.038423	-0.045222	0.000551	65.181904	0.00003
35.540001	1.001704	49.989656	-0.084494	49.989727	-0.096843	0.000851	61.397961	0.000072
35.560001	1.001381	49.997162	-0.068944	49.997209	-0.079009	0.00069	63.222425	0.000048
35.580002	1.001165	49.942126	-0.006117	49.942126	-0.007018	0.000582	64.697035	0.000034

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
35.599998	1.001705	49.923777	-0.037916	49.923791	-0.043515	0.000852	61.391412	0.000073
35.619999	1.001264	49.991407	-0.062555	49.991446	-0.071695	0.000631	63.992893	0.00004
35.639999	1.000825	49.987379	-0.039258	49.987394	-0.044998	0.000412	67.693197	0.000017
35.66	1.001299	50.00917	-0.064267	50.009211	-0.073632	0.000649	63.75345	0.000042
35.68	1.000785	50.01075	-0.03772	50.010764	-0.043214	0.000392	68.130439	0.000015
35.700001	1.000715	50.024397	-0.026137	50.024403	-0.029936	0.000357	68.935752	0.000013
35.720001	1.000204	49.998533	-0.010109	49.998534	-0.011585	0.000102	79.814794	0.000001
35.740002	1.000058	49.998799	-0.002648	49.998799	-0.003034	0.000029	90.729829	0
35.759998	1.000388	50.018566	-0.005587	50.018566	-0.0064	0.000194	74.250742	0.000004
35.779999	1.000503	50.021247	-0.01346	50.021249	-0.015418	0.000251	71.990495	0.000006
35.799999	1.000412	49.979707	0.003621	49.979707	0.004151	0.000206	73.715196	0.000004
35.82	1.001041	50.037613	-0.035988	50.037626	-0.041209	0.00052	65.673725	0.000027
35.84	1.000996	49.996736	-0.049686	49.996761	-0.05694	0.000498	66.056324	0.000025
35.860001	1.001133	50.05465	-0.014842	50.054652	-0.016989	0.000566	64.943893	0.000032
35.880001	1.00083	50.01181	-0.039781	50.011826	-0.045575	0.000415	67.640597	0.000017
35.900002	1.000911	49.970945	-0.035042	49.970957	-0.040179	0.000455	66.833218	0.000021
35.919998	1.000792	49.973929	-0.029801	49.973938	-0.034167	0.000396	68.044889	0.000016
35.939999	1.000725	50.036244	-0.000675	50.036244	-0.000773	0.000362	68.816967	0.000013
35.959999	1.001255	49.966915	-0.053222	49.966943	-0.061028	0.000627	64.056307	0.000039
35.98	1.000622	49.985576	-0.027541	49.985583	-0.031569	0.000311	70.146369	0.00001
36	1.000438	50.003043	-0.021676	50.003048	-0.024837	0.000219	73.19599	0.000005
36.02	1.000634	50.019675	-0.024845	50.019681	-0.028459	0.000317	69.982842	0.00001
36.040001	1.000974	50.03795	-0.0305	50.037959	-0.034924	0.000487	66.255013	0.000024
36.060001	1.000901	50.011792	-0.043451	50.011811	-0.04978	0.00045	66.93234	0.00002
36.080002	1.000844	50.019777	0.037277	50.019791	0.0427	0.000422	67.495745	0.000018
36.099998	1.000676	50.032467	-0.009337	50.032468	-0.010692	0.000338	69.428809	0.000011
36.119999	1.000216	50.009501	-0.005099	50.009501	-0.005841	0.000108	79.346479	0.000001
36.139999	1.000113	50.005572	-0.00087	50.005572	-0.000997	0.000056	84.974952	0
36.16	1.000337	49.987899	-0.011718	49.987901	-0.013431	0.000168	75.469906	0.000003
36.18	1.000259	49.99826	0.012835	49.998261	0.014708	0.00013	77.752787	0.000002
36.200001	1.000562	49.982196	-0.021738	49.9822	-0.024919	0.000281	71.024609	0.000008
36.220001	1.000478	50.015529	0.018163	50.015532	0.020807	0.000239	72.434652	0.000006
36.240002	1.000665	50.029729	0.0149	50.029731	0.017064	0.000332	69.56566	0.000011
36.259998	1.000254	50.010578	-0.00703	50.010579	-0.008054	0.000127	77.923868	0.000002
36.279999	1.000599	49.972789	-0.01247	49.97279	-0.014298	0.000299	70.474714	0.000009
36.299999	1.000654	49.967912	-0.006117	49.967912	-0.007014	0.000327	69.715285	0.000011
36.32	1.000362	49.981932	-0.000285	49.981932	-0.000327	0.000181	74.859133	0.000003
36.34	1.000476	49.993501	0.022869	49.993507	0.026209	0.000238	72.477311	0.000006
36.360001	1.000708	49.991601	-0.034398	49.991612	-0.039424	0.000354	69.017097	0.000013
36.380001	1.000676	50.032467	-0.009439	50.032468	-0.010809	0.000338	69.421568	0.000011

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
36.400002	1.000407	49.989461	-0.017405	49.989464	-0.019949	0.000203	73.828832	0.000004
36.419998	1.001324	49.936704	-0.01915	49.936708	-0.021972	0.000662	63.586599	0.000044
36.439999	1.000694	50.006945	-0.033973	50.006957	-0.038925	0.000347	69.200138	0.000012
36.459999	1.000071	49.997954	0.002892	49.997954	0.003315	0.000035	89.012611	0
36.48	1.000567	49.976613	-0.015972	49.976616	-0.018311	0.000283	70.956067	0.000008
36.5	1.000615	49.991477	-0.029518	49.991485	-0.033831	0.000307	70.249793	0.000009
36.52	1.000799	50.037155	-0.014637	50.037157	-0.01676	0.000399	67.976276	0.000016
36.540001	1.001646	49.982588	0.080349	49.982652	0.092105	0.000822	61.699607	0.000068
36.560001	1.001222	49.942941	0.021695	49.942946	0.024889	0.000611	64.282118	0.000037
36.580002	1.001114	50.012815	-0.054169	50.012845	-0.062057	0.000557	65.08959	0.000031
36.599998	1.001066	50.023186	-0.047999	50.023209	-0.054978	0.000533	65.466552	0.000028
36.619999	1.000372	50.011668	-0.014472	50.01167	-0.016579	0.000186	74.615703	0.000003
36.639999	1.001562	50.043273	0.065011	50.043315	0.074433	0.000781	62.151189	0.000061
36.66	1.000726	50.005133	0.035906	50.005146	0.041141	0.000363	68.80917	0.000013
36.68	1.000264	50.000148	0.013191	50.000149	0.015116	0.000132	77.593788	0.000002
36.700001	1.000719	49.967571	0.015469	49.967573	0.017737	0.000359	68.888206	0.000013
36.720001	1.000894	49.956249	0.008896	49.956249	0.010203	0.000447	67.00042	0.00002
36.740002	1.000178	49.997461	-0.008521	49.997461	-0.009764	0.000089	81.020883	0.000001
36.759998	1.000361	49.985514	-0.010775	49.985515	-0.012351	0.000181	74.867162	0.000003
36.779999	1.000904	49.979465	0.040237	49.979481	0.046127	0.000452	66.900419	0.00002
36.799999	1.000429	49.982924	0.013003	49.982925	0.014905	0.000215	73.364577	0.000005
36.82	1.000763	49.963666	-0.01155	49.963668	-0.013245	0.000381	68.372568	0.000015
36.84	1.000878	50.042798	-0.009757	50.042799	-0.011171	0.000439	67.155133	0.000019
36.860001	1.0008	49.988027	0.03815	49.988042	0.043727	0.0004	67.961043	0.000016
36.880001	1.000527	50.017569	-0.019649	50.017573	-0.022509	0.000264	71.583183	0.000007
36.900002	1.000811	49.963722	0.018097	49.963725	0.020753	0.000406	67.838906	0.000016
36.919998	1.00013	49.997561	-0.00604	49.997561	-0.006921	0.000065	83.723387	0
36.939999	1.000684	49.97245	-0.020238	49.972454	-0.023204	0.000342	69.320886	0.000012
36.959999	1.000239	49.989357	-0.005376	49.989357	-0.006162	0.000119	78.470814	0.000001
36.98	1.000345	49.986983	-0.01132	49.986984	-0.012975	0.000173	75.262736	0.000003
37	1.001028	50.011536	0.050085	50.011561	0.05738	0.000514	65.782359	0.000026
37.02	1.001393	50.003306	0.069539	50.003354	0.079681	0.000696	63.145873	0.000048
37.040001	1.000749	49.968189	0.019685	49.968193	0.022572	0.000374	68.537716	0.000014
37.060001	1.000477	49.984351	0.018016	49.984354	0.020651	0.000239	72.443906	0.000006
37.080002	1.00056	49.999473	0.028001	49.99948	0.032087	0.00028	71.054905	0.000008
37.099998	1.000282	49.986283	0.003338	49.986283	0.003826	0.000141	77.003574	0.000002
37.119999	1.000889	50.012245	0.042715	50.012263	0.048936	0.000444	67.046464	0.00002
37.139999	1.00014	50.006849	0.001524	50.006849	0.001746	0.00007	83.077625	0
37.16	1.001203	49.942911	0.018642	49.942914	0.021386	0.000601	64.423969	0.000036
37.18	1.001115	50.026229	0.049155	50.026253	0.056298	0.000557	65.082816	0.000031

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
37.200001	1.000459	49.978077	-0.006692	49.978078	-0.007671	0.000229	72.793349	0.000005
37.220001	1.000482	49.976145	0.003501	49.976145	0.004013	0.000241	72.353753	0.000006
37.240002	1.00013	50.003182	-0.005674	50.003182	-0.006501	0.000065	83.734997	0
37.259998	1.000373	50.000347	0.018647	50.00035	0.021368	0.000186	74.58644	0.000003
37.279999	1.00053	50.024859	0.00921	50.02486	0.010548	0.000265	71.533809	0.000007
37.299999	1.000987	49.95389	0.017495	49.953893	0.020067	0.000493	66.135946	0.000024
37.32	1.000295	49.997807	0.014565	49.997809	0.016691	0.000147	76.636081	0.000002
37.34	1.001578	49.939548	0.050497	49.939573	0.057935	0.000788	62.067775	0.000062
37.360001	1.000846	50.005647	-0.04189	50.005664	-0.047997	0.000423	67.480046	0.000018
37.380001	1.000571	49.994939	0.028093	49.994946	0.032196	0.000285	70.888755	0.000008
37.400002	1.000694	50.009861	-0.03325	50.009872	-0.038094	0.000347	69.198967	0.000012
37.419998	1.001142	49.985747	0.055234	49.985777	0.063312	0.000571	64.874622	0.000033
37.439999	1.001832	49.908564	-0.001648	49.908564	-0.001891	0.000915	60.768328	0.000084
37.459999	1.001125	49.957923	0.037228	49.957937	0.042697	0.000562	65.00434	0.000032
37.48	1.0004	49.984758	-0.012964	49.98476	-0.01486	0.0002	73.973825	0.000004
37.5	1.000305	50.01355	-0.007032	50.01355	-0.008056	0.000153	76.326746	0.000002
37.52	1.001209	49.941285	-0.014085	49.941287	-0.016159	0.000604	64.377001	0.000037
37.540001	1.001021	50.028778	0.042122	50.028796	0.048241	0.00051	65.848684	0.000026
37.560001	1.000618	49.99211	-0.029875	49.992119	-0.03424	0.000309	70.200299	0.00001
37.580002	1.001539	49.943141	0.051731	49.943167	0.059347	0.000769	62.279826	0.000059
37.599998	1.000634	49.9736	-0.017474	49.973603	-0.020034	0.000317	69.987754	0.00001
37.619999	1.000183	49.994144	-0.007005	49.994144	-0.008028	0.000091	80.789681	0.000001
37.639999	1.000443	50.011008	-0.019235	50.011012	-0.022037	0.000222	73.088478	0.000005
37.66	1.001134	49.9509	0.02828	49.950908	0.032439	0.000567	64.929946	0.000032
37.68	1.000518	49.992792	0.024859	49.992798	0.02849	0.000259	71.73912	0.000007
37.700001	1.000293	49.993211	0.013	49.993213	0.014899	0.000147	76.673475	0.000002
37.720001	1.001258	49.96455	-0.051889	49.964577	-0.059502	0.000629	64.031906	0.00004
37.740002	1.001102	49.961534	-0.039394	49.96155	-0.045178	0.000551	65.180007	0.00003
37.759998	1.001554	49.974265	0.073217	49.974319	0.083944	0.000776	62.199604	0.00006
37.779999	1.001441	49.936717	0.034189	49.936729	0.039227	0.00072	62.856587	0.000052
37.799999	1.000495	49.995144	-0.024245	49.99515	-0.027785	0.000247	72.136477	0.000006
37.82	1.000881	49.957834	0.012534	49.957835	0.014376	0.00044	67.12927	0.000019
37.84	1.000758	49.96786	0.019996	49.967864	0.022929	0.000379	68.435243	0.000014
37.860001	1.001384	49.939643	0.033631	49.939654	0.038585	0.000691	63.2059	0.000048
37.880001	1.000524	49.986948	0.022687	49.986953	0.026004	0.000262	71.641585	0.000007
37.900002	1.000887	50.003874	0.044166	50.003894	0.050606	0.000443	67.065327	0.00002
37.919998	1.001269	49.953852	0.043458	49.953871	0.049845	0.000634	63.95563	0.00004
37.939999	1.001163	49.943354	0.012896	49.943356	0.014795	0.000581	64.712274	0.000034
37.959999	1.001235	49.942711	-0.022912	49.942717	-0.026285	0.000617	64.189256	0.000038
37.98	1.000891	49.972332	0.034905	49.972344	0.04002	0.000446	67.022445	0.00002

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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
38	1.000725	49.965211	0.01003	49.965212	0.011501	0.000362	68.821499	0.000013
38.02	1.000811	49.969856	0.027097	49.969863	0.03107	0.000405	67.841153	0.000016
38.040001	1.001302	49.955758	0.047644	49.95578	0.054644	0.00065	63.73554	0.000042
38.060001	1.00061	50.020991	0.022089	50.020996	0.025302	0.000305	70.323752	0.000009
38.080002	1.00172	49.956312	0.073964	49.956367	0.084831	0.000859	61.316045	0.000074
38.099998	1.001268	49.945411	0.032097	49.945421	0.036821	0.000634	63.963566	0.00004
38.119999	1.000637	49.97047	0.011896	49.970472	0.01364	0.000318	69.93911	0.00001
38.139999	1.001466	49.927676	0.011297	49.927678	0.012964	0.000733	62.703411	0.000054
38.16	1.000918	49.954325	0.004229	49.954326	0.00485	0.000459	66.765462	0.000021
38.18	1.001216	49.941077	-0.014699	49.94108	-0.016863	0.000608	64.327069	0.000037
38.200001	1.000875	49.956289	-0.00044	49.956289	-0.000505	0.000437	67.183888	0.000019
38.220001	1.000666	49.96905	0.012203	49.969052	0.013992	0.000333	69.55661	0.000011
38.240002	1.000851	49.963429	0.0217	49.963434	0.024884	0.000425	67.424147	0.000018
38.259998	1.000742	49.96296	-0.001594	49.96296	-0.001828	0.000371	68.615354	0.000014
38.279999	1.001357	49.932617	-0.006925	49.932618	-0.007946	0.000678	63.377534	0.000046
38.299999	1.001515	49.973753	0.070965	49.973803	0.081363	0.000757	62.419976	0.000057
38.32	1.00089	49.962007	-0.023098	49.962012	-0.026489	0.000445	67.036601	0.00002
38.34	1.001183	49.943422	-0.017032	49.943425	-0.019539	0.000591	64.565416	0.000035
38.360001	1.000697	49.966533	-0.009551	49.966534	-0.010952	0.000348	69.164765	0.000012
38.380001	1.001546	49.925884	0.021495	49.925889	0.024668	0.000772	62.244608	0.00006
38.400002	1.00093	49.95361	-0.002682	49.95361	-0.003076	0.000465	66.653026	0.000022
38.419998	1.001393	49.96963	0.062606	49.969669	0.071785	0.000696	63.147206	0.000048
38.439999	1.002276	49.891532	0.033537	49.891543	0.038514	0.001137	58.887993	0.000129
38.459999	1.001145	49.944725	0.014612	49.944727	0.016763	0.000572	64.85122	0.000033
38.48	1.0012	49.981575	0.057073	49.981608	0.065425	0.0006	64.439256	0.000036
38.5	1.000839	49.96361	-0.020824	49.963615	-0.02388	0.000419	67.547036	0.000018
38.52	1.000886	49.979845	0.039414	49.979861	0.045183	0.000443	67.076469	0.00002
38.540001	1.000095	50.004632	0.000999	50.004632	0.001145	0.000047	86.486821	0
38.560001	1.001264	49.937127	-0.005363	49.937127	-0.006153	0.000631	63.993742	0.00004
38.580002	1.000894	49.958421	0.016314	49.958423	0.01871	0.000447	66.996964	0.00002
38.599998	1.00026	49.988056	-0.00512	49.988056	-0.005869	0.00013	77.72328	0.000002
38.619999	1.000944	49.992562	0.046564	49.992583	0.053367	0.000472	66.528878	0.000022
38.639999	1.000855	49.95754	0.00457	49.95754	0.005241	0.000427	67.386672	0.000018
38.66	1.000384	49.994127	-0.018275	49.99413	-0.020944	0.000192	74.335492	0.000004
38.68	1.001549	49.932735	0.038123	49.93275	0.043745	0.000774	62.228681	0.00006
38.700001	1.000685	49.972645	0.020597	49.97265	0.023616	0.000343	69.30638	0.000012
38.720001	1.000675	49.969717	-0.014803	49.96972	-0.016974	0.000337	69.442898	0.000011
38.740002	1.000597	49.99405	0.029222	49.994059	0.03349	0.000298	70.508944	0.000009
38.759998	1.000537	49.975263	-0.010396	49.975264	-0.011919	0.000268	71.42456	0.000007
38.779999	1.001453	49.928617	0.012842	49.928619	0.014736	0.000726	62.7836	0.000053



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**01- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
38.799999	1.00132	49.934283	-0.005362	49.934283	-0.006153	0.00066	63.611852	0.000044
38.82	1.001344	49.939207	-0.02841	49.939215	-0.032595	0.000671	63.459801	0.000045
38.84	1.00094	49.995191	-0.046709	49.995213	-0.053529	0.00047	66.565831	0.000022
38.860001	1.001695	49.92613	0.041314	49.926147	0.047412	0.000847	61.442306	0.000072
38.880001	1.000924	49.962464	0.026908	49.962471	0.030858	0.000462	66.706846	0.000021
38.900002	1.000987	49.956175	-0.022583	49.95618	-0.025901	0.000493	66.139051	0.000024
38.919998	1.001788	49.930487	-0.056025	49.930519	-0.064289	0.000893	60.978916	0.00008
38.939999	1.00143	49.929801	-0.013105	49.929802	-0.015039	0.000715	62.918445	0.000051
38.959999	1.001325	49.933999	-0.004789	49.933999	-0.005495	0.000662	63.58047	0.000044
38.98	1.000434	50.008245	-0.020083	50.00825	-0.023009	0.000217	73.267695	0.000005
39	1.000569	49.972682	-0.007974	49.972683	-0.009142	0.000285	70.913692	0.000008
39.02	1.000889	49.972197	0.034662	49.972209	0.039742	0.000444	67.043071	0.00002
39.040001	1.000433	49.988496	-0.018341	49.988499	-0.021022	0.000217	73.289928	0.000005
39.060001	1.002427	49.894809	-0.059979	49.894845	-0.068876	0.001212	58.328716	0.000147
39.080002	1.000573	49.981615	-0.021957	49.98162	-0.02517	0.000286	70.859793	0.000008
39.099998	1.000502	49.977987	0.012083	49.977988	0.013853	0.000251	72.000658	0.000006
39.119999	1.00158	49.924899	0.024181	49.924905	0.027751	0.00079	62.052162	0.000062
39.139999	1.001181	49.94195	-0.01044	49.941951	-0.011977	0.00059	64.580615	0.000035
39.16	1.001863	49.911197	0.027504	49.911205	0.031573	0.00093	60.625955	0.000087
39.18	1.001946	49.903262	-0.008592	49.903263	-0.009865	0.000972	60.24552	0.000095
39.200001	1.001479	49.926153	-0.001216	49.926153	-0.001395	0.000739	62.625762	0.000055
39.220001	1.001233	49.946337	-0.030233	49.946346	-0.034682	0.000616	64.204663	0.000038
39.240002	1.00127	49.946104	0.033456	49.946116	0.038379	0.000635	63.948702	0.00004
39.259998	1.001461	49.935623	-0.034271	49.935635	-0.039323	0.00073	62.736202	0.000053
39.279999	1.001109	49.947511	0.017756	49.947514	0.020368	0.000554	65.123547	0.000031
39.299999	1.002005	49.901105	0.01515	49.901107	0.017395	0.001001	59.987141	0.0001
39.32	1.000806	49.962014	-0.013433	49.962016	-0.015405	0.000403	67.892449	0.000016
39.34	1.001953	49.907988	-0.03209	49.907999	-0.036841	0.000975	60.216638	0.000095
39.360001	1.001558	49.925414	-0.022064	49.925419	-0.025321	0.000778	62.176029	0.000061
39.380001	1.001469	49.927957	-0.013868	49.927959	-0.015914	0.000734	62.683945	0.000054
39.400002	1.002226	49.897085	-0.041699	49.897103	-0.047882	0.001112	59.081335	0.000124
39.419998	1.002303	49.885209	-0.004397	49.885209	-0.005051	0.00115	58.785468	0.000132
39.439999	1.000728	50.002359	-0.036299	50.002372	-0.041593	0.000364	68.784082	0.000013
39.459999	1.001238	49.941261	-0.019288	49.941265	-0.022128	0.000619	64.171674	0.000038
39.48	1.001471	49.967334	-0.065796	49.967377	-0.075446	0.000735	62.676331	0.000054
39.5	1.000656	49.982737	0.027884	49.982745	0.031964	0.000328	69.682333	0.000011
39.52	1.002651	49.867984	-0.007417	49.867984	-0.008521	0.001324	57.562288	0.000175
39.540001	1.00195	49.944712	-0.080122	49.944776	-0.091914	0.000974	60.228846	0.000095
39.560001	1.000657	49.967605	-0.005439	49.967606	-0.006237	0.000329	69.666962	0.000011
39.580002	1.001095	49.961796	0.039139	49.961811	0.044884	0.000547	65.237937	0.00003

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**01- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
39.599998	1.001559	49.967322	-0.070671	49.967372	-0.081036	0.000779	62.170845	0.000061	
39.619999	1.001259	49.937459	-0.006399	49.93746	-0.007342	0.000629	64.026105	0.00004	
39.639999	1.001311	49.934788	-0.00599	49.934789	-0.006873	0.000655	63.67134	0.000043	
39.66	1.001506	49.931397	-0.030783	49.931407	-0.035323	0.000752	62.470524	0.000057	
39.68	1.000847	49.957688	0.001269	49.957688	0.001455	0.000423	67.46315	0.000018	
39.700001	1.002286	49.888198	0.022516	49.888203	0.02586	0.001142	58.848608	0.00013	
39.720001	1.000929	49.953982	0.00597	49.953983	0.006848	0.000464	66.66504	0.000022	
39.740002	1.001492	49.938882	-0.042624	49.9389	-0.048904	0.000746	62.549983	0.000056	
39.759998	1.00119	49.94096	0.006928	49.94096	0.007948	0.000595	64.512492	0.000035	
39.779999	1.001725	49.918842	-0.028699	49.91885	-0.03294	0.000862	61.294591	0.000074	
39.799999	1.001246	49.938401	-0.008791	49.938402	-0.010086	0.000623	64.115577	0.000039	
39.82	1.001392	49.933261	-0.01936	49.933264	-0.022215	0.000695	63.155673	0.000048	
39.84	1.001547	49.92927	0.030996	49.92928	0.03557	0.000773	62.238875	0.00006	
39.860001	1.002106	49.894941	-0.000652	49.894941	-0.000749	0.001052	59.562039	0.000111	
39.880001	1.001017	49.949842	0.007942	49.949843	0.00911	0.000508	65.88131	0.000026	
39.900002	1.002312	49.886309	-0.019523	49.886313	-0.022423	0.001155	58.749396	0.000133	
39.919998	1.000855	49.958065	0.008147	49.958066	0.009344	0.000427	67.383955	0.000018	
39.939999	1.002523	49.888238	-0.057906	49.888271	-0.066504	0.00126	57.991673	0.000159	
39.959999	1.001107	49.958575	-0.036654	49.958588	-0.042037	0.000553	65.139791	0.000031	
39.98	1.001477	49.93724	-0.038719	49.937255	-0.044424	0.000738	62.640154	0.000054	
40	1.000842	49.960231	-0.013752	49.960233	-0.015771	0.000421	67.515183	0.000018	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	1.133237	47.294387	-5.45186	47.607582	-6.575757	0.062458	24.088296	0.390095	
10.02	1.133491	47.289528	-5.461315	47.603839	-6.587733	0.062569	24.072754	0.391494	
10.04	1.134735	47.200595	-5.469856	47.516476	-6.610266	0.063116	23.99725	0.398359	
10.06	1.134939	47.176617	-5.465596	47.492167	-6.608491	0.063205	23.984955	0.399489	
10.08	1.13483	47.134621	-5.4353	47.446971	-6.577985	0.063157	23.991557	0.398882	
10.1	1.136241	47.113854	-5.49116	47.432775	-6.64789	0.063776	23.906835	0.40674	
10.12	1.136346	47.069387	-5.469311	47.38608	-6.627874	0.063822	23.900594	0.407325	
10.14	1.136184	47.040757	-5.443873	47.35471	-6.6013	0.063751	23.910223	0.406422	
10.16	1.137414	46.995573	-5.475686	47.313497	-6.64586	0.06429	23.837129	0.413321	
10.18	1.137966	46.963839	-5.48268	47.282787	-6.658728	0.064532	23.804559	0.416432	
10.2	1.139366	46.906456	-5.514619	47.229511	-6.705285	0.065144	23.722555	0.42437	
10.22	1.139249	46.898231	-5.503634	47.22006	-6.693212	0.065092	23.729384	0.423703	
10.24	1.139926	46.861937	-5.513398	47.185154	-6.710125	0.065388	23.689992	0.427564	
10.26	1.140344	46.819404	-5.50616	47.142066	-6.707428	0.065571	23.665806	0.429951	
10.28	1.141808	46.778315	-5.55099	47.10652	-6.767419	0.066209	23.581619	0.438367	
10.3	1.140597	46.761589	-5.480316	47.081632	-6.684411	0.065681	23.651149	0.431405	
10.32	1.141888	46.720338	-5.516263	47.044863	-6.73374	0.066244	23.577034	0.43883	
10.34	1.141451	46.704939	-5.484217	47.025822	-6.697165	0.066054	23.60207	0.436308	
10.36	1.14242	46.658949	-5.500787	46.982084	-6.723775	0.066476	23.54665	0.441911	
10.38	1.143376	46.607279	-5.512414	46.932133	-6.745259	0.066892	23.492457	0.44746	
10.4	1.143398	46.595036	-5.504963	46.919101	-6.737978	0.066902	23.491205	0.447589	
10.42	1.145	46.560535	-5.560404	46.89138	-6.810199	0.067599	23.401212	0.456961	
10.44	1.144577	46.523473	-5.513162	46.848997	-6.758205	0.067415	23.424837	0.454482	
10.46	1.144914	46.539021	-5.540982	46.867718	-6.789741	0.067562	23.406011	0.456456	
10.48	1.145684	46.467137	-5.52804	46.794807	-6.784412	0.067896	23.363068	0.460992	
10.5	1.146872	46.407934	-5.544485	46.737968	-6.813004	0.068412	23.297326	0.468023	
10.52	1.146851	46.365844	-5.512341	46.692369	-6.779967	0.068403	23.298483	0.467899	
10.54	1.147907	46.348207	-5.552402	46.679604	-6.831351	0.068861	23.240513	0.474186	
10.56	1.148186	46.299275	-5.529782	46.628332	-6.810905	0.068982	23.225283	0.475852	
10.58	1.148654	46.316994	-5.566688	46.650316	-6.853332	0.069185	23.199816	0.47865	
10.6	1.149741	46.218344	-5.546772	46.549994	-6.843483	0.069655	23.140922	0.485185	
10.62	1.150507	46.195538	-5.56804	46.529892	-6.872832	0.069987	23.099706	0.489812	
10.64	1.150366	46.186336	-5.553798	46.519053	-6.856773	0.069926	23.107244	0.488963	
10.66	1.151233	46.116583	-5.543352	46.448552	-6.854251	0.070301	23.060816	0.494218	
10.68	1.15186	46.096294	-5.55932	46.430317	-6.876804	0.070572	23.027401	0.498035	
10.7	1.152188	46.093555	-5.573871	46.429343	-6.895036	0.070713	23.010004	0.500034	
10.72	1.152492	46.061422	-5.563883	46.396244	-6.887554	0.070845	22.993874	0.501895	
10.74	1.153684	46.004167	-5.578912	46.341209	-6.914491	0.071359	22.93107	0.509205	
10.76	1.1546	45.977325	-5.604154	46.317609	-6.949487	0.071754	22.883138	0.514857	
10.78	1.155976	45.879082	-5.594292	46.218895	-6.952087	0.072346	22.811738	0.523391	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	1.156301	45.864142	-5.59863	46.20459	-6.959669	0.072486	22.794975	0.525415	
10.82	1.155447	45.873414	-5.562268	46.209403	-6.913522	0.072118	22.839083	0.520106	
10.84	1.156942	45.827153	-5.600853	46.168144	-6.967969	0.072761	22.761968	0.529423	
10.86	1.157369	45.774277	-5.578202	46.112914	-6.948003	0.072945	22.740112	0.532095	
10.88	1.157268	45.770304	-5.569568	46.107926	-6.93795	0.072902	22.745267	0.531463	
10.9	1.158048	45.731371	-5.576773	46.070149	-6.952694	0.073237	22.705427	0.536361	
10.92	1.158661	45.690579	-5.57341	46.02925	-6.954686	0.0735	22.674297	0.54022	
10.94	1.159283	45.630249	-5.553043	45.966901	-6.93859	0.073766	22.642822	0.544149	
10.96	1.159993	45.603113	-5.566327	45.94157	-6.959125	0.074071	22.607024	0.548653	
10.98	1.160759	45.591636	-5.596402	45.933833	-6.998097	0.074399	22.568608	0.553528	
11	1.162779	45.479596	-5.602187	45.823336	-7.022344	0.075264	22.468285	0.566463	
11.02	1.162153	45.488297	-5.576983	45.828898	-6.98974	0.074996	22.499246	0.562439	
11.04	1.161892	45.481937	-5.557371	45.820202	-6.966367	0.074884	22.51217	0.560768	
11.06	1.162693	45.457608	-5.577595	45.798512	-6.995173	0.075227	22.472506	0.565913	
11.08	1.16415	45.389154	-5.591812	45.732304	-7.023297	0.075849	22.400948	0.575314	
11.1	1.164006	45.384116	-5.579478	45.725797	-7.008729	0.075788	22.407981	0.574383	
11.12	1.165138	45.308511	-5.568952	45.649473	-7.007196	0.076271	22.352769	0.581732	
11.14	1.166881	45.27883	-5.634066	45.628008	-7.092897	0.077014	22.268565	0.593121	
11.16	1.166985	45.24806	-5.610465	45.594564	-7.06824	0.077059	22.263546	0.593807	
11.18	1.167405	45.232195	-5.617803	45.579723	-7.079848	0.077238	22.243431	0.596564	
11.2	1.166961	45.212283	-5.574788	45.554679	-7.029246	0.077048	22.264745	0.593643	
11.22	1.167506	45.163719	-5.557029	45.504309	-7.014537	0.077281	22.238599	0.597228	
11.24	1.168067	45.123116	-5.547495	45.462845	-7.00886	0.077519	22.211827	0.600921	
11.26	1.169509	45.049817	-5.553064	45.390776	-7.027126	0.078132	22.143368	0.610468	
11.28	1.170575	45.027923	-5.589201	45.373484	-7.075799	0.078585	22.09319	0.617563	
11.3	1.170839	44.999906	-5.575466	45.343989	-7.062936	0.078697	22.080794	0.619328	
11.32	1.171503	44.976246	-5.587808	45.322029	-7.082099	0.078979	22.049767	0.623768	
11.34	1.172222	44.93707	-5.587308	45.28309	-7.087582	0.079284	22.016331	0.628589	
11.36	1.173219	44.854031	-5.556608	45.196902	-7.06195	0.079706	21.970138	0.635311	
11.38	1.174737	44.842081	-5.627694	45.19384	-7.15325	0.080348	21.900458	0.645586	
11.4	1.175496	44.782258	-5.607269	45.131941	-7.13698	0.080669	21.865827	0.650755	
11.42	1.176364	44.745284	-5.616346	45.096383	-7.154259	0.081036	21.826443	0.656683	
11.44	1.176044	44.728301	-5.580677	45.075102	-7.111961	0.080901	21.840926	0.654497	
11.46	1.177197	44.677684	-5.590717	45.026121	-7.132613	0.081388	21.788834	0.662394	
11.48	1.1768	44.693167	-5.585198	45.040799	-7.123201	0.08122	21.806742	0.659669	
11.5	1.178748	44.593465	-5.586275	44.942002	-7.140326	0.082042	21.719307	0.673084	
11.52	1.178693	44.618803	-5.610652	44.970179	-7.16713	0.082018	21.721785	0.6727	
11.54	1.179333	44.553014	-5.574811	44.900441	-7.132226	0.082288	21.693247	0.677135	
11.56	1.180824	44.525279	-5.62789	44.879545	-7.203862	0.082915	21.627298	0.687496	
11.58	1.180894	44.473652	-5.574772	44.821689	-7.144773	0.082945	21.624192	0.687988	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	1.181023	44.449158	-5.554598	44.794879	-7.123065	0.082999	21.618541	0.688884	
11.62	1.18192	44.395937	-5.545339	44.740921	-7.119752	0.083376	21.579175	0.695156	
11.64	1.182609	44.384926	-5.572013	44.733309	-7.155401	0.083666	21.549057	0.699994	
11.66	1.182037	44.386398	-5.541175	44.73094	-7.115974	0.083425	21.57403	0.69598	
11.68	1.18439	44.304931	-5.581928	44.655177	-7.180809	0.084412	21.47187	0.712546	
11.7	1.184956	44.277726	-5.58291	44.628308	-7.186425	0.08465	21.447472	0.71656	
11.72	1.185529	44.251299	-5.585019	44.602353	-7.19336	0.08489	21.422914	0.720624	
11.74	1.185945	44.207342	-5.557644	44.555319	-7.165512	0.085064	21.405073	0.72359	
11.76	1.186626	44.174675	-5.558345	44.522995	-7.171651	0.085349	21.376051	0.728442	
11.78	1.187593	44.115454	-5.543865	44.46243	-7.162665	0.085753	21.334987	0.735362	
11.8	1.189762	44.055607	-5.59768	44.409803	-7.24118	0.086659	21.243756	0.750973	
11.82	1.189049	44.039912	-5.537445	44.386677	-7.1666	0.086361	21.273619	0.745827	
11.84	1.190342	44.011219	-5.577818	44.363267	-7.222959	0.0869	21.219562	0.755168	
11.86	1.189673	44.010048	-5.537498	44.357054	-7.171481	0.086622	21.247477	0.75033	
11.88	1.190611	43.977171	-5.552084	44.326258	-7.195492	0.087013	21.208347	0.757121	
11.9	1.191784	43.905625	-5.532636	44.252842	-7.182113	0.087501	21.159695	0.76565	
11.92	1.192195	43.896249	-5.545092	44.245098	-7.199636	0.087672	21.142751	0.768643	
11.94	1.192664	43.836429	-5.497909	44.179854	-7.148649	0.087868	21.123411	0.772074	
11.96	1.195327	43.771994	-5.573857	44.12545	-7.256912	0.088974	21.014747	0.791636	
11.98	1.194946	43.738546	-5.508802	44.084093	-7.178529	0.088816	21.030197	0.788824	
12	1.194288	43.76908	-5.508734	44.11438	-7.173485	0.088543	21.056946	0.783981	
12.02	1.196488	43.705863	-5.55853	44.057913	-7.248003	0.089455	20.967873	0.800226	
12.04	1.196023	43.70191	-5.525901	44.049886	-7.20655	0.089263	20.986581	0.796786	
12.06	1.197921	43.607155	-5.51638	43.954686	-7.209732	0.090049	20.910407	0.810885	
12.08	1.197771	43.595072	-5.491524	43.939585	-7.179553	0.089987	20.916409	0.809765	
12.1	1.199177	43.535801	-5.497942	43.881583	-7.197541	0.090569	20.860413	0.820274	
12.12	1.20062	43.479796	-5.510514	43.827599	-7.22302	0.091165	20.803407	0.831112	
12.14	1.200774	43.446887	-5.475663	43.79058	-7.183196	0.091229	20.797348	0.832272	
12.16	1.202341	43.404209	-5.51317	43.752947	-7.238914	0.091875	20.736019	0.844108	
12.18	1.202396	43.403542	-5.515624	43.752595	-7.242213	0.091898	20.733862	0.844527	
12.2	1.203638	43.343576	-5.509733	43.692365	-7.244463	0.09241	20.685615	0.853962	
12.22	1.203177	43.329469	-5.462196	43.6724	-7.184928	0.09222	20.703494	0.850454	
12.24	1.204249	43.285974	-5.467877	43.629957	-7.199474	0.092662	20.66201	0.858616	
12.26	1.204503	43.283067	-5.479467	43.628528	-7.215053	0.092766	20.652203	0.860557	
12.28	1.205543	43.226624	-5.464828	43.570694	-7.205277	0.093194	20.612274	0.868506	
12.3	1.206536	43.183618	-5.465804	43.52815	-7.213652	0.093602	20.574296	0.876134	
12.32	1.208036	43.086369	-5.420545	43.426	-7.170522	0.094218	20.517342	0.887699	
12.34	1.207988	43.114903	-5.458412	43.459051	-7.215359	0.094198	20.519176	0.887324	
12.36	1.209347	43.057276	-5.460525	43.402147	-7.227682	0.094755	20.467945	0.897854	
12.38	1.209219	43.041865	-5.430321	43.383068	-7.190669	0.094703	20.472738	0.896863	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
12.4	1.20997	43.001574	-5.418876	43.341661	-7.182325	0.09501	20.444569	0.902699	
12.42	1.211516	42.953324	-5.445511	43.297132	-7.225278	0.095643	20.38694	0.914757	
12.44	1.211913	42.915249	-5.4145	43.255467	-7.19087	0.095805	20.372217	0.917864	
12.46	1.212839	42.864075	-5.397098	43.202518	-7.176469	0.096184	20.337981	0.925128	
12.48	1.212936	42.848531	-5.380011	43.184964	-7.156553	0.096223	20.334381	0.925895	
12.5	1.214784	42.78306	-5.39918	43.1224	-7.192661	0.096977	20.266604	0.940458	
12.52	1.215058	42.783262	-5.416978	43.124832	-7.216087	0.097089	20.256596	0.942628	
12.54	1.215852	42.733	-5.391481	43.07177	-7.190837	0.097413	20.227704	0.94892	
12.56	1.216839	42.685549	-5.38222	43.023533	-7.186512	0.097815	20.191927	0.956769	
12.58	1.21848	42.642606	-5.421638	42.985881	-7.245799	0.098482	20.132878	0.969867	
12.6	1.218518	42.622967	-5.393794	42.962895	-7.212266	0.098497	20.131503	0.970174	
12.62	1.219538	42.56948	-5.376459	42.907656	-7.198268	0.098912	20.095044	0.978353	
12.64	1.221043	42.531971	-5.415191	42.875318	-7.2559	0.099522	20.041606	0.990466	
12.66	1.220456	42.518502	-5.355885	42.854504	-7.179518	0.099284	20.062405	0.985733	
12.68	1.221395	42.470092	-5.340276	42.804524	-7.166887	0.099665	20.02917	0.993306	
12.7	1.222295	42.437355	-5.346892	42.77287	-7.181151	0.100029	19.997452	1.000587	
12.72	1.222387	42.41971	-5.324561	42.752576	-7.154414	0.100067	19.994216	1.001333	
12.74	1.223572	42.371732	-5.325099	42.705039	-7.163148	0.100546	19.952663	1.010959	
12.76	1.224523	42.338794	-5.334336	42.673512	-7.180967	0.100931	19.919518	1.018704	
12.78	1.225378	42.289593	-5.310415	42.62171	-7.15733	0.101276	19.889847	1.025688	
12.8	1.226415	42.246786	-5.308752	42.57903	-7.162288	0.101695	19.854015	1.034186	
12.82	1.227221	42.219177	-5.316667	42.552625	-7.177496	0.10202	19.826308	1.040805	
12.84	1.226506	42.215133	-5.262071	42.541825	-7.105223	0.101732	19.850873	1.034934	
12.86	1.228624	42.145767	-5.287756	42.476182	-7.151177	0.102585	19.778315	1.05237	
12.88	1.229427	42.120624	-5.299381	42.452684	-7.170969	0.102909	19.750961	1.059019	
12.9	1.23003	42.077672	-5.267075	42.406044	-7.134905	0.103151	19.730531	1.064013	
12.92	1.231251	42.022337	-5.254978	42.349635	-7.127963	0.103642	19.6893	1.074163	
12.94	1.232269	41.990463	-5.269235	42.31978	-7.152471	0.104051	19.655099	1.082655	
12.96	1.232206	41.977402	-5.242301	42.303475	-7.118478	0.104025	19.657209	1.082129	
12.98	1.234336	41.910648	-5.271524	42.240874	-7.169032	0.10488	19.586182	1.099972	
13	1.23495	41.914494	-5.319994	42.250765	-7.233596	0.105125	19.565841	1.105137	
13.02	1.235261	41.859492	-5.245123	42.186827	-7.142126	0.10525	19.555552	1.107758	
13.04	1.236541	41.798811	-5.225597	42.124191	-7.126034	0.105762	19.513425	1.118555	
13.06	1.237256	41.775473	-5.233378	42.101999	-7.140483	0.106048	19.489974	1.124612	
13.08	1.237937	41.746093	-5.227863	42.072163	-7.138004	0.10632	19.467728	1.130387	
13.1	1.237659	41.730488	-5.180323	42.050795	-7.076372	0.106209	19.476795	1.12803	
13.12	1.239107	41.681179	-5.191827	42.003283	-7.100231	0.106787	19.429661	1.140339	
13.14	1.241518	41.606946	-5.224813	41.933718	-7.157493	0.107747	19.35186	1.160951	
13.16	1.241878	41.588104	-5.21546	41.913857	-7.148016	0.107891	19.340309	1.164043	
13.18	1.241457	41.588452	-5.186501	41.910609	-7.108675	0.107723	19.353822	1.160427	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	1.243485	41.502441	-5.169745	41.823186	-7.100479	0.10853	19.289005	1.177876	
13.22	1.243542	41.5004	-5.169911	41.821181	-7.101049	0.108552	19.287215	1.178361	
13.24	1.244976	41.417582	-5.115397	41.732283	-7.040836	0.109122	19.241771	1.190756	
13.26	1.245524	41.435142	-5.187876	41.758652	-7.136578	0.109339	19.224475	1.195508	
13.28	1.245755	41.390078	-5.118683	41.705389	-7.049947	0.109431	19.217203	1.197512	
13.3	1.247322	41.362042	-5.177325	41.684808	-7.134672	0.110052	19.168046	1.211143	
13.32	1.248397	41.275762	-5.088069	41.588183	-7.02742	0.110477	19.134548	1.220521	
13.34	1.248846	41.279547	-5.128039	41.596848	-7.081423	0.110655	19.12057	1.224456	
13.36	1.250705	41.216761	-5.140076	41.53603	-7.108577	0.11139	19.063103	1.240765	
13.38	1.250712	41.207249	-5.121909	41.524346	-7.085326	0.111392	19.062911	1.24082	
13.4	1.252888	41.124935	-5.1178	41.442154	-7.093727	0.11225	18.996239	1.260016	
13.42	1.25176	41.144206	-5.073691	41.455857	-7.029941	0.111806	19.030699	1.250058	
13.44	1.253461	41.096449	-5.103026	41.412063	-7.07831	0.112476	18.978771	1.265094	
13.46	1.25431	41.045942	-5.063925	41.357136	-7.033174	0.11281	18.953011	1.27262	
13.48	1.254769	41.017138	-5.039413	41.325552	-7.004335	0.112991	18.939115	1.276699	
13.5	1.255313	41.003919	-5.052839	41.314072	-7.025052	0.113205	18.922678	1.28154	
13.52	1.255744	40.975899	-5.027571	41.283177	-6.995002	0.113375	18.909683	1.28538	
13.54	1.257348	40.908674	-5.008628	41.214148	-6.980245	0.114005	18.861558	1.299703	
13.56	1.259118	40.869812	-5.060448	41.18191	-7.058379	0.114699	18.808832	1.315579	
13.58	1.258934	40.831777	-4.967096	41.132786	-6.935839	0.114627	18.814296	1.313924	
13.6	1.260235	40.807444	-5.014214	41.114351	-7.005116	0.115136	18.775746	1.325639	
13.62	1.261148	40.753897	-4.969989	41.055827	-6.952971	0.115494	18.748841	1.333877	
13.64	1.261048	40.760929	-4.977332	41.063696	-6.961955	0.115454	18.751795	1.33297	
13.66	1.262654	40.707932	-4.986409	41.012194	-6.983516	0.116082	18.704696	1.347505	
13.68	1.26379	40.656233	-4.962071	40.957923	-6.958516	0.116526	18.671553	1.357828	
13.7	1.265084	40.606152	-4.952732	40.907079	-6.954029	0.11703	18.634024	1.369612	
13.72	1.265176	40.591226	-4.927273	40.889188	-6.92115	0.117067	18.631343	1.370458	
13.74	1.267472	40.513144	-4.933136	40.812383	-6.94253	0.11796	18.565274	1.391466	
13.76	1.267315	40.503014	-4.898466	40.798151	-6.895917	0.117899	18.569771	1.390026	
13.78	1.268106	40.485908	-4.922045	40.784007	-6.931687	0.118207	18.547132	1.397291	
13.8	1.269521	40.428832	-4.904999	40.725293	-6.917573	0.118757	18.50683	1.410318	
13.82	1.269107	40.424526	-4.8628	40.715957	-6.859351	0.118596	18.518598	1.406502	
13.84	1.271267	40.346333	-4.85555	40.637457	-6.86237	0.119434	18.457436	1.426449	
13.86	1.271177	40.355963	-4.870449	40.648801	-6.881598	0.119399	18.459959	1.425621	
13.88	1.272238	40.324478	-4.882457	40.618985	-6.903735	0.119811	18.430098	1.435457	
13.9	1.274519	40.226877	-4.838854	40.516862	-6.859112	0.120693	18.366334	1.456688	
13.92	1.273345	40.260674	-4.823549	40.548594	-6.831938	0.120239	18.399082	1.445745	
13.94	1.275732	40.170272	-4.803637	40.456466	-6.819168	0.121162	18.332689	1.468017	
13.96	1.276926	40.13416	-4.814709	40.421928	-6.840829	0.121623	18.299708	1.479208	
13.98	1.276733	40.131544	-4.792964	40.416746	-6.810664	0.121548	18.305017	1.477401	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	1.278484	40.068373	-4.784452	40.353011	-6.809299	0.122223	18.256914	1.493856	
14.02	1.279438	40.043125	-4.80152	40.32997	-6.837629	0.122591	18.230846	1.502849	
14.04	1.280186	40.008646	-4.779608	40.293131	-6.81253	0.122879	18.210466	1.509918	
14.06	1.281835	39.952245	-4.777869	40.236922	-6.819598	0.123513	18.165781	1.525534	
14.08	1.282015	39.927188	-4.731425	40.20655	-6.758122	0.123581	18.160938	1.527236	
14.1	1.281782	39.927431	-4.712781	40.204602	-6.731697	0.123492	18.167218	1.525029	
14.12	1.283087	39.898054	-4.748357	40.179617	-6.786987	0.123993	18.132057	1.537426	
14.14	1.28404	39.846807	-4.700525	40.123098	-6.727811	0.124358	18.106496	1.546502	
14.16	1.285238	39.803158	-4.691408	40.078682	-6.722177	0.124818	18.074484	1.557943	
14.18	1.287194	39.734965	-4.683518	40.010034	-6.722387	0.125566	18.02255	1.576685	
14.2	1.287226	39.741168	-4.701883	40.018347	-6.747461	0.125578	18.021705	1.576992	
14.22	1.28897	39.674938	-4.680414	39.950056	-6.728044	0.126244	17.97576	1.593764	
14.24	1.289203	39.656731	-4.65352	39.928832	-6.692779	0.126333	17.969634	1.596014	
14.26	1.289018	39.652859	-4.627795	39.921995	-6.656758	0.126263	17.97449	1.59423	
14.28	1.291341	39.575559	-4.625584	39.844961	-6.666485	0.127149	17.913752	1.616683	
14.3	1.291329	39.560944	-4.586236	39.825895	-6.6127	0.127144	17.914065	1.616566	
14.32	1.293293	39.503527	-4.604231	39.770939	-6.647978	0.127892	17.863156	1.635627	
14.34	1.29312	39.515978	-4.622171	39.785386	-6.671564	0.127826	17.867616	1.633949	
14.36	1.294953	39.445215	-4.593072	39.711727	-6.641726	0.128522	17.820427	1.6518	
14.38	1.295398	39.420853	-4.566612	39.684476	-6.607848	0.128691	17.809013	1.656146	
14.4	1.296833	39.375624	-4.5701	39.639949	-6.620379	0.129236	17.772356	1.670184	
14.42	1.298417	39.323837	-4.568599	39.588335	-6.626862	0.129836	17.732102	1.685737	
14.44	1.298114	39.319673	-4.530605	39.579832	-6.572925	0.129721	17.739788	1.682756	
14.46	1.299765	39.261445	-4.516671	39.520392	-6.562519	0.130346	17.698045	1.699008	
14.48	1.299587	39.264025	-4.507959	39.52196	-6.549545	0.130279	17.702544	1.697249	
14.5	1.30192	39.196711	-4.528724	39.457465	-6.59065	0.13116	17.643971	1.720295	
14.52	1.302241	39.169695	-4.481995	39.425287	-6.527694	0.131281	17.635949	1.723475	
14.54	1.303128	39.143408	-4.487681	39.399818	-6.540255	0.131616	17.613833	1.732274	
14.56	1.303099	39.126396	-4.436883	39.377161	-6.469643	0.131605	17.614566	1.731982	
14.58	1.304828	39.075591	-4.448727	39.328018	-6.495128	0.132256	17.571665	1.749176	
14.6	1.307119	39.003714	-4.450598	39.256815	-6.509707	0.133118	17.515261	1.772042	
14.62	1.307931	38.966452	-4.416887	39.215982	-6.466944	0.133423	17.495391	1.780167	
14.64	1.308499	38.94063	-4.393721	39.18772	-6.437541	0.133636	17.481514	1.785865	
14.66	1.308562	38.938124	-4.392175	39.185057	-6.435705	0.13366	17.479979	1.786496	
14.68	1.310291	38.881367	-4.384775	39.127828	-6.434253	0.134308	17.437961	1.803864	
14.7	1.31085	38.84343	-4.323865	39.083346	-6.351755	0.134518	17.424417	1.809499	
14.72	1.311519	38.841898	-4.38169	39.088263	-6.436243	0.134768	17.408267	1.81624	
14.74	1.313386	38.780238	-4.371518	39.025851	-6.431551	0.135466	17.363366	1.835115	
14.76	1.314595	38.740864	-4.366144	38.986122	-6.430184	0.135918	17.334464	1.847369	
14.78	1.314975	38.713905	-4.320147	38.954205	-6.367397	0.13606	17.325414	1.851222	



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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	1.316828	38.644595	-4.283177	38.881234	-6.32458	0.136751	17.281416	1.870072	
14.82	1.316653	38.661813	-4.319674	38.902383	-6.375212	0.136686	17.285536	1.868299	
14.84	1.318008	38.605597	-4.275009	38.841574	-6.318942	0.13719	17.253533	1.882118	
14.86	1.318765	38.58341	-4.278328	38.819887	-6.327414	0.137472	17.235733	1.889847	
14.88	1.319432	38.557938	-4.262789	38.792859	-6.30875	0.13772	17.220053	1.896683	
14.9	1.321293	38.489301	-4.225788	38.720584	-6.26549	0.138411	17.176574	1.915767	
14.92	1.321352	38.486898	-4.223876	38.717986	-6.263066	0.138433	17.175198	1.916374	
14.94	1.323807	38.409302	-4.214833	38.639867	-6.26229	0.139343	17.118267	1.941661	
14.96	1.323656	38.400199	-4.170514	38.626007	-6.198414	0.139288	17.121754	1.940102	
14.98	1.32453	38.370308	-4.15944	38.595097	-6.186861	0.139611	17.101597	1.949128	
15	1.326132	38.32716	-4.176861	38.554084	-6.219511	0.140204	17.064809	1.965708	
15.02	1.326871	38.297387	-4.152227	38.521823	-6.187885	0.140476	17.047928	1.973364	
15.04	1.328938	38.23812	-4.162051	38.463964	-6.211949	0.141239	17.000881	1.994857	
15.06	1.328892	38.218939	-4.093313	38.437514	-6.113182	0.141223	17.001915	1.994383	
15.08	1.330296	38.181549	-4.109111	38.402025	-6.14256	0.14174	16.970151	2.009023	
15.1	1.331743	38.122948	-4.056737	38.338183	-6.074107	0.142273	16.937576	2.024149	
15.12	1.332207	38.115431	-4.07841	38.333009	-6.107509	0.142443	16.927161	2.029009	
15.14	1.333057	38.085044	-4.060925	38.300936	-6.086338	0.142756	16.908142	2.037914	
15.16	1.334559	38.039183	-4.056699	38.254885	-6.087326	0.143307	16.874636	2.053697	
15.18	1.335313	38.010851	-4.035797	38.224501	-6.060676	0.143584	16.857905	2.061624	
15.2	1.336095	37.975026	-3.991144	38.184183	-5.999724	0.14387	16.840576	2.069867	
15.22	1.336687	37.961044	-4.003552	38.171577	-6.020439	0.144087	16.827484	2.076116	
15.24	1.337288	37.933393	-3.968253	38.140389	-5.972061	0.144308	16.814221	2.082466	
15.26	1.340095	37.85448	-3.981023	38.06324	-6.003539	0.145334	16.752671	2.11219	
15.28	1.341091	37.82528	-3.980962	38.034194	-6.008048	0.145697	16.730964	2.122773	
15.3	1.341389	37.797838	-3.912869	37.99983	-5.910273	0.145806	16.724475	2.125947	
15.32	1.343809	37.721282	-3.890419	37.921372	-5.888443	0.146688	16.67211	2.151736	
15.34	1.344607	37.698214	-3.890835	37.898468	-5.892647	0.146978	16.654929	2.160265	
15.36	1.344909	37.685688	-3.876858	37.884576	-5.873565	0.147089	16.648421	2.163505	
15.38	1.344709	37.680869	-3.836781	37.875701	-5.814003	0.147016	16.652735	2.161357	
15.4	1.346867	37.618421	-3.836773	37.813575	-5.823576	0.1478	16.606507	2.184486	
15.42	1.346102	37.639622	-3.833344	37.834318	-5.815152	0.147522	16.622851	2.176281	
15.44	1.34787	37.583952	-3.815601	37.777139	-5.796936	0.148164	16.585135	2.195263	
15.46	1.348903	37.553527	-3.812868	37.746594	-5.797473	0.148539	16.563218	2.206369	
15.48	1.350297	37.504157	-3.776607	37.693827	-5.750217	0.149044	16.533734	2.221399	
15.5	1.351858	37.463151	-3.79112	37.654486	-5.778441	0.149609	16.500869	2.238273	
15.52	1.353324	37.410145	-3.747175	37.597344	-5.719944	0.150138	16.470167	2.254152	
15.54	1.354412	37.380382	-3.751979	37.568209	-5.73176	0.150531	16.447489	2.265954	
15.56	1.353621	37.405714	-3.763185	37.594534	-5.744897	0.150246	16.463965	2.257374	
15.58	1.355549	37.342575	-3.730084	37.528408	-5.704263	0.150941	16.423849	2.278322	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	1.357454	37.281561	-3.701559	37.464868	-5.670129	0.151627	16.384467	2.299076	
15.62	1.358756	37.24173	-3.689166	37.424009	-5.657274	0.152096	16.357667	2.313307	
15.64	1.358672	37.243981	-3.68857	37.426189	-5.656027	0.152065	16.359411	2.312379	
15.66	1.359893	37.205553	-3.672116	37.386329	-5.636736	0.152504	16.334373	2.325748	
15.68	1.361298	37.156143	-3.630804	37.333118	-5.581089	0.153008	16.305695	2.341157	
15.7	1.363037	37.108839	-3.636711	37.286614	-5.597192	0.153631	16.270397	2.360263	
15.72	1.361823	37.134377	-3.601079	37.308575	-5.538907	0.153197	16.295014	2.346922	
15.74	1.364112	37.072438	-3.609864	37.247776	-5.561553	0.154016	16.248658	2.372107	
15.76	1.365577	37.023888	-3.576825	37.196262	-5.518148	0.15454	16.219161	2.388272	
15.78	1.365897	37.008819	-3.550047	37.178697	-5.479305	0.154655	16.212748	2.391802	
15.8	1.368525	36.930996	-3.528532	37.099178	-5.457705	0.155593	16.160217	2.420908	
15.82	1.367846	36.945592	-3.509947	37.111946	-5.426999	0.15535	16.173752	2.413375	
15.84	1.369142	36.907879	-3.501723	37.073624	-5.419859	0.155813	16.147948	2.427757	
15.86	1.37089	36.860177	-3.504003	37.026352	-5.430343	0.156435	16.113333	2.447185	
15.88	1.371559	36.834076	-3.469504	36.997116	-5.380981	0.156673	16.100126	2.454638	
15.9	1.374478	36.755676	-3.477209	36.919787	-5.404296	0.157709	16.042845	2.487228	
15.92	1.373682	36.769446	-3.440619	36.93007	-5.345768	0.157427	16.058406	2.478332	
15.94	1.375464	36.713463	-3.407194	36.871226	-5.302159	0.158059	16.023595	2.498276	
15.96	1.375266	36.71877	-3.40671	36.876466	-5.300648	0.157989	16.027456	2.496056	
15.98	1.376756	36.668254	-3.360238	36.821896	-5.235907	0.158517	15.998494	2.512758	
16	1.378913	36.59712	-3.300192	36.745618	-5.152792	0.15928	15.956773	2.537013	
16.02	1.378436	36.611378	-3.306546	36.76039	-5.16066	0.159111	15.965983	2.531639	
16.040001	1.381373	36.53628	-3.327839	36.687522	-5.204329	0.160148	15.909545	2.564753	
16.059999	1.381799	36.521624	-3.312486	36.671537	-5.182516	0.160299	15.901408	2.569562	
16.08	1.383514	36.474027	-3.305773	36.623528	-5.178784	0.160903	15.868724	2.588973	
16.1	1.382558	36.491726	-3.266198	36.637605	-5.114648	0.160566	15.886924	2.578147	
16.120001	1.384181	36.442224	-3.237066	36.585711	-5.076118	0.161138	15.856058	2.596535	
16.139999	1.386053	36.389355	-3.223511	36.531852	-5.062279	0.161796	15.820656	2.617788	
16.16	1.387155	36.358504	-3.216477	36.5005	-5.055553	0.162183	15.799909	2.630323	
16.18	1.389331	36.302077	-3.224662	36.445017	-5.076189	0.162946	15.759141	2.655131	
16.200001	1.38973	36.280867	-3.170153	36.419105	-4.993721	0.163085	15.7517	2.659684	
16.219999	1.391793	36.232595	-3.203805	36.373965	-5.053147	0.163807	15.713339	2.683281	
16.24	1.391978	36.210801	-3.115386	36.34457	-4.917326	0.163872	15.709911	2.685399	
16.26	1.39211	36.201664	-3.085329	36.332902	-4.871336	0.163918	15.707456	2.686918	
16.280001	1.393599	36.163353	-3.090877	36.295201	-4.885199	0.164438	15.67994	2.703996	
16.299999	1.39487	36.132446	-3.104817	36.265597	-4.911301	0.164882	15.656559	2.718592	
16.32	1.397335	36.059305	-3.059684	36.188881	-4.850021	0.16574	15.611433	2.746987	
16.34	1.396742	36.072396	-3.04611	36.200781	-4.826861	0.165534	15.62226	2.740148	
16.360001	1.398017	36.032863	-3.012279	36.158554	-4.778716	0.165978	15.599014	2.754854	
16.379999	1.399139	35.997054	-2.97595	36.119859	-4.72602	0.166368	15.578628	2.767816	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	1.400088	35.974589	-2.989096	36.098556	-4.749752	0.166697	15.561428	2.778799	
16.42	1.401448	35.936581	-2.974544	36.059475	-4.73171	0.167169	15.536877	2.794553	
16.440001	1.402957	35.895645	-2.96488	36.017883	-4.721761	0.167692	15.509741	2.812068	
16.459999	1.405304	35.829611	-2.934848	35.949609	-4.682722	0.168504	15.467776	2.839372	
16.48	1.40613	35.801875	-2.897385	35.918924	-4.626776	0.16879	15.453073	2.849002	
16.5	1.406389	35.791465	-2.875233	35.906767	-4.592883	0.168879	15.448474	2.85202	
16.52	1.407977	35.754449	-2.898595	35.871751	-4.634811	0.169427	15.420325	2.870566	
16.540001	1.4087	35.727505	-2.848461	35.840875	-4.55841	0.169676	15.40757	2.879009	
16.559999	1.410609	35.676442	-2.836	35.788984	-4.54502	0.170334	15.373966	2.901372	
16.58	1.411015	35.665476	-2.832494	35.777775	-4.540814	0.170474	15.366851	2.906129	
16.6	1.412476	35.624439	-2.809994	35.735091	-4.510061	0.170976	15.341287	2.923286	
16.620001	1.413285	35.60424	-2.812862	35.71518	-4.517197	0.171254	15.327176	2.932799	
16.639999	1.414042	35.576465	-2.759865	35.683354	-4.435877	0.171514	15.314002	2.94171	
16.66	1.41568	35.528241	-2.717869	35.632046	-4.374547	0.172076	15.285608	2.961005	
16.68	1.416552	35.510116	-2.743636	35.61595	-4.418103	0.172374	15.27054	2.971297	
16.700001	1.417768	35.475193	-2.717167	35.579099	-4.379937	0.172791	15.249596	2.98566	
16.719999	1.41897	35.441656	-2.696822	35.544111	-4.351365	0.173202	15.228951	2.999887	
16.74	1.420502	35.398245	-2.665458	35.498457	-4.306204	0.173725	15.202749	3.018041	
16.76	1.42047	35.398644	-2.662779	35.498653	-4.301845	0.173714	15.203292	3.017663	
16.780001	1.422402	35.339626	-2.592367	35.434581	-4.195472	0.174373	15.170403	3.040603	
16.799999	1.423567	35.313018	-2.610223	35.409356	-4.227436	0.17477	15.150665	3.054453	
16.82	1.424866	35.279286	-2.602085	35.375116	-4.218319	0.175212	15.128715	3.06993	
16.84	1.428829	35.174531	-2.560889	35.267631	-4.164092	0.176558	15.062263	3.117265	
16.860001	1.427034	35.214137	-2.525083	35.304553	-4.101467	0.175949	15.092262	3.095806	
16.879999	1.427432	35.200045	-2.494989	35.288357	-4.054368	0.176084	15.085608	3.100553	
16.9	1.430054	35.12977	-2.457609	35.21563	-4.001786	0.176973	15.04186	3.131944	
16.92	1.431766	35.089033	-2.469825	35.175848	-4.026266	0.177552	15.013465	3.152488	
16.940001	1.431607	35.091161	-2.456586	35.177044	-4.004512	0.177499	15.016091	3.150583	
16.959999	1.432517	35.066437	-2.439962	35.151223	-3.980296	0.177806	15.001051	3.161512	
16.98	1.434612	35.011589	-2.415977	35.094847	-3.947448	0.178514	14.966559	3.186721	
17	1.435878	34.978851	-2.403823	35.061351	-3.931316	0.178941	14.945808	3.201984	
17.02	1.438055	34.922919	-2.384365	35.00422	-3.90582	0.179674	14.910294	3.228275	
17.040001	1.439659	34.877851	-2.338696	34.956172	-3.83617	0.180213	14.884262	3.247684	
17.059999	1.440389	34.864376	-2.372845	34.945029	-3.893513	0.180459	14.872447	3.256531	
17.08	1.44044	34.85363	-2.297553	34.929275	-3.77149	0.180476	14.871622	3.25715	
17.1	1.443508	34.779413	-2.30089	34.85544	-3.78499	0.181505	14.822249	3.294391	
17.120001	1.443221	34.788174	-2.315282	34.865134	-3.807638	0.181408	14.826856	3.290898	
17.139999	1.444186	34.758222	-2.262102	34.831754	-3.723625	0.181732	14.811393	3.302636	
17.16	1.444852	34.737121	-2.220732	34.808034	-3.657927	0.181954	14.800747	3.310742	
17.18	1.446933	34.684143	-2.198136	34.753727	-3.626324	0.18265	14.767593	3.336112	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	1.446788	34.68559	-2.180487	34.754059	-3.597135	0.182602	14.769901	3.33434	
17.219999	1.449234	34.625692	-2.172229	34.693762	-3.589729	0.183418	14.73115	3.364224	
17.24	1.45057	34.590042	-2.141017	34.656239	-3.54192	0.183863	14.710101	3.380569	
17.26	1.451687	34.560275	-2.114515	34.624901	-3.501193	0.184235	14.692549	3.39426	
17.280001	1.452811	34.531617	-2.098677	34.595332	-3.477909	0.184609	14.674944	3.408047	
17.299999	1.454388	34.492048	-2.081363	34.554789	-3.453233	0.185133	14.650329	3.427418	
17.32	1.455082	34.47014	-2.031626	34.529958	-3.373043	0.185363	14.639528	3.435953	
17.34	1.456737	34.428796	-2.013085	34.487599	-3.346336	0.185912	14.613848	3.45633	
17.360001	1.45799	34.395312	-1.977168	34.452093	-3.289956	0.186327	14.594481	3.471778	
17.379999	1.45807	34.394376	-1.986548	34.451698	-3.305618	0.186354	14.593242	3.472768	
17.4	1.460903	34.32527	-1.966294	34.381543	-3.278563	0.18729	14.549705	3.507757	
17.42	1.460817	34.327663	-1.969847	34.384135	-3.284245	0.187262	14.551022	3.506693	
17.440001	1.463192	34.263605	-1.889084	34.315642	-3.155747	0.188046	14.514739	3.536113	
17.459999	1.464393	34.23588	-1.894226	34.288242	-3.166876	0.188441	14.496486	3.551006	
17.48	1.464339	34.23468	-1.868599	34.285638	-3.124227	0.188423	14.497312	3.55033	
17.5	1.46616	34.192287	-1.872076	34.243499	-3.133902	0.189023	14.469725	3.572955	
17.52	1.468582	34.13049	-1.817309	34.178838	-3.047893	0.189818	14.433241	3.603096	
17.540001	1.46951	34.108289	-1.811344	34.156352	-3.039881	0.190123	14.419319	3.614666	
17.559999	1.469784	34.09828	-1.771536	34.144268	-2.974066	0.190213	14.415218	3.618081	
17.58	1.470985	34.070998	-1.77901	34.117412	-2.988977	0.190606	14.397262	3.633071	
17.6	1.472926	34.024739	-1.765967	34.070537	-2.971129	0.191242	14.368353	3.657335	
17.620001	1.472796	34.022538	-1.706467	34.065307	-2.871381	0.191199	14.37029	3.655703	
17.639999	1.47466	33.975927	-1.665834	34.016741	-2.80696	0.191808	14.342663	3.679033	
17.66	1.475643	33.954956	-1.686668	33.996821	-2.84376	0.192129	14.328133	3.691363	
17.68	1.477357	33.913495	-1.663558	33.954271	-2.808283	0.192688	14.30291	3.712863	
17.700001	1.479281	33.867806	-1.646496	33.907805	-2.78327	0.193315	14.274705	3.737055	
17.719999	1.478223	33.890071	-1.621347	33.928833	-2.739025	0.19297	14.290192	3.723752	
17.74	1.480186	33.844139	-1.610756	33.882448	-2.724847	0.193609	14.261498	3.748437	
17.76	1.481463	33.81009	-1.55008	33.845605	-2.624988	0.194024	14.242893	3.764529	
17.780001	1.482792	33.77672	-1.510666	33.810485	-2.560855	0.194455	14.223611	3.781281	
17.799999	1.484816	33.728947	-1.489281	33.76181	-2.528222	0.195112	14.194341	3.806851	
17.82	1.487559	33.665798	-1.478348	33.698241	-2.514387	0.195999	14.154927	3.841558	
17.84	1.486154	33.698383	-1.487492	33.731197	-2.527477	0.195544	14.175088	3.823765	
17.860001	1.48824	33.648863	-1.457669	33.680421	-2.480508	0.196219	14.145182	3.850187	
17.879999	1.490521	33.594288	-1.415922	33.624114	-2.413461	0.196955	14.112646	3.879139	
17.9	1.491147	33.582193	-1.445147	33.613273	-2.4641	0.197157	14.10375	3.887093	
17.92	1.493186	33.530427	-1.360177	33.558004	-2.322959	0.197814	14.074877	3.913022	
17.940001	1.493872	33.517557	-1.398192	33.546708	-2.388724	0.198034	14.065201	3.92175	
17.959999	1.49462	33.497411	-1.348204	33.524531	-2.304801	0.198275	14.054661	3.931279	
17.98	1.497276	33.436364	-1.325195	33.462615	-2.269639	0.199127	14.017379	3.965173	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	1.49754	33.428165	-1.288887	33.453003	-2.208059	0.199212	14.013687	3.968545	
18.02	1.498767	33.402053	-1.3096	33.427716	-2.245259	0.199605	13.996565	3.984221	
18.040001	1.500993	33.350399	-1.277037	33.374839	-2.192875	0.200318	13.965621	4.012711	
18.059999	1.502941	33.304287	-1.230307	33.327004	-2.115628	0.20094	13.938676	4.037685	
18.08	1.503941	33.281758	-1.224351	33.30427	-2.106819	0.201259	13.924894	4.050519	
18.1	1.504168	33.274605	-1.187789	33.295799	-2.044399	0.201332	13.921759	4.053443	
18.120001	1.505947	33.23311	-1.149504	33.252984	-1.981024	0.201899	13.897336	4.076303	
18.139999	1.506305	33.225408	-1.153394	33.245422	-1.988183	0.202013	13.89243	4.08091	
18.16	1.510286	33.135089	-1.104139	33.15348	-1.908527	0.203278	13.838197	4.13219	
18.18	1.508606	33.170831	-1.081153	33.188445	-1.866812	0.202745	13.861014	4.110537	
18.200001	1.510596	33.125988	-1.059456	33.142925	-1.831849	0.203376	13.833988	4.136197	
18.219999	1.512169	33.089732	-1.023779	33.105566	-1.77214	0.203875	13.812708	4.156514	
18.24	1.513925	33.050612	-1.009227	33.066017	-1.749032	0.204431	13.789047	4.179221	
18.26	1.514942	33.028078	-1.002455	33.043288	-1.738487	0.204753	13.775387	4.192386	
18.280001	1.516639	32.989224	-0.961618	33.003236	-1.669671	0.205289	13.752678	4.214365	
18.299999	1.517081	32.978036	-0.926076	32.991037	-1.608538	0.205429	13.746775	4.220097	
18.32	1.519374	32.927038	-0.898253	32.939288	-1.56265	0.206152	13.71625	4.249864	
18.34	1.518417	32.947801	-0.898111	32.96004	-1.561419	0.20585	13.728969	4.237436	
18.360001	1.52185	32.871274	-0.84534	32.882142	-1.473135	0.206932	13.683466	4.282067	
18.379999	1.523779	32.829278	-0.83585	32.839917	-1.458467	0.207537	13.658069	4.30718	
18.4	1.523967	32.823923	-0.801587	32.833709	-1.398934	0.207597	13.655595	4.309635	
18.42	1.526065	32.77849	-0.794066	32.788107	-1.387734	0.208255	13.628102	4.337004	
18.440001	1.528353	32.728432	-0.767307	32.737426	-1.343037	0.208971	13.598271	4.366896	
18.459999	1.527495	32.746238	-0.750547	32.754838	-1.312998	0.208703	13.609436	4.355684	
18.48	1.52957	32.70084	-0.722328	32.708817	-1.265402	0.209352	13.582464	4.382819	
18.5	1.531601	32.655959	-0.675483	32.662944	-1.184987	0.209986	13.556185	4.40942	
18.52	1.533575	32.612914	-0.642122	32.619235	-1.127965	0.210602	13.530766	4.435304	
18.540001	1.534482	32.593753	-0.64648	32.600164	-1.136285	0.210884	13.51912	4.447213	
18.559999	1.53685	32.543155	-0.634419	32.549338	-1.116824	0.211621	13.48883	4.478339	
18.58	1.536553	32.54857	-0.602792	32.554151	-1.060985	0.211528	13.492624	4.474429	
18.6	1.53792	32.518606	-0.563488	32.523487	-0.992733	0.211953	13.475209	4.492407	
18.620001	1.538594	32.504231	-0.558437	32.509028	-0.984272	0.212162	13.46664	4.501279	
18.639999	1.541381	32.444212	-0.507289	32.448178	-0.895791	0.213026	13.431337	4.538019	
18.66	1.542241	32.425945	-0.499455	32.429792	-0.882456	0.213292	13.420492	4.549365	
18.68	1.543614	32.396656	-0.479995	32.400211	-0.848845	0.213717	13.403208	4.567507	
18.700001	1.545657	32.353172	-0.44851	32.35628	-0.794239	0.214348	13.377598	4.594521	
18.719999	1.546443	32.336181	-0.419672	32.338905	-0.743567	0.214591	13.367785	4.604914	
18.74	1.550428	32.252515	-0.390256	32.254876	-0.693247	0.215818	13.318245	4.657742	
18.76	1.549637	32.268005	-0.328235	32.269675	-0.582801	0.215575	13.328049	4.64724	
18.780001	1.549902	32.262616	-0.336403	32.26437	-0.597403	0.215656	13.32477	4.65075	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	1.553185	32.194486	-0.341464	32.196297	-0.607674	0.216665	13.284242	4.694354	
18.82	1.552078	32.216638	-0.282994	32.217881	-0.50328	0.216325	13.297869	4.679648	
18.84	1.554127	32.174168	-0.282807	32.175411	-0.50361	0.216953	13.272668	4.70688	
18.860001	1.557658	32.100691	-0.235462	32.101555	-0.420264	0.218035	13.229495	4.753905	
18.879999	1.55805	32.092576	-0.232266	32.093417	-0.414665	0.218154	13.22472	4.759135	
18.9	1.559616	32.060044	-0.199045	32.060662	-0.355717	0.218633	13.205698	4.780025	
18.92	1.560439	32.043069	-0.191689	32.043643	-0.342752	0.218884	13.195725	4.791015	
18.940001	1.562911	31.992205	-0.168713	31.99265	-0.302151	0.219637	13.165878	4.824055	
18.959999	1.564109	31.967593	-0.154301	31.967966	-0.276553	0.220002	13.151467	4.840088	
18.98	1.565238	31.944238	-0.100804	31.944398	-0.180805	0.220345	13.137923	4.855206	
19	1.566807	31.912134	-0.064616	31.912199	-0.116014	0.220822	13.119165	4.876222	
19.02	1.567554	31.896846	-0.032641	31.896862	-0.058632	0.221049	13.110245	4.886248	
19.040001	1.568376	31.880126	-0.028202	31.880138	-0.050686	0.221298	13.100456	4.897274	
19.059999	1.570221	31.842661	-0.014177	31.842664	-0.02551	0.221857	13.078548	4.92204	
19.08	1.572677	31.792921	0.013651	31.792924	0.024601	0.2226	13.049506	4.955065	
19.1	1.573564	31.775113	0.069008	31.775188	0.124433	0.222867	13.039067	4.96699	
19.120001	1.573087	31.784893	0.109095	31.78508	0.196656	0.222724	13.044679	4.960576	
19.139999	1.576343	31.719314	0.123128	31.719553	0.222411	0.223706	13.006457	5.004426	
19.16	1.577241	31.701488	0.163992	31.701912	0.296389	0.223976	12.995952	5.016546	
19.18	1.580768	31.630615	0.139628	31.630923	0.252921	0.225037	12.954931	5.064154	
19.200001	1.581119	31.623964	0.192514	31.62455	0.348791	0.225142	12.950865	5.068898	
19.219999	1.582742	31.591978	0.241997	31.592905	0.438882	0.225629	12.932094	5.090853	
19.24	1.584667	31.553574	0.23979	31.554485	0.435409	0.226206	12.909919	5.116914	
19.26	1.586045	31.52638	0.260065	31.527452	0.47263	0.226618	12.894107	5.135578	
19.280001	1.586864	31.510345	0.281468	31.511602	0.511785	0.226863	12.884724	5.146685	
19.299999	1.587544	31.497346	0.321809	31.49899	0.585372	0.227066	12.876943	5.155914	
19.32	1.590965	31.429815	0.335441	31.431604	0.611478	0.228087	12.838001	5.202354	
19.34	1.592517	31.399878	0.383364	31.402219	0.699496	0.228549	12.820411	5.223467	
19.360001	1.593243	31.386217	0.421816	31.389051	0.769983	0.228765	12.812211	5.233339	
19.379999	1.595395	31.343729	0.413724	31.34646	0.756238	0.229404	12.787962	5.262642	
19.4	1.596382	31.325013	0.450865	31.328257	0.82461	0.229697	12.776879	5.276088	
19.42	1.595822	31.336521	0.478013	31.340167	0.873934	0.229531	12.783162	5.268461	
19.440001	1.597289	31.308666	0.522331	31.313023	0.955794	0.229966	12.76672	5.288445	
19.459999	1.601174	31.232773	0.526828	31.237216	0.966363	0.231116	12.723385	5.341479	
19.48	1.603428	31.189813	0.569565	31.195013	1.046178	0.231782	12.698402	5.372294	
19.5	1.605367	31.152617	0.59009	31.158205	1.085164	0.232354	12.677004	5.398829	
19.52	1.604983	31.160605	0.61187	31.166612	1.124918	0.232241	12.681235	5.393573	
19.540001	1.607067	31.1206	0.62803	31.126936	1.156104	0.232854	12.658316	5.422111	
19.559999	1.607333	31.116379	0.663753	31.123458	1.222011	0.232933	12.655394	5.42576	
19.58	1.607724	31.109219	0.679185	31.116632	1.250702	0.233048	12.6511	5.431127	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	1.61017	31.06321	0.723407	31.071633	1.334078	0.233766	12.624362	5.464669	
19.620001	1.613017	31.00876	0.737048	31.017518	1.361611	0.234601	12.593396	5.503771	
19.639999	1.612841	31.012817	0.759281	31.022111	1.402483	0.23455	12.595306	5.501351	
19.66	1.615961	30.953249	0.770493	30.962837	1.425923	0.235463	12.56156	5.544266	
19.68	1.617728	30.920924	0.817598	30.931732	1.51464	0.235979	12.542545	5.568593	
19.700001	1.618686	30.903396	0.84117	30.914842	1.559171	0.236258	12.532263	5.581792	
19.719999	1.620419	30.872375	0.900033	30.885492	1.669893	0.236763	12.513716	5.605681	
19.74	1.620876	30.86383	0.904925	30.877094	1.679429	0.236896	12.508829	5.611993	
19.76	1.622763	30.828242	0.913864	30.841784	1.697966	0.237445	12.488722	5.638035	
19.780001	1.625128	30.78481	0.952989	30.799557	1.773113	0.238132	12.463636	5.670697	
19.799999	1.627432	30.742548	0.988556	30.758438	1.84177	0.238801	12.439294	5.702569	
19.82	1.626994	30.751008	0.992966	30.767035	1.849471	0.238674	12.443914	5.696506	
19.84	1.628861	30.718019	1.049551	30.735944	1.956882	0.239214	12.424263	5.722341	
19.860001	1.631231	30.674209	1.070136	30.69287	1.998079	0.239899	12.399417	5.755172	
19.879999	1.632424	30.652604	1.089721	30.671968	2.036051	0.240244	12.386954	5.771711	
19.9	1.633176	30.638176	1.082757	30.657302	2.024001	0.240461	12.379111	5.782144	
19.92	1.635378	30.599372	1.139914	30.620598	2.133449	0.241095	12.356219	5.812703	
19.940001	1.637767	30.556417	1.178156	30.579122	2.20805	0.241783	12.33149	5.845895	
19.959999	1.640223	30.511925	1.206582	30.535773	2.264563	0.242488	12.306185	5.880057	
19.98	1.6418	30.483554	1.226908	30.508234	2.304811	0.24294	12.290008	5.902001	
20	1.640482	30.510211	1.27117	30.53668	2.385782	0.242563	12.303524	5.883661	
20.02	1.644835	30.429995	1.283634	30.457057	2.41549	0.243809	12.259004	5.944285	
20.040001	1.644871	30.431509	1.32689	30.460423	2.496662	0.243819	12.258637	5.944787	
20.059999	1.646786	30.396564	1.336579	30.425936	2.517758	0.244367	12.239164	5.971502	
20.08	1.64717	30.390297	1.352612	30.420383	2.548444	0.244476	12.235268	5.976862	
20.1	1.649865	30.343662	1.410477	30.376426	2.661393	0.245245	12.208014	6.014488	
20.120001	1.651478	30.314048	1.411178	30.346904	2.666446	0.245704	12.191765	6.037033	
20.139999	1.652906	30.289844	1.448777	30.324472	2.738402	0.24611	12.177423	6.057001	
20.16	1.657334	30.210033	1.471081	30.245829	2.787827	0.247366	12.133201	6.118992	
20.18	1.654694	30.261026	1.518828	30.299117	2.87332	0.246618	12.15952	6.082022	
20.200001	1.656008	30.237483	1.527597	30.276045	2.892129	0.24699	12.146403	6.10042	
20.219999	1.660247	30.162283	1.564121	30.202811	2.968524	0.24819	12.104306	6.15984	
20.24	1.662167	30.129795	1.604429	30.172483	3.048159	0.248732	12.085351	6.186783	
20.26	1.662221	30.129797	1.620348	30.173336	3.078346	0.248747	12.084826	6.187531	
20.280001	1.663146	30.114863	1.650512	30.160059	3.13709	0.249009	12.075716	6.200525	
20.299999	1.665846	30.068532	1.691341	30.116063	3.219474	0.249769	12.049228	6.238457	
20.32	1.668874	30.014484	1.701178	30.062656	3.243977	0.25062	12.019674	6.281055	
20.34	1.670332	29.991813	1.75654	30.043207	3.351837	0.251029	12.005506	6.30158	
20.360001	1.671849	29.965259	1.767548	30.017345	3.375775	0.251455	11.990801	6.322952	
20.379999	1.67328	29.939302	1.763239	29.991179	3.370478	0.251855	11.976976	6.343112	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	1.675115	29.910946	1.830715	29.966919	3.502454	0.252369	11.959297	6.368986	
20.42	1.675382	29.906958	1.84242	29.963655	3.52526	0.252443	11.956724	6.37276	
20.440001	1.677985	29.861291	1.854582	29.918827	3.553885	0.25317	11.93176	6.409498	
20.459999	1.679228	29.843442	1.916406	29.90491	3.674228	0.253516	11.919877	6.427059	
20.48	1.682282	29.790364	1.933615	29.853051	3.713716	0.254366	11.890813	6.470215	
20.5	1.680422	29.826415	1.975082	29.891738	3.788557	0.253849	11.908499	6.44392	
20.52	1.684835	29.748912	1.98653	29.815165	3.82035	0.255075	11.866631	6.506342	
20.540001	1.685908	29.730422	1.993328	29.79717	3.835762	0.255373	11.856502	6.521534	
20.559999	1.686536	29.723083	2.043964	29.793278	3.933866	0.255547	11.85059	6.530418	
20.58	1.688304	29.693158	2.061162	29.76461	3.970845	0.256036	11.833963	6.555468	
20.6	1.690788	29.653635	2.116669	29.729083	4.082841	0.256723	11.810691	6.59069	
20.620001	1.692101	29.632615	2.143192	29.710018	4.136747	0.257086	11.798435	6.609316	
20.639999	1.693374	29.612379	2.170071	29.691786	4.191296	0.257437	11.786579	6.627383	
20.66	1.698001	29.531064	2.165222	29.610335	4.193438	0.25871	11.743723	6.693107	
20.68	1.697005	29.552638	2.217971	29.635752	4.292097	0.258437	11.752919	6.678949	
20.700001	1.699809	29.504025	2.221769	29.58756	4.306477	0.259207	11.727066	6.718826	
20.719999	1.701491	29.476466	2.242908	29.561676	4.351344	0.259668	11.711624	6.742758	
20.74	1.704281	29.430924	2.278148	29.518964	4.426254	0.260432	11.686117	6.782476	
20.76	1.703751	29.444219	2.327756	29.536088	4.520208	0.260287	11.690955	6.774924	
20.780001	1.705575	29.417778	2.388765	29.514605	4.642321	0.260786	11.674329	6.800912	
20.799999	1.706786	29.396653	2.386644	29.493377	4.641535	0.261116	11.663323	6.818168	
20.82	1.708787	29.365014	2.420683	29.464619	4.712488	0.261662	11.645179	6.846713	
20.84	1.71217	29.310384	2.462034	29.413606	4.801507	0.262583	11.614668	6.894983	
20.860001	1.71391	29.281992	2.478928	29.386734	4.838963	0.263056	11.599041	6.919838	
20.879999	1.715247	29.262825	2.521128	29.371228	4.924147	0.263419	11.587069	6.938939	
20.9	1.715026	29.26794	2.535989	29.377603	4.952166	0.263359	11.589045	6.935784	
20.92	1.717627	29.228908	2.596312	29.343992	5.07609	0.264064	11.565818	6.972977	
20.940001	1.721298	29.165404	2.586381	29.279859	5.067729	0.265057	11.533224	7.025506	
20.959999	1.72179	29.161757	2.637674	29.280802	5.168335	0.265189	11.528874	7.032547	
20.98	1.72251	29.149878	2.641502	29.269317	5.177893	0.265384	11.522515	7.042851	
21	1.726692	29.084838	2.704126	29.210274	5.311742	0.26651	11.485718	7.102777	
21.02	1.72719	29.074996	2.689145	29.199091	5.28426	0.266644	11.481352	7.109922	
21.040001	1.73002	29.033374	2.753918	29.163691	5.418505	0.267405	11.456623	7.150521	
21.059999	1.729435	29.043945	2.761237	29.174906	5.430853	0.267248	11.461725	7.142126	
21.08	1.733138	28.984671	2.793118	29.11894	5.504341	0.26824	11.429513	7.195296	
21.1	1.734151	28.969262	2.809597	29.105189	5.539542	0.268512	11.420738	7.209849	
21.120001	1.735633	28.94719	2.837871	29.085964	5.599175	0.268908	11.407935	7.231135	
21.139999	1.739707	28.880953	2.857046	29.021925	5.649609	0.269995	11.372886	7.289729	
21.16	1.739319	28.891922	2.902201	29.03732	5.736145	0.269891	11.376217	7.28414	
21.18	1.740971	28.868073	2.939099	29.017304	5.813344	0.270332	11.362061	7.307922	



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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	1.741892	28.854673	2.958095	29.005904	5.853354	0.270577	11.354196	7.321168	
21.219999	1.745228	28.800708	2.972722	28.953719	5.89304	0.271463	11.325782	7.369225	
21.24	1.74572	28.797404	3.019989	28.955325	5.986746	0.271594	11.321606	7.376314	
21.26	1.747545	28.769707	3.044348	28.930331	6.040446	0.272077	11.306151	7.402611	
21.280001	1.749698	28.738753	3.088627	28.904248	6.134188	0.272647	11.287976	7.433655	
21.299999	1.751864	28.707577	3.1316	28.877879	6.225573	0.27322	11.269757	7.464905	
21.32	1.753488	28.685387	3.174129	28.860466	6.314283	0.273649	11.256135	7.488357	
21.34	1.755156	28.657495	3.169631	28.832249	6.311494	0.274088	11.242194	7.512433	
21.360001	1.757837	28.618813	3.218443	28.799216	6.416477	0.274794	11.21986	7.551166	
21.379999	1.757369	28.626114	3.215226	28.806112	6.408497	0.274671	11.223744	7.544416	
21.4	1.759008	28.604572	3.263466	28.790133	6.508685	0.275102	11.210132	7.568099	
21.42	1.76186	28.561981	3.299558	28.751936	6.589765	0.27585	11.18653	7.60934	
21.440001	1.763993	28.528523	3.311248	28.720046	6.620592	0.276409	11.168948	7.640209	
21.459999	1.766839	28.487245	3.355605	28.684198	6.71811	0.277154	11.145591	7.681409	
21.48	1.767957	28.471761	3.379058	28.671575	6.768276	0.277446	11.136446	7.697601	
21.5	1.770374	28.435099	3.400697	28.63773	6.819911	0.278076	11.116736	7.732615	
21.52	1.770738	28.433555	3.438712	28.640737	6.89579	0.278171	11.113774	7.737891	
21.540001	1.772758	28.407449	3.494987	28.621637	7.013903	0.278696	11.097372	7.767169	
21.559999	1.774966	28.371609	3.492744	28.585791	7.018213	0.27927	11.079502	7.799196	
21.58	1.777769	28.333928	3.555698	28.556163	7.152817	0.279998	11.056911	7.839871	
21.6	1.779514	28.304367	3.542227	28.525157	7.133362	0.28045	11.042898	7.865207	
21.620001	1.781618	28.277875	3.602967	28.506483	7.261113	0.280994	11.026058	7.895765	
21.639999	1.782352	28.266928	3.609541	28.496456	7.277007	0.281184	11.020196	7.906429	
21.66	1.783577	28.250646	3.636924	28.483789	7.335793	0.2815	11.01043	7.924228	
21.68	1.787068	28.199502	3.673872	28.437814	7.422782	0.2824	10.982707	7.974975	
21.700001	1.788595	28.178643	3.701988	28.420779	7.484422	0.282793	10.970625	7.997191	
21.719999	1.78937	28.167651	3.712671	28.411274	7.508669	0.282992	10.96451	8.008461	
21.74	1.791307	28.145889	3.785463	28.39931	7.660005	0.28349	10.949252	8.036646	
21.76	1.793881	28.104968	3.783595	28.358505	7.667287	0.28415	10.929051	8.074115	
21.780001	1.794042	28.104744	3.8024	28.360798	7.704997	0.284191	10.927786	8.076466	
21.799999	1.79758	28.054954	3.850264	28.317927	7.814474	0.285096	10.900162	8.128001	
21.82	1.799356	28.026362	3.844747	28.288851	7.811277	0.28555	10.886356	8.153881	
21.84	1.801826	27.996552	3.915759	28.269066	7.96208	0.28618	10.867217	8.189894	
21.860001	1.802473	27.988116	3.929003	28.262549	7.99104	0.286344	10.862224	8.199316	
21.879999	1.804328	27.966101	3.983797	28.248424	8.107307	0.286817	10.847915	8.226375	
21.9	1.805626	27.952149	4.032718	28.241555	8.209555	0.287147	10.837928	8.245314	
21.92	1.808401	27.90732	4.020501	28.195442	8.197993	0.287851	10.816649	8.285813	
21.940001	1.810124	27.885974	4.062537	28.180343	8.288775	0.288288	10.803478	8.31098	
21.959999	1.812045	27.861502	4.10333	28.162042	8.378079	0.288774	10.788846	8.339028	
21.98	1.813668	27.841918	4.145566	28.148857	8.468939	0.289184	10.776512	8.362744	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	1.816182	27.800271	4.124512	28.104567	8.438989	0.289819	10.757476	8.399481	
22.02	1.81735	27.78964	4.180433	28.102315	8.554949	0.290113	10.748654	8.41656	
22.040001	1.82067	27.7419	4.205854	28.058906	8.620782	0.290949	10.723672	8.465114	
22.059999	1.821932	27.727807	4.245335	28.05092	8.704829	0.291266	10.714213	8.483572	
22.08	1.822821	27.717771	4.272104	28.045066	8.761991	0.291489	10.707558	8.496581	
22.1	1.825617	27.680163	4.310643	28.013802	8.851611	0.29219	10.686694	8.537498	
22.120001	1.825795	27.676788	4.30588	28.009734	8.843047	0.292235	10.685367	8.540107	
22.139999	1.829272	27.627278	4.332216	27.964881	8.911959	0.293104	10.659552	8.591021	
22.16	1.830578	27.61722	4.403772	27.966124	9.059982	0.29343	10.649897	8.610142	
22.18	1.831315	27.609849	4.431513	27.963227	9.118492	0.293614	10.644453	8.620941	
22.200001	1.834334	27.567455	4.456616	27.925365	9.183129	0.294367	10.622218	8.665192	
22.219999	1.837483	27.521529	4.469309	27.88206	9.22394	0.29515	10.599144	8.711352	
22.24	1.839538	27.494858	4.500543	27.860763	9.296134	0.29566	10.584148	8.741484	
22.26	1.840887	27.476615	4.515518	27.845184	9.332608	0.295994	10.574328	8.761272	
22.280001	1.840806	27.486144	4.574236	27.864166	9.448572	0.295974	10.574917	8.760084	
22.299999	1.84326	27.455056	4.615443	27.840302	9.542728	0.296582	10.557099	8.796098	
22.32	1.846966	27.402061	4.633938	27.79112	9.598445	0.297498	10.530328	8.850488	
22.34	1.846985	27.40247	4.638809	27.792336	9.608205	0.297502	10.530188	8.850772	
22.360001	1.850774	27.350638	4.672541	27.746892	9.694747	0.298436	10.502969	8.906418	
22.379999	1.850086	27.367925	4.720911	27.772114	9.787106	0.298267	10.5079	8.896312	
22.4	1.853218	27.322375	4.729069	27.728618	9.819718	0.299037	10.485498	8.94232	
22.42	1.856863	27.275932	4.782248	27.691991	9.944523	0.299931	10.459559	8.995889	
22.440001	1.856041	27.293969	4.821738	27.7166	10.018492	0.29973	10.465399	8.9838	
22.459999	1.861049	27.223904	4.850004	27.65255	10.101422	0.300956	10.429951	9.057428	
22.48	1.861705	27.218966	4.882084	27.653334	10.168652	0.301116	10.425325	9.067082	
22.5	1.86209	27.212813	4.879007	27.646734	10.164628	0.30121	10.422611	9.07275	
22.52	1.864527	27.181737	4.911739	27.621948	10.242832	0.301804	10.405487	9.108594	
22.540001	1.865828	27.16953	4.958113	27.618223	10.342011	0.302122	10.396367	9.127741	
22.559999	1.870054	27.105021	4.941967	27.551864	10.333062	0.303149	10.366875	9.189936	
22.58	1.871224	27.099877	5.021517	27.561186	10.497672	0.303433	10.358743	9.20716	
22.6	1.87175	27.094005	5.033507	27.5576	10.524407	0.30356	10.355095	9.214897	
22.620001	1.87456	27.054759	5.045556	27.521222	10.563994	0.304241	10.335638	9.256273	
22.639999	1.876376	27.033798	5.081837	27.507296	10.646289	0.304681	10.323102	9.28303	
22.66	1.879623	26.99313	5.124695	27.47529	10.749792	0.305465	10.300783	9.330861	
22.68	1.881402	26.9718	5.153841	27.45979	10.81784	0.305893	10.288599	9.357075	
22.700001	1.884053	26.938792	5.188719	27.433945	10.902327	0.306531	10.270501	9.39615	
22.719999	1.88486	26.929442	5.20371	27.427603	10.936771	0.306726	10.265002	9.408054	
22.74	1.887459	26.900853	5.260933	27.41046	11.06555	0.307349	10.247354	9.446363	
22.76	1.887069	26.912999	5.30236	27.430358	11.145604	0.307256	10.249993	9.440624	
22.780001	1.891675	26.845614	5.295681	27.362953	11.159158	0.308359	10.218859	9.508546	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	1.89072	26.867273	5.345805	27.39394	11.253245	0.308131	10.225298	9.494458	
22.82	1.896555	26.789742	5.384647	27.325532	11.364846	0.309525	10.186097	9.580547	
22.84	1.897654	26.777361	5.405573	27.317527	11.412993	0.309787	10.178748	9.596772	
22.860001	1.899732	26.750892	5.425528	27.295542	11.465047	0.310281	10.164893	9.627437	
22.879999	1.902151	26.718775	5.440156	27.266981	11.508585	0.310856	10.148812	9.663151	
22.9	1.904856	26.692264	5.514216	27.25589	11.672259	0.311498	10.130901	9.703086	
22.92	1.90658	26.673245	5.547645	27.244052	11.749201	0.311906	10.119526	9.728534	
22.940001	1.906898	26.668763	5.547812	27.239698	11.751465	0.311981	10.117428	9.733234	
22.959999	1.910437	26.6269	5.598116	27.209019	11.873128	0.312818	10.094165	9.78551	
22.98	1.910608	26.628329	5.621589	27.215256	11.920868	0.312858	10.093042	9.788041	
23	1.913314	26.592165	5.633788	27.182399	11.961772	0.313497	10.07534	9.828018	
23.02	1.915806	26.564763	5.680205	27.16526	12.069525	0.314083	10.059106	9.864826	
23.040001	1.916524	26.558062	5.700738	27.16301	12.114835	0.314252	10.054432	9.875447	
23.059999	1.91909	26.529512	5.745534	27.144542	12.219931	0.314855	10.03779	9.913362	
23.08	1.919708	26.529055	5.794613	27.154526	12.321346	0.315	10.033786	9.922507	
23.1	1.92197	26.498189	5.799265	27.125366	12.344859	0.31553	10.019182	9.955929	
23.120001	1.925287	26.456422	5.826258	27.090359	12.419514	0.316306	9.997841	10.004973	
23.139999	1.928561	26.415193	5.851969	27.055646	12.491466	0.317071	9.976874	10.053391	
23.16	1.928545	26.421817	5.889838	27.070327	12.566688	0.317067	9.976979	10.053149	
23.18	1.933055	26.369867	5.952148	27.033275	12.719544	0.318117	9.948258	10.119854	
23.200001	1.9347	26.345716	5.943876	27.007896	12.713707	0.318499	9.937829	10.144185	
23.219999	1.935903	26.335799	5.983133	27.006892	12.799581	0.318779	9.930215	10.161985	
23.24	1.939932	26.28846	6.030751	26.971339	12.920502	0.319712	9.904814	10.221593	
23.26	1.941361	26.273631	6.058664	26.963143	12.98536	0.320043	9.895841	10.242734	
23.280001	1.942224	26.265289	6.078915	26.959574	13.031281	0.320242	9.890434	10.255494	
23.299999	1.945704	26.220739	6.096999	26.920263	13.09016	0.321045	9.86868	10.306993	
23.32	1.947406	26.203985	6.134541	26.912477	13.176087	0.321437	9.85808	10.332182	
23.34	1.949633	26.182601	6.186222	26.903493	13.293635	0.321949	9.844246	10.365146	
23.360001	1.952359	26.152488	6.226229	26.883426	13.391374	0.322576	9.82737	10.405501	
23.379999	1.953363	26.140279	6.234448	26.873454	13.414449	0.322806	9.821169	10.420368	
23.4	1.957629	26.091952	6.2885	26.839061	13.550625	0.323783	9.794929	10.48352	
23.42	1.958819	26.079943	6.31165	26.832822	13.604688	0.324055	9.787634	10.501143	
23.440001	1.962477	26.032269	6.321216	26.788744	13.648558	0.324889	9.765292	10.555304	
23.459999	1.961095	26.056761	6.354225	26.820347	13.704739	0.324574	9.773723	10.534835	
23.48	1.963021	26.037953	6.394402	26.811627	13.797673	0.325013	9.761981	10.563355	
23.5	1.969483	25.959729	6.442357	26.747178	13.937398	0.326482	9.722814	10.659053	
23.52	1.968706	25.974326	6.465673	26.766967	13.978312	0.326306	9.727505	10.647545	
23.540001	1.970474	25.954542	6.487307	26.753007	14.033507	0.326707	9.716839	10.673727	
23.559999	1.973275	25.925557	6.534149	26.736297	14.145956	0.327341	9.69999	10.715217	
23.58	1.973151	25.926439	6.529908	26.736117	14.136682	0.327313	9.700732	10.713386	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	1.976268	25.896304	6.592838	26.722351	14.283306	0.328018	9.682058	10.759552	
23.620001	1.978533	25.868792	6.607176	26.699235	14.32769	0.328528	9.668542	10.793091	
23.639999	1.980898	25.846503	6.657031	26.690032	14.443227	0.329061	9.654466	10.828128	
23.66	1.983266	25.818692	6.67648	26.667963	14.498595	0.329594	9.640419	10.863208	
23.68	1.985968	25.792555	6.72858	26.655763	14.621081	0.330201	9.624444	10.90324	
23.700001	1.986861	25.779212	6.72012	26.640717	14.610719	0.330401	9.619181	10.916463	
23.719999	1.98982	25.752082	6.784257	26.630732	14.758972	0.331063	9.601778	10.960294	
23.74	1.990709	25.738453	6.773871	26.614907	14.744825	0.331262	9.596559	10.973473	
23.76	1.993426	25.715053	6.840005	26.609202	14.895361	0.331869	9.580658	11.013726	
23.780001	1.996848	25.678562	6.884603	26.585453	15.008463	0.332632	9.560718	11.064409	
23.799999	1.999634	25.64592	6.904698	26.559143	15.068571	0.333252	9.544545	11.105689	
23.82	2.001303	25.631017	6.941243	26.554281	15.153073	0.333623	9.534886	11.130417	
23.84	2.004111	25.598227	6.961193	26.527862	15.213175	0.334246	9.518685	11.172016	
23.860001	2.005297	25.587764	6.987403	26.524658	15.273739	0.334508	9.511861	11.189582	
23.879999	2.006541	25.576591	7.013699	26.520821	15.3349	0.334784	9.504715	11.208009	
23.9	2.009501	25.546699	7.058305	26.503839	15.444985	0.335438	9.487756	11.251862	
23.92	2.009082	25.561998	7.110025	26.532399	15.543843	0.335345	9.490154	11.245651	
23.940001	2.01337	25.508741	7.121406	26.484152	15.598438	0.336291	9.465689	11.30918	
23.959999	2.01714	25.466386	7.153762	26.452091	15.69061	0.337121	9.444295	11.365029	
23.98	2.01984	25.435118	7.171453	26.426785	15.74587	0.337713	9.429041	11.405017	
24	2.021114	25.428772	7.223446	26.434837	15.858066	0.337993	9.421857	11.423898	
24.02	2.023228	25.405481	7.24295	26.417774	15.912561	0.338455	9.409972	11.455202	
24.040001	2.025534	25.391161	7.321131	26.425556	16.08409	0.33896	9.397039	11.489366	
24.059999	2.026214	25.384527	7.331607	26.422087	16.109904	0.339108	9.393237	11.499431	
24.08	2.02928	25.352852	7.369552	26.402224	16.208087	0.339777	9.37612	11.544841	
24.1	2.033475	25.299739	7.370449	26.351476	16.242195	0.34069	9.352811	11.60697	
24.120001	2.035646	25.280379	7.412181	26.3446	16.341111	0.341162	9.340793	11.639134	
24.139999	2.035658	25.286387	7.44355	26.359208	16.402867	0.341164	9.340732	11.639299	
24.16	2.039795	25.234826	7.447153	26.310769	16.442102	0.342061	9.317931	11.700568	
24.18	2.041451	25.222932	7.492854	26.312339	16.544879	0.342419	9.308837	11.725093	
24.200001	2.042711	25.216238	7.539287	26.319185	16.645925	0.342692	9.301933	11.743747	
24.219999	2.045728	25.187896	7.587553	26.305914	16.764331	0.343343	9.285448	11.78841	
24.24	2.04919	25.143498	7.582394	26.261915	16.781493	0.344088	9.26661	11.839655	
24.26	2.049541	25.149978	7.637105	26.283964	16.891598	0.344164	9.264703	11.844854	
24.280001	2.051591	25.125082	7.640762	26.261207	16.915015	0.344604	9.253591	11.875199	
24.299999	2.053646	25.113377	7.710453	26.270378	17.067864	0.345045	9.242482	11.905615	
24.32	2.054311	25.116059	7.764984	26.288998	17.179763	0.345188	9.238889	11.915469	
24.34	2.059934	25.042153	7.745193	26.212543	17.186148	0.346391	9.208667	11.998676	
24.360001	2.060724	25.040612	7.786234	26.223228	17.27281	0.34656	9.204436	12.01037	
24.379999	2.065439	24.990565	7.827231	26.187667	17.390974	0.347565	9.179284	12.080131	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
24.4	2.063883	25.015896	7.857379	26.220859	17.437298	0.347234	9.187567	12.057111	
24.42	2.068471	24.968196	7.901325	26.188581	17.560297	0.34821	9.163186	12.12499	
24.440001	2.071108	24.940875	7.926488	26.170144	17.630868	0.348769	9.149237	12.163997	
24.459999	2.071917	24.940148	7.971621	26.183157	17.725473	0.348941	9.144965	12.175968	
24.48	2.075364	24.901809	7.990901	26.152525	17.79128	0.349671	9.126819	12.22695	
24.5	2.075431	24.909077	8.030276	26.171501	17.868498	0.349685	9.12647	12.227933	
24.52	2.080515	24.848625	8.038485	26.116497	17.926332	0.350758	9.099852	12.303106	
24.540001	2.082523	24.838827	8.109737	26.129202	18.0816	0.351181	9.089384	12.332796	
24.559999	2.084471	24.814782	8.108106	26.105838	18.094576	0.351591	9.079253	12.361601	
24.58	2.084561	24.82296	8.152899	26.127554	18.182378	0.35161	9.078786	12.362929	
24.6	2.088988	24.77771	8.193749	26.097365	18.298584	0.352539	9.055862	12.42836	
24.620001	2.092437	24.741493	8.220217	26.071315	18.378798	0.353261	9.038088	12.479329	
24.639999	2.092364	24.747291	8.2438	26.084261	18.423944	0.353246	9.038464	12.478247	
24.66	2.096184	24.711117	8.291223	26.064989	18.547976	0.354044	9.018864	12.534689	
24.68	2.096618	24.71277	8.324043	26.077015	18.615187	0.354134	9.016643	12.541101	
24.700001	2.100786	24.670293	8.360342	26.048391	18.720678	0.355002	8.995377	12.602663	
24.719999	2.103652	24.643036	8.394023	26.033418	18.810136	0.355598	8.980818	12.644982	
24.74	2.105723	24.619776	8.401199	26.013718	18.841615	0.356028	8.970327	12.675564	
24.76	2.110523	24.569366	8.433595	25.976514	18.945151	0.357021	8.946115	12.746429	
24.780001	2.109847	24.582671	8.458513	25.997196	18.987573	0.356882	8.949516	12.73645	
24.799999	2.11417	24.546964	8.532509	25.987634	19.167453	0.357774	8.927816	12.800247	
24.82	2.114616	24.547166	8.558335	25.996316	19.221071	0.357866	8.925583	12.806831	
24.84	2.118938	24.505409	8.602587	25.971514	19.343582	0.358756	8.904014	12.870594	
24.860001	2.119707	24.496607	8.603946	25.96366	19.352845	0.358914	8.900188	12.881939	
24.879999	2.121208	24.484887	8.632042	25.961931	19.419919	0.359222	8.89273	12.904078	
24.9	2.126942	24.423387	8.660112	25.913305	19.523664	0.360397	8.864367	12.98863	
24.92	2.126503	24.445415	8.738632	25.960393	19.670749	0.360308	8.866531	12.982159	
24.940001	2.128211	24.424089	8.732832	25.938359	19.674542	0.360657	8.858112	13.007348	
24.959999	2.133339	24.378106	8.798085	25.917144	19.844603	0.361703	8.832952	13.082924	
24.98	2.135595	24.349367	8.787009	25.886352	19.843137	0.362163	8.82193	13.116168	
25	2.137032	24.341093	8.826262	25.891924	19.931057	0.362455	8.814925	13.137341	
25.02	2.139761	24.318688	8.869458	25.88563	20.037847	0.363009	8.801657	13.177538	
25.040001	2.143331	24.28882	8.922766	25.875907	20.1714	0.363732	8.784365	13.230112	
25.059999	2.143588	24.293724	8.958926	25.892999	20.242765	0.363784	8.783119	13.233907	
25.08	2.148632	24.232284	8.944806	25.83047	20.260534	0.364803	8.758821	13.308157	
25.1	2.150784	24.215969	8.983841	25.828715	20.354301	0.365237	8.748497	13.33983	
25.120001	2.154327	24.18565	9.031679	25.816988	20.477242	0.36595	8.731559	13.391959	
25.139999	2.151909	24.222084	9.070873	25.864842	20.530344	0.365464	8.743112	13.35638	
25.16	2.156127	24.182145	9.109895	25.841175	20.642427	0.366312	8.722978	13.418447	
25.18	2.159843	24.143985	9.130036	25.812585	20.714122	0.367057	8.705328	13.473089	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	2.161076	24.131055	9.135398	25.80239	20.735415	0.367304	8.699486	13.491226	
25.219999	2.163936	24.112068	9.197375	25.806656	20.879029	0.367876	8.68597	13.533279	
25.24	2.166244	24.090587	9.219177	25.794372	20.941282	0.368337	8.675099	13.567196	
25.26	2.169578	24.060469	9.254391	25.778866	21.038304	0.369001	8.659444	13.616189	
25.280001	2.170453	24.053266	9.266697	25.776564	21.069582	0.369175	8.655346	13.629043	
25.299999	2.176448	23.996246	9.315587	25.741017	21.216756	0.370366	8.62738	13.717091	
25.32	2.178063	23.98049	9.326718	25.730363	21.25256	0.370686	8.619878	13.740805	
25.34	2.180264	23.972945	9.404107	25.751492	21.419121	0.371121	8.609679	13.773113	
25.360001	2.182233	23.957969	9.436191	25.749291	21.497751	0.371511	8.600578	13.802006	
25.379999	2.184745	23.934185	9.456008	25.734438	21.55821	0.372006	8.588996	13.838861	
25.4	2.185804	23.93668	9.519911	25.760306	21.688359	0.372215	8.584122	13.854402	
25.42	2.18883	23.90106	9.512385	25.724427	21.702104	0.372811	8.570231	13.898788	
25.440001	2.190612	23.889106	9.547744	25.726422	21.785115	0.373161	8.562076	13.924909	
25.459999	2.19452	23.855129	9.590454	25.710776	21.901597	0.373928	8.544243	13.982207	
25.48	2.198242	23.820482	9.620348	25.689813	21.992281	0.374656	8.527337	14.036741	
25.5	2.197777	23.839687	9.682143	25.73081	22.103855	0.374565	8.529446	14.029927	
25.52	2.203164	23.784247	9.701254	25.686664	22.189883	0.375617	8.505086	14.108842	
25.540001	2.200116	23.817212	9.697614	25.715818	22.154635	0.375023	8.518849	14.064201	
25.559999	2.205208	23.774219	9.756464	25.698289	22.312305	0.376016	8.495884	14.13877	
25.58	2.208539	23.746168	9.794649	25.686877	22.414855	0.376663	8.480935	14.187522	
25.6	2.210701	23.725571	9.808745	25.673219	22.461466	0.377083	8.471261	14.219159	
25.620001	2.213839	23.701074	9.852464	25.667332	22.572547	0.377691	8.457259	14.265077	
25.639999	2.214817	23.69364	9.866859	25.665999	22.60859	0.377881	8.452906	14.27938	
25.66	2.220633	23.642243	9.920324	25.639198	22.76304	0.379004	8.427122	14.364409	
25.68	2.220574	23.648755	9.945809	25.655072	22.809897	0.378993	8.427382	14.36355	
25.700001	2.225815	23.602132	9.991443	25.629857	22.944341	0.380002	8.404291	14.440122	
25.719999	2.228666	23.582265	10.039585	25.630383	23.06076	0.380549	8.391785	14.481763	
25.74	2.22767	23.599133	10.06561	25.656103	23.099478	0.380358	8.396152	14.467211	
25.76	2.230591	23.573496	10.091841	25.642835	23.175864	0.380918	8.383366	14.509867	
25.780001	2.232731	23.564655	10.153485	25.659038	23.310174	0.381328	8.374024	14.541111	
25.799999	2.236072	23.528212	10.15222	25.625072	23.339821	0.381967	8.35949	14.589857	
25.82	2.240364	23.494909	10.207894	25.616633	23.483666	0.382785	8.340894	14.65246	
25.84	2.242213	23.48015	10.229893	25.611875	23.54196	0.383137	8.332909	14.679427	
25.860001	2.24471	23.46594	10.283746	25.620417	23.665064	0.383612	8.322154	14.715825	
25.879999	2.245634	23.458309	10.293488	25.617341	23.691872	0.383788	8.318181	14.729292	
25.9	2.250412	23.414315	10.324013	25.589361	23.794038	0.384693	8.297707	14.798896	
25.92	2.250802	23.41897	10.361504	25.608766	23.866587	0.384767	8.296041	14.804574	
25.940001	2.254611	23.390157	10.411726	25.602802	23.995458	0.385487	8.2798	14.860041	
25.959999	2.253469	23.403116	10.415007	25.615975	23.990375	0.385271	8.284662	14.843412	
25.98	2.26063	23.333513	10.442862	25.563767	24.11084	0.386622	8.254278	14.947625	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	2.261024	23.343933	10.504516	25.598516	24.227269	0.386696	8.252614	14.953352	
26.02	2.266806	23.289159	10.531622	25.559734	24.333065	0.387781	8.228265	15.037425	
26.040001	2.267831	23.287843	10.571627	25.575045	24.415942	0.387973	8.223966	15.052318	
26.059999	2.267199	23.304982	10.615506	25.60881	24.489484	0.387855	8.226616	15.043135	
26.08	2.273711	23.242672	10.641986	25.563131	24.601389	0.389073	8.199388	15.137746	
26.1	2.275047	23.237975	10.681058	25.575154	24.685355	0.389322	8.193827	15.157142	
26.120001	2.273977	23.256453	10.711228	25.60455	24.72943	0.389122	8.198279	15.14161	
26.139999	2.278457	23.211933	10.721657	25.568491	24.792392	0.389957	8.179668	15.206638	
26.16	2.283492	23.166841	10.75313	25.540797	24.898904	0.390892	8.158857	15.27968	
26.18	2.28579	23.153521	10.797447	25.547414	25.001635	0.391318	8.149397	15.313001	
26.200001	2.287369	23.150378	10.85271	25.567975	25.116848	0.391611	8.142907	15.335901	
26.219999	2.290726	23.121391	10.87722	25.552155	25.1942	0.392231	8.129152	15.384549	
26.24	2.293323	23.090751	10.86183	25.517879	25.192218	0.392711	8.118545	15.422169	
26.26	2.293706	23.114724	10.977327	25.588907	25.403379	0.392781	8.116984	15.427716	
26.280001	2.297066	23.080041	10.97775	25.557764	25.437592	0.3934	8.103313	15.476354	
26.299999	2.300544	23.052461	11.012093	25.547645	25.533714	0.394039	8.089209	15.526698	
26.32	2.302665	23.040343	11.05211	25.553993	25.626386	0.394428	8.080637	15.557373	
26.34	2.304573	23.030174	11.090955	25.561654	25.714751	0.394778	8.07294	15.584972	
26.360001	2.308918	22.991929	11.117075	25.538562	25.804776	0.395573	8.05547	15.647788	
26.379999	2.311778	22.968307	11.14025	25.527403	25.874685	0.396095	8.044018	15.689106	
26.4	2.313478	22.955911	11.160639	25.525159	25.928007	0.396405	8.037227	15.713658	
26.42	2.319129	22.912364	11.218123	25.511227	26.086878	0.397432	8.014738	15.79524	
26.440001	2.318962	22.925645	11.265338	25.543944	26.168896	0.397402	8.015401	15.792827	
26.459999	2.323107	22.889118	11.288137	25.521241	26.250999	0.398154	7.998987	15.852629	
26.48	2.323718	22.893996	11.333142	25.545551	26.336691	0.398264	7.996574	15.861441	
26.5	2.331199	22.822497	11.350052	25.489018	26.44206	0.399616	7.967153	15.969256	
26.52	2.330512	22.844721	11.412094	25.536585	26.544494	0.399492	7.969844	15.959364	
26.540001	2.331344	22.837698	11.417658	25.53279	26.562707	0.399642	7.966584	15.971349	
26.559999	2.335122	22.806984	11.447376	25.518639	26.653225	0.400322	7.951817	16.025748	
26.58	2.3392	22.778541	11.497973	25.515981	26.78342	0.401054	7.935941	16.084439	
26.6	2.342535	22.748856	11.513043	25.496286	26.843712	0.401652	7.923005	16.132418	
26.620001	2.342435	22.763082	11.566311	25.533066	26.935949	0.401634	7.923392	16.130981	
26.639999	2.346006	22.733408	11.590534	25.517608	27.01462	0.402272	7.909596	16.182307	
26.66	2.347558	22.722073	11.607232	25.515102	27.059587	0.40255	7.903613	16.204615	
26.68	2.350663	22.695381	11.624261	25.499094	27.120945	0.403103	7.891676	16.249217	
26.700001	2.353429	22.678495	11.666858	25.503523	27.223415	0.403596	7.881072	16.288939	
26.719999	2.358901	22.643541	11.744053	25.507896	27.413522	0.404567	7.860189	16.367451	
26.74	2.359892	22.637553	11.759319	25.509614	27.450151	0.404743	7.856417	16.381675	
26.76	2.360371	22.633274	11.76113	25.506652	27.458192	0.404828	7.854598	16.388539	
26.780001	2.365804	22.596118	11.826729	25.50404	27.627451	0.405788	7.834009	16.466416	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	2.36777	22.580646	11.842174	25.497503	27.674323	0.406135	7.826586	16.494585	
26.82	2.368558	22.583486	11.884276	25.519597	27.755074	0.406274	7.823616	16.505869	
26.84	2.37412	22.547049	11.956203	25.520976	27.936071	0.407253	7.802719	16.585482	
26.860001	2.37126	22.5709	11.939603	25.534284	27.878088	0.40675	7.81345	16.544551	
26.879999	2.378983	22.516253	12.022484	25.524924	28.099901	0.408106	7.784542	16.655044	
26.9	2.378969	22.517362	12.026327	25.527713	28.106337	0.408103	7.784594	16.654845	
26.92	2.382907	22.483469	12.044077	25.506198	28.177375	0.408792	7.769942	16.711128	
26.940001	2.386838	22.454927	12.082255	25.499111	28.283276	0.409479	7.755373	16.767284	
26.959999	2.385781	22.474929	12.120595	25.534902	28.337769	0.409294	7.759285	16.752187	
26.98	2.393479	22.414502	12.176352	25.508301	28.512427	0.410634	7.730893	16.862062	
27	2.396352	22.392949	12.200636	25.500974	28.583488	0.411133	7.720354	16.903031	
27.02	2.399074	22.377545	12.243104	25.507805	28.683809	0.411604	7.710399	16.941823	
27.040001	2.399325	22.383058	12.274166	25.527563	28.739031	0.411648	7.709482	16.945399	
27.059999	2.402897	22.357373	12.308069	25.521377	28.833494	0.412266	7.696459	16.99629	
27.08	2.406306	22.336953	12.356035	25.526673	28.949912	0.412854	7.684076	17.04482	
27.1	2.409721	22.308737	12.373451	25.51043	29.014816	0.413442	7.671713	17.093408	
27.120001	2.412831	22.278391	12.370867	25.482642	29.042828	0.413976	7.66049	17.137641	
27.139999	2.41732	22.255076	12.446663	25.499173	29.217159	0.414746	7.644353	17.201436	
27.16	2.416488	22.268285	12.467273	25.520764	29.243068	0.414604	7.64734	17.18961	
27.18	2.422101	22.227654	12.516504	25.509439	29.384133	0.415564	7.627249	17.269315	
27.200001	2.424232	22.218828	12.560581	25.523411	29.480071	0.415927	7.619651	17.299555	
27.219999	2.425983	22.212156	12.598911	25.536492	29.562303	0.416226	7.613418	17.3244	
27.24	2.43041	22.179916	12.635886	25.526737	29.670195	0.416979	7.59771	17.387174	
27.26	2.427986	22.205867	12.647756	25.555161	29.664516	0.416567	7.606303	17.352805	
27.280001	2.437949	22.127343	12.706609	25.516215	29.866613	0.418258	7.571119	17.493957	
27.299999	2.43992	22.116112	12.734565	25.520415	29.933598	0.418591	7.564198	17.52186	
27.32	2.43963	22.120521	12.741083	25.527488	29.941338	0.418542	7.565216	17.517752	
27.34	2.44266	22.109146	12.806421	25.550318	30.081036	0.419054	7.554604	17.560608	
27.360001	2.446956	22.076057	12.833419	25.535249	30.170668	0.419778	7.539609	17.621345	
27.379999	2.448029	22.073096	12.860473	25.546298	30.226462	0.419959	7.535872	17.636517	
27.4	2.450038	22.067824	12.911962	25.567706	30.332106	0.420296	7.528888	17.6649	
27.42	2.453454	22.042619	12.937036	25.558637	30.409157	0.42087	7.517046	17.713132	
27.440001	2.456967	22.017758	12.966551	25.552164	30.494452	0.421458	7.50491	17.7627	
27.459999	2.458657	22.013671	13.010718	25.571087	30.584371	0.421741	7.499085	17.786542	
27.48	2.465963	21.959264	13.060435	25.549643	30.742433	0.42296	7.474017	17.889505	
27.5	2.466802	21.957488	13.083095	25.559708	30.788126	0.423099	7.471151	17.901315	
27.52	2.468884	21.945671	13.110991	25.563852	30.855394	0.423446	7.464047	17.93062	
27.540001	2.474517	21.911591	13.177916	25.56903	31.023302	0.42438	7.444892	18.009878	
27.559999	2.473014	21.9221	13.16551	25.571647	30.987348	0.424131	7.449994	17.988734	
27.58	2.4757	21.9106	13.215253	25.587444	31.096094	0.424576	7.440882	18.026514	



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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
27.6	2.478195	21.893335	13.236272	25.58353	31.156372	0.424989	7.432444	18.061574	
27.620001	2.485956	21.843972	13.317121	25.583292	31.368519	0.426269	7.406321	18.170545	
27.639999	2.485631	21.851092	13.332876	25.597574	31.390336	0.426216	7.407409	18.165991	
27.66	2.489381	21.832911	13.392798	25.613337	31.525943	0.426833	7.39485	18.2186	
27.68	2.493591	21.798038	13.405083	25.590051	31.590216	0.427523	7.380808	18.277602	
27.700001	2.492977	21.815325	13.44927	25.62794	31.65412	0.427423	7.382851	18.269007	
27.719999	2.493523	21.815505	13.468504	25.638191	31.690498	0.427512	7.381033	18.276655	
27.74	2.500015	21.762602	13.490013	25.604518	31.793644	0.428574	7.359485	18.367561	
27.76	2.500644	21.775081	13.558095	25.651044	31.908211	0.428677	7.357404	18.376364	
27.780001	2.504463	21.748594	13.587588	25.644178	31.995429	0.429299	7.3448	18.429772	
27.799999	2.506118	21.734084	13.588934	25.632587	32.015167	0.429569	7.33935	18.452915	
27.82	2.509798	21.712089	13.630117	25.635813	32.119272	0.430167	7.327264	18.50434	
27.84	2.514425	21.684839	13.682907	25.64087	32.251554	0.430917	7.312129	18.56894	
27.860001	2.512623	21.703471	13.692347	25.661664	32.247179	0.430625	7.318016	18.543786	
27.879999	2.516355	21.679595	13.727588	25.66031	32.342176	0.431229	7.305837	18.595862	
27.9	2.520642	21.657238	13.786546	25.673037	32.480037	0.431922	7.291898	18.655643	
27.92	2.523951	21.62941	13.792417	25.652722	32.524476	0.432455	7.281176	18.701758	
27.940001	2.529656	21.594689	13.851241	25.655165	32.676936	0.433373	7.262772	18.781179	
27.959999	2.532126	21.586072	13.900295	25.674437	32.779462	0.433769	7.254834	18.815535	
27.98	2.534004	21.569256	13.89937	25.659799	32.798055	0.43407	7.248811	18.841648	
28	2.539763	21.530305	13.942871	25.650686	32.926861	0.43499	7.230408	18.92166	
28.02	2.53722	21.558301	13.963831	25.685578	32.93216	0.434584	7.23852	18.886349	
28.040001	2.541945	21.5308	14.01573	25.690778	33.062652	0.435339	7.223458	18.951964	
28.059999	2.543953	21.524963	14.059246	25.709656	33.151023	0.435658	7.217076	18.979833	
28.08	2.54884	21.484066	14.066094	25.679176	33.213715	0.436436	7.201598	19.047598	
28.1	2.550939	21.480547	14.120778	25.70623	33.319985	0.436769	7.19497	19.076688	
28.120001	2.554813	21.450264	14.133571	25.687967	33.38093	0.437382	7.182772	19.130344	
28.139999	2.556963	21.450487	14.203301	25.726585	33.510335	0.437723	7.176022	19.160099	
28.16	2.556615	21.459071	14.22374	25.745029	33.537715	0.437668	7.177113	19.155288	
28.18	2.566549	21.390899	14.289641	25.724782	33.743946	0.439234	7.146085	19.292635	
28.200001	2.566574	21.39159	14.292988	25.727216	33.74929	0.439238	7.146005	19.292987	
28.219999	2.568608	21.380061	14.315117	25.729936	33.804526	0.439557	7.139689	19.321068	
28.24	2.570286	21.376948	14.356797	25.750564	33.88544	0.439821	7.134484	19.344237	
28.26	2.575836	21.344405	14.412518	25.754695	34.028712	0.44069	7.117331	19.420789	
28.280001	2.576053	21.354654	14.456791	25.787983	34.097489	0.440724	7.116663	19.423779	
28.299999	2.576598	21.351853	14.463669	25.78952	34.113633	0.440809	7.114982	19.431297	
28.32	2.583581	21.309285	14.526723	25.789751	34.282651	0.441899	7.093539	19.527475	
28.34	2.58518	21.294778	14.523655	25.776038	34.29518	0.442148	7.088648	19.549479	
28.360001	2.590905	21.255956	14.560067	25.764534	34.410722	0.443037	7.071194	19.628205	
28.379999	2.595599	21.233549	14.623789	25.782142	34.555691	0.443764	7.05695	19.692688	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
28.4	2.592917	21.26992	14.673166	25.84011	34.600117	0.443349	7.06508	19.655857	
28.42	2.595834	21.256869	14.715718	25.853565	34.694165	0.443801	7.056239	19.695911	
28.440001	2.603687	21.192347	14.722933	25.804657	34.788882	0.445013	7.032548	19.803649	
28.459999	2.609363	21.157434	14.769847	25.802817	34.918667	0.445886	7.01553	19.881403	
28.48	2.612653	21.1338	14.784367	25.791762	34.97517	0.44639	7.005707	19.926421	
28.5	2.612786	21.15432	14.862831	25.853607	35.091587	0.446411	7.005309	19.928249	
28.52	2.615721	21.130596	14.86607	25.836062	35.12771	0.44686	6.996572	19.968378	
28.540001	2.618437	21.116414	14.897061	25.842318	35.201999	0.447275	6.988505	20.005504	
28.559999	2.622581	21.100177	14.963546	25.867454	35.343065	0.447907	6.976234	20.06211	
28.58	2.622694	21.103186	14.977804	25.878158	35.364959	0.447925	6.9759	20.063653	
28.6	2.62909	21.059645	15.012948	25.863048	35.48428	0.448898	6.957053	20.150912	
28.620001	2.631958	21.050344	15.065287	25.885901	35.590562	0.449333	6.948637	20.189998	
28.639999	2.636747	21.016006	15.084535	25.869204	35.669491	0.450058	6.934632	20.255214	
28.66	2.63799	21.017979	15.128664	25.896562	35.746262	0.450246	6.931006	20.272133	
28.68	2.63824	21.022789	15.15337	25.914905	35.784384	0.450284	6.930277	20.275532	
28.700001	2.646153	20.963333	15.174233	25.878924	35.898827	0.451477	6.907295	20.383114	
28.719999	2.645999	20.97765	15.22115	25.918048	35.964285	0.451453	6.90774	20.381025	
28.74	2.649343	20.951274	15.225134	25.899046	36.005687	0.451956	6.898074	20.426435	
28.76	2.654975	20.92295	15.289171	25.913868	36.15704	0.452801	6.881859	20.502845	
28.780001	2.655557	20.927073	15.321028	25.936004	36.208488	0.452888	6.880187	20.510737	
28.799999	2.659422	20.910536	15.374897	25.954537	36.326005	0.453466	6.869112	20.563111	
28.82	2.659826	20.912259	15.392822	25.966547	36.355618	0.453526	6.867958	20.568573	
28.84	2.665136	20.87488	15.413874	25.948953	36.44198	0.454318	6.852809	20.640448	
28.860001	2.665246	20.885857	15.456301	25.983	36.502864	0.454334	6.852494	20.641947	
28.879999	2.667332	20.88229	15.504035	26.008559	36.592065	0.454644	6.846563	20.670151	
28.9	2.674143	20.842908	15.560552	26.01072	36.743736	0.455655	6.82727	20.76218	
28.92	2.680008	20.803736	15.589791	25.996865	36.847022	0.456523	6.810749	20.841316	
28.940001	2.68346	20.787565	15.6312	26.008792	36.941384	0.457032	6.801064	20.887842	
28.959999	2.686385	20.770875	15.655489	26.010067	37.006243	0.457463	6.792879	20.927245	
28.98	2.687438	20.768566	15.677352	26.021389	37.047747	0.457618	6.789937	20.941426	
29	2.693613	20.732148	15.723751	26.020344	37.177605	0.458525	6.772744	21.024497	
29.02	2.696297	20.719827	15.756173	26.030141	37.250853	0.458918	6.765298	21.060572	
29.040001	2.694973	20.734222	15.769716	26.049797	37.2554	0.458724	6.768969	21.042778	
29.059999	2.704391	20.674159	15.822866	26.034284	37.428525	0.4601	6.742951	21.169223	
29.08	2.702934	20.695335	15.856854	26.071761	37.459556	0.459888	6.746964	21.149668	
29.1	2.710431	20.652783	15.916857	26.074581	37.621085	0.460979	6.726377	21.250163	
29.120001	2.710474	20.651898	15.91494	26.07271	37.618936	0.460985	6.726259	21.250744	
29.139999	2.710213	20.668035	15.964658	26.115857	37.683723	0.460947	6.726973	21.24725	
29.16	2.714752	20.641189	15.996699	26.114231	37.775364	0.461606	6.714569	21.308021	
29.18	2.719498	20.607852	16.011171	26.096765	37.845313	0.462293	6.701654	21.371481	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	2.723925	20.590191	16.071769	26.120064	37.97405	0.462932	6.689651	21.43063	
29.219999	2.729926	20.557496	16.122439	26.125537	38.105767	0.463796	6.673453	21.51071	
29.24	2.729844	20.560203	16.129712	26.132156	38.114654	0.463785	6.673674	21.509614	
29.26	2.732818	20.55192	16.182462	26.15824	38.216756	0.464212	6.665677	21.549255	
29.280001	2.74017	20.495728	16.186434	26.116575	38.299866	0.465265	6.645993	21.647149	
29.299999	2.743748	20.498568	16.294294	26.185784	38.481225	0.465776	6.636459	21.694722	
29.32	2.746606	20.483167	16.318097	26.188555	38.542959	0.466183	6.628863	21.732702	
29.34	2.744152	20.50303	16.320983	26.205891	38.520833	0.465834	6.635382	21.700105	
29.360001	2.750877	20.456642	16.341103	26.182166	38.618504	0.466791	6.617543	21.789421	
29.379999	2.750308	20.474421	16.388003	26.225342	38.674319	0.46671	6.61905	21.781863	
29.4	2.756695	20.434003	16.419252	26.213361	38.782849	0.467617	6.602193	21.866574	
29.42	2.760329	20.418553	16.463172	26.228864	38.878779	0.468132	6.59264	21.914723	
29.440001	2.762697	20.418268	16.525847	26.268028	38.985592	0.468466	6.586432	21.946072	
29.459999	2.767456	20.38719	16.544877	26.255865	39.060537	0.469138	6.573992	22.009024	
29.48	2.773019	20.353438	16.575645	26.249085	39.15911	0.469921	6.559511	22.082533	
29.5	2.773807	20.357329	16.610253	26.273968	39.212271	0.470031	6.557467	22.092928	
29.52	2.780351	20.320519	16.655812	26.274314	39.339996	0.470949	6.54053	22.179258	
29.540001	2.782373	20.316849	16.696644	26.297382	39.413869	0.471231	6.535314	22.20591	
29.559999	2.785029	20.310988	16.746455	26.324513	39.505728	0.471602	6.52848	22.240883	
29.58	2.789108	20.283837	16.759536	26.3119	39.565315	0.472171	6.51801	22.294566	
29.6	2.794974	20.250572	16.798	26.310805	39.67603	0.472987	6.503013	22.371683	
29.620001	2.796491	20.245657	16.820714	26.321532	39.720915	0.473198	6.499147	22.39161	
29.639999	2.798259	20.249723	16.881178	26.363335	39.816341	0.473443	6.494647	22.414821	
29.66	2.803621	20.217279	16.908496	26.355941	39.90712	0.474185	6.48104	22.48516	
29.68	2.803085	20.230379	16.940017	26.386216	39.941374	0.474111	6.482398	22.478133	
29.700001	2.805006	20.221127	16.957966	26.390653	39.984148	0.474377	6.477533	22.503326	
29.719999	2.811621	20.185062	17.004661	26.39309	40.112127	0.475289	6.460846	22.589954	
29.74	2.814089	20.175947	17.036943	26.406936	40.178436	0.475628	6.454645	22.622232	
29.76	2.823298	20.124165	17.094971	26.404925	40.347134	0.476891	6.431611	22.742538	
29.780001	2.823021	20.139313	17.140326	26.445845	40.400776	0.476853	6.432301	22.738923	
29.799999	2.829252	20.099118	17.161018	26.428679	40.491415	0.477705	6.416809	22.82018	
29.82	2.829637	20.097117	17.163955	26.429064	40.499074	0.477757	6.415854	22.825201	
29.84	2.833515	20.087172	17.228675	26.463593	40.619611	0.478286	6.406255	22.875707	
29.860001	2.837925	20.059047	17.243798	26.452106	40.684136	0.478885	6.395374	22.933091	
29.879999	2.841926	20.048364	17.308561	26.486283	40.805438	0.479428	6.385537	22.985096	
29.9	2.839683	20.068043	17.31957	26.508373	40.795654	0.479124	6.391048	22.955946	
29.92	2.85049	20.001476	17.363295	26.486658	40.961342	0.480586	6.364585	23.096249	
29.940001	2.849527	20.024307	17.417785	26.539633	41.017865	0.480456	6.366934	23.083763	
29.959999	2.854758	19.994368	17.446291	26.535784	41.106731	0.481161	6.354197	23.151561	
29.98	2.859634	19.973264	17.495932	26.552568	41.217381	0.481816	6.342373	23.214681	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30	2.861046	19.968322	17.514253	26.560929	41.254133	0.482006	6.338959	23.232939	
30.02	2.866647	19.945238	17.574682	26.58349	41.384859	0.482756	6.325447	23.305331	
30.040001	2.869447	19.932392	17.600216	26.590748	41.444438	0.48313	6.318716	23.341481	
30.059999	2.870287	19.937775	17.639598	26.620862	41.500305	0.483242	6.316698	23.35233	
30.08	2.874213	19.920252	17.676809	26.632424	41.585242	0.483766	6.307292	23.40296	
30.1	2.877309	19.902267	17.691724	26.628881	41.634931	0.484178	6.299893	23.442867	
30.120001	2.88208	19.876711	17.721809	26.629798	41.719841	0.484812	6.288528	23.504291	
30.139999	2.886011	19.861756	17.767295	26.648942	41.814235	0.485333	6.279197	23.55485	
30.16	2.887526	19.860602	17.800557	26.670271	41.869145	0.485534	6.275608	23.57432	
30.18	2.897929	19.79896	17.843925	26.653414	42.02701	0.486907	6.251079	23.707847	
30.200001	2.895572	19.829287	17.890312	26.707	42.057375	0.486597	6.256618	23.677628	
30.219999	2.899212	19.810578	17.915035	26.709689	42.123637	0.487076	6.248069	23.724284	
30.24	2.90446	19.788767	17.968046	26.729122	42.239278	0.487765	6.235782	23.791499	
30.26	2.909532	19.762818	18.002238	26.73293	42.330918	0.48843	6.223956	23.85637	
30.280001	2.910836	19.765497	18.042913	26.762316	42.391432	0.4886	6.220924	23.873031	
30.299999	2.914139	19.747398	18.060834	26.761043	42.445895	0.489032	6.213256	23.915222	
30.32	2.91406	19.753673	18.080357	26.778852	42.467657	0.489022	6.213438	23.914217	
30.34	2.923333	19.705502	18.138872	26.782933	42.629577	0.490229	6.192014	24.032483	
30.360001	2.923063	19.711006	18.147954	26.792438	42.637263	0.490194	6.192636	24.029041	
30.379999	2.924183	19.727305	18.233456	26.863088	42.746507	0.49034	6.190058	24.043307	
30.4	2.931674	19.677257	18.241932	26.832117	42.832338	0.491311	6.172874	24.138629	
30.42	2.932047	19.682501	18.268686	26.854157	42.866592	0.491359	6.172019	24.143381	
30.440001	2.939472	19.635322	18.284484	26.83036	42.95986	0.492318	6.155089	24.237681	
30.459999	2.943686	19.613062	18.308477	26.830441	43.02975	0.49286	6.145525	24.291119	
30.48	2.946182	19.616749	18.380077	26.88204	43.135945	0.493181	6.139872	24.322755	
30.5	2.947217	19.612728	18.390826	26.886457	43.158518	0.493314	6.137532	24.335864	
30.52	2.948744	19.625688	18.470769	26.950638	43.263648	0.49351	6.134084	24.355195	
30.540001	2.952941	19.598842	18.478351	26.936297	43.314529	0.494048	6.124624	24.408301	
30.559999	2.959146	19.573905	18.539138	26.959922	43.444881	0.49484	6.110695	24.486711	
30.58	2.962668	19.550806	18.543094	26.945878	43.484762	0.49529	6.102816	24.531176	
30.6	2.967894	19.532292	18.602087	26.973099	43.602748	0.495954	6.091168	24.59706	
30.620001	2.968646	19.527428	18.603091	26.970269	43.611419	0.49605	6.089495	24.606538	
30.639999	2.972892	19.519291	18.674114	27.013428	43.732393	0.496588	6.080069	24.660004	
30.66	2.974003	19.518064	18.695679	27.027453	43.767225	0.496729	6.077609	24.673975	
30.68	2.98303	19.472879	18.751279	27.033377	43.91857	0.49787	6.057686	24.787427	
30.700001	2.983798	19.470035	18.759333	27.036916	43.935045	0.497966	6.055998	24.79706	
30.719999	2.990232	19.441251	18.809822	27.051278	44.054354	0.498776	6.041889	24.877748	
30.74	2.989652	19.450101	18.82646	27.069208	44.066639	0.498703	6.043158	24.870483	
30.76	2.993206	19.446854	18.896884	27.115906	44.178331	0.499149	6.03539	24.915009	
30.780001	2.99704	19.4235	18.905622	27.105256	44.225981	0.49963	6.027035	24.962984	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	3.000497	19.409827	18.938291	27.118264	44.295593	0.500062	6.01952	25.006217	
30.82	3.003804	19.403456	18.992002	27.151247	44.386107	0.500475	6.012352	25.047526	
30.84	3.008684	19.368849	18.985989	27.122317	44.428168	0.501083	6.001803	25.108438	
30.860001	3.015772	19.341415	19.053763	27.150253	44.570832	0.501964	5.986552	25.196764	
30.879999	3.020939	19.315185	19.081709	27.151206	44.65169	0.502604	5.975486	25.261049	
30.9	3.021502	19.324978	19.127453	27.190334	44.70576	0.502673	5.974281	25.268057	
30.92	3.02412	19.312468	19.144118	27.193174	44.749259	0.502997	5.968692	25.300597	
30.940001	3.0331	19.270447	19.203612	27.20531	44.900548	0.504104	5.949605	25.412038	
30.959999	3.033817	19.276199	19.239014	27.234381	44.944762	0.504192	5.948087	25.42092	
30.98	3.030959	19.295963	19.24173	27.250291	44.919448	0.50384	5.954144	25.385494	
31	3.038269	19.271411	19.322113	27.289766	45.075352	0.504738	5.938674	25.476078	
31.02	3.039242	19.260105	19.30573	27.270182	45.067863	0.504858	5.936623	25.488117	
31.040001	3.043843	19.2425	19.348707	27.288208	45.157762	0.505421	5.926935	25.545033	
31.059999	3.049751	19.21761	19.395827	27.304114	45.264521	0.506142	5.914545	25.618018	
31.08	3.050766	19.218129	19.420006	27.32166	45.299436	0.506266	5.91242	25.630552	
31.1	3.058459	19.195921	19.514867	27.37359	45.472139	0.507202	5.89638	25.725393	
31.120001	3.056419	19.206053	19.504025	27.372969	45.441108	0.506954	5.900624	25.700267	
31.139999	3.063489	19.173835	19.551134	27.383988	45.558298	0.507812	5.885938	25.787317	
31.16	3.064752	19.17032	19.567008	27.392863	45.586794	0.507965	5.883322	25.802855	
31.18	3.072421	19.133254	19.610206	27.397839	45.705385	0.508892	5.867494	25.897071	
31.200001	3.075292	19.118025	19.621657	27.395406	45.744907	0.509238	5.86159	25.932298	
31.219999	3.077617	19.119022	19.675569	27.434741	45.821989	0.509517	5.85682	25.960797	
31.24	3.081252	19.108496	19.719194	27.458719	45.901178	0.509954	5.849375	26.005336	
31.26	3.082308	19.10747	19.73865	27.47198	45.930953	0.510081	5.847215	26.018275	
31.280001	3.091261	19.054691	19.755317	27.447292	46.034313	0.511153	5.828979	26.127756	
31.299999	3.084288	19.11256	19.798471	27.518528	46.009968	0.510319	5.843173	26.042504	
31.32	3.093709	19.066169	19.846522	27.52096	46.148934	0.511446	5.824013	26.157651	
31.34	3.096315	19.046062	19.835272	27.498918	46.162907	0.511756	5.818736	26.189451	
31.360001	3.100226	19.04419	19.91295	27.553707	46.277589	0.512222	5.810835	26.237141	
31.379999	3.108926	18.99841	19.945908	27.54594	46.393786	0.513255	5.79334	26.343049	
31.4	3.106765	19.017598	19.963934	27.572227	46.39075	0.512999	5.797676	26.31676	
31.42	3.116936	18.97143	20.026225	27.585591	46.54942	0.514202	5.777328	26.440351	
31.440001	3.119232	18.969998	20.070161	27.61652	46.614267	0.514473	5.772756	26.468202	
31.459999	3.116764	18.979206	20.048552	27.607149	46.569572	0.514181	5.777671	26.43826	
31.48	3.128613	18.924637	20.117066	27.619526	46.74949	0.515576	5.754148	26.581847	
31.5	3.127593	18.945556	20.165381	27.669056	46.786493	0.515456	5.756167	26.569495	
31.52	3.134207	18.913887	20.199014	27.671922	46.881965	0.516231	5.743113	26.649478	
31.540001	3.140279	18.880576	20.21527	27.661042	46.955345	0.516941	5.731184	26.722777	
31.559999	3.1363	18.915514	20.248389	27.709095	46.949293	0.516476	5.738996	26.674752	
31.58	3.142661	18.882221	20.270672	27.702679	47.03107	0.517218	5.726519	26.751496	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	3.150163	18.860294	20.354202	27.74895	47.181757	0.518091	5.711876	26.84185	
31.620001	3.15765	18.829696	20.407885	27.767593	47.303356	0.518959	5.697339	26.931844	
31.639999	3.157686	18.827993	20.402959	27.762818	47.299045	0.518963	5.697269	26.932279	
31.66	3.163152	18.811243	20.460388	27.79371	47.404709	0.519595	5.686705	26.997868	
31.68	3.159749	18.842318	20.493378	27.839028	47.403582	0.519202	5.693277	26.957049	
31.700001	3.172098	18.780777	20.543527	27.834404	47.566703	0.520625	5.669502	27.105025	
31.719999	3.175976	18.751846	20.526883	27.802602	47.587565	0.52107	5.662078	27.151401	
31.74	3.175951	18.766056	20.573747	27.846793	47.631013	0.521067	5.662125	27.151104	
31.76	3.174406	18.784499	20.60335	27.881095	47.644009	0.52089	5.665081	27.132629	
31.780001	3.185376	18.727391	20.638138	27.868403	47.778959	0.522146	5.644166	27.263611	
31.799999	3.189841	18.705111	20.655101	27.866008	47.836323	0.522655	5.6357	27.316813	
31.82	3.192999	18.711963	20.742277	27.935276	47.945925	0.523014	5.629726	27.354412	
31.84	3.194978	18.693892	20.722416	27.908424	47.946159	0.523239	5.62599	27.377956	
31.860001	3.195833	18.700894	20.763092	27.943326	47.991365	0.523337	5.624377	27.388124	
31.879999	3.204261	18.667374	20.822478	27.965094	48.123824	0.524292	5.608534	27.48822	
31.9	3.206936	18.650012	20.818804	27.95077	48.145297	0.524595	5.603524	27.519947	
31.92	3.204863	18.67964	20.875385	28.012687	48.177379	0.52436	5.607405	27.495365	
31.940001	3.213497	18.642901	20.927472	28.027073	48.304353	0.525335	5.591276	27.597671	
31.959999	3.223094	18.590536	20.946126	28.006217	48.409731	0.526414	5.573458	27.711127	
31.98	3.222577	18.606004	20.987198	28.047208	48.441794	0.526356	5.574416	27.705018	
32	3.230047	18.574231	21.030982	28.058942	48.549652	0.527192	5.560624	27.793138	
32.02	3.229514	18.587456	21.064281	28.092659	48.574391	0.527132	5.561605	27.786861	
32.040001	3.235586	18.556557	21.082647	28.086007	48.646445	0.52781	5.550443	27.858369	
32.060001	3.236078	18.564546	21.118968	28.118556	48.683125	0.527865	5.54954	27.864165	
32.080002	3.241872	18.532356	21.127138	28.103454	48.743413	0.52851	5.538935	27.932286	
32.099998	3.248716	18.51153	21.193479	28.139657	48.864367	0.52927	5.526462	28.012623	
32.119999	3.251548	18.503764	21.223634	28.157272	48.916635	0.529583	5.521317	28.045831	
32.139999	3.249801	18.520578	21.244933	28.184375	48.919324	0.52939	5.52449	28.025347	
32.16	3.254115	18.513506	21.306493	28.226168	49.012259	0.529867	5.516664	28.075895	
32.18	3.262779	18.470818	21.335226	28.219905	49.115946	0.530822	5.501014	28.177247	
32.200001	3.266172	18.453577	21.344534	28.215663	49.154787	0.531196	5.494909	28.216887	
32.220001	3.265103	18.465937	21.364585	28.238915	49.162423	0.531078	5.496832	28.204397	
32.240002	3.273594	18.432413	21.419371	28.258508	49.286487	0.53201	5.481607	28.303442	
32.259998	3.277495	18.419646	21.453044	28.275722	49.350602	0.532437	5.474642	28.348871	
32.279999	3.28191	18.405877	21.493251	28.297282	49.424787	0.532919	5.46678	28.400242	
32.299999	3.281163	18.416916	21.515307	28.321215	49.436849	0.532837	5.468109	28.39155	
32.32	3.288963	18.390518	21.579031	28.352526	49.561116	0.533687	5.454271	28.482159	
32.34	3.296716	18.348548	21.589661	28.333419	49.639655	0.534528	5.440587	28.572041	
32.360001	3.297976	18.353477	21.630296	28.367584	49.68522	0.534665	5.43837	28.586632	
32.380001	3.307834	18.304952	21.658877	28.358036	49.797337	0.53573	5.421087	28.700618	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	3.311094	18.296279	21.692586	28.378197	49.854643	0.536081	5.415398	28.738239	
32.419998	3.304537	18.344176	21.725613	28.434328	49.823774	0.535374	5.426855	28.66253	
32.439999	3.316778	18.279733	21.746412	28.408714	49.950143	0.536691	5.405507	28.80377	
32.459999	3.314193	18.300035	21.764356	28.435515	49.942093	0.536414	5.41	28.773987	
32.48	3.327723	18.241864	21.829279	28.4479	50.11592	0.537863	5.386563	28.929687	
32.5	3.329901	18.243219	21.875131	28.483968	50.172971	0.538096	5.382809	28.954701	
32.52	3.329737	18.25061	21.896506	28.505117	50.189079	0.538078	5.383092	28.952817	
32.540001	3.336942	18.227053	21.954846	28.534904	50.300416	0.538846	5.370714	29.035452	
32.560001	3.345742	18.196188	22.018553	28.564277	50.429674	0.539779	5.355674	29.136178	
32.580002	3.339704	18.221099	21.987275	28.556062	50.351168	0.539139	5.365984	29.06709	
32.599998	3.346672	18.198966	22.045245	28.586626	50.459462	0.539878	5.354089	29.146813	
32.619999	3.355563	18.162342	22.090801	28.598499	50.574152	0.540817	5.338992	29.248311	
32.639999	3.3541	18.170554	22.090603	28.603562	50.561194	0.540663	5.341469	29.231632	
32.66	3.359716	18.162319	22.168386	28.658457	50.672696	0.541255	5.331969	29.295646	
32.68	3.358399	18.177902	22.195265	28.689126	50.682644	0.541116	5.334194	29.280643	
32.700001	3.377869	18.0851	22.250478	28.673239	50.896014	0.543157	5.301497	29.50192	
32.720001	3.376259	18.102849	22.279424	28.706896	50.904964	0.542989	5.304185	29.48367	
32.740002	3.382688	18.077513	22.314554	28.718214	50.988393	0.543659	5.293467	29.556518	
32.759998	3.382391	18.08362	22.329281	28.733501	50.997417	0.543628	5.293961	29.553159	
32.779999	3.386602	18.074145	22.375649	28.763595	51.070213	0.544066	5.286965	29.600803	
32.799999	3.393122	18.055842	22.43515	28.798427	51.172927	0.544743	5.276168	29.674486	
32.82	3.398137	18.028284	22.436062	28.781868	51.216803	0.545262	5.267896	29.731062	
32.84	3.404409	18.00419	22.471204	28.794198	51.297977	0.54591	5.257586	29.801725	
32.860001	3.404594	18.013367	22.504975	28.826295	51.325711	0.545929	5.257282	29.80381	
32.880001	3.409974	17.997564	22.550935	28.85233	51.407246	0.546483	5.248474	29.864319	
32.900002	3.41386	17.986267	22.584372	28.871434	51.46616	0.546882	5.24213	29.907973	
32.919998	3.419755	17.964355	22.619077	28.884956	51.543045	0.547486	5.232535	29.974122	
32.939999	3.418631	17.978953	22.646916	28.915836	51.554702	0.547371	5.234363	29.961511	
32.959999	3.424331	17.954299	22.668793	28.917659	51.619911	0.547954	5.225114	30.025388	
32.98	3.440096	17.896397	22.761802	28.954804	51.824001	0.549559	5.199709	30.201538	
33	3.433701	17.926651	22.746708	28.961657	51.758493	0.54891	5.209984	30.130171	
33.02	3.440685	17.906049	22.804334	28.99421	51.860953	0.549619	5.198765	30.208107	
33.040001	3.446298	17.885227	22.836255	29.00648	51.932243	0.550188	5.189784	30.270641	
33.060001	3.452588	17.863388	22.876637	29.024836	52.015335	0.550823	5.179759	30.340596	
33.080002	3.453311	17.863932	22.891379	29.036792	52.032393	0.550896	5.178608	30.34864	
33.099998	3.45951	17.846966	22.945893	29.069369	52.124858	0.55152	5.168772	30.417452	
33.119999	3.457286	17.86656	22.970983	29.101203	52.124735	0.551296	5.172296	30.392775	
33.139999	3.468229	17.823185	23.022339	29.115185	52.254159	0.552395	5.154999	30.514068	
33.16	3.471883	17.820144	23.077062	29.156617	52.324714	0.552761	5.14925	30.55449	
33.18	3.47577	17.806699	23.101422	29.167691	52.374866	0.55315	5.143149	30.597439	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
33.200001	3.487941	17.749291	23.12627	29.152388	52.494042	0.554361	5.124142	30.731646	
33.220001	3.485868	17.766566	23.146946	29.179307	52.491851	0.554155	5.127369	30.708817	
33.240002	3.494182	17.741532	23.210287	29.214369	52.606437	0.55498	5.114451	30.800299	
33.259998	3.495506	17.741514	23.233454	29.232768	52.634039	0.555111	5.112399	30.814853	
33.279999	3.505453	17.698696	23.265829	29.232561	52.739252	0.556093	5.097044	30.923996	
33.299999	3.501184	17.735299	23.312273	29.291686	52.737271	0.555672	5.103623	30.877188	
33.32	3.514385	17.674948	23.342893	29.279591	52.86754	0.556972	5.083336	31.021756	
33.34	3.517376	17.666603	23.367252	29.293981	52.909314	0.557265	5.078763	31.054436	
33.360001	3.513398	17.707867	23.434497	29.372507	52.924214	0.556875	5.084847	31.010965	
33.380001	3.522334	17.668011	23.457896	29.367184	53.013776	0.55775	5.071201	31.10856	
33.400002	3.533314	17.618446	23.483709	29.358035	53.121351	0.558822	5.054535	31.228164	
33.419998	3.533569	17.625374	23.511034	29.384052	53.142522	0.558846	5.05415	31.230934	
33.439999	3.541906	17.589486	23.535733	29.38232	53.227407	0.559656	5.041573	31.321512	
33.459999	3.545738	17.591101	23.60688	29.440306	53.307779	0.560027	5.035814	31.363075	
33.48	3.543181	17.609689	23.624471	29.465519	53.299234	0.55978	5.039656	31.335341	
33.5	3.551712	17.585006	23.68898	29.502545	53.412541	0.560605	5.026863	31.42778	
33.52	3.556539	17.576071	23.741855	29.539702	53.487585	0.56107	5.019654	31.479991	
33.540001	3.550764	17.598674	23.717905	29.533918	53.424697	0.560513	5.02828	31.417524	
33.560001	3.562624	17.563497	23.803934	29.582152	53.5787	0.561656	5.010595	31.545721	
33.580002	3.567529	17.537969	23.802948	29.566209	53.617373	0.562126	5.003319	31.598619	
33.599998	3.577274	17.509544	23.874058	29.606668	53.743289	0.563059	4.988927	31.703509	
33.619999	3.572122	17.534903	23.870676	29.618946	53.699863	0.562566	4.996524	31.648095	
33.639999	3.579895	17.513802	23.932376	29.656229	53.803289	0.563309	4.98507	31.731675	
33.66	3.590098	17.468679	23.955134	29.647987	53.899634	0.564279	4.970115	31.841131	
33.68	3.599381	17.437564	24.007985	29.672412	54.008309	0.565159	4.956589	31.940457	
33.700001	3.596486	17.46289	24.043216	29.7158	54.008719	0.564885	4.9608	31.909502	
33.720001	3.60288	17.445542	24.092911	29.745845	54.092008	0.565489	4.95151	31.977831	
33.740002	3.603463	17.44984	24.116827	29.767739	54.112305	0.565544	4.950666	31.984049	
33.759998	3.611962	17.418665	24.155589	29.780906	54.204613	0.566345	4.938377	32.074674	
33.779999	3.620959	17.389528	24.208801	29.807076	54.309867	0.567189	4.925438	32.170383	
33.799999	3.620904	17.401745	24.248244	29.84624	54.334995	0.567184	4.925516	32.1698	
33.82	3.627408	17.367365	24.242352	29.821419	54.38206	0.567793	4.916205	32.238847	
33.84	3.631335	17.371849	24.322059	29.888856	54.464056	0.568159	4.910601	32.280471	
33.860001	3.634258	17.365779	24.350224	29.908255	54.504879	0.568431	4.906438	32.311429	
33.880001	3.645729	17.32171	24.393299	29.917799	54.62149	0.569497	4.89017	32.432689	
33.900002	3.640662	17.354828	24.419461	29.958307	54.598817	0.569027	4.897343	32.379171	
33.919998	3.65327	17.305848	24.464428	29.966658	54.724958	0.570195	4.879537	32.512198	
33.939999	3.654301	17.309671	24.493934	29.992958	54.751546	0.57029	4.878085	32.523065	
33.959999	3.659958	17.293746	24.53368	30.016248	54.820158	0.570812	4.870145	32.582585	
33.98	3.669611	17.257943	24.57249	30.027385	54.918662	0.571699	4.856654	32.683955	



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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34	3.67235	17.248831	24.586828	30.033886	54.948608	0.57195	4.852841	32.712663	
34.02	3.675588	17.243335	24.621193	30.058871	54.994802	0.572246	4.84834	32.746587	
34.040001	3.685499	17.210162	24.671783	30.081333	55.101834	0.573151	4.834617	32.85022	
34.060001	3.685626	17.223635	24.718407	30.127284	55.131549	0.573163	4.834442	32.851546	
34.080002	3.696623	17.183555	24.762962	30.140982	55.24248	0.574162	4.819309	32.966218	
34.099998	3.697882	17.19402	24.817802	30.192013	55.285495	0.574276	4.817583	32.979321	
34.119999	3.702245	17.172822	24.817694	30.179856	55.318459	0.574671	4.811611	33.0247	
34.139999	3.70597	17.17496	24.884431	30.235974	55.387087	0.575008	4.806524	33.063407	
34.16	3.715415	17.143165	24.930181	30.255611	55.485855	0.575859	4.793674	33.161382	
34.18	3.714111	17.150548	24.933805	30.262781	55.478224	0.575742	4.795443	33.147873	
34.200001	3.724844	17.118235	24.997768	30.297234	55.597124	0.576706	4.780917	33.258936	
34.220001	3.728923	17.10416	25.01593	30.304274	55.638482	0.577071	4.77542	33.301058	
34.240002	3.730629	17.10687	25.051954	30.335546	55.672659	0.577223	4.773124	33.318669	
34.259998	3.736796	17.085882	25.080119	30.346989	55.73537	0.577774	4.764845	33.382243	
34.279999	3.744483	17.069589	25.147522	30.393564	55.832294	0.578458	4.754568	33.461333	
34.299999	3.746942	17.056124	25.141688	30.381176	55.847125	0.578676	4.751289	33.486604	
34.32	3.750024	17.055303	25.187473	30.418615	55.89682	0.578949	4.747187	33.51825	
34.34	3.755148	17.042103	25.224275	30.441703	55.956229	0.579403	4.740382	33.570806	
34.360001	3.762207	17.028322	25.289268	30.487879	56.046067	0.580027	4.731042	33.643087	
34.380001	3.773182	16.988968	25.330348	30.500026	56.150492	0.580992	4.716592	33.75521	
34.400002	3.770829	17.007277	25.354291	30.530109	56.146983	0.580786	4.719683	33.731192	
34.419998	3.780485	16.98333	25.425305	30.575802	56.258381	0.581632	4.707028	33.829626	
34.439999	3.783292	16.973165	25.435236	30.578417	56.284555	0.581878	4.703362	33.858194	
34.459999	3.791508	16.951349	25.490282	30.612133	56.375707	0.582595	4.692666	33.941683	
34.48	3.792931	16.948251	25.502022	30.620195	56.392699	0.582719	4.690819	33.956121	
34.5	3.796915	16.949629	25.568095	30.676007	56.458861	0.583065	4.685656	33.996518	
34.52	3.80212	16.930865	25.586234	30.680769	56.506786	0.583517	4.678925	34.049244	
34.540001	3.806207	16.920233	25.613915	30.697995	56.551845	0.583871	4.673656	34.090584	
34.560001	3.809294	16.921373	25.665106	30.741348	56.602661	0.584139	4.669683	34.121783	
34.580002	3.81939	16.884465	25.697643	30.748236	56.693451	0.58501	4.656738	34.223637	
34.599998	3.824502	16.870127	25.728273	30.765975	56.747092	0.585449	4.650212	34.275109	
34.619999	3.827865	16.863013	25.756012	30.785278	56.786472	0.585738	4.645929	34.308925	
34.639999	3.837565	16.840013	25.827441	30.832496	56.894937	0.586569	4.633619	34.406307	
34.66	3.841733	16.82458	25.839545	30.834211	56.931245	0.586925	4.628351	34.448071	
34.68	3.844996	16.830151	25.907466	30.894187	56.991318	0.587203	4.624236	34.480728	
34.700001	3.852786	16.798675	25.920958	30.888372	57.053915	0.587866	4.614439	34.558594	
34.720001	3.854809	16.802524	25.964279	30.926827	57.091578	0.588037	4.611902	34.578794	
34.740002	3.859319	16.797078	26.014219	30.965811	57.15024	0.58842	4.606256	34.623775	
34.759998	3.860787	16.789572	26.011451	30.959414	57.159133	0.588544	4.604421	34.638405	
34.779999	3.868026	16.773988	26.068626	30.999031	57.240642	0.589156	4.595396	34.710463	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34.799999	3.881379	16.726861	26.112294	31.010317	57.357526	0.59028	4.578843	34.843011	
34.82	3.879775	16.739208	26.129316	31.031311	57.355282	0.590145	4.580824	34.82712	
34.84	3.880688	16.736951	26.135468	31.035274	57.364918	0.590222	4.579697	34.836166	
34.860001	3.895711	16.690807	26.206205	31.070054	57.506925	0.591479	4.561211	34.984759	
34.880001	3.897294	16.699635	26.259054	31.119378	57.545485	0.591611	4.559273	35.000379	
34.900002	3.896766	16.714515	26.300559	31.162388	57.563351	0.591567	4.559918	34.995174	
34.919998	3.910597	16.676296	26.378664	31.207896	57.699486	0.592718	4.543045	35.131407	
34.939999	3.905196	16.70024	26.378175	31.220284	57.661864	0.592269	4.549619	35.078267	
34.959999	3.917244	16.664886	26.438884	31.252728	57.776161	0.593268	4.53498	35.196702	
34.98	3.922764	16.648243	26.464938	31.265907	57.827422	0.593724	4.528305	35.250842	
35	3.922637	16.660263	26.502911	31.304451	57.845806	0.593714	4.528459	35.249594	
35.02	3.93302	16.632457	26.563074	31.340637	57.947379	0.594569	4.515957	35.351208	
35.040001	3.938519	16.60799	26.562371	31.327063	57.984625	0.59502	4.509364	35.404916	
35.060001	3.945255	16.581025	26.571164	31.320235	58.034979	0.595572	4.501316	35.470588	
35.080002	3.951575	16.577685	26.652184	31.387236	58.118449	0.596088	4.493791	35.532102	
35.099998	3.953213	16.585569	26.702181	31.43386	58.154378	0.596222	4.491845	35.548028	
35.119999	3.958842	16.569202	26.729616	31.448543	58.206081	0.59668	4.48517	35.602704	
35.139999	3.963311	16.563627	26.775893	31.484952	58.259075	0.597043	4.479885	35.646056	
35.16	3.968243	16.537613	26.760893	31.458513	58.284995	0.597443	4.474067	35.693839	
35.18	3.979254	16.509071	26.824968	31.498068	58.390434	0.598333	4.461135	35.800284	
35.200001	3.980559	16.507803	26.839564	31.509836	58.406308	0.598439	4.459607	35.812885	
35.220001	3.985309	16.497529	26.873755	31.533588	58.454756	0.598821	4.454055	35.858694	
35.240002	3.991824	16.493504	26.953911	31.599826	58.537011	0.599345	4.446465	35.92142	
35.259998	3.98701	16.5107	26.941959	31.598613	58.499104	0.598958	4.452071	35.875079	
35.279999	3.997965	16.47708	26.987286	31.619737	58.593962	0.599837	4.439333	35.980458	
35.299999	4.003205	16.476507	27.060258	31.681743	58.663616	0.600256	4.433267	36.03075	
35.32	4.009761	16.461995	27.105539	31.712892	58.728555	0.600779	4.4257	36.093585	
35.34	4.019805	16.418684	27.104325	31.689393	58.794347	0.601578	4.414159	36.189623	
35.360001	4.022303	16.436635	27.199489	31.780106	58.855559	0.601776	4.411298	36.213475	
35.380001	4.027303	16.428462	27.243138	31.813251	58.908815	0.602172	4.405584	36.261153	
35.400002	4.030929	16.408264	27.227302	31.78926	58.925251	0.602459	4.401448	36.2957	
35.419998	4.036335	16.402262	27.283685	31.834473	58.986883	0.602886	4.395299	36.347131	
35.439999	4.044083	16.392031	27.358817	31.893628	59.072177	0.603496	4.386515	36.420721	
35.459999	4.041984	16.401495	27.360726	31.900131	59.059358	0.603331	4.38889	36.400802	
35.48	4.051412	16.374436	27.403289	31.922757	59.140291	0.604071	4.378239	36.49019	
35.5	4.059555	16.355014	27.452795	31.955319	59.215714	0.604708	4.369081	36.567214	
35.52	4.069834	16.320034	27.479955	31.96078	59.294507	0.60551	4.357577	36.664207	
35.540001	4.067576	16.336544	27.503428	31.989393	59.290551	0.605334	4.360098	36.642927	
35.560001	4.071491	16.337263	27.560385	32.038742	59.341463	0.605639	4.355728	36.67982	
35.580002	4.080435	16.305569	27.579358	32.038923	59.40752	0.606333	4.345777	36.763961	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	4.08578	16.294321	27.616099	32.064838	59.458232	0.606747	4.339852	36.814155	
35.619999	4.087627	16.29288	27.636896	32.082019	59.479325	0.606889	4.337808	36.831478	
35.639999	4.094265	16.281344	27.69036	32.122238	59.545479	0.607402	4.33048	36.89368	
35.66	4.110145	16.237141	27.762038	32.161709	59.678086	0.608622	4.313051	37.042037	
35.68	4.104646	16.270269	27.796704	32.208359	59.658348	0.6082	4.31907	36.990735	
35.700001	4.115526	16.237463	27.837032	32.226628	59.744905	0.609033	4.307179	37.09216	
35.720001	4.114557	16.250188	27.866095	32.258144	59.751392	0.608959	4.308235	37.083139	
35.740002	4.12992	16.20285	27.918728	32.279835	59.871037	0.61013	4.291547	37.225905	
35.759998	4.130274	16.21877	27.976591	32.337875	59.898101	0.610157	4.291164	37.229187	
35.779999	4.132391	16.214029	27.989693	32.346834	59.917006	0.610318	4.288875	37.248817	
35.799999	4.143633	16.183212	28.040078	32.375026	60.008895	0.61117	4.276763	37.352846	
35.82	4.148178	16.175781	28.077035	32.40333	60.052939	0.611513	4.271885	37.394823	
35.84	4.151735	16.172982	28.115918	32.435632	60.091511	0.611781	4.268077	37.427628	
35.860001	4.159026	16.161051	28.174832	32.480775	60.161573	0.61233	4.26029	37.494797	
35.880001	4.16402	16.140347	28.173266	32.469119	60.191889	0.612705	4.254974	37.54072	
35.900002	4.172331	16.117306	28.208412	32.488183	60.25796	0.613327	4.246156	37.617021	
35.919998	4.164375	16.160532	28.245277	32.541642	60.224079	0.612731	4.254597	37.543979	
35.939999	4.176779	16.128308	28.3049	32.577441	60.325347	0.613659	4.241453	37.65778	
35.959999	4.184683	16.111555	28.355098	32.612786	60.39458	0.614248	4.23312	37.730103	
35.98	4.184262	16.121422	28.38232	32.641328	60.403126	0.614217	4.233563	37.726256	
36	4.188936	16.117132	28.430563	32.68117	60.451441	0.614565	4.22865	37.768953	
36.02	4.197291	16.089693	28.450758	32.685224	60.510743	0.615184	4.219897	37.845155	
36.040001	4.202354	16.085074	28.502818	32.728279	60.562645	0.615559	4.214612	37.891242	
36.060001	4.20753	16.072941	28.531237	32.747075	60.60557	0.615941	4.209221	37.938299	
36.080002	4.22006	16.038679	28.583204	32.775583	60.702343	0.616863	4.19623	38.051956	
36.099998	4.226742	16.028747	28.638426	32.8189	60.764641	0.617352	4.189336	38.112406	
36.119999	4.237225	15.997164	28.671225	32.832125	60.840692	0.618118	4.178567	38.20703	
36.139999	4.235443	16.02023	28.72476	32.890114	60.851043	0.617988	4.180394	38.190966	
36.16	4.243583	15.991094	28.73459	32.884521	60.903721	0.618581	4.172062	38.264298	
36.18	4.249965	15.981567	28.786535	32.925295	60.962163	0.619045	4.165554	38.321681	
36.200001	4.249056	15.995654	28.821633	32.96282	60.970368	0.618979	4.16648	38.313514	
36.220001	4.259319	15.973459	28.881882	33.004765	61.054812	0.619723	4.156053	38.405611	
36.240002	4.268754	15.948448	28.921467	33.027325	61.126016	0.620404	4.146514	38.49006	
36.259998	4.262215	15.9834	28.952832	33.071673	61.09923	0.619932	4.15312	38.431557	
36.279999	4.271558	15.954614	28.978569	33.080313	61.164423	0.620606	4.143687	38.515124	
36.299999	4.283118	15.923614	29.025207	33.106256	61.25035	0.621436	4.132076	38.618231	
36.32	4.289933	15.911678	29.073588	33.142948	61.30867	0.621923	4.125263	38.678866	
36.34	4.292059	15.917149	29.119359	33.18573	61.338323	0.622075	4.123141	38.697763	
36.360001	4.287613	15.944389	29.152705	33.228057	61.324686	0.621757	4.12758	38.658234	
36.380001	4.305005	15.893018	29.205753	33.250023	61.446215	0.622998	4.110273	38.812595	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
36.400002	4.303978	15.901004	29.219195	33.265647	61.445199	0.622925	4.111291	38.803499	
36.419998	4.31224	15.87151	29.226906	33.258336	61.49618	0.623511	4.103117	38.876598	
36.439999	4.314209	15.884921	29.296972	33.326315	61.533403	0.62365	4.101175	38.893989	
36.459999	4.32302	15.860774	29.329226	33.34318	61.596298	0.624273	4.092503	38.971732	
36.48	4.333959	15.837583	29.391455	33.386924	61.682104	0.625044	4.081789	39.067997	
36.5	4.331226	15.854631	29.413555	33.414466	61.674348	0.624852	4.08446	39.043974	
36.52	4.335184	15.864988	29.498539	33.494203	61.727729	0.62513	4.080592	39.078763	
36.540001	4.349068	15.821231	29.528996	33.500343	61.818313	0.626103	4.067083	39.200511	
36.560001	4.356932	15.794664	29.539823	33.497352	61.867114	0.626652	4.059472	39.269265	
36.580002	4.347522	15.850753	29.607856	33.583798	61.837457	0.625995	4.068582	39.186977	
36.599998	4.360269	15.813021	29.643394	33.597358	61.92279	0.626884	4.05625	39.298409	
36.619999	4.362689	15.811597	29.669201	33.61946	61.945632	0.627053	4.053918	39.31952	
36.639999	4.366127	15.813281	29.718184	33.663486	61.982313	0.627292	4.050609	39.349492	
36.66	4.379585	15.772569	29.751652	33.673947	62.070214	0.628224	4.037708	39.466554	
36.68	4.38917	15.750385	29.797731	33.704293	62.140224	0.628885	4.02857	39.54968	
36.700001	4.386881	15.766099	29.821577	33.732719	62.135554	0.628728	4.030749	39.529848	
36.720001	4.396242	15.740793	29.854136	33.749696	62.199369	0.629372	4.021856	39.610869	
36.740002	4.391562	15.778054	29.920043	33.825375	62.195607	0.62905	4.026297	39.570391	
36.759998	4.402009	15.748351	29.951381	33.839264	62.264842	0.629767	4.016397	39.660691	
36.779999	4.409626	15.735373	30.002903	33.878845	62.324821	0.630289	4.00921	39.72638	
36.799999	4.414557	15.722075	30.019782	33.887622	62.357987	0.630625	4.004571	39.768839	
36.82	4.421806	15.706343	30.05714	33.913432	62.410815	0.631119	3.997772	39.831145	
36.84	4.428026	15.698844	30.10909	33.956015	62.462626	0.631542	3.991957	39.884517	
36.860001	4.432281	15.695512	30.150555	33.99125	62.499921	0.631831	3.987988	39.920983	
36.880001	4.440612	15.67776	30.193994	34.021602	62.560219	0.632394	3.980241	39.992255	
36.900002	4.443176	15.681652	30.238577	34.062968	62.588966	0.632567	3.977863	40.014157	
36.919998	4.43399	15.727236	30.277437	34.118457	62.551054	0.631946	3.986396	39.935619	
36.939999	4.448247	15.677951	30.288575	34.105658	62.633154	0.632909	3.973169	40.057435	
36.959999	4.461463	15.641421	30.328559	34.124412	62.718485	0.633798	3.960986	40.169956	
36.98	4.468727	15.626775	30.368398	34.153121	62.770956	0.634284	3.954322	40.231643	
37	4.473039	15.629565	30.430374	34.209516	62.814296	0.634572	3.950378	40.268198	
37.02	4.477695	15.633702	30.500952	34.274199	62.862049	0.634883	3.946127	40.307634	
37.040001	4.472862	15.652722	30.505575	34.286992	62.837288	0.634561	3.950539	40.266704	
37.060001	4.478765	15.635282	30.519247	34.291201	62.873643	0.634954	3.945152	40.316685	
37.080002	4.485541	15.632458	30.592178	34.354841	62.933294	0.635405	3.938986	40.373968	
37.099998	4.485396	15.641884	30.621863	34.385565	62.941814	0.635396	3.939117	40.372748	
37.119999	4.499297	15.606382	30.671806	34.413934	63.032277	0.636317	3.926527	40.489953	
37.139999	4.500154	15.610086	30.694535	34.435872	63.043935	0.636374	3.925753	40.497168	
37.16	4.510382	15.583302	30.728521	34.454047	63.109256	0.637049	3.916547	40.583109	
37.18	4.509169	15.604596	30.785001	34.514051	63.120135	0.636969	3.917636	40.572928	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
37.200001	4.51169	15.614878	30.849617	34.57634	63.15335	0.637135	3.915372	40.594085	
37.220001	4.523034	15.574444	30.851123	34.559443	63.214287	0.63788	3.905218	40.689114	
37.240002	4.530665	15.567114	30.918136	34.615981	63.275104	0.63838	3.898417	40.752881	
37.259998	4.531753	15.567127	30.931204	34.62766	63.284808	0.638451	3.897449	40.761961	
37.279999	4.528602	15.597134	30.9935	34.696795	63.286792	0.638245	3.900253	40.735654	
37.299999	4.537036	15.563514	30.982331	34.671714	63.328124	0.638796	3.892757	40.806026	
37.32	4.553891	15.533566	31.083265	34.74854	63.446957	0.639892	3.877865	40.946191	
37.34	4.557296	15.528938	31.108273	34.768845	63.4722	0.640113	3.874871	40.974429	
37.360001	4.549957	15.564337	31.139088	34.81223	63.442726	0.639637	3.881331	40.913529	
37.380001	4.560911	15.532878	31.164339	34.820775	63.507604	0.640347	3.871697	41.004389	
37.400002	4.557959	15.549842	31.185872	34.847614	63.498434	0.640156	3.874288	40.979929	
37.419998	4.573899	15.519813	31.274508	34.9136	63.607443	0.641185	3.860336	41.111791	
37.439999	4.577733	15.507769	31.279596	34.912806	63.62886	0.641431	3.856996	41.143423	
37.459999	4.586396	15.492531	31.330846	34.951973	63.688557	0.641987	3.84947	41.214783	
37.48	4.589391	15.487538	31.349428	34.966419	63.709387	0.642179	3.846874	41.239422	
37.5	4.589646	15.514034	31.440775	35.060057	63.736687	0.642196	3.846653	41.24152	
37.52	4.596599	15.496394	31.463642	35.072767	63.77906	0.64264	3.840643	41.298631	
37.540001	4.606565	15.479708	31.524764	35.120252	63.847537	0.643275	3.832062	41.380317	
37.560001	4.607178	15.487976	31.559481	35.15506	63.860381	0.643314	3.831536	41.385332	
37.580002	4.617896	15.451881	31.564258	35.143463	63.916641	0.643995	3.822353	41.472932	
37.599998	4.61545	15.467886	31.58914	35.172848	63.911045	0.64384	3.824444	41.452965	
37.619999	4.622414	15.459897	31.643658	35.218312	63.961724	0.644281	3.818495	41.509787	
37.639999	4.625655	15.461474	31.68663	35.257619	63.990074	0.644486	3.815732	41.5362	
37.66	4.632804	15.437113	31.688457	35.248585	64.026965	0.644937	3.809653	41.594383	
37.68	4.634156	15.4618	31.786421	35.347473	64.060534	0.645022	3.808506	41.605368	
37.700001	4.640682	15.441054	31.792942	35.344268	64.095402	0.645433	3.802977	41.65837	
37.720001	4.647557	15.427595	31.827597	35.369572	64.139539	0.645865	3.797171	41.714105	
37.740002	4.653216	15.421341	31.872088	35.406888	64.180048	0.646219	3.792405	41.759908	
37.759998	4.656931	15.431923	31.950168	35.481791	64.219582	0.646451	3.789283	41.78994	
37.779999	4.668392	15.391962	31.948799	35.463195	64.276756	0.647166	3.779683	41.882412	
37.799999	4.654814	15.446009	31.972642	35.508155	64.214887	0.646319	3.791061	41.772828	
37.82	4.66732	15.414012	32.010025	35.527925	64.287576	0.6471	3.780578	41.87378	
37.84	4.685639	15.360312	32.040803	35.532411	64.387124	0.648237	3.76533	42.021061	
37.860001	4.692899	15.352592	32.097951	35.58062	64.438117	0.648685	3.759321	42.07924	
37.880001	4.686941	15.385373	32.139338	35.632102	64.419281	0.648317	3.764251	42.031502	
37.900002	4.693154	15.376924	32.182087	35.667023	64.461174	0.648701	3.75911	42.081282	
37.919998	4.709888	15.332941	32.225719	35.687477	64.555089	0.64973	3.745335	42.214967	
37.939999	4.708068	15.347829	32.254766	35.720103	64.553543	0.649619	3.746829	42.200449	
37.959999	4.711056	15.348599	32.291267	35.753397	64.577562	0.649802	3.744378	42.224275	
37.98	4.725103	15.307123	32.311841	35.754204	64.651745	0.650661	3.7329	42.336013	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38	4.721124	15.341066	32.380208	35.83052	64.649497	0.650418	3.736145	42.3044	
38.02	4.73956	15.303218	32.461959	35.88826	64.759985	0.651541	3.721162	42.450598	
38.040001	4.736514	15.312372	32.458222	35.888786	64.744222	0.651356	3.723629	42.426491	
38.060001	4.739234	15.320142	32.514787	35.943262	64.771491	0.651521	3.721425	42.448021	
38.080002	4.756694	15.271954	32.549951	35.954581	64.864842	0.652578	3.707346	42.585855	
38.099998	4.752853	15.295054	32.584079	35.995289	64.854628	0.652346	3.710435	42.555583	
38.119999	4.751758	15.307882	32.614607	36.028375	64.85679	0.65228	3.711315	42.546953	
38.139999	4.764255	15.274797	32.644115	36.041055	64.924334	0.653034	3.701283	42.645352	
38.16	4.780497	15.242029	32.715788	36.092136	65.019672	0.654009	3.688326	42.772773	
38.18	4.782438	15.231655	32.70267	36.075864	65.025808	0.654125	3.686783	42.787968	
38.200001	4.779694	15.260349	32.768107	36.147297	65.028371	0.653961	3.688964	42.766487	
38.220001	4.788704	15.246511	32.82206	36.190381	65.084292	0.6545	3.681814	42.83696	
38.240002	4.788914	15.257686	32.861721	36.231059	65.094688	0.654512	3.681647	42.838605	
38.259998	4.79151	15.261837	32.904375	36.271498	65.117115	0.654667	3.679592	42.858879	
38.279999	4.805175	15.230787	32.952024	36.301691	65.193218	0.65548	3.668814	42.965377	
38.299999	4.81612	15.201742	32.975738	36.311049	65.250518	0.656128	3.660227	43.050416	
38.32	4.807684	15.241405	33.015194	36.363491	65.219791	0.655629	3.666842	42.984889	
38.34	4.825288	15.197071	33.061071	36.38661	65.313451	0.656669	3.653065	43.12146	
38.360001	4.834385	15.181408	33.108579	36.42325	65.367051	0.657205	3.645988	43.191794	
38.380001	4.829537	15.210385	33.152266	36.47504	65.354278	0.65692	3.649756	43.154335	
38.400002	4.835625	15.189839	33.150398	36.464778	65.382397	0.657278	3.645025	43.201372	
38.419998	4.853046	15.16115	33.244999	36.538889	65.485088	0.658298	3.631555	43.33557	
38.439999	4.865006	15.122945	33.247301	36.525149	65.541115	0.658994	3.622366	43.427357	
38.459999	4.859686	15.159492	33.311863	36.59905	65.530883	0.658685	3.626447	43.386564	
38.48	4.876851	15.11449	33.347709	36.613079	65.618216	0.659682	3.613311	43.517994	
38.5	4.863222	15.164011	33.365482	36.649729	65.559173	0.658891	3.623733	43.413686	
38.52	4.877433	15.143228	33.450326	36.718411	65.643475	0.659715	3.612868	43.522439	
38.540001	4.884452	15.130652	33.484268	36.744154	65.683168	0.660121	3.607525	43.57601	
38.560001	4.891816	15.111882	33.501033	36.75171	65.720596	0.660546	3.601938	43.632113	
38.580002	4.890007	15.12344	33.520205	36.773939	65.716464	0.660442	3.603308	43.618342	
38.599998	4.903298	15.122474	33.660326	36.901311	65.807305	0.661206	3.59326	43.719379	
38.619999	4.905493	15.117542	33.667457	36.905796	65.818825	0.661332	3.591606	43.736034	
38.639999	4.910553	15.094685	33.645347	36.876265	65.837152	0.661622	3.587799	43.774393	
38.66	4.92934	15.064283	33.744895	36.95471	65.943336	0.662694	3.573735	43.916374	
38.68	4.924489	15.079319	33.743394	36.959471	65.921102	0.662418	3.577356	43.87978	
38.700001	4.927322	15.085368	33.793991	37.008136	65.944513	0.66258	3.57524	43.90116	
38.720001	4.935677	15.070164	33.83236	37.036987	65.990186	0.663054	3.569016	43.964117	
38.740002	4.946901	15.05244	33.892632	37.084855	66.05309	0.66369	3.56069	44.048491	
38.759998	4.947731	15.061926	33.933265	37.125841	66.065162	0.663737	3.560076	44.054719	
38.779999	4.963439	15.022843	33.969065	37.142741	66.142671	0.664623	3.548492	44.172378	

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**Balun 1 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	4.969484	15.020842	34.026417	37.194391	66.181224	0.664963	3.544054	44.217538	
38.82	4.967782	15.030918	34.042207	37.212905	66.176849	0.664867	3.545303	44.204829	
38.84	4.967971	15.052231	34.115614	37.288668	66.192451	0.664878	3.545165	44.206237	
38.860001	4.987127	14.997514	34.134477	37.283883	66.281083	0.66595	3.531168	44.348938	
38.880001	4.97943	15.031832	34.168428	37.328775	66.253819	0.66552	3.536778	44.291685	
38.900002	4.996342	15.004768	34.255838	37.397934	66.345699	0.666463	3.524475	44.417338	
38.919998	4.994645	15.006553	34.243973	37.387783	66.335899	0.666369	3.525706	44.404748	
38.939999	5.005934	14.988878	34.303229	37.434983	66.397079	0.666996	3.517535	44.488369	
38.959999	5.009697	14.994047	34.360014	37.489092	66.424589	0.667205	3.51482	44.516189	
38.98	5.008403	15.019145	34.430532	37.563762	66.432522	0.667133	3.515753	44.506625	
39	5.014109	15.007065	34.44981	37.576608	66.461158	0.667449	3.511643	44.548772	
39.02	5.033672	14.966924	34.5194	37.624431	66.559522	0.668527	3.497622	44.692824	
39.040001	5.022068	15.004731	34.525135	37.644746	66.5102	0.667888	3.505925	44.60746	
39.060001	5.021559	15.011194	34.541444	37.662279	66.511073	0.66786	3.50629	44.603711	
39.080002	5.042737	14.975445	34.642212	37.740519	66.621823	0.669024	3.491164	44.759332	
39.099998	5.049686	14.965195	34.679955	37.771104	66.658812	0.669404	3.48623	44.810215	
39.119999	5.049248	14.964819	34.674154	37.76563	66.65585	0.66938	3.48654	44.807012	
39.139999	5.052532	14.972252	34.733077	37.822678	66.680881	0.66956	3.484213	44.831031	
39.16	5.074343	14.917961	34.776296	37.840934	66.782274	0.670746	3.468835	44.990056	
39.18	5.071133	14.942482	34.82552	37.895839	66.777542	0.670572	3.471089	44.966709	
39.200001	5.087824	14.912302	34.895996	37.948745	66.861373	0.671475	3.459398	45.08792	
39.220001	5.092661	14.911851	34.944129	37.992834	66.890523	0.671736	3.456025	45.122954	
39.240002	5.092902	14.924186	34.987979	38.038007	66.899358	0.671749	3.455857	45.124696	
39.259998	5.087359	14.939168	34.981327	38.037771	66.874669	0.67145	3.459722	45.084551	
39.279999	5.110439	14.89769	35.078528	38.110947	66.989408	0.672691	3.443684	45.251356	
39.299999	5.111598	14.904586	35.113495	38.145828	67.000405	0.672753	3.442883	45.259704	
39.32	5.111156	14.913615	35.139262	38.173075	67.003042	0.67273	3.443188	45.256524	
39.34	5.117633	14.908958	35.189689	38.217682	67.039005	0.673076	3.438716	45.303151	
39.360001	5.117707	14.917	35.217384	38.24632	67.044097	0.67308	3.438665	45.303687	
39.380001	5.13014	14.904043	35.300429	38.317761	67.110368	0.673743	3.430113	45.392984	
39.400002	5.140341	14.879324	35.321051	38.327156	67.156402	0.674285	3.423128	45.466052	
39.419998	5.138943	14.899162	35.37337	38.383073	67.159432	0.674211	3.424083	45.456049	
39.439999	5.13313	14.94271	35.459984	38.479801	67.149735	0.673902	3.428062	45.414419	
39.459999	5.156757	14.874899	35.472191	38.464776	67.249878	0.675154	3.411948	45.583244	
39.48	5.153241	14.897072	35.510953	38.509097	67.241757	0.674968	3.414336	45.558182	
39.5	5.153723	14.919115	35.589471	38.59003	67.256675	0.674993	3.414008	45.561622	
39.52	5.167888	14.877372	35.592612	38.576809	67.315656	0.67574	3.404409	45.662442	
39.540001	5.15481	14.931283	35.641018	38.642274	67.269584	0.675051	3.413269	45.569374	
39.560001	5.165506	14.915362	35.695607	38.686489	67.322572	0.675615	3.406019	45.645513	
39.580002	5.179057	14.885243	35.7311	38.707648	67.383963	0.676326	3.396878	45.741685	

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**Balun 1 Resistor 1.csv**

Z0	50							
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
39.599998	5.171862	14.920678	35.777176	38.763809	67.361805	0.675949	3.401726	45.690662
39.619999	5.185325	14.895203	35.827149	38.800151	67.42493	0.676654	3.392667	45.786064
39.639999	5.186395	14.907859	35.880061	38.853868	67.437651	0.67671	3.391949	45.793633
39.66	5.183403	14.921651	35.896071	38.873945	67.427932	0.676554	3.393957	45.772466
39.68	5.198066	14.903961	35.983628	38.948036	67.501403	0.677319	3.384139	45.876063
39.700001	5.206479	14.892846	36.030404	38.987009	67.5428	0.677756	3.378531	45.935334
39.720001	5.206861	14.906327	36.079103	39.037166	67.551818	0.677776	3.378277	45.938025
39.740002	5.202469	14.92466	36.096354	39.060111	67.536627	0.677548	3.381202	45.907098
39.759998	5.206141	14.92637	36.138565	39.099775	67.557946	0.677739	3.378757	45.932951
39.779999	5.203572	14.949962	36.191297	39.157519	67.555495	0.677605	3.380467	45.914868
39.799999	5.200173	14.976099	36.244005	39.216214	67.549602	0.677428	3.382733	45.890918
39.82	5.212772	14.944393	36.264239	39.222824	67.603694	0.678083	3.374349	45.97959
39.84	5.218384	14.939887	36.304952	39.258754	67.632414	0.678373	3.370629	46.018995
39.860001	5.229072	14.917609	36.336876	39.279812	67.680185	0.678925	3.363566	46.093899
39.880001	5.230308	14.931781	36.396089	39.339972	67.693844	0.678989	3.362751	46.102548
39.900002	5.22247	14.96016	36.412524	39.365953	67.664709	0.678584	3.367925	46.047657
39.919998	5.22072	14.980022	36.460818	39.418173	67.664682	0.678494	3.369082	46.035388
39.939999	5.21727	14.992198	36.466833	39.428364	67.651637	0.678315	3.371366	46.01118
39.959999	5.222147	15.001897	36.547035	39.506236	67.682855	0.678568	3.368139	46.045388
39.98	5.23369	14.96887	36.552146	39.498436	67.72999	0.679163	3.360523	46.126206
40	5.230982	14.986018	36.581986	39.532548	67.723381	0.679023	3.362306	46.107266



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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	1.125203	47.609037	-5.23893	47.896417	-6.279612	0.058913	24.595743	0.347077	
10.02	1.125664	47.606066	-5.259395	47.895707	-6.304335	0.059117	24.565683	0.349488	
10.04	1.126231	47.58126	-5.273485	47.872601	-6.324357	0.059369	24.528859	0.352463	
10.06	1.126763	47.527096	-5.270124	47.818397	-6.327503	0.059604	24.494522	0.355261	
10.08	1.127323	47.485165	-5.274289	47.777181	-6.33801	0.059851	24.458509	0.358219	
10.1	1.128076	47.460531	-5.296938	47.755205	-6.36828	0.060184	24.410381	0.362211	
10.12	1.128547	47.404838	-5.288701	47.698941	-6.365867	0.060392	24.380447	0.364716	
10.14	1.128332	47.393439	-5.271972	47.68576	-6.347409	0.060297	24.394065	0.363575	
10.16	1.129598	47.378349	-5.324453	47.676595	-6.412097	0.060856	24.313967	0.370342	
10.18	1.130509	47.279958	-5.312091	47.577439	-6.410535	0.061257	24.256832	0.375247	
10.2	1.13131	47.254942	-5.336222	47.555282	-6.442793	0.06161	24.206984	0.379579	
10.22	1.13042	47.283501	-5.309834	47.580709	-6.407358	0.061218	24.262412	0.374765	
10.24	1.13244	47.209299	-5.364078	47.513064	-6.482348	0.062107	24.137138	0.385732	
10.26	1.132253	47.157534	-5.323969	47.457114	-6.441289	0.062025	24.148644	0.384712	
10.28	1.133489	47.13093	-5.367996	47.43564	-6.497737	0.062569	24.072872	0.391483	
10.3	1.13188	47.12453	-5.285581	47.420024	-6.399672	0.061861	24.171653	0.382679	
10.32	1.134296	47.075438	-5.373257	47.381101	-6.511652	0.062923	24.02386	0.395926	
10.34	1.132517	47.061246	-5.277324	47.356214	-6.398279	0.062141	24.132424	0.386151	
10.36	1.134965	46.998886	-5.358024	47.303316	-6.503835	0.063216	23.983412	0.399631	
10.38	1.135517	46.967982	-5.365438	47.273452	-6.517005	0.063459	23.950173	0.402701	
10.4	1.136269	46.907154	-5.363114	47.212753	-6.522582	0.063788	23.905159	0.406897	
10.42	1.137434	46.859324	-5.38917	47.168204	-6.560627	0.064299	23.835976	0.41343	
10.44	1.136916	46.878282	-5.376096	47.185546	-6.542226	0.064072	23.866665	0.410519	
10.46	1.137783	46.846	-5.397615	47.155933	-6.57267	0.064451	23.81534	0.4154	
10.48	1.137848	46.808088	-5.37554	47.115746	-6.55128	0.06448	23.811531	0.415764	
10.5	1.138494	46.758891	-5.374334	47.066733	-6.556654	0.064762	23.773528	0.419418	
10.52	1.138361	46.74746	-5.35992	47.053732	-6.540806	0.064704	23.781318	0.418666	
10.54	1.139266	46.703233	-5.374511	47.01146	-6.564614	0.0651	23.728402	0.423799	
10.56	1.13956	46.636725	-5.342596	46.941745	-6.535195	0.065228	23.711275	0.425473	
10.58	1.141496	46.628246	-5.433499	46.943756	-6.646601	0.066074	23.599448	0.436571	
10.6	1.141075	46.607175	-5.397583	46.918681	-6.606015	0.06589	23.623635	0.434147	
10.62	1.141058	46.578862	-5.376534	46.888139	-6.584445	0.065882	23.624611	0.434049	
10.64	1.143347	46.521095	-5.449918	46.839234	-6.681721	0.06688	23.49405	0.447296	
10.66	1.142922	46.457291	-5.381838	46.767981	-6.607978	0.066695	23.518153	0.44482	
10.68	1.144325	46.413322	-5.420137	46.728731	-6.66083	0.067306	23.438985	0.453003	
10.7	1.144568	46.411726	-5.431257	46.728437	-6.6746	0.067411	23.425336	0.454429	
10.72	1.144	46.410603	-5.401677	46.723893	-6.638733	0.067164	23.457219	0.451105	
10.74	1.14514	46.338695	-5.40523	46.65288	-6.653277	0.06766	23.393361	0.457787	
10.76	1.14605	46.303615	-5.424734	46.620301	-6.682081	0.068055	23.342744	0.463154	
10.78	1.14725	46.255712	-5.448956	46.575551	-6.718532	0.068576	23.276537	0.470269	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	1.147603	46.248178	-5.461132	46.569496	-6.734495	0.068729	23.257151	0.472373	
10.82	1.146666	46.242663	-5.408976	46.557931	-6.671548	0.068323	23.308693	0.4668	
10.84	1.149025	46.129975	-5.440865	46.449732	-6.726765	0.069345	23.179656	0.480877	
10.86	1.149491	46.094577	-5.436405	46.414055	-6.726416	0.069547	23.154414	0.483681	
10.88	1.149629	46.080726	-5.432316	46.399821	-6.723405	0.069607	23.146952	0.484512	
10.9	1.150479	46.037259	-5.440821	46.35765	-6.740134	0.069975	23.101169	0.489647	
10.92	1.151605	46.00586	-5.473258	46.330289	-6.784528	0.070461	23.041002	0.496478	
10.94	1.150066	45.985552	-5.376534	46.298791	-6.668638	0.069796	23.123386	0.487149	
10.96	1.151144	45.965813	-5.416191	46.28381	-6.720236	0.070262	23.065562	0.493678	
10.98	1.152127	45.923116	-5.431563	46.24321	-6.745341	0.070687	23.013206	0.499666	
11	1.153016	45.877484	-5.43926	46.1988	-6.761468	0.07107	22.966229	0.5051	
11.02	1.153495	45.815039	-5.410741	46.133436	-6.735426	0.071277	22.940969	0.508046	
11.04	1.153798	45.834743	-5.443642	46.156873	-6.773116	0.071408	22.925079	0.509908	
11.06	1.153343	45.799853	-5.389467	46.115864	-6.711139	0.071211	22.949005	0.507107	
11.08	1.155529	45.736765	-5.449443	46.060266	-6.794656	0.072154	22.834844	0.520614	
11.1	1.155045	45.729684	-5.417667	46.049486	-6.75644	0.071945	22.859962	0.517611	
11.12	1.156742	45.640499	-5.427956	45.962135	-6.782257	0.072675	22.772255	0.528171	
11.14	1.158417	45.574632	-5.45733	45.900212	-6.828376	0.073395	22.686681	0.538681	
11.16	1.157227	45.602739	-5.419548	45.923646	-6.777403	0.072884	22.747391	0.531204	
11.18	1.159204	45.568564	-5.493644	45.89852	-6.874288	0.073733	22.646787	0.543652	
11.2	1.158615	45.517873	-5.415732	45.838923	-6.785185	0.07348	22.676638	0.539928	
11.22	1.159253	45.478863	-5.413633	45.799939	-6.788344	0.073754	22.644319	0.543961	
11.24	1.160011	45.441607	-5.419378	45.763624	-6.801	0.074079	22.606146	0.548764	
11.26	1.160386	45.401422	-5.401521	45.721609	-6.784743	0.074239	22.587301	0.55115	
11.28	1.161627	45.362403	-5.431337	45.686399	-6.827655	0.074771	22.525334	0.559071	
11.3	1.162081	45.355522	-5.449272	45.681703	-6.851017	0.074965	22.502804	0.561978	
11.32	1.162557	45.317872	-5.438855	45.643079	-6.843671	0.075169	22.479239	0.565036	
11.34	1.163165	45.273734	-5.429036	45.598086	-6.83803	0.075429	22.449238	0.568953	
11.36	1.16431	45.212514	-5.431289	45.537571	-6.850015	0.075918	22.393109	0.576354	
11.38	1.165513	45.16967	-5.454512	45.497811	-6.885486	0.076431	22.334595	0.584172	
11.4	1.165428	45.162322	-5.442578	45.489086	-6.871673	0.076395	22.338694	0.583621	
11.42	1.166412	45.103505	-5.437533	45.430088	-6.874231	0.076815	22.291123	0.590048	
11.44	1.166764	45.062732	-5.415509	45.386975	-6.852789	0.076965	22.274182	0.592355	
11.46	1.167851	45.034566	-5.446719	45.362747	-6.896172	0.077428	22.222094	0.599502	
11.48	1.167174	45.050431	-5.425582	45.375966	-6.867271	0.077139	22.254488	0.595047	
11.5	1.168951	44.96615	-5.437033	45.293663	-6.8944	0.077895	22.169788	0.606766	
11.52	1.169559	44.956748	-5.460971	45.28721	-6.925894	0.078154	22.141015	0.610799	
11.54	1.170146	44.911349	-5.446238	45.240367	-6.914304	0.078403	22.11334	0.614704	
11.56	1.170722	44.871757	-5.436627	45.199906	-6.908252	0.078648	22.086295	0.618544	
11.58	1.171106	44.829393	-5.41043	45.154704	-6.881718	0.078791	22.070479	0.620801	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	1.172581	44.762621	-5.423972	45.09004	-6.908969	0.079436	21.999671	0.631005	
11.62	1.172776	44.749778	-5.421012	45.076934	-6.907197	0.079518	21.990652	0.632317	
11.64	1.174096	44.722632	-5.465811	45.055398	-6.967905	0.080077	21.929819	0.641236	
11.66	1.173559	44.697279	-5.40787	45.023237	-6.898629	0.07985	21.954503	0.637602	
11.68	1.174567	44.636928	-5.398331	44.962177	-6.895799	0.080277	21.908197	0.644437	
11.7	1.174515	44.628909	-5.386427	44.952788	-6.881963	0.080255	21.910575	0.644084	
11.72	1.175145	44.616794	-5.408745	44.943441	-6.912061	0.080521	21.881809	0.648364	
11.74	1.17619	44.567599	-5.413129	44.895132	-6.92517	0.080962	21.834325	0.655492	
11.76	1.177247	44.524399	-5.424715	44.853647	-6.946515	0.081409	21.786582	0.662738	
11.78	1.178543	44.432448	-5.393817	44.758638	-6.92149	0.081955	21.728483	0.671663	
11.8	1.179299	44.425098	-5.428903	44.755584	-6.967212	0.082274	21.694759	0.676899	
11.82	1.180094	44.397944	-5.443236	44.730373	-6.989655	0.082608	21.659525	0.682413	
11.84	1.179948	44.386924	-5.422083	44.716865	-6.964472	0.082547	21.665972	0.681401	
11.86	1.180553	44.344909	-5.407958	44.673448	-6.953023	0.082801	21.639253	0.685606	
11.88	1.181502	44.293953	-5.402963	44.622262	-6.954577	0.083201	21.597473	0.692234	
11.9	1.181446	44.269146	-5.370116	44.59367	-6.916544	0.083177	21.59996	0.691837	
11.92	1.182494	44.26124	-5.421777	44.592074	-6.983663	0.083617	21.554104	0.699181	
11.94	1.182708	44.192228	-5.351305	44.515048	-6.90443	0.083707	21.54477	0.700685	
11.96	1.185326	44.118363	-5.415192	44.449458	-6.99763	0.084805	21.431612	0.719182	
11.98	1.185989	44.084295	-5.412469	44.415312	-6.999498	0.085082	21.403232	0.723897	
12	1.185263	44.079989	-5.364348	44.405199	-6.938548	0.084778	21.434286	0.718739	
12.02	1.186695	44.059815	-5.42398	44.392419	-7.018095	0.085378	21.373097	0.728938	
12.04	1.186303	44.022479	-5.354387	44.346907	-6.934748	0.085214	21.389822	0.726136	
12.06	1.188517	43.959215	-5.406624	44.290452	-7.011711	0.086139	21.295992	0.741995	
12.08	1.187807	43.966348	-5.373364	44.293485	-6.967883	0.085842	21.325957	0.736893	
12.1	1.190272	43.854549	-5.378463	44.183134	-6.992034	0.086872	21.222449	0.754666	
12.12	1.190901	43.849391	-5.409478	44.181801	-7.032769	0.087133	21.196299	0.759224	
12.14	1.191194	43.807553	-5.373195	44.135846	-6.992672	0.087255	21.18415	0.761351	
12.16	1.191482	43.779337	-5.353921	44.105496	-6.972283	0.087376	21.172182	0.763452	
12.18	1.191955	43.767457	-5.366948	44.095288	-6.990959	0.087572	21.152651	0.766893	
12.2	1.193217	43.707769	-5.365024	44.03581	-6.997926	0.088098	21.100709	0.77612	
12.22	1.193224	43.670718	-5.316218	43.993111	-6.940714	0.0881	21.100439	0.776169	
12.24	1.194625	43.641436	-5.362582	43.969674	-7.005299	0.088683	21.043234	0.78646	
12.26	1.193272	43.657604	-5.301557	43.978323	-6.923819	0.08812	21.098482	0.776519	
12.28	1.19513	43.603127	-5.342067	43.929152	-6.984835	0.088892	21.022728	0.790182	
12.3	1.196724	43.529065	-5.339505	43.855328	-6.99328	0.089553	20.958366	0.80198	
12.32	1.196266	43.509918	-5.28494	43.829711	-6.925528	0.089363	20.976814	0.79858	
12.34	1.19757	43.491119	-5.339717	43.817691	-6.999595	0.089904	20.92443	0.808271	
12.36	1.19851	43.413493	-5.290404	43.734651	-6.947866	0.090293	20.886915	0.815283	
12.38	1.198614	43.408413	-5.289774	43.729532	-6.947852	0.090336	20.882775	0.816061	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
12.4	1.199944	43.332975	-5.266464	43.651832	-6.929458	0.090886	20.830047	0.826029	
12.42	1.201695	43.280495	-5.301571	43.603989	-6.983572	0.091609	20.761248	0.839219	
12.44	1.201151	43.289917	-5.280858	43.610829	-6.955056	0.091384	20.782558	0.835111	
12.46	1.203038	43.230728	-5.314691	43.556191	-7.008662	0.092163	20.708908	0.849394	
12.48	1.203166	43.194153	-5.269959	43.514449	-6.95608	0.092215	20.703924	0.850369	
12.5	1.204308	43.157957	-5.289607	43.480906	-6.987557	0.092686	20.65974	0.859065	
12.52	1.204767	43.126711	-5.273009	43.447875	-6.970843	0.092875	20.642069	0.862567	
12.54	1.205771	43.087713	-5.279555	43.409961	-6.985667	0.093288	20.603509	0.87026	
12.56	1.206456	43.02433	-5.229012	43.340922	-6.929535	0.093569	20.577351	0.875518	
12.58	1.20814	43.020105	-5.330401	43.349079	-7.063239	0.09426	20.513423	0.888501	
12.6	1.207803	42.988365	-5.261574	43.309164	-6.97804	0.094122	20.526175	0.885896	
12.62	1.20933	42.940537	-5.287676	43.264873	-7.020046	0.094748	20.468591	0.89772	
12.64	1.20994	42.901591	-5.268021	43.22382	-7.000497	0.094998	20.445702	0.902464	
12.66	1.209318	42.897952	-5.222192	43.214646	-6.940775	0.094743	20.469035	0.897628	
12.68	1.210084	42.86823	-5.226325	43.185641	-6.950984	0.095057	20.440307	0.903586	
12.7	1.212113	42.798319	-5.250344	43.119163	-6.993907	0.095887	20.364819	0.919429	
12.72	1.212231	42.765322	-5.206675	43.081112	-6.941605	0.095935	20.360432	0.920358	
12.74	1.213323	42.724358	-5.213984	43.041334	-6.957854	0.096381	20.320145	0.928935	
12.76	1.21367	42.704972	-5.206218	43.02115	-6.950715	0.096523	20.307383	0.931669	
12.78	1.213897	42.669979	-5.165491	42.981501	-6.902468	0.096615	20.299072	0.933454	
12.8	1.215519	42.61041	-5.177562	42.923818	-6.928021	0.097277	20.239801	0.946281	
12.82	1.216782	42.571799	-5.199255	42.888114	-6.963012	0.097791	20.193983	0.956317	
12.84	1.215537	42.580561	-5.130335	42.888513	-6.870199	0.097284	20.239154	0.946422	
12.86	1.218486	42.475441	-5.155858	42.787217	-6.92097	0.098484	20.132677	0.969912	
12.88	1.219176	42.485812	-5.219075	42.805175	-7.003298	0.098765	20.107964	0.975447	
12.9	1.218278	42.459367	-5.115206	42.766379	-6.869499	0.0984	20.140124	0.96825	
12.92	1.220486	42.405997	-5.175543	42.720661	-6.958401	0.099296	20.061346	0.985974	
12.94	1.220551	42.388943	-5.151511	42.700826	-6.929165	0.099322	20.059049	0.986496	
12.96	1.221112	42.338021	-5.103886	42.64455	-6.873898	0.09955	20.039177	0.99102	
12.98	1.223097	42.271312	-5.126019	42.580981	-6.91421	0.100354	19.969293	1.007095	
13	1.224712	42.234145	-5.17283	42.54975	-6.98281	0.101007	19.912954	1.020245	
13.02	1.224118	42.240591	-5.143323	42.552571	-6.942319	0.100767	19.933626	1.0154	
13.04	1.226266	42.162848	-5.156896	42.477045	-6.973168	0.101635	19.85915	1.032964	
13.06	1.225355	42.164343	-5.096825	42.471278	-6.892483	0.101267	19.890641	1.025501	
13.08	1.2269	42.10836	-5.10591	42.416792	-6.913742	0.101891	19.837324	1.038168	
13.1	1.226861	42.10292	-5.093666	42.40992	-6.898205	0.101875	19.838666	1.037847	
13.12	1.228564	42.040899	-5.102631	42.349428	-6.920325	0.102561	19.78034	1.051879	
13.14	1.229931	41.986916	-5.101969	42.295758	-6.928245	0.103111	19.733889	1.063191	
13.16	1.230924	41.962098	-5.126995	42.27415	-6.965974	0.103511	19.700305	1.071444	
13.18	1.230061	41.962685	-5.067751	42.267588	-6.886162	0.103164	19.72946	1.064275	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	1.231664	41.899622	-5.066545	42.204837	-6.894801	0.103808	19.675413	1.077603	
13.22	1.232877	41.853921	-5.069016	42.159763	-6.905592	0.104295	19.634755	1.087738	
13.24	1.234039	41.792563	-5.038688	42.09521	-6.874652	0.10476	19.596059	1.097474	
13.26	1.234332	41.792174	-5.058844	42.097241	-6.901951	0.104878	19.586309	1.09994	
13.28	1.235255	41.733706	-5.016084	42.034073	-6.853665	0.105247	19.555767	1.107703	
13.3	1.237221	41.683263	-5.062441	41.989555	-6.924683	0.106034	19.491103	1.124319	
13.32	1.238389	41.629361	-5.04486	41.933928	-6.909716	0.1065	19.452976	1.134233	
13.34	1.238018	41.620845	-5.001982	41.920336	-6.852938	0.106352	19.46507	1.131079	
13.36	1.239338	41.586931	-5.032774	41.890353	-6.900287	0.106879	19.422145	1.142314	
13.38	1.239457	41.566928	-5.003168	41.866947	-6.863353	0.106926	19.418299	1.143326	
13.4	1.240617	41.524752	-5.006319	41.82545	-6.874543	0.107389	19.380819	1.153236	
13.42	1.240375	41.506509	-4.953256	41.801018	-6.805326	0.107292	19.388644	1.15116	
13.44	1.241935	41.465793	-4.988173	41.764744	-6.859509	0.107914	19.338479	1.164534	
13.46	1.24235	41.433827	-4.956059	41.729181	-6.820973	0.108079	19.325197	1.168101	
13.48	1.243798	41.372839	-4.942344	41.666997	-6.812207	0.108654	19.279058	1.180577	
13.5	1.244362	41.363654	-4.965784	41.660663	-6.845716	0.108878	19.261172	1.185449	
13.52	1.245034	41.314487	-4.917414	41.606103	-6.78765	0.109145	19.239944	1.191257	
13.54	1.245921	41.276897	-4.907791	41.567639	-6.780603	0.109497	19.21199	1.19895	
13.56	1.247122	41.248764	-4.9406	41.543592	-6.830117	0.109973	19.174311	1.209397	
13.58	1.248386	41.188898	-4.91355	41.480939	-6.802852	0.110473	19.134871	1.22043	
13.6	1.248952	41.165555	-4.908285	41.457137	-6.799449	0.110697	19.117284	1.225382	
13.62	1.250533	41.106543	-4.90587	41.398254	-6.8058	0.111322	19.068404	1.239252	
13.64	1.249925	41.118192	-4.884001	41.407236	-6.773843	0.111081	19.087166	1.23391	
13.66	1.251518	41.042684	-4.847357	41.327941	-6.735742	0.11171	19.038135	1.247919	
13.68	1.251934	41.020757	-4.832873	41.304469	-6.719357	0.111874	19.025392	1.251586	
13.7	1.253197	40.988179	-4.860734	41.275387	-6.763058	0.112372	18.98682	1.262752	
13.72	1.254025	40.959048	-4.862461	41.246662	-6.770205	0.112699	18.961633	1.270096	
13.74	1.256485	40.873966	-4.869814	41.163044	-6.794329	0.113666	18.887423	1.291986	
13.76	1.256227	40.872079	-4.845902	41.158348	-6.761587	0.113564	18.89516	1.289686	
13.78	1.257657	40.828068	-4.861477	41.116482	-6.79036	0.114126	18.852318	1.302471	
13.8	1.256597	40.842038	-4.8096	41.124255	-6.716288	0.11371	18.884036	1.292994	
13.82	1.257626	40.788692	-4.773155	41.067023	-6.674495	0.114114	18.853241	1.302195	
13.84	1.259792	40.721007	-4.793651	41.002189	-6.713935	0.114963	18.788862	1.321642	
13.86	1.259547	40.725374	-4.784112	41.005412	-6.699984	0.114867	18.7961	1.319441	
13.88	1.260101	40.69808	-4.766999	40.976311	-6.680672	0.115084	18.779729	1.324424	
13.9	1.261708	40.64146	-4.767379	40.92012	-6.690422	0.115713	18.73238	1.338943	
13.92	1.263022	40.591087	-4.758056	40.869003	-6.685669	0.116226	18.693925	1.350851	
13.94	1.263432	40.562281	-4.725227	40.836582	-6.644627	0.116386	18.681968	1.354575	
13.96	1.264639	40.525555	-4.737801	40.801561	-6.668133	0.116857	18.646916	1.365553	
13.98	1.264997	40.503426	-4.715723	40.777022	-6.640931	0.116997	18.636525	1.368824	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	1.266684	40.448467	-4.724519	40.723453	-6.662166	0.117654	18.587877	1.384243	
14.02	1.267686	40.403913	-4.701739	40.67656	-6.637576	0.118044	18.559148	1.39343	
14.04	1.268655	40.366653	-4.693047	40.638545	-6.631477	0.118421	18.531456	1.402343	
14.06	1.269608	40.349626	-4.730346	40.625958	-6.686501	0.11879	18.504374	1.411116	
14.08	1.270277	40.299145	-4.66553	40.568316	-6.603883	0.11905	18.4854	1.417294	
14.1	1.270128	40.301577	-4.659103	40.569993	-6.594472	0.118992	18.489618	1.415918	
14.12	1.271113	40.264885	-4.652262	40.532759	-6.590822	0.119374	18.461771	1.425026	
14.14	1.272529	40.194971	-4.600225	40.457357	-6.528979	0.119923	18.421924	1.438161	
14.16	1.274412	40.144152	-4.632887	40.4106	-6.583181	0.120652	18.36931	1.45569	
14.18	1.274672	40.127785	-4.614394	40.392224	-6.559784	0.120752	18.362088	1.458113	
14.2	1.275615	40.112414	-4.655299	40.381649	-6.619933	0.121117	18.335909	1.466929	
14.22	1.276298	40.070899	-4.610124	40.335222	-6.562988	0.12138	18.317024	1.473322	
14.24	1.278181	40.006441	-4.607988	40.270943	-6.570451	0.122106	18.265227	1.490999	
14.26	1.27795	40.001121	-4.5752	40.261919	-6.524964	0.122018	18.271544	1.488832	
14.28	1.279942	39.934592	-4.576241	40.19594	-6.537215	0.122785	18.21712	1.507607	
14.3	1.279867	39.912679	-4.51385	40.167111	-6.452355	0.122756	18.219167	1.506896	
14.32	1.281473	39.87094	-4.544603	40.129108	-6.502682	0.123373	18.175563	1.522102	
14.34	1.28272	39.828493	-4.542358	40.086679	-6.506366	0.123852	18.141915	1.53394	
14.36	1.282798	39.823249	-4.535512	40.080694	-6.497492	0.123882	18.139817	1.534682	
14.38	1.282922	39.802715	-4.492784	40.055477	-6.44009	0.12393	18.136488	1.535858	
14.4	1.28448	39.760463	-4.517478	40.016272	-6.482009	0.124527	18.094712	1.550704	
14.42	1.285828	39.705835	-4.491046	39.959014	-6.453193	0.125043	18.05878	1.563587	
14.44	1.28633	39.676365	-4.456735	39.925887	-6.409021	0.125236	18.045431	1.5684	
14.46	1.287681	39.634093	-4.462495	39.884523	-6.424022	0.125752	18.009684	1.581363	
14.48	1.287981	39.610579	-4.425661	39.85705	-6.375186	0.125867	18.00176	1.584251	
14.5	1.289239	39.583295	-4.463263	39.83413	-6.433295	0.126347	17.968695	1.596359	
14.52	1.290263	39.537431	-4.42967	39.784801	-6.392621	0.126738	17.941873	1.606248	
14.54	1.292356	39.462719	-4.411606	39.708544	-6.378721	0.127535	17.887399	1.626522	
14.56	1.290517	39.50949	-4.375557	39.751041	-6.319594	0.126835	17.935246	1.608701	
14.58	1.293854	39.405998	-4.388926	39.649658	-6.355257	0.128105	17.848676	1.64109	
14.6	1.294097	39.397421	-4.386935	39.640913	-6.35377	0.128197	17.842411	1.643459	
14.62	1.295192	39.353766	-4.363525	39.59494	-6.327093	0.128613	17.814291	1.654135	
14.64	1.295689	39.34253	-4.376989	39.585259	-6.348254	0.128802	17.801568	1.658988	
14.66	1.297261	39.275184	-4.329151	39.513056	-6.29011	0.129398	17.761448	1.674385	
14.68	1.297994	39.253912	-4.335546	39.492614	-6.302713	0.129676	17.742817	1.681583	
14.7	1.298217	39.235423	-4.302702	39.470643	-6.258271	0.12976	17.737182	1.683766	
14.72	1.300174	39.168038	-4.288265	39.402087	-6.248084	0.1305	17.687759	1.703037	
14.74	1.301416	39.127975	-4.286589	39.362079	-6.252006	0.13097	17.656578	1.715308	
14.76	1.301153	39.139208	-4.295048	39.374167	-6.262462	0.13087	17.663168	1.712708	
14.78	1.303024	39.082401	-4.302546	39.31852	-6.282353	0.131577	17.616433	1.731238	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	1.30437	39.017508	-4.235976	39.246776	-6.196119	0.132084	17.582996	1.744618	
14.82	1.304887	39.020789	-4.294556	39.256403	-6.280602	0.132279	17.570205	1.749764	
14.84	1.305055	38.995712	-4.235223	39.225027	-6.198462	0.132342	17.566075	1.751429	
14.86	1.306577	38.939692	-4.210364	39.166654	-6.171156	0.132914	17.528568	1.76662	
14.88	1.307092	38.908824	-4.165006	39.131111	-6.109988	0.133108	17.515938	1.771765	
14.9	1.307413	38.901528	-4.173585	39.124771	-6.123617	0.133229	17.50805	1.774986	
14.92	1.309831	38.823566	-4.165655	39.046407	-6.12425	0.134136	17.449114	1.799238	
14.94	1.310454	38.798897	-4.149087	39.020115	-6.103925	0.134369	17.434003	1.805509	
14.96	1.310842	38.781308	-4.13158	39.000766	-6.081099	0.134514	17.424622	1.809413	
14.98	1.313085	38.708243	-4.120099	38.926897	-6.075688	0.135354	17.370591	1.832065	
15	1.312963	38.713475	-4.124812	38.932599	-6.08177	0.135308	17.373507	1.830835	
15.02	1.313403	38.695402	-4.110454	38.913108	-6.063567	0.135473	17.362961	1.835286	
15.04	1.316302	38.603495	-4.101792	38.8208	-6.065184	0.136555	17.293865	1.864719	
15.06	1.315705	38.609115	-4.060424	38.82204	-6.003595	0.136332	17.308037	1.858645	
15.08	1.317617	38.546476	-4.047049	38.758346	-5.993618	0.137045	17.262748	1.878128	
15.1	1.317899	38.541736	-4.0598	38.754966	-6.013097	0.13715	17.256107	1.881002	
15.12	1.318555	38.517376	-4.045482	38.729242	-5.995806	0.137394	17.240664	1.887703	
15.14	1.32055	38.45233	-4.031233	38.663064	-5.984876	0.138135	17.193895	1.908141	
15.16	1.321325	38.421914	-4.008044	38.630401	-5.955373	0.138423	17.175828	1.916096	
15.18	1.322984	38.366982	-3.992082	38.574111	-5.940257	0.139038	17.137304	1.933168	
15.2	1.323925	38.337542	-3.988622	38.544471	-5.93967	0.139387	17.115544	1.942878	
15.22	1.324085	38.326418	-3.966964	38.531171	-5.90935	0.139446	17.111862	1.944526	
15.24	1.324662	38.302306	-3.943691	38.504796	-5.878597	0.13966	17.098566	1.950489	
15.26	1.327811	38.20625	-3.938259	38.40869	-5.885213	0.140824	17.026473	1.983137	
15.28	1.328543	38.185475	-3.942132	38.388422	-5.894142	0.141094	17.009838	1.990748	
15.3	1.328621	38.166468	-3.883053	38.363491	-5.809288	0.141123	17.008071	1.991558	
15.32	1.331524	38.086296	-3.905331	38.285997	-5.8546	0.142192	16.942503	2.021854	
15.34	1.330821	38.097466	-3.870463	38.293569	-5.800998	0.141933	16.958317	2.014505	
15.36	1.332126	38.057527	-3.866071	38.253391	-5.800499	0.142413	16.928981	2.028159	
15.38	1.331605	38.05531	-3.801511	38.244714	-5.704611	0.142222	16.940687	2.022699	
15.4	1.33494	37.96314	-3.824922	38.155341	-5.753349	0.143447	16.866175	2.057702	
15.42	1.333983	37.984939	-3.801196	38.17466	-5.714638	0.143096	16.887466	2.047639	
15.44	1.334963	37.948746	-3.773809	38.135927	-5.679111	0.143455	16.865673	2.05794	
15.46	1.336742	37.900552	-3.789112	38.089489	-5.709191	0.144107	16.826276	2.076693	
15.48	1.337178	37.883125	-3.771654	38.070416	-5.685657	0.144267	16.816655	2.081299	
15.5	1.338699	37.830177	-3.739606	38.014562	-5.645498	0.144824	16.783199	2.097394	
15.52	1.33977	37.791609	-3.7114	37.973415	-5.60887	0.145215	16.759756	2.108747	
15.54	1.341527	37.745393	-3.730311	37.929275	-5.644124	0.145856	16.721491	2.127408	
15.56	1.340615	37.774915	-3.741887	37.959794	-5.65713	0.145524	16.741327	2.117714	
15.58	1.343133	37.697186	-3.724102	37.880692	-5.641948	0.146442	16.686697	2.144521	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	1.342116	37.708777	-3.65398	37.885398	-5.534691	0.146071	16.708694	2.133686	
15.62	1.34578	37.608491	-3.676168	37.787734	-5.582842	0.147405	16.629743	2.17283	
15.64	1.344634	37.633514	-3.644165	37.80954	-5.530886	0.146988	16.654339	2.160559	
15.66	1.346211	37.577412	-3.601039	37.749561	-5.473941	0.147562	16.620526	2.177446	
15.68	1.348344	37.521366	-3.622055	37.695785	-5.513866	0.148336	16.575074	2.200354	
15.7	1.349329	37.493856	-3.624908	37.668676	-5.522207	0.148693	16.554185	2.210963	
15.72	1.347926	37.528683	-3.603071	37.701249	-5.484081	0.148184	16.583953	2.19586	
15.74	1.351	37.439405	-3.597358	37.611833	-5.488414	0.149298	16.518911	2.228994	
15.76	1.35256	37.385204	-3.556672	37.554007	-5.434534	0.149862	16.486145	2.245874	
15.78	1.353259	37.357646	-3.524102	37.5235	-5.38901	0.150115	16.471528	2.253446	
15.8	1.354793	37.308844	-3.501292	37.472775	-5.361296	0.150669	16.439544	2.270103	
15.82	1.355375	37.291688	-3.498164	37.455402	-5.358984	0.150878	16.42747	2.276423	
15.84	1.356173	37.270925	-3.505781	37.435442	-5.373559	0.151166	16.410926	2.285112	
15.86	1.355981	37.268078	-3.470154	37.429288	-5.319671	0.151097	16.414889	2.283027	
15.88	1.359268	37.170967	-3.449691	37.3307	-5.302217	0.15228	16.347169	2.318906	
15.9	1.360064	37.149099	-3.451564	37.309098	-5.308184	0.152565	16.330886	2.327616	
15.92	1.360481	37.135516	-3.443148	37.294796	-5.29724	0.152715	16.322363	2.332189	
15.94	1.362569	37.071674	-3.418546	37.22896	-5.268611	0.153464	16.27987	2.35512	
15.96	1.363186	37.051539	-3.405229	37.207689	-5.251037	0.153685	16.267378	2.361904	
15.98	1.362227	37.070388	-3.369618	37.223219	-5.193798	0.153341	16.286817	2.351356	
16	1.364936	36.977641	-3.288699	37.123597	-5.08238	0.154311	16.232055	2.381193	
16.02	1.365945	36.958226	-3.328514	37.107809	-5.14627	0.154672	16.211784	2.392333	
16.040001	1.36715	36.92487	-3.328333	37.074572	-5.150616	0.155102	16.187651	2.405663	
16.059999	1.368712	36.876633	-3.304217	37.024369	-5.120148	0.155659	16.156491	2.422986	
16.08	1.3702	36.83685	-3.309624	36.985228	-5.133991	0.156189	16.126967	2.439514	
16.1	1.370156	36.824895	-3.246719	36.967743	-5.038544	0.156174	16.127836	2.439026	
16.120001	1.370391	36.817973	-3.244415	36.960646	-5.035928	0.156257	16.123187	2.441638	
16.139999	1.372992	36.746781	-3.244556	36.889742	-5.045853	0.157182	16.071926	2.470628	
16.16	1.374383	36.705144	-3.226563	36.846687	-5.023677	0.157676	16.044686	2.486173	
16.18	1.374725	36.690733	-3.201395	36.830134	-4.986637	0.157797	16.038012	2.489997	
16.200001	1.374581	36.686946	-3.162949	36.823039	-4.927555	0.157746	16.040827	2.488383	
16.219999	1.376557	36.632259	-3.158015	36.768131	-4.927214	0.158447	16.002342	2.510532	
16.24	1.377869	36.59231	-3.135585	36.726408	-4.897705	0.158911	15.976939	2.52526	
16.26	1.37833	36.573162	-3.101304	36.704417	-4.846939	0.159074	15.96803	2.530446	
16.280001	1.380542	36.51265	-3.096949	36.643753	-4.848147	0.159855	15.925473	2.555364	
16.299999	1.381029	36.502084	-3.11022	36.63435	-4.870226	0.160027	15.916135	2.560864	
16.32	1.383121	36.43325	-3.043804	36.560176	-4.775676	0.160764	15.876199	2.584521	
16.34	1.383568	36.425608	-3.066861	36.554488	-4.812686	0.160922	15.867696	2.589586	
16.360001	1.384372	36.402265	-3.057176	36.530415	-4.800622	0.161205	15.852444	2.598697	
16.379999	1.38549	36.358961	-2.984766	36.481268	-4.692988	0.161598	15.831282	2.611391	



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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	1.386428	36.33809	-3.007248	36.462313	-4.73088	0.161927	15.813598	2.622045	
16.42	1.389041	36.264595	-2.985379	36.387269	-4.706108	0.162844	15.764556	2.651822	
16.440001	1.389054	36.264419	-2.986187	36.38716	-4.707398	0.162848	15.764328	2.651961	
16.459999	1.390456	36.222515	-2.959857	36.343244	-4.67145	0.163339	15.738177	2.667978	
16.48	1.390705	36.207375	-2.911804	36.32427	-4.597851	0.163427	15.733531	2.670834	
16.5	1.392465	36.152566	-2.863674	36.265806	-4.528996	0.164042	15.700902	2.690976	
16.52	1.392798	36.148306	-2.889865	36.263637	-4.570781	0.164159	15.694728	2.694804	
16.540001	1.394465	36.102748	-2.879942	36.217433	-4.560875	0.16474	15.664005	2.713935	
16.559999	1.395751	36.060794	-2.831904	36.17182	-4.49031	0.165189	15.640394	2.72873	
16.58	1.396307	36.044194	-2.819781	36.154323	-4.473215	0.165382	15.63022	2.73513	
16.6	1.397705	36.009503	-2.830922	36.12061	-4.495126	0.165869	15.604695	2.751253	
16.620001	1.39853	35.98733	-2.827207	36.098213	-4.492006	0.166156	15.589677	2.760783	
16.639999	1.401225	35.912395	-2.798444	36.021264	-4.455731	0.167092	15.5409	2.791965	
16.66	1.400794	35.915833	-2.751042	36.02104	-4.380135	0.166942	15.548677	2.78697	
16.68	1.402881	35.862105	-2.753538	35.967659	-4.390636	0.167666	15.511108	2.811184	
16.700001	1.402123	35.874005	-2.705304	35.975866	-4.312592	0.167403	15.524727	2.802382	
16.719999	1.40506	35.797704	-2.702843	35.899596	-4.317832	0.16842	15.472139	2.836522	
16.74	1.405429	35.776606	-2.628415	35.873027	-4.201831	0.168547	15.465556	2.840825	
16.76	1.406563	35.749424	-2.641398	35.846873	-4.22571	0.168939	15.445394	2.854043	
16.780001	1.408263	35.704053	-2.630236	35.800804	-4.213246	0.169526	15.41528	2.873902	
16.799999	1.40837	35.697034	-2.602059	35.791744	-4.169087	0.169563	15.413387	2.875155	
16.82	1.409652	35.664701	-2.605361	35.759737	-4.178129	0.170005	15.390784	2.890158	
16.84	1.412922	35.576114	-2.570843	35.668882	-4.133197	0.171129	15.333504	2.928529	
16.860001	1.412447	35.581201	-2.522865	35.67053	-4.055745	0.170966	15.341795	2.922944	
16.879999	1.414241	35.531426	-2.493724	35.618827	-4.014649	0.171582	15.310557	2.944044	
16.9	1.414833	35.52145	-2.52896	35.611362	-4.072326	0.171785	15.300276	2.951021	
16.92	1.416778	35.469393	-2.509543	35.55806	-4.047074	0.172452	15.266633	2.97397	
16.940001	1.416337	35.475265	-2.472177	35.561301	-3.986353	0.172301	15.274251	2.968759	
16.959999	1.417527	35.445073	-2.471348	35.531124	-3.988405	0.172708	15.253734	2.982817	
16.98	1.419572	35.384873	-2.408597	35.466753	-3.894041	0.173408	15.218642	3.007016	
17	1.420299	35.367684	-2.416652	35.450152	-3.908917	0.173656	15.20621	3.015636	
17.02	1.420818	35.350454	-2.385536	35.430853	-3.860615	0.173833	15.197363	3.021786	
17.040001	1.422906	35.293141	-2.348118	35.371167	-3.806392	0.174545	15.161852	3.046595	
17.059999	1.424551	35.255845	-2.376989	35.335884	-3.857116	0.175105	15.134027	3.066178	
17.08	1.42436	35.253853	-2.325487	35.330469	-3.774001	0.17504	15.137253	3.063901	
17.1	1.427305	35.179324	-2.316368	35.255501	-3.767186	0.176041	15.087721	3.099045	
17.120001	1.426677	35.194251	-2.310996	35.270044	-3.756885	0.175828	15.098252	3.09154	
17.139999	1.428313	35.145364	-2.245646	35.217035	-3.656004	0.176383	15.070864	3.111097	
17.16	1.427996	35.151569	-2.232179	35.222371	-3.633499	0.176275	15.07617	3.107299	
17.18	1.431709	35.058182	-2.219713	35.128382	-3.622859	0.177533	15.014407	3.151805	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	1.431686	35.056191	-2.198558	35.125065	-3.588626	0.177525	15.014794	3.151524	
17.219999	1.433947	34.997943	-2.177028	35.065588	-3.559472	0.178289	14.977494	3.178707	
17.24	1.434971	34.972614	-2.175556	35.040216	-3.559642	0.178635	14.960673	3.191043	
17.26	1.43664	34.924596	-2.114672	34.988559	-3.465016	0.179198	14.933358	3.211176	
17.280001	1.436292	34.935055	-2.131488	35.000018	-3.491459	0.17908	14.939042	3.206977	
17.299999	1.43882	34.868932	-2.093516	34.931723	-3.435895	0.179931	14.897873	3.237522	
17.32	1.440714	34.818755	-2.057489	34.879492	-3.381761	0.180568	14.867197	3.26047	
17.34	1.439965	34.833942	-2.029962	34.89304	-3.335169	0.180316	14.879307	3.251392	
17.360001	1.441374	34.799443	-2.027702	34.858469	-3.334759	0.180789	14.856551	3.268473	
17.379999	1.442344	34.773275	-2.003406	34.830939	-3.297364	0.181114	14.840936	3.280246	
17.4	1.444267	34.722949	-1.967978	34.778674	-3.243864	0.181759	14.810096	3.303622	
17.42	1.444371	34.723771	-1.999379	34.781285	-3.295432	0.181793	14.808436	3.304886	
17.440001	1.445872	34.67894	-1.917252	34.731898	-3.164425	0.182296	14.784476	3.323169	
17.459999	1.447507	34.638344	-1.905306	34.690706	-3.148427	0.182842	14.758482	3.343119	
17.48	1.448243	34.622636	-1.924854	34.676101	-3.182103	0.183088	14.746819	3.352109	
17.5	1.449262	34.592978	-1.873278	34.643662	-3.099657	0.183428	14.730709	3.364566	
17.52	1.451844	34.531385	-1.875491	34.582279	-3.108837	0.184287	14.69009	3.396182	
17.540001	1.451494	34.536629	-1.843611	34.585801	-3.055631	0.184171	14.695582	3.39189	
17.559999	1.453211	34.493734	-1.823914	34.541922	-3.026796	0.184742	14.668694	3.412955	
17.58	1.4536	34.481436	-1.791989	34.52797	-2.974972	0.184871	14.662622	3.41773	
17.6	1.455779	34.42863	-1.781667	34.474699	-2.962395	0.185594	14.628704	3.444527	
17.620001	1.457141	34.392499	-1.74028	34.436501	-2.896734	0.186046	14.607594	3.461311	
17.639999	1.45803	34.369318	-1.716513	34.412156	-2.859162	0.18634	14.593868	3.472268	
17.66	1.45819	34.364985	-1.710435	34.407525	-2.849413	0.186393	14.591396	3.474244	
17.68	1.461032	34.297109	-1.701651	34.339297	-2.840405	0.187333	14.547728	3.509354	
17.700001	1.461953	34.272769	-1.671241	34.313492	-2.791704	0.187637	14.533642	3.520755	
17.719999	1.463172	34.243982	-1.669841	34.284672	-2.791711	0.188039	14.515047	3.535862	
17.74	1.464682	34.205515	-1.634009	34.244521	-2.734965	0.188536	14.492102	3.554593	
17.76	1.4658	34.176987	-1.605638	34.214683	-2.689788	0.188904	14.475172	3.568476	
17.780001	1.466478	34.160002	-1.591872	34.197072	-2.668085	0.189127	14.464923	3.576907	
17.799999	1.467438	34.133911	-1.546126	34.16891	-2.593495	0.189443	14.450443	3.588853	
17.82	1.468667	34.102085	-1.505316	34.135292	-2.527483	0.189846	14.43196	3.60416	
17.84	1.470004	34.070981	-1.50527	34.104216	-2.52971	0.190285	14.411923	3.620826	
17.860001	1.471771	34.028478	-1.48581	34.060901	-2.500164	0.190864	14.385538	3.642891	
17.879999	1.472918	34.002298	-1.491128	34.034978	-2.51103	0.191239	14.368472	3.657235	
17.9	1.473539	33.985984	-1.464941	34.017542	-2.468169	0.191442	14.35926	3.665	
17.92	1.474814	33.953095	-1.417655	33.982678	-2.390905	0.191858	14.340383	3.680965	
17.940001	1.47648	33.915523	-1.429536	33.945637	-2.413588	0.192402	14.315797	3.701863	
17.959999	1.478082	33.873765	-1.359072	33.901018	-2.297574	0.192924	14.292266	3.721975	
17.98	1.479109	33.850925	-1.36989	33.878632	-2.317403	0.193259	14.277224	3.734888	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	1.479728	33.834292	-1.333755	33.860571	-2.257447	0.19346	14.268176	3.742677	
18.02	1.480313	33.822761	-1.361384	33.850148	-2.304946	0.19365	14.259648	3.750034	
18.040001	1.482216	33.774845	-1.295025	33.799664	-2.195814	0.194268	14.231954	3.774023	
18.059999	1.485004	33.710789	-1.286985	33.735347	-2.186336	0.195172	14.191628	3.80923	
18.08	1.484255	33.724991	-1.24137	33.747829	-2.10803	0.19493	14.202439	3.79976	
18.1	1.486696	33.669069	-1.233906	33.691671	-2.098844	0.19572	14.167302	3.830627	
18.120001	1.488505	33.625022	-1.182409	33.645805	-2.013955	0.196305	14.141393	3.853547	
18.139999	1.490539	33.580074	-1.199712	33.601498	-2.046135	0.196961	14.112403	3.879357	
18.16	1.491028	33.567094	-1.166257	33.587348	-1.989891	0.197119	14.105444	3.885577	
18.18	1.492626	33.530008	-1.146903	33.549617	-1.959058	0.197633	14.082793	3.905896	
18.200001	1.493511	33.509877	-1.142593	33.529351	-1.952873	0.197918	14.070291	3.917156	
18.219999	1.493707	33.502334	-1.084713	33.519889	-1.854434	0.197981	14.067521	3.919656	
18.24	1.494736	33.478296	-1.06652	33.49528	-1.824662	0.198312	14.053024	3.932761	
18.26	1.497329	33.418975	-1.041865	33.435212	-1.78567	0.199144	14.016634	3.965853	
18.280001	1.50006	33.357345	-1.027413	33.373163	-1.764166	0.200019	13.978565	4.000769	
18.299999	1.49858	33.38843	-0.98817	33.40305	-1.695244	0.199545	13.999171	3.981831	
18.32	1.502154	33.307144	-0.950636	33.320707	-1.634866	0.200689	13.949535	4.027601	
18.34	1.502106	33.306765	-0.918162	33.319418	-1.579067	0.200673	13.950204	4.026981	
18.360001	1.504337	33.256309	-0.894568	33.268339	-1.540841	0.201385	13.919441	4.055607	
18.379999	1.504413	33.255507	-0.914798	33.268087	-1.575708	0.20141	13.9184	4.056579	
18.4	1.507073	33.196015	-0.897666	33.20815	-1.548983	0.202257	13.881935	4.090784	
18.42	1.506919	33.196844	-0.83526	33.20735	-1.441308	0.202208	13.88404	4.088802	
18.440001	1.509839	33.131521	-0.807987	33.141372	-1.397013	0.203136	13.844253	4.126432	
18.459999	1.509975	33.127652	-0.784154	33.136931	-1.35598	0.203179	13.842415	4.128178	
18.48	1.511767	33.087952	-0.773241	33.096986	-1.338719	0.203748	13.818144	4.151314	
18.5	1.513621	33.046514	-0.748666	33.054993	-1.297811	0.204335	13.79314	4.175284	
18.52	1.51444	33.027113	-0.703696	33.034609	-1.220597	0.204594	13.782138	4.185875	
18.540001	1.516434	32.984114	-0.717657	32.99192	-1.246428	0.205225	13.755414	4.211711	
18.559999	1.518802	32.931667	-0.687217	32.938836	-1.195476	0.205972	13.723849	4.242434	
18.58	1.517732	32.954262	-0.667007	32.961011	-1.159532	0.205634	13.738094	4.228542	
18.6	1.519366	32.917477	-0.623127	32.923374	-1.08448	0.20615	13.716352	4.249764	
18.620001	1.520098	32.901708	-0.626303	32.907669	-1.090528	0.20638	13.70664	4.259278	
18.639999	1.522041	32.859222	-0.609622	32.864876	-1.062863	0.206991	13.680951	4.284546	
18.66	1.52354	32.825047	-0.540764	32.829501	-0.943813	0.207463	13.661204	4.304072	
18.68	1.523864	32.818755	-0.567991	32.823669	-0.991515	0.207564	13.656942	4.308299	
18.700001	1.527434	32.740035	-0.485376	32.743633	-0.849358	0.208684	13.610232	4.354886	
18.719999	1.530233	32.680065	-0.482088	32.683621	-0.845152	0.209559	13.573875	4.391496	
18.74	1.530408	32.675725	-0.453607	32.678873	-0.795336	0.209614	13.571613	4.393784	
18.76	1.530918	32.664096	-0.416935	32.666756	-0.731303	0.209773	13.565007	4.400472	
18.780001	1.531196	32.658268	-0.422225	32.660997	-0.740712	0.20986	13.561416	4.404112	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	1.534308	32.591316	-0.383006	32.593567	-0.673297	0.21083	13.521361	4.44492	
18.82	1.534048	32.595953	-0.329308	32.597616	-0.578826	0.210749	13.524685	4.441519	
18.84	1.535192	32.57219	-0.36269	32.574209	-0.637961	0.211105	13.510023	4.456539	
18.860001	1.538705	32.497121	-0.316972	32.498667	-0.558837	0.212197	13.465226	4.502745	
18.879999	1.538115	32.509094	-0.280322	32.510303	-0.494044	0.212014	13.472725	4.494977	
18.9	1.539361	32.482472	-0.255546	32.483477	-0.450749	0.2124	13.456895	4.511392	
18.92	1.541726	32.432652	-0.256602	32.433667	-0.453306	0.213133	13.426977	4.542577	
18.940001	1.544492	32.374209	-0.222729	32.374975	-0.394179	0.213989	13.392191	4.579108	
18.959999	1.544676	32.370421	-0.228473	32.371227	-0.404392	0.214045	13.389891	4.581534	
18.98	1.546836	32.324611	-0.16023	32.325008	-0.284007	0.214712	13.362874	4.610124	
19	1.548894	32.281441	-0.123833	32.281679	-0.219789	0.215346	13.337268	4.637386	
19.02	1.550281	32.252373	-0.086472	32.252489	-0.153616	0.215773	13.320065	4.655792	
19.040001	1.550622	32.245277	-0.081759	32.245381	-0.145275	0.215877	13.315853	4.660308	
19.059999	1.551905	32.218563	-0.06501	32.218628	-0.11561	0.216272	13.300005	4.677346	
19.08	1.554911	32.156312	-0.074183	32.156398	-0.132179	0.217194	13.263055	4.717311	
19.1	1.555788	32.138053	0.008991	32.138054	0.016029	0.217463	13.252311	4.728995	
19.120001	1.555255	32.149086	0.023552	32.149095	0.041974	0.217299	13.258839	4.721893	
19.139999	1.558841	32.075173	0.049693	32.075211	0.088766	0.218396	13.215105	4.769683	
19.16	1.558649	32.079217	0.083262	32.079325	0.148712	0.218337	13.217435	4.767124	
19.18	1.560823	32.034523	0.082036	32.034628	0.146727	0.219001	13.191072	4.796151	
19.200001	1.56109	32.029257	0.128228	32.029514	0.229382	0.219083	13.187845	4.799716	
19.219999	1.563472	31.980613	0.154166	31.980984	0.276199	0.219808	13.15912	4.831567	
19.24	1.565933	31.930603	0.187533	31.931154	0.336503	0.220556	13.129605	4.864515	
19.26	1.567395	31.900685	0.170756	31.901142	0.306686	0.221	13.11214	4.884116	
19.280001	1.567434	31.900467	0.234912	31.901332	0.421913	0.221012	13.111684	4.884629	
19.299999	1.569213	31.864651	0.267912	31.865777	0.481722	0.221551	13.090509	4.908504	
19.32	1.57075	31.83322	0.244995	31.834163	0.440953	0.222017	13.072283	4.929146	
19.34	1.573082	31.786773	0.308542	31.78827	0.556131	0.222722	13.044739	4.960507	
19.360001	1.572444	31.800048	0.336543	31.801829	0.606346	0.222529	13.052255	4.95193	
19.379999	1.575961	31.729251	0.34874	31.731168	0.62972	0.223591	13.010921	4.999285	
19.4	1.577027	31.708407	0.387696	31.710777	0.700517	0.223912	12.998451	5.01366	
19.42	1.576138	31.727002	0.427516	31.729882	0.772005	0.223644	13.008857	5.001661	
19.440001	1.578099	31.687654	0.432906	31.690611	0.782708	0.224235	12.985944	5.028119	
19.459999	1.580798	31.634027	0.458063	31.637343	0.82959	0.225046	12.954582	5.064561	
19.48	1.581887	31.612956	0.493963	31.616815	0.895194	0.225373	12.94197	5.07929	
19.5	1.584813	31.555262	0.526259	31.55965	0.955457	0.22625	12.908237	5.118896	
19.52	1.585859	31.534219	0.515182	31.538427	0.935972	0.226563	12.896239	5.133057	
19.540001	1.586933	31.513902	0.561406	31.518903	1.020593	0.226884	12.883931	5.147625	
19.559999	1.587884	31.495692	0.589058	31.5012	1.07147	0.227168	12.873064	5.160522	
19.58	1.587944	31.494928	0.606416	31.500765	1.103061	0.227186	12.872375	5.16134	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	1.591288	31.429457	0.634921	31.43587	1.157303	0.228183	12.834329	5.206754	
19.620001	1.59212	31.413158	0.63976	31.419672	1.166726	0.228431	12.824906	5.218064	
19.639999	1.593403	31.389555	0.700968	31.397381	1.279276	0.228813	12.810404	5.235518	
19.66	1.594739	31.36337	0.705246	31.371298	1.288155	0.22921	12.795343	5.253706	
19.68	1.597248	31.315405	0.749158	31.324365	1.370427	0.229954	12.767176	5.28789	
19.700001	1.597307	31.314198	0.747487	31.323118	1.367423	0.229972	12.766516	5.288694	
19.719999	1.597859	31.305449	0.811956	31.315977	1.485726	0.230135	12.760341	5.296219	
19.74	1.600485	31.253768	0.8037	31.2641	1.473056	0.230913	12.73104	5.332072	
19.76	1.605245	31.16387	0.885949	31.176461	1.628411	0.232318	12.678342	5.397167	
19.780001	1.606452	31.140671	0.892216	31.15345	1.641144	0.232673	12.665063	5.413694	
19.799999	1.606677	31.136005	0.883841	31.148547	1.625991	0.23274	12.662591	5.416777	
19.82	1.605182	31.165754	0.903941	31.17886	1.661362	0.232299	12.679038	5.396302	
19.84	1.609671	31.08101	0.962619	31.095913	1.77396	0.23362	12.629807	5.457821	
19.860001	1.61162	31.044232	0.983993	31.059823	1.815471	0.234192	12.608568	5.484578	
19.879999	1.612391	31.029893	0.997134	31.04591	1.840548	0.234418	12.600185	5.495175	
19.9	1.613439	31.010961	1.027384	31.027975	1.897502	0.234725	12.58882	5.509573	
19.92	1.614843	30.98472	1.045263	31.002346	1.932132	0.235136	12.573628	5.528881	
19.940001	1.617409	30.936277	1.063148	30.95454	1.96824	0.235886	12.545974	5.564199	
19.959999	1.618766	30.911611	1.092986	30.930929	2.02505	0.236281	12.531409	5.582891	
19.98	1.620099	30.887787	1.129882	30.908446	2.094962	0.23667	12.517135	5.60127	
20	1.620221	30.888529	1.195986	30.911675	2.217356	0.236706	12.515831	5.602952	
20.02	1.62561	30.786168	1.199239	30.809517	2.230765	0.238272	12.458531	5.677366	
20.040001	1.625386	30.79263	1.24502	30.817789	2.315348	0.238207	12.460899	5.674272	
20.059999	1.626107	30.779613	1.258057	30.805313	2.340556	0.238416	12.453279	5.684235	
20.08	1.627191	30.759851	1.27366	30.786209	2.371072	0.238731	12.441832	5.699238	
20.1	1.628633	30.734933	1.319542	30.763246	2.458373	0.239148	12.426653	5.719193	
20.120001	1.633183	30.650947	1.352743	30.680783	2.527045	0.240463	12.379041	5.782237	
20.139999	1.633014	30.654429	1.358626	30.684522	2.537732	0.240414	12.380798	5.779898	
20.16	1.636382	30.592587	1.383564	30.623858	2.589468	0.241384	12.345813	5.826647	
20.18	1.635395	30.615694	1.466515	30.650797	2.74242	0.241101	12.356037	5.812946	
20.200001	1.637581	30.57377	1.449243	30.608099	2.71388	0.24173	12.333404	5.843319	
20.219999	1.639907	30.534032	1.513333	30.571511	2.837386	0.242398	12.309433	5.875661	
20.24	1.641206	30.509508	1.507982	30.546753	2.829638	0.24277	12.296091	5.893739	
20.26	1.641481	30.507014	1.551989	30.546465	2.912314	0.242849	12.293277	5.897559	
20.280001	1.643462	30.471714	1.577385	30.512513	2.963308	0.243416	12.273007	5.925149	
20.299999	1.645371	30.437604	1.59881	30.479565	3.006844	0.243962	12.253544	5.951762	
20.32	1.647394	30.401154	1.614895	30.444015	3.040672	0.24454	12.233001	5.979982	
20.34	1.649294	30.368184	1.648822	30.412912	3.107794	0.245082	12.213774	6.006515	
20.360001	1.650518	30.346297	1.65936	30.391631	3.129869	0.24543	12.201433	6.023608	
20.379999	1.652135	30.318375	1.688109	30.365335	3.18691	0.245891	12.185165	6.046214	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	1.653986	30.288262	1.747524	30.338633	3.302106	0.246417	12.1666	6.072115	
20.42	1.655434	30.262689	1.761967	30.313939	3.332144	0.246827	12.152134	6.092375	
20.440001	1.655852	30.255309	1.766169	30.306816	3.340884	0.246946	12.14796	6.098232	
20.459999	1.659113	30.199519	1.822008	30.254432	3.452611	0.247869	12.115543	6.143922	
20.48	1.660409	30.176405	1.829455	30.23181	3.469336	0.248236	12.102712	6.162101	
20.5	1.66099	30.169543	1.882524	30.228219	3.570529	0.2484	12.096965	6.170261	
20.52	1.663455	30.126224	1.903401	30.186293	3.615198	0.249096	12.07268	6.20486	
20.540001	1.664795	30.102907	1.91718	30.163896	3.644111	0.249473	12.059525	6.223683	
20.559999	1.666061	30.084117	1.973856	30.148801	3.753873	0.24983	12.047123	6.241482	
20.58	1.668218	30.044789	1.969645	30.109282	3.750777	0.250436	12.026058	6.271829	
20.6	1.670736	30.003157	2.019993	30.07108	3.851691	0.251143	12.00159	6.307263	
20.620001	1.671395	29.99185	2.027493	30.060302	3.867401	0.251328	11.995197	6.316555	
20.639999	1.671611	29.993604	2.100481	30.067064	4.005946	0.251388	11.993111	6.31959	
20.66	1.676109	29.912315	2.093383	29.985477	4.003266	0.252646	11.949745	6.38301	
20.68	1.675076	29.933419	2.126614	30.008866	4.063746	0.252358	11.959668	6.368442	
20.700001	1.678551	29.871635	2.131296	29.947571	4.081059	0.253328	11.926352	6.417484	
20.719999	1.680057	29.848826	2.182255	29.928492	4.181476	0.253747	11.91197	6.438771	
20.74	1.681601	29.825252	2.230328	29.908528	4.276618	0.254177	11.897277	6.460591	
20.76	1.683386	29.793168	2.226088	29.876217	4.273097	0.254673	11.880338	6.485839	
20.780001	1.685288	29.766307	2.308473	29.855688	4.434604	0.255201	11.862357	6.512749	
20.799999	1.688005	29.719175	2.319682	29.809567	4.463088	0.255954	11.836772	6.55123	
20.82	1.68817	29.718593	2.347092	29.811133	4.515696	0.256	11.835217	6.553576	
20.84	1.689234	29.70385	2.393646	29.800138	4.607158	0.256294	11.825239	6.56865	
20.860001	1.694139	29.615661	2.372162	29.710512	4.579521	0.257648	11.779472	6.638238	
20.879999	1.693831	29.627003	2.440031	29.727312	4.708168	0.257563	11.782331	6.633869	
20.9	1.695589	29.597071	2.45026	29.698323	4.732576	0.258047	11.766017	6.658836	
20.92	1.698128	29.556996	2.498761	29.662431	4.832327	0.258745	11.74255	6.694914	
20.940001	1.699943	29.526039	2.50688	29.63227	4.853014	0.259244	11.725836	6.720729	
20.959999	1.700505	29.518463	2.531333	29.6268	4.901374	0.259398	11.720671	6.728726	
20.98	1.700718	29.517747	2.563843	29.628882	4.964128	0.259456	11.718719	6.731751	
21	1.703601	29.474564	2.638378	29.592414	5.115135	0.260246	11.692327	6.772786	
21.02	1.705031	29.447777	2.617784	29.563903	5.08001	0.260637	11.679278	6.793165	
21.040001	1.708164	29.397588	2.660795	29.517758	5.171795	0.261492	11.650819	6.837828	
21.059999	1.709602	29.374273	2.676633	29.49597	5.206519	0.261884	11.637817	6.858329	
21.08	1.711319	29.351342	2.745724	29.479489	5.344292	0.262352	11.622325	6.882838	
21.1	1.714334	29.297513	2.725507	29.424014	5.314859	0.263171	11.595241	6.925895	
21.120001	1.714118	29.304393	2.758109	29.433903	5.376808	0.263112	11.597174	6.922814	
21.139999	1.717911	29.243932	2.804321	29.378083	5.477588	0.264141	11.563291	6.977034	
21.16	1.718917	29.228819	2.825275	29.365048	5.521102	0.264413	11.554344	6.991424	
21.18	1.720023	29.210436	2.83028	29.347232	5.534281	0.264712	11.544526	7.007246	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	1.720925	29.199909	2.878657	29.341462	5.630289	0.264956	11.536527	7.020165	
21.219999	1.722148	29.180584	2.893448	29.323685	5.662755	0.265286	11.525714	7.037664	
21.24	1.726039	29.118048	2.928562	29.264948	5.743248	0.266335	11.491447	7.093415	
21.26	1.727456	29.098297	2.969946	29.24947	5.827779	0.266716	11.479018	7.113744	
21.280001	1.729023	29.075577	3.006169	29.23057	5.902935	0.267137	11.465322	7.136213	
21.299999	1.728614	29.088566	3.063396	29.249428	6.011825	0.267027	11.468893	7.130347	
21.32	1.732051	29.02919	3.050909	29.189072	5.999655	0.267949	11.438953	7.179674	
21.34	1.733528	29.005485	3.062019	29.166661	6.026228	0.268345	11.426133	7.200899	
21.360001	1.736674	28.95781	3.110318	29.124368	6.130568	0.269186	11.39895	7.24611	
21.379999	1.736935	28.957173	3.144802	29.127438	6.198145	0.269256	11.396703	7.249861	
21.4	1.738488	28.936555	3.194096	29.112308	6.298975	0.26967	11.383344	7.272196	
21.42	1.741475	28.889287	3.218122	29.067976	6.356269	0.270466	11.357757	7.315168	
21.440001	1.741888	28.884143	3.233808	29.064605	6.388125	0.270576	11.35423	7.32111	
21.459999	1.744934	28.838034	3.275248	29.023429	6.479552	0.271385	11.32828	7.364986	
21.48	1.74704	28.805148	3.293885	28.992865	6.523482	0.271944	11.31042	7.395338	
21.5	1.748193	28.792116	3.347416	28.986051	6.631535	0.272249	11.30067	7.411958	
21.52	1.749044	28.77683	3.336973	28.969663	6.614512	0.272474	11.29349	7.424223	
21.540001	1.753264	28.715072	3.4063	28.9164	6.765059	0.273589	11.258014	7.485118	
21.559999	1.75414	28.702992	3.426569	28.906801	6.807776	0.27382	11.250682	7.497764	
21.58	1.756159	28.673577	3.459131	28.881475	6.878834	0.274352	11.233825	7.526923	
21.6	1.758004	28.645572	3.47864	28.856017	6.923953	0.274838	11.218471	7.553581	
21.620001	1.757945	28.651084	3.517088	28.866148	6.998391	0.274822	11.218955	7.552739	
21.639999	1.760465	28.608296	3.504531	28.82215	6.983979	0.275484	11.198059	7.589166	
21.66	1.761126	28.603537	3.555357	28.823651	7.085411	0.275658	11.19259	7.598729	
21.68	1.764129	28.557481	3.580202	28.781028	7.145803	0.276445	11.16783	7.642176	
21.700001	1.766456	28.521619	3.596959	28.747536	7.187834	0.277053	11.148733	7.675854	
21.719999	1.767063	28.512244	3.60103	28.738745	7.198224	0.277212	11.143764	7.684642	
21.74	1.768931	28.490633	3.672683	28.726377	7.345415	0.2777	11.128495	7.711707	
21.76	1.771656	28.447553	3.6814	28.684769	7.373685	0.27841	11.106312	7.751198	
21.780001	1.771503	28.452239	3.69937	28.691727	7.408071	0.27837	11.107552	7.748984	
21.799999	1.77531	28.400536	3.777877	28.650703	7.577092	0.27936	11.076725	7.804183	
21.82	1.776083	28.383486	3.741145	28.628979	7.50872	0.27956	11.070487	7.815401	
21.84	1.778439	28.355815	3.822626	28.612317	7.677728	0.280171	11.051529	7.849592	
21.860001	1.779416	28.342987	3.845256	28.602638	7.726086	0.280424	11.043684	7.863784	
21.879999	1.781154	28.316528	3.85635	28.577914	7.755257	0.280874	11.029771	7.889017	
21.9	1.783525	28.28498	3.906385	28.553458	7.863283	0.281487	11.010846	7.923469	
21.92	1.783891	28.282473	3.932272	28.554528	7.915427	0.281581	11.007931	7.928789	
21.940001	1.786406	28.240719	3.919852	28.511462	7.90226	0.28223	10.987952	7.96535	
21.959999	1.78817	28.218818	3.967697	28.496391	8.0036	0.282684	10.973985	7.991008	
21.98	1.791119	28.178032	4.014106	28.462511	8.107544	0.283442	10.950731	8.033909	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	1.792391	28.156589	4.004426	28.439917	8.09433	0.283768	10.940731	8.052429	
22.02	1.792934	28.155273	4.05968	28.446448	8.204884	0.283907	10.936473	8.060327	
22.040001	1.797358	28.091888	4.108729	28.39077	8.321114	0.28504	10.901897	8.124755	
22.059999	1.799271	28.066663	4.145469	28.371156	8.401902	0.285528	10.887014	8.152646	
22.08	1.800363	28.050502	4.15291	28.356257	8.421547	0.285807	10.87855	8.16855	
22.1	1.802823	28.021936	4.227213	28.338988	8.578613	0.286434	10.859514	8.204434	
22.120001	1.804123	28.004451	4.248324	28.324857	8.626114	0.286765	10.84949	8.223392	
22.139999	1.805894	27.977837	4.256401	28.299758	8.650362	0.287215	10.835865	8.249232	
22.16	1.807129	27.963579	4.292958	28.291186	8.7279	0.287528	10.826391	8.267248	
22.18	1.808442	27.941489	4.28142	28.267603	8.711578	0.287861	10.816333	8.286416	
22.200001	1.811852	27.897159	4.344723	28.233457	8.852187	0.288725	10.790313	8.336212	
22.219999	1.812298	27.891236	4.351951	28.228719	8.868533	0.288838	10.786921	8.342725	
22.24	1.814317	27.866784	4.401222	28.212203	8.975058	0.289348	10.771587	8.372233	
22.26	1.816632	27.8299	4.393867	28.174624	8.971984	0.289932	10.754075	8.40606	
22.280001	1.818215	27.815845	4.46764	28.172345	9.124643	0.290331	10.742134	8.429204	
22.299999	1.82111	27.779491	4.525838	28.145752	9.253353	0.291059	10.720372	8.471549	
22.32	1.822641	27.751357	4.493949	28.112868	9.198426	0.291444	10.708905	8.493947	
22.34	1.825156	27.716699	4.521716	28.083114	9.265653	0.292074	10.69013	8.530746	
22.360001	1.827113	27.695778	4.584791	28.072699	9.399584	0.292564	10.675569	8.559396	
22.379999	1.826928	27.698099	4.581298	28.074419	9.391777	0.292518	10.67694	8.556694	
22.4	1.829991	27.657882	4.626966	28.04224	9.497243	0.293284	10.654234	8.601548	
22.42	1.832568	27.625988	4.677665	28.019204	9.610256	0.293927	10.635213	8.639303	
22.440001	1.833923	27.606828	4.687662	28.001985	9.63697	0.294264	10.625243	8.659159	
22.459999	1.836396	27.574856	4.725746	27.976872	9.724826	0.29488	10.607096	8.695416	
22.48	1.836781	27.57208	4.74646	27.977643	9.767598	0.294976	10.604276	8.701064	
22.5	1.838372	27.550244	4.761809	27.958733	9.806189	0.295371	10.592651	8.724387	
22.52	1.840282	27.531501	4.829801	27.951932	9.950066	0.295845	10.578726	8.752405	
22.540001	1.843263	27.490276	4.854995	27.915699	10.015617	0.296583	10.557081	8.796135	
22.559999	1.845436	27.456482	4.847952	27.881195	10.013442	0.29712	10.541364	8.828026	
22.58	1.849017	27.407563	4.880279	27.838671	10.096469	0.298004	10.51557	8.880614	
22.6	1.84679	27.444443	4.903003	27.878968	10.12916	0.297454	10.531596	8.847904	
22.620001	1.850515	27.394825	4.944133	27.837401	10.230456	0.298372	10.504831	8.902602	
22.639999	1.852187	27.373295	4.966984	27.820284	10.284645	0.298784	10.492862	8.927169	
22.66	1.855613	27.324456	4.981901	27.774903	10.33291	0.299625	10.468443	8.977506	
22.68	1.857202	27.310566	5.045356	27.772695	10.466835	0.300014	10.457157	9.000865	
22.700001	1.86091	27.258281	5.063393	27.724571	10.523121	0.300922	10.430927	9.055394	
22.719999	1.860565	27.267542	5.090067	27.738558	10.573797	0.300837	10.433362	9.050317	
22.74	1.86346	27.228077	5.111988	27.703801	10.63334	0.301544	10.412975	9.092902	
22.76	1.863918	27.227368	5.150671	27.710268	10.712222	0.301656	10.409762	9.099632	
22.780001	1.869042	27.157214	5.185138	27.647784	10.809427	0.302903	10.37392	9.17504	



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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	1.870867	27.137165	5.227977	27.636162	10.904462	0.303346	10.361227	9.201896	
22.82	1.872404	27.117415	5.245731	27.620136	10.948376	0.303719	10.350555	9.224536	
22.84	1.874398	27.097368	5.303162	27.611427	11.073283	0.304202	10.336757	9.253889	
22.860001	1.872924	27.119154	5.304329	27.633032	11.066982	0.303845	10.346956	9.232182	
22.879999	1.876043	27.076867	5.325453	27.595601	11.126879	0.3046	10.325396	9.27813	
22.9	1.879748	27.03411	5.395517	27.567276	11.286912	0.305495	10.299922	9.332711	
22.92	1.880782	27.023795	5.4247	27.56289	11.3506	0.305744	10.292837	9.347949	
22.940001	1.881853	27.007617	5.420973	27.546295	11.349622	0.306002	10.285515	9.363722	
22.959999	1.885893	26.955593	5.461518	27.503312	11.453762	0.306974	10.257979	9.42328	
22.98	1.885714	26.963768	5.495552	27.518101	11.519834	0.306931	10.259198	9.420635	
23	1.889092	26.916312	5.504117	27.473317	11.557102	0.307741	10.236296	9.470446	
23.02	1.890437	26.903767	5.545869	27.469426	11.647665	0.308063	10.227205	9.49029	
23.040001	1.893501	26.86586	5.58346	27.439924	11.74052	0.308796	10.206572	9.535484	
23.059999	1.896162	26.833862	5.620959	27.41626	11.830855	0.309431	10.188725	9.574752	
23.08	1.896065	26.843366	5.669417	27.435535	11.925836	0.309408	10.189377	9.573314	
23.1	1.897628	26.820658	5.667704	27.412964	11.932141	0.30978	10.178925	9.596381	
23.120001	1.902	26.762782	5.695347	27.362081	12.013831	0.31082	10.149819	9.660911	
23.139999	1.903287	26.748199	5.71777	27.352496	12.066131	0.311126	10.141286	9.679912	
23.16	1.903963	26.747165	5.768652	27.362167	12.170774	0.311286	10.13681	9.689894	
23.18	1.907219	26.706149	5.799892	27.328687	12.252927	0.312057	10.115311	9.73798	
23.200001	1.909344	26.678758	5.81608	27.305365	12.29832	0.31256	10.101339	9.76936	
23.219999	1.910224	26.676156	5.87378	27.315171	12.417736	0.312768	10.095562	9.782364	
23.24	1.913877	26.624785	5.87547	27.265369	12.444417	0.313629	10.071669	9.836331	
23.26	1.916998	26.591606	5.938335	27.246602	12.588545	0.314364	10.051352	9.882454	
23.280001	1.916964	26.594392	5.951623	27.25222	12.614533	0.314356	10.051577	9.881941	
23.299999	1.919853	26.556726	5.968675	27.219199	12.666876	0.315034	10.032852	9.924641	
23.32	1.923259	26.514818	6.002276	27.185711	12.755337	0.315832	10.010876	9.974988	
23.34	1.924601	26.505904	6.058856	27.189569	12.875771	0.316146	10.002242	9.994838	
23.360001	1.927321	26.473879	6.092821	27.165948	12.960658	0.316782	9.984802	10.035056	
23.379999	1.929119	26.452791	6.115348	27.150463	13.016965	0.317201	9.973313	10.061639	
23.4	1.931673	26.422871	6.147051	27.128479	13.096437	0.317796	9.957043	10.099402	
23.42	1.932955	26.411505	6.183418	27.125675	13.176693	0.318094	9.948895	10.118369	
23.440001	1.937206	26.356019	6.202505	27.076019	13.242785	0.319081	9.921985	10.18126	
23.459999	1.936932	26.366758	6.241516	27.095432	13.317883	0.319017	9.923719	10.177195	
23.48	1.939666	26.333288	6.265569	27.068421	13.383746	0.319651	9.906487	10.217656	
23.5	1.942008	26.302759	6.2752	27.040955	13.418571	0.320192	9.891788	10.252299	
23.52	1.94305	26.296379	6.319585	27.045086	13.513172	0.320433	9.885259	10.267721	
23.540001	1.944521	26.28013	6.341633	27.034451	13.566654	0.320772	9.87606	10.289494	
23.559999	1.947305	26.248166	6.376053	27.011484	13.653532	0.321414	9.858707	10.33069	
23.58	1.948089	26.240269	6.391798	27.007532	13.689945	0.321595	9.853827	10.342304	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	1.951272	26.206374	6.444694	26.987184	13.816088	0.322326	9.834093	10.389406	
23.620001	1.954065	26.169615	6.451927	26.953221	13.849678	0.322967	9.816843	10.430754	
23.639999	1.957193	26.134241	6.491166	26.928308	13.948759	0.323683	9.797602	10.477068	
23.66	1.959078	26.11604	6.531392	26.920375	14.041187	0.324114	9.786052	10.504969	
23.68	1.962364	26.08093	6.582312	26.898731	14.164553	0.324863	9.765984	10.553623	
23.700001	1.962625	26.08013	6.59713	26.901585	14.195569	0.324923	9.764391	10.557495	
23.719999	1.965808	26.047607	6.653429	26.883935	14.328891	0.325647	9.745047	10.604625	
23.74	1.965097	26.059639	6.666628	26.89886	14.349787	0.325486	9.749356	10.594107	
23.76	1.966899	26.037802	6.679747	26.880963	14.388414	0.325895	9.738433	10.620787	
23.780001	1.971773	25.981934	6.731268	26.839725	14.524584	0.327001	9.709015	10.692973	
23.799999	1.973788	25.960091	6.758742	26.82549	14.593091	0.327457	9.696911	10.722817	
23.82	1.975533	25.944683	6.800904	26.821239	14.688545	0.327851	9.686457	10.748658	
23.84	1.97884	25.90457	6.822202	26.787855	14.754365	0.328598	9.66671	10.797645	
23.860001	1.978833	25.912526	6.863811	26.806172	14.836037	0.328596	9.66675	10.797545	
23.879999	1.981161	25.883574	6.874561	26.780945	14.87413	0.32912	9.652903	10.832026	
23.9	1.984766	25.84381	6.917162	26.753498	14.984169	0.329931	9.631548	10.885421	
23.92	1.984264	25.859087	6.962333	26.779963	15.069076	0.329818	9.634514	10.877988	
23.940001	1.988663	25.802626	6.971678	26.727885	15.119885	0.330805	9.608571	10.943163	
23.959999	1.990298	25.786763	7.001546	26.720381	15.190585	0.33117	9.598971	10.96738	
23.98	1.995432	25.724521	7.029299	26.667622	15.283171	0.332317	9.568957	11.043439	
24	1.99704	25.712681	7.077427	26.668932	15.389618	0.332675	9.559602	11.067252	
24.02	1.997489	25.709304	7.090481	26.669144	15.418584	0.332775	9.556989	11.073913	
24.040001	2.000261	25.690172	7.178964	26.674378	15.612729	0.333391	9.540917	11.114971	
24.059999	2.001435	25.673604	7.172746	26.656749	15.609441	0.333652	9.534125	11.132367	
24.08	2.002723	25.660159	7.190123	26.648482	15.653203	0.333938	9.526684	11.151458	
24.1	2.007664	25.599148	7.207176	26.594356	15.724046	0.335032	9.498273	11.224647	
24.120001	2.009338	25.587551	7.259107	26.597319	15.8385	0.335402	9.48869	11.249443	
24.139999	2.010456	25.577174	7.280206	26.593105	15.888334	0.335649	9.482296	11.266017	
24.16	2.014936	25.523716	7.303126	26.547989	15.967494	0.336636	9.456789	11.33238	
24.18	2.017942	25.493294	7.34554	26.530454	16.073633	0.337297	9.439758	11.376908	
24.200001	2.016918	25.516689	7.397212	26.567276	16.166745	0.337072	9.445549	11.361746	
24.219999	2.019503	25.487531	7.418059	26.54509	16.227485	0.337639	9.43094	11.40003	
24.24	2.024927	25.424014	7.448757	26.492725	16.329619	0.338827	9.400441	11.480372	
24.26	2.024132	25.441184	7.483883	26.519094	16.392019	0.338653	9.404897	11.468597	
24.280001	2.025748	25.423379	7.498351	26.506102	16.432884	0.339006	9.395844	11.492529	
24.299999	2.027565	25.414603	7.570539	26.518204	16.587846	0.339403	9.385684	11.519446	
24.32	2.028694	25.4033	7.586034	26.511801	16.626914	0.339649	9.379386	11.536163	
24.34	2.033228	25.344566	7.58129	26.454168	16.653468	0.340636	9.35418	11.603312	
24.360001	2.033546	25.352527	7.640913	26.478938	16.772135	0.340706	9.352415	11.60803	
24.379999	2.040009	25.279116	7.68318	26.420919	16.905835	0.342107	9.316754	11.703739	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
24.4	2.039071	25.295681	7.706319	26.443502	16.943367	0.341904	9.321914	11.689841	
24.42	2.041508	25.268671	7.725059	26.423139	16.999307	0.342431	9.308528	11.725928	
24.440001	2.045101	25.235347	7.783911	26.408559	17.142551	0.343207	9.288871	11.779123	
24.459999	2.044597	25.246681	7.808279	26.42658	17.185793	0.343099	9.291622	11.771662	
24.48	2.049946	25.190956	7.864538	26.39006	17.338232	0.344251	9.262501	11.850861	
24.5	2.04984	25.192742	7.866741	26.392421	17.341642	0.344228	9.263077	11.849288	
24.52	2.05366	25.149845	7.890775	26.358661	17.419302	0.345048	9.242404	11.905827	
24.540001	2.05548	25.138788	7.947434	26.365136	17.543979	0.345438	9.232589	11.932767	
24.559999	2.057241	25.121172	7.968481	26.354695	17.599152	0.345815	9.223114	11.958826	
24.58	2.057121	25.127931	7.993875	26.368825	17.647308	0.34579	9.223756	11.95706	
24.6	2.062148	25.071807	8.024838	26.32477	17.748559	0.346864	9.196825	12.031437	
24.620001	2.06462	25.049199	8.063555	26.315078	17.84385	0.34739	9.183642	12.068013	
24.639999	2.067576	25.022883	8.112751	26.305159	17.963414	0.348019	9.167932	12.111746	
24.66	2.069824	24.999207	8.132316	26.288684	18.019892	0.348497	9.156022	12.145007	
24.68	2.069525	25.008599	8.159498	26.306034	18.069863	0.348433	9.157603	12.140588	
24.700001	2.073484	24.969082	8.203574	26.282193	18.187932	0.349273	9.13671	12.199134	
24.719999	2.077842	24.917838	8.214388	26.236898	18.245298	0.350194	9.113826	12.263585	
24.74	2.077962	24.9238	8.249644	26.253618	18.314298	0.350219	9.113199	12.265356	
24.76	2.083488	24.867515	8.303083	26.217065	18.463823	0.351384	9.084363	12.347063	
24.780001	2.083175	24.877061	8.330053	26.23467	18.513091	0.351318	9.085993	12.34243	
24.799999	2.088887	24.812871	8.355297	26.181855	18.610079	0.352518	9.056385	12.426861	
24.82	2.08895	24.817877	8.382451	26.195276	18.662872	0.352531	9.05606	12.427793	
24.84	2.09201	24.79047	8.42804	26.18395	18.776576	0.353172	9.040285	12.473017	
24.860001	2.092303	24.794136	8.461771	26.198297	18.843839	0.353233	9.038777	12.477349	
24.879999	2.095256	24.758618	8.462752	26.165002	18.870993	0.35385	9.023621	12.520968	
24.9	2.099203	24.719782	8.50379	26.141577	18.983634	0.354673	9.00344	12.579285	
24.92	2.099359	24.728811	8.554485	26.166645	19.08217	0.354705	9.002648	12.581579	
24.940001	2.104189	24.675716	8.577611	26.124057	19.168174	0.355709	8.978092	12.65292	
24.959999	2.105797	24.668422	8.633062	26.135432	19.288247	0.356043	8.969954	12.676653	
24.98	2.109415	24.62442	8.629774	26.092816	19.313349	0.356792	8.951692	12.73007	
25	2.109742	24.63101	8.678215	26.115093	19.408865	0.35686	8.950049	12.734888	
25.02	2.112551	24.60384	8.707448	26.099207	19.489214	0.35744	8.935931	12.776352	
25.040001	2.114833	24.586559	8.752856	26.09811	19.59585	0.357911	8.924501	12.810023	
25.059999	2.118236	24.550164	8.771391	26.070056	19.661051	0.358612	8.907508	12.860242	
25.08	2.119314	24.545289	8.807557	26.077658	19.739483	0.358833	8.902144	12.876137	
25.1	2.12327	24.506851	8.845825	26.054451	19.847242	0.359645	8.882509	12.934483	
25.120001	2.125304	24.487872	8.868824	26.044422	19.909008	0.360062	8.872446	12.96449	
25.139999	2.125449	24.486009	8.868107	26.042427	19.908922	0.360092	8.871731	12.966622	
25.16	2.128393	24.463197	8.922089	26.039425	20.037694	0.360694	8.85722	13.010022	
25.18	2.130808	24.444833	8.967564	26.0378	20.14555	0.361187	8.845351	13.045625	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	2.133627	24.416086	8.987131	26.017566	20.207809	0.361762	8.831545	13.087164	
25.219999	2.137261	24.380425	9.018198	25.994865	20.299219	0.362501	8.813808	13.14072	
25.24	2.138503	24.370088	9.036974	25.991692	20.345943	0.362753	8.807769	13.159006	
25.26	2.14244	24.334348	9.082694	25.974138	20.467914	0.363552	8.788673	13.216994	
25.280001	2.144702	24.317562	9.125443	25.973401	20.569212	0.36401	8.777743	13.2503	
25.299999	2.148238	24.282482	9.152072	25.949939	20.651471	0.364724	8.760714	13.302357	
25.32	2.148027	24.292639	9.186627	25.971646	20.714903	0.364681	8.761726	13.299258	
25.34	2.151157	24.262909	9.215642	25.954129	20.79803	0.365313	8.746708	13.345326	
25.360001	2.153946	24.238145	9.248779	25.942775	20.885865	0.365874	8.733377	13.386353	
25.379999	2.155276	24.234205	9.29946	25.957208	20.993485	0.366141	8.727031	13.405927	
25.4	2.15864	24.203627	9.335565	25.941633	21.092128	0.366816	8.711031	13.455409	
25.42	2.161701	24.173544	9.357937	25.921636	21.162196	0.367429	8.696529	13.500416	
25.440001	2.162841	24.167777	9.390205	25.927927	21.233293	0.367657	8.691141	13.517175	
25.459999	2.165818	24.138795	9.412624	25.909051	21.302718	0.368252	8.677105	13.56093	
25.48	2.170961	24.090658	9.45898	25.881115	21.437044	0.369276	8.652972	13.636497	
25.5	2.170424	24.096534	9.457947	25.886207	21.430163	0.369169	8.655484	13.628611	
25.52	2.175749	24.052064	9.52848	25.870711	21.611558	0.370227	8.630629	13.706832	
25.540001	2.173902	24.076336	9.542983	25.89862	21.62161	0.369861	8.639233	13.679705	
25.559999	2.177956	24.039824	9.584368	25.879978	21.736572	0.370665	8.620377	13.739226	
25.58	2.180808	24.017527	9.627878	25.875425	21.844349	0.371229	8.607162	13.781097	
25.6	2.18325	23.993081	9.641466	25.857799	21.89245	0.371711	8.595883	13.816933	
25.620001	2.185901	23.97385	9.687714	25.857248	22.00343	0.372234	8.583679	13.855817	
25.639999	2.187499	23.961549	9.712389	25.855103	22.06434	0.372549	8.576335	13.879267	
25.66	2.191952	23.921256	9.754302	25.833562	22.18406	0.373424	8.555954	13.944554	
25.68	2.193491	23.91478	9.800838	25.845176	22.285009	0.373726	8.548932	13.967118	
25.700001	2.195769	23.891322	9.809511	25.826765	22.322547	0.374172	8.538563	14.000504	
25.719999	2.198392	23.869994	9.843789	25.820086	22.410887	0.374686	8.526656	14.038942	
25.74	2.198616	23.87789	9.888518	25.844465	22.495886	0.37473	8.525641	14.042225	
25.76	2.201353	23.855078	9.921445	25.836018	22.582707	0.375264	8.51326	14.082315	
25.780001	2.202668	23.853743	9.9783	25.856673	22.700168	0.375521	8.507324	14.101574	
25.799999	2.207871	23.795564	9.976389	25.802271	22.74611	0.376534	8.483926	14.177752	
25.82	2.212123	23.76133	10.030903	25.791856	22.887196	0.377359	8.46491	14.239967	
25.84	2.213009	23.754547	10.04365	25.790568	22.919148	0.37753	8.46096	14.252925	
25.860001	2.214038	23.754562	10.092019	25.809457	23.018035	0.37773	8.456376	14.267975	
25.879999	2.216624	23.72465	10.085895	25.779533	23.031502	0.37823	8.444878	14.305802	
25.9	2.219301	23.709741	10.147544	25.790007	23.170505	0.378747	8.433011	14.344946	
25.92	2.221208	23.69173	10.159839	25.778293	23.21138	0.379115	8.424582	14.372813	
25.940001	2.227051	23.641603	10.218115	25.755296	23.374478	0.380239	8.398865	14.458174	
25.959999	2.222904	23.694352	10.249401	25.816129	23.391771	0.379442	8.417102	14.397591	
25.98	2.229426	23.627965	10.269878	25.763368	23.492182	0.380695	8.38846	14.492856	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	2.2308	23.627021	10.328865	25.786073	23.613222	0.380958	8.382453	14.512918	
26.02	2.236946	23.565458	10.3506	25.73841	23.71245	0.382134	8.355694	14.602613	
26.040001	2.23715	23.573469	10.39349	25.763018	23.792618	0.382173	8.35481	14.605588	
26.059999	2.238398	23.56813	10.427699	25.771955	23.866996	0.382411	8.349399	14.623794	
26.08	2.242147	23.541724	10.48663	25.771732	24.01056	0.383125	8.333194	14.678465	
26.1	2.244987	23.50999	10.482005	25.740864	24.0299	0.383665	8.320962	14.719863	
26.120001	2.249282	23.47733	10.538357	25.734062	24.174102	0.384479	8.302537	14.782445	
26.139999	2.250714	23.467546	10.561579	25.734659	24.23019	0.384751	8.296414	14.803304	
26.16	2.254129	23.437027	10.586714	25.717168	24.309161	0.385396	8.281852	14.853022	
26.18	2.254775	23.442723	10.639009	25.743927	24.410012	0.385518	8.279101	14.862434	
26.200001	2.256137	23.435303	10.668505	25.749377	24.476601	0.385775	8.273314	14.88225	
26.219999	2.261044	23.394478	10.716029	25.731982	24.610572	0.386699	8.25253	14.953644	
26.24	2.264527	23.359555	10.724698	25.703851	24.660559	0.387354	8.237845	15.004292	
26.26	2.265531	23.367746	10.802297	25.74376	24.809907	0.387542	8.23362	15.018896	
26.280001	2.265555	23.36516	10.792743	25.737405	24.793019	0.387547	8.233518	15.01925	
26.299999	2.271007	23.315986	10.827887	25.707554	24.910084	0.388567	8.210672	15.098466	
26.32	2.274785	23.288378	10.878196	25.703768	25.037715	0.389273	8.194916	15.153341	
26.34	2.276425	23.276936	10.902052	25.703511	25.09669	0.389579	8.1881	15.177144	
26.360001	2.279684	23.254734	10.951358	25.704375	25.217209	0.390185	8.174586	15.224441	
26.379999	2.280826	23.243854	10.955904	25.69647	25.236715	0.390397	8.16986	15.241017	
26.4	2.283323	23.231384	11.011177	25.70907	25.361186	0.390861	8.159553	15.277233	
26.42	2.287468	23.192694	11.030739	25.682256	25.436397	0.391629	8.142503	15.337328	
26.440001	2.28916	23.180286	11.052092	25.680234	25.49131	0.391942	8.135565	15.36185	
26.459999	2.290775	23.178733	11.114159	25.705606	25.617675	0.392241	8.128951	15.385262	
26.48	2.295301	23.141238	11.152967	25.688627	25.731883	0.393075	8.110488	15.450808	
26.5	2.297941	23.111715	11.144287	25.658264	25.743044	0.393561	8.099759	15.489024	
26.52	2.300662	23.099827	11.210172	25.676253	25.886995	0.394061	8.088734	15.528396	
26.540001	2.302329	23.091313	11.245366	25.683984	25.965921	0.394367	8.081994	15.552515	
26.559999	2.304489	23.076514	11.275607	25.68394	26.041027	0.394763	8.073277	15.58376	
26.58	2.305429	23.073227	11.301396	25.692322	26.095918	0.394935	8.06949	15.597355	
26.6	2.309116	23.045469	11.342379	25.685467	26.205255	0.395609	8.054679	15.650639	
26.620001	2.313215	23.010449	11.370762	25.666613	26.296623	0.396357	8.038277	15.70986	
26.639999	2.315857	22.989203	11.394092	25.657919	26.364349	0.396838	8.027741	15.748017	
26.66	2.315335	23.004987	11.435855	25.690625	26.432169	0.396743	8.029823	15.740471	
26.68	2.320702	22.955216	11.456179	25.655136	26.522292	0.397718	8.0085	15.817943	
26.700001	2.324045	22.929929	11.491184	25.648177	26.617485	0.398323	7.995282	15.866158	
26.719999	2.326359	22.920768	11.548449	25.665702	26.740939	0.398742	7.986162	15.899514	
26.74	2.327942	22.909186	11.566334	25.663416	26.788233	0.399028	7.979933	15.922333	
26.76	2.328734	22.908347	11.594932	25.675568	26.846045	0.399171	7.976822	15.933744	
26.780001	2.333408	22.872491	11.640504	25.66422	26.97297	0.400014	7.958507	16.001081	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	2.33542	22.862877	11.682947	25.674937	27.067112	0.400375	7.950652	16.030048	
26.82	2.336607	22.855469	11.701012	25.676568	27.11053	0.400589	7.946027	16.047126	
26.84	2.341386	22.824051	11.76702	25.678787	27.273575	0.401446	7.927459	16.115883	
26.860001	2.341183	22.821305	11.748134	25.667696	27.238913	0.40141	7.928246	16.112964	
26.879999	2.347527	22.773976	11.8125	25.655197	27.415102	0.402544	7.903733	16.204167	
26.9	2.349473	22.761301	11.839265	25.656286	27.481194	0.402891	7.896244	16.232132	
26.92	2.350941	22.75172	11.859275	25.657029	27.53071	0.403153	7.890607	16.253215	
26.940001	2.356838	22.713662	11.940587	25.661022	27.730984	0.404201	7.868049	16.337858	
26.959999	2.356929	22.712998	11.941537	25.660876	27.73355	0.404217	7.867701	16.339165	
26.98	2.360544	22.689835	11.991475	25.663672	27.856297	0.404858	7.853939	16.391026	
27	2.362847	22.680245	12.04319	25.679407	27.968311	0.405266	7.845201	16.424036	
27.02	2.364519	22.674531	12.085434	25.694202	28.057485	0.405561	7.838869	16.447998	
27.040001	2.36633	22.656755	12.08601	25.678789	28.077276	0.405881	7.83202	16.473958	
27.059999	2.370165	22.630368	12.130649	25.676569	28.192876	0.406557	7.817565	16.528883	
27.08	2.37331	22.61212	12.180089	25.683896	28.309314	0.407111	7.805752	16.573904	
27.1	2.376038	22.590579	12.200527	25.674639	28.372266	0.40759	7.795538	16.61293	
27.120001	2.381866	22.536008	12.210246	25.631265	28.449351	0.40861	7.773811	16.696249	
27.139999	2.382747	22.541144	12.263614	25.661243	28.548656	0.408764	7.770537	16.70884	
27.16	2.380973	22.562838	12.280443	25.688342	28.558504	0.408454	7.77713	16.683493	
27.18	2.388165	22.508074	12.34012	25.668891	28.733941	0.40971	7.750468	16.78623	
27.200001	2.388463	22.51348	12.372167	25.68905	28.79082	0.409762	7.749368	16.790484	
27.219999	2.391903	22.486519	12.397189	25.677497	28.868724	0.410361	7.736688	16.839577	
27.24	2.395925	22.456723	12.432646	25.668562	28.970144	0.411059	7.721921	16.896934	
27.26	2.395676	22.471298	12.479388	25.703975	29.045561	0.411016	7.722833	16.893385	
27.280001	2.403667	22.402548	12.511873	25.659718	29.183506	0.412398	7.693659	17.00725	
27.299999	2.406097	22.385107	12.534711	25.655642	29.247029	0.412818	7.684833	17.041849	
27.32	2.406397	22.395989	12.587473	25.690948	29.337842	0.412869	7.683747	17.046112	
27.34	2.410678	22.357981	12.599353	25.663651	29.402537	0.413606	7.668255	17.107024	
27.360001	2.41377	22.344207	12.659918	25.681454	29.535341	0.414137	7.657112	17.150976	
27.379999	2.416347	22.323599	12.675329	25.671133	29.587942	0.414579	7.647845	17.18761	
27.4	2.415028	22.35203	12.73558	25.725634	29.673368	0.414353	7.652586	17.168859	
27.42	2.422826	22.285318	12.764807	25.682206	29.803701	0.415687	7.624661	17.279608	
27.440001	2.425361	22.267328	12.788026	25.678152	29.86861	0.41612	7.615629	17.315584	
27.459999	2.425522	22.277919	12.834078	25.710295	29.945851	0.416147	7.615055	17.31787	
27.48	2.426177	22.275326	12.847821	25.714911	29.975267	0.416259	7.612727	17.327158	
27.5	2.433423	22.221344	12.903285	25.695971	30.142536	0.417491	7.587058	17.429873	
27.52	2.434832	22.213695	12.924696	25.700117	30.192377	0.41773	7.582088	17.449832	
27.540001	2.436482	22.2087	12.964639	25.715914	30.274896	0.418009	7.576278	17.473189	
27.559999	2.43779	22.202383	12.987328	25.721907	30.325637	0.418231	7.571679	17.491705	
27.58	2.44046	22.183592	13.011256	25.717786	30.392789	0.418682	7.562306	17.529494	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
27.6	2.44489	22.148756	13.036738	25.70066	30.481082	0.41943	7.546811	17.592149	
27.620001	2.448471	22.13793	13.122222	25.734814	30.657327	0.420033	7.534335	17.642758	
27.639999	2.448865	22.137402	13.134082	25.74041	30.680636	0.420099	7.532965	17.648325	
27.66	2.452271	22.118149	13.181225	25.747956	30.792718	0.420671	7.521146	17.696421	
27.68	2.457983	22.073383	13.212861	25.725744	30.904285	0.421628	7.501409	17.777027	
27.700001	2.459618	22.065518	13.240306	25.733107	30.96571	0.421901	7.49578	17.800082	
27.719999	2.45903	22.079375	13.271718	25.761159	31.00976	0.421803	7.497801	17.791799	
27.74	2.464428	22.040027	13.311773	25.748128	31.131262	0.422704	7.47927	17.867877	
27.76	2.466222	22.033187	13.348201	25.76113	31.20848	0.423003	7.473133	17.893147	
27.780001	2.46897	22.017217	13.383305	25.765688	31.293647	0.42346	7.463753	17.931832	
27.799999	2.472278	21.992383	13.404447	25.755467	31.362532	0.424009	7.452493	17.978387	
27.82	2.475934	21.970905	13.449689	25.760722	31.473318	0.424615	7.440092	18.029797	
27.84	2.479136	21.953575	13.494514	25.769388	31.578438	0.425145	7.429266	18.074794	
27.860001	2.478193	21.967591	13.514426	25.791757	31.599816	0.424989	7.43245	18.061551	
27.879999	2.481298	21.944051	13.532711	25.781304	31.66184	0.425502	7.421975	18.105167	
27.9	2.490805	21.88354	13.630055	25.78115	31.916567	0.427066	7.390096	18.238554	
27.92	2.488971	21.893786	13.606171	25.777234	31.859465	0.426765	7.396223	18.21284	
27.940001	2.493948	21.860413	13.650202	25.772188	31.981769	0.427582	7.37962	18.282603	
27.959999	2.496149	21.855972	13.707623	25.798884	32.095159	0.427942	7.3723	18.313442	
27.98	2.497923	21.847555	13.73589	25.806788	32.158256	0.428232	7.366414	18.338282	
28	2.501897	21.816636	13.754455	25.790514	32.229732	0.428881	7.353264	18.393889	
28.02	2.504528	21.794649	13.760948	25.775384	32.268008	0.42931	7.344585	18.430687	
28.040001	2.506213	21.801617	13.842516	25.824905	32.412775	0.429584	7.33904	18.454235	
28.059999	2.506313	21.807593	13.867772	25.843495	32.452943	0.4296	7.338708	18.455643	
28.08	2.512129	21.756432	13.872052	25.802638	32.521923	0.430545	7.319632	18.536889	
28.1	2.512955	21.755522	13.895944	25.814724	32.567723	0.430679	7.31693	18.548422	
28.120001	2.51768	21.730445	13.959236	25.827746	32.715996	0.431443	7.301521	18.614349	
28.139999	2.519127	21.723858	13.982497	25.834787	32.767296	0.431677	7.296817	18.634524	
28.16	2.524175	21.692046	14.030923	25.834311	32.895792	0.432491	7.280453	18.704869	
28.18	2.528585	21.663128	14.068639	25.830558	33.000876	0.433201	7.266219	18.766274	
28.200001	2.528292	21.671158	14.088462	25.848092	33.028032	0.433153	7.267164	18.762195	
28.219999	2.533021	21.641067	14.131784	25.846529	33.144905	0.433912	7.251961	18.827986	
28.24	2.533748	21.642919	14.161996	25.86461	33.198698	0.434029	7.249631	18.83809	
28.26	2.538078	21.627748	14.246107	25.89809	33.372787	0.434721	7.235781	18.898264	
28.280001	2.54151	21.597447	14.246061	25.872765	33.409613	0.435269	7.224844	18.945916	
28.299999	2.54519	21.578479	14.294863	25.883853	33.522909	0.435855	7.213151	18.996994	
28.32	2.550063	21.53746	14.301198	25.853171	33.584818	0.43663	7.197735	19.064547	
28.34	2.550785	21.538085	14.326469	25.867679	33.630682	0.436744	7.195455	19.074558	
28.360001	2.555082	21.518749	14.392668	25.888327	33.776373	0.437425	7.181927	19.134069	
28.379999	2.55851	21.50379	14.446824	25.906055	33.894327	0.437967	7.171171	19.181513	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
28.4	2.555386	21.537615	14.470427	25.947295	33.895936	0.437473	7.180971	19.138279	
28.42	2.560689	21.495701	14.486194	25.921322	33.976531	0.438311	7.164354	19.211646	
28.440001	2.563252	21.481329	14.51483	25.925428	34.046763	0.438715	7.156351	19.247081	
28.459999	2.572824	21.414393	14.572637	25.90247	34.235609	0.440219	7.126631	19.379247	
28.48	2.571193	21.434579	14.594594	25.931513	34.250623	0.439963	7.131677	19.356744	
28.5	2.5749	21.411857	14.628118	25.93163	34.340106	0.440544	7.12022	19.407877	
28.52	2.579521	21.383604	14.669758	25.93184	34.451286	0.441266	7.105991	19.471566	
28.540001	2.581746	21.369314	14.687181	25.929922	34.500896	0.441613	7.099161	19.502213	
28.559999	2.585328	21.352944	14.738853	25.945752	34.615409	0.442171	7.088196	19.551516	
28.58	2.589974	21.325263	14.782274	25.947687	34.729038	0.442893	7.074026	19.615411	
28.6	2.591721	21.316711	14.805151	25.953702	34.781299	0.443164	7.068713	19.639422	
28.620001	2.595068	21.302328	14.855931	25.970904	34.891415	0.443682	7.058559	19.685392	
28.639999	2.601334	21.256802	14.883746	25.949519	34.999289	0.44465	7.039628	19.771389	
28.66	2.598827	21.290357	14.927607	26.002169	35.03605	0.444263	7.047189	19.736997	
28.68	2.602263	21.265693	14.943787	25.991276	35.096468	0.444793	7.036832	19.784125	
28.700001	2.610842	21.210803	15.007011	25.982851	35.280131	0.446112	7.011112	19.901636	
28.719999	2.609679	21.222802	15.014826	25.99716	35.278918	0.445934	7.014585	19.885727	
28.74	2.615035	21.190455	15.06054	25.997217	35.402339	0.446755	6.99861	19.959009	
28.76	2.619951	21.158515	15.093927	25.990563	35.503122	0.447506	6.984017	20.026188	
28.780001	2.621743	21.150822	15.120077	25.9995	35.559882	0.44778	6.978713	20.050662	
28.799999	2.622111	21.160701	15.166259	26.034414	35.62992	0.447836	6.977623	20.055695	
28.82	2.626819	21.127506	15.188315	26.020308	35.711976	0.448553	6.963734	20.119937	
28.84	2.631147	21.095916	15.204376	26.004052	35.781337	0.44921	6.951016	20.178944	
28.860001	2.633056	21.095422	15.259191	26.03574	35.879833	0.449499	6.94542	20.204961	
28.879999	2.635537	21.092251	15.321182	26.069555	35.994311	0.449875	6.938163	20.238751	
28.9	2.641375	21.057135	15.36842	26.068971	36.123669	0.450757	6.921152	20.31818	
28.92	2.647376	21.010654	15.379458	26.037959	36.203588	0.451661	6.903756	20.399728	
28.940001	2.647869	21.018276	15.420908	26.068608	36.267204	0.451735	6.902332	20.406421	
28.959999	2.648087	21.032317	15.476908	26.113082	36.348048	0.451767	6.901701	20.409382	
28.98	2.653282	21.000212	15.514696	26.109667	36.456593	0.452547	6.886725	20.479886	
29	2.658742	20.955777	15.516047	26.074744	36.517	0.453364	6.871058	20.553896	
29.02	2.661021	20.949801	15.560874	26.096646	36.603905	0.453704	6.864543	20.584757	
29.040001	2.66144	20.954271	15.588765	26.116873	36.647178	0.453767	6.863345	20.590436	
29.059999	2.666312	20.925472	15.627577	26.116978	36.753203	0.454493	6.849462	20.656358	
29.08	2.668309	20.921858	15.672215	26.14082	36.836333	0.45479	6.843788	20.683363	
29.1	2.676094	20.867456	15.703486	26.11609	36.962798	0.455944	6.821764	20.78852	
29.120001	2.679257	20.867837	15.795001	26.171524	37.122379	0.456412	6.812858	20.831197	
29.139999	2.677028	20.880403	15.775671	26.169887	37.072032	0.456082	6.819134	20.801116	
29.16	2.682519	20.850548	15.82693	26.177033	37.200942	0.456894	6.8037	20.875168	
29.18	2.683615	20.842611	15.830161	26.172666	37.217081	0.457055	6.800628	20.889942	



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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	2.688852	20.813148	15.874929	26.176334	37.334121	0.457826	6.785992	20.960458	
29.219999	2.696201	20.775757	15.950778	26.192736	37.515647	0.458904	6.765565	21.05928	
29.24	2.696272	20.773971	15.94649	26.188708	37.510588	0.458914	6.76537	21.060225	
29.26	2.701254	20.747485	15.993365	26.196295	37.627187	0.459643	6.751594	21.127135	
29.280001	2.708181	20.701212	16.024637	26.178792	37.743224	0.460652	6.732541	21.220027	
29.299999	2.708004	20.717161	16.077146	26.22392	37.812013	0.460626	6.733026	21.217655	
29.32	2.709329	20.709645	16.086139	26.223143	37.838206	0.460819	6.729395	21.235405	
29.34	2.713419	20.690826	16.133883	26.237615	37.945755	0.461413	6.718208	21.290175	
29.360001	2.720096	20.645273	16.159327	26.217383	38.050821	0.462379	6.70003	21.379471	
29.379999	2.718534	20.673536	16.21491	26.273911	38.108282	0.462154	6.704273	21.358594	
29.4	2.723525	20.635135	16.218431	26.245881	38.166066	0.462875	6.690735	21.425281	
29.42	2.730224	20.598789	16.2755	26.252657	38.31301	0.463839	6.672651	21.514683	
29.440001	2.729635	20.62332	16.344803	26.314899	38.398294	0.463755	6.674237	21.506825	
29.459999	2.732155	20.60421	16.347171	26.301397	38.428194	0.464117	6.667459	21.540418	
29.48	2.735284	20.589863	16.38258	26.312191	38.508015	0.464565	6.659061	21.582108	
29.5	2.739694	20.568879	16.429533	26.325052	38.616418	0.465197	6.647264	21.640816	
29.52	2.744911	20.538312	16.464698	26.323156	38.717746	0.465942	6.633363	21.710193	
29.540001	2.749698	20.520854	16.533279	26.352509	38.857829	0.466624	6.620665	21.773766	
29.559999	2.74917	20.524705	16.532418	26.354968	38.85112	0.466549	6.622062	21.766761	
29.58	2.753196	20.506995	16.579316	26.370638	38.954611	0.467121	6.611415	21.820187	
29.6	2.760081	20.467505	16.626997	26.369979	39.08912	0.468097	6.593291	21.911438	
29.620001	2.763226	20.448375	16.644729	26.366324	39.14524	0.468541	6.585047	21.953073	
29.639999	2.766746	20.435616	16.694346	26.387792	39.246281	0.469038	6.575845	21.999638	
29.66	2.769015	20.422942	16.710808	26.3884	39.291372	0.469357	6.569928	22.029631	
29.68	2.769537	20.433105	16.759793	26.427305	39.359612	0.469431	6.568567	22.036535	
29.700001	2.774711	20.401168	16.786502	26.419582	39.448323	0.470158	6.555121	22.104868	
29.719999	2.781684	20.364317	16.84316	26.42721	39.593941	0.471135	6.537092	22.196822	
29.74	2.785518	20.338715	16.855539	26.415384	39.650024	0.471671	6.527221	22.247328	
29.76	2.786115	20.350251	16.911023	26.459694	39.726593	0.471754	6.525687	22.255188	
29.780001	2.787635	20.347973	16.942977	26.478378	39.782921	0.471966	6.521786	22.275192	
29.799999	2.798601	20.276063	16.981327	26.447764	39.94645	0.47349	6.493777	22.419315	
29.82	2.799494	20.281177	17.022192	26.477937	40.007139	0.473614	6.491507	22.431036	
29.84	2.800599	20.282176	17.054319	26.499368	40.058957	0.473767	6.488701	22.445534	
29.860001	2.802327	20.275425	17.075883	26.508086	40.104021	0.474006	6.484319	22.468192	
29.879999	2.809319	20.239956	17.1347	26.518932	40.250586	0.474972	6.466643	22.559823	
29.9	2.806999	20.258949	17.140074	26.536901	40.232946	0.474652	6.472498	22.529432	
29.92	2.817356	20.190351	17.170931	26.504549	40.379649	0.476077	6.446453	22.664944	
29.940001	2.814933	20.226788	17.233859	26.573085	40.432112	0.475744	6.452527	22.633269	
29.959999	2.822982	20.185946	17.299842	26.5849	40.597443	0.476848	6.432397	22.73842	
29.98	2.824944	20.170781	17.297907	26.572129	40.615554	0.477116	6.427512	22.764012	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30	2.826897	20.163519	17.322777	26.582815	40.666433	0.477383	6.422655	22.789483	
30.02	2.827556	20.176325	17.383344	26.632024	40.747318	0.477473	6.421017	22.798081	
30.040001	2.8388	20.108343	17.435666	26.614806	40.928178	0.479004	6.39322	22.944469	
30.059999	2.838623	20.122704	17.48029	26.654902	40.980427	0.47898	6.393654	22.942174	
30.08	2.83947	20.124091	17.506346	26.673042	41.020728	0.479095	6.391571	22.953181	
30.1	2.845622	20.082757	17.520016	26.650855	41.101223	0.479928	6.376476	23.0331	
30.120001	2.851088	20.056351	17.56688	26.661817	41.214418	0.480666	6.363128	23.104001	
30.139999	2.85473	20.043359	17.613571	26.682843	41.308218	0.481157	6.354265	23.151198	
30.16	2.856119	20.03896	17.633228	26.692521	41.346147	0.481344	6.350891	23.169192	
30.18	2.860951	20.016325	17.676319	26.704036	41.447638	0.481993	6.339188	23.231713	
30.200001	2.862041	20.020474	17.717504	26.734423	41.507914	0.482139	6.336553	23.245808	
30.219999	2.864915	20.004802	17.735412	26.734564	41.558913	0.482524	6.329619	23.282956	
30.24	2.872559	19.971501	17.810958	26.759878	41.72725	0.483546	6.311251	23.381635	
30.26	2.878044	19.939357	17.836587	26.752977	41.814035	0.484276	6.29814	23.452331	
30.280001	2.879169	19.936254	17.853666	26.762055	41.845716	0.484426	6.295457	23.466822	
30.299999	2.883117	19.909533	17.859573	26.7461	41.893331	0.48495	6.286063	23.51764	
30.32	2.882605	19.931874	17.922968	26.805081	41.962313	0.484882	6.287281	23.511044	
30.34	2.89041	19.897966	17.99837	26.8304	42.130461	0.485915	6.268788	23.611371	
30.360001	2.890458	19.901605	18.011872	26.842158	42.146624	0.485922	6.268674	23.611989	
30.379999	2.895428	19.882481	18.067773	26.865545	42.262386	0.486578	6.256957	23.675778	
30.4	2.898436	19.862362	18.07249	26.853832	42.298703	0.486974	6.24989	23.71434	
30.42	2.902013	19.849968	18.116989	26.874644	42.386657	0.487444	6.241505	23.760168	
30.440001	2.906951	19.81969	18.133537	26.863456	42.45626	0.488092	6.229968	23.82337	
30.459999	2.911373	19.797082	18.163297	26.86689	42.53563	0.488671	6.219677	23.879891	
30.48	2.91572	19.784965	18.226551	26.900781	42.652351	0.489238	6.209592	23.935409	
30.5	2.916094	19.784262	18.233127	26.90472	42.663665	0.489287	6.208725	23.940183	
30.52	2.921427	19.76647	18.300361	26.937271	42.79447	0.489982	6.196405	24.008194	
30.540001	2.925811	19.747154	18.339492	26.949714	42.883418	0.490551	6.186313	24.064047	
30.559999	2.927298	19.746836	18.373741	26.972799	42.937185	0.490744	6.182899	24.082975	
30.58	2.93369	19.714631	18.416525	26.978419	43.050298	0.491572	6.168265	24.164261	
30.6	2.934377	19.728728	18.480237	27.032237	43.128582	0.49166	6.166697	24.172986	
30.620001	2.937122	19.704295	18.462728	27.002436	43.136912	0.492015	6.160437	24.207853	
30.639999	2.940587	19.689069	18.493056	27.012082	43.205936	0.492461	6.152555	24.251827	
30.66	2.948295	19.643688	18.521095	26.998249	43.315243	0.493452	6.135098	24.349507	
30.68	2.953266	19.628983	18.587897	27.03344	43.439638	0.494089	6.123893	24.41241	
30.700001	2.952945	19.640651	18.619703	27.063786	43.471545	0.494048	6.124615	24.408353	
30.719999	2.961578	19.592923	18.660142	27.057042	43.603225	0.495151	6.105253	24.517416	
30.74	2.954438	19.642335	18.660174	27.092867	43.531209	0.494239	6.121259	24.427226	
30.76	2.961735	19.608835	18.717329	27.108021	43.667559	0.495171	6.104902	24.519399	
30.780001	2.968319	19.575084	18.756456	27.110672	43.776624	0.496008	6.090221	24.602424	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	2.972644	19.558122	18.799345	27.128131	43.866814	0.496557	6.080618	24.656885	
30.82	2.97265	19.572651	18.848217	27.172485	43.919882	0.496558	6.080606	24.656954	
30.84	2.98141	19.5129	18.849061	27.130065	44.008695	0.497665	6.061252	24.767081	
30.860001	2.98502	19.504863	18.904837	27.163073	44.10509	0.49812	6.053313	24.812396	
30.879999	2.990214	19.490393	18.974973	27.201562	44.232384	0.498774	6.041929	24.877522	
30.9	2.990555	19.489028	18.978181	27.202823	44.239231	0.498817	6.041182	24.881799	
30.92	2.995725	19.466999	19.022032	27.217674	44.337718	0.499465	6.029898	24.946534	
30.940001	2.998274	19.461798	19.062497	27.242254	44.406233	0.499784	6.02435	24.978423	
30.959999	2.99963	19.462831	19.096674	27.266917	44.456019	0.499954	6.021405	24.995369	
30.98	2.999529	19.471655	19.123876	27.29227	44.483808	0.499941	6.021623	24.994109	
31	3.008163	19.432342	19.187504	27.308904	44.636846	0.501018	6.002928	25.101935	
31.02	3.010405	19.419886	19.196367	27.306271	44.668442	0.501297	5.998093	25.129898	
31.040001	3.011203	19.419634	19.213463	27.318114	44.694314	0.501396	5.996375	25.13984	
31.059999	3.016453	19.408112	19.292803	27.365801	44.829367	0.502048	5.985092	25.20524	
31.08	3.023172	19.365241	19.300008	27.340499	44.903415	0.50288	5.970716	25.288811	
31.1	3.025263	19.371509	19.367557	27.392656	44.994235	0.503138	5.966257	25.314788	
31.120001	3.02296	19.386886	19.367454	27.40346	44.97135	0.502854	5.971169	25.286176	
31.139999	3.030279	19.352532	19.415914	27.413468	45.09375	0.503756	5.955587	25.377059	
31.16	3.034129	19.341655	19.465082	27.440646	45.182311	0.50423	5.947425	25.424797	
31.18	3.039599	19.310477	19.482272	27.430885	45.253815	0.504901	5.93587	25.492534	
31.200001	3.045452	19.286175	19.530441	27.448036	45.360628	0.505618	5.923556	25.564919	
31.219999	3.045939	19.292267	19.561455	27.47439	45.397032	0.505677	5.922532	25.570945	
31.24	3.05208	19.260775	19.591558	27.473744	45.487876	0.506426	5.909674	25.646763	
31.26	3.05248	19.262431	19.605838	27.485089	45.506283	0.506475	5.908839	25.651695	
31.280001	3.06032	19.22281	19.645527	27.48569	45.623183	0.507428	5.892511	25.74832	
31.299999	3.057535	19.247478	19.666764	27.518122	45.617397	0.50709	5.8983	25.714021	
31.32	3.059116	19.256544	19.731339	27.570641	45.697793	0.507282	5.895014	25.733487	
31.34	3.07149	19.184888	19.762474	27.542972	45.849709	0.508779	5.869411	25.885639	
31.360001	3.073569	19.180053	19.791476	27.560424	45.898917	0.50903	5.865131	25.91116	
31.379999	3.076591	19.174951	19.839914	27.591682	45.976526	0.509394	5.858923	25.948228	
31.4	3.077715	19.174455	19.862529	27.607604	46.009883	0.509529	5.856619	25.961999	
31.42	3.082068	19.162721	19.917455	27.639011	46.106466	0.510052	5.847706	26.015331	
31.440001	3.090857	19.110259	19.932235	27.61333	46.206172	0.511105	5.829798	26.122826	
31.459999	3.091635	19.11521	19.965353	27.640669	46.246273	0.511198	5.82822	26.132322	
31.48	3.095853	19.103665	20.017328	27.670263	46.33797	0.511701	5.819671	26.183816	
31.5	3.095932	19.116753	20.062352	27.711879	46.382664	0.511711	5.819511	26.184778	
31.52	3.099321	19.098891	20.075504	27.709087	46.428163	0.512114	5.812662	26.226104	
31.540001	3.106914	19.06613	20.128526	27.724987	46.55274	0.513016	5.797377	26.318572	
31.559999	3.106665	19.072715	20.145044	27.741508	46.566326	0.512987	5.797876	26.315546	
31.58	3.111802	19.049744	20.177893	27.749597	46.6474	0.513595	5.78758	26.378008	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	3.12067	19.014523	20.248578	27.776915	46.80032	0.514642	5.769895	26.485642	
31.620001	3.126744	18.984995	20.278591	27.778612	46.887093	0.515356	5.757847	26.559222	
31.639999	3.124851	19.001287	20.292755	27.800086	46.882531	0.515134	5.761595	26.536306	
31.66	3.133643	18.976101	20.39372	27.856709	47.062285	0.516165	5.744225	26.642657	
31.68	3.129755	19.002801	20.400544	27.879897	47.031667	0.51571	5.751892	26.595659	
31.700001	3.140843	18.938057	20.418212	27.848759	47.153911	0.517007	5.73008	26.729574	
31.719999	3.143318	18.927682	20.435428	27.854333	47.193641	0.517295	5.725234	26.759414	
31.74	3.141212	18.949602	20.46405	27.890227	47.200559	0.51705	5.729356	26.734029	
31.76	3.147333	18.93056	20.528336	27.924518	47.318846	0.517762	5.71739	26.80779	
31.780001	3.154466	18.898792	20.571135	27.934494	47.426258	0.51859	5.703511	26.893595	
31.799999	3.159261	18.874354	20.589404	27.93143	47.488528	0.519145	5.694221	26.951184	
31.82	3.15918	18.894431	20.653956	27.992596	47.547517	0.519136	5.694378	26.950214	
31.84	3.161183	18.881374	20.652163	27.982461	47.564766	0.519367	5.690505	26.974256	
31.860001	3.164971	18.862448	20.66763	27.981117	47.614738	0.519805	5.683198	27.019682	
31.879999	3.172199	18.840494	20.743382	28.022351	47.752305	0.520636	5.669309	27.106228	
31.9	3.178947	18.802797	20.756905	28.00704	47.827992	0.521411	5.656404	27.186896	
31.92	3.175278	18.832151	20.778814	28.042985	47.813595	0.52099	5.663413	27.143054	
31.940001	3.179604	18.831171	20.863714	28.105295	47.931306	0.521486	5.655151	27.194737	
31.959999	3.18908	18.775065	20.871546	28.073555	48.02702	0.522568	5.63714	27.307757	
31.98	3.191538	18.777039	20.927822	28.116738	48.100724	0.522848	5.632488	27.337023	
32	3.20038	18.72837	20.946106	28.097886	48.199492	0.523853	5.615818	27.442157	
32.02	3.194794	18.778052	20.996905	28.16887	48.193031	0.523219	5.626338	27.375761	
32.040001	3.200402	18.743885	20.997654	28.146664	48.245889	0.523855	5.615777	27.442415	
32.060001	3.20721	18.720683	21.058183	28.176427	48.363052	0.524626	5.603011	27.523197	
32.080002	3.211648	18.692434	21.054182	28.154674	48.400607	0.525126	5.594722	27.575781	
32.099998	3.213468	18.702866	21.124947	28.214546	48.480173	0.525332	5.591329	27.597332	
32.119999	3.215278	18.69414	21.132433	28.214368	48.503517	0.525535	5.58796	27.618746	
32.139999	3.219027	18.686742	21.182937	28.247321	48.582633	0.525957	5.580994	27.663086	
32.16	3.221325	18.679013	21.203316	28.257497	48.621721	0.526215	5.576733	27.690236	
32.18	3.225217	18.6689	21.247491	28.283983	48.696245	0.526652	5.569533	27.736185	
32.200001	3.23264	18.624438	21.24863	28.255513	48.765499	0.527482	5.555852	27.823694	
32.220001	3.231932	18.650986	21.321803	28.328053	48.822672	0.527403	5.557154	27.815356	
32.240002	3.240216	18.615671	21.36952	28.340776	48.939923	0.528326	5.541962	27.912828	
32.259998	3.243933	18.60554	21.409449	28.364249	49.008333	0.528739	5.535173	27.956494	
32.279999	3.246352	18.599151	21.436032	28.380132	49.053272	0.529007	5.530764	27.984892	
32.299999	3.248131	18.591912	21.447225	28.383845	49.079117	0.529205	5.527525	28.005768	
32.32	3.25408	18.571234	21.495969	28.407172	49.17503	0.529863	5.516726	28.075495	
32.34	3.255708	18.570625	21.525794	28.42935	49.215255	0.530043	5.513778	28.094557	
32.360001	3.26041	18.552516	21.558219	28.442093	49.285544	0.530562	5.505283	28.149566	
32.380001	3.269294	18.509649	21.590525	28.438669	49.393461	0.531539	5.489305	28.25332	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	3.269869	18.514278	21.616866	28.461682	49.4209	0.531602	5.488275	28.260021	
32.419998	3.268782	18.527512	21.63914	28.487209	49.429825	0.531482	5.490224	28.247345	
32.439999	3.27894	18.480175	21.68072	28.488077	49.556534	0.532595	5.472066	28.365694	
32.459999	3.27922	18.489174	21.71562	28.520479	49.588256	0.532625	5.471567	28.36895	
32.48	3.288836	18.444765	21.755362	28.522011	49.707937	0.533673	5.454495	28.480688	
32.5	3.289905	18.44934	21.790912	28.552093	49.747068	0.533789	5.452604	28.493092	
32.52	3.2916	18.442455	21.800909	28.555276	49.770573	0.533973	5.449608	28.512758	
32.540001	3.297985	18.430852	21.885239	28.612235	49.897377	0.534666	5.438353	28.586742	
32.560001	3.303481	18.411869	21.928051	28.632784	49.981617	0.53526	5.428706	28.650316	
32.580002	3.30319	18.40685	21.906073	28.612728	49.961014	0.535228	5.429216	28.646952	
32.599998	3.308821	18.392363	21.965936	28.649282	50.060214	0.535836	5.419363	28.712016	
32.619999	3.311858	18.385501	22.001203	28.67193	50.115971	0.536163	5.414065	28.747063	
32.639999	3.310051	18.399831	22.013729	28.690731	50.110051	0.535968	5.417216	28.726214	
32.66	3.31708	18.373018	22.059378	28.708605	50.209538	0.536724	5.404982	28.807251	
32.68	3.32112	18.363646	22.105155	28.737803	50.282305	0.537157	5.397974	28.85377	
32.700001	3.335696	18.297831	22.164442	28.741487	50.458749	0.538713	5.37285	29.021175	
32.720001	3.332411	18.321499	22.180162	28.76868	50.44233	0.538363	5.378491	28.983504	
32.740002	3.343917	18.273288	22.238172	28.782796	50.589863	0.539586	5.358787	29.115305	
32.759998	3.339647	18.298629	22.24116	28.801198	50.554687	0.539133	5.366081	29.066447	
32.779999	3.344615	18.282123	22.280119	28.820821	50.629235	0.53966	5.357596	29.12329	
32.799999	3.350793	18.261655	22.328482	28.845263	50.721602	0.540314	5.34708	29.193892	
32.82	3.352023	18.259959	22.345834	28.857623	50.746018	0.540444	5.344992	29.207929	
32.84	3.357932	18.237933	22.383688	28.873027	50.827396	0.541067	5.334984	29.275317	
32.860001	3.36094	18.231119	22.417223	28.894732	50.879875	0.541383	5.329903	29.309589	
32.880001	3.366057	18.216997	22.465798	28.923538	50.962291	0.541921	5.321284	29.367813	
32.900002	3.372243	18.19357	22.503468	28.938073	51.045295	0.542569	5.310902	29.438104	
32.919998	3.373799	18.187012	22.510709	28.939582	51.064404	0.542732	5.308297	29.455762	
32.939999	3.37247	18.205461	22.546458	28.978985	51.080452	0.542593	5.310522	29.44068	
32.959999	3.38231	18.16393	22.591761	28.988205	51.20057	0.54362	5.294096	29.552239	
32.98	3.395483	18.107276	22.647553	28.996295	51.356894	0.544987	5.27227	29.701131	
33	3.389035	18.150611	22.671406	29.041992	51.319507	0.544319	5.28293	29.628317	
33.02	3.387918	18.162488	22.689706	29.063701	51.323775	0.544203	5.284782	29.615685	
33.040001	3.40066	18.114339	22.764927	29.09246	51.490383	0.545523	5.263743	29.759505	
33.060001	3.405661	18.090203	22.776955	29.086855	51.542337	0.546039	5.255533	29.815815	
33.080002	3.406162	18.090533	22.787122	29.095022	51.554281	0.54609	5.254712	29.821454	
33.099998	3.410896	18.079518	22.836922	29.127203	51.63216	0.546577	5.246966	29.874686	
33.119999	3.411614	18.08469	22.86677	29.15382	51.660602	0.546651	5.245794	29.882752	
33.139999	3.421427	18.043358	22.908971	29.16134	51.775733	0.547657	5.229821	29.992863	
33.16	3.427632	18.029517	22.97535	29.204969	51.877642	0.548291	5.219773	30.062335	
33.18	3.428297	18.036234	23.009172	29.235727	51.908205	0.548359	5.218699	30.069769	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
33.200001	3.439888	17.972078	23.007209	29.194644	52.004923	0.549538	5.200043	30.199222	
33.220001	3.439637	17.987434	23.052927	29.240131	52.036358	0.549513	5.200444	30.196427	
33.240002	3.441056	17.993026	23.096488	29.277923	52.080171	0.549657	5.19817	30.212244	
33.259998	3.449482	17.958259	23.13308	29.285465	52.177826	0.550509	5.184704	30.306071	
33.279999	3.458999	17.915003	23.16061	29.28073	52.277721	0.551469	5.16958	30.41179	
33.299999	3.454703	17.951481	23.203626	29.337074	52.27277	0.551036	5.176396	30.364098	
33.32	3.468705	17.890982	23.25363	29.339709	52.425966	0.552443	5.154249	30.519334	
33.34	3.465903	17.911283	23.27052	29.365476	52.414669	0.552162	5.158666	30.488313	
33.360001	3.467442	17.913465	23.304778	29.39396	52.452028	0.552317	5.156239	30.505357	
33.380001	3.479271	17.862788	23.347339	29.396895	52.580893	0.553499	5.137666	30.636094	
33.400002	3.474538	17.897627	23.377939	29.442369	52.563232	0.553026	5.145082	30.583826	
33.419998	3.487522	17.836999	23.407553	29.429102	52.692005	0.55432	5.124794	30.727034	
33.439999	3.494159	17.810852	23.437937	29.437448	52.768327	0.554978	5.114486	30.800047	
33.459999	3.497376	17.813795	23.503595	29.491529	52.840954	0.555296	5.109506	30.835387	
33.48	3.4968	17.81603	23.500887	29.490721	52.834316	0.555239	5.110396	30.829071	
33.5	3.507564	17.78641	23.591005	29.544744	52.98567	0.556301	5.093798	30.947117	
33.52	3.515732	17.748048	23.606886	29.534358	53.063641	0.557104	5.081275	31.036481	
33.540001	3.504668	17.800705	23.58749	29.550546	52.959436	0.556016	5.098253	30.915387	
33.560001	3.513521	17.776181	23.660613	29.594209	53.082613	0.556887	5.084659	31.012306	
33.580002	3.517985	17.759764	23.684039	29.603089	53.135252	0.557325	5.077833	31.06109	
33.599998	3.525519	17.741813	23.755054	29.649191	53.245335	0.558062	5.066356	31.143286	
33.619999	3.526556	17.749594	23.798216	29.688435	53.28315	0.558163	5.064779	31.154594	
33.639999	3.531361	17.726584	23.805563	29.680577	53.327234	0.558632	5.057491	31.206918	
33.66	3.540223	17.689106	23.834742	29.681634	53.418901	0.559493	5.044107	31.303243	
33.68	3.550817	17.646213	23.874997	29.688455	53.531673	0.560518	5.028202	31.418091	
33.700001	3.550496	17.663232	23.925195	29.738942	53.562788	0.560487	5.028682	31.414619	
33.720001	3.554935	17.654503	23.972044	29.771469	53.629854	0.560916	5.022046	31.462654	
33.740002	3.557876	17.646847	23.996878	29.786933	53.670038	0.561199	5.017661	31.494441	
33.759998	3.563039	17.636508	24.05045	29.823993	53.747013	0.561696	5.00998	31.550193	
33.779999	3.571176	17.604077	24.091646	29.838078	53.844012	0.562532	4.99706	31.644191	
33.799999	3.571058	17.608561	24.094471	29.843005	53.840261	0.562465	4.998097	31.636634	
33.82	3.579237	17.576441	24.127043	29.850385	53.926926	0.563246	4.986038	31.724603	
33.84	3.579957	17.587698	24.17591	29.896517	53.964633	0.563315	4.984978	31.732347	
33.860001	3.587893	17.562763	24.227366	29.923501	54.061204	0.56407	4.97334	31.817499	
33.880001	3.595006	17.541833	24.27775	29.952046	54.150187	0.564745	4.962954	31.893679	
33.900002	3.592283	17.556097	24.27891	29.961342	54.129378	0.564487	4.966924	31.864533	
33.919998	3.601233	17.524391	24.324419	29.979687	54.229443	0.565334	4.9539	31.960241	
33.939999	3.606438	17.510879	24.366707	30.006121	54.297577	0.565825	4.946357	32.015796	
33.959999	3.615166	17.484734	24.425796	30.038899	54.403847	0.566646	4.933761	32.108784	
33.98	3.618583	17.470036	24.434191	30.037174	54.435965	0.566967	4.928849	32.145127	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34	3.617113	17.483111	24.452661	30.059804	54.436166	0.566829	4.93096	32.1295	
34.02	3.625349	17.449436	24.478375	30.061165	54.516883	0.5676	4.919149	32.217	
34.040001	3.632551	17.435482	24.551117	30.112346	54.618844	0.568272	4.908868	32.293355	
34.060001	3.63099	17.456442	24.593951	30.159406	54.633496	0.568127	4.911093	32.276819	
34.080002	3.649384	17.370866	24.614997	30.127148	54.789379	0.569835	4.885011	32.471245	
34.099998	3.64397	17.412646	24.663379	30.190769	54.777539	0.569334	4.892657	32.414125	
34.119999	3.65492	17.363872	24.682282	30.178123	54.873885	0.570347	4.877216	32.529576	
34.139999	3.656391	17.372264	24.733669	30.224989	54.916923	0.570483	4.875149	32.545065	
34.16	3.662011	17.358087	24.778506	30.253554	54.9877	0.571001	4.867269	32.604168	
34.18	3.658935	17.37746	24.791932	30.275667	54.972251	0.570717	4.871578	32.571829	
34.200001	3.678212	17.305407	24.867908	30.296699	55.166305	0.572486	4.844699	32.774051	
34.220001	3.673812	17.32813	24.871332	30.312493	55.134747	0.572084	4.850808	32.727979	
34.240002	3.677635	17.323359	24.917339	30.347529	55.191791	0.572433	4.845499	32.76801	
34.259998	3.691976	17.263121	24.950525	30.340468	55.320966	0.57374	4.825692	32.917803	
34.279999	3.69466	17.264735	24.998788	30.381088	55.370251	0.573984	4.822004	32.945767	
34.299999	3.696682	17.265716	25.034333	30.410899	55.406787	0.574167	4.819229	32.966825	
34.32	3.699406	17.262267	25.066551	30.43547	55.446566	0.574414	4.815496	32.995175	
34.34	3.705625	17.236865	25.082576	30.434276	55.503063	0.574977	4.806994	33.059829	
34.360001	3.711332	17.228112	25.144692	30.480541	55.582753	0.575492	4.799221	33.119054	
34.380001	3.717431	17.208771	25.178166	30.497243	55.648274	0.57604	4.79094	33.182262	
34.400002	3.720069	17.209015	25.220741	30.53254	55.692979	0.576277	4.787368	33.209563	
34.419998	3.726745	17.196639	25.285745	30.579295	55.780782	0.576876	4.778354	33.278569	
34.439999	3.73345	17.166129	25.291583	30.566978	55.834225	0.577475	4.769334	33.347756	
34.459999	3.73563	17.173042	25.348524	30.617986	55.883361	0.57767	4.766408	33.370227	
34.48	3.74387	17.131753	25.342718	30.590036	55.941287	0.578403	4.755385	33.455037	
34.5	3.749242	17.129499	25.41951	30.652426	56.025166	0.57888	4.748227	33.510222	
34.52	3.754785	17.112405	25.450157	30.668305	56.083648	0.579371	4.740863	33.56709	
34.540001	3.751368	17.140577	25.488995	30.716254	56.080461	0.579069	4.7454	33.532043	
34.560001	3.757389	17.122196	25.522838	30.734099	56.144105	0.579601	4.737412	33.593775	
34.580002	3.765711	17.097254	25.570728	30.76001	56.232382	0.580335	4.726418	33.678924	
34.599998	3.774956	17.062844	25.601452	30.766459	56.317454	0.581148	4.714265	33.773299	
34.619999	3.773714	17.071689	25.611199	30.779475	56.313816	0.581039	4.715894	33.760635	
34.639999	3.786385	17.036962	25.693257	30.828583	56.452108	0.582148	4.69933	33.889643	
34.66	3.791518	17.017339	25.707996	30.830033	56.497638	0.582596	4.692653	33.941783	
34.68	3.794991	17.015622	25.755789	30.86895	56.549262	0.582898	4.688147	33.977019	
34.700001	3.799624	16.998823	25.771835	30.873086	56.591688	0.583301	4.682151	34.023967	
34.720001	3.801969	17.003791	25.824087	30.919449	56.637317	0.583504	4.679121	34.047712	
34.740002	3.806539	16.995992	25.868496	30.952267	56.694582	0.5839	4.673228	34.093944	
34.759998	3.811828	16.975522	25.882215	30.952502	56.740196	0.584358	4.666427	34.147373	
34.779999	3.8171	16.971062	25.947993	31.005085	56.813752	0.584812	4.659668	34.200561	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34.799999	3.825692	16.935134	25.960848	30.9962	56.882338	0.585552	4.648696	34.287073	
34.82	3.829042	16.936957	26.017682	31.044811	56.93683	0.585839	4.644432	34.320753	
34.84	3.833568	16.909725	25.996885	31.012527	56.958031	0.586227	4.638684	34.366203	
34.860001	3.841374	16.896981	26.07312	31.069528	57.054389	0.586894	4.628804	34.444477	
34.880001	3.844724	16.898534	26.128757	31.117075	57.107701	0.58718	4.624579	34.478007	
34.900002	3.845383	16.908364	26.170916	31.157818	57.134624	0.587236	4.623748	34.484604	
34.919998	3.858379	16.86389	26.220395	31.175309	57.252628	0.58834	4.607432	34.614403	
34.939999	3.855531	16.881184	26.234405	31.196449	57.239831	0.588099	4.610997	34.586	
34.959999	3.865964	16.851656	26.293835	31.230499	57.344387	0.588982	4.597963	34.689954	
34.98	3.868551	16.84985	26.326549	31.257073	57.379533	0.5892	4.594744	34.715677	
35	3.87123	16.846868	26.356758	31.280916	57.41396	0.589426	4.591413	34.74231	
35.02	3.878438	16.831546	26.413878	31.320822	57.493853	0.590033	4.582478	34.813858	
35.040001	3.892098	16.776786	26.436858	31.310829	57.600958	0.591177	4.565643	34.949073	
35.060001	3.89046	16.787731	26.448574	31.326586	57.595536	0.591041	4.567655	34.932889	
35.080002	3.896866	16.772779	26.494264	31.35717	57.663342	0.591576	4.559796	34.996158	
35.099998	3.898831	16.784231	26.560884	31.419596	57.71068	0.591739	4.557391	35.015544	
35.119999	3.901773	16.778053	26.584018	31.435857	57.742724	0.591984	4.553795	35.044549	
35.139999	3.913804	16.744047	26.649453	31.473107	57.858653	0.592983	4.539149	35.162931	
35.16	3.914681	16.734483	26.630907	31.452315	57.855432	0.593056	4.538086	35.17154	
35.18	3.922407	16.71949	26.694924	31.498576	57.940481	0.593695	4.528736	35.247344	
35.200001	3.929469	16.703078	26.744242	31.531687	58.013322	0.594277	4.520225	35.316489	
35.220001	3.937257	16.673746	26.761358	31.530685	58.075006	0.594917	4.510876	35.392593	
35.240002	3.942481	16.66968	26.82401	31.581732	58.141373	0.595345	4.504627	35.443556	
35.259998	3.940968	16.676316	26.823837	31.585088	58.130983	0.595221	4.506435	35.428805	
35.279999	3.949607	16.646566	26.851424	31.592833	58.203218	0.595928	4.496131	35.512965	
35.299999	3.95074	16.664721	26.927536	31.667098	58.247862	0.59602	4.494784	35.523981	
35.32	3.957312	16.651713	26.979865	31.704773	58.317616	0.596556	4.486983	35.587849	
35.34	3.965142	16.61625	26.976267	31.683098	58.368774	0.597192	4.477723	35.663804	
35.360001	3.972084	16.614706	27.071122	31.763093	58.460881	0.597754	4.469547	35.73101	
35.380001	3.974779	16.613142	27.104681	31.790883	58.494922	0.597972	4.466382	35.757062	
35.400002	3.978543	16.597611	27.107629	31.785283	58.521567	0.598276	4.461968	35.79342	
35.419998	3.980146	16.601272	27.14264	31.817057	58.548867	0.598405	4.460091	35.808893	
35.439999	3.993753	16.571106	27.237957	31.88272	58.684489	0.5995	4.444222	35.939977	
35.459999	3.993744	16.568784	27.230191	31.874879	58.680799	0.599499	4.444233	35.939887	
35.48	3.99688	16.573379	27.289977	31.928354	58.729523	0.59975	4.440591	35.97004	
35.5	4.009009	16.532867	27.329131	31.940837	58.828096	0.600719	4.426566	36.086384	
35.52	4.02047	16.493649	27.362222	31.948892	58.918989	0.601631	4.413398	36.195972	
35.540001	4.019924	16.49915	27.372648	31.96066	58.920192	0.601588	4.414022	36.190766	
35.560001	4.02561	16.495669	27.441453	32.017815	58.98909	0.602038	4.407517	36.245017	
35.580002	4.03396	16.469168	27.471738	32.03014	59.05763	0.602698	4.397998	36.324547	



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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	4.037385	16.460859	27.492485	32.043667	59.089446	0.602969	4.394106	36.357112	
35.619999	4.036468	16.475984	27.529446	32.083149	59.100179	0.602896	4.395147	36.348399	
35.639999	4.048114	16.447997	27.600512	32.129813	59.208085	0.603812	4.381959	36.458948	
35.66	4.053584	16.436275	27.638334	32.156316	59.260526	0.604241	4.375792	36.510751	
35.68	4.059515	16.424881	27.683517	32.189343	59.319065	0.604705	4.369126	36.566841	
35.700001	4.060969	16.42822	27.714755	32.217915	59.342304	0.604819	4.367495	36.58057	
35.720001	4.072124	16.3896	27.742502	32.222126	59.426536	0.605688	4.355023	36.685777	
35.740002	4.081394	16.366999	27.79635	32.257026	59.50975	0.606407	4.344713	36.772967	
35.759998	4.082042	16.382763	27.857318	32.317566	59.540511	0.606457	4.343994	36.779059	
35.779999	4.075964	16.405565	27.848331	32.321388	59.497593	0.605986	4.350746	36.721922	
35.799999	4.098529	16.334342	27.924878	32.351346	59.675087	0.60773	4.325787	36.933575	
35.82	4.097251	16.349939	27.958768	32.388473	59.68154	0.607632	4.327193	36.921617	
35.84	4.096177	16.360919	27.98019	32.412509	59.683902	0.607549	4.328374	36.911574	
35.860001	4.109723	16.324415	28.045715	32.450711	59.797939	0.608589	4.313513	37.038102	
35.880001	4.109036	16.335572	28.073081	32.479975	59.805214	0.608537	4.314264	37.031692	
35.900002	4.121571	16.291263	28.098194	32.479436	59.895054	0.609495	4.3006	37.148391	
35.919998	4.117916	16.322122	28.150109	32.539826	59.893898	0.609216	4.304575	37.114402	
35.939999	4.129135	16.290233	28.197807	32.565135	59.984531	0.610071	4.292397	37.218625	
35.959999	4.133081	16.279465	28.215902	32.575422	60.016852	0.61037	4.28813	37.255207	
35.98	4.136677	16.286217	28.286956	32.640354	60.068916	0.610643	4.284249	37.288519	
36	4.141215	16.284297	28.342076	32.687178	60.120041	0.610987	4.279362	37.330502	
36.02	4.154888	16.235044	28.364344	32.681993	60.214359	0.612019	4.264705	37.456697	
36.040001	4.150198	16.266111	28.403532	32.731438	60.201237	0.611665	4.269721	37.413458	
36.060001	4.15327	16.247564	28.383842	32.705135	60.212291	0.611897	4.266435	37.441785	
36.080002	4.174075	16.199131	28.503551	32.785123	60.389682	0.613458	4.24431	37.633012	
36.099998	4.168832	16.224283	28.516289	32.808629	60.362484	0.613065	4.249864	37.584921	
36.119999	4.182186	16.189772	28.581099	32.847952	60.470708	0.614062	4.235749	37.707269	
36.139999	4.18257	16.194706	28.602509	32.869013	60.48162	0.614091	4.235344	37.710785	
36.16	4.193042	16.15908	28.624437	32.870568	60.554489	0.614869	4.224344	37.806422	
36.18	4.200915	16.154904	28.715262	32.947643	60.638459	0.615452	4.216112	37.87815	
36.200001	4.201024	16.158833	28.729683	32.962138	60.644798	0.61546	4.215998	37.879145	
36.220001	4.208951	16.141385	28.777093	32.99493	60.711564	0.616046	4.207744	37.951206	
36.240002	4.221417	16.110967	28.841232	33.036039	60.811996	0.616962	4.194828	38.064241	
36.259998	4.213479	16.151614	28.870665	33.081565	60.775396	0.616379	4.203044	37.992304	
36.279999	4.229574	16.100137	28.912793	33.093263	60.888787	0.61756	4.186422	38.137993	
36.299999	4.237183	16.079346	28.943945	33.110382	60.946446	0.618115	4.17861	38.20665	
36.32	4.238041	16.085169	28.974455	33.139881	60.963262	0.618178	4.177731	38.214389	
36.34	4.244167	16.073853	29.017251	33.171819	61.016229	0.618624	4.171467	38.269549	
36.360001	4.240493	16.104714	29.071059	33.233842	61.014638	0.618357	4.175221	38.236477	
36.380001	4.255798	16.050365	29.091434	33.225378	61.113649	0.619468	4.159625	38.374041	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
36.400002	4.254714	16.070702	29.144501	33.281667	61.127125	0.619389	4.160725	38.364316	
36.419998	4.26302	16.039209	29.148538	33.270009	61.177976	0.61999	4.152306	38.438762	
36.439999	4.271931	16.021703	29.206313	33.312215	61.252263	0.620632	4.143311	38.518457	
36.459999	4.278176	16.016946	29.271434	33.36704	61.313206	0.621081	4.137032	38.57419	
36.48	4.282851	16.008451	29.303756	33.391326	61.352615	0.621417	4.132344	38.615851	
36.5	4.282295	16.014293	29.315889	33.404774	61.353799	0.621377	4.132901	38.6109	
36.52	4.282697	16.03753	29.397757	33.487766	61.386058	0.621406	4.132498	38.61448	
36.540001	4.294239	15.997975	29.415871	33.484753	61.460318	0.622231	4.120969	38.717123	
36.560001	4.300062	15.991305	29.468648	33.527944	61.513422	0.622646	4.115177	38.768797	
36.580002	4.309422	15.969763	29.517419	33.560563	61.585459	0.623311	4.105902	38.85168	
36.599998	4.314726	15.958418	29.547738	33.581839	61.6271	0.623687	4.100665	38.898562	
36.619999	4.31164	15.988093	29.60628	33.647451	61.630011	0.623468	4.103711	38.871289	
36.639999	4.319073	15.969961	29.641341	33.669701	61.685511	0.623995	4.096383	38.936934	
36.66	4.328874	15.939582	29.665802	33.676848	61.750751	0.624686	4.086761	39.023288	
36.68	4.334594	15.938877	29.736121	33.738475	61.808326	0.625089	4.081168	39.073578	
36.700001	4.33452	15.939854	29.738403	33.740948	61.808695	0.625083	4.081241	39.072925	
36.720001	4.342069	15.926516	29.790028	33.780167	61.870001	0.625613	4.073881	39.139194	
36.740002	4.349239	15.914279	29.840253	33.818707	61.928403	0.626115	4.066917	39.202005	
36.759998	4.358377	15.892273	29.882774	33.845893	61.995147	0.626753	4.058076	39.281889	
36.779999	4.357707	15.91187	29.939057	33.904789	62.010567	0.626706	4.058724	39.276036	
36.799999	4.361586	15.901863	29.954834	33.914028	62.038005	0.626976	4.054981	39.309894	
36.82	4.36468	15.907941	30.013763	33.968936	62.075555	0.627191	4.052001	39.336878	
36.84	4.386706	15.846273	30.085872	34.003883	62.224267	0.628716	4.030916	39.528328	
36.860001	4.376147	15.882349	30.073087	34.009404	62.160455	0.627986	4.040996	39.436687	
36.880001	4.383704	15.880303	30.160768	34.086008	62.232326	0.628509	4.033776	39.502298	
36.900002	4.386402	15.868876	30.156749	34.077129	62.246177	0.628695	4.031205	39.525695	
36.919998	4.389507	15.876202	30.219598	34.136167	62.284419	0.628909	4.02825	39.552599	
36.939999	4.388718	15.881512	30.227262	34.145421	62.282511	0.628854	4.029	39.545764	
36.959999	4.405757	15.837907	30.29522	34.185372	62.400186	0.630024	4.012857	39.693034	
36.98	4.407004	15.841934	30.323958	34.212707	62.416506	0.630109	4.011681	39.703786	
37	4.419677	15.810158	30.375803	34.243985	62.503797	0.630974	3.999766	39.812858	
37.02	4.418051	15.833209	30.431787	34.304288	62.512816	0.630864	4.001291	39.798886	
37.040001	4.414361	15.851338	30.445923	34.325197	62.496862	0.630612	4.004756	39.767148	
37.060001	4.419996	15.838652	30.473706	34.34399	62.537039	0.630996	3.999467	39.815604	
37.080002	4.428722	15.827297	30.543754	34.400934	62.607623	0.631589	3.991307	39.890488	
37.099998	4.439274	15.801959	30.589848	34.430229	62.680352	0.632304	3.981483	39.980822	
37.119999	4.444587	15.799742	30.647613	34.480546	62.72768	0.632663	3.976555	40.02621	
37.139999	4.440031	15.824891	30.674585	34.516045	62.711088	0.632355	3.98078	39.987289	
37.16	4.455317	15.771258	30.684833	34.500602	62.798049	0.633385	3.966642	40.117683	
37.18	4.454862	15.797886	30.766987	34.585846	62.821029	0.633355	3.967061	40.113806	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
37.200001	4.461702	15.781726	30.797116	34.605278	62.867618	0.633814	3.960767	40.171988	
37.220001	4.474354	15.747765	30.838927	34.627035	62.949178	0.63466	3.949177	40.279339	
37.240002	4.45682	15.818749	30.859362	34.677558	62.86008	0.633486	3.965257	40.130477	
37.259998	4.474297	15.766431	30.899732	34.689678	62.967393	0.634656	3.949228	40.27886	
37.279999	4.470132	15.79356	30.938409	34.73646	62.95653	0.634378	3.953036	40.243562	
37.299999	4.485938	15.75064	30.988594	34.761698	63.057148	0.635432	3.938624	40.377327	
37.32	4.484128	15.774215	31.044219	34.821967	63.064037	0.635311	3.94027	40.362033	
37.34	4.493293	15.747676	31.067538	34.830751	63.120334	0.63592	3.931955	40.439379	
37.360001	4.484006	15.78792	31.087703	34.866943	63.076328	0.635303	3.94038	40.361005	
37.380001	4.500894	15.743294	31.144572	34.897503	63.183935	0.636423	3.925086	40.503391	
37.400002	4.49341	15.778612	31.170489	34.936571	63.151416	0.635927	3.931849	40.44037	
37.419998	4.512171	15.726534	31.224744	34.961529	63.267719	0.637167	3.914941	40.598121	
37.439999	4.510669	15.734005	31.231305	34.970749	63.261623	0.637068	3.916289	40.585522	
37.459999	4.511865	15.745347	31.282843	35.021882	63.282987	0.637146	3.915215	40.595555	
37.48	4.519277	15.738584	31.349248	35.078175	63.341618	0.637634	3.908575	40.657674	
37.5	4.516905	15.761447	31.395801	35.130038	63.34236	0.637478	3.910697	40.637806	
37.52	4.523769	15.738319	31.401951	35.125165	63.380577	0.637928	3.904562	40.69526	
37.540001	4.545375	15.686993	31.490345	35.181296	63.519807	0.639339	3.885374	40.87545	
37.560001	4.527331	15.747027	31.472883	35.192488	63.419645	0.638162	3.901385	40.72504	
37.580002	4.54448	15.698934	31.518933	35.212209	63.523157	0.639281	3.886166	40.867999	
37.599998	4.547607	15.703699	31.571592	35.261475	63.554375	0.639484	3.883404	40.894004	
37.619999	4.549619	15.70868	31.611705	35.299611	63.576132	0.639615	3.881629	40.910719	
37.639999	4.55658	15.702869	31.674894	35.353627	63.630139	0.640066	3.875499	40.9685	
37.66	4.558627	15.690039	31.657004	35.331901	63.635893	0.640199	3.873702	40.985462	
37.68	4.56396	15.689778	31.718988	35.387333	63.680839	0.640544	3.869024	41.02963	
37.700001	4.57438	15.664145	31.757495	35.410506	63.74564	0.641216	3.859917	41.115761	
37.720001	4.56356	15.71222	31.787692	35.458866	63.697557	0.640518	3.869374	41.026319	
37.740002	4.570517	15.691541	31.801867	35.462419	63.737656	0.640967	3.863288	41.083856	
37.759998	4.587465	15.662456	31.905258	35.542341	63.853452	0.642056	3.848543	41.223584	
37.779999	4.591041	15.646769	31.895643	35.526799	63.869329	0.642285	3.845446	41.252985	
37.799999	4.581424	15.689463	31.922943	35.570121	63.826954	0.641669	3.853785	41.17385	
37.82	4.591358	15.669756	31.974612	35.607823	63.892085	0.642305	3.845172	41.255591	
37.84	4.604182	15.62967	31.992792	35.606535	63.962882	0.643124	3.834111	41.360801	
37.860001	4.608691	15.632355	32.054033	35.662747	64.002194	0.643411	3.830236	41.397719	
37.880001	4.613264	15.629375	32.09736	35.70039	64.036973	0.643701	3.826315	41.435108	
37.900002	4.627231	15.596616	32.151727	35.734968	64.122358	0.644585	3.814391	41.549034	
37.919998	4.629954	15.592089	32.168349	35.74795	64.140514	0.644757	3.812074	41.571202	
37.939999	4.629542	15.602727	32.198476	35.779701	64.146227	0.644731	3.812424	41.56785	
37.959999	4.630774	15.610249	32.237335	35.817951	64.162507	0.644809	3.811378	41.57787	
37.98	4.646518	15.571066	32.290249	35.848547	64.255729	0.645799	3.798047	41.70569	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38	4.640664	15.597951	32.311048	35.878961	64.231484	0.645432	3.802993	41.658224	
38.02	4.645861	15.598242	32.371751	35.933764	64.273145	0.645758	3.798602	41.700362	
38.040001	4.655538	15.566124	32.377598	35.925104	64.323338	0.646364	3.790452	41.778687	
38.060001	4.665597	15.545605	32.425432	35.959345	64.385829	0.646992	3.782019	41.859888	
38.080002	4.674554	15.531145	32.480249	36.002542	64.444292	0.647549	3.774542	41.93202	
38.099998	4.677709	15.528004	32.505906	36.024337	64.466403	0.647745	3.771915	41.957389	
38.119999	4.676179	15.550245	32.561436	36.08403	64.472543	0.64765	3.773189	41.945089	
38.139999	4.684403	15.521141	32.559582	36.069824	64.512992	0.64816	3.766355	42.011145	
38.16	4.678103	15.561041	32.618701	36.14036	64.496223	0.64777	3.771587	41.960559	
38.18	4.692536	15.512535	32.623715	36.124029	64.569085	0.648663	3.759621	42.076331	
38.200001	4.693284	15.528947	32.686051	36.187376	64.588	0.648709	3.759003	42.082325	
38.220001	4.699057	15.5181	32.715891	36.20968	64.623766	0.649065	3.75424	42.128503	
38.240002	4.710404	15.504399	32.79922	36.279129	64.699716	0.649762	3.744913	42.219076	
38.259998	4.707436	15.52149	32.821731	36.306786	64.690513	0.64958	3.747348	42.195413	
38.279999	4.719037	15.490992	32.852557	36.321637	64.754793	0.650291	3.737848	42.28781	
38.299999	4.728057	15.473097	32.895261	36.352647	64.80901	0.650841	3.730496	42.359463	
38.32	4.733631	15.466858	32.937336	36.388072	64.846098	0.651181	3.725967	42.403655	
38.34	4.738548	15.455661	32.955674	36.399916	64.874321	0.65148	3.721981	42.442591	
38.360001	4.746215	15.446089	33.010026	36.445075	64.924226	0.651945	3.715783	42.503206	
38.380001	4.749103	15.447012	33.045317	36.477433	64.946406	0.65212	3.713455	42.525999	
38.400002	4.760329	15.418733	33.077565	36.494693	65.008066	0.652798	3.704429	42.614474	
38.419998	4.770062	15.40739	33.148503	36.554219	65.071158	0.653383	3.69664	42.690967	
38.439999	4.771418	15.401903	33.145506	36.549189	65.076977	0.653465	3.695558	42.70161	
38.459999	4.777252	15.394994	33.187502	36.58437	65.114507	0.653815	3.690907	42.747358	
38.48	4.787797	15.382607	33.263481	36.648107	65.182061	0.654445	3.682532	42.829874	
38.5	4.782945	15.40063	33.269114	36.660787	65.160189	0.654155	3.686381	42.791932	
38.52	4.796037	15.37832	33.340367	36.716111	65.238494	0.654937	3.676014	42.894201	
38.540001	4.79037	15.404887	33.36518	36.749773	65.217085	0.654599	3.680494	42.849978	
38.560001	4.800264	15.368467	33.354532	36.72485	65.261708	0.655188	3.67268	42.927148	
38.580002	4.811837	15.360282	33.454885	36.812601	65.338641	0.655875	3.663582	43.017162	
38.599998	4.825515	15.337192	33.528802	36.870178	65.419178	0.656683	3.652889	43.123216	
38.619999	4.831075	15.325515	33.551134	36.885634	65.450102	0.65701	3.648559	43.166227	
38.639999	4.825401	15.34481	33.552649	36.895033	65.423825	0.656676	3.652977	43.122336	
38.66	4.851492	15.282918	33.633127	36.942588	65.563032	0.658207	3.632753	43.32362	
38.68	4.842343	15.31956	33.654456	36.977173	65.525014	0.657672	3.639819	43.253189	
38.700001	4.842354	15.32639	33.677081	37.000595	65.529904	0.657672	3.63981	43.25328	
38.720001	4.854928	15.298872	33.723148	37.031152	65.59818	0.658407	3.630106	43.350031	
38.740002	4.864462	15.282264	33.771777	37.068592	65.65261	0.658963	3.622783	43.423192	
38.759998	4.863739	15.293738	33.801789	37.100666	65.655575	0.658921	3.623337	43.417647	
38.779999	4.880082	15.259711	33.866206	37.145373	65.744352	0.659869	3.61085	43.542665	

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**Balun 1 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	4.884443	15.255753	33.900174	37.17472	65.771422	0.660121	3.607532	43.575945	
38.82	4.880339	15.272765	33.912067	37.192548	65.755042	0.659884	3.610654	43.544628	
38.84	4.881756	15.289826	33.983572	37.264755	65.776269	0.659966	3.609575	43.555447	
38.860001	4.908186	15.217904	34.030228	37.277889	65.906503	0.661487	3.589579	43.756457	
38.880001	4.899019	15.259311	34.068673	37.329894	65.872575	0.660961	3.596489	43.686887	
38.900002	4.91185	15.225759	34.095434	37.340627	65.936344	0.661696	3.586824	43.784216	
38.919998	4.912452	15.238445	34.143761	37.389927	65.948791	0.661731	3.586372	43.788774	
38.939999	4.92009	15.224015	34.17774	37.415084	65.990177	0.662167	3.580646	43.84655	
38.959999	4.926641	15.220778	34.236929	37.467845	66.031527	0.662541	3.575749	43.896017	
38.98	4.924782	15.248009	34.306897	37.542842	66.036931	0.662435	3.577137	43.881991	
39	4.938852	15.20969	34.330245	37.54864	66.104832	0.663235	3.566657	43.98801	
39.02	4.947639	15.197579	34.383486	37.592427	66.154579	0.663732	3.560144	44.054029	
39.040001	4.937777	15.233044	34.395827	37.618061	66.112771	0.663174	3.567456	43.97992	
39.060001	4.940036	15.226609	34.398609	37.618	66.12345	0.663302	3.565778	43.996914	
39.080002	4.962002	15.191388	34.514977	37.710236	66.243949	0.664542	3.549549	44.161633	
39.099998	4.968716	15.16952	34.513595	37.700167	66.273521	0.66492	3.544618	44.211805	
39.119999	4.959082	15.202759	34.521658	37.720933	66.232228	0.664378	3.551697	44.139793	
39.139999	4.970003	15.19585	34.614061	37.802739	66.298257	0.664992	3.543674	44.221412	
39.16	4.986042	15.155529	34.649594	37.819101	66.37583	0.665889	3.531958	44.340868	
39.18	4.992732	15.149724	34.700566	37.863484	66.414788	0.666262	3.527094	44.390559	
39.200001	5.002715	15.126875	34.729482	37.880856	66.46396	0.666817	3.519861	44.464552	
39.220001	5.012385	15.118258	34.801919	37.943844	66.519568	0.667353	3.512884	44.536041	
39.240002	5.009616	15.139623	34.843682	37.990661	66.515111	0.6672	3.514879	44.515587	
39.259998	5.00124	15.178254	34.883662	38.042729	66.485744	0.666736	3.520928	44.453627	
39.279999	5.025448	15.115091	34.927417	38.057725	66.599222	0.668074	3.503503	44.632348	
39.299999	5.039586	15.080174	34.958508	38.072417	66.66603	0.668851	3.493406	44.736231	
39.32	5.040616	15.094538	35.016748	38.131584	66.680875	0.668908	3.492673	44.743785	
39.34	5.041313	15.102062	35.048855	38.164047	66.689581	0.668946	3.492177	44.748897	
39.360001	5.043727	15.105277	35.084452	38.198013	66.706282	0.669078	3.49046	44.766589	
39.380001	5.056684	15.077576	35.12661	38.225803	66.769407	0.669786	3.481275	44.861366	
39.400002	5.043525	15.128693	35.159656	38.276347	66.718604	0.669067	3.490604	44.765109	
39.419998	5.062934	15.083557	35.210791	38.305528	66.810851	0.670127	3.476861	44.906982	
39.439999	5.056067	15.143463	35.337644	38.445722	66.803228	0.669753	3.481711	44.856864	
39.459999	5.073559	15.085879	35.32765	38.413885	66.876301	0.670704	3.469385	44.984358	
39.48	5.074799	15.102853	35.396378	38.48376	66.893245	0.670771	3.468514	44.993375	
39.5	5.079033	15.103454	35.441744	38.525725	66.918901	0.671	3.465545	45.024143	
39.52	5.084699	15.075222	35.406595	38.482325	66.937053	0.671307	3.461581	45.065262	
39.540001	5.06852	15.152056	35.493837	38.592711	66.88284	0.67043	3.472927	44.947687	
39.560001	5.087927	15.100734	35.523754	38.60012	66.970338	0.671481	3.459326	45.088666	
39.580002	5.099609	15.084788	35.590403	38.655241	67.030737	0.67211	3.451191	45.173204	

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**Balun 1 Resistor 2.csv**

Z0	50							
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
39.599998	5.097389	15.10236	35.625654	38.694554	67.02715	0.671991	3.452734	45.157157
39.619999	5.106742	15.087951	35.673421	38.732921	67.074352	0.672493	3.446243	45.224697
39.639999	5.104407	15.104758	35.704988	38.768543	67.069649	0.672368	3.447861	45.207856
39.66	5.108716	15.104034	35.746404	38.806407	67.094457	0.672599	3.444876	45.238935
39.68	5.133009	15.052387	35.822491	38.856469	67.208276	0.673896	3.428145	45.413553
39.700001	5.138529	15.045422	35.855267	38.883993	67.236446	0.674189	3.424366	45.453085
39.720001	5.126991	15.107009	35.941363	38.98722	67.201945	0.673576	3.432274	45.370396
39.740002	5.132409	15.090506	35.941905	38.981328	67.224616	0.673864	3.428557	45.409251
39.759998	5.147508	15.059841	35.993285	39.01686	67.295344	0.674665	3.418238	45.517274
39.779999	5.130437	15.127173	36.042268	39.08806	67.23201	0.673759	3.429908	45.39512
39.799999	5.139911	15.116654	36.10334	39.140316	67.280806	0.674262	3.423422	45.462974
39.82	5.152854	15.088346	36.140721	39.163885	67.340128	0.674948	3.414599	45.555425
39.84	5.159551	15.076586	36.169334	39.185765	67.372114	0.675301	3.410052	45.603142
39.860001	5.161559	15.078413	36.195468	39.210591	67.384344	0.675407	3.408691	45.617439
39.880001	5.171503	15.067509	36.259229	39.265271	67.434809	0.67593	3.401968	45.688113
39.900002	5.165886	15.095731	36.295588	39.309678	67.417159	0.675635	3.405762	45.64821
39.919998	5.162599	15.121119	36.345755	39.365748	67.41108	0.675462	3.407987	45.624834
39.939999	5.162612	15.112394	36.317364	39.336184	67.40693	0.675462	3.407978	45.624932
39.959999	5.171558	15.110247	36.39981	39.411492	67.45586	0.675933	3.401931	45.688504
39.98	5.183011	15.090287	36.448786	39.449091	67.509907	0.676533	3.39422	45.769692
40	5.164199	15.144287	36.437392	39.459257	67.431132	0.675546	3.406904	45.636217

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	1.571342	76.951667	8.538511	77.423932	6.331617	0.222196	13.06528	4.937101	
10.02	1.564512	76.631466	8.438784	77.094712	6.284196	0.220124	13.146637	4.845475	
10.04	1.56034	76.386905	8.501977	76.85859	6.350978	0.218854	13.196915	4.789702	
10.06	1.552789	75.999648	8.474765	76.470702	6.362811	0.216543	13.289115	4.689089	
10.08	1.546763	75.596168	8.682	76.093086	6.551561	0.214689	13.363785	4.609157	
10.1	1.543794	75.397573	8.779483	75.907005	6.641766	0.213773	13.400949	4.569883	
10.12	1.539731	75.015191	9.1578	75.572113	6.960199	0.212515	13.452208	4.516262	
10.14	1.534873	74.734251	9.203939	75.298876	7.020953	0.211006	13.514112	4.452344	
10.16	1.532926	74.554594	9.36586	75.14058	7.160239	0.210399	13.539118	4.426783	
10.18	1.534804	74.420365	9.852324	75.069694	7.541403	0.210984	13.514997	4.451438	
10.2	1.534743	74.286952	10.109098	74.971629	7.749322	0.210965	13.515774	4.450642	
10.22	1.537195	74.251628	10.431867	74.980852	7.997352	0.211728	13.484436	4.482873	
10.24	1.538932	74.201069	10.701379	74.968782	8.206703	0.212267	13.462338	4.505741	
10.26	1.541783	74.126123	11.115127	74.954841	8.527914	0.213151	13.426266	4.54332	
10.28	1.547933	74.262549	11.467883	75.142788	8.77849	0.21505	13.349205	4.624657	
10.3	1.555949	74.494249	11.828839	75.427545	9.022605	0.217512	13.250348	4.731134	
10.32	1.559311	74.569728	12.014012	75.531323	9.152355	0.21854	13.209397	4.775956	
10.34	1.566431	74.796444	12.294096	75.800084	9.334113	0.220708	13.123653	4.871186	
10.36	1.569236	74.85131	12.458347	75.881019	9.449773	0.221559	13.090231	4.908817	
10.38	1.573711	75.037092	12.56391	76.081647	9.505221	0.222912	13.037326	4.968981	
10.4	1.578322	75.210503	12.700731	76.275346	9.585076	0.224302	12.983353	5.03112	
10.42	1.584321	75.522167	12.743344	76.589755	9.577686	0.226102	12.913904	5.11222	
10.44	1.589628	75.706019	12.92551	76.801498	9.688872	0.227688	12.853185	5.184198	
10.46	1.593568	75.905343	12.961938	77.00411	9.690629	0.228862	12.80854	5.237765	
10.48	1.596965	76.033051	13.062551	77.146971	9.748321	0.22987	12.770342	5.284037	
10.5	1.599926	76.176999	13.098986	77.29501	9.756873	0.230747	12.73727	5.324429	
10.52	1.603137	76.360646	13.095122	77.475354	9.73104	0.231696	12.701617	5.368319	
10.54	1.606466	76.536822	13.113118	77.652038	9.722156	0.232678	12.664912	5.413882	
10.56	1.608285	76.629524	13.128571	77.746018	9.721843	0.233213	12.644954	5.438819	
10.58	1.610835	76.797	13.090062	77.904615	9.673129	0.233962	12.617108	5.473803	
10.6	1.611849	76.848233	13.09925	77.956663	9.673459	0.234259	12.606074	5.487729	
10.62	1.614794	77.018061	13.091938	78.122856	9.647244	0.235122	12.574152	5.528213	
10.64	1.615658	77.103899	13.031165	78.19733	9.592804	0.235374	12.564826	5.540097	
10.66	1.616815	77.155646	13.052378	78.251889	9.601806	0.235712	12.552363	5.556019	
10.68	1.618373	77.258882	13.026092	78.349307	9.570259	0.236167	12.535625	5.577473	
10.7	1.620587	77.401775	12.994587	78.484992	9.530237	0.236812	12.511917	5.608003	
10.72	1.622027	77.497816	12.968599	78.575416	9.499954	0.237231	12.49656	5.62787	
10.74	1.624755	77.621759	13.015475	78.7054	9.518718	0.238024	12.467576	5.665554	
10.76	1.624647	77.696416	12.880485	78.75684	9.412883	0.237993	12.468729	5.66405	
10.78	1.625676	77.791422	12.816575	78.840154	9.355771	0.238291	12.45783	5.678283	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	1.627274	77.876414	12.822892	78.925043	9.350266	0.238755	12.44096	5.700383	
10.82	1.628199	77.935801	12.809173	78.981416	9.333446	0.239023	12.431215	5.713188	
10.84	1.628574	77.99292	12.746872	79.027706	9.282159	0.239131	12.427273	5.718375	
10.86	1.630921	78.150424	12.699183	79.175489	9.229716	0.23981	12.402652	5.750887	
10.88	1.631039	78.144705	12.720356	79.173243	9.245504	0.239844	12.401424	5.752513	
10.9	1.631819	78.238092	12.632824	79.251419	9.172196	0.240069	12.393263	5.763332	
10.92	1.632493	78.282399	12.620347	79.293172	9.158193	0.240264	12.386229	5.772675	
10.94	1.633751	78.344137	12.633814	79.356267	9.160697	0.240627	12.373123	5.790122	
10.96	1.633461	78.399911	12.50696	79.391247	9.063907	0.240543	12.376138	5.786104	
10.98	1.635714	78.504628	12.541271	79.500063	9.076437	0.241192	12.352735	5.817368	
11	1.633766	78.438794	12.4675	79.423441	9.031377	0.240631	12.372967	5.79033	
11.02	1.635222	78.533256	12.441647	79.512684	9.002294	0.241051	12.357838	5.810536	
11.04	1.637995	78.705155	12.406301	79.676959	8.957848	0.241849	12.329131	5.849071	
11.06	1.637405	78.673412	12.405174	79.645427	8.960602	0.241679	12.335222	5.840873	
11.08	1.637421	78.704767	12.34979	79.667796	8.917745	0.241684	12.335058	5.841093	
11.1	1.64001	78.840869	12.360402	79.803899	8.910125	0.242427	12.308372	5.877097	
11.12	1.638791	78.828196	12.261062	79.77605	8.841048	0.242077	12.320926	5.860132	
11.14	1.639406	78.887392	12.213872	79.827309	8.80105	0.242254	12.314585	5.868695	
11.16	1.640317	78.96997	12.152754	79.899597	8.748678	0.242515	12.305218	5.881366	
11.18	1.641361	79.021195	12.163537	79.951866	8.750732	0.242815	12.294503	5.895895	
11.2	1.642183	79.061833	12.171456	79.993236	8.75191	0.24305	12.28608	5.90734	
11.22	1.641683	79.061466	12.120977	79.985208	8.716211	0.242907	12.2912	5.90038	
11.24	1.642587	79.109872	12.122661	80.03331	8.712151	0.243166	12.281945	5.912968	
11.26	1.643392	79.196755	12.041241	80.106913	8.645176	0.243396	12.273717	5.92418	
11.28	1.644527	79.287725	11.985462	80.188495	8.596003	0.243721	12.262138	5.939997	
11.3	1.643468	79.248672	11.949877	80.144567	8.575022	0.243418	12.272946	5.925233	
11.32	1.645952	79.374338	11.967858	80.271509	8.574339	0.244128	12.247637	5.959863	
11.34	1.646968	79.447809	11.932631	80.33892	8.541684	0.244419	12.237315	5.974045	
11.36	1.645784	79.410099	11.881115	80.293989	8.509328	0.24408	12.249341	5.957525	
11.38	1.645978	79.456614	11.81094	80.329645	8.454916	0.244136	12.247369	5.960231	
11.4	1.646602	79.511809	11.768966	80.378084	8.419536	0.244314	12.241031	5.968935	
11.42	1.647485	79.546779	11.794251	80.416382	8.433709	0.244566	12.232076	5.981256	
11.44	1.647783	79.5664	11.787363	80.434781	8.426806	0.244651	12.229062	5.985409	
11.46	1.647334	79.61237	11.648186	80.459988	8.32397	0.244523	12.233602	5.979155	
11.48	1.649864	79.745092	11.656144	80.592465	8.315908	0.245244	12.20802	6.014478	
11.5	1.648163	79.690071	11.582128	80.527344	8.269461	0.244759	12.225211	5.990718	
11.52	1.649858	79.807561	11.529536	80.636077	8.220474	0.245243	12.20808	6.014396	
11.54	1.650881	79.85352	11.548173	80.68423	8.228905	0.245534	12.197774	6.028685	
11.56	1.650261	79.838868	11.510042	80.664279	8.20359	0.245357	12.204017	6.020025	
11.58	1.650247	79.879705	11.425002	80.692614	8.139687	0.245353	12.204156	6.019832	



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VNA version 530D

**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	1.649742	79.871559	11.385765	80.679003	8.112922	0.245209	12.209255	6.012769	
11.62	1.651268	79.953727	11.385695	80.76034	8.104646	0.245644	12.193873	6.034103	
11.64	1.651795	80.001909	11.344471	80.802243	8.07089	0.245794	12.188582	6.041458	
11.66	1.653291	80.074117	11.361518	80.87613	8.075665	0.246219	12.173567	6.062382	
11.68	1.652192	80.096643	11.190643	80.874611	7.953566	0.245907	12.184589	6.047016	
11.7	1.65151	80.059199	11.192411	80.837772	7.95848	0.245713	12.191448	6.037473	
11.72	1.652801	80.132386	11.184063	80.9091	7.945449	0.24608	12.17848	6.055527	
11.74	1.652619	80.155383	11.114531	80.922298	7.89444	0.246028	12.180299	6.052992	
11.76	1.653979	80.240295	11.088616	81.002854	7.868034	0.246414	12.166675	6.07201	
11.78	1.653773	80.231513	11.08386	80.993504	7.865551	0.246356	12.168732	6.069135	
11.8	1.653075	80.242829	10.978962	80.990427	7.790945	0.246158	12.175726	6.059369	
11.82	1.654139	80.317668	10.939816	81.059283	7.75636	0.24646	12.165075	6.074248	
11.84	1.654756	80.368849	10.900004	81.104636	7.723613	0.246635	12.158901	6.082889	
11.86	1.655174	80.384809	10.913859	81.122314	7.731794	0.246754	12.154732	6.088732	
11.88	1.655434	80.422224	10.862217	81.15246	7.692111	0.246827	12.15213	6.09238	
11.9	1.655828	80.444019	10.860462	81.173825	7.688824	0.246939	12.148203	6.097892	
11.92	1.657189	80.557572	10.769506	81.274256	7.614569	0.247325	12.134644	6.11696	
11.94	1.655674	80.460533	10.805827	81.1829	7.649053	0.246896	12.149735	6.095742	
11.96	1.655718	80.54604	10.619437	81.243073	7.510746	0.246908	12.149294	6.09636	
11.98	1.656076	80.543928	10.66722	81.247239	7.544348	0.24701	12.145726	6.101371	
12	1.658076	80.653091	10.660958	81.354638	7.529882	0.247576	12.125825	6.129394	
12.02	1.657938	80.678756	10.58592	81.370285	7.475133	0.247537	12.1272	6.127453	
12.04	1.658562	80.701852	10.608933	81.396181	7.489079	0.247714	12.120999	6.136208	
12.06	1.6567	80.649928	10.501389	81.330745	7.41873	0.247186	12.139511	6.110108	
12.08	1.658325	80.745223	10.480477	81.422549	7.39548	0.247646	12.123359	6.132874	
12.1	1.658655	80.786846	10.424667	81.456665	7.352782	0.24774	12.120076	6.137513	
12.12	1.656807	80.746666	10.289555	81.399625	7.262079	0.247217	12.13844	6.111615	
12.14	1.657329	80.747609	10.352228	81.408506	7.305752	0.247365	12.133248	6.118926	
12.16	1.656888	80.756251	10.277053	81.407555	7.252498	0.24724	12.137635	6.112748	
12.18	1.659046	80.873261	10.270387	81.522789	7.237469	0.247851	12.116203	6.142988	
12.2	1.658111	80.839595	10.23296	81.484683	7.214344	0.247586	12.125476	6.129887	
12.22	1.657973	80.853399	10.182695	81.492082	7.178065	0.247547	12.126846	6.127953	
12.24	1.659027	80.954485	10.073419	81.578811	7.093046	0.247845	12.116389	6.142725	
12.26	1.658691	80.908362	10.141864	81.541526	7.144773	0.24775	12.119724	6.138011	
12.28	1.659531	80.989232	10.053567	81.610845	7.076203	0.247988	12.111402	6.149784	
12.3	1.658527	80.967109	9.978399	81.579662	7.025727	0.247704	12.121349	6.135713	
12.32	1.658828	80.962925	10.027363	81.581512	7.060216	0.247789	12.118365	6.13993	
12.34	1.66056	81.098364	9.919081	81.70271	6.973183	0.248279	12.101216	6.164223	
12.36	1.65993	81.056371	9.94082	81.663672	6.991899	0.248101	12.107446	6.155388	
12.38	1.659985	81.082209	9.884031	81.682426	6.950154	0.248116	12.106907	6.156152	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
12.4	1.659942	81.105477	9.820491	81.69786	6.903946	0.248104	12.107329	6.155553	
12.42	1.660007	81.106793	9.825801	81.699805	6.907532	0.248122	12.106682	6.15647	
12.44	1.659464	81.106571	9.754668	81.691061	6.858022	0.247969	12.112062	6.148849	
12.46	1.660365	81.174921	9.701628	81.752611	6.815395	0.248223	12.103146	6.161484	
12.48	1.660574	81.174652	9.730167	81.755736	6.835277	0.248283	12.101077	6.164421	
12.5	1.660924	81.206151	9.69693	81.783063	6.80953	0.248381	12.097621	6.169329	
12.52	1.660503	81.206978	9.638445	81.77697	6.768774	0.248262	12.101783	6.163419	
12.54	1.661456	81.260776	9.628908	81.829271	6.757703	0.248532	12.092364	6.176801	
12.56	1.661255	81.250672	9.627712	81.819097	6.757704	0.248475	12.094351	6.173975	
12.58	1.660873	81.291484	9.470306	81.841261	6.64491	0.248367	12.098127	6.16861	
12.6	1.662529	81.368893	9.494872	81.920994	6.655711	0.248834	12.081789	6.19186	
12.62	1.66185	81.353916	9.441039	81.899895	6.619519	0.248643	12.088475	6.182334	
12.64	1.661079	81.351961	9.339564	81.886318	6.549147	0.248425	12.096093	6.1715	
12.66	1.662505	81.407515	9.390201	81.947296	6.579891	0.248828	12.082024	6.191525	
12.68	1.662195	81.421591	9.309783	81.952105	6.52291	0.24874	12.085078	6.187173	
12.7	1.662233	81.419603	9.320359	81.951332	6.530414	0.248751	12.084705	6.187704	
12.72	1.662024	81.429923	9.263585	81.955148	6.49016	0.248692	12.086763	6.184772	
12.74	1.661812	81.444313	9.19505	81.961729	6.44142	0.248632	12.088851	6.1818	
12.76	1.661914	81.462062	9.161403	81.9756	6.41666	0.248661	12.087845	6.183232	
12.78	1.662918	81.504246	9.189132	82.020621	6.432615	0.248944	12.077963	6.197316	
12.8	1.662359	81.499948	9.121409	82.00879	6.385934	0.248786	12.083468	6.189467	
12.82	1.662245	81.504591	9.092549	82.010199	6.365536	0.248754	12.084583	6.187877	
12.84	1.665075	81.653487	9.089167	82.157805	6.351679	0.249552	12.056777	6.227622	
12.86	1.662891	81.548908	9.063329	82.05101	6.341827	0.248936	12.078229	6.196937	
12.88	1.662827	81.609108	8.886607	82.091523	6.214596	0.248919	12.078854	6.196045	
12.9	1.66435	81.642717	9.014501	82.138873	6.300747	0.249348	12.063883	6.217441	
12.92	1.664149	81.675574	8.893273	82.158321	6.2142	0.249291	12.065863	6.214608	
12.94	1.665289	81.745529	8.863385	82.224638	6.18822	0.249612	12.05468	6.230631	
12.96	1.664671	81.690981	8.926463	82.177236	6.236042	0.249438	12.060736	6.221948	
12.98	1.665162	81.765967	8.786385	82.236694	6.13335	0.249576	12.055926	6.228843	
13	1.664803	81.764755	8.736394	82.230163	6.098807	0.249476	12.05944	6.223805	
13.02	1.664067	81.739472	8.698986	82.201057	6.074753	0.249268	12.066662	6.213464	
13.04	1.663922	81.767578	8.595392	82.218109	6.000893	0.249227	12.068088	6.211425	
13.06	1.664373	81.785844	8.610488	82.237855	6.010022	0.249354	12.063658	6.217763	
13.08	1.664208	81.785643	8.585954	82.23509	5.993038	0.249308	12.065281	6.21544	
13.1	1.664692	81.81508	8.573388	82.263055	5.982192	0.249444	12.060528	6.222247	
13.12	1.665788	81.885162	8.534525	82.328718	5.95021	0.249753	12.049788	6.237652	
13.14	1.664239	81.826287	8.470779	82.263572	5.910301	0.249317	12.064973	6.215882	
13.16	1.664849	81.88454	8.391139	82.31336	5.850986	0.249489	12.058987	6.224454	
13.18	1.667092	81.987061	8.432342	82.419552	5.872215	0.25012	12.037047	6.255979	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	1.666126	81.972632	8.324779	82.394261	5.798836	0.249848	12.046483	6.242401	
13.22	1.665004	81.910413	8.337265	82.333624	5.811855	0.249532	12.057468	6.226633	
13.24	1.664434	81.895939	8.291492	82.314602	5.781178	0.249372	12.06306	6.218619	
13.26	1.667617	82.101474	8.165726	82.506552	5.679908	0.250267	12.031922	6.263366	
13.28	1.66668	82.032608	8.228847	82.4443	5.728296	0.250004	12.041074	6.250181	
13.3	1.66617	82.049329	8.094967	82.447686	5.634563	0.24986	12.046053	6.24302	
13.32	1.666001	82.031204	8.124388	82.432543	5.656151	0.249813	12.047704	6.240647	
13.34	1.668206	82.165996	8.058885	82.56026	5.601694	0.250433	12.026177	6.271658	
13.36	1.666275	82.091585	7.978482	82.478388	5.551153	0.24989	12.045027	6.244494	
13.38	1.666759	82.131387	7.931066	82.513432	5.515708	0.250026	12.040298	6.251298	
13.4	1.666082	82.100143	7.919242	82.481197	5.509619	0.249836	12.046913	6.241783	
13.42	1.665973	82.116804	7.847328	82.490909	5.458789	0.249805	12.047978	6.240253	
13.44	1.666804	82.161131	7.842504	82.534576	5.452528	0.250039	12.039857	6.251933	
13.46	1.667759	82.205814	7.857318	82.580466	5.459814	0.250307	12.030537	6.265363	
13.48	1.667221	82.197286	7.794752	82.566046	5.417157	0.250156	12.035781	6.257803	
13.5	1.667275	82.23991	7.663006	82.596153	5.323383	0.250171	12.035259	6.258556	
13.52	1.667927	82.250205	7.740294	82.613609	5.376092	0.250354	12.028899	6.267727	
13.54	1.66736	82.240554	7.675465	82.597951	5.331947	0.250195	12.034428	6.259753	
13.56	1.666863	82.252669	7.548744	82.598336	5.243644	0.250055	12.039285	6.252756	
13.58	1.667544	82.284688	7.559057	82.631164	5.248736	0.250247	12.032632	6.262342	
13.6	1.667674	82.313417	7.483945	82.652938	5.195065	0.250283	12.031366	6.264168	
13.62	1.668136	82.332809	7.498857	82.673601	5.20414	0.250413	12.026864	6.270666	
13.64	1.66844	82.379537	7.39163	82.710485	5.127231	0.250498	12.023903	6.274942	
13.66	1.667224	82.315198	7.398067	82.64698	5.135661	0.250157	12.03576	6.257834	
13.68	1.668674	82.393223	7.385881	82.723603	5.122417	0.250564	12.021623	6.278237	
13.7	1.668875	82.416742	7.33984	82.742931	5.089209	0.250621	12.019665	6.281068	
13.72	1.668739	82.443197	7.221657	82.758885	5.006086	0.250582	12.02099	6.279152	
13.74	1.668297	82.428118	7.194571	82.741504	4.988313	0.250458	12.025292	6.272936	
13.76	1.668099	82.415586	7.202958	82.729749	4.994854	0.250403	12.027226	6.270142	
13.78	1.669127	82.506473	7.06524	82.808428	4.894452	0.250691	12.01721	6.284619	
13.8	1.669538	82.535959	7.034389	82.835181	4.871451	0.250807	12.013214	6.290404	
13.82	1.670146	82.55527	7.077764	82.858116	4.900202	0.250977	12.007308	6.298966	
13.84	1.670462	82.592168	7.001567	82.888408	4.845545	0.251066	12.004249	6.303403	
13.86	1.66898	82.539104	6.916805	82.828412	4.790222	0.25065	12.018646	6.282541	
13.88	1.670121	82.572798	7.008696	82.86971	4.851588	0.25097	12.007553	6.298609	
13.9	1.669842	82.580875	6.92567	82.870778	4.793918	0.250892	12.010264	6.294679	
13.92	1.670092	82.634424	6.771532	82.911409	4.684681	0.250962	12.00784	6.298194	
13.94	1.671083	82.648314	6.910997	82.936757	4.779924	0.25124	11.998225	6.312152	
13.96	1.668467	82.555756	6.754615	82.831622	4.677463	0.250506	12.023638	6.275324	
13.98	1.670827	82.680512	6.738894	82.954685	4.659614	0.251168	12.000708	6.308545	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	1.670261	82.675497	6.646252	82.942212	4.59611	0.25101	12.006195	6.30058	
14.02	1.669869	82.660398	6.626954	82.925617	4.583655	0.2509	12.010002	6.295058	
14.04	1.669639	82.675127	6.522509	82.932019	4.510915	0.250835	12.012234	6.291825	
14.06	1.669627	82.682713	6.489784	82.937014	4.487965	0.250832	12.012351	6.291655	
14.08	1.66993	82.691393	6.516865	82.947791	4.506144	0.250917	12.009408	6.295919	
14.1	1.672436	82.828502	6.48	83.081594	4.47337	0.251619	11.985129	6.331216	
14.12	1.671656	82.800455	6.432598	83.049947	4.442277	0.251401	11.992672	6.320228	
14.14	1.670704	82.764165	6.382679	83.009912	4.409865	0.251134	12.001898	6.306816	
14.16	1.671223	82.811317	6.297664	83.050435	4.348887	0.251279	11.996868	6.314126	
14.18	1.670603	82.788865	6.259784	83.025183	4.323995	0.251106	12.002874	6.3054	
14.2	1.670766	82.812253	6.196619	83.043768	4.279322	0.251151	12.001294	6.307693	
14.22	1.670292	82.787622	6.19861	83.019354	4.281961	0.251018	12.005894	6.301016	
14.24	1.671418	82.860389	6.133492	83.087086	4.233435	0.251334	11.994973	6.316881	
14.26	1.671049	82.848627	6.103367	83.073137	4.213313	0.25123	11.998554	6.311675	
14.28	1.671666	82.881953	6.095146	83.105769	4.205973	0.251403	11.992579	6.320365	
14.3	1.671565	82.882102	6.07252	83.104261	4.190408	0.251375	11.993552	6.318948	
14.32	1.670703	82.864484	5.958477	83.078434	4.112855	0.251134	12.001905	6.306806	
14.34	1.671124	82.9003	5.894961	83.109628	4.067409	0.251252	11.997823	6.312737	
14.36	1.672502	82.982987	5.838473	83.188123	4.024561	0.251638	11.984491	6.332146	
14.38	1.672864	82.987863	5.898852	83.197247	4.065804	0.251739	11.980996	6.337244	
14.4	1.671671	82.936723	5.856541	83.143244	4.039219	0.251405	11.992527	6.320439	
14.42	1.672213	82.998661	5.700484	83.19419	3.929005	0.251557	11.987283	6.328076	
14.44	1.670391	82.92472	5.614351	83.114561	3.87326	0.251046	12.004934	6.30241	
14.46	1.672267	83.022574	5.602242	83.211375	3.86039	0.251572	11.986756	6.328843	
14.48	1.672581	83.038477	5.602273	83.227243	3.859674	0.25166	11.983727	6.33326	
14.5	1.672498	83.054697	5.505493	83.23697	3.792455	0.251636	11.984532	6.332086	
14.52	1.67097	82.973713	5.52213	83.157266	3.807584	0.251208	11.999315	6.310569	
14.54	1.67133	83.000544	5.481118	83.181326	3.77817	0.251309	11.995832	6.315631	
14.56	1.672753	83.069123	5.49838	83.250895	3.786915	0.251708	11.982068	6.33568	
14.58	1.671588	83.041292	5.346899	83.213253	3.684107	0.251382	11.993332	6.319269	
14.6	1.673071	83.107899	5.389049	83.28244	3.7101	0.251797	11.978989	6.340172	
14.62	1.675392	83.244318	5.296267	83.41263	3.640439	0.252446	11.95663	6.372899	
14.64	1.673342	83.145675	5.270021	83.312522	3.626732	0.251873	11.976379	6.343984	
14.66	1.674073	83.182692	5.27023	83.349479	3.625266	0.252077	11.969326	6.354296	
14.68	1.67416	83.214089	5.133076	83.372256	3.529834	0.252102	11.968491	6.355517	
14.7	1.674502	83.226168	5.160017	83.385975	3.547799	0.252197	11.965196	6.360342	
14.72	1.673547	83.187423	5.110508	83.344254	3.515478	0.25193	11.974402	6.346872	
14.74	1.67251	83.164753	4.954135	83.312182	3.409094	0.25164	11.984413	6.332259	
14.76	1.673783	83.226792	4.966676	83.374857	3.415162	0.251996	11.972126	6.350201	
14.78	1.673827	83.22749	4.974858	83.376041	3.420746	0.252008	11.971699	6.350824	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	1.67271	83.181551	4.918375	83.326831	3.383862	0.251696	11.982481	6.335077	
14.82	1.674114	83.269161	4.828365	83.40903	3.318587	0.252089	11.968929	6.354877	
14.84	1.674197	83.270915	4.841644	83.411551	3.327624	0.252112	11.968132	6.356042	
14.86	1.674295	83.304728	4.681028	83.436142	3.216167	0.252139	11.967188	6.357424	
14.88	1.674405	83.29838	4.747966	83.433586	3.262306	0.25217	11.966129	6.358975	
14.9	1.673656	83.272123	4.682983	83.403698	3.218764	0.251961	11.973342	6.348421	
14.92	1.673454	83.281372	4.571338	83.406739	3.141834	0.251904	11.975299	6.345562	
14.94	1.674052	83.318324	4.53206	83.441493	3.113513	0.252071	11.96953	6.353997	
14.96	1.673732	83.305935	4.510049	83.427929	3.098881	0.251982	11.972612	6.34949	
14.98	1.674062	83.324162	4.500719	83.445626	3.091808	0.252074	11.969434	6.354138	
15	1.675199	83.404023	4.366144	83.518227	2.996665	0.252392	11.958483	6.37018	
15.02	1.67422	83.361112	4.326418	83.473307	2.970975	0.252118	11.96791	6.356368	
15.04	1.67437	83.372407	4.303294	83.483391	2.954723	0.25216	11.966469	6.358476	
15.06	1.674779	83.393264	4.30207	83.504157	2.953147	0.252275	11.962526	6.364252	
15.08	1.674081	83.368656	4.236068	83.476207	2.908776	0.25208	11.969249	6.354409	
15.1	1.673339	83.343532	4.158344	83.447205	2.856353	0.251872	11.976402	6.34395	
15.12	1.67566	83.460358	4.159296	83.563935	2.853013	0.252521	11.954057	6.376675	
15.14	1.674138	83.401927	4.040652	83.49975	2.773699	0.252095	11.968701	6.355211	
15.16	1.673696	83.391584	3.961303	83.485616	2.719649	0.251972	11.972962	6.348977	
15.18	1.672076	83.320515	3.890003	83.411272	2.673044	0.251518	11.988609	6.326144	
15.2	1.672909	83.371362	3.828575	83.459224	2.629291	0.251751	11.980561	6.337879	
15.22	1.674607	83.462328	3.790443	83.548355	2.600306	0.252227	11.964182	6.361827	
15.24	1.673622	83.40893	3.816945	83.496219	2.620136	0.251951	11.973679	6.347929	
15.26	1.67205	83.344493	3.713404	83.427177	2.551124	0.251511	11.988856	6.325785	
15.28	1.673572	83.426346	3.675221	83.50726	2.522452	0.251937	11.974161	6.347226	
15.3	1.673168	83.410802	3.640421	83.490207	2.499063	0.251824	11.978058	6.341532	
15.32	1.672857	83.401204	3.596071	83.478695	2.468939	0.251737	11.981056	6.337155	
15.34	1.673074	83.42539	3.496082	83.498613	2.399677	0.251798	11.978968	6.340204	
15.36	1.673543	83.453061	3.465097	83.524968	2.377646	0.251929	11.974433	6.346827	
15.38	1.674582	83.503515	3.478922	83.575953	2.38568	0.25222	11.964419	6.36148	
15.4	1.672621	83.415623	3.395553	83.484705	2.331024	0.251671	11.983341	6.333823	
15.42	1.673041	83.458495	3.220142	83.520594	2.209594	0.251789	11.979282	6.339745	
15.44	1.672256	83.404026	3.342292	83.470968	2.294819	0.251569	11.986865	6.328685	
15.46	1.673288	83.473089	3.202044	83.534482	2.196804	0.251858	11.976896	6.343229	
15.48	1.673973	83.520933	3.087671	83.577987	2.117197	0.252049	11.970294	6.352879	
15.5	1.672959	83.473032	3.061727	83.529164	2.100628	0.251766	11.98007	6.338595	
15.52	1.673198	83.491289	3.006369	83.545398	2.062229	0.251832	11.977769	6.341955	
15.54	1.672813	83.472209	3.004289	83.526256	2.061275	0.251725	11.981483	6.336533	
15.56	1.674052	83.546772	2.892357	83.596823	1.982769	0.252071	11.969525	6.354004	
15.58	1.674471	83.573131	2.842592	83.62146	1.948067	0.252189	11.965489	6.359912	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	1.672322	83.464812	2.846827	83.513348	1.953497	0.251587	11.986227	6.329614	
15.62	1.67232	83.486241	2.636905	83.527874	1.809084	0.251587	11.986249	6.329582	
15.64	1.67402	83.570792	2.644497	83.612622	1.812454	0.252063	11.969834	6.353552	
15.66	1.672357	83.492491	2.591976	83.532715	1.778146	0.251597	11.985892	6.330104	
15.68	1.671675	83.466297	2.507887	83.503965	1.721034	0.251406	11.992492	6.320491	
15.7	1.671655	83.469616	2.461334	83.505897	1.689039	0.2514	11.992687	6.320207	
15.72	1.674072	83.58968	2.473908	83.626281	1.695226	0.252077	11.969336	6.354281	
15.74	1.671456	83.468228	2.366293	83.501763	1.623882	0.251344	11.994613	6.317405	
15.76	1.670413	83.417898	2.344269	83.450831	1.609746	0.251052	12.004721	6.302719	
15.78	1.67044	83.424562	2.282818	83.455789	1.567445	0.25106	12.004462	6.303095	
15.8	1.669872	83.397587	2.265528	83.428353	1.556082	0.2509	12.009971	6.295103	
15.82	1.671659	83.487644	2.259673	83.518218	1.550389	0.251401	11.992644	6.320269	
15.84	1.670958	83.460563	2.162258	83.488568	1.484063	0.251205	11.999436	6.310393	
15.86	1.67047	83.449288	1.992645	83.473075	1.36788	0.251068	12.004171	6.303517	
15.88	1.670191	83.429353	2.071472	83.455065	1.422311	0.25099	12.006871	6.299599	
15.9	1.669356	83.397474	1.938518	83.42	1.331564	0.250756	12.01499	6.287834	
15.92	1.670514	83.460432	1.869176	83.48136	1.282982	0.251081	12.00374	6.304142	
15.94	1.668023	83.333013	1.906538	83.354819	1.310617	0.250381	12.027966	6.269074	
15.96	1.668059	83.343061	1.787972	83.362238	1.228989	0.250391	12.02761	6.269588	
15.98	1.668979	83.394103	1.712149	83.411677	1.176166	0.25065	12.018651	6.282535	
16	1.668659	83.378329	1.708362	83.395829	1.173787	0.25056	12.021764	6.278033	
16.02	1.667281	83.31362	1.640196	83.329764	1.127839	0.250173	12.035196	6.258646	
16.040001	1.667292	83.321024	1.524401	83.334967	1.048141	0.250176	12.035094	6.258794	
16.059999	1.667032	83.310983	1.471183	83.323983	1.012124	0.250103	12.037629	6.255141	
16.08	1.666599	83.290282	1.454244	83.302977	1.000281	0.249981	12.041858	6.249054	
16.1	1.667269	83.326119	1.410882	83.338063	0.970044	0.250169	12.035319	6.258468	
16.120001	1.666392	83.284517	1.366834	83.295732	0.940234	0.249923	12.043888	6.246132	
16.139999	1.66608	83.271129	1.323081	83.28164	0.910288	0.249835	12.046936	6.24175	
16.16	1.664498	83.198964	1.174447	83.207252	0.808742	0.24939	12.062432	6.219518	
16.18	1.663361	83.140975	1.199166	83.149622	0.826337	0.249069	12.073599	6.203547	
16.200001	1.663588	83.156467	1.103549	83.163789	0.760315	0.249133	12.07137	6.206732	
16.219999	1.662513	83.104796	1.051759	83.111451	0.725088	0.24883	12.081946	6.191636	
16.24	1.663062	83.130225	1.101913	83.137528	0.759427	0.248985	12.076541	6.199346	
16.26	1.662905	83.127161	0.980067	83.132939	0.675486	0.248941	12.078085	6.197143	
16.280001	1.660911	83.031653	0.857304	83.036078	0.59156	0.248378	12.09775	6.169146	
16.299999	1.662825	83.128553	0.820415	83.132602	0.565448	0.248918	12.078877	6.196013	
16.32	1.661097	83.041726	0.833143	83.045905	0.57482	0.24843	12.095913	6.171755	
16.34	1.660102	82.993985	0.766404	82.997523	0.529081	0.248149	12.105746	6.157797	
16.360001	1.661205	83.051437	0.682351	83.05424	0.470733	0.248461	12.094848	6.173269	
16.379999	1.658525	82.918821	0.626366	82.921186	0.432803	0.247703	12.121369	6.135686	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	1.659054	82.948161	0.488344	82.949598	0.337317	0.247853	12.116128	6.143095	
16.42	1.657097	82.849416	0.535313	82.851145	0.3702	0.247299	12.135557	6.115673	
16.440001	1.656028	82.79711	0.474588	82.79847	0.328413	0.246996	12.146207	6.100695	
16.459999	1.654504	82.720878	0.475482	82.722245	0.329335	0.246563	12.161425	6.079355	
16.48	1.652909	82.64238	0.40157	82.643356	0.278406	0.246111	12.177392	6.057045	
16.5	1.652924	82.642822	0.420752	82.643893	0.291703	0.246115	12.177243	6.057252	
16.52	1.653938	82.695588	0.262596	82.696005	0.18194	0.246403	12.167083	6.071439	
16.540001	1.652541	82.62545	0.291517	82.625964	0.202149	0.246006	12.181081	6.051902	
16.559999	1.650445	82.521476	0.201642	82.521722	0.140003	0.24541	12.202164	6.022595	
16.58	1.650417	82.520256	0.177065	82.520446	0.12294	0.245402	12.202445	6.022204	
16.6	1.649208	82.459744	0.182802	82.459947	0.127017	0.245057	12.214647	6.005308	
16.620001	1.64943	82.471206	0.119443	82.471293	0.082981	0.245121	12.212406	6.008408	
16.639999	1.647623	82.381142	-0.028376	82.381147	-0.019736	0.244605	12.230676	5.983184	
16.66	1.646207	82.310242	0.066985	82.31027	0.046628	0.244201	12.245047	5.963418	
16.68	1.645072	82.253253	0.138153	82.253369	0.096235	0.243877	12.256582	5.947601	
16.700001	1.642171	82.107751	0.200433	82.107996	0.139865	0.243047	12.286209	5.907165	
16.719999	1.642867	82.143265	0.064539	82.14329	0.045017	0.243246	12.279084	5.916864	
16.74	1.639582	81.97893	0.093765	81.978983	0.065534	0.242304	12.312778	5.871136	
16.76	1.641022	82.051078	0.025333	82.051082	0.01769	0.242717	12.297984	5.891171	
16.780001	1.639753	81.987627	-0.008288	81.987627	-0.005792	0.242353	12.311024	5.873509	
16.799999	1.638007	81.900369	0.002291	81.900369	0.001603	0.241852	12.329006	5.849239	
16.82	1.637055	81.852739	-0.01982	81.852742	-0.013874	0.241578	12.338846	5.836002	
16.84	1.634806	81.740317	0.015299	81.740318	0.010724	0.240931	12.362148	5.804772	
16.860001	1.635322	81.765949	0.093538	81.766002	0.065545	0.24108	12.356792	5.811936	
16.879999	1.634333	81.716532	0.076065	81.716567	0.053333	0.240795	12.367068	5.7982	
16.9	1.632874	81.643602	0.063998	81.643627	0.044912	0.240374	12.38226	5.777953	
16.92	1.630592	81.529337	0.119496	81.529424	0.083978	0.239715	12.406097	5.746326	
16.940001	1.632077	81.602463	0.267447	81.602902	0.187783	0.240144	12.390569	5.76691	
16.959999	1.631533	81.575233	0.269964	81.57568	0.189613	0.239987	12.396252	5.759367	
16.98	1.62911	81.454333	0.243768	81.454698	0.171468	0.239286	12.421643	5.725794	
17	1.628433	81.421046	0.176139	81.421237	0.123948	0.23909	12.428757	5.716422	
17.02	1.628664	81.432244	0.21914	81.432539	0.154187	0.239157	12.426332	5.719615	
17.040001	1.62637	81.317336	0.24375	81.317701	0.171745	0.238493	12.450497	5.687878	
17.059999	1.626836	81.340545	0.254386	81.340943	0.179188	0.238628	12.445576	5.694328	
17.08	1.626345	81.314313	0.384855	81.315224	0.271175	0.238485	12.450765	5.687528	
17.1	1.625094	81.252661	0.320509	81.253293	0.226008	0.238122	12.463991	5.670232	
17.120001	1.628136	81.404605	0.333692	81.405289	0.234864	0.239004	12.431883	5.712309	
17.139999	1.626348	81.312026	0.520607	81.313692	0.366837	0.238486	12.450735	5.687567	
17.16	1.627205	81.352669	0.620058	81.355032	0.436692	0.238735	12.441686	5.69943	
17.18	1.627644	81.373615	0.660339	81.376294	0.46494	0.238862	12.437058	5.705506	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	1.628601	81.422264	0.628269	81.424687	0.442097	0.239139	12.426993	5.718745	
17.219999	1.625641	81.272235	0.703305	81.275279	0.495808	0.238281	12.458208	5.677789	
17.24	1.626292	81.304137	0.728112	81.307397	0.513094	0.23847	12.451318	5.686803	
17.26	1.625354	81.257525	0.717642	81.260694	0.506007	0.238198	12.461234	5.673834	
17.280001	1.628418	81.409263	0.768774	81.412892	0.541047	0.239086	12.428912	5.716218	
17.299999	1.627161	81.344249	0.836259	81.348547	0.589009	0.238722	12.44215	5.698821	
17.32	1.628776	81.42415	0.862629	81.428719	0.606985	0.23919	12.425148	5.721174	
17.34	1.629788	81.472183	0.935009	81.477548	0.657523	0.239482	12.414528	5.735182	
17.360001	1.630672	81.514459	0.98701	81.520435	0.693728	0.239738	12.40526	5.747435	
17.379999	1.631884	81.577806	0.913359	81.582919	0.641468	0.240088	12.392591	5.764224	
17.4	1.633283	81.643551	1.025121	81.649986	0.719372	0.240492	12.377995	5.783629	
17.42	1.635288	81.74467	1.004955	81.750847	0.70435	0.24107	12.357147	5.81146	
17.440001	1.632796	81.61766	1.062112	81.624571	0.745564	0.240351	12.383074	5.776871	
17.459999	1.635978	81.775188	1.101458	81.782605	0.771691	0.241268	12.349998	5.821034	
17.48	1.637003	81.828278	1.058947	81.83513	0.74143	0.241563	12.339384	5.835278	
17.5	1.638251	81.888258	1.116607	81.895871	0.781223	0.241922	12.326496	5.852621	
17.52	1.637928	81.872454	1.108394	81.879957	0.775627	0.241829	12.329829	5.848131	
17.540001	1.639668	81.958538	1.131222	81.966344	0.790769	0.242329	12.311893	5.872333	
17.559999	1.644439	82.20133	1.033049	82.207821	0.720017	0.243696	12.263038	5.938766	
17.58	1.643734	82.163432	1.096827	82.170752	0.764816	0.243494	12.27023	5.928939	
17.6	1.644663	82.214062	0.994857	82.220081	0.693293	0.24376	12.260749	5.941897	
17.620001	1.644928	82.224718	1.060259	82.231553	0.738769	0.243836	12.258051	5.945589	
17.639999	1.646324	82.29722	0.992114	82.3032	0.690683	0.244235	12.24386	5.965049	
17.66	1.650178	82.49342	0.899369	82.498323	0.624633	0.245334	12.204852	6.018868	
17.68	1.648229	82.400051	0.770375	82.403652	0.535656	0.244778	12.224542	5.991642	
17.700001	1.649621	82.471354	0.712009	82.474428	0.494646	0.245175	12.210469	6.011088	
17.719999	1.649189	82.450509	0.682972	82.453337	0.474595	0.245052	12.214835	6.005049	
17.74	1.649063	82.4457	0.623267	82.448055	0.433133	0.245016	12.216108	6.003288	
17.76	1.647413	82.362649	0.645553	82.365179	0.449072	0.244546	12.232803	5.980254	
17.780001	1.647904	82.387313	0.640109	82.389799	0.445152	0.244686	12.227834	5.987101	
17.799999	1.648207	82.401257	0.688085	82.40413	0.478433	0.244772	12.224764	5.991335	
17.82	1.648117	82.396019	0.71623	82.399132	0.498034	0.244746	12.225671	5.990084	
17.84	1.648077	82.39548	0.659576	82.39812	0.458644	0.244735	12.226083	5.989516	
17.860001	1.649539	82.465898	0.759722	82.469397	0.527827	0.245152	12.211299	6.00994	
17.879999	1.649545	82.463734	0.839272	82.468005	0.583107	0.245153	12.211243	6.010017	
17.9	1.651791	82.578407	0.763569	82.581937	0.529777	0.245793	12.188618	6.041408	
17.92	1.653123	82.646298	0.71897	82.649425	0.498425	0.246171	12.175246	6.060039	
17.940001	1.652698	82.626913	0.647575	82.62945	0.449038	0.246051	12.179507	6.054097	
17.959999	1.654115	82.696688	0.689184	82.69956	0.477486	0.246453	12.165314	6.073913	
17.98	1.654704	82.727488	0.635669	82.72993	0.440246	0.24662	12.159426	6.082154	



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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	1.655698	82.775569	0.699566	82.778525	0.484217	0.246902	12.149501	6.096069	
18.02	1.658466	82.917303	0.562422	82.91921	0.388627	0.247686	12.121956	6.134857	
18.040001	1.660138	82.999865	0.610982	83.002114	0.421761	0.248159	12.105384	6.158311	
18.059999	1.658654	82.926876	0.554346	82.928728	0.383004	0.24774	12.12009	6.137493	
18.08	1.660184	83.003369	0.556092	83.005231	0.383856	0.248172	12.104931	6.158954	
18.1	1.66174	83.083414	0.436852	83.084562	0.301258	0.248612	12.089562	6.180787	
18.120001	1.663979	83.195543	0.424073	83.196624	0.292052	0.249243	12.067534	6.212217	
18.139999	1.663577	83.175102	0.446968	83.176303	0.307895	0.24913	12.071476	6.206581	
18.16	1.663116	83.152683	0.405319	83.153671	0.279281	0.249	12.076016	6.200096	
18.18	1.665591	83.278404	0.248763	83.278776	0.17115	0.249697	12.051718	6.234881	
18.200001	1.665527	83.275206	0.24646	83.275571	0.169572	0.249679	12.052349	6.233976	
18.219999	1.666369	83.317561	0.219048	83.317849	0.150635	0.249916	12.044107	6.245817	
18.24	1.666815	83.33984	0.222994	83.340139	0.153307	0.250042	12.039746	6.252092	
18.26	1.667837	83.391361	0.159532	83.391513	0.10961	0.250329	12.029779	6.266458	
18.280001	1.669241	83.462062	0.010011	83.462063	0.006872	0.250723	12.016102	6.286223	
18.299999	1.669585	83.479199	0.049312	83.479214	0.033845	0.25082	12.012762	6.29106	
18.32	1.668528	83.426365	-0.034844	83.426373	-0.02393	0.250523	12.023046	6.276181	
18.34	1.67205	83.602498	-0.037841	83.602507	-0.025934	0.251511	11.988855	6.325786	
18.360001	1.670365	83.518117	-0.077371	83.518153	-0.053079	0.251039	12.00519	6.302038	
18.379999	1.671245	83.561301	-0.225473	83.561605	-0.154601	0.251285	11.996653	6.314437	
18.4	1.670347	83.516719	-0.18418	83.516922	-0.126355	0.251034	12.00536	6.301791	
18.42	1.671704	83.58428	-0.222176	83.584575	-0.152298	0.251414	11.992208	6.320904	
18.440001	1.672304	83.613662	-0.287741	83.614157	-0.197172	0.251582	11.986403	6.329359	
18.459999	1.67378	83.685853	-0.412591	83.68687	-0.28248	0.251995	11.972148	6.350168	
18.48	1.675312	83.762039	-0.438408	83.763186	-0.299882	0.252424	11.957399	6.371771	
18.5	1.674204	83.706367	-0.455295	83.707606	-0.31164	0.252114	11.968061	6.356147	
18.52	1.673322	83.66183	-0.480435	83.66321	-0.329022	0.251867	11.976565	6.343712	
18.540001	1.673972	83.692298	-0.582797	83.694328	-0.398977	0.252049	11.970298	6.352873	
18.559999	1.673266	83.656414	-0.608377	83.658626	-0.416667	0.251851	11.97711	6.342916	
18.58	1.675523	83.768932	-0.62413	83.771257	-0.426882	0.252483	11.95537	6.374748	
18.6	1.677289	83.855114	-0.709732	83.858118	-0.484928	0.252976	11.938428	6.399665	
18.620001	1.677603	83.86844	-0.796004	83.872218	-0.543784	0.253063	11.935415	6.404105	
18.639999	1.67797	83.887323	-0.777077	83.890922	-0.530736	0.253166	11.931907	6.409281	
18.66	1.678599	83.917225	-0.830457	83.921334	-0.56699	0.253341	11.925887	6.418172	
18.68	1.677425	83.854803	-0.943028	83.860105	-0.64432	0.253014	11.937121	6.401591	
18.700001	1.678034	83.885615	-0.932339	83.890796	-0.636784	0.253183	11.931295	6.410184	
18.719999	1.677568	83.862422	-0.928966	83.867567	-0.634655	0.253053	11.935755	6.403604	
18.74	1.678753	83.91895	-1.006389	83.924984	-0.687081	0.253384	11.924416	6.420345	
18.76	1.679551	83.956509	-1.067791	83.963299	-0.728672	0.253606	11.916799	6.431615	
18.780001	1.680655	84.0086	-1.144365	84.016394	-0.780436	0.253914	11.90628	6.447212	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	1.679022	83.928053	-1.117616	83.935493	-0.762927	0.253459	11.921845	6.424148	
18.82	1.68145	84.046533	-1.187097	84.054916	-0.809209	0.254135	11.898718	6.458448	
18.84	1.681372	84.038925	-1.269914	84.048519	-0.865733	0.254113	11.899451	6.457358	
18.860001	1.681253	84.030993	-1.311134	84.041222	-0.893914	0.25408	11.900586	6.455671	
18.879999	1.682743	84.105733	-1.307443	84.115895	-0.890606	0.254494	11.886434	6.476742	
18.9	1.681437	84.032321	-1.46536	84.045097	-0.999027	0.254131	11.898834	6.458276	
18.92	1.681533	84.032734	-1.543842	84.046914	-1.052516	0.254158	11.897929	6.459622	
18.940001	1.680876	83.999124	-1.556933	84.013552	-1.061864	0.253975	11.904173	6.450341	
18.959999	1.682967	84.101994	-1.587659	84.116979	-1.081491	0.254557	11.884315	6.479903	
18.98	1.682451	84.072633	-1.647331	84.08877	-1.12252	0.254413	11.889205	6.472611	
19	1.682221	84.061768	-1.636537	84.077697	-1.11531	0.254349	11.891388	6.469358	
19.02	1.683198	84.105039	-1.727761	84.122783	-1.176858	0.254621	11.88212	6.483178	
19.040001	1.684029	84.145901	-1.739559	84.16388	-1.184316	0.254852	11.87425	6.494938	
19.059999	1.684208	84.149889	-1.815647	84.169475	-1.236044	0.254901	11.872557	6.497471	
19.08	1.683668	84.115952	-1.916169	84.137775	-1.304979	0.254751	11.877666	6.489831	
19.1	1.683783	84.121554	-1.918379	84.143425	-1.306397	0.254783	11.876578	6.491457	
19.120001	1.685346	84.197622	-1.949187	84.220181	-1.326171	0.255217	11.861808	6.513571	
19.139999	1.685857	84.217261	-2.030459	84.241735	-1.381123	0.255359	11.856991	6.520801	
19.16	1.686248	84.235431	-2.049983	84.260371	-1.394098	0.255467	11.853296	6.52635	
19.18	1.685174	84.170612	-2.191218	84.19913	-1.49125	0.255169	11.863429	6.511141	
19.200001	1.687096	84.272454	-2.121104	84.299143	-1.44181	0.255702	11.845315	6.538355	
19.219999	1.686606	84.237055	-2.256154	84.267263	-1.534211	0.255566	11.849928	6.531413	
19.24	1.687307	84.263867	-2.354601	84.296758	-1.600613	0.255761	11.84333	6.541344	
19.26	1.686499	84.216933	-2.427692	84.251916	-1.651191	0.255537	11.850938	6.529895	
19.280001	1.686419	84.20813	-2.480835	84.244665	-1.687492	0.255514	11.851692	6.528761	
19.299999	1.687205	84.251681	-2.435038	84.286862	-1.655502	0.255732	11.844291	6.539897	
19.32	1.686385	84.19766	-2.575365	84.237038	-1.75197	0.255505	11.852009	6.528284	
19.34	1.686759	84.214815	-2.592348	84.254705	-1.763157	0.255609	11.848485	6.533584	
19.360001	1.687652	84.260385	-2.583847	84.299993	-1.75643	0.255856	11.840089	6.546228	
19.379999	1.686683	84.194068	-2.764547	84.239443	-1.880658	0.255588	11.849198	6.532511	
19.4	1.688095	84.265043	-2.763178	84.310335	-1.878145	0.255979	11.835922	6.552512	
19.42	1.689532	84.334189	-2.79216	84.380398	-1.896275	0.256376	11.822444	6.572879	
19.440001	1.687783	84.242736	-2.827774	84.290183	-1.922528	0.255892	11.838857	6.548085	
19.459999	1.687254	84.209528	-2.891425	84.259153	-1.966543	0.255746	11.843826	6.540597	
19.48	1.68658	84.161993	-3.017426	84.216067	-2.053327	0.255559	11.850172	6.531047	
19.5	1.68778	84.220671	-3.031388	84.275209	-2.061384	0.255891	11.838886	6.548041	
19.52	1.688316	84.244467	-3.059273	84.299996	-2.079742	0.25604	11.833851	6.555637	
19.540001	1.688828	84.263137	-3.121483	84.320934	-2.121525	0.256182	11.829043	6.562898	
19.559999	1.688906	84.259593	-3.185956	84.319804	-2.165394	0.256203	11.828311	6.564005	
19.58	1.689507	84.277965	-3.28556	84.341984	-2.232538	0.256369	11.822676	6.572527	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	1.68898	84.255765	-3.249526	84.318405	-2.208659	0.256223	11.827623	6.565044	
19.620001	1.68942	84.26387	-3.365038	84.331034	-2.286869	0.256345	11.823495	6.571289	
19.639999	1.69132	84.354559	-3.403857	84.423207	-2.310737	0.25687	11.805721	6.598237	
19.66	1.689755	84.262186	-3.51169	84.335331	-2.386468	0.256438	11.820358	6.576037	
19.68	1.690415	84.296187	-3.505431	84.369042	-2.38126	0.25662	11.814179	6.585398	
19.700001	1.690925	84.315225	-3.556153	84.390186	-2.41513	0.256761	11.809418	6.592622	
19.719999	1.690308	84.283991	-3.558079	84.35906	-2.417331	0.256591	11.815178	6.583884	
19.74	1.691188	84.30927	-3.700349	84.390436	-2.513113	0.256834	11.806959	6.596356	
19.76	1.688886	84.196573	-3.677303	84.276838	-2.50082	0.256197	11.828505	6.563712	
19.780001	1.687895	84.134455	-3.766976	84.218742	-2.563613	0.255923	11.8378	6.549679	
19.799999	1.688708	84.173249	-3.782147	84.258178	-2.572739	0.256148	11.830169	6.561198	
19.82	1.69048	84.250064	-3.870003	84.338901	-2.630022	0.256638	11.813573	6.586318	
19.84	1.690883	84.264214	-3.913054	84.355022	-2.658791	0.25675	11.809802	6.592039	
19.860001	1.689319	84.177563	-3.967386	84.271005	-2.698424	0.256317	11.824441	6.569856	
19.879999	1.689926	84.208445	-3.965161	84.301748	-2.695925	0.256485	11.818758	6.578459	
19.9	1.69033	84.2072	-4.110368	84.307459	-2.79454	0.256597	11.81498	6.584185	
19.92	1.690397	84.20009	-4.179128	84.303738	-2.841452	0.256615	11.814351	6.585138	
19.940001	1.690019	84.182887	-4.167066	84.285959	-2.833842	0.256511	11.817889	6.579775	
19.959999	1.690313	84.183754	-4.257065	84.291323	-2.894914	0.256592	11.815135	6.583949	
19.98	1.689989	84.157028	-4.322744	84.267974	-2.940431	0.256503	11.818168	6.579354	
20	1.690374	84.183482	-4.278201	84.292121	-2.909271	0.256609	11.814569	6.584808	
20.02	1.6888	84.074507	-4.461677	84.19281	-3.037736	0.256174	11.829311	6.562494	
20.040001	1.690874	84.181096	-4.4498	84.298621	-3.025835	0.256747	11.809895	6.591899	
20.059999	1.691458	84.207391	-4.469229	84.325908	-3.038075	0.256908	11.804436	6.60019	
20.08	1.691431	84.176562	-4.644613	84.304602	-3.158214	0.256901	11.804689	6.599805	
20.1	1.690652	84.145247	-4.597616	84.270758	-3.127482	0.256686	11.811966	6.588756	
20.120001	1.689943	84.085571	-4.736118	84.218846	-3.223783	0.25649	11.818596	6.578704	
20.139999	1.69141	84.165764	-4.701232	84.29696	-3.197043	0.256895	11.80488	6.599514	
20.16	1.68968	84.059228	-4.810064	84.196737	-3.275031	0.256417	11.821059	6.574975	
20.18	1.69037	84.093173	-4.815214	84.230921	-3.27721	0.256608	11.814602	6.584758	
20.200001	1.690983	84.106722	-4.912085	84.25004	-3.342455	0.256777	11.808874	6.593448	
20.219999	1.690474	84.079993	-4.917769	84.223688	-3.347375	0.256637	11.813625	6.586239	
20.24	1.691707	84.122322	-5.026464	84.272359	-3.419469	0.256977	11.802114	6.60372	
20.26	1.689221	83.984357	-5.091573	84.138555	-3.469331	0.25629	11.825363	6.568463	
20.280001	1.691503	84.097015	-5.10645	84.251906	-3.474794	0.256921	11.804018	6.600825	
20.299999	1.69167	84.096156	-5.155618	84.254044	-3.508203	0.256967	11.802454	6.603202	
20.32	1.68942	83.95677	-5.287084	84.12308	-3.603386	0.256345	11.823497	6.571284	
20.34	1.68937	83.961762	-5.24882	84.125665	-3.577163	0.256332	11.823959	6.570586	
20.360001	1.689195	83.931163	-5.358991	84.102075	-3.653373	0.256283	11.825604	6.568098	
20.379999	1.690012	83.96304	-5.406666	84.136937	-3.68439	0.256509	11.817948	6.579686	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	1.690554	83.996139	-5.378386	84.168155	-3.663731	0.256659	11.812883	6.587364	
20.42	1.690272	83.964826	-5.462889	84.142351	-3.722517	0.256581	11.815523	6.583362	
20.440001	1.690505	83.965142	-5.519425	84.146355	-3.760918	0.256645	11.813337	6.586676	
20.459999	1.690948	83.976322	-5.574035	84.16111	-3.797516	0.256767	11.809202	6.592951	
20.48	1.689831	83.903483	-5.651653	84.093613	-3.853571	0.256459	11.819644	6.577117	
20.5	1.689939	83.893906	-5.722816	84.08887	-3.902389	0.256489	11.818631	6.578652	
20.52	1.690317	83.899682	-5.785252	84.098904	-3.944559	0.256593	11.8151	6.584002	
20.540001	1.69053	83.908117	-5.796334	84.108082	-3.951695	0.256652	11.813107	6.587025	
20.559999	1.689254	83.832836	-5.844579	84.036323	-3.988048	0.256299	11.825054	6.56893	
20.58	1.690707	83.87988	-5.966342	84.091804	-4.068581	0.256701	11.811448	6.589542	
20.6	1.689124	83.796942	-5.977466	84.009866	-4.080162	0.256263	11.826265	6.567097	
20.620001	1.690542	83.857993	-6.026647	84.074273	-4.110632	0.256655	11.812993	6.587198	
20.639999	1.690002	83.835459	-6.004744	84.05023	-4.096841	0.256506	11.818044	6.579541	
20.66	1.687873	83.703365	-6.109939	83.926067	-4.174917	0.255917	11.838008	6.549366	
20.68	1.689118	83.765648	-6.114412	83.98851	-4.174866	0.256262	11.826329	6.567001	
20.700001	1.687521	83.654437	-6.243832	83.887129	-4.268557	0.25582	11.841317	6.544376	
20.719999	1.689024	83.709542	-6.334679	83.948887	-4.32759	0.256236	11.827208	6.565672	
20.74	1.68896	83.697931	-6.369694	83.939959	-4.35202	0.256218	11.827811	6.564761	
20.76	1.688865	83.680109	-6.423844	83.926315	-4.389805	0.256192	11.8287	6.563417	
20.780001	1.688076	83.633076	-6.452193	83.881596	-4.411571	0.255974	11.836098	6.552246	
20.799999	1.688738	83.6628	-6.468647	83.912499	-4.421212	0.256157	11.82989	6.561618	
20.82	1.687367	83.576884	-6.534203	83.831923	-4.470409	0.255777	11.842765	6.542195	
20.84	1.686541	83.546124	-6.487715	83.797645	-4.44036	0.255548	11.850544	6.530487	
20.860001	1.686804	83.533169	-6.594757	83.793085	-4.514019	0.255621	11.848067	6.534213	
20.879999	1.68673	83.496489	-6.725802	83.766939	-4.605349	0.255601	11.848764	6.533165	
20.9	1.687605	83.542177	-6.722015	83.812176	-4.600261	0.255843	11.840524	6.545572	
20.92	1.687847	83.541627	-6.772747	83.815712	-4.634859	0.25591	11.838251	6.548998	
20.940001	1.685802	83.430496	-6.798682	83.707047	-4.6587	0.255343	11.857504	6.52003	
20.959999	1.686198	83.42096	-6.913493	83.706947	-4.737556	0.255453	11.853773	6.525633	
20.98	1.687732	83.48937	-6.951897	83.778302	-4.759867	0.255878	11.839332	6.547368	
21	1.687335	83.49486	-6.852878	83.775615	-4.692068	0.255768	11.843067	6.54174	
21.02	1.687887	83.47244	-7.045792	83.769275	-4.824828	0.255921	11.837883	6.549554	
21.040001	1.686556	83.392112	-7.091436	83.693087	-4.86059	0.255552	11.850402	6.530701	
21.059999	1.685468	83.325852	-7.130573	83.630394	-4.891154	0.255251	11.860659	6.515296	
21.08	1.685137	83.309176	-7.129516	83.613688	-4.891406	0.255159	11.863785	6.510607	
21.1	1.684065	83.227701	-7.226983	83.540885	-4.962774	0.254862	11.873911	6.495445	
21.120001	1.684751	83.238321	-7.315699	83.559186	-5.022748	0.255052	11.867425	6.505152	
21.139999	1.684295	83.21788	-7.305117	83.537898	-5.016746	0.254925	11.871736	6.498699	
21.16	1.683839	83.177584	-7.365594	83.503069	-5.060501	0.254799	11.876052	6.492244	
21.18	1.684284	83.190055	-7.402451	83.518749	-5.084933	0.254922	11.87184	6.498544	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	1.68492	83.181311	-7.547769	83.523047	-5.184759	0.255099	11.865826	6.507549	
21.219999	1.682702	83.080772	-7.501145	83.418714	-5.159106	0.254483	11.886821	6.476165	
21.24	1.682224	83.054812	-7.505893	83.393286	-5.163959	0.25435	11.891365	6.469392	
21.26	1.684349	83.127467	-7.632254	83.477105	-5.245849	0.25494	11.871227	6.499461	
21.280001	1.684627	83.145692	-7.618807	83.494025	-5.235516	0.255018	11.868595	6.5034	
21.299999	1.682114	83.011994	-7.634114	83.362287	-5.254378	0.254319	11.892409	6.467837	
21.32	1.682503	83.025883	-7.65506	83.378037	-5.267837	0.254428	11.888713	6.473344	
21.34	1.683606	83.04807	-7.772094	83.410955	-5.34649	0.254734	11.878254	6.488953	
21.360001	1.68251	82.996609	-7.755415	83.358164	-5.338372	0.25443	11.888646	6.473444	
21.379999	1.682638	82.96089	-7.896351	83.335837	-5.437134	0.254465	11.887428	6.47526	
21.4	1.682824	82.962134	-7.923664	83.339667	-5.455746	0.254517	11.885672	6.477879	
21.42	1.681952	82.893968	-7.999557	83.279066	-5.512183	0.254274	11.893944	6.465551	
21.440001	1.681651	82.854716	-8.076252	83.247401	-5.56732	0.254191	11.896801	6.4613	
21.459999	1.681144	82.838762	-8.043277	83.22833	-5.545792	0.25405	11.901628	6.454122	
21.48	1.682039	82.891527	-8.022109	83.278805	-5.527788	0.254299	11.893113	6.466789	
21.5	1.680766	82.788135	-8.143032	83.187644	-5.617547	0.253945	11.905219	6.448787	
21.52	1.680741	82.787755	-8.140132	83.186983	-5.615585	0.253938	11.905457	6.448434	
21.540001	1.681536	82.801044	-8.22794	83.208845	-5.674862	0.254159	11.897899	6.459666	
21.559999	1.681312	82.775719	-8.271088	83.187923	-5.70616	0.254096	11.900028	6.4565	
21.58	1.680249	82.713828	-8.29276	83.128498	-5.725264	0.253801	11.910146	6.441476	
21.6	1.678798	82.628292	-8.3254	83.046655	-5.753558	0.253397	11.923987	6.420979	
21.620001	1.68093	82.70057	-8.442359	83.130366	-5.828769	0.25399	11.903662	6.451101	
21.639999	1.678196	82.571344	-8.404814	82.997999	-5.812045	0.253229	11.92974	6.412479	
21.66	1.678858	82.577442	-8.490519	83.012788	-5.870468	0.253413	11.923418	6.421821	
21.68	1.678851	82.555982	-8.554203	82.997979	-5.915716	0.253411	11.923482	6.421727	
21.700001	1.676896	82.428182	-8.633132	82.879045	-5.979097	0.252866	11.942187	6.394127	
21.719999	1.677516	82.42422	-8.739562	82.88626	-6.052552	0.253039	11.936249	6.402876	
21.74	1.677942	82.479653	-8.64141	82.931099	-5.98108	0.253158	11.932169	6.408895	
21.76	1.677839	82.437137	-8.750798	82.900289	-6.059333	0.253129	11.93316	6.407432	
21.780001	1.678692	82.450262	-8.841488	82.922962	-6.120688	0.253367	11.925005	6.419475	
21.799999	1.676905	82.369417	-8.806814	82.838884	-6.102805	0.252869	11.942101	6.394255	
21.82	1.676903	82.31249	-8.969781	82.799777	-6.219124	0.252868	11.942127	6.394215	
21.84	1.675978	82.331353	-8.777371	82.79791	-6.085346	0.25261	11.951004	6.38116	
21.860001	1.678485	82.387894	-8.989482	82.876872	-6.227016	0.253309	11.92698	6.416556	
21.879999	1.676377	82.307557	-8.905826	82.787968	-6.175492	0.252721	11.947172	6.386792	
21.9	1.6766	82.299963	-8.960634	82.786332	-6.21377	0.252783	11.945029	6.389944	
21.92	1.676304	82.262955	-9.021766	82.756184	-6.258619	0.252701	11.947871	6.385764	
21.940001	1.674645	82.135984	-9.135175	82.64243	-6.346373	0.252237	11.963815	6.362363	
21.959999	1.674414	82.1347	-9.105277	82.637854	-6.325869	0.252173	11.96604	6.359105	
21.98	1.675799	82.194402	-9.140018	82.701025	-6.345234	0.25256	11.952717	6.378642	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	1.674765	82.092679	-9.271551	82.614585	-6.443695	0.252271	11.962659	6.364058	
22.02	1.674974	82.117456	-9.233562	82.634952	-6.415593	0.252329	11.960652	6.367	
22.040001	1.674631	82.089175	-9.261946	82.610026	-6.437347	0.252233	11.963954	6.36216	
22.059999	1.673959	82.018139	-9.359459	82.550437	-6.51013	0.252045	11.970428	6.352683	
22.08	1.674222	82.032968	-9.356589	82.564845	-6.506984	0.252119	11.967889	6.356398	
22.1	1.674592	82.078272	-9.286109	82.601904	-6.45485	0.252222	11.964331	6.361609	
22.120001	1.675241	82.046724	-9.462519	82.590582	-6.578916	0.252404	11.958087	6.370761	
22.139999	1.673629	81.983892	-9.405165	82.521607	-6.544356	0.251953	11.973609	6.348032	
22.16	1.674468	81.984334	-9.520939	82.535322	-6.624167	0.252188	11.965517	6.35987	
22.18	1.673856	81.925771	-9.590696	82.485231	-6.67699	0.252017	11.97142	6.351232	
22.200001	1.673603	81.91783	-9.57685	82.475735	-6.668078	0.251946	11.973854	6.347674	
22.219999	1.673045	81.843082	-9.695323	82.415347	-6.755918	0.25179	11.979245	6.339799	
22.24	1.67421	81.906728	-9.688724	82.477776	-6.746165	0.252116	11.968008	6.356225	
22.26	1.673317	81.827454	-9.772315	82.408922	-6.810355	0.251866	11.976619	6.343633	
22.280001	1.674478	81.86641	-9.828611	82.454294	-6.845988	0.252191	11.965424	6.360007	
22.299999	1.673517	81.808662	-9.847178	82.399175	-6.863593	0.251922	11.974684	6.346461	
22.32	1.673648	81.779311	-9.938739	82.381031	-6.929257	0.251958	11.973425	6.348301	
22.34	1.673129	81.708754	-10.046882	82.324117	-7.009897	0.251813	11.978428	6.340992	
22.360001	1.672091	81.722807	-9.874851	82.317251	-6.889857	0.251523	11.988461	6.326359	
22.379999	1.674309	81.772113	-10.043678	82.386613	-7.002307	0.252143	11.967057	6.357616	
22.4	1.672548	81.679077	-10.044589	82.294382	-7.010834	0.251651	11.984042	6.3328	
22.42	1.671758	81.636571	-10.046848	82.25247	-7.016009	0.251429	11.991682	6.32167	
22.440001	1.673166	81.655549	-10.182623	82.287998	-7.108226	0.251823	11.978078	6.341503	
22.459999	1.672728	81.628779	-10.191678	82.262555	-7.116791	0.251701	11.982301	6.335339	
22.48	1.673641	81.647392	-10.263496	82.28995	-7.164805	0.251956	11.973491	6.348205	
22.5	1.673625	81.595942	-10.385218	82.254182	-7.253401	0.251952	11.973649	6.347974	
22.52	1.672137	81.569964	-10.258801	82.212541	-7.168289	0.251535	11.988015	6.32701	
22.540001	1.67398	81.633163	-10.340956	82.285531	-7.219556	0.252051	11.970227	6.352977	
22.559999	1.67228	81.479734	-10.492178	82.152497	-7.337634	0.251575	11.986638	6.329017	
22.58	1.671117	81.436707	-10.448497	82.104253	-7.311236	0.25125	11.997893	6.312635	
22.6	1.672612	81.489278	-10.511116	82.164384	-7.349882	0.251668	11.983426	6.333699	
22.620001	1.671862	81.451078	-10.507562	82.126044	-7.350832	0.251458	11.990679	6.323129	
22.639999	1.671998	81.41143	-10.617109	82.100816	-7.430194	0.251497	11.989358	6.325053	
22.66	1.672151	81.390028	-10.685399	82.088455	-7.479391	0.251539	11.987879	6.327208	
22.68	1.671115	81.360406	-10.626788	82.051473	-7.441504	0.251249	11.997915	6.312604	
22.700001	1.670345	81.295175	-10.683115	81.994113	-7.486436	0.251033	12.005378	6.301764	
22.719999	1.670742	81.291375	-10.740084	81.997787	-7.52625	0.251144	12.001533	6.307346	
22.74	1.67042	81.260974	-10.770463	81.971634	-7.550084	0.251054	12.004654	6.302815	
22.76	1.67307	81.35357	-10.879996	82.077875	-7.61739	0.251797	11.979	6.340157	
22.780001	1.670358	81.189974	-10.923367	81.921498	-7.662622	0.251037	12.005257	6.30194	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	1.669994	81.175627	-10.912172	81.905786	-7.6562	0.250935	12.008785	6.296823	
22.82	1.670786	81.182481	-10.991029	81.923122	-7.71022	0.251157	12.0011	6.307976	
22.84	1.670042	81.113883	-11.055094	81.863771	-7.761095	0.250948	12.008324	6.297491	
22.860001	1.671342	81.156107	-11.114841	81.913695	-7.798515	0.251313	11.995712	6.315806	
22.879999	1.671133	81.112717	-11.208213	81.883435	-7.867365	0.251309	11.995833	6.31563	
22.9	1.670369	81.070364	-11.188716	81.838813	-7.857902	0.25104	12.005147	6.3021	
22.92	1.670055	81.070224	-11.152526	81.833735	-7.832815	0.250952	12.008191	6.297685	
22.940001	1.671681	81.04793	-11.388208	81.844109	-7.998395	0.251408	11.992433	6.320577	
22.959999	1.67057	81.013448	-11.33485	81.802552	-7.964746	0.251096	12.003193	6.304936	
22.98	1.669582	80.918849	-11.423633	81.72123	-8.035583	0.250819	12.012789	6.29102	
23	1.67088	80.955826	-11.492498	81.767495	-8.079742	0.251183	12.000194	6.309292	
23.02	1.669704	80.89381	-11.490278	81.705783	-8.084313	0.250853	12.011607	6.292733	
23.040001	1.67047	80.946119	-11.466624	81.754252	-8.062745	0.251068	12.004168	6.303522	
23.059999	1.670643	80.877057	-11.630666	81.709061	-8.18343	0.251117	12.002491	6.305956	
23.08	1.672144	80.980837	-11.582409	81.80494	-8.139628	0.251537	11.987951	6.327103	
23.1	1.671044	80.866447	-11.69721	81.70806	-8.230676	0.251229	11.998605	6.311601	
23.120001	1.671588	80.83738	-11.816952	81.696526	-8.316707	0.251382	11.993327	6.319275	
23.139999	1.66995	80.737377	-11.840817	81.601035	-8.343444	0.250922	12.009212	6.296204	
23.16	1.672133	80.787335	-11.977521	81.670402	-8.433248	0.251534	11.988061	6.326943	
23.18	1.672124	80.813195	-11.924574	81.688236	-8.393853	0.251532	11.988142	6.326824	
23.200001	1.670172	80.634467	-12.07113	81.532996	-8.514074	0.250985	12.007055	6.299332	
23.219999	1.668956	80.625211	-11.958686	81.507269	-8.436865	0.250643	12.018878	6.282207	
23.24	1.668893	80.571349	-12.059081	81.46879	-8.512265	0.250626	12.019491	6.28132	
23.26	1.669806	80.64068	-12.019414	81.5315	-8.477484	0.250882	12.010618	6.294167	
23.280001	1.6702	80.576521	-12.188172	81.493112	-8.601488	0.250992	12.006787	6.299721	
23.299999	1.670149	80.537515	-12.258854	81.465151	-8.654744	0.250978	12.00728	6.299005	
23.32	1.668495	80.449358	-12.255782	81.377536	-8.661946	0.250514	12.023366	6.275718	
23.34	1.669542	80.483175	-12.300288	81.41768	-8.689325	0.250808	12.01318	6.290454	
23.360001	1.669282	80.435181	-12.365564	81.38013	-8.73986	0.250735	12.015703	6.2868	
23.379999	1.671139	80.486039	-12.487355	81.448981	-8.819103	0.251326	11.995245	6.316485	
23.4	1.669212	80.37592	-12.471387	81.337716	-8.819881	0.250715	12.016384	6.285815	
23.42	1.669402	80.374058	-12.49452	81.339426	-8.836184	0.250769	12.014537	6.288489	
23.440001	1.669393	80.304436	-12.624586	81.290729	-8.934308	0.250766	12.014624	6.288363	
23.459999	1.669776	80.321705	-12.631312	81.308834	-8.937101	0.250873	12.010907	6.293748	
23.48	1.668204	80.212095	-12.675653	81.207465	-8.98002	0.250432	12.026198	6.271626	
23.5	1.668602	80.185558	-12.764875	81.195233	-9.045131	0.250544	12.022323	6.277225	
23.52	1.669482	80.20282	-12.821538	81.221206	-9.082691	0.250791	12.013766	6.289605	
23.540001	1.668894	80.145407	-12.867631	81.171806	-9.121216	0.250626	12.019483	6.281332	
23.559999	1.668036	80.110144	-12.846294	81.133609	-9.110286	0.250385	12.027833	6.269266	
23.58	1.669914	80.145084	-12.96972	81.187733	-9.192387	0.250912	12.00956	6.2957	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	1.668373	80.042627	-13.001884	81.091745	-9.226385	0.25048	12.024552	6.274005	
23.620001	1.667963	79.955512	-13.117126	81.024335	-9.316701	0.250364	12.028548	6.268234	
23.639999	1.668277	79.972171	-13.11827	81.04096	-9.315593	0.250453	12.025483	6.272659	
23.66	1.667733	79.907782	-13.179137	80.987303	-9.36546	0.2503	12.030789	6.265	
23.68	1.668892	79.945497	-13.225104	81.032005	-9.393189	0.250625	12.019504	6.281301	
23.700001	1.666224	79.772735	-13.269904	80.868904	-9.444481	0.249875	12.045529	6.243773	
23.719999	1.668007	79.856809	-13.294913	80.955942	-9.452178	0.250377	12.02812	6.268851	
23.74	1.669221	79.859794	-13.406127	80.977225	-9.529453	0.250718	12.016295	6.285943	
23.76	1.667937	79.757527	-13.45986	80.885295	-9.578982	0.250357	12.028798	6.267874	
23.780001	1.665665	79.636101	-13.452277	80.764301	-9.588012	0.249718	12.051	6.235913	
23.799999	1.666478	79.640112	-13.522255	80.779941	-9.63648	0.249947	12.043043	6.247348	
23.82	1.666513	79.621182	-13.55762	80.767206	-9.663461	0.249957	12.042705	6.247835	
23.84	1.665545	79.583983	-13.529672	80.725847	-9.648338	0.249684	12.052173	6.234229	
23.860001	1.668685	79.650883	-13.711079	80.82233	-9.76697	0.250567	12.021511	6.278399	
23.879999	1.667191	79.516564	-13.795893	80.704464	-9.84269	0.250147	12.036083	6.257368	
23.9	1.666689	79.487935	-13.797052	80.676456	-9.846977	0.250006	12.040978	6.25032	
23.92	1.666107	79.45102	-13.804433	80.641348	-9.856629	0.249843	12.046669	6.242134	
23.940001	1.666698	79.445732	-13.867431	80.646947	-9.901369	0.250009	12.040891	6.250445	
23.959999	1.666765	79.389904	-13.964762	80.608756	-9.976343	0.250028	12.040242	6.251378	
23.98	1.664945	79.322726	-13.908512	80.53286	-9.945209	0.249515	12.05805	6.225798	
24	1.666164	79.319534	-14.024356	80.549805	-10.026764	0.249859	12.046116	6.242929	
24.02	1.665782	79.265279	-14.077308	80.505621	-10.070598	0.249751	12.049851	6.237562	
24.040001	1.664165	79.181015	-14.067057	80.420863	-10.073904	0.249296	12.065702	6.214838	
24.059999	1.665644	79.245289	-14.096962	80.489379	-10.086861	0.249712	12.051203	6.235621	
24.08	1.664769	79.150885	-14.169209	80.409135	-10.149326	0.249466	12.059781	6.223317	
24.1	1.664662	79.033107	-14.345239	80.324454	-10.287729	0.249436	12.06083	6.221814	
24.120001	1.664791	79.049306	-14.331351	80.337914	-10.27592	0.249472	12.059558	6.223636	
24.139999	1.664889	79.040122	-14.354271	80.33297	-10.293174	0.2495	12.058603	6.225004	
24.16	1.664334	78.936555	-14.466377	80.251204	-10.385137	0.249343	12.064042	6.217214	
24.18	1.66235	78.847388	-14.430926	80.157109	-10.371701	0.248784	12.08355	6.189349	
24.200001	1.664958	78.923805	-14.540214	80.252008	-10.43863	0.249519	12.057924	6.225978	
24.219999	1.664523	78.839158	-14.63174	80.185414	-10.513905	0.249397	12.062188	6.219869	
24.24	1.662035	78.750251	-14.552391	80.083545	-10.469695	0.248695	12.086659	6.18492	
24.26	1.663693	78.771451	-14.662893	80.12454	-10.544643	0.249163	12.070343	6.208201	
24.280001	1.663877	78.700431	-14.785327	80.077237	-10.640066	0.249215	12.068529	6.210794	
24.299999	1.664453	78.75607	-14.751102	80.125611	-10.608667	0.249377	12.062875	6.218885	
24.32	1.664871	78.711178	-14.853654	80.100441	-10.68668	0.249495	12.058774	6.22476	
24.34	1.662986	78.594866	-14.866766	79.988584	-10.711359	0.248963	12.077287	6.198282	
24.360001	1.664359	78.650932	-14.899625	80.049784	-10.72701	0.24935	12.063802	6.217557	
24.379999	1.662322	78.486357	-14.970515	79.901342	-10.798921	0.248776	12.083828	6.188953	



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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
24.4	1.662724	78.476715	-15.018177	79.900817	-10.833789	0.24889	12.079867	6.194601	
24.42	1.662944	78.440653	-15.088798	79.878707	-10.888404	0.248952	12.077705	6.197685	
24.440001	1.661494	78.369767	-15.071056	79.805746	-10.885508	0.248542	12.091993	6.177329	
24.459999	1.662121	78.37883	-15.109934	79.821997	-10.911685	0.248719	12.085806	6.186135	
24.48	1.66401	78.391915	-15.246875	79.860876	-11.006379	0.249252	12.067221	6.212664	
24.5	1.663594	78.356594	-15.263121	79.82931	-11.022664	0.249135	12.071307	6.206822	
24.52	1.662005	78.215197	-15.33368	79.70407	-11.091885	0.248686	12.086956	6.184498	
24.540001	1.660794	78.205618	-15.248496	79.678325	-11.0331	0.248345	12.098905	6.167505	
24.559999	1.662361	78.104702	-15.516969	79.631155	-11.236596	0.248787	12.083443	6.189502	
24.58	1.661312	78.12084	-15.409962	79.626205	-11.158811	0.248491	12.093792	6.174771	
24.6	1.661662	78.069417	-15.509727	79.595135	-11.236433	0.24859	12.090335	6.179687	
24.620001	1.660432	77.94936	-15.576904	79.490519	-11.300787	0.248242	12.102479	6.162432	
24.639999	1.661278	77.964746	-15.623164	79.514683	-11.331301	0.248481	12.094124	6.174298	
24.66	1.660431	77.841543	-15.723761	79.413742	-11.419931	0.248242	12.102488	6.162418	
24.68	1.661275	77.916006	-15.689432	79.479949	-11.385045	0.248481	12.094152	6.174258	
24.700001	1.659334	77.760126	-15.747231	79.338594	-11.448187	0.247932	12.113353	6.147021	
24.719999	1.660627	77.758536	-15.850749	79.357648	-11.521667	0.248297	12.100555	6.165163	
24.74	1.65983	77.752423	-15.79653	79.340845	-11.484184	0.248072	12.10844	6.153979	
24.76	1.660277	77.707331	-15.891729	79.315676	-11.558062	0.248199	12.104014	6.160253	
24.780001	1.66057	77.65653	-15.981794	79.284011	-11.629185	0.248281	12.101117	6.164364	
24.799999	1.659257	77.594659	-15.961737	79.219367	-11.623996	0.24791	12.114115	6.145942	
24.82	1.657362	77.43348	-16.02706	79.074714	-11.693888	0.247374	12.132926	6.119379	
24.84	1.657247	77.449218	-15.997683	79.084178	-11.670736	0.247341	12.134066	6.117773	
24.860001	1.65804	77.380539	-16.147726	79.047434	-11.787313	0.247566	12.12618	6.128892	
24.879999	1.658646	77.417852	-16.145695	79.083546	-11.78035	0.247737	12.120168	6.137382	
24.9	1.657665	77.267816	-16.263908	78.96094	-11.886548	0.24746	12.129909	6.123632	
24.92	1.659576	77.367188	-16.281505	79.061806	-11.884194	0.248	12.11095	6.150424	
24.940001	1.658537	77.256806	-16.343649	78.966632	-11.944811	0.247707	12.121249	6.135856	
24.959999	1.657917	77.211809	-16.353987	78.924751	-11.958914	0.247531	12.12741	6.127156	
24.98	1.658257	77.132828	-16.478789	78.873466	-12.059495	0.247627	12.124025	6.131934	
25	1.657238	77.04447	-16.513143	78.794252	-12.097348	0.247339	12.13416	6.117641	
25.02	1.658353	77.041231	-16.599672	78.809266	-12.159353	0.247654	12.123081	6.133267	
25.040001	1.657613	77.015789	-16.576469	78.779509	-12.146753	0.247445	12.13043	6.122898	
25.059999	1.656096	76.905176	-16.601035	78.676556	-12.181193	0.247015	12.145523	6.101656	
25.08	1.656509	76.85054	-16.698188	78.643722	-12.258779	0.247132	12.141409	6.107439	
25.1	1.656317	76.824642	-16.715659	78.622127	-12.275228	0.247078	12.143324	6.104746	
25.120001	1.654465	76.721118	-16.706255	78.518971	-12.284583	0.246553	12.161809	6.078817	
25.139999	1.656761	76.764111	-16.821209	78.585506	-12.359807	0.247204	12.138902	6.110965	
25.16	1.656078	76.648465	-16.910364	78.491704	-12.441448	0.24701	12.145709	6.101394	
25.18	1.654368	76.621689	-16.819018	78.445922	-12.380509	0.246525	12.162781	6.077457	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	1.656707	76.598298	-17.015039	78.465348	-12.523979	0.247188	12.139439	6.11021	
25.219999	1.656691	76.588048	-17.02596	78.457711	-12.533388	0.247184	12.139602	6.10998	
25.24	1.655399	76.467293	-17.075735	78.350671	-12.588083	0.246818	12.152479	6.091891	
25.26	1.654066	76.391334	-17.069776	78.27524	-12.595943	0.246439	12.165806	6.073225	
25.280001	1.654409	76.349745	-17.142504	78.250552	-12.654554	0.246537	12.162368	6.078035	
25.299999	1.65427	76.321781	-17.165047	78.228212	-12.675151	0.246497	12.163762	6.076085	
25.32	1.655087	76.298194	-17.249703	78.223824	-12.739438	0.246729	12.1556	6.087515	
25.34	1.653969	76.218749	-17.262395	78.14914	-12.761359	0.246412	12.166778	6.071867	
25.360001	1.65552	76.242167	-17.344112	78.190064	-12.815969	0.246852	12.151275	6.09358	
25.379999	1.653769	76.155657	-17.320451	78.100461	-12.813122	0.246355	12.168771	6.06908	
25.4	1.653999	76.123176	-17.373286	78.080529	-12.856212	0.24642	12.166471	6.072295	
25.42	1.652565	75.986844	-17.427456	77.959711	-12.91732	0.246013	12.180849	6.052225	
25.440001	1.654123	75.974152	-17.548939	77.974592	-13.006412	0.246455	12.165237	6.074021	
25.459999	1.651899	75.855022	-17.528627	77.853948	-13.011579	0.245824	12.18753	6.042923	
25.48	1.650433	75.80048	-17.488559	77.79179	-12.99187	0.245406	12.202285	6.022427	
25.5	1.654072	75.896482	-17.63143	77.917542	-13.078369	0.246441	12.165745	6.073311	
25.52	1.651306	75.705702	-17.652416	77.736485	-13.125255	0.245655	12.193498	6.034623	
25.540001	1.652971	75.692187	-17.779838	77.752362	-13.218961	0.246128	12.176771	6.057911	
25.559999	1.652043	75.596692	-17.820382	77.668692	-13.264186	0.245864	12.186084	6.044935	
25.58	1.651688	75.616125	-17.77557	77.677341	-13.228725	0.245764	12.18965	6.039973	
25.6	1.651922	75.519494	-17.894912	77.610707	-13.330816	0.24583	12.187305	6.043235	
25.620001	1.649218	75.394118	-17.847925	77.477877	-13.318383	0.24506	12.214538	6.005459	
25.639999	1.651381	75.410604	-17.97446	77.523161	-13.40658	0.245676	12.192742	6.035674	
25.66	1.650183	75.328413	-17.981649	77.44488	-13.425853	0.245335	12.204805	6.018933	
25.68	1.648955	75.246761	-17.986126	77.366502	-13.443118	0.244985	12.217201	6.001777	
25.700001	1.649769	75.238136	-18.048933	77.372742	-13.489838	0.245217	12.208976	6.013155	
25.719999	1.648416	75.136878	-18.065246	77.278093	-13.519113	0.244832	12.222654	5.994247	
25.74	1.650951	75.165114	-18.202206	77.337667	-13.612878	0.245554	12.197068	6.029665	
25.76	1.648153	75.020662	-18.168055	77.189234	-13.613477	0.244757	12.225309	5.990583	
25.780001	1.648722	75.05227	-18.172738	77.221057	-13.611334	0.244919	12.21955	5.998532	
25.799999	1.648213	74.898563	-18.296383	77.100923	-13.727518	0.244774	12.224708	5.991412	
25.82	1.648583	74.878468	-18.340598	77.091909	-13.762985	0.244879	12.220964	5.99658	
25.84	1.648247	74.849402	-18.348261	77.065502	-13.77366	0.244783	12.224357	5.991896	
25.860001	1.647147	74.766148	-18.361074	76.9877	-13.797673	0.244469	12.235507	5.976533	
25.879999	1.647058	74.718068	-18.403469	76.951136	-13.836866	0.244444	12.236407	5.975295	
25.9	1.646306	74.615665	-18.457166	76.864585	-13.893987	0.244229	12.24404	5.964801	
25.92	1.646494	74.616385	-18.468435	76.867991	-13.902012	0.244283	12.242132	5.967423	
25.940001	1.645864	74.524	-18.519425	76.790596	-13.955504	0.244103	12.248532	5.958635	
25.959999	1.646555	74.497598	-18.589095	76.781812	-14.01071	0.244301	12.241506	5.968283	
25.98	1.644177	74.336271	-18.595998	76.626969	-14.044922	0.243621	12.265702	5.935123	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	1.645496	74.383033	-18.633676	76.68148	-14.063754	0.243998	12.252274	5.953503	
26.02	1.642501	74.18634	-18.635415	76.491122	-14.10082	0.243141	12.282826	5.911768	
26.040001	1.644362	74.229977	-18.70999	76.551637	-14.146997	0.243674	12.263821	5.937696	
26.059999	1.644711	74.184781	-18.774908	76.523715	-14.2024	0.243774	12.260263	5.942561	
26.08	1.643345	74.07841	-18.790948	76.424542	-14.233624	0.243383	12.274197	5.923526	
26.1	1.643572	74.055139	-18.827014	76.410864	-14.264127	0.243448	12.271877	5.926691	
26.120001	1.643216	74.008558	-18.84883	76.3711	-14.2886	0.243346	12.275515	5.921728	
26.139999	1.641935	73.883753	-18.886631	76.259516	-14.339266	0.242979	12.288626	5.903878	
26.16	1.640847	73.77814	-18.917979	76.164978	-14.381789	0.242667	12.29978	5.888735	
26.18	1.642379	73.832684	-18.961378	76.228597	-14.403205	0.243106	12.284072	5.910072	
26.200001	1.642046	73.769643	-18.999192	76.176962	-14.442547	0.243011	12.287484	5.905431	
26.219999	1.640294	73.666157	-18.987445	76.073818	-14.453418	0.242509	12.305452	5.881049	
26.24	1.639733	73.571347	-19.039913	75.995141	-14.509565	0.242347	12.311229	5.873231	
26.26	1.640878	73.670863	-19.018685	76.086178	-14.475314	0.242676	12.299458	5.889172	
26.280001	1.639426	73.5059	-19.080773	75.942039	-14.551781	0.24226	12.31438	5.868972	
26.299999	1.638094	73.407823	-19.088859	75.849146	-14.576307	0.241877	12.328113	5.850443	
26.32	1.637054	73.312517	-19.111823	75.762702	-14.611254	0.241578	12.338858	5.835986	
26.34	1.638366	73.324096	-19.180238	75.79119	-14.659093	0.241955	12.32531	5.854219	
26.360001	1.637772	73.251573	-19.209213	75.728376	-14.694187	0.241784	12.331435	5.845969	
26.379999	1.636039	73.134493	-19.209347	75.615164	-14.716789	0.241286	12.34936	5.821891	
26.4	1.636958	73.125147	-19.272295	75.622143	-14.764717	0.24155	12.339846	5.834658	
26.42	1.636273	73.041058	-19.305283	75.549256	-14.805161	0.241353	12.346934	5.825143	
26.440001	1.636839	73.059455	-19.322725	75.5715	-14.814381	0.241516	12.341082	5.832998	
26.459999	1.633772	72.90712	-19.27392	75.41175	-14.808127	0.240633	12.372902	5.790417	
26.48	1.635241	72.867912	-19.394458	75.404758	-14.904289	0.241056	12.357638	5.810803	
26.5	1.633191	72.772851	-19.355731	75.302936	-14.894418	0.240465	12.378955	5.782351	
26.52	1.634976	72.738538	-19.489664	75.304329	-14.999608	0.24098	12.360383	5.807132	
26.540001	1.633414	72.676006	-19.4516	75.234079	-14.983933	0.24053	12.376627	5.785452	
26.559999	1.635153	72.687214	-19.543461	75.268705	-15.049276	0.241031	12.358552	5.809581	
26.58	1.634281	72.567999	-19.593161	75.166525	-15.109455	0.24078	12.367607	5.79748	
26.6	1.633825	72.559955	-19.573482	75.153631	-15.096569	0.240648	12.37235	5.791152	
26.620001	1.632872	72.436449	-19.621498	75.046934	-15.156521	0.240373	12.382272	5.777936	
26.639999	1.632916	72.46468	-19.600518	75.068703	-15.135432	0.240386	12.381819	5.77854	
26.66	1.631144	72.288681	-19.644286	74.910289	-15.202895	0.239874	12.400323	5.753971	
26.68	1.629726	72.210081	-19.627557	74.830053	-15.206317	0.239464	12.415183	5.734318	
26.700001	1.631842	72.233668	-19.729409	74.879586	-15.276788	0.240076	12.393026	5.763648	
26.719999	1.629741	72.113996	-19.706984	74.758234	-15.284375	0.239469	12.415022	5.734529	
26.74	1.631148	72.10819	-19.791824	74.775045	-15.348257	0.239876	12.400282	5.754026	
26.76	1.631895	72.02338	-19.902344	74.722624	-15.447191	0.240091	12.392472	5.764383	
26.780001	1.627283	71.935521	-19.711641	74.587318	-15.323966	0.238757	12.440866	5.700506	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	1.628665	71.863591	-19.847479	74.553995	-15.439257	0.239158	12.426315	5.719637	
26.82	1.630269	71.864704	-19.936861	74.578912	-15.505221	0.239621	12.409488	5.741841	
26.84	1.627136	71.788781	-19.820747	74.474768	-15.434755	0.238715	12.442418	5.698469	
26.860001	1.628885	71.656974	-20.022461	74.401753	-15.611505	0.239221	12.424002	5.722684	
26.879999	1.626559	71.644375	-19.902362	74.357383	-15.52499	0.238548	12.448499	5.690495	
26.9	1.627593	71.568578	-20.019159	74.315733	-15.627393	0.238847	12.437598	5.704797	
26.92	1.628145	71.517723	-20.089092	74.28564	-15.689905	0.239007	12.431786	5.712437	
26.940001	1.62764	71.491479	-20.081306	74.258269	-15.689597	0.238861	12.4371	5.705451	
26.959999	1.626517	71.394185	-20.093742	74.167972	-15.719171	0.238535	12.448947	5.689909	
26.98	1.626074	71.356782	-20.097826	74.133076	-15.730041	0.238407	12.453629	5.683778	
27	1.625846	71.270879	-20.150539	74.064718	-15.787309	0.238341	12.456037	5.680628	
27.02	1.624958	71.216382	-20.142944	74.01021	-15.79313	0.238083	12.465431	5.668353	
27.040001	1.626173	71.158535	-20.252939	73.984583	-15.887289	0.238436	12.452579	5.685152	
27.059999	1.623995	71.068821	-20.200994	73.884082	-15.867591	0.237804	12.475634	5.655052	
27.08	1.624063	71.000652	-20.255362	73.833409	-15.922637	0.237823	12.474917	5.655985	
27.1	1.621031	70.871453	-20.186068	73.690163	-15.898385	0.236941	12.507179	5.614125	
27.120001	1.621562	70.764421	-20.293482	73.616769	-16.001607	0.237096	12.50151	5.621458	
27.139999	1.620919	70.779183	-20.247898	73.618409	-15.964337	0.236909	12.508374	5.612581	
27.16	1.622	70.683626	-20.37572	73.561844	-16.080526	0.237223	12.496849	5.627495	
27.18	1.618922	70.599426	-20.271042	73.451985	-16.02026	0.236327	12.529731	5.585048	
27.200001	1.619963	70.568763	-20.349109	73.444105	-16.085399	0.23663	12.518591	5.599392	
27.219999	1.619219	70.523275	-20.341925	73.398407	-16.089849	0.236414	12.526547	5.589144	
27.24	1.619964	70.410552	-20.462045	73.323538	-16.204447	0.236631	12.518579	5.599408	
27.26	1.620322	70.317735	-20.546411	73.25803	-16.288067	0.236735	12.514744	5.604354	
27.280001	1.61776	70.287323	-20.431817	73.196769	-16.208644	0.235988	12.542199	5.569037	
27.299999	1.61775	70.193144	-20.497258	73.124655	-16.27848	0.235985	12.542314	5.56889	
27.32	1.618088	70.14566	-20.548166	73.09337	-16.327219	0.236084	12.538676	5.573556	
27.34	1.616363	70.136113	-20.463677	73.060499	-16.265737	0.23558	12.557229	5.549797	
27.360001	1.615903	69.977536	-20.54912	72.93231	-16.365068	0.235446	12.562187	5.543465	
27.379999	1.614661	69.890999	-20.543243	72.847626	-16.37981	0.235083	12.575591	5.526382	
27.4	1.616367	69.972186	-20.577171	72.935086	-16.387396	0.235581	12.557182	5.549857	
27.42	1.612991	69.790932	-20.523999	72.746194	-16.387495	0.234594	12.593675	5.503418	
27.440001	1.613277	69.656782	-20.629514	72.647396	-16.497182	0.234677	12.590576	5.507347	
27.459999	1.613582	69.701063	-20.61563	72.685916	-16.476776	0.234767	12.587274	5.511536	
27.48	1.61196	69.590653	-20.605355	72.577128	-16.493719	0.234291	12.604872	5.489248	
27.5	1.610525	69.505099	-20.587997	72.490168	-16.499763	0.233871	12.62049	5.469543	
27.52	1.60993	69.375825	-20.642881	72.381859	-16.570482	0.233696	12.626977	5.461379	
27.540001	1.609984	69.427258	-20.611699	72.422278	-16.535233	0.233712	12.626387	5.46212	
27.559999	1.610617	69.357666	-20.690225	72.377975	-16.610503	0.233898	12.619486	5.470807	
27.58	1.608835	69.276177	-20.651905	72.288933	-16.599862	0.233374	12.638935	5.446362	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
27.6	1.608552	69.138174	-20.727091	72.178247	-16.688355	0.233291	12.642031	5.44248	
27.620001	1.607357	69.139787	-20.664816	72.161934	-16.640623	0.23294	12.655131	5.426089	
27.639999	1.60654	68.993445	-20.717389	72.036835	-16.714019	0.232699	12.664094	5.414902	
27.66	1.607176	69.011959	-20.737927	72.060475	-16.725425	0.232886	12.657118	5.423607	
27.68	1.605568	68.912792	-20.71939	71.960169	-16.734013	0.232413	12.674785	5.401588	
27.700001	1.605058	68.792235	-20.769877	71.859303	-16.80024	0.232263	12.680407	5.394601	
27.719999	1.604659	68.784475	-20.754541	71.847442	-16.790321	0.232145	12.684809	5.389136	
27.74	1.603365	68.667524	-20.762538	71.737799	-16.823418	0.231764	12.699099	5.371432	
27.76	1.603318	68.578589	-20.815553	71.668055	-16.884566	0.23175	12.699619	5.370789	
27.780001	1.6026	68.634183	-20.744753	71.700738	-16.817526	0.231538	12.707565	5.360972	
27.799999	1.600787	68.487036	-20.744936	71.55995	-16.851754	0.231002	12.72768	5.336199	
27.82	1.601968	68.468464	-20.81576	71.562744	-16.910333	0.231351	12.714566	5.352337	
27.84	1.601874	68.398222	-20.854123	71.506721	-16.956115	0.231323	12.71561	5.35105	
27.860001	1.602777	68.420949	-20.885416	71.537591	-16.974779	0.23159	12.705602	5.363395	
27.879999	1.600666	68.290515	-20.859337	71.405226	-16.985321	0.230966	12.729028	5.334543	
27.9	1.598396	68.20745	-20.796428	71.307417	-16.956476	0.230294	12.754332	5.303551	
27.92	1.597207	68.042131	-20.83677	71.161103	-17.026365	0.229942	12.767637	5.287329	
27.940001	1.595773	68.037924	-20.76806	71.13699	-16.974442	0.229517	12.783717	5.267788	
27.959999	1.595805	67.975639	-20.806911	71.088783	-17.019047	0.229526	12.783364	5.268216	
27.98	1.595403	67.869738	-20.849926	71.000146	-17.077252	0.229407	12.78787	5.262753	
28	1.594594	67.853867	-20.819308	70.975988	-17.057388	0.229167	12.796976	5.25173	
28.02	1.594595	67.767695	-20.870061	70.908532	-17.117018	0.229167	12.796967	5.251741	
28.040001	1.593348	67.762731	-20.811521	70.88658	-17.072978	0.228796	12.811023	5.234771	
28.059999	1.594127	67.65637	-20.91195	70.814505	-17.175919	0.229028	12.802234	5.245376	
28.08	1.592003	67.561145	-20.862878	70.709038	-17.160715	0.228396	12.826235	5.216468	
28.1	1.590298	67.518433	-20.803983	70.650863	-17.1253	0.227888	12.84557	5.193295	
28.120001	1.588858	67.420664	-20.789835	70.553265	-17.137699	0.227459	12.861955	5.173738	
28.139999	1.591125	67.397321	-20.913946	70.567641	-17.239579	0.228134	12.836182	5.204533	
28.16	1.589821	67.315849	-20.89671	70.484722	-17.245825	0.227746	12.850993	5.186815	
28.18	1.588839	67.294762	-20.860895	70.453971	-17.223093	0.227453	12.862164	5.17349	
28.200001	1.589992	67.246385	-20.944246	70.432505	-17.299509	0.227797	12.849045	5.189141	
28.219999	1.589416	67.194848	-20.945218	70.38359	-17.31274	0.227625	12.855601	5.181314	
28.24	1.590146	67.173694	-20.992382	70.377449	-17.354524	0.227843	12.847296	5.191231	
28.26	1.586342	67.047279	-20.878803	70.222946	-17.296837	0.226707	12.890702	5.139606	
28.280001	1.587379	67.061482	-20.921059	70.249079	-17.326299	0.227017	12.878833	5.153672	
28.299999	1.585004	66.974413	-20.854617	70.146183	-17.295672	0.226307	12.906052	5.121472	
28.32	1.585403	66.903612	-20.91301	70.095986	-17.358449	0.226426	12.901464	5.126885	
28.34	1.584757	66.750867	-20.965354	69.96588	-17.43668	0.226233	12.908882	5.118136	
28.360001	1.585113	66.746154	-20.984942	69.967256	-17.45314	0.226339	12.904794	5.122955	
28.379999	1.583734	66.695987	-20.946054	69.907738	-17.435067	0.225927	12.920653	5.104282	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
28.4	1.58596	66.710757	-21.04448	69.951378	-17.508358	0.226593	12.895081	5.134426	
28.42	1.583262	66.55754	-20.997801	69.791216	-17.509653	0.225785	12.926091	5.097896	
28.440001	1.581924	66.517115	-20.955589	69.739969	-17.486572	0.225384	12.941541	5.079791	
28.459999	1.580468	66.434803	-20.930023	69.653779	-17.486859	0.224947	12.958402	5.060108	
28.48	1.579716	66.267058	-20.982616	69.509662	-17.569755	0.224721	12.967128	5.049952	
28.5	1.580058	66.292651	-20.98544	69.534914	-17.565608	0.224824	12.963156	5.054573	
28.52	1.580563	66.217261	-21.048479	69.482114	-17.633929	0.224975	12.957302	5.061389	
28.540001	1.580805	66.217329	-21.05985	69.485624	-17.642847	0.225048	12.954499	5.064658	
28.559999	1.58008	66.143225	-21.063901	69.416238	-17.664572	0.22483	12.962901	5.054869	
28.58	1.577495	66.046085	-20.992087	69.301898	-17.632369	0.224053	12.992994	5.019964	
28.6	1.577029	65.943745	-21.022387	69.21357	-17.681935	0.223912	12.998436	5.013678	
28.620001	1.57691	65.967412	-21.004778	69.230775	-17.662101	0.223877	12.999826	5.012073	
28.639999	1.574919	65.848538	-20.971702	69.107469	-17.665872	0.223276	13.023143	4.985236	
28.66	1.576444	65.864981	-21.034839	69.142318	-17.71159	0.223736	13.005266	5.005799	
28.68	1.573966	65.669915	-21.016713	68.950997	-17.746555	0.222989	13.03433	4.972411	
28.700001	1.574351	65.591813	-21.073182	68.893867	-17.811082	0.223105	13.029808	4.977591	
28.719999	1.575179	65.635437	-21.090151	68.940591	-17.813419	0.223355	13.020093	4.988738	
28.74	1.572399	65.549397	-21.003397	68.832159	-17.766576	0.222516	13.052787	4.951323	
28.76	1.572664	65.525985	-21.027218	68.817139	-17.791411	0.222596	13.049659	4.954891	
28.780001	1.571975	65.484875	-21.015359	68.774372	-17.792468	0.222387	13.057797	4.945615	
28.799999	1.571095	65.373525	-21.028837	68.672482	-17.831564	0.222121	13.068192	4.933791	
28.82	1.57149	65.244186	-21.109123	68.574039	-17.928516	0.222241	13.063528	4.939093	
28.84	1.569195	65.138988	-21.053626	68.456869	-17.911425	0.221546	13.09072	4.908265	
28.860001	1.571037	65.11289	-21.150413	68.461876	-17.995218	0.222104	13.06888	4.93301	
28.879999	1.569891	65.036887	-21.133528	68.384374	-18.001436	0.221757	13.082463	4.917606	
28.9	1.570213	65.023906	-21.154292	68.37845	-18.021344	0.221854	13.078645	4.92193	
28.92	1.567064	64.833287	-21.098883	68.18004	-18.026623	0.2209	13.116095	4.879671	
28.940001	1.567374	64.781222	-21.136844	68.142299	-18.070522	0.220994	13.112394	4.88383	
28.959999	1.567804	64.839569	-21.129701	68.195557	-18.049611	0.221124	13.107266	4.889601	
28.98	1.56618	64.665371	-21.135258	68.031679	-18.099517	0.220631	13.126658	4.867817	
29	1.56501	64.649289	-21.08951	68.002191	-18.067088	0.220276	13.140662	4.852146	
29.02	1.565453	64.620712	-21.122498	67.985265	-18.100988	0.220411	13.135352	4.858082	
29.040001	1.565197	64.522957	-21.154703	67.902382	-18.152445	0.220333	13.13842	4.854651	
29.059999	1.563124	64.417343	-21.108105	67.787507	-18.142831	0.219702	13.163316	4.826901	
29.08	1.563643	64.431594	-21.125185	67.80637	-18.152796	0.21986	13.157073	4.833845	
29.1	1.561691	64.282186	-21.103131	67.657532	-18.174468	0.219266	13.180583	4.807748	
29.120001	1.562515	64.182958	-21.183141	67.588295	-18.265148	0.219517	13.170641	4.818767	
29.139999	1.561819	64.096457	-21.189127	67.508036	-18.292982	0.219305	13.179036	4.809461	
29.16	1.561138	64.054192	-21.176765	67.464027	-18.29428	0.219097	13.187261	4.800361	
29.18	1.561205	63.977501	-21.212217	67.402365	-18.343356	0.219118	13.186451	4.801257	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	1.558649	63.833132	-21.159163	67.248636	-18.339162	0.218337	13.217437	4.767122	
29.219999	1.557997	63.88661	-21.107771	67.283259	-18.283292	0.218138	13.225368	4.758425	
29.24	1.559106	63.802587	-21.192128	67.230026	-18.374019	0.218477	13.211887	4.773218	
29.26	1.557232	63.706192	-21.149015	67.124956	-18.365031	0.217904	13.234687	4.748225	
29.280001	1.557563	63.637472	-21.191861	67.073265	-18.418263	0.218006	13.230646	4.752646	
29.299999	1.554986	63.592488	-21.096453	67.000484	-18.353008	0.217217	13.262127	4.718319	
29.32	1.556379	63.531441	-21.182707	66.969778	-18.439494	0.217643	13.245094	4.736861	
29.34	1.554754	63.422351	-21.155149	66.857572	-18.446661	0.217146	13.264968	4.715233	
29.360001	1.554303	63.322773	-21.174981	66.769405	-18.489842	0.217007	13.270507	4.709224	
29.379999	1.554858	63.23353	-21.234338	66.703646	-18.562506	0.217178	13.263697	4.716614	
29.4	1.551816	63.079997	-21.161237	66.534833	-18.54492	0.216244	13.301107	4.67616	
29.42	1.551313	63.049433	-21.151119	66.502637	-18.54503	0.21609	13.307315	4.66948	
29.440001	1.550508	63.036384	-21.121083	66.480718	-18.524064	0.215842	13.317265	4.658794	
29.459999	1.549699	63.014364	-21.094355	66.45135	-18.508244	0.215594	13.327274	4.648069	
29.48	1.54928	62.953083	-21.099645	66.394922	-18.529361	0.215465	13.332477	4.642504	
29.5	1.548444	62.818162	-21.114617	66.271778	-18.578704	0.215207	13.342859	4.63142	
29.52	1.547548	62.764756	-21.095895	66.21519	-18.578071	0.214931	13.354002	4.619551	
29.540001	1.547412	62.715842	-21.108317	66.172788	-18.601759	0.21489	13.355695	4.617751	
29.559999	1.546074	62.649145	-21.075299	66.099044	-18.593076	0.214477	13.372385	4.600039	
29.58	1.545289	62.563803	-21.072911	66.017399	-18.614728	0.214234	13.382212	4.589642	
29.6	1.54358	62.470384	-21.033483	65.916283	-18.608169	0.213707	13.403643	4.56705	
29.620001	1.543268	62.340014	-21.067295	65.803558	-18.672292	0.21361	13.407557	4.562935	
29.639999	1.543112	62.270414	-21.08546	65.743449	-18.706709	0.213562	13.409518	4.560875	
29.66	1.541061	62.114479	-21.052712	65.585251	-18.723303	0.212927	13.435379	4.533797	
29.68	1.540935	62.113971	-21.047533	65.583107	-18.71916	0.212888	13.436964	4.532143	
29.700001	1.53905	62.017651	-21.000642	65.476836	-18.707348	0.212304	13.460846	4.507289	
29.719999	1.53807	61.940167	-20.9857	65.398654	-18.716721	0.212	13.473294	4.494389	
29.74	1.539254	61.925769	-21.041011	65.40279	-18.766661	0.212367	13.458261	4.509973	
29.76	1.537835	61.823659	-21.015527	65.297911	-18.774314	0.211927	13.476284	4.491295	
29.780001	1.536989	61.79959	-20.987747	65.266184	-18.758025	0.211664	13.487068	4.480157	
29.799999	1.535355	61.706894	-20.949729	65.166187	-18.752582	0.211156	13.507933	4.458684	
29.82	1.53438	61.605281	-20.942369	65.067607	-18.77521	0.210852	13.520428	4.445875	
29.84	1.533399	61.532894	-20.924812	64.993421	-18.781095	0.210547	13.533032	4.43299	
29.860001	1.533617	61.378098	-20.984345	64.866121	-18.874901	0.210615	13.53023	4.435851	
29.879999	1.529882	61.326017	-20.84396	64.771529	-18.7723	0.209449	13.578424	4.386899	
29.9	1.532599	61.248423	-20.982918	64.74297	-18.91083	0.210297	13.543319	4.422503	
29.92	1.527201	61.092973	-20.805575	64.538541	-18.806614	0.208611	13.613276	4.351835	
29.940001	1.528652	61.103725	-20.863016	64.567257	-18.851789	0.209065	13.594388	4.370803	
29.959999	1.52653	61.085492	-20.779794	64.523152	-18.787084	0.2084	13.622029	4.343073	
29.98	1.527402	61.060606	-20.82418	64.513906	-18.831522	0.208674	13.610646	4.354471	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30	1.52547	60.924879	-20.785437	64.372939	-18.837878	0.208068	13.635886	4.329237	
30.02	1.524888	60.91991	-20.762659	64.360884	-18.820116	0.207886	13.643504	4.32165	
30.040001	1.522762	60.833336	-20.700415	64.258867	-18.792486	0.207218	13.671443	4.293938	
30.059999	1.524963	60.774629	-20.810012	64.238712	-18.901894	0.207909	13.642527	4.322623	
30.08	1.521455	60.725764	-20.678618	64.150009	-18.805006	0.206807	13.688687	4.276922	
30.1	1.520819	60.569464	-20.698866	64.008617	-18.867262	0.206607	13.697098	4.268646	
30.120001	1.518822	60.469292	-20.645433	63.896551	-18.85097	0.205978	13.723579	4.242698	
30.139999	1.517158	60.36067	-20.608011	63.781663	-18.850685	0.205453	13.745751	4.221093	
30.16	1.515341	60.243147	-20.566562	63.657052	-18.849556	0.204879	13.770048	4.197544	
30.18	1.514979	60.175132	-20.570911	63.594095	-18.873062	0.204765	13.774894	4.192862	
30.200001	1.514158	60.15197	-20.54353	63.563324	-18.856462	0.204505	13.785925	4.182226	
30.219999	1.514359	60.123825	-20.559736	63.541931	-18.878493	0.204569	13.783221	4.184831	
30.24	1.511325	60.084826	-20.445507	63.468142	-18.792311	0.203608	13.824113	4.145612	
30.26	1.510788	60.010541	-20.444123	63.397375	-18.812754	0.203437	13.831392	4.13867	
30.280001	1.508741	59.810648	-20.414781	63.198709	-18.846014	0.202787	13.859179	4.112275	
30.299999	1.508077	59.747429	-20.404557	63.135578	-18.855765	0.202576	13.868221	4.103721	
30.32	1.507715	59.752302	-20.388392	63.134968	-18.840452	0.202461	13.873161	4.099057	
30.34	1.505903	59.714579	-20.324153	63.07854	-18.796294	0.201885	13.897936	4.075739	
30.360001	1.503676	59.57885	-20.268982	62.932273	-18.788559	0.201175	13.928537	4.047122	
30.379999	1.500586	59.479688	-20.1685	62.806064	-18.730912	0.200188	13.971259	4.007505	
30.4	1.498622	59.378861	-20.114408	62.693209	-18.713687	0.199559	13.998584	3.98237	
30.42	1.497667	59.295906	-20.096769	62.608982	-18.722754	0.199253	14.011919	3.970161	
30.440001	1.49924	59.308039	-20.157952	62.640135	-18.772194	0.199757	13.989967	3.990279	
30.459999	1.497803	59.264543	-20.110361	62.583645	-18.743756	0.199296	14.010016	3.971901	
30.48	1.495399	59.171038	-20.03598	62.471211	-18.706712	0.198525	14.043696	3.941218	
30.5	1.495707	59.114786	-20.062671	62.426507	-18.746473	0.198624	14.03937	3.945145	
30.52	1.493904	59.03044	-20.010202	62.329777	-18.725719	0.198044	14.064745	3.922162	
30.540001	1.493011	58.978762	-19.98661	62.27326	-18.720426	0.197757	14.077349	3.910795	
30.559999	1.491599	58.946892	-19.936964	62.227153	-18.686551	0.197302	14.09735	3.892826	
30.58	1.49004	58.854263	-19.896183	62.126342	-18.678294	0.1968	14.119497	3.873025	
30.6	1.48528	58.773061	-19.722278	61.993878	-18.550067	0.195262	14.187655	3.812717	
30.620001	1.483891	58.659141	-19.693261	61.876646	-18.558153	0.194812	14.207705	3.795155	
30.639999	1.48396	58.587044	-19.713209	61.814662	-18.59695	0.194834	14.206697	3.796036	
30.66	1.483108	58.545478	-19.688386	61.76735	-18.587422	0.194558	14.219034	3.785268	
30.68	1.481784	58.540098	-19.635949	61.745555	-18.542893	0.194128	14.238236	3.768569	
30.700001	1.481808	58.513101	-19.64327	61.72229	-18.557306	0.194136	14.237884	3.768874	
30.719999	1.478915	58.385976	-19.555542	61.57387	-18.517564	0.193195	14.280061	3.732449	
30.74	1.479542	58.350648	-19.589004	61.551013	-18.557545	0.193399	14.2709	3.740331	
30.76	1.47949	58.301535	-19.598055	61.507339	-18.580098	0.193383	14.271652	3.739683	
30.780001	1.475521	58.252566	-19.448631	61.413441	-18.462515	0.192089	14.329934	3.689832	



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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	1.472044	58.149083	-19.331263	61.278166	-18.389064	0.190953	14.381479	3.646298	
30.82	1.468905	58.137615	-19.20661	61.228067	-18.281759	0.189924	14.428386	3.607127	
30.84	1.466743	58.01882	-19.145827	61.096204	-18.26258	0.189214	14.460923	3.580203	
30.860001	1.465733	57.967481	-19.116414	61.038236	-18.251464	0.188882	14.476174	3.567653	
30.879999	1.465814	57.969651	-19.119198	61.041168	-18.253307	0.188909	14.474954	3.568656	
30.9	1.465764	57.890475	-19.134696	60.970843	-18.290443	0.188893	14.475705	3.568038	
30.92	1.465913	57.86097	-19.147119	60.946731	-18.310237	0.188941	14.473464	3.56988	
30.940001	1.46356	57.806505	-19.063905	60.868913	-18.251979	0.188167	14.509137	3.540677	
30.959999	1.462294	57.778001	-19.018895	60.827755	-18.220124	0.187749	14.528433	3.52498	
30.98	1.460179	57.745366	-18.94044	60.77226	-18.159486	0.187051	14.560794	3.498812	
31	1.459818	57.771353	-18.920122	60.790627	-18.133656	0.186932	14.566345	3.494343	
31.02	1.455879	57.615007	-18.794611	60.603023	-18.066893	0.185628	14.62714	3.445768	
31.040001	1.454649	57.600756	-18.747872	60.574993	-18.029045	0.18522	14.646256	3.430634	
31.059999	1.451556	57.606347	-18.621129	60.541207	-17.913348	0.184191	14.694611	3.392649	
31.08	1.449657	57.498713	-18.56751	60.422301	-17.896361	0.183559	14.724473	3.369401	
31.1	1.449836	57.506334	-18.573109	60.431274	-17.899192	0.183619	14.721658	3.371586	
31.120001	1.451125	57.478399	-18.631361	60.422628	-17.959897	0.184048	14.701375	3.387369	
31.139999	1.44963	57.396457	-18.588187	60.331368	-17.944888	0.18355	14.724911	3.369061	
31.16	1.447933	57.363455	-18.526467	60.280975	-17.898743	0.182984	14.751729	3.348321	
31.18	1.446557	57.262967	-18.491744	60.174679	-17.896688	0.182525	14.77357	3.331524	
31.200001	1.446069	57.322217	-18.459648	60.221218	-17.850305	0.182362	14.781337	3.325572	
31.219999	1.444435	57.277948	-18.402776	60.161661	-17.811673	0.181815	14.807397	3.305676	
31.24	1.441803	57.20471	-18.311413	60.064021	-17.750068	0.180933	14.849642	3.273677	
31.26	1.438925	57.230957	-18.189023	60.051836	-17.63122	0.179967	14.896166	3.238794	
31.280001	1.437627	57.104343	-18.162963	59.923277	-17.644141	0.17953	14.917269	3.223095	
31.299999	1.439206	57.071572	-18.233708	59.913541	-17.718111	0.180061	14.891605	3.242198	
31.32	1.438885	57.124025	-18.209931	59.956283	-17.681212	0.179953	14.896805	3.238318	
31.34	1.437481	57.03737	-18.170848	59.861852	-17.670762	0.179481	14.919644	3.221333	
31.360001	1.436568	57.014296	-18.138597	59.830081	-17.648042	0.179173	14.934528	3.210312	
31.379999	1.433741	57.002412	-18.026373	59.784823	-17.549005	0.17822	14.980883	3.176228	
31.4	1.432478	56.965659	-17.982702	59.736621	-17.519697	0.177793	15.001692	3.161046	
31.42	1.429345	57.023897	-17.843014	59.750297	-17.375149	0.176733	15.053648	3.123454	
31.440001	1.427918	56.944216	-17.801655	59.661903	-17.360093	0.176249	15.077475	3.106365	
31.459999	1.428223	56.964905	-17.809736	59.68406	-17.361572	0.176352	15.072376	3.110015	
31.48	1.427979	56.825674	-17.82861	59.556834	-17.418871	0.176269	15.076457	3.107094	
31.5	1.429154	56.843616	-17.872674	59.587156	-17.454134	0.176668	15.056843	3.121158	
31.52	1.427706	56.764827	-17.829807	59.49914	-17.437511	0.176177	15.081013	3.103835	
31.540001	1.425497	56.799253	-17.733138	59.503104	-17.338772	0.175427	15.118088	3.077451	
31.559999	1.424848	56.726838	-17.72146	59.4305	-17.348831	0.175206	15.129013	3.06972	
31.58	1.421819	56.746805	-17.59419	59.411745	-17.225935	0.174175	15.180305	3.033678	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	1.420305	56.80114	-17.521087	59.442056	-17.143122	0.173658	15.206109	3.015707	
31.620001	1.418649	56.795449	-17.454551	59.417038	-17.08343	0.173092	15.234458	2.996085	
31.639999	1.419477	56.706442	-17.507018	59.34742	-17.157092	0.173375	15.220263	3.005894	
31.66	1.417928	56.649633	-17.455508	59.277953	-17.125718	0.172846	15.246833	2.987561	
31.68	1.418236	56.600738	-17.477965	59.237849	-17.160402	0.172951	15.241545	2.9912	
31.700001	1.417504	56.636033	-17.440993	59.260682	-17.116178	0.172701	15.254128	2.982546	
31.719999	1.41552	56.551716	-17.377204	59.161337	-17.081169	0.172021	15.288377	2.959118	
31.74	1.415165	56.53897	-17.36531	59.14566	-17.073783	0.171899	15.294521	2.954935	
31.76	1.412433	56.679712	-17.224451	59.239104	-16.903581	0.170961	15.342037	2.922781	
31.780001	1.411068	56.614083	-17.182387	59.164084	-16.883086	0.170492	15.365907	2.906761	
31.799999	1.411337	56.522123	-17.212474	59.084851	-16.936902	0.170585	15.361207	2.909908	
31.82	1.411214	56.452254	-17.221632	59.020688	-16.965166	0.170542	15.363355	2.908469	
31.84	1.411172	56.488649	-17.234964	59.059389	-16.967234	0.170716	15.35449	2.914412	
31.860001	1.41129	56.507783	-17.213511	59.071436	-16.941916	0.170569	15.362019	2.909364	
31.879999	1.409026	56.440467	-17.134675	58.984095	-16.887715	0.169789	15.401804	2.882834	
31.9	1.408007	56.45011	-17.091007	58.980653	-16.844402	0.169438	15.419809	2.870907	
31.92	1.407656	56.517285	-17.062751	59.036777	-16.799265	0.169317	15.426013	2.866808	
31.940001	1.406631	56.596687	-17.003794	59.095803	-16.722293	0.168963	15.444185	2.854838	
31.959999	1.405759	56.480972	-16.992504	58.981737	-16.744133	0.168662	15.459681	2.84467	
31.98	1.406304	56.484779	-17.014059	58.991597	-16.763115	0.16885	15.449996	2.851021	
32	1.40493	56.411221	-16.97296	58.909313	-16.745475	0.168375	15.474455	2.83501	
32.02	1.405744	56.425441	-17.003399	58.931706	-16.769831	0.168656	15.45995	2.844494	
32.040001	1.403571	56.402921	-16.91893	58.88582	-16.697459	0.167905	15.498746	2.819197	
32.060001	1.403316	56.369682	-16.915327	58.852947	-16.703397	0.167816	15.503312	2.816234	
32.080002	1.401942	56.33821	-16.865431	58.808475	-16.665649	0.16734	15.527985	2.80028	
32.099998	1.402014	56.349787	-16.866018	58.819734	-16.662963	0.167365	15.526685	2.801118	
32.119999	1.401768	56.322957	-16.861431	58.792715	-16.666177	0.16728	15.53111	2.798266	
32.139999	1.401979	56.443892	-16.844963	58.903868	-16.617095	0.167353	15.527312	2.800715	
32.16	1.401446	56.487393	-16.813727	58.936635	-16.575904	0.167168	15.536913	2.79453	
32.18	1.399794	56.446291	-16.75443	58.880342	-16.53201	0.166595	15.566753	2.775394	
32.200001	1.40003	56.397627	-16.774499	58.83941	-16.564228	0.166677	15.562484	2.778124	
32.220001	1.400162	56.325766	-16.79493	58.776369	-16.603289	0.166723	15.560095	2.779653	
32.240002	1.398211	56.340764	-16.711564	58.766981	-16.52122	0.166045	15.595489	2.757091	
32.259998	1.398708	56.311659	-16.738086	58.746629	-16.554092	0.166218	15.586453	2.762833	
32.279999	1.398871	56.284805	-16.750343	58.724384	-16.57302	0.166275	15.583486	2.764722	
32.299999	1.397589	56.241673	-16.706508	58.670548	-16.544006	0.165829	15.606811	2.749913	
32.32	1.398858	56.314796	-16.743599	58.751207	-16.558374	0.16627	15.583731	2.764566	
32.34	1.398548	56.257046	-16.742777	58.69562	-16.573671	0.166162	15.589347	2.760993	
32.360001	1.396732	56.198631	-16.680076	58.621763	-16.53122	0.16553	15.622449	2.740029	
32.380001	1.396865	56.290791	-16.666595	58.70629	-16.493014	0.165577	15.620023	2.74156	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	1.396982	56.368504	-16.655068	58.777543	-16.460733	0.165617	15.617876	2.742915	
32.419998	1.398207	56.300646	-16.719766	58.730855	-16.540022	0.166044	15.595561	2.757045	
32.439999	1.397948	56.280881	-16.713216	58.710043	-16.539385	0.165954	15.600269	2.754058	
32.459999	1.397648	56.304574	-16.695973	58.727852	-16.516679	0.165849	15.60573	2.750597	
32.48	1.396033	56.222329	-16.646543	58.634952	-16.493218	0.165287	15.635226	2.73198	
32.5	1.396517	56.130087	-16.685037	58.557469	-16.554956	0.165456	15.626368	2.737557	
32.52	1.397275	56.137156	-16.714672	58.572695	-16.580774	0.165719	15.612534	2.746291	
32.540001	1.39567	56.125371	-16.651248	58.543328	-16.524573	0.165161	15.641875	2.7278	
32.560001	1.395797	56.169818	-16.647519	58.584881	-16.508713	0.165205	15.639556	2.729257	
32.580002	1.398029	56.082229	-16.756304	58.531958	-16.635175	0.165982	15.598789	2.754997	
32.599998	1.398336	56.100373	-16.765297	58.551917	-16.638524	0.166088	15.593216	2.758534	
32.619999	1.397106	56.127048	-16.709756	58.561604	-16.578985	0.165661	15.615616	2.744343	
32.639999	1.396724	56.140931	-16.691348	58.569661	-16.557851	0.165528	15.622592	2.739938	
32.66	1.397161	56.162322	-16.704981	58.594051	-16.564669	0.16568	15.614618	2.744974	
32.68	1.399481	56.177301	-16.797024	58.634709	-16.646704	0.166486	15.572428	2.77177	
32.700001	1.396708	56.157693	-16.687337	58.584586	-16.54942	0.165522	15.622888	2.739752	
32.720001	1.395932	56.06228	-16.674412	58.489446	-16.563906	0.165252	15.637083	2.730811	
32.740002	1.39765	55.98601	-16.759228	58.440612	-16.664927	0.16585	15.605691	2.750622	
32.759998	1.397159	55.962384	-16.74363	58.413505	-16.656916	0.165679	15.614656	2.74495	
32.779999	1.39747	55.96126	-16.756511	58.416121	-16.669336	0.165787	15.608984	2.748537	
32.799999	1.397381	55.937663	-16.757288	58.393739	-16.676707	0.165756	15.610606	2.747511	
32.82	1.397702	55.875396	-16.781802	58.341142	-16.717319	0.165868	15.604744	2.751222	
32.84	1.397549	55.925771	-16.766325	58.384942	-16.688552	0.165815	15.607545	2.749448	
32.860001	1.397704	55.815076	-16.792727	58.286519	-16.74466	0.165869	15.604705	2.751246	
32.880001	1.398281	55.885783	-16.803443	58.357317	-16.734734	0.166069	15.594203	2.757907	
32.900002	1.399362	55.962045	-16.833379	58.438969	-16.741313	0.166445	15.574588	2.770392	
32.919998	1.399353	55.891227	-16.845983	58.374793	-16.773181	0.166442	15.574738	2.770296	
32.939999	1.401316	55.895528	-16.924786	58.401699	-16.845985	0.167123	15.539265	2.793017	
32.959999	1.399924	55.800956	-16.885121	58.299691	-16.835611	0.16664	15.564405	2.776895	
32.98	1.398322	55.773213	-16.825145	58.255788	-16.787054	0.166084	15.593457	2.758381	
33	1.399448	55.644147	-16.892538	58.151775	-16.887353	0.166475	15.573027	2.771388	
33.02	1.399427	55.629449	-16.894121	58.138171	-16.893054	0.166468	15.573406	2.771146	
33.040001	1.398543	55.622221	-16.859694	58.121259	-16.862651	0.16616	15.589448	2.760929	
33.060001	1.398352	55.581955	-16.858612	58.082412	-16.873151	0.166094	15.592914	2.758726	
33.080002	1.398822	55.566215	-16.880082	58.073586	-16.89793	0.166258	15.584374	2.764156	
33.099998	1.398393	55.492425	-16.874602	58.001391	-16.913937	0.166108	15.592164	2.759202	
33.119999	1.401408	55.579406	-16.981927	58.115886	-16.990222	0.167155	15.537591	2.794093	
33.139999	1.400973	55.531994	-16.971941	58.067625	-16.994469	0.167004	15.545445	2.789045	
33.16	1.401679	55.50941	-17.003765	58.055341	-17.03102	0.167249	15.532721	2.797228	
33.18	1.402423	55.526368	-17.030971	58.079528	-17.051782	0.167507	15.519329	2.805867	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
33.200001	1.40111	55.42736	-16.993508	57.973887	-17.045078	0.167052	15.542974	2.790632	
33.220001	1.402022	55.346314	-17.041891	57.910625	-17.114348	0.167368	15.526547	2.801207	
33.240002	1.401359	55.363247	-17.012984	57.918311	-17.082089	0.167138	15.538479	2.793522	
33.259998	1.399703	55.290892	-16.957378	57.832823	-17.050486	0.166564	15.568398	2.774344	
33.279999	1.400252	55.225955	-16.988437	57.779868	-17.098811	0.166754	15.558469	2.780693	
33.299999	1.402365	55.26328	-17.067342	57.838778	-17.16265	0.167487	15.52038	2.805188	
33.32	1.399596	55.212817	-16.964138	57.76017	-17.079605	0.166526	15.570344	2.773101	
33.34	1.402602	55.151876	-17.091902	57.73961	-17.218557	0.167569	15.516116	2.807944	
33.360001	1.402931	55.124884	-17.108501	57.718746	-17.242227	0.167683	15.510207	2.811767	
33.380001	1.402773	55.138021	-17.100502	57.728923	-17.230781	0.167628	15.51305	2.809927	
33.400002	1.403803	55.0585	-17.151504	57.668124	-17.302583	0.167985	15.494584	2.8219	
33.419998	1.404272	55.077954	-17.167596	57.691485	-17.312095	0.168147	15.486195	2.827356	
33.439999	1.405533	54.991365	-17.228	57.626853	-17.395051	0.168583	15.463711	2.842032	
33.459999	1.404202	54.933632	-17.182439	57.558146	-17.368952	0.168123	15.487452	2.826538	
33.48	1.404323	54.915656	-17.189297	57.543038	-17.380813	0.168165	15.485296	2.827941	
33.5	1.403781	54.906658	-17.169006	57.528392	-17.364203	0.167977	15.494989	2.821637	
33.52	1.404772	54.854664	-17.213965	57.492214	-17.422431	0.16832	15.477271	2.833172	
33.540001	1.407644	54.786051	-17.334109	57.462881	-17.557215	0.169313	15.426218	2.866674	
33.560001	1.405576	54.7793	-17.253824	57.432274	-17.482883	0.168598	15.462933	2.842541	
33.580002	1.40528	54.642263	-17.256441	57.302371	-17.526543	0.168496	15.468201	2.839095	
33.599998	1.404527	54.699794	-17.221127	57.346618	-17.475588	0.168236	15.481638	2.830324	
33.619999	1.406369	54.64104	-17.299093	57.314064	-17.56757	0.168872	15.448826	2.851789	
33.639999	1.408353	54.613974	-17.379076	57.312463	-17.651968	0.169557	15.413686	2.874957	
33.66	1.408482	54.518922	-17.392865	57.226083	-17.693982	0.169601	15.411411	2.876464	
33.68	1.407589	54.527273	-17.357404	57.223273	-17.657614	0.169294	15.427194	2.866029	
33.700001	1.409178	54.515308	-17.420235	57.230966	-17.721185	0.169841	15.39913	2.884609	
33.720001	1.406386	54.418694	-17.320235	57.108535	-17.655122	0.168878	15.448524	2.851987	
33.740002	1.405837	54.376773	-17.302463	57.063199	-17.650885	0.168689	15.458287	2.845584	
33.759998	1.407095	54.294958	-17.357834	57.002078	-17.728856	0.169123	15.435941	2.860262	
33.779999	1.407241	54.278944	-17.364723	56.988923	-17.740356	0.169174	15.433353	2.861968	
33.799999	1.407669	54.225459	-17.385249	56.944247	-17.776425	0.169321	15.425787	2.866958	
33.82	1.408643	54.177463	-17.426278	56.911094	-17.830511	0.169657	15.408566	2.878348	
33.84	1.408279	54.149546	-17.414183	56.880815	-17.827524	0.169532	15.41499	2.874094	
33.860001	1.408604	54.06215	-17.43243	56.803219	-17.872034	0.169644	15.409253	2.877893	
33.880001	1.409076	54.062023	-17.450563	56.808666	-17.889479	0.169806	15.400938	2.883408	
33.900002	1.41138	53.994286	-17.543044	56.772716	-17.999299	0.170599	15.360454	2.910413	
33.919998	1.411301	53.945921	-17.542718	56.72662	-18.014081	0.170572	15.36183	2.909491	
33.939999	1.411669	53.894642	-17.559496	56.683052	-18.046238	0.170699	15.355383	2.913813	
33.959999	1.410319	53.870301	-17.509087	56.644306	-18.005385	0.170234	15.379061	2.89797	
33.98	1.410147	53.767569	-17.50743	56.546101	-18.035965	0.170175	15.382078	2.895958	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34	1.411659	53.753965	-17.565672	56.55123	-18.096342	0.170695	15.355574	2.913685	
34.02	1.410371	53.642228	-17.521122	56.431183	-18.088586	0.170252	15.378146	2.898581	
34.040001	1.410557	53.673222	-17.527012	56.462473	-18.084502	0.170316	15.374882	2.90076	
34.060001	1.412595	53.59497	-17.607314	56.413104	-18.186702	0.171017	15.339216	2.92468	
34.080002	1.409254	53.578315	-17.480929	56.357952	-18.069917	0.169868	15.397794	2.885497	
34.099998	1.410986	53.536424	-17.54814	56.339026	-18.148113	0.170464	15.367346	2.905798	
34.119999	1.411267	53.451126	-17.561219	56.262059	-18.187825	0.170561	15.362423	2.909094	
34.139999	1.412574	53.398816	-17.611921	56.228225	-18.253547	0.17101	15.339578	2.924436	
34.16	1.411575	53.389876	-17.574322	56.207968	-18.220003	0.170666	15.357044	2.912699	
34.18	1.414435	53.294152	-17.684088	56.151524	-18.35693	0.171649	15.307181	2.946334	
34.200001	1.413202	53.273337	-17.63792	56.11724	-18.318885	0.171226	15.328622	2.931823	
34.220001	1.411824	53.14873	-17.587397	55.98307	-18.30988	0.170752	15.352684	2.915624	
34.240002	1.413151	53.160301	-17.637256	56.009735	-18.354583	0.171208	15.329513	2.931222	
34.259998	1.412239	53.043237	-17.603568	55.888018	-18.359596	0.170895	15.345419	2.920506	
34.279999	1.412677	53.047554	-17.620012	55.897296	-18.374199	0.171045	15.337771	2.925654	
34.299999	1.413243	52.970514	-17.641186	55.830877	-18.419742	0.17124	15.327915	2.932301	
34.32	1.41266	52.874328	-17.618854	55.732563	-18.429205	0.17104	15.338068	2.925453	
34.34	1.413559	52.747438	-17.650928	55.622365	-18.501871	0.171348	15.322414	2.936017	
34.360001	1.414413	52.784521	-17.683383	55.667833	-18.521437	0.171641	15.307556	2.946079	
34.380001	1.415811	52.668431	-17.733367	55.573698	-18.60832	0.172121	15.283346	2.962548	
34.400002	1.415066	52.655901	-17.705392	55.552901	-18.5851	0.171865	15.296233	2.95377	
34.419998	1.415299	52.620338	-17.713244	55.521699	-18.604477	0.171945	15.292196	2.956517	
34.439999	1.415111	52.533695	-17.70394	55.436618	-18.623932	0.171881	15.295465	2.954293	
34.459999	1.414725	52.538393	-17.689742	55.436538	-18.608476	0.171748	15.302154	2.949746	
34.48	1.414204	52.433221	-17.667149	55.329656	-18.621056	0.17157	15.311188	2.943617	
34.5	1.416521	52.434452	-17.753056	55.358313	-18.704908	0.172364	15.271079	2.970928	
34.52	1.414667	52.345302	-17.681094	55.250808	-18.663872	0.171729	15.30315	2.94907	
34.540001	1.415759	52.299077	-17.719589	55.219357	-18.717064	0.172103	15.284243	2.961936	
34.560001	1.417168	52.240535	-17.769032	55.179815	-18.785194	0.172585	15.259918	2.978573	
34.580002	1.417962	52.212331	-17.796976	55.162123	-18.822106	0.172857	15.246253	2.98796	
34.599998	1.417508	52.093244	-17.774072	55.042018	-18.839533	0.172702	15.254058	2.982595	
34.619999	1.418823	52.021946	-17.818322	54.988867	-18.907159	0.173152	15.231464	2.998152	
34.639999	1.418817	52.026466	-17.818373	54.993159	-18.905684	0.17315	15.231566	2.998081	
34.66	1.416199	51.946605	-17.717283	54.884896	-18.832858	0.172254	15.276629	2.967134	
34.68	1.41661	51.903181	-17.729596	54.847778	-18.859676	0.172394	15.269534	2.971985	
34.700001	1.416684	51.797018	-17.725032	54.745848	-18.891071	0.17242	15.268263	2.972855	
34.720001	1.418202	51.81125	-17.781684	54.777677	-18.942316	0.172939	15.242125	2.990801	
34.740002	1.418542	51.729697	-17.788102	54.702634	-18.976403	0.173056	15.236286	2.994824	
34.759998	1.420082	51.57503	-17.831764	54.570647	-19.07256	0.173582	15.209925	3.013058	
34.779999	1.4204	51.553626	-17.841508	54.553605	-19.089577	0.17369	15.20449	3.016831	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34.799999	1.418892	51.472967	-17.779365	54.457067	-19.055545	0.173175	15.230297	2.998958	
34.82	1.420337	51.438311	-17.828779	54.440473	-19.116608	0.173669	15.205565	3.016085	
34.84	1.419707	51.354586	-17.797831	54.35123	-19.114688	0.173454	15.216335	3.008614	
34.860001	1.418754	51.346987	-17.762453	54.332475	-19.082061	0.173128	15.232651	2.997333	
34.880001	1.418867	51.259294	-17.757722	54.248059	-19.107619	0.173167	15.230718	2.998667	
34.900002	1.421126	51.213592	-17.834893	54.230208	-19.200466	0.173938	15.192102	3.025449	
34.919998	1.419632	51.120937	-17.770635	54.121582	-19.168482	0.173428	15.217612	3.007729	
34.939999	1.422267	51.04467	-17.871826	54.082904	-19.296271	0.174465	15.165855	3.043788	
34.959999	1.421739	50.987939	-17.831477	54.01603	-19.275762	0.174147	15.181665	3.032728	
34.98	1.422723	50.906531	-17.856995	53.947634	-19.329886	0.174483	15.164961	3.044416	
35	1.42194	50.873233	-17.824568	53.905483	-19.309077	0.174216	15.178257	3.035109	
35.02	1.421566	50.824049	-17.804791	53.852526	-19.306522	0.174088	15.184618	3.030667	
35.040001	1.420993	50.736689	-17.77265	53.759452	-19.304977	0.173893	15.194373	3.023867	
35.060001	1.42272	50.699781	-17.829806	53.743556	-19.375492	0.174481	15.165014	3.044378	
35.080002	1.421472	50.650179	-17.778078	53.679611	-19.340972	0.174056	15.186215	3.029553	
35.099998	1.424352	50.493533	-17.858895	53.558725	-19.478048	0.175037	15.137391	3.063804	
35.119999	1.423729	50.463212	-17.832013	53.521178	-19.46174	0.174825	15.14792	3.056385	
35.139999	1.423856	50.427302	-17.831132	53.487027	-19.473666	0.174869	15.145762	3.057904	
35.16	1.424058	50.28457	-17.815932	53.347403	-19.50938	0.174937	15.142352	3.060305	
35.18	1.423777	50.275211	-17.804381	53.334724	-19.501041	0.174842	15.147098	3.056963	
35.200001	1.423796	50.196215	-17.792088	53.256158	-19.516946	0.174848	15.146787	3.057182	
35.220001	1.423776	50.087452	-17.77295	53.147254	-19.536672	0.174841	15.147127	3.056943	
35.240002	1.425552	50.043914	-17.828728	53.124918	-19.609069	0.175445	15.11716	3.078109	
35.259998	1.427341	49.895385	-17.865648	52.99746	-19.700557	0.176053	15.087118	3.099475	
35.279999	1.426184	49.843129	-17.814761	52.931118	-19.667767	0.17566	15.106535	3.085649	
35.299999	1.427336	49.789858	-17.845638	52.891368	-19.718685	0.176052	15.087201	3.099416	
35.32	1.427058	49.802331	-17.83812	52.900573	-19.706462	0.175957	15.091869	3.096087	
35.34	1.426506	49.684951	-17.795812	52.775802	-19.706192	0.17577	15.101123	3.089497	
35.360001	1.426269	49.613622	-17.773202	52.701026	-19.709199	0.175689	15.105108	3.086663	
35.380001	1.425683	49.597706	-17.749218	52.677957	-19.690479	0.17549	15.114952	3.079674	
35.400002	1.427735	49.425555	-17.786286	52.528444	-19.791816	0.176187	15.080532	3.10418	
35.419998	1.427704	49.332465	-17.765181	52.433708	-19.804559	0.176176	15.081041	3.103815	
35.439999	1.42809	49.279391	-17.76715	52.384445	-19.826253	0.176307	15.074599	3.108423	
35.459999	1.429557	49.140026	-17.787532	52.260295	-19.899098	0.176805	15.050128	3.125988	
35.48	1.429279	49.079414	-17.763686	52.195186	-19.897131	0.17671	15.054761	3.122654	
35.5	1.429295	49.018316	-17.749893	52.133041	-19.90573	0.176716	15.054491	3.122848	
35.52	1.428581	48.98132	-17.715944	52.086701	-19.884473	0.176474	15.066386	3.114306	
35.540001	1.429989	48.866947	-17.737773	51.986605	-19.94997	0.176951	15.042944	3.131162	
35.560001	1.430195	48.805022	-17.72968	51.925637	-19.96489	0.177021	15.039513	3.133637	
35.580002	1.428997	48.70635	-17.662612	51.810003	-19.932436	0.176615	15.059449	3.119285	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	1.429658	48.599298	-17.65814	51.70785	-19.968217	0.176839	15.048441	3.127202	
35.619999	1.430352	48.590801	-17.680297	51.707435	-19.994508	0.177074	15.036901	3.135522	
35.639999	1.430751	48.460781	-17.659592	51.578178	-20.02228	0.177209	15.030291	3.140298	
35.66	1.430133	48.407225	-17.623339	51.51545	-20.004791	0.177	15.040544	3.132893	
35.68	1.428508	48.333854	-17.546024	51.420078	-19.951807	0.176449	15.067618	3.113423	
35.700001	1.429313	48.262779	-17.554375	51.356128	-19.987622	0.176722	15.054186	3.123068	
35.720001	1.430436	48.156184	-17.563275	51.259016	-20.037698	0.177102	15.035508	3.136528	
35.740002	1.429649	48.064089	-17.508779	51.153827	-20.015698	0.176836	15.048595	3.127091	
35.759998	1.429668	48.038692	-17.501918	51.127615	-20.018215	0.176842	15.048286	3.127313	
35.779999	1.430938	47.964136	-17.52413	51.065189	-20.070267	0.177272	15.027184	3.142546	
35.799999	1.42868	47.874674	-17.417833	50.944728	-19.992507	0.176507	15.064747	3.115483	
35.82	1.429196	47.824433	-17.420448	50.898412	-20.01461	0.176682	15.056133	3.121668	
35.84	1.428792	47.781232	-17.392856	50.848379	-20.002057	0.176546	15.062866	3.116832	
35.860001	1.430655	47.644645	-17.414788	50.727577	-20.078104	0.177177	15.031869	3.139158	
35.880001	1.43013	47.527354	-17.358268	50.598013	-20.063589	0.176999	15.040601	3.132852	
35.900002	1.430158	47.487456	-17.346092	50.556359	-20.066138	0.177008	15.04013	3.133192	
35.919998	1.430515	47.352976	-17.313455	50.418846	-20.083736	0.177129	15.034193	3.137478	
35.939999	1.430537	47.307326	-17.298637	50.370884	-20.085736	0.177137	15.033828	3.137742	
35.959999	1.430344	47.227737	-17.264374	50.284369	-20.080215	0.177071	15.037041	3.135421	
35.98	1.42909	47.241033	-17.225153	50.283408	-20.033039	0.176647	15.057897	3.1204	
36	1.430364	47.111403	-17.224143	50.161294	-20.082677	0.177078	15.036708	3.135662	
36.02	1.429436	47.065788	-17.175409	50.101727	-20.048246	0.176764	15.052137	3.124542	
36.040001	1.428951	47.009629	-17.138182	50.036212	-20.030246	0.176599	15.060225	3.118728	
36.060001	1.430642	46.884535	-17.151476	49.923269	-20.093755	0.177172	15.032096	3.138993	
36.080002	1.427998	46.783784	-17.021318	49.784011	-19.992912	0.176276	15.076128	3.107329	
36.099998	1.429991	46.664109	-17.045416	49.679828	-20.066219	0.176952	15.042906	3.13119	
36.119999	1.428385	46.633241	-16.977285	49.627486	-20.004563	0.176407	15.069668	3.111954	
36.139999	1.42919	46.568595	-16.980286	49.567773	-20.033385	0.17668	15.056234	3.121595	
36.16	1.428603	46.469585	-16.920612	49.454316	-20.007729	0.176481	15.066019	3.11457	
36.18	1.428189	46.411854	-16.88296	49.387189	-19.989598	0.176341	15.072944	3.109608	
36.200001	1.428347	46.299516	-16.842854	49.267909	-19.990427	0.176395	15.070293	3.111506	
36.220001	1.427656	46.295539	-16.816998	49.255338	-19.963745	0.17616	15.081847	3.10324	
36.240002	1.427452	46.171413	-16.758308	49.118635	-19.948833	0.176091	15.08527	3.100795	
36.259998	1.428096	46.047351	-16.72833	48.99179	-19.965379	0.176309	15.074496	3.108497	
36.279999	1.427948	46.005442	-16.70515	48.944487	-19.956626	0.176259	15.076963	3.106731	
36.299999	1.426895	45.922109	-16.631993	48.841204	-19.909324	0.175902	15.094602	3.094139	
36.32	1.426044	45.903914	-16.594146	48.811218	-19.874826	0.175613	15.108878	3.083985	
36.34	1.425419	45.837855	-16.543023	48.73172	-19.844704	0.1754	15.119397	3.076524	
36.360001	1.425974	45.78707	-16.539915	48.682898	-19.861553	0.175589	15.110068	3.083139	
36.380001	1.426876	45.650305	-16.509849	48.544056	-19.883021	0.175895	15.094916	3.093915	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
36.400002	1.42657	45.543762	-16.449989	48.42351	-19.85929	0.175791	15.100048	3.090261	
36.419998	1.423867	45.467339	-16.318949	48.307215	-19.743902	0.174872	15.145581	3.058031	
36.439999	1.425934	45.397452	-16.358767	48.254927	-19.816433	0.175575	15.110738	3.082664	
36.459999	1.422665	45.372064	-16.231229	48.187934	-19.684003	0.174463	15.16595	3.043722	
36.48	1.423288	45.303617	-16.220356	48.119826	-19.699264	0.174675	15.155377	3.051141	
36.5	1.423377	45.243135	-16.194106	48.054035	-19.694106	0.174705	15.153876	3.052196	
36.52	1.42217	45.230508	-16.145216	48.02569	-19.644267	0.174294	15.174347	3.037843	
36.540001	1.421987	45.069031	-16.058689	47.84453	-19.611687	0.174232	15.177455	3.03567	
36.560001	1.419572	45.002976	-15.939559	47.742406	-19.503619	0.173407	15.218648	3.007013	
36.580002	1.42006	44.93338	-15.921384	47.670737	-19.510956	0.173574	15.210297	3.0128	
36.599998	1.421721	44.835622	-15.92991	47.581457	-19.559948	0.174141	15.181982	3.032507	
36.619999	1.421227	44.787189	-15.887024	47.521467	-19.530776	0.173972	15.190393	3.026639	
36.639999	1.418482	44.749547	-15.769414	47.446774	-19.41212	0.173035	15.237314	2.994116	
36.66	1.418574	44.634858	-15.711531	47.31937	-19.392172	0.173067	15.235735	2.995205	
36.68	1.417161	44.628471	-15.657565	47.295452	-19.333073	0.172583	15.260034	2.978493	
36.700001	1.417094	44.558991	-15.617482	47.216623	-19.315089	0.17256	15.2612	2.977693	
36.720001	1.416259	44.440821	-15.522567	47.073736	-19.253639	0.172274	15.275598	2.967838	
36.740002	1.416974	44.361144	-15.503731	46.992306	-19.263992	0.172519	15.263267	2.976277	
36.759998	1.414789	44.331417	-15.40846	46.932879	-19.16617	0.17177	15.301034	2.950507	
36.779999	1.413316	44.322396	-15.350296	46.905292	-19.102677	0.171265	15.326635	2.933165	
36.799999	1.413874	44.210681	-15.306561	46.785416	-19.096839	0.171456	15.316937	2.939722	
36.82	1.413088	44.160486	-15.249136	46.719211	-19.05043	0.171186	15.33062	2.930475	
36.84	1.41216	44.130909	-15.198349	46.674693	-19.003351	0.170867	15.346813	2.919569	
36.860001	1.410885	44.020935	-15.08736	46.534623	-18.918234	0.170429	15.369118	2.904613	
36.880001	1.40967	43.979045	-15.018185	46.472597	-18.8543	0.170011	15.390475	2.890364	
36.900002	1.409436	43.881255	-14.950653	46.358242	-18.814372	0.16993	15.394588	2.887628	
36.919998	1.409624	43.891329	-14.963619	46.37196	-18.825522	0.169995	15.39128	2.889828	
36.939999	1.408989	43.771017	-14.866737	46.226852	-18.759985	0.169776	15.402459	2.882399	
36.959999	1.407532	43.73842	-14.793229	46.172384	-18.686622	0.169274	15.428202	2.865364	
36.98	1.406558	43.70661	-14.737671	46.12447	-18.633906	0.168938	15.445475	2.85399	
37	1.40364	43.655689	-14.598393	46.031861	-18.489885	0.167929	15.497502	2.820005	
37.02	1.402999	43.649619	-14.570946	46.017407	-18.459872	0.167707	15.508986	2.812558	
37.040001	1.402713	43.554453	-14.499547	45.904545	-18.412952	0.167608	15.514129	2.809228	
37.060001	1.40132	43.471233	-14.394055	45.792324	-18.320606	0.167125	15.539186	2.793067	
37.080002	1.400986	43.42525	-14.351511	45.735305	-18.288117	0.167009	15.545216	2.789192	
37.099998	1.399624	43.391406	-14.278584	45.680324	-18.214587	0.166536	15.569832	2.773427	
37.119999	1.398435	43.366554	-14.217823	45.637753	-18.15188	0.166123	15.591403	2.759686	
37.139999	1.396555	43.337639	-14.128316	45.582455	-18.056294	0.165469	15.625686	2.737987	
37.16	1.395344	43.294223	-14.053788	45.518113	-17.98404	0.165047	15.64785	2.72405	
37.18	1.395524	43.265393	-14.040998	45.486744	-17.979929	0.16511	15.644545	2.726123	



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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
37.200001	1.394882	43.234527	-13.99588	45.44347	-17.937834	0.164886	15.656334	2.718733	
37.220001	1.394096	43.181559	-13.930003	45.372812	-17.87929	0.164612	15.670785	2.709702	
37.240002	1.391997	43.175832	-13.846969	45.341934	-17.781655	0.163879	15.709554	2.68562	
37.259998	1.391639	43.073547	-13.762063	45.218633	-17.718791	0.163753	15.716192	2.681518	
37.279999	1.389254	43.062977	-13.664193	45.178869	-17.604639	0.162919	15.760589	2.654245	
37.299999	1.387907	42.993291	-13.56337	45.082015	-17.509288	0.162446	15.785793	2.638886	
37.32	1.386494	42.989575	-13.506794	45.061481	-17.442106	0.16195	15.812356	2.622795	
37.34	1.387349	42.947789	-13.509355	45.022386	-17.461154	0.162251	15.796268	2.63253	
37.360001	1.386629	42.948868	-13.482606	45.015397	-17.428265	0.161998	15.809819	2.624328	
37.380001	1.382494	42.933399	-13.312884	44.95008	-17.227765	0.160543	15.888152	2.577418	
37.400002	1.38263	42.91321	-13.303375	44.92798	-17.223808	0.160591	15.885553	2.57896	
37.419998	1.380651	42.883882	-13.205602	44.871096	-17.115648	0.159894	15.923369	2.556602	
37.439999	1.381407	42.785666	-13.161836	44.764351	-17.099108	0.16016	15.908902	2.565132	
37.459999	1.377638	42.834715	-13.052462	44.779231	-16.946894	0.158829	15.981407	2.522663	
37.48	1.377505	42.821458	-13.037398	44.762161	-16.933397	0.158782	15.983972	2.521174	
37.5	1.377017	42.788356	-12.993543	44.717732	-16.891996	0.158609	15.993432	2.515688	
37.52	1.376377	42.707458	-12.907199	44.615275	-16.816083	0.158383	16.005848	2.508506	
37.540001	1.373255	42.776483	-12.837786	44.66135	-16.705223	0.157276	16.066771	2.473563	
37.560001	1.374177	42.764831	-12.864983	44.658018	-16.742941	0.157603	16.048718	2.483866	
37.580002	1.370578	42.719021	-12.688705	44.56364	-16.542873	0.156324	16.1195	2.443712	
37.599998	1.371155	42.699066	-12.696035	44.5466	-16.559219	0.156529	16.108087	2.450142	
37.619999	1.370685	42.715758	-12.690415	44.560998	-16.546175	0.156362	16.117377	2.444907	
37.639999	1.36986	42.680087	-12.630288	44.509707	-16.485058	0.156068	16.133702	2.435733	
37.66	1.369326	42.613615	-12.557185	44.425252	-16.418978	0.155878	16.144307	2.429793	
37.68	1.367658	42.641078	-12.512694	44.439049	-16.353946	0.155283	16.177503	2.411291	
37.700001	1.36648	42.630409	-12.45754	44.41331	-16.289548	0.154863	16.201054	2.398251	
37.720001	1.368366	42.571144	-12.485833	44.364665	-16.345982	0.155536	16.163376	2.419148	
37.740002	1.36656	42.582615	-12.422871	44.357714	-16.263881	0.154891	16.199454	2.399135	
37.759998	1.364079	42.621402	-12.354812	44.375954	-16.165497	0.154004	16.249334	2.371738	
37.779999	1.363024	42.594482	-12.291254	44.332435	-16.096289	0.153627	16.270647	2.360127	
37.799999	1.364569	42.522863	-12.295594	44.264834	-16.127388	0.15418	16.239436	2.377149	
37.82	1.36308	42.506113	-12.222359	44.228449	-16.042277	0.153647	16.269513	2.360743	
37.84	1.363204	42.446254	-12.178556	44.158824	-16.009119	0.153691	16.267006	2.362106	
37.860001	1.362669	42.467389	-12.174315	44.177971	-15.996272	0.1535	16.277842	2.35622	
37.880001	1.362888	42.452621	-12.171025	44.162868	-15.997449	0.153578	16.273418	2.358621	
37.900002	1.362459	42.424213	-12.130431	44.124383	-15.956945	0.153424	16.282108	2.353906	
37.919998	1.360991	42.396104	-12.047875	44.07472	-15.863805	0.152898	16.311963	2.33778	
37.939999	1.360806	42.376642	-12.024214	44.049534	-15.841121	0.152832	16.315729	2.335754	
37.959999	1.361419	42.343994	-12.021828	44.017476	-15.849732	0.153052	16.303233	2.342484	
37.98	1.360122	42.333088	-11.960006	43.990136	-15.776152	0.152586	16.329697	2.328253	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38	1.359262	42.337756	-11.928944	43.986194	-15.735562	0.152277	16.3473	2.318836	
38.02	1.359767	42.299307	-11.917097	43.945974	-15.734291	0.152459	16.336947	2.32437	
38.040001	1.360519	42.193581	-11.857628	43.828092	-15.696941	0.152729	16.32158	2.33261	
38.060001	1.360711	42.205186	-11.875434	43.844083	-15.715239	0.152798	16.317666	2.334713	
38.080002	1.360089	42.190363	-11.837257	43.819486	-15.672436	0.152574	16.330367	2.327895	
38.099998	1.35999	42.124401	-11.776066	43.739466	-15.618602	0.152539	16.332393	2.326809	
38.119999	1.361042	42.104395	-11.801831	43.727145	-15.658172	0.152916	16.310916	2.338344	
38.139999	1.362096	42.061208	-11.807346	43.687054	-15.680424	0.153294	16.289475	2.349917	
38.16	1.361164	42.05703	-11.76538	43.671707	-15.628896	0.15296	16.308432	2.339682	
38.18	1.361507	41.949626	-11.684296	43.546457	-15.564227	0.153083	16.301454	2.343444	
38.200001	1.360973	41.998764	-11.706021	43.599622	-15.574403	0.152891	16.312334	2.337581	
38.220001	1.361452	41.942708	-11.675853	43.537528	-15.555966	0.153064	16.302562	2.342846	
38.240002	1.361525	41.924221	-11.662271	43.516076	-15.545266	0.15309	16.301087	2.343642	
38.259998	1.361835	41.867092	-11.623557	43.450668	-15.516273	0.153201	16.294788	2.347044	
38.279999	1.363317	41.78502	-11.610324	43.368048	-15.528433	0.153732	16.264729	2.363345	
38.299999	1.362481	41.756207	-11.549051	43.323913	-15.460559	0.153432	16.281657	2.354151	
38.32	1.362941	41.718077	-11.532944	43.282869	-15.453464	0.153597	16.272345	2.359204	
38.34	1.363874	41.656145	-11.514257	43.218197	-15.451463	0.153931	16.253466	2.369482	
38.360001	1.36446	41.605867	-11.491573	43.163694	-15.440221	0.154141	16.241647	2.375939	
38.380001	1.364564	41.569014	-11.461102	43.120063	-15.414232	0.154178	16.239551	2.377086	
38.400002	1.365196	41.532189	-11.452659	43.082318	-15.416423	0.154404	16.226822	2.384063	
38.419998	1.36573	41.452421	-11.398682	42.991082	-15.375335	0.154595	16.216085	2.389965	
38.439999	1.365731	41.392359	-11.340443	42.917748	-15.321627	0.154595	16.216081	2.389967	
38.459999	1.366855	41.351109	-11.347749	42.879898	-15.345608	0.154997	16.193542	2.402403	
38.48	1.366741	41.330024	-11.322224	42.852813	-15.320157	0.154956	16.195827	2.401139	
38.5	1.368306	41.234764	-11.294465	42.753604	-15.318008	0.155515	16.164571	2.418482	
38.52	1.366529	41.224459	-11.208425	42.721012	-15.210365	0.15488	16.200069	2.398795	
38.540001	1.369367	41.146793	-11.251518	42.657417	-15.293587	0.155893	16.14348	2.430256	
38.560001	1.36952	41.058521	-11.168358	42.550374	-15.216926	0.155947	16.140454	2.43195	
38.580002	1.369812	41.007389	-11.128339	42.490539	-15.182952	0.156051	16.134663	2.435195	
38.599998	1.369413	40.978267	-11.081011	42.450055	-15.131596	0.155909	16.142565	2.430768	
38.619999	1.368943	40.949826	-11.031042	42.409576	-15.076458	0.155742	16.151905	2.425546	
38.639999	1.372754	40.781117	-11.018149	42.243383	-15.119073	0.157098	16.076612	2.467964	
38.66	1.370568	40.810774	-10.954666	42.255461	-15.025503	0.15632	16.119693	2.443604	
38.68	1.372953	40.678536	-10.916383	42.117819	-15.021842	0.157168	16.072703	2.470186	
38.700001	1.37344	40.661232	-10.918886	42.101756	-15.031235	0.157341	16.063148	2.475627	
38.720001	1.375766	40.551973	-10.901132	41.991633	-15.046503	0.158166	16.017729	2.501653	
38.740002	1.374463	40.529687	-10.819184	41.948901	-14.946313	0.157704	16.043132	2.487063	
38.759998	1.375386	40.451798	-10.772884	41.861712	-14.912583	0.158031	16.025132	2.497392	
38.779999	1.374321	40.406949	-10.674929	41.793249	-14.798637	0.157654	16.045902	2.485477	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	1.375415	40.307099	-10.609301	41.679965	-14.746473	0.158042	16.024565	2.497718	
38.82	1.376115	40.265721	-10.592777	41.635744	-14.738977	0.15829	16.010927	2.505574	
38.84	1.378214	40.200553	-10.610988	41.577368	-14.786095	0.159033	15.970266	2.529143	
38.860001	1.377548	40.128538	-10.496215	41.47855	-14.658192	0.158797	15.983138	2.521658	
38.880001	1.377885	40.098742	-10.476019	41.444615	-14.641604	0.158917	15.976618	2.525446	
38.900002	1.378723	40.027166	-10.428201	41.363286	-14.602579	0.159213	15.960449	2.534867	
38.919998	1.378381	39.956656	-10.326944	41.269603	-14.491222	0.159092	15.967042	2.531021	
38.939999	1.378014	39.877025	-10.211734	41.163779	-14.363698	0.158962	15.974137	2.52689	
38.959999	1.378486	39.846683	-10.195728	41.130415	-14.352583	0.159129	15.965011	2.532205	
38.98	1.380464	39.777468	-10.200465	41.06454	-14.382926	0.159828	15.926958	2.55449	
39	1.379533	39.725734	-10.091541	40.987475	-14.253398	0.159499	15.944851	2.543987	
39.02	1.379573	39.656419	-10.004318	40.898874	-14.158875	0.159513	15.94407	2.544444	
39.040001	1.381242	39.606491	-10.018034	40.853826	-14.194655	0.160102	15.912051	2.563273	
39.060001	1.384245	39.443822	-9.94596	40.678461	-14.152423	0.16116	15.854849	2.597258	
39.080002	1.380885	39.449609	-9.793621	40.647099	-13.942209	0.159976	15.918883	2.559244	
39.099998	1.381139	39.391389	-9.727001	40.574574	-13.870715	0.160066	15.914034	2.562103	
39.119999	1.38162	39.322995	-9.656594	40.49133	-13.797193	0.160236	15.904821	2.567544	
39.139999	1.383278	39.265901	-9.658072	40.436238	-13.818521	0.16082	15.87321	2.5863	
39.16	1.38425	39.160747	-9.558282	40.310357	-13.716486	0.161162	15.854752	2.597316	
39.18	1.380728	39.146846	-9.3647	40.251375	-13.453481	0.159921	15.921906	2.557463	
39.200001	1.382951	39.084084	-9.384655	40.194992	-13.501959	0.160705	15.879429	2.5826	
39.220001	1.382775	39.034235	-9.303377	40.127601	-13.405732	0.160643	15.88278	2.580608	
39.240002	1.382986	38.983704	-9.239605	40.063693	-13.333771	0.160717	15.878768	2.582993	
39.259998	1.384681	38.881857	-9.173327	39.949327	-13.274963	0.161313	15.846596	2.602199	
39.279999	1.381835	38.892791	-9.044879	39.930678	-13.091977	0.160311	15.900714	2.569973	
39.299999	1.382616	38.818415	-8.971196	39.841582	-13.012996	0.160587	15.88581	2.578808	
39.32	1.381176	38.782314	-8.84035	39.777125	-12.841072	0.160079	15.913325	2.562521	
39.34	1.383825	38.666927	-8.796879	39.654966	-12.816885	0.161012	15.86282	2.592495	
39.360001	1.383117	38.640769	-8.717741	39.611968	-12.713664	0.160763	15.876278	2.584474	
39.380001	1.382212	38.606878	-8.6148	39.556362	-12.579017	0.160444	15.893523	2.574232	
39.400002	1.383258	38.530693	-8.545834	39.467018	-12.505386	0.160812	15.873604	2.586066	
39.419998	1.383247	38.471081	-8.445931	39.38728	-12.382285	0.160809	15.873812	2.585942	
39.439999	1.381632	38.514168	-8.430414	39.426045	-12.346832	0.16024	15.904595	2.567678	
39.459999	1.381913	38.418109	-8.282939	39.300867	-12.166749	0.160339	15.89922	2.570857	
39.48	1.381993	38.380144	-8.221848	39.250914	-12.091254	0.160367	15.897698	2.571759	
39.5	1.381315	38.3326	-8.100748	39.179208	-11.932651	0.160128	15.91065	2.5641	
39.52	1.382393	38.235909	-7.989297	39.061664	-11.80203	0.160508	15.890068	2.576281	
39.540001	1.381405	38.224392	-7.911844	39.034618	-11.694203	0.16016	15.908938	2.565111	
39.560001	1.378584	38.243195	-7.783129	39.027158	-11.503563	0.159164	15.963125	2.533305	
39.580002	1.378174	38.196672	-7.672576	38.959648	-11.357889	0.159019	15.971037	2.528694	

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**Balun 2 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
39.599998	1.378903	38.146303	-7.620652	38.900061	-11.297519	0.159276	15.956969	2.536898	
39.619999	1.378645	38.075225	-7.468681	38.800824	-11.098018	0.159185	15.961948	2.533992	
39.639999	1.377486	38.058285	-7.365125	38.764393	-10.952639	0.158775	15.984334	2.520964	
39.66	1.376413	38.046111	-7.275016	38.735416	-10.825202	0.158395	16.005154	2.508907	
39.68	1.375309	38.003372	-7.119908	38.664575	-10.611337	0.158004	16.026621	2.496537	
39.700001	1.374212	37.973893	-6.989482	38.611778	-10.429162	0.157615	16.048041	2.484254	
39.720001	1.371657	38.004109	-6.888633	38.623381	-10.273915	0.156708	16.098197	2.455728	
39.740002	1.37259	37.932771	-6.797622	38.537032	-10.159689	0.157039	16.079824	2.466139	
39.759998	1.370981	37.909152	-6.63991	38.48626	-9.934781	0.156467	16.111525	2.448203	
39.779999	1.368241	37.943945	-6.532657	38.502189	-9.768636	0.155491	16.165882	2.417752	
39.799999	1.366383	37.939233	-6.395285	38.474473	-9.568218	0.154828	16.202994	2.39718	
39.82	1.363411	37.986705	-6.297695	38.505204	-9.413283	0.153765	16.262822	2.364383	
39.84	1.362031	37.965274	-6.150855	38.460304	-9.202695	0.153271	16.290791	2.349205	
39.860001	1.359037	38.012506	-6.048006	38.490635	-9.040325	0.152196	16.35191	2.316375	
39.880001	1.35476	38.096819	-5.938903	38.556947	-8.860524	0.150657	16.440236	2.269741	
39.900002	1.353879	38.077468	-5.82724	38.520778	-8.700851	0.150339	16.458585	2.260172	
39.919998	1.350963	38.156044	-5.802216	38.594681	-8.646483	0.149285	16.519695	2.228592	
39.939999	1.349686	38.165025	-5.728797	38.592593	-8.536717	0.148822	16.546633	2.214811	
39.959999	1.34678	38.213562	-5.629167	38.625948	-8.37988	0.147768	16.608371	2.183549	
39.98	1.343571	38.304724	-5.611199	38.713531	-8.333909	0.146601	16.677241	2.149195	
40	1.342396	38.313543	-5.543259	38.71247	-8.232525	0.146173	16.702638	2.136664	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	1.591278	77.611142	9.497296	78.190076	6.976626	0.22818	12.834441	5.20662	
10.02	1.587325	77.406318	9.485431	77.985328	6.986252	0.227001	12.879454	5.152935	
10.04	1.583938	77.22868	9.48008	77.808361	6.998251	0.225988	12.91831	5.107037	
10.06	1.577527	76.941419	9.356675	77.508253	6.93358	0.224062	12.992624	5.020392	
10.08	1.571395	76.606848	9.376255	77.178516	6.977993	0.222212	13.064649	4.937819	
10.1	1.567541	76.334933	9.526092	76.927033	7.113371	0.221044	13.110407	4.886065	
10.12	1.562635	75.996982	9.691759	76.612476	7.267612	0.219553	13.169195	4.820371	
10.14	1.560345	75.795214	9.859853	76.433835	7.411739	0.218855	13.196858	4.789765	
10.16	1.558055	75.563222	10.084818	76.233221	7.6019	0.218156	13.224659	4.759202	
10.18	1.556298	75.292635	10.434308	76.012207	7.890003	0.217619	13.246074	4.735791	
10.2	1.55602	75.151581	10.675795	75.906078	8.085174	0.217533	13.249482	4.732077	
10.22	1.557876	75.098745	10.963448	75.894787	8.305786	0.218101	13.22684	4.756812	
10.24	1.558369	74.998983	11.193134	75.829636	8.488403	0.218252	13.220839	4.76339	
10.26	1.562147	75.001777	11.555165	75.886682	8.758438	0.219405	13.175088	4.813836	
10.28	1.565384	75.029648	11.814712	75.954167	8.948743	0.22039	13.136179	4.857156	
10.3	1.570605	75.117104	12.154407	76.094079	9.191165	0.221973	13.07399	4.927209	
10.32	1.576812	75.347906	12.345658	76.352617	9.305175	0.223847	13.00097	5.010753	
10.34	1.580371	75.366413	12.637302	76.418569	9.518718	0.224918	12.95953	5.058794	
10.36	1.585898	75.54878	12.841637	76.632407	9.646842	0.226574	12.895787	5.133591	
10.38	1.592578	75.809749	13.024023	76.92037	9.748201	0.228567	12.819721	5.224297	
10.4	1.595556	75.910886	13.128752	77.037827	9.812231	0.229452	12.786152	5.264836	
10.42	1.598765	76.082585	13.144057	77.209624	9.801708	0.230404	12.750213	5.308585	
10.44	1.602063	76.186292	13.272818	77.333814	9.882633	0.231379	12.713513	5.353635	
10.46	1.60757	76.424598	13.386453	77.58812	9.9351	0.233002	12.652796	5.429007	
10.48	1.610444	76.55599	13.434872	77.725899	9.953546	0.233847	12.621376	5.468427	
10.5	1.613233	76.651162	13.531774	77.836428	10.011693	0.234665	12.591052	5.506743	
10.52	1.613312	76.679613	13.494788	77.858026	9.981249	0.234688	12.590198	5.507826	
10.54	1.617107	76.832039	13.591234	78.024892	10.0316	0.235797	12.549216	5.560046	
10.56	1.619565	76.98639	13.567576	78.172779	9.994819	0.236514	12.522851	5.593903	
10.58	1.621841	77.133212	13.53924	78.312473	9.955759	0.237177	12.498536	5.625309	
10.6	1.62605	77.296248	13.655741	78.493243	10.018943	0.2384	12.453876	5.683454	
10.62	1.625186	77.32984	13.526719	78.503989	9.921948	0.238149	12.463016	5.671506	
10.64	1.628518	77.53977	13.491283	78.704705	9.870203	0.239115	12.427865	5.717597	
10.66	1.630367	77.575725	13.599226	78.758695	9.943084	0.23965	12.408461	5.743199	
10.68	1.630816	77.658422	13.508053	78.824476	9.867428	0.23978	12.403756	5.749425	
10.7	1.632739	77.792956	13.465535	78.949761	9.820297	0.240335	12.383659	5.776092	
10.72	1.635839	77.93133	13.522683	79.09586	9.843991	0.241228	12.35143	5.819115	
10.74	1.636772	77.971086	13.542869	79.138484	9.85347	0.241497	12.341774	5.832068	
10.76	1.637375	78.08279	13.416719	79.227082	9.749762	0.24167	12.335534	5.840454	
10.78	1.637389	78.096598	13.39545	79.237092	9.732914	0.241674	12.33539	5.840648	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	1.640219	78.236392	13.425576	79.379967	9.737287	0.242487	12.306224	5.880004	
10.82	1.641929	78.365866	13.369637	79.498152	9.681769	0.242977	12.288681	5.903803	
10.84	1.640623	78.322113	13.321495	79.446935	9.652851	0.242603	12.302077	5.885621	
10.86	1.642337	78.466106	13.24068	79.575407	9.578102	0.243094	12.284502	5.909487	
10.88	1.643637	78.50756	13.292342	79.624892	9.609795	0.243466	12.271217	5.927593	
10.9	1.643735	78.553919	13.223752	79.659185	9.555587	0.243495	12.270217	5.928958	
10.92	1.644474	78.60365	13.209183	79.705811	9.539325	0.243706	12.262676	5.939261	
10.94	1.646455	78.67555	13.27354	79.787399	9.576344	0.244272	12.242522	5.966887	
10.96	1.64721	78.777595	13.171778	79.871179	9.492185	0.244488	12.234864	5.977418	
10.98	1.648022	78.85071	13.123796	79.935402	9.44962	0.244719	12.226637	5.988752	
11	1.647931	78.903806	13.023738	79.971423	9.37266	0.244693	12.227556	5.987485	
11.02	1.649514	78.942111	13.108724	80.023094	9.428231	0.245145	12.211555	6.009585	
11.04	1.649125	78.979922	13.006192	80.04367	9.351396	0.245034	12.215482	6.004154	
11.06	1.65059	79.070643	12.989126	80.130418	9.328815	0.245451	12.200705	6.024618	
11.08	1.650557	79.117709	12.90345	80.163027	9.262935	0.245442	12.201039	6.024154	
11.1	1.653472	79.223285	13.000334	80.282859	9.319049	0.24627	12.171755	6.064912	
11.12	1.653137	79.2545	12.912961	80.299566	9.253922	0.246175	12.175112	6.060225	
11.14	1.652097	79.243496	12.83099	80.275562	9.197441	0.24588	12.185549	6.045679	
11.16	1.653253	79.310614	12.824778	80.340827	9.185417	0.246208	12.173945	6.061854	
11.18	1.654874	79.377588	12.864352	80.413264	9.205634	0.246669	12.157721	6.084542	
11.2	1.655578	79.444676	12.813638	80.471397	9.162349	0.246868	12.150695	6.094393	
11.22	1.65582	79.457764	12.814064	80.484386	9.161165	0.246937	12.148276	6.097789	
11.24	1.656989	79.525301	12.808097	80.550114	9.149326	0.247268	12.136632	6.11416	
11.26	1.65796	79.593704	12.780878	80.613328	9.122496	0.247543	12.126982	6.12776	
11.28	1.657706	79.615814	12.715656	80.624846	9.074242	0.247471	12.129503	6.124205	
11.3	1.657714	79.653597	12.64757	80.651451	9.022244	0.247473	12.129427	6.124313	
11.32	1.660434	79.814318	12.625814	80.806785	8.989139	0.248243	12.102466	6.16245	
11.34	1.65954	79.784068	12.591478	80.771547	8.968434	0.24799	12.11131	6.149914	
11.36	1.658323	79.733862	12.561295	80.717253	8.952827	0.247646	12.123378	6.132848	
11.38	1.660234	79.852988	12.534097	80.830708	8.920641	0.248186	12.104441	6.159648	
11.4	1.660055	79.840517	12.539102	80.819164	8.925518	0.248136	12.106211	6.157137	
11.42	1.660819	79.926427	12.456623	80.891293	8.858364	0.248352	12.098658	6.167855	
11.44	1.662329	79.993446	12.485385	80.961944	8.871172	0.248778	12.083761	6.189049	
11.46	1.661788	80.015781	12.387855	80.969032	8.800545	0.248625	12.089091	6.181458	
11.48	1.663756	80.110305	12.411785	81.066105	8.807038	0.24918	12.069721	6.20909	
11.5	1.663501	80.12742	12.352947	81.074032	8.764095	0.249109	12.072228	6.205506	
11.52	1.665232	80.231288	12.334475	81.17388	8.740038	0.249596	12.055233	6.229837	
11.54	1.663591	80.154709	12.310216	81.094505	8.731319	0.249134	12.071344	6.206769	
11.56	1.664983	80.290166	12.195048	81.211022	8.6365	0.249526	12.057673	6.226337	
11.58	1.663904	80.245087	12.168898	81.162529	8.623028	0.249222	12.068264	6.211172	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	1.663822	80.257972	12.135179	81.17022	8.598132	0.249199	12.069071	6.210018	
11.62	1.666407	80.357756	12.213764	81.280655	8.64239	0.249927	12.043737	6.24635	
11.64	1.665957	80.413731	12.056593	81.312542	8.526971	0.2498	12.048143	6.240017	
11.66	1.668694	80.534311	12.110919	81.439853	8.55219	0.25057	12.021429	6.278517	
11.68	1.667662	80.526923	12.015221	81.418369	8.486367	0.25028	12.031481	6.264002	
11.7	1.666698	80.486277	11.992431	81.374807	8.47472	0.250009	12.040892	6.250443	
11.72	1.668101	80.569056	11.978618	81.45465	8.45653	0.250403	12.027201	6.270179	
11.74	1.667277	80.567483	11.89265	81.440496	8.396868	0.250172	12.035242	6.258579	
11.76	1.668022	80.628408	11.850903	81.494688	8.361577	0.250381	12.027975	6.269061	
11.78	1.668358	80.636716	11.870729	81.505792	8.374517	0.250475	12.024701	6.27379	
11.8	1.669065	80.729359	11.760062	81.581422	8.288146	0.250674	12.017815	6.283744	
11.82	1.669012	80.752108	11.707571	81.596386	8.24937	0.250659	12.018335	6.282992	
11.84	1.670991	80.831931	11.762361	81.683255	8.27937	0.251214	11.999113	6.310862	
11.86	1.670904	80.842822	11.730399	81.689437	8.256086	0.25119	11.999957	6.309635	
11.88	1.670998	80.896807	11.62933	81.728421	8.180531	0.251216	11.999043	6.310964	
11.9	1.670539	80.854099	11.666695	81.691475	8.210733	0.251088	12.003496	6.304497	
11.92	1.672144	80.993603	11.555722	81.813804	8.119861	0.251537	11.987946	6.32711	
11.94	1.671314	80.93745	11.579942	81.76164	8.142221	0.251305	11.995987	6.315407	
11.96	1.671104	81.00419	11.415573	81.804609	8.021638	0.251246	11.99802	6.312451	
11.98	1.670853	80.990556	11.415983	81.791166	8.023255	0.251176	12.000452	6.308917	
12	1.672623	81.064092	11.46113	81.870291	8.047358	0.251671	11.983324	6.333847	
12.02	1.67244	81.113659	11.33447	81.901745	7.954769	0.25162	11.985089	6.331274	
12.04	1.673124	81.131085	11.375653	81.924712	7.981608	0.251812	11.978476	6.340922	
12.06	1.672395	81.157314	11.235025	81.931284	7.88167	0.251608	11.985519	6.330647	
12.08	1.674107	81.225769	11.28487	82.005938	7.909608	0.252087	11.969002	6.35477	
12.1	1.67361	81.22351	11.232199	81.996469	7.873371	0.251948	11.973787	6.347771	
12.12	1.671329	81.18228	11.055608	81.931612	7.754992	0.251309	11.995841	6.315619	
12.14	1.672712	81.209178	11.158788	81.972246	7.823915	0.251696	11.982458	6.33511	
12.16	1.673466	81.278523	11.09465	82.032247	7.772941	0.251907	11.975184	6.34573	
12.18	1.673476	81.309135	11.028003	82.053594	7.72394	0.25191	11.975086	6.345873	
12.2	1.673492	81.319432	11.006962	82.060972	7.708416	0.251915	11.974932	6.346098	
12.22	1.674394	81.358696	11.026543	82.10251	7.718282	0.252167	11.966235	6.35882	
12.24	1.674501	81.402258	10.94174	82.134337	7.655579	0.252197	11.965207	6.360324	
12.26	1.676004	81.467199	10.975506	82.203201	7.672874	0.252617	11.950754	6.381526	
12.28	1.676784	81.558079	10.863787	82.278443	7.587324	0.252835	11.943269	6.392534	
12.3	1.676168	81.538951	10.832894	82.255408	7.567753	0.252663	11.949173	6.383851	
12.32	1.673876	81.411182	10.846573	82.130559	7.588951	0.252022	11.971221	6.351523	
12.34	1.676301	81.581649	10.751169	82.287017	7.507428	0.2527	11.947898	6.385724	
12.36	1.676393	81.586028	10.752296	82.291505	7.507808	0.252726	11.947018	6.387019	
12.38	1.676164	81.572584	10.755292	82.278569	7.5111	0.252662	11.949214	6.38379	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
12.4	1.676125	81.601627	10.683449	82.298005	7.458868	0.252651	11.949585	6.383244	
12.42	1.676751	81.648489	10.65161	82.340346	7.432668	0.252826	11.943581	6.392076	
12.44	1.676683	81.663102	10.609036	82.349341	7.40198	0.252806	11.944235	6.391112	
12.46	1.676595	81.682509	10.55255	82.361329	7.361273	0.252782	11.945077	6.389873	
12.48	1.677367	81.721119	10.557826	82.400297	7.361471	0.252997	11.937679	6.400768	
12.5	1.676882	81.721293	10.496717	82.392663	7.319311	0.252862	11.94233	6.393918	
12.52	1.677037	81.758109	10.428643	82.420538	7.269113	0.252905	11.940839	6.396113	
12.54	1.677034	81.738691	10.4745	82.407091	7.302449	0.252904	11.940872	6.396064	
12.56	1.67814	81.800437	10.466707	82.467348	7.291626	0.253213	11.930282	6.41168	
12.58	1.677578	81.833084	10.316998	82.480871	7.185591	0.253056	11.935656	6.403751	
12.6	1.677657	81.839904	10.310605	82.486838	7.180593	0.253078	11.934897	6.40487	
12.62	1.676859	81.812271	10.275428	82.455031	7.158742	0.252856	11.942546	6.3936	
12.64	1.677999	81.906575	10.191876	82.538241	7.093036	0.253174	11.931623	6.4097	
12.66	1.678796	81.918605	10.265302	82.559278	7.142573	0.253396	11.924005	6.420953	
12.68	1.678227	81.919155	10.190423	82.550546	7.090958	0.253237	11.929446	6.412913	
12.7	1.679478	81.987191	10.185235	82.617422	7.081562	0.253586	11.917493	6.430589	
12.72	1.679691	82.005473	10.167804	82.633419	7.068006	0.253645	11.91546	6.433599	
12.74	1.678754	81.97319	10.125482	82.596182	7.041626	0.253384	11.924412	6.420352	
12.76	1.679262	82.024787	10.063586	82.63983	6.99465	0.253526	11.91956	6.427529	
12.78	1.679387	82.041577	10.037993	82.653383	6.975624	0.25356	11.918368	6.429292	
12.8	1.680757	82.124974	10.009454	82.732705	6.948992	0.253942	11.905309	6.448655	
12.82	1.680245	82.121828	9.949408	82.722339	6.907971	0.2538	11.910182	6.441423	
12.84	1.682009	82.205444	9.972384	82.808112	6.916795	0.25429	11.893402	6.466359	
12.86	1.680811	82.168854	9.905329	82.763736	6.873762	0.253957	11.904797	6.449415	
12.88	1.680495	82.197583	9.789073	82.778431	6.791493	0.253869	11.907797	6.444961	
12.9	1.681903	82.238927	9.872808	82.829424	6.845627	0.254261	11.894406	6.464863	
12.92	1.680548	82.215906	9.748678	82.791859	6.762234	0.253884	11.9073	6.445699	
12.94	1.683034	82.366734	9.694983	82.935346	6.713127	0.254575	11.88368	6.48085	
12.96	1.682511	82.321045	9.742886	82.895587	6.749702	0.25443	11.888635	6.47346	
12.98	1.681136	82.272832	9.680534	82.840398	6.710795	0.254047	11.901704	6.45401	
13	1.681714	82.336453	9.592616	82.893363	6.645303	0.254208	11.896207	6.462183	
13.02	1.681943	82.354241	9.577312	82.909263	6.633376	0.254272	11.894025	6.465432	
13.04	1.683196	82.455767	9.481013	82.999055	6.559248	0.25462	11.882137	6.483153	
13.06	1.682286	82.410051	9.475984	82.953063	6.559404	0.254367	11.890773	6.470274	
13.08	1.683433	82.472244	9.469921	83.014158	6.550343	0.254686	11.879896	6.486499	
13.1	1.684152	82.529082	9.417774	83.064696	6.510136	0.254886	11.873088	6.496676	
13.12	1.683809	82.517401	9.400821	83.051171	6.49943	0.254791	11.876335	6.491821	
13.14	1.681901	82.463361	9.276229	82.983458	6.418181	0.25426	11.894424	6.464837	
13.16	1.683347	82.553881	9.234345	83.068745	6.382493	0.254662	11.880713	6.48528	
13.18	1.683995	82.582853	9.247722	83.099025	6.389439	0.254842	11.874575	6.494452	



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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	1.683445	82.561964	9.226086	83.075861	6.376213	0.254689	11.879785	6.486666	
13.22	1.684202	82.610821	9.199906	83.121514	6.354539	0.2549	11.872619	6.497377	
13.24	1.68251	82.54782	9.129565	83.051138	6.31112	0.25443	11.888648	6.473441	
13.26	1.685244	82.700813	9.099557	83.199918	6.278998	0.255189	11.862773	6.512124	
13.28	1.683375	82.62752	9.031574	83.119651	6.237943	0.25467	11.880448	6.485675	
13.3	1.683651	82.664619	8.966686	83.149508	6.190718	0.254747	11.877829	6.489588	
13.32	1.683795	82.679311	8.94591	83.161877	6.175396	0.254787	11.87647	6.491618	
13.34	1.685526	82.769491	8.945297	83.251468	6.1683	0.255267	11.860112	6.516116	
13.36	1.685254	82.771296	8.89921	83.248324	6.136631	0.255191	11.862679	6.512266	
13.38	1.68537	82.8099	8.804204	83.276609	6.0688	0.255224	11.861581	6.513912	
13.4	1.684383	82.753249	8.82007	83.221955	6.083785	0.25495	11.870905	6.499942	
13.42	1.686689	82.862021	8.852066	83.333508	6.097735	0.255589	11.849149	6.532585	
13.44	1.686129	82.888758	8.687471	83.342776	5.983268	0.255434	11.854417	6.524666	
13.46	1.685548	82.869813	8.653979	83.320449	5.96172	0.255273	11.859903	6.51643	
13.48	1.685658	82.871486	8.666111	83.323374	5.969898	0.255304	11.85886	6.517994	
13.5	1.686882	82.947494	8.628421	83.395062	5.938712	0.255643	11.847327	6.535327	
13.52	1.686696	82.978198	8.506062	83.413035	5.852933	0.255591	11.849082	6.532686	
13.54	1.687122	82.97763	8.574973	83.419525	5.900057	0.255709	11.845068	6.538727	
13.56	1.685962	82.965424	8.428703	83.392473	5.800955	0.255388	11.855997	6.522293	
13.58	1.687211	83.034985	8.413434	83.460138	5.7857	0.255734	11.844232	6.539985	
13.6	1.685816	82.970552	8.38955	83.393627	5.773837	0.255347	11.857372	6.520229	
13.62	1.686509	82.990985	8.437215	83.418764	5.804997	0.25554	11.850838	6.530046	
13.64	1.689007	83.152141	8.337685	83.569107	5.725933	0.256231	11.827369	6.56543	
13.66	1.68777	83.097612	8.308198	83.511911	5.709536	0.255889	11.838981	6.547897	
13.68	1.687285	83.092392	8.245763	83.500529	5.667263	0.255754	11.843536	6.541034	
13.7	1.68745	83.118769	8.189022	83.521194	5.626743	0.2558	11.841985	6.54337	
13.72	1.68904	83.212307	8.1522	83.610684	5.595346	0.25624	11.827061	6.565895	
13.74	1.686261	83.098259	8.057677	83.488004	5.538418	0.255471	11.85318	6.526525	
13.76	1.687458	83.142749	8.113408	83.537681	5.573519	0.255802	11.841913	6.543478	
13.78	1.689241	83.255258	8.046858	83.64323	5.520662	0.256296	11.825172	6.568751	
13.8	1.689765	83.288161	8.027567	83.674128	5.505346	0.256441	11.820267	6.576175	
13.82	1.688971	83.254351	8.004366	83.638249	5.491748	0.256221	11.827702	6.564926	
13.84	1.689182	83.297115	7.89907	83.670811	5.417172	0.256279	11.825725	6.567915	
13.86	1.690597	83.35823	7.938016	83.735336	5.439753	0.25667	11.812483	6.587972	
13.88	1.689991	83.367307	7.803374	83.731718	5.347447	0.256503	11.818151	6.579379	
13.9	1.689209	83.333731	7.78099	83.696204	5.334333	0.256287	11.82547	6.5683	
13.92	1.689433	83.353296	7.753738	83.713156	5.314516	0.256349	11.823372	6.571475	
13.94	1.688436	83.302437	7.752248	83.662377	5.316726	0.256073	11.832724	6.557338	
13.96	1.688944	83.370518	7.60843	83.716972	5.214403	0.256213	11.82796	6.564536	
13.98	1.691029	83.465145	7.651661	83.815144	5.237955	0.25679	11.808446	6.594099	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	1.690289	83.467955	7.509459	83.805081	5.140964	0.256585	11.815362	6.583605	
14.02	1.689834	83.450126	7.49002	83.785583	5.128817	0.25646	11.819619	6.577156	
14.04	1.690135	83.4693	7.476849	83.803505	5.118677	0.256543	11.816802	6.581422	
14.06	1.689289	83.452907	7.380824	83.778662	5.054268	0.256309	11.824722	6.569432	
14.08	1.690632	83.520511	7.385332	83.846401	5.053266	0.25668	11.812155	6.588469	
14.1	1.692123	83.597473	7.383686	83.922919	5.047519	0.257092	11.798229	6.60963	
14.12	1.691548	83.576181	7.35413	83.899114	5.028692	0.256933	11.803596	6.601466	
14.14	1.690927	83.559959	7.297554	83.878013	4.991166	0.256762	11.8094	6.59265	
14.16	1.689978	83.528615	7.234568	83.841329	4.950149	0.256499	11.818272	6.579196	
14.18	1.690595	83.574583	7.18186	83.882596	4.911572	0.25667	11.812495	6.587953	
14.2	1.6912	83.618408	7.134092	83.922186	4.876517	0.256837	11.806849	6.596523	
14.22	1.690457	83.598397	7.066709	83.896546	4.831828	0.256632	11.813792	6.585986	
14.24	1.692548	83.714002	7.034248	84.009016	4.803126	0.257209	11.794274	6.615652	
14.26	1.692946	83.72281	7.07794	84.021462	4.832312	0.257319	11.790563	6.621306	
14.28	1.691612	83.690047	6.943244	83.977572	4.742623	0.256951	11.802996	6.602378	
14.3	1.693181	83.745077	7.039234	84.0404	4.804739	0.257384	11.788378	6.624639	
14.32	1.691703	83.710179	6.883588	83.992725	4.700932	0.256976	11.802148	6.603668	
14.34	1.691786	83.730325	6.821627	84.00775	4.657689	0.256999	11.801379	6.604837	
14.36	1.69365	83.854933	6.705482	84.122609	4.571951	0.257513	11.784018	6.631293	
14.38	1.693567	83.835929	6.764101	84.108359	4.612789	0.25749	11.78479	6.630114	
14.4	1.692776	83.81313	6.694251	84.080044	4.566594	0.257272	11.792151	6.618886	
14.42	1.692487	83.813924	6.631926	84.075896	4.524212	0.257192	11.794842	6.614786	
14.44	1.692644	83.83371	6.584404	84.091886	4.49087	0.257236	11.793374	6.617023	
14.46	1.692638	83.856216	6.490954	84.107059	4.426205	0.257234	11.793433	6.616932	
14.48	1.693686	83.899229	6.533716	84.153254	4.452973	0.257523	11.783684	6.631803	
14.5	1.692217	83.86118	6.381084	84.103601	4.351318	0.257118	11.797354	6.610961	
14.52	1.692883	83.90079	6.357211	84.14129	4.333062	0.257302	11.791148	6.620415	
14.54	1.694031	83.954086	6.378917	84.196076	4.34505	0.257618	11.780476	6.636704	
14.56	1.695874	84.04731	6.381729	84.289245	4.342155	0.258126	11.763378	6.662883	
14.58	1.693462	83.955531	6.249549	84.187814	4.257185	0.257461	11.785766	6.628625	
14.6	1.695099	84.037846	6.253982	84.270231	4.256036	0.257912	11.770559	6.651875	
14.62	1.695119	84.057216	6.174527	84.28369	4.201194	0.257918	11.770371	6.652163	
14.64	1.694257	84.021138	6.140455	84.245218	4.179882	0.25768	11.778374	6.639916	
14.66	1.69418	84.01033	6.17052	84.236636	4.200812	0.257659	11.779092	6.638819	
14.68	1.695393	84.086916	6.105168	84.308259	4.152706	0.257993	11.767839	6.656043	
14.7	1.694459	84.051586	6.051397	84.269143	4.117982	0.257736	11.776497	6.642787	
14.72	1.695337	84.120687	5.941159	84.330228	4.039906	0.257978	11.768359	6.655246	
14.74	1.694382	84.084704	5.8841	84.290332	4.002939	0.257715	11.777214	6.641691	
14.76	1.694199	84.076076	5.88111	84.281516	4.001321	0.257664	11.77891	6.639096	
14.78	1.694684	84.116387	5.808543	84.316699	3.950219	0.257798	11.774415	6.645973	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	1.695079	84.135268	5.814045	84.335914	3.953064	0.257907	11.770748	6.651585	
14.82	1.69503	84.174201	5.618272	84.361491	3.818594	0.257893	11.771199	6.650894	
14.84	1.696174	84.221463	5.669789	84.412093	3.851348	0.258208	11.760605	6.667139	
14.86	1.696826	84.246091	5.710076	84.439379	3.8775	0.258387	11.754572	6.676407	
14.88	1.696316	84.230893	5.65911	84.420784	3.843687	0.258247	11.759292	6.669154	
14.9	1.696151	84.236645	5.59123	84.422001	3.797459	0.258202	11.760815	6.666817	
14.92	1.697157	84.28824	5.588469	84.4733	3.793273	0.258479	11.75151	6.681116	
14.94	1.695823	84.240903	5.489105	84.419547	3.728107	0.258112	11.76385	6.662159	
14.96	1.69633	84.286644	5.388959	84.458742	3.658295	0.258251	11.759163	6.669353	
14.98	1.695873	84.270342	5.354403	84.440276	3.635601	0.258125	11.763392	6.662862	
15	1.696461	84.318072	5.262668	84.482146	3.571459	0.258287	11.757946	6.671222	
15.02	1.697446	84.370807	5.247689	84.533847	3.5591	0.258558	11.748847	6.685213	
15.04	1.695494	84.280298	5.204614	84.440847	3.533741	0.258021	11.766901	6.65748	
15.06	1.696289	84.325987	5.176212	84.484704	3.512606	0.25824	11.759535	6.668782	
15.08	1.696531	84.359796	5.061489	84.511501	3.43357	0.258306	11.757301	6.672213	
15.1	1.695215	84.294052	5.057101	84.445613	3.433269	0.257944	11.769487	6.653517	
15.12	1.697872	84.430752	5.04464	84.581324	3.419297	0.258675	11.744911	6.691275	
15.14	1.69707	84.409991	4.93661	84.554223	3.347063	0.258455	11.752315	6.679877	
15.16	1.698014	84.469183	4.87262	84.609606	3.301465	0.258714	11.743604	6.693289	
15.18	1.695879	84.370058	4.823624	84.507834	3.272171	0.258127	11.763329	6.662958	
15.2	1.696375	84.397352	4.810738	84.53435	3.262395	0.258263	11.758746	6.669993	
15.22	1.697891	84.48962	4.72115	84.621422	3.19828	0.25868	11.744731	6.691552	
15.24	1.697863	84.493978	4.687619	84.623909	3.175447	0.258673	11.74499	6.691153	
15.26	1.695732	84.386574	4.686213	84.516593	3.178529	0.258086	11.764699	6.660858	
15.28	1.696494	84.444085	4.574178	84.567882	3.100581	0.258296	11.757641	6.67169	
15.3	1.696997	84.479382	4.514507	84.599922	3.058934	0.258434	11.752993	6.678834	
15.32	1.694736	84.378768	4.43264	84.495117	3.00714	0.257812	11.773925	6.646722	
15.34	1.695435	84.423155	4.376096	84.536497	2.967291	0.258005	11.767443	6.65665	
15.36	1.696325	84.470236	4.362264	84.5828	2.956283	0.25825	11.759204	6.66929	
15.38	1.699451	84.626581	4.370358	84.739355	2.956296	0.259109	11.730361	6.713731	
15.4	1.696808	84.51697	4.219489	84.622233	2.858109	0.258382	11.75474	6.676148	
15.42	1.698072	84.583357	4.202217	84.687678	2.844199	0.25873	11.743063	6.694123	
15.44	1.697756	84.580216	4.11795	84.680402	2.787359	0.258643	11.74598	6.689629	
15.46	1.69696	84.544256	4.090357	84.643147	2.769887	0.258424	11.75333	6.678316	
15.48	1.69894	84.643474	4.09362	84.742407	2.768849	0.258968	11.73507	6.706455	
15.5	1.697359	84.586584	3.938474	84.678225	2.665854	0.258534	11.749646	6.683984	
15.52	1.69693	84.570509	3.899863	84.66038	2.640257	0.258416	11.753609	6.677887	
15.54	1.697499	84.608847	3.830899	84.69553	2.592458	0.258572	11.748357	6.685969	
15.56	1.699571	84.716259	3.808387	84.801818	2.573981	0.259142	11.729259	6.715434	
15.58	1.698287	84.658917	3.755595	84.742178	2.540065	0.258789	11.741083	6.697175	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	1.698828	84.687355	3.746724	84.770196	2.533223	0.258938	11.736096	6.70487	
15.62	1.695369	84.54304	3.522449	84.616389	2.385828	0.257986	11.768063	6.6557	
15.64	1.697891	84.667202	3.543019	84.741301	2.396229	0.25868	11.744739	6.69154	
15.66	1.696131	84.589581	3.458106	84.660237	2.341009	0.258196	11.760996	6.666538	
15.68	1.695949	84.591276	3.37076	84.658407	2.281896	0.258146	11.762685	6.663946	
15.7	1.698105	84.703526	3.338671	84.769299	2.257204	0.258739	11.742763	6.694586	
15.72	1.697942	84.689638	3.385334	84.757272	2.289093	0.258694	11.744266	6.692269	
15.74	1.696086	84.614519	3.234876	84.676333	2.189398	0.258184	11.761414	6.665897	
15.76	1.696637	84.639929	3.25388	84.702452	2.201587	0.258335	11.756321	6.673719	
15.78	1.694772	84.552825	3.197777	84.613273	2.165891	0.257822	11.773598	6.647222	
15.8	1.696278	84.640385	3.094013	84.696917	2.093508	0.258237	11.759636	6.668626	
15.82	1.695948	84.632139	3.019031	84.68597	2.043015	0.258146	11.762693	6.663934	
15.84	1.696763	84.68271	2.929409	84.733363	1.981232	0.25837	11.755158	6.675506	
15.86	1.696391	84.665636	2.9146	84.715788	1.971622	0.258268	11.758594	6.670227	
15.88	1.694475	84.584029	2.773905	84.629502	1.878326	0.25774	11.776353	6.643006	
15.9	1.693802	84.556355	2.713155	84.599872	1.837819	0.257555	11.782601	6.633456	
15.92	1.694478	84.602604	2.585069	84.642088	1.750156	0.257741	11.776324	6.643051	
15.94	1.694002	84.569532	2.681269	84.612026	1.815952	0.25761	11.780741	6.636299	
15.96	1.694896	84.618848	2.634927	84.659862	1.783547	0.257856	11.772442	6.648992	
15.98	1.696506	84.692035	2.712798	84.735471	1.834636	0.258299	11.757529	6.671862	
16	1.694501	84.599199	2.632898	84.640159	1.782588	0.257747	11.776114	6.643373	
16.02	1.693062	84.539681	2.497927	84.576577	1.692452	0.257351	11.789483	6.622954	
16.040001	1.693309	84.559056	2.419566	84.593665	1.639012	0.257419	11.787189	6.626452	
16.059999	1.692418	84.527779	2.262655	84.558057	1.53334	0.257173	11.795485	6.613807	
16.08	1.692471	84.528882	2.281641	84.55967	1.54618	0.257188	11.794987	6.614565	
16.1	1.691281	84.471834	2.25028	84.501802	1.525968	0.256859	11.806087	6.59768	
16.120001	1.690431	84.440378	2.110003	84.466736	1.431416	0.256625	11.814036	6.585617	
16.139999	1.689857	84.410047	2.130783	84.436936	1.446026	0.256466	11.8194	6.577488	
16.16	1.690189	84.436404	2.001384	84.46012	1.357822	0.256558	11.8163	6.582184	
16.18	1.689874	84.420824	1.998906	84.444485	1.356391	0.256471	11.819245	6.577723	
16.200001	1.691904	84.526275	1.946698	84.548689	1.31933	0.257032	11.800273	6.60652	
16.219999	1.690312	84.452759	1.857042	84.473174	1.259683	0.256592	11.815143	6.583937	
16.24	1.690024	84.440828	1.820112	84.460442	1.234815	0.256512	11.817835	6.579857	
16.26	1.690239	84.455328	1.762407	84.473715	1.195472	0.256572	11.815831	6.582895	
16.280001	1.688687	84.383326	1.671958	84.399888	1.135103	0.256143	11.830365	6.560901	
16.299999	1.687804	84.34825	1.515376	84.361862	1.02925	0.255898	11.838656	6.548389	
16.32	1.68603	84.256515	1.56699	84.271085	1.065457	0.255407	11.855358	6.523253	
16.34	1.685986	84.260316	1.459215	84.27295	0.992148	0.255395	11.855768	6.522637	
16.360001	1.685915	84.257289	1.449062	84.269748	0.985281	0.255375	11.85644	6.521628	
16.379999	1.685063	84.219161	1.361947	84.230172	0.926478	0.255139	11.864476	6.509571	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	1.686944	84.315174	1.323626	84.325563	0.899388	0.25566	11.846742	6.536206	
16.42	1.683669	84.15699	1.200126	84.165546	0.817016	0.254752	11.877664	6.489835	
16.440001	1.684478	84.200224	1.136581	84.207895	0.773365	0.254976	11.870003	6.501292	
16.459999	1.682449	84.096922	1.178	84.105172	0.802528	0.254413	11.889227	6.472578	
16.48	1.681167	84.038449	1.039883	84.044883	0.708937	0.254056	11.901402	6.454458	
16.5	1.681857	84.073028	1.037676	84.079432	0.707142	0.254248	11.894848	6.464207	
16.52	1.681155	84.040445	0.96917	84.046034	0.660717	0.254053	11.901521	6.454282	
16.540001	1.679906	83.976877	0.998725	83.982816	0.68138	0.253705	11.913418	6.436624	
16.559999	1.677139	83.843083	0.865531	83.84755	0.591457	0.252934	11.939862	6.397551	
16.58	1.676374	83.800866	0.980492	83.806602	0.670346	0.25272	11.947202	6.386748	
16.6	1.676256	83.799087	0.861032	83.80351	0.588692	0.252687	11.948326	6.385096	
16.620001	1.675883	83.782916	0.778266	83.786531	0.53221	0.252583	11.951913	6.379824	
16.639999	1.674892	83.735808	0.687835	83.738633	0.470637	0.252306	11.961442	6.365842	
16.66	1.674714	83.728249	0.634161	83.73065	0.433953	0.252257	11.96315	6.363338	
16.68	1.672079	83.595197	0.685865	83.59801	0.470079	0.251519	11.988578	6.32619	
16.700001	1.670711	83.528602	0.610347	83.530832	0.418656	0.251136	12.001829	6.306917	
16.719999	1.670236	83.505199	0.593606	83.507308	0.407287	0.251002	12.006442	6.300221	
16.74	1.668779	83.430779	0.660307	83.433392	0.453455	0.250594	12.020603	6.279712	
16.76	1.668296	83.407302	0.633257	83.409706	0.435002	0.250458	12.025302	6.272921	
16.780001	1.665439	83.262529	0.70813	83.26554	0.487277	0.249655	12.05321	6.232739	
16.799999	1.664231	83.205764	0.554712	83.207613	0.381971	0.249314	12.065054	6.215765	
16.82	1.665025	83.245021	0.575411	83.24701	0.396037	0.249538	12.057268	6.226919	
16.84	1.662414	83.115484	0.526563	83.117152	0.362983	0.248802	12.082919	6.190248	
16.860001	1.663489	83.167946	0.587105	83.170018	0.40446	0.249105	12.072346	6.205337	
16.879999	1.66147	83.06638	0.6145	83.068653	0.42385	0.248536	12.092227	6.176996	
16.9	1.66077	83.032195	0.577112	83.0342	0.398226	0.248338	12.099143	6.167167	
16.92	1.65826	82.906369	0.591834	82.908481	0.409005	0.247628	12.123998	6.131972	
16.940001	1.659258	82.953027	0.722015	82.956169	0.498685	0.24791	12.114102	6.145961	
16.959999	1.65736	82.856728	0.770552	82.86031	0.532825	0.247373	12.132943	6.119356	
16.98	1.656866	82.834357	0.687089	82.837207	0.475243	0.247234	12.137853	6.112441	
17	1.655215	82.752316	0.665788	82.754994	0.460967	0.246765	12.154317	6.089313	
17.02	1.655426	82.762904	0.664487	82.765571	0.460008	0.246825	12.15221	6.092268	
17.040001	1.652239	82.600745	0.76606	82.604297	0.531361	0.24592	12.184116	6.047674	
17.059999	1.652609	82.622006	0.664341	82.624677	0.460691	0.246025	12.180407	6.052842	
17.08	1.65355	82.668441	0.68998	82.67132	0.478201	0.246293	12.170965	6.066015	
17.1	1.651817	82.576994	0.851966	82.581389	0.591114	0.2458	12.188353	6.041777	
17.120001	1.654855	82.72842	0.868083	82.732975	0.601193	0.246663	12.157909	6.084278	
17.139999	1.652396	82.602111	0.962183	82.607715	0.667376	0.245965	12.182542	6.049867	
17.16	1.653406	82.650602	1.015531	82.656841	0.703961	0.246252	12.172416	6.063989	
17.18	1.649908	82.4772	0.974362	82.482955	0.676846	0.245257	12.207579	6.01509	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	1.6531	82.633621	1.058276	82.640397	0.733739	0.246165	12.175479	6.059714	
17.219999	1.651683	82.564203	1.021278	82.570519	0.708685	0.245762	12.189704	6.039897	
17.24	1.651762	82.565732	1.082002	82.572822	0.750805	0.245785	12.188906	6.041008	
17.26	1.651315	82.539512	1.170614	82.547812	0.812543	0.245657	12.193408	6.034748	
17.280001	1.653883	82.665475	1.225799	82.674562	0.849545	0.246387	12.167638	6.070664	
17.299999	1.652499	82.592104	1.311504	82.602516	0.909742	0.245994	12.181503	6.051313	
17.32	1.653348	82.63378	1.327267	82.644439	0.920209	0.246235	12.172992	6.063185	
17.34	1.653789	82.65339	1.374384	82.664816	0.952645	0.24636	12.168581	6.069347	
17.360001	1.655051	82.715965	1.385826	82.727574	0.959848	0.246719	12.155956	6.087015	
17.379999	1.655904	82.759738	1.365249	82.770998	0.945098	0.246961	12.147442	6.09896	
17.4	1.656662	82.793761	1.43893	82.806264	0.995684	0.247176	12.139885	6.109581	
17.42	1.656542	82.786779	1.456573	82.799591	1.007976	0.247142	12.141081	6.107899	
17.440001	1.660217	82.963264	1.586153	82.978425	1.095292	0.248182	12.104603	6.159418	
17.459999	1.660449	82.974096	1.598739	82.989496	1.103836	0.248247	12.102314	6.162666	
17.48	1.662747	83.09498	1.498962	83.108499	1.033456	0.248896	12.079642	6.194922	
17.5	1.663735	83.143058	1.523203	83.15701	1.049559	0.249175	12.069924	6.208799	
17.52	1.663877	83.142091	1.657408	83.15861	1.142022	0.249214	12.068534	6.210786	
17.540001	1.664271	83.165012	1.605366	83.180505	1.105867	0.249325	12.064667	6.21632	
17.559999	1.666682	83.288147	1.565008	83.30285	1.076479	0.250004	12.041048	6.250218	
17.58	1.667276	83.318493	1.55476	83.332998	1.069042	0.250171	12.035245	6.258575	
17.6	1.669679	83.442557	1.487975	83.455823	1.02161	0.250846	12.011848	6.292383	
17.620001	1.67081	83.498899	1.492879	83.512244	1.024285	0.251164	12.000869	6.308311	
17.639999	1.671595	83.538354	1.489851	83.551638	1.021726	0.251384	11.993264	6.319367	
17.66	1.673237	83.625769	1.392178	83.637356	0.953757	0.251843	11.977393	6.342503	
17.68	1.673777	83.659772	1.250593	83.669119	0.856427	0.251994	11.97218	6.350121	
17.700001	1.673394	83.644281	1.169524	83.652457	0.801065	0.251887	11.97587	6.344727	
17.719999	1.673629	83.655905	1.172393	83.66412	0.802919	0.251953	11.973605	6.348038	
17.74	1.672319	83.593277	1.102939	83.600553	0.755924	0.251586	11.986262	6.329564	
17.76	1.671689	83.560738	1.127866	83.56835	0.773307	0.25141	11.992354	6.320692	
17.780001	1.671871	83.571434	1.089714	83.578538	0.747057	0.251461	11.99059	6.32326	
17.799999	1.672474	83.598545	1.162082	83.606622	0.796404	0.25163	11.984761	6.331751	
17.82	1.671517	83.549775	1.182909	83.558148	0.811149	0.251362	11.994016	6.318273	
17.84	1.674037	83.677633	1.141296	83.685416	0.781421	0.252067	11.969675	6.353784	
17.860001	1.673118	83.628382	1.216299	83.637226	0.833258	0.25181	11.978537	6.340833	
17.879999	1.674646	83.703424	1.246667	83.712707	0.853293	0.252237	11.96381	6.362372	
17.9	1.675815	83.763439	1.213562	83.77223	0.830043	0.252564	11.952565	6.378866	
17.92	1.676034	83.773573	1.231568	83.782625	0.842255	0.252625	11.950463	6.381954	
17.940001	1.67718	83.833721	1.168364	83.841862	0.798463	0.252945	11.939471	6.398128	
17.959999	1.678802	83.914149	1.184795	83.922512	0.808915	0.253397	11.923954	6.421029	
17.98	1.679751	83.960923	1.201563	83.96952	0.819904	0.253662	11.914889	6.434445	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	1.680884	84.019631	1.154313	84.02756	0.787116	0.253977	11.904101	6.450448	
18.02	1.680959	84.026044	1.09019	84.033116	0.74334	0.253998	11.903386	6.45151	
18.040001	1.683904	84.170885	1.151265	84.178758	0.783627	0.254817	11.875434	6.493167	
18.059999	1.68346	84.154257	1.010224	84.16032	0.687771	0.254694	11.879641	6.486881	
18.08	1.684734	84.214893	1.090886	84.221958	0.742146	0.255047	11.867585	6.504914	
18.1	1.685817	84.27274	0.994414	84.278607	0.676057	0.255348	11.857364	6.52024	
18.120001	1.686355	84.301122	0.953368	84.306513	0.647936	0.255497	11.852291	6.52786	
18.139999	1.688418	84.40548	0.919685	84.410491	0.624273	0.256068	11.832888	6.55709	
18.16	1.687609	84.366062	0.887111	84.370726	0.602445	0.255844	11.840493	6.545619	
18.18	1.689613	84.466943	0.867753	84.4714	0.588596	0.256399	11.821684	6.574028	
18.200001	1.691829	84.580519	0.776348	84.584082	0.525893	0.257011	11.80097	6.605459	
18.219999	1.690083	84.492837	0.787857	84.49651	0.534243	0.256528	11.817289	6.580685	
18.24	1.692384	84.609407	0.73418	84.612592	0.49716	0.257164	11.7958	6.613327	
18.26	1.691408	84.560816	0.726814	84.56394	0.492455	0.256895	11.804899	6.599486	
18.280001	1.691169	84.55182	0.60404	84.553977	0.409316	0.256829	11.807133	6.596091	
18.299999	1.693686	84.677384	0.617143	84.679633	0.417574	0.257523	11.783683	6.631805	
18.32	1.693817	84.685873	0.524403	84.687497	0.354791	0.257559	11.782462	6.63367	
18.34	1.695636	84.777476	0.487522	84.778878	0.329482	0.25806	11.765589	6.659493	
18.360001	1.695761	84.784943	0.413392	84.785951	0.279359	0.258094	11.764429	6.661271	
18.379999	1.695355	84.765688	0.336659	84.766357	0.227557	0.257983	11.76819	6.655505	
18.4	1.695834	84.789211	0.37025	84.790019	0.250193	0.258114	11.763752	6.662309	
18.42	1.696381	84.817332	0.309644	84.817897	0.20917	0.258265	11.758684	6.670088	
18.440001	1.697994	84.898342	0.272585	84.898779	0.183961	0.258708	11.743789	6.693004	
18.459999	1.698543	84.926253	0.220899	84.92654	0.14903	0.258859	11.738727	6.70081	
18.48	1.699917	84.994925	0.22578	84.995225	0.1522	0.259236	11.726079	6.720353	
18.5	1.698516	84.92544	0.138645	84.925553	0.093538	0.258852	11.738975	6.700427	
18.52	1.69976	84.987772	0.115473	84.987851	0.077848	0.259193	11.727519	6.718126	
18.540001	1.699	84.949953	0.044191	84.949965	0.029805	0.258985	11.734516	6.70731	
18.559999	1.699994	84.999597	-0.066569	84.999623	-0.044872	0.259257	11.725374	6.721444	
18.58	1.701972	85.098241	-0.13677	85.098351	-0.092086	0.2598	11.707225	6.749591	
18.6	1.701735	85.086453	-0.124174	85.086544	-0.083616	0.259735	11.709396	6.746219	
18.620001	1.702203	85.109151	-0.237002	85.109481	-0.15955	0.259863	11.705104	6.752889	
18.639999	1.701896	85.09348	-0.271236	85.093913	-0.18263	0.259779	11.707917	6.748516	
18.66	1.703958	85.196476	-0.28093	85.196939	-0.188929	0.260343	11.689066	6.777873	
18.68	1.704229	85.209482	-0.332348	85.21013	-0.223473	0.260418	11.68659	6.781739	
18.700001	1.703176	85.156936	-0.323663	85.157551	-0.217768	0.26013	11.696203	6.766743	
18.719999	1.703802	85.187052	-0.414044	85.188058	-0.278479	0.260301	11.690484	6.77566	
18.74	1.703702	85.18175	-0.43158	85.182844	-0.290292	0.260273	11.691403	6.774226	
18.76	1.705303	85.260359	-0.516439	85.261923	-0.347049	0.260711	11.676808	6.79703	
18.780001	1.707093	85.348396	-0.592499	85.350452	-0.397748	0.2612	11.660531	6.822552	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	1.705155	85.251736	-0.579334	85.253704	-0.389352	0.260671	11.678154	6.794924	
18.82	1.706475	85.316679	-0.629268	85.319	-0.422588	0.261031	11.666145	6.813739	
18.84	1.707078	85.344458	-0.727557	85.347559	-0.488433	0.261196	11.660669	6.822336	
18.860001	1.707163	85.348168	-0.748912	85.351453	-0.502746	0.261219	11.659893	6.823554	
18.879999	1.707674	85.371734	-0.818563	85.375659	-0.549348	0.261359	11.655266	6.830828	
18.9	1.707045	85.33861	-0.875065	85.343097	-0.587493	0.261187	11.660964	6.821872	
18.92	1.706816	85.325077	-0.938779	85.330241	-0.630365	0.261125	11.663046	6.818603	
18.940001	1.709639	85.4663	-0.937551	85.471442	-0.628501	0.261894	11.637482	6.858858	
18.959999	1.709251	85.440151	-1.122272	85.447522	-0.752549	0.261789	11.640983	6.853332	
18.98	1.709989	85.476665	-1.131596	85.484155	-0.758476	0.26199	11.634321	6.863852	
19	1.708678	85.41442	-1.045604	85.420819	-0.701354	0.261632	11.64617	6.84515	
19.02	1.711391	85.544069	-1.197505	85.55245	-0.802015	0.262371	11.62168	6.88386	
19.040001	1.710611	85.501395	-1.280653	85.510985	-0.858122	0.262159	11.628707	6.87273	
19.059999	1.71108	85.510665	-1.285084	85.520321	-0.860997	0.26221	11.627	6.875432	
19.08	1.710772	85.505533	-1.363878	85.51641	-0.913835	0.262203	11.627256	6.875027	
19.1	1.711167	85.548865	-1.397185	85.560274	-0.935673	0.262447	11.619161	6.887854	
19.120001	1.713146	85.620622	-1.43897	85.632713	-0.962844	0.262848	11.605892	6.90893	
19.139999	1.711138	85.518049	-1.479192	85.530841	-0.990939	0.262302	11.623952	6.880259	
19.16	1.712906	85.606409	-1.481499	85.619228	-0.99146	0.262783	11.608047	6.905503	
19.18	1.711688	85.535083	-1.666851	85.551323	-1.116403	0.262452	11.618999	6.88811	
19.200001	1.713155	85.608415	-1.668832	85.624679	-1.116772	0.262851	11.605809	6.909062	
19.219999	1.713469	85.625043	-1.652667	85.64099	-1.105743	0.262936	11.602998	6.913535	
19.24	1.712987	85.598278	-1.697104	85.6151	-1.135821	0.262805	11.607325	6.906652	
19.26	1.713396	85.608792	-1.855484	85.628898	-1.241636	0.262916	11.603649	6.912499	
19.280001	1.713489	85.610971	-1.892895	85.631894	-1.26663	0.262942	11.602813	6.91383	
19.299999	1.715031	85.683325	-1.963874	85.705829	-1.313	0.26336	11.588998	6.935858	
19.32	1.715113	85.686161	-1.981848	85.709077	-1.324969	0.263382	11.588267	6.937026	
19.34	1.713307	85.59297	-2.020606	85.616817	-1.352341	0.262892	11.604449	6.911226	
19.360001	1.716264	85.736682	-2.081284	85.76194	-1.390602	0.263695	11.577975	6.953484	
19.379999	1.715107	85.672964	-2.158155	85.700142	-1.443014	0.263381	11.588315	6.936949	
19.4	1.715444	85.683814	-2.23528	85.712965	-1.49437	0.263472	11.585306	6.941757	
19.42	1.717212	85.768707	-2.281671	85.799051	-1.52386	0.263951	11.569519	6.967037	
19.440001	1.717298	85.771997	-2.294489	85.802681	-1.532358	0.263975	11.568749	6.968271	
19.459999	1.715986	85.701586	-2.350884	85.733824	-1.571292	0.263619	11.580461	6.949505	
19.48	1.71576	85.681877	-2.449402	85.71688	-1.637481	0.263558	11.582481	6.946273	
19.5	1.714234	85.60218	-2.485942	85.638269	-1.663441	0.263144	11.596138	6.924465	
19.52	1.717024	85.738396	-2.527125	85.775632	-1.688298	0.2639	11.571197	6.964346	
19.540001	1.716602	85.713026	-2.573599	85.751654	-1.719836	0.263786	11.574964	6.958307	
19.559999	1.717607	85.759629	-2.615363	85.799499	-1.746779	0.264059	11.565995	6.972692	
19.58	1.717474	85.742863	-2.721966	85.786057	-1.818286	0.264022	11.567185	6.970781	



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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	1.717244	85.732793	-2.706716	85.77551	-1.808318	0.26396	11.569235	6.967492	
19.620001	1.718255	85.770574	-2.838721	85.817538	-1.895611	0.264234	11.560227	6.981958	
19.639999	1.720774	85.895714	-2.85107	85.943018	-1.90108	0.264915	11.537863	7.018006	
19.66	1.719388	85.814319	-2.966135	85.865565	-1.97962	0.26454	11.550161	6.99816	
19.68	1.718535	85.77076	-2.973222	85.822278	-1.985352	0.26431	11.557743	6.985954	
19.700001	1.719942	85.823616	-3.137663	85.880952	-2.093772	0.26469	11.545245	7.006086	
19.719999	1.719317	85.795842	-3.105056	85.852012	-2.072703	0.264521	11.550792	6.997144	
19.74	1.719246	85.782532	-3.192778	85.841929	-2.131537	0.264502	11.551418	6.996136	
19.76	1.717587	85.697412	-3.208418	85.757451	-2.144094	0.264053	11.566182	6.972392	
19.780001	1.716577	85.647118	-3.204717	85.707053	-2.142879	0.263779	11.575187	6.95795	
19.799999	1.718429	85.716919	-3.403218	85.784451	-2.273623	0.264281	11.558679	6.984448	
19.82	1.718305	85.711696	-3.394506	85.778887	-2.267947	0.264247	11.55979	6.982662	
19.84	1.720868	85.831985	-3.464757	85.901887	-2.311593	0.264941	11.537031	7.01935	
19.860001	1.719058	85.741442	-3.461283	85.811277	-2.311713	0.264451	11.553091	6.993442	
19.879999	1.719092	85.735772	-3.520747	85.808032	-2.351539	0.26446	11.552792	6.993922	
19.9	1.719284	85.721114	-3.71052	85.801384	-2.47856	0.264512	11.551084	6.996673	
19.92	1.719533	85.730924	-3.730979	85.812071	-2.491924	0.26458	11.548875	7.000232	
19.940001	1.718746	85.700316	-3.662714	85.77855	-2.447258	0.264367	11.555864	6.988977	
19.959999	1.720405	85.766872	-3.79062	85.850597	-2.530647	0.264815	11.541133	7.012723	
19.98	1.719266	85.705294	-3.822349	85.790488	-2.553632	0.264508	11.551239	6.996423	
20	1.721282	85.801381	-3.861206	85.888217	-2.576672	0.265052	11.533373	7.025265	
20.02	1.717605	85.59644	-4.003751	85.690026	-2.678048	0.264058	11.566022	6.972649	
20.040001	1.720798	85.764339	-3.952884	85.855385	-2.638904	0.264921	11.537658	7.018336	
20.059999	1.720834	85.752917	-4.046398	85.848332	-2.7016	0.264931	11.537335	7.018858	
20.08	1.721246	85.754205	-4.179939	85.856016	-2.790579	0.265043	11.533684	7.024762	
20.1	1.72038	85.713335	-4.1611	85.814279	-2.779344	0.264808	11.541362	7.012353	
20.120001	1.720334	85.684873	-4.334514	85.794437	-2.89594	0.264796	11.541767	7.011699	
20.139999	1.721342	85.738018	-4.31922	85.846743	-2.883954	0.265068	11.532839	7.026129	
20.16	1.71947	85.634642	-4.377812	85.74647	-2.926531	0.264563	11.549429	6.99934	
20.18	1.71931	85.629676	-4.357649	85.740483	-2.913244	0.264519	11.550856	6.997041	
20.200001	1.721278	85.705159	-4.508198	85.823646	-3.011059	0.265051	11.533409	7.025207	
20.219999	1.721221	85.70229	-4.508412	85.820792	-3.011303	0.265036	11.533906	7.024402	
20.24	1.721331	85.699589	-4.559435	85.82079	-3.045414	0.265065	11.532938	7.025969	
20.26	1.72061	85.642548	-4.685234	85.77061	-3.131356	0.264871	11.53932	7.015651	
20.280001	1.721136	85.66958	-4.682172	85.797434	-3.128328	0.265013	11.534665	7.023175	
20.299999	1.720964	85.654319	-4.721613	85.784358	-3.155188	0.264966	11.536185	7.020717	
20.32	1.720927	85.637266	-4.811121	85.772305	-3.215515	0.264956	11.536513	7.020187	
20.34	1.7194	85.556465	-4.832786	85.69285	-3.233008	0.264544	11.550051	6.998338	
20.360001	1.718479	85.490131	-4.946272	85.633102	-3.311323	0.264295	11.558236	6.98516	
20.379999	1.719702	85.54885	-4.963567	85.692723	-3.320599	0.264625	11.547372	7.002657	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	1.720472	85.586502	-4.970652	85.730722	-3.323869	0.264834	11.540541	7.013679	
20.42	1.721514	85.623487	-5.058256	85.772766	-3.380857	0.265115	11.531316	7.028593	
20.440001	1.720934	85.569972	-5.190702	85.727262	-3.471333	0.264958	11.536448	7.020292	
20.459999	1.720725	85.562943	-5.171528	85.719087	-3.458825	0.264902	11.5383	7.017299	
20.48	1.71948	85.472029	-5.320606	85.637472	-3.562054	0.264565	11.54934	6.999484	
20.5	1.723488	85.681405	-5.285617	85.844283	-3.530064	0.265648	11.513884	7.056861	
20.52	1.719494	85.464255	-5.3648	85.63247	-3.591889	0.264569	11.549221	6.999675	
20.540001	1.71992	85.471623	-5.438391	85.644465	-3.640716	0.264684	11.545435	7.00578	
20.559999	1.720891	85.517595	-5.45454	85.691371	-3.64954	0.264947	11.536835	7.019667	
20.58	1.721535	85.524369	-5.585704	85.70658	-3.736759	0.265121	11.531126	7.0289	
20.6	1.721021	85.495556	-5.599341	85.678718	-3.747115	0.264982	11.535683	7.021529	
20.620001	1.721212	85.477465	-5.736425	85.669736	-3.839391	0.265034	11.533984	7.024276	
20.639999	1.721043	85.494659	-5.609447	85.678484	-3.753898	0.264988	11.535486	7.021848	
20.66	1.720966	85.450923	-5.804253	85.647823	-3.885853	0.264967	11.53617	7.020741	
20.68	1.720439	85.420725	-5.821012	85.618832	-3.898412	0.264825	11.540835	7.013204	
20.700001	1.719551	85.35588	-5.914908	85.560578	-3.964097	0.264584	11.548714	7.000492	
20.719999	1.721161	85.432175	-5.940393	85.638454	-3.977578	0.26502	11.534439	7.02354	
20.74	1.720017	85.367699	-5.970447	85.576225	-4.000645	0.264711	11.544574	7.007169	
20.76	1.719839	85.34205	-6.047331	85.556039	-4.053207	0.264662	11.546154	7.00462	
20.780001	1.718277	85.25212	-6.09583	85.469778	-4.089898	0.26424	11.560032	6.982272	
20.799999	1.719817	85.331344	-6.091276	85.548477	-4.083072	0.264656	11.546349	7.004306	
20.82	1.719417	85.288313	-6.194012	85.512935	-4.153786	0.264548	11.549898	6.998584	
20.84	1.719416	85.280949	-6.226566	85.507955	-4.175899	0.264548	11.549912	6.998561	
20.860001	1.718521	85.20448	-6.362927	85.441736	-4.270832	0.264306	11.557865	6.985757	
20.879999	1.717766	85.163528	-6.374039	85.401726	-4.280313	0.264102	11.564582	6.974962	
20.9	1.720718	85.289098	-6.480327	85.534933	-4.345033	0.2649	11.538361	7.017201	
20.92	1.719827	85.253533	-6.43815	85.496285	-4.318655	0.264659	11.546267	7.004437	
20.940001	1.716762	85.07535	-6.532625	85.32579	-4.390925	0.263829	11.573536	6.960595	
20.959999	1.718224	85.135764	-6.591831	85.390576	-4.427431	0.264225	11.560507	6.981509	
20.98	1.718326	85.126435	-6.652389	85.385972	-4.468429	0.264253	11.559601	6.982966	
21	1.718569	85.150909	-6.602018	85.406463	-4.43346	0.264319	11.557437	6.986445	
21.02	1.718486	85.111097	-6.749189	85.378278	-4.533994	0.264296	11.558178	6.985254	
21.040001	1.717486	85.050253	-6.789403	85.320816	-4.564145	0.264026	11.567076	6.970957	
21.059999	1.716869	84.972989	-6.972412	85.258568	-4.690873	0.263858	11.572581	6.962127	
21.08	1.716042	84.949764	-6.897143	85.229296	-4.641719	0.263634	11.579962	6.950303	
21.1	1.715578	84.902198	-6.991679	85.189594	-4.707681	0.263509	11.584103	6.94368	
21.120001	1.716979	84.947277	-7.094958	85.243054	-4.774379	0.263888	11.571593	6.963711	
21.139999	1.715413	84.884323	-7.0286	85.174817	-4.733421	0.263464	11.585581	6.941318	
21.16	1.715166	84.852095	-7.104681	85.149014	-4.78623	0.263397	11.587789	6.937789	
21.18	1.71647	84.895667	-7.193174	85.19986	-4.843088	0.26375	11.576138	6.956427	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	1.716867	84.898179	-7.260721	85.208091	-4.888204	0.263858	11.572593	6.962107	
21.219999	1.715418	84.827735	-7.246694	85.136709	-4.882837	0.263465	11.58554	6.941383	
21.24	1.715113	84.79667	-7.304913	85.110733	-4.923668	0.263382	11.588264	6.93703	
21.26	1.714998	84.761076	-7.415198	85.084812	-4.999717	0.263351	11.589293	6.935386	
21.280001	1.715964	84.815087	-7.398348	85.137152	-4.985252	0.263613	11.58066	6.949187	
21.299999	1.714568	84.726093	-7.462678	85.054115	-5.033633	0.263234	11.593146	6.929237	
21.32	1.71455	84.723576	-7.468558	85.052123	-5.037728	0.26323	11.593305	6.928984	
21.34	1.714205	84.704282	-7.474553	85.033431	-5.042894	0.263136	11.596391	6.924061	
21.360001	1.714013	84.667924	-7.570465	85.005701	-5.109444	0.263084	11.598119	6.921307	
21.379999	1.713993	84.652821	-7.621054	84.99518	-5.144318	0.263079	11.598292	6.921032	
21.4	1.71432	84.64323	-7.714606	84.994068	-5.207709	0.263167	11.595362	6.925702	
21.42	1.713228	84.589502	-7.706387	84.939816	-5.205477	0.262871	11.605158	6.910098	
21.440001	1.714881	84.630517	-7.859454	84.994679	-5.305727	0.263319	11.590344	6.933708	
21.459999	1.714102	84.608535	-7.797016	84.967038	-5.265174	0.263108	11.597314	6.922589	
21.48	1.713013	84.529132	-7.878248	84.895471	-5.324684	0.262812	11.607085	6.907033	
21.5	1.712328	84.464682	-7.977984	84.84062	-5.395788	0.262626	11.613247	6.897239	
21.52	1.713082	84.490076	-8.023378	84.87018	-5.424685	0.262831	11.606467	6.908016	
21.540001	1.712687	84.473635	-8.010162	84.852564	-5.416851	0.262724	11.610021	6.902364	
21.559999	1.713447	84.48109	-8.116442	84.870084	-5.487805	0.26293	11.603193	6.913225	
21.58	1.711809	84.427335	-8.014134	84.806847	-5.422475	0.262485	11.617909	6.889839	
21.6	1.711127	84.357009	-8.1318	84.748045	-5.506163	0.262299	11.624058	6.880091	
21.620001	1.71269	84.404724	-8.240022	84.805986	-5.575849	0.262725	11.609987	6.902419	
21.639999	1.710237	84.286707	-8.212489	84.685855	-5.565067	0.262057	11.632081	6.867393	
21.66	1.711613	84.308435	-8.372169	84.723111	-5.67112	0.262432	11.61968	6.88703	
21.68	1.711604	84.297861	-8.404728	84.715812	-5.69374	0.262429	11.619754	6.886913	
21.700001	1.710106	84.207044	-8.447762	84.629728	-5.728831	0.262022	11.63326	6.86553	
21.719999	1.708948	84.122818	-8.524875	84.553664	-5.786521	0.261706	11.643725	6.849005	
21.74	1.711335	84.245234	-8.527606	84.675731	-5.780008	0.262356	11.622182	6.883063	
21.76	1.710609	84.194305	-8.56971	84.629315	-5.811841	0.262158	11.628727	6.872698	
21.780001	1.711017	84.177045	-8.688943	84.624302	-5.893337	0.26227	11.625043	6.878531	
21.799999	1.709163	84.102501	-8.622947	84.543397	-5.854035	0.261765	11.641781	6.852071	
21.82	1.709362	84.057812	-8.791763	84.516335	-5.970973	0.261819	11.639978	6.854917	
21.84	1.709497	84.093673	-8.703568	84.542876	-5.908998	0.261856	11.638759	6.856842	
21.860001	1.708554	84.005861	-8.822338	84.467854	-5.995265	0.261599	11.64729	6.843385	
21.879999	1.708888	84.052081	-8.73447	84.504694	-5.932742	0.26169	11.644264	6.848155	
21.9	1.708008	83.949918	-8.90547	84.420946	-6.055343	0.26145	11.652233	6.835601	
21.92	1.710186	84.053025	-8.93467	84.52656	-6.067653	0.262043	11.632538	6.86667	
21.940001	1.707864	83.891646	-9.055856	84.379007	-6.161065	0.261411	11.653538	6.833547	
21.959999	1.707962	83.902682	-9.038358	84.388103	-6.148449	0.261437	11.652652	6.834942	
21.98	1.707098	83.857628	-9.039063	84.343384	-6.152203	0.261202	11.660483	6.822628	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	1.708779	83.895205	-9.183846	84.396377	-6.247194	0.26166	11.645251	6.84466	
22.02	1.707606	83.848603	-9.142335	84.345543	-6.222608	0.26134	11.655876	6.829869	
22.040001	1.709335	83.929684	-9.167563	84.428882	-6.233664	0.261811	11.640227	6.854523	
22.059999	1.706364	83.768555	-9.187111	84.270837	-6.258772	0.261001	11.667155	6.812154	
22.08	1.707169	83.785763	-9.257837	84.29568	-6.305282	0.261221	11.659843	6.823634	
22.1	1.706176	83.756301	-9.194327	84.259442	-6.264558	0.26095	11.66886	6.809481	
22.120001	1.708914	83.819022	-9.420831	84.346787	-6.412852	0.261697	11.644035	6.848516	
22.139999	1.706567	83.740735	-9.296989	84.255235	-6.335108	0.261057	11.665306	6.815056	
22.16	1.708014	83.781742	-9.393916	84.306738	-6.397504	0.261451	11.652183	6.83568	
22.18	1.707747	83.729446	-9.501369	84.266815	-6.474072	0.261379	11.654597	6.831882	
22.200001	1.706672	83.664005	-9.527336	84.204726	-6.496649	0.261085	11.664359	6.816543	
22.219999	1.706226	83.632654	-9.549809	84.176123	-6.514262	0.260964	11.668404	6.810196	
22.24	1.706642	83.647791	-9.567755	84.1932	-6.525227	0.261077	11.664631	6.816115	
22.26	1.706044	83.58418	-9.656542	84.140144	-6.590218	0.260914	11.67006	6.807599	
22.280001	1.70734	83.624024	-9.732019	84.188417	-6.638134	0.261268	11.658288	6.826078	
22.299999	1.70559	83.518507	-9.769974	84.08801	-6.672134	0.26079	11.674188	6.801132	
22.32	1.707141	83.553156	-9.893819	84.136898	-6.753157	0.261213	11.660096	6.823236	
22.34	1.706986	83.53402	-9.923029	84.121335	-6.774447	0.261171	11.661501	6.821029	
22.360001	1.704685	83.427428	-9.886553	84.011188	-6.75832	0.260542	11.682429	6.788238	
22.379999	1.706408	83.4875	-9.965857	84.080206	-6.807167	0.261013	11.666752	6.812787	
22.4	1.70544	83.407169	-10.043288	84.009663	-6.866098	0.260749	11.675555	6.798991	
22.42	1.706254	83.442026	-10.063505	84.046689	-6.876941	0.260971	11.668154	6.810587	
22.440001	1.705328	83.388248	-10.077131	83.994932	-6.890562	0.260718	11.676576	6.797393	
22.459999	1.706836	83.435297	-10.159774	84.05159	-6.942642	0.26113	11.662864	6.818888	
22.48	1.703877	83.276946	-10.167729	83.895366	-6.961107	0.260321	11.689803	6.776722	
22.5	1.705532	83.326544	-10.262709	83.956156	-7.021346	0.260774	11.674718	6.800302	
22.52	1.705516	83.324727	-10.265137	83.954649	-7.023142	0.260769	11.674867	6.800069	
22.540001	1.705345	83.304963	-10.292427	83.938375	-7.04328	0.260723	11.676424	6.797631	
22.559999	1.706215	83.286395	-10.453579	83.939865	-7.154004	0.26096	11.66851	6.810029	
22.58	1.704875	83.234	-10.408515	83.882275	-7.127919	0.260594	11.680705	6.790933	
22.6	1.705595	83.236841	-10.495597	83.895943	-7.186691	0.260791	11.674143	6.801202	
22.620001	1.706746	83.274098	-10.55311	83.940119	-7.222458	0.261105	11.663685	6.8176	
22.639999	1.705701	83.20337	-10.591599	83.874804	-7.254617	0.26082	11.67318	6.802711	
22.66	1.704416	83.110392	-10.652971	83.790352	-7.304275	0.260469	11.684889	6.784394	
22.68	1.704841	83.132378	-10.654062	83.812298	-7.303104	0.260585	11.681012	6.790454	
22.700001	1.703473	83.047214	-10.685528	83.731835	-7.331869	0.260211	11.69349	6.770972	
22.719999	1.705183	83.067106	-10.854103	83.773239	-7.444485	0.260679	11.677894	6.795331	
22.74	1.704527	83.083938	-10.731012	83.774073	-7.359517	0.260499	11.683876	6.785978	
22.76	1.706745	83.146949	-10.860467	83.853234	-7.441729	0.261105	11.663695	6.817583	
22.780001	1.704042	82.980641	-10.915832	83.695532	-7.494056	0.260366	11.6883	6.779069	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	1.705822	83.048528	-10.977681	83.770923	-7.529941	0.260853	11.67208	6.804433	
22.82	1.704201	82.986481	-10.921915	83.702116	-7.497663	0.26041	11.686847	6.781337	
22.84	1.704142	82.935198	-11.034613	83.666061	-7.578763	0.260394	11.687384	6.780498	
22.860001	1.704077	82.893141	-11.123948	83.636206	-7.643228	0.260376	11.687979	6.779569	
22.879999	1.705204	82.909834	-11.22284	83.665959	-7.708829	0.260684	11.677701	6.795632	
22.9	1.704509	82.894634	-11.173238	83.644256	-7.676556	0.260494	11.684034	6.785731	
22.92	1.706118	82.958508	-11.222379	83.714132	-7.704048	0.260934	11.669392	6.808646	
22.940001	1.705142	82.870544	-11.304635	83.638041	-7.767967	0.260667	11.678267	6.794747	
22.959999	1.703281	82.747799	-11.357794	83.523825	-7.815461	0.260158	11.695249	6.76823	
22.98	1.705769	82.844277	-11.43856	83.630227	-7.86131	0.260839	11.672565	6.803673	
23	1.705337	82.781674	-11.526551	83.580302	-7.926933	0.26072	11.676497	6.797516	
23.02	1.704259	82.75335	-11.462122	83.543385	-7.885848	0.260426	11.686316	6.782166	
23.040001	1.703361	82.651991	-11.580217	83.45929	-7.975701	0.26018	11.694516	6.769373	
23.059999	1.705521	82.730004	-11.661571	83.547865	-8.023529	0.260771	11.674822	6.800139	
23.08	1.705675	82.70531	-11.733147	83.533437	-8.074508	0.260813	11.673417	6.802339	
23.1	1.706159	82.72046	-11.756279	83.551688	-8.088754	0.260945	11.669017	6.809234	
23.120001	1.705791	82.694725	-11.76937	83.528053	-8.100128	0.260845	11.672366	6.803986	
23.139999	1.705681	82.614564	-11.928329	83.47126	-8.215904	0.260815	11.673365	6.80242	
23.16	1.705672	82.594712	-11.969379	83.457489	-8.245745	0.260812	11.673445	6.802296	
23.18	1.706356	82.585964	-12.064929	83.46259	-8.311521	0.260999	11.667226	6.812044	
23.200001	1.704289	82.48894	-12.035989	83.362403	-8.30148	0.260434	11.686041	6.782596	
23.219999	1.705933	82.541804	-12.109744	83.425388	-8.346361	0.260883	11.671074	6.80601	
23.24	1.704207	82.438148	-12.1327	83.326171	-8.372325	0.260412	11.686787	6.78143	
23.26	1.704055	82.423409	-12.146225	83.313559	-8.383003	0.26037	11.688183	6.779251	
23.280001	1.703848	82.334956	-12.305037	83.249378	-8.500011	0.260313	11.690071	6.776304	
23.299999	1.704728	82.359538	-12.351488	83.280566	-8.529118	0.260554	11.682038	6.78885	
23.32	1.703967	82.326243	-12.335882	83.245325	-8.521895	0.260346	11.688978	6.778011	
23.34	1.706212	82.368138	-12.495455	83.310543	-8.626158	0.26096	11.668537	6.809987	
23.360001	1.703425	82.251351	-12.428197	83.185004	-8.592421	0.260198	11.693927	6.770291	
23.379999	1.705142	82.278652	-12.558853	83.231613	-8.678546	0.260667	11.678272	6.794739	
23.4	1.704368	82.230158	-12.572209	83.185691	-8.692681	0.260456	11.68532	6.783721	
23.42	1.704581	82.198794	-12.656962	83.167544	-8.753663	0.260514	11.683378	6.786755	
23.440001	1.704311	82.148057	-12.727783	83.128213	-8.80723	0.26044	11.685843	6.782904	
23.459999	1.704007	82.122513	-12.745474	83.105681	-8.82198	0.260357	11.68862	6.778569	
23.48	1.704378	82.123655	-12.782437	83.112486	-8.847039	0.260458	11.68523	6.783862	
23.5	1.703816	82.011529	-12.939843	83.026083	-8.966272	0.260305	11.690356	6.77586	
23.52	1.705957	82.092848	-13.006587	83.116827	-9.002982	0.26089	11.670856	6.806352	
23.540001	1.704008	81.985241	-13.009777	83.011048	-9.01678	0.260357	11.688608	6.778587	
23.559999	1.705364	82.019678	-13.084323	83.05677	-9.063846	0.260728	11.676245	6.797912	
23.58	1.703916	81.898807	-13.163278	82.949904	-9.130854	0.260332	11.689448	6.777276	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	1.704287	81.914803	-13.171218	82.966956	-9.134515	0.260434	11.68606	6.782565	
23.620001	1.704082	81.847716	-13.275201	82.917306	-9.212815	0.260377	11.687935	6.779638	
23.639999	1.703685	81.831381	-13.265299	82.899596	-9.207867	0.260269	11.69156	6.773981	
23.66	1.703368	81.794786	-13.300968	82.869191	-9.236259	0.260182	11.694453	6.76947	
23.68	1.703254	81.739642	-13.390849	82.829245	-9.30375	0.260151	11.695489	6.767856	
23.700001	1.704438	81.727247	-13.531189	82.839822	-9.400925	0.260475	11.684682	6.784719	
23.719999	1.703544	81.687466	-13.514514	82.797851	-9.394037	0.26023	11.692843	6.771981	
23.74	1.705485	81.747598	-13.597902	82.870819	-9.444132	0.260761	11.67515	6.799626	
23.76	1.703961	81.636321	-13.647415	82.769202	-9.490581	0.260344	11.689041	6.777912	
23.780001	1.702261	81.540216	-13.652363	82.675231	-9.504945	0.259879	11.704571	6.753718	
23.799999	1.701895	81.508939	-13.672148	82.647654	-9.522053	0.259779	11.707928	6.748499	
23.82	1.70251	81.486525	-13.77158	82.64206	-9.592611	0.259947	11.702296	6.757256	
23.84	1.703052	81.51459	-13.774707	82.670254	-9.591506	0.260096	11.697338	6.764974	
23.860001	1.701943	81.388598	-13.888259	82.565051	-9.683772	0.259792	11.707485	6.749187	
23.879999	1.702529	81.356175	-14.000304	82.552018	-9.764215	0.259952	11.702125	6.757522	
23.9	1.701986	81.344592	-13.968557	82.535224	-9.74386	0.259804	11.707096	6.749792	
23.92	1.703299	81.367393	-14.054211	82.572232	-9.799759	0.260163	11.695082	6.768491	
23.940001	1.701638	81.244589	-14.106972	82.460232	-9.850407	0.259708	11.710283	6.74484	
23.959999	1.701875	81.236991	-14.142175	82.458777	-9.87541	0.259773	11.708114	6.74821	
23.98	1.700708	81.160961	-14.161457	82.387187	-9.897689	0.259453	11.71881	6.731611	
24	1.700345	81.098641	-14.232468	82.338039	-9.953822	0.259354	11.722148	6.72644	
24.02	1.702921	81.148302	-14.388592	82.414067	-10.054761	0.26006	11.698536	6.763109	
24.040001	1.700258	81.069285	-14.273615	82.31625	-9.985563	0.25933	11.72294	6.725213	
24.059999	1.70137	81.053264	-14.403031	82.323016	-10.076204	0.259635	11.71274	6.741026	
24.08	1.701796	81.072767	-14.410041	82.343444	-10.078632	0.259752	11.708831	6.747096	
24.1	1.700612	80.897144	-14.589638	82.202222	-10.223303	0.259427	11.719688	6.73025	
24.120001	1.700477	80.884081	-14.59859	82.190956	-10.231061	0.25939	11.720928	6.728329	
24.139999	1.701919	80.905246	-14.694624	82.228893	-10.294293	0.259785	11.70771	6.748838	
24.16	1.699723	80.764542	-14.723177	82.095573	-10.331449	0.259183	11.727858	6.717601	
24.18	1.698789	80.705103	-14.734461	82.039124	-10.346647	0.258927	11.73646	6.704309	
24.200001	1.701732	80.824304	-14.807561	82.169532	-10.381861	0.259734	11.709417	6.746186	
24.219999	1.701242	80.710603	-14.943944	82.082416	-10.489804	0.2596	11.713907	6.739215	
24.24	1.698466	80.558153	-14.938026	81.931439	-10.505145	0.258838	11.739437	6.699715	
24.26	1.699982	80.643555	-14.937897	82.015387	-10.494178	0.259254	11.725481	6.721279	
24.280001	1.698779	80.528902	-15.011228	81.916061	-10.559217	0.258924	11.736546	6.704177	
24.299999	1.702184	80.682958	-15.070041	82.078291	-10.57987	0.259858	11.705278	6.752618	
24.32	1.70108	80.558932	-15.165511	81.973985	-10.661382	0.259555	11.715402	6.736896	
24.34	1.699895	80.435526	-15.251929	81.868768	-10.736795	0.259231	11.726277	6.720047	
24.360001	1.7002	80.413337	-15.311853	81.858155	-10.780897	0.259314	11.723477	6.724381	
24.379999	1.698787	80.368023	-15.25916	81.803796	-10.750579	0.258926	11.736475	6.704286	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
24.4	1.699482	80.33075	-15.375048	81.788884	-10.835208	0.259117	11.730081	6.714163	
24.42	1.699255	80.311921	-15.384024	81.772079	-10.843866	0.259055	11.732166	6.710941	
24.440001	1.696547	80.172726	-15.362138	81.631252	-10.847158	0.258311	11.757149	6.672447	
24.459999	1.698757	80.19237	-15.520156	81.680422	-10.953429	0.258918	11.736756	6.703852	
24.48	1.700502	80.26364	-15.561808	81.758314	-10.972596	0.259397	11.720705	6.728675	
24.5	1.700386	80.181251	-15.673466	81.698779	-11.060469	0.259365	11.721768	6.727027	
24.52	1.698957	80.035183	-15.767302	81.573515	-11.144836	0.258973	11.734908	6.706704	
24.540001	1.696977	80.011102	-15.637554	81.524902	-11.05864	0.258429	11.753177	6.678552	
24.559999	1.698221	79.991222	-15.769925	81.530891	-11.152617	0.258771	11.741693	6.696236	
24.58	1.698508	79.962656	-15.834876	81.515456	-11.201291	0.25885	11.739045	6.700319	
24.6	1.698352	79.900108	-15.911689	81.469068	-11.262829	0.258807	11.740484	6.6981	
24.620001	1.697361	79.853209	-15.897391	81.42028	-11.259406	0.258535	11.749626	6.684014	
24.639999	1.699314	79.880494	-16.018243	81.470715	-11.339015	0.259071	11.731622	6.711782	
24.66	1.698098	79.745817	-16.109246	81.356641	-11.420502	0.258737	11.742826	6.694489	
24.68	1.697715	79.758074	-16.061014	81.359121	-11.385499	0.258632	11.746362	6.689041	
24.700001	1.697561	79.647967	-16.202423	81.279254	-11.498542	0.25859	11.747782	6.686854	
24.719999	1.69898	79.667152	-16.28954	81.315461	-11.555999	0.258979	11.734695	6.707035	
24.74	1.695763	79.506967	-16.253432	81.15129	-11.553679	0.258095	11.764407	6.661305	
24.76	1.695919	79.524141	-16.242193	81.165866	-11.543478	0.258138	11.762966	6.663515	
24.780001	1.697615	79.4746	-16.444544	81.158087	-11.690443	0.258604	11.747286	6.687617	
24.799999	1.695741	79.404123	-16.392286	81.078492	-11.664371	0.258089	11.764613	6.660988	
24.82	1.696331	79.3944	-16.452038	81.081072	-11.707112	0.258251	11.759145	6.66938	
24.84	1.695666	79.353265	-16.455306	81.041457	-11.715275	0.258068	11.765302	6.659932	
24.860001	1.696999	79.299179	-16.632007	81.024585	-11.845391	0.258435	11.752977	6.678859	
24.879999	1.696364	79.274933	-16.614905	80.997346	-11.837072	0.25826	11.758845	6.669841	
24.9	1.695649	79.118752	-16.76598	80.875676	-11.964521	0.258064	11.765463	6.659685	
24.92	1.695709	79.194106	-16.671328	80.929843	-11.887906	0.25808	11.764911	6.660532	
24.940001	1.694992	79.069886	-16.779495	80.830677	-11.981073	0.257883	11.77155	6.650358	
24.959999	1.695402	79.060083	-16.823731	80.830283	-12.013189	0.257996	11.76775	6.656179	
24.98	1.693006	78.878183	-16.876729	80.663447	-12.076902	0.257335	11.790009	6.622151	
25	1.695354	78.919068	-17.002339	80.729789	-12.158006	0.257983	11.768194	6.655499	
25.02	1.695946	78.890949	-17.082909	80.719314	-12.218116	0.258145	11.762714	6.663901	
25.040001	1.695354	78.853525	-17.086006	80.683394	-12.22589	0.257983	11.768193	6.6555	
25.059999	1.694963	78.80411	-17.119277	80.642156	-12.256429	0.257875	11.771826	6.649935	
25.08	1.693523	78.690292	-17.155212	80.538583	-12.298599	0.257478	11.785195	6.629496	
25.1	1.696321	78.726127	-17.318564	80.608534	-12.406619	0.258249	11.75924	6.669234	
25.120001	1.693146	78.595865	-17.245384	80.465603	-12.375655	0.257374	11.788708	6.624135	
25.139999	1.695299	78.626038	-17.367241	80.52127	-12.455748	0.257967	11.768708	6.654711	
25.16	1.692887	78.486894	-17.361363	80.384136	-12.473048	0.257303	11.791115	6.620465	
25.18	1.695	78.545389	-17.444703	80.45928	-12.521998	0.257885	11.771476	6.650471	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	1.693958	78.456461	-17.477286	80.379549	-12.558415	0.257598	11.78115	6.635674	
25.219999	1.694759	78.372493	-17.637421	80.332598	-12.682917	0.257819	11.773714	6.647044	
25.24	1.692351	78.273699	-17.582092	80.224073	-12.659857	0.257155	11.796106	6.612862	
25.26	1.691211	78.133308	-17.668113	80.10603	-12.741895	0.25684	11.806744	6.596683	
25.280001	1.692586	78.16374	-17.730651	80.149524	-12.780702	0.25722	11.793917	6.616195	
25.299999	1.6908	78.099359	-17.67901	80.075322	-12.754858	0.256726	11.810586	6.590849	
25.32	1.690702	77.965347	-17.830399	79.978238	-12.881832	0.2567	11.811495	6.58947	
25.34	1.691393	77.972309	-17.871287	79.994149	-12.90927	0.25689	11.805043	6.599266	
25.360001	1.691627	77.971597	-17.8887	79.997347	-12.92154	0.256955	11.802861	6.602583	
25.379999	1.693266	77.96884	-18.007801	80.021378	-13.005099	0.257407	11.787585	6.625849	
25.4	1.691958	77.922583	-17.969171	79.967619	-12.98559	0.257046	11.799774	6.607279	
25.42	1.691564	77.814905	-18.065784	79.884492	-13.070465	0.256938	11.803447	6.601692	
25.440001	1.692689	77.77298	-18.192243	79.872362	-13.165631	0.257248	11.792957	6.617658	
25.459999	1.690696	77.700888	-18.135535	79.789258	-13.137771	0.256698	11.811553	6.589382	
25.48	1.688691	77.584463	-18.128348	79.674249	-13.151768	0.256144	11.830333	6.560949	
25.5	1.690298	77.569848	-18.25617	79.689203	-13.243651	0.256588	11.815276	6.583735	
25.52	1.689576	77.541569	-18.238143	79.657547	-13.235689	0.256388	11.822203	6.573506	
25.540001	1.691335	77.487915	-18.418916	79.646929	-13.371116	0.256874	11.805584	6.598444	
25.559999	1.689307	77.364674	-18.416719	79.526526	-13.390109	0.256314	11.824556	6.569683	
25.58	1.690252	77.394113	-18.448695	79.562573	-13.407601	0.256575	11.815706	6.583085	
25.6	1.689312	77.278987	-18.511241	79.465136	-13.470716	0.256315	11.824506	6.569758	
25.620001	1.689808	77.256921	-18.568907	79.457135	-13.514862	0.256453	11.819859	6.576792	
25.639999	1.688077	77.149829	-18.568435	79.352901	-13.5326	0.255974	11.83609	6.552258	
25.66	1.686686	76.977896	-18.660337	79.207352	-13.626336	0.255589	11.849173	6.53255	
25.68	1.687167	77.026366	-18.640521	79.249795	-13.604157	0.255722	11.844648	6.539359	
25.700001	1.687876	77.015333	-18.699793	79.253036	-13.647681	0.255918	11.837983	6.549403	
25.719999	1.6892	77.011119	-18.792579	79.270887	-13.713571	0.256284	11.825557	6.568168	
25.74	1.687976	76.908004	-18.820637	79.17738	-13.750986	0.255946	11.837038	6.550829	
25.76	1.687487	76.85846	-18.840529	79.13399	-13.773502	0.25581	11.841636	6.543897	
25.780001	1.68656	76.838751	-18.799937	79.105191	-13.748345	0.255554	11.850359	6.530765	
25.799999	1.68514	76.643361	-18.911114	78.941973	-13.860429	0.25516	11.86375	6.51066	
25.82	1.687216	76.666714	-19.022873	78.991485	-13.935075	0.255735	11.844184	6.540059	
25.84	1.68416	76.521047	-18.973685	78.83826	-13.925873	0.254888	11.873013	6.496788	
25.860001	1.685226	76.467127	-19.098357	78.816044	-14.023274	0.255184	11.862943	6.51187	
25.879999	1.686047	76.512978	-19.104794	78.862089	-14.019739	0.255411	11.855194	6.523499	
25.9	1.685542	76.430507	-19.156121	78.794539	-14.070478	0.255271	11.859959	6.516345	
25.92	1.685617	76.376827	-19.215355	78.756901	-14.121772	0.255292	11.859248	6.517412	
25.940001	1.68384	76.261673	-19.217097	78.645658	-14.143472	0.254799	11.876042	6.492259	
25.959999	1.685683	76.264601	-19.332248	78.676713	-14.224267	0.255311	11.858625	6.518347	
25.98	1.683842	76.116259	-19.362325	78.540337	-14.272126	0.2548	11.87602	6.492291	



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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	1.683135	76.063319	-19.369728	78.490859	-14.28689	0.254603	11.882718	6.482286	
26.02	1.681669	75.990303	-19.348671	78.414904	-14.285146	0.254196	11.896637	6.461544	
26.040001	1.68256	75.975921	-19.419324	78.418433	-14.337765	0.254444	11.88817	6.474154	
26.059999	1.683022	75.888896	-19.533333	78.362463	-14.434285	0.254572	11.883795	6.480679	
26.08	1.681702	75.853698	-19.484575	78.316232	-14.406158	0.254205	11.896316	6.462021	
26.1	1.681084	75.76432	-19.532388	78.24159	-14.456354	0.254033	11.902193	6.453283	
26.120001	1.681603	75.749497	-19.579167	78.23893	-14.492237	0.254178	11.897257	6.460622	
26.139999	1.679661	75.646455	-19.556834	78.133578	-14.495291	0.253637	11.915754	6.433163	
26.16	1.67946	75.511421	-19.673116	78.032085	-14.602771	0.253581	11.91767	6.430326	
26.18	1.679828	75.498098	-19.708521	78.028127	-14.630395	0.253683	11.914156	6.435531	
26.200001	1.679043	75.459337	-19.696598	77.987611	-14.629113	0.253465	11.921647	6.42444	
26.219999	1.677346	75.341672	-19.702658	77.875299	-14.655291	0.252992	11.937878	6.400474	
26.24	1.67783	75.258116	-19.810426	77.821828	-14.747618	0.253126	11.933248	6.407302	
26.26	1.678723	75.304582	-19.821953	77.869698	-14.747116	0.253376	11.924703	6.419922	
26.280001	1.679033	75.250208	-19.891304	77.834811	-14.806674	0.253462	11.921746	6.424293	
26.299999	1.676829	75.162587	-19.837796	77.736431	-14.78505	0.252847	11.942832	6.393178	
26.32	1.675881	75.048104	-19.885472	77.637941	-14.84063	0.252583	11.951927	6.379804	
26.34	1.677048	75.071838	-19.934577	77.673472	-14.871159	0.252909	11.940731	6.396271	
26.360001	1.673576	74.869405	-19.908889	77.471231	-14.891222	0.251938	11.974117	6.34729	
26.379999	1.675692	74.871677	-20.034397	77.505774	-14.980455	0.25253	11.95375	6.377125	
26.4	1.674529	74.769248	-20.056649	77.412593	-15.015961	0.252205	11.964933	6.360727	
26.42	1.673891	74.702517	-20.078138	77.353718	-15.044141	0.252026	11.971077	6.351734	
26.440001	1.675269	74.694841	-20.167255	77.369486	-15.10935	0.252412	11.957808	6.37117	
26.459999	1.672656	74.587066	-20.10705	77.24975	-15.087076	0.251681	11.983005	6.334313	
26.48	1.672789	74.552318	-20.145738	77.226284	-15.1215	0.251718	11.981715	6.336194	
26.5	1.671794	74.411118	-20.210798	77.107009	-15.195541	0.251439	11.991334	6.322176	
26.52	1.674063	74.483823	-20.281366	77.195684	-15.231942	0.252075	11.969419	6.354159	
26.540001	1.67238	74.372876	-20.278689	77.087936	-15.251688	0.251603	11.985666	6.330432	
26.559999	1.671144	74.300366	-20.268812	77.015382	-15.258788	0.251257	11.997634	6.313012	
26.58	1.672698	74.298953	-20.361272	77.038405	-15.325407	0.251692	11.9826	6.334904	
26.6	1.671074	74.166552	-20.379882	76.915649	-15.364844	0.251237	11.998315	6.312023	
26.620001	1.671638	74.156762	-20.421203	76.917169	-15.396456	0.251396	11.992843	6.31998	
26.639999	1.671031	74.111862	-20.424071	76.874643	-15.407401	0.251226	11.998724	6.311428	
26.66	1.671503	74.036178	-20.515578	76.826067	-15.48819	0.251358	11.99415	6.318078	
26.68	1.668181	73.825101	-20.500686	76.61869	-15.519609	0.250426	12.026425	6.271299	
26.700001	1.669808	73.839971	-20.581987	76.654807	-15.575188	0.250882	12.010598	6.294195	
26.719999	1.667991	73.76962	-20.536039	76.574707	-15.556204	0.250372	12.02827	6.268635	
26.74	1.667869	73.715466	-20.573926	76.532714	-15.594402	0.250338	12.029466	6.266909	
26.76	1.668817	73.684687	-20.653649	76.524547	-15.65809	0.250604	12.020225	6.280258	
26.780001	1.667354	73.618876	-20.624088	76.453201	-15.65007	0.250193	12.034489	6.259665	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	1.666124	73.444363	-20.696496	76.304779	-15.737773	0.249847	12.046505	6.24237	
26.82	1.667761	73.566981	-20.689779	76.42099	-15.707991	0.250308	12.03052	6.265388	
26.84	1.664914	73.450104	-20.623054	76.29042	-15.683515	0.249507	12.058354	6.225362	
26.860001	1.666815	73.355112	-20.807593	76.249121	-15.836316	0.250042	12.039747	6.252091	
26.879999	1.665521	73.330665	-20.754138	76.211027	-15.802669	0.249678	12.05241	6.233889	
26.9	1.665719	73.209963	-20.861734	76.12431	-15.905332	0.249733	12.050465	6.236681	
26.92	1.666878	73.181483	-20.949123	76.120925	-15.974465	0.250059	12.03914	6.252965	
26.940001	1.664733	73.087497	-20.903323	76.017966	-15.960774	0.249456	12.060125	6.222824	
26.959999	1.66395	72.989429	-20.936577	75.932846	-16.005247	0.249235	12.067809	6.211823	
26.98	1.662868	72.930275	-20.922527	75.872111	-16.007365	0.24893	12.078452	6.196618	
27	1.662997	72.87579	-20.972084	75.833429	-16.054708	0.248966	12.077182	6.198431	
27.02	1.663252	72.847584	-21.008054	75.816283	-16.086726	0.249038	12.074673	6.202013	
27.040001	1.663019	72.771222	-21.053967	75.755662	-16.136094	0.248973	12.076971	6.198733	
27.059999	1.661429	72.677675	-21.038029	75.661371	-16.144188	0.248524	12.092635	6.176415	
27.08	1.661532	72.661235	-21.056292	75.650661	-16.160937	0.248553	12.091614	6.177868	
27.1	1.659802	72.518259	-21.069989	75.517166	-16.201112	0.248064	12.108717	6.153587	
27.120001	1.660525	72.406578	-21.193537	75.444539	-16.314878	0.248269	12.10156	6.163736	
27.139999	1.659451	72.372427	-21.160577	75.402508	-16.298131	0.247965	12.11219	6.148667	
27.16	1.659189	72.240562	-21.244381	75.299552	-16.387494	0.247891	12.11478	6.145001	
27.18	1.658641	72.216903	-21.232191	75.273416	-16.383673	0.247736	12.120214	6.137317	
27.200001	1.658379	72.148141	-21.268634	75.217744	-16.42508	0.247662	12.122818	6.133638	
27.219999	1.658704	72.102711	-21.319425	75.188555	-16.471993	0.247754	12.11959	6.138199	
27.24	1.657398	72.063461	-21.277784	75.139114	-16.45003	0.247384	12.132561	6.119894	
27.26	1.658222	72.001391	-21.3672	75.104977	-16.528861	0.247618	12.124372	6.131444	
27.280001	1.655508	71.902699	-21.293104	74.989296	-16.49604	0.246848	12.151395	6.093411	
27.299999	1.655337	71.800712	-21.357428	74.909825	-16.565363	0.2468	12.153103	6.091015	
27.32	1.656948	71.762381	-21.470574	74.90544	-16.656677	0.247257	12.137044	6.11358	
27.34	1.65419	71.677929	-21.384028	74.799747	-16.611708	0.246474	12.164563	6.074964	
27.360001	1.652918	71.580288	-21.38577	74.706685	-16.634397	0.246113	12.177299	6.057175	
27.379999	1.65169	71.482656	-21.389572	74.614234	-16.658655	0.245764	12.189635	6.039994	
27.4	1.65449	71.541865	-21.495992	74.701513	-16.723835	0.24656	12.161565	6.079159	
27.42	1.651204	71.360938	-21.449162	74.514763	-16.729382	0.245626	12.194518	6.033207	
27.440001	1.652054	71.307062	-21.531189	74.486839	-16.801736	0.245868	12.185977	6.045084	
27.459999	1.649783	71.165847	-21.509466	74.345376	-16.817168	0.245221	12.208838	6.013346	
27.48	1.649095	71.123274	-21.502667	74.302656	-16.821647	0.245025	12.215788	6.003731	
27.5	1.647976	71.035097	-21.504496	74.218787	-16.842699	0.244706	12.227106	5.988105	
27.52	1.648153	70.999862	-21.53773	74.194705	-16.875146	0.244757	12.225309	5.990583	
27.540001	1.646936	70.951737	-21.507028	74.139741	-16.863237	0.244409	12.237642	5.973595	
27.559999	1.649028	70.921793	-21.635901	74.148587	-16.965249	0.245006	12.216463	6.002797	
27.58	1.647066	70.812074	-21.607868	74.035463	-16.969275	0.244446	12.236329	5.975402	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
27.6	1.646012	70.702741	-21.626344	73.936299	-17.007698	0.244146	12.247024	5.960705	
27.620001	1.644746	70.662786	-21.587574	73.886756	-16.988011	0.243784	12.25991	5.943045	
27.639999	1.643957	70.534802	-21.631595	73.777261	-17.049746	0.243558	12.267951	5.932052	
27.66	1.643272	70.512596	-21.611024	73.750001	-17.039525	0.243362	12.274944	5.922508	
27.68	1.642746	70.39268	-21.662565	73.6505	-17.105197	0.243211	12.280318	5.915183	
27.700001	1.643476	70.382793	-21.706266	73.653918	-17.139951	0.24342	12.272862	5.925347	
27.719999	1.64353	70.337816	-21.73812	73.620338	-17.173957	0.243436	12.272314	5.926095	
27.74	1.640762	70.240131	-21.66017	73.504006	-17.138387	0.242643	12.300654	5.88755	
27.76	1.640279	70.212563	-21.653346	73.475652	-17.139637	0.242504	12.305616	5.880827	
27.780001	1.639666	70.133941	-21.672729	73.406246	-17.17218	0.242328	12.311917	5.872301	
27.799999	1.638982	70.077851	-21.673901	73.353004	-17.185989	0.242132	12.318958	5.862788	
27.82	1.640174	70.045827	-21.754705	73.346337	-17.253684	0.242474	12.306686	5.879378	
27.84	1.638307	69.903957	-21.750023	73.209472	-17.283117	0.241938	12.325919	5.853399	
27.860001	1.639278	69.876897	-21.815928	73.203247	-17.338664	0.242217	12.315903	5.866914	
27.879999	1.63756	69.736763	-21.816943	73.069796	-17.372171	0.241723	12.333627	5.843018	
27.9	1.636405	69.774576	-21.735413	73.081596	-17.302315	0.241391	12.345574	5.826968	
27.92	1.636453	69.603631	-21.843757	72.950773	-17.423489	0.241405	12.345073	5.82764	
27.940001	1.634424	69.560249	-21.769066	72.887039	-17.377681	0.240821	12.366126	5.799458	
27.959999	1.632791	69.509805	-21.718546	72.823817	-17.351601	0.24035	12.383117	5.776813	
27.98	1.632956	69.408938	-21.788553	72.748483	-17.427921	0.240398	12.3814	5.779097	
28	1.632053	69.322778	-21.796003	72.668517	-17.453871	0.240137	12.390821	5.766574	
28.02	1.632176	69.318752	-21.804539	72.667237	-17.461244	0.240172	12.389539	5.768277	
28.040001	1.631657	69.208927	-21.844971	72.57464	-17.51771	0.240022	12.394961	5.761079	
28.059999	1.631355	69.205356	-21.832202	72.567392	-17.508944	0.239935	12.398113	5.756901	
28.08	1.630686	69.097043	-21.863829	72.473639	-17.558551	0.239742	12.405118	5.747623	
28.1	1.627048	69.013522	-21.734074	72.354932	-17.480542	0.238689	12.443342	5.697256	
28.120001	1.628127	68.991763	-21.800236	72.354085	-17.53569	0.239002	12.431979	5.712182	
28.139999	1.628415	68.949152	-21.839631	72.325342	-17.57562	0.239085	12.428947	5.716172	
28.16	1.627549	68.834901	-21.864223	72.223873	-17.621586	0.238834	12.438067	5.704181	
28.18	1.626388	68.754573	-21.854251	72.144297	-17.633351	0.238498	12.450314	5.688118	
28.200001	1.625663	68.707446	-21.846237	72.096957	-17.638627	0.238288	12.457968	5.678102	
28.219999	1.628007	68.700848	-21.964381	72.126559	-17.729654	0.238967	12.433242	5.710521	
28.24	1.624095	68.592379	-21.83628	71.984287	-17.658826	0.237832	12.474578	5.656427	
28.26	1.624402	68.563287	-21.867983	71.966193	-17.689903	0.237922	12.471323	5.660668	
28.280001	1.625292	68.54703	-21.920581	71.966709	-17.733731	0.23818	12.461896	5.672969	
28.299999	1.625072	68.478139	-21.949172	71.909816	-17.772149	0.238116	12.464223	5.66993	
28.32	1.623658	68.382577	-21.934868	71.81445	-17.784553	0.237706	12.47921	5.650398	
28.34	1.622478	68.240685	-21.957629	71.686321	-17.836515	0.237363	12.491753	5.634102	
28.360001	1.621848	68.236473	-21.929606	71.673732	-17.816222	0.237179	12.498464	5.625402	
28.379999	1.619698	68.170679	-21.862731	71.590645	-17.781378	0.236553	12.521426	5.595738	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
28.4	1.622284	68.168517	-21.988485	71.627091	-17.877693	0.237306	12.493817	5.631425	
28.42	1.62025	68.032077	-21.966282	71.490427	-17.894327	0.236714	12.515514	5.603361	
28.440001	1.621202	67.964591	-22.048755	71.451615	-17.973889	0.236991	12.505356	5.616482	
28.459999	1.618403	67.882087	-21.960051	71.345789	-17.926575	0.236176	12.535301	5.577889	
28.48	1.619278	67.784771	-22.05447	71.28236	-18.02286	0.236431	12.525919	5.589953	
28.5	1.618517	67.83404	-21.991619	71.309805	-17.96259	0.236209	12.534078	5.57946	
28.52	1.619575	67.751465	-22.086451	71.260594	-18.055597	0.236517	12.522739	5.594047	
28.540001	1.61761	67.669368	-22.037142	71.167261	-18.03834	0.235944	12.543812	5.566969	
28.559999	1.616093	67.565238	-22.020711	71.063163	-18.051741	0.235501	12.560141	5.546077	
28.58	1.615258	67.548939	-21.989862	71.038111	-18.032158	0.235257	12.569142	5.534594	
28.6	1.616115	67.426008	-22.095115	70.953933	-18.143704	0.235508	12.559905	5.546378	
28.620001	1.614165	67.37136	-22.031883	70.882325	-18.10889	0.234937	12.580959	5.519555	
28.639999	1.612786	67.291262	-22.00881	70.799022	-18.11129	0.234534	12.595897	5.500603	
28.66	1.61504	67.320601	-22.099483	70.855137	-18.173604	0.235193	12.571501	5.53159	
28.68	1.614913	67.200748	-22.155303	70.758731	-18.246817	0.235156	12.572875	5.529839	
28.700001	1.613534	67.097099	-22.143834	70.656706	-18.264301	0.234753	12.587787	5.510884	
28.719999	1.613666	67.132321	-22.13204	70.686461	-18.246276	0.234791	12.586359	5.512697	
28.74	1.611438	66.99566	-22.09758	70.545882	-18.254447	0.234138	12.610546	5.482081	
28.76	1.611049	66.953441	-22.100818	70.506804	-18.267693	0.234024	12.614779	5.47674	
28.780001	1.610675	66.949785	-22.085239	70.49845	-18.256601	0.233915	12.618855	5.471602	
28.799999	1.610946	66.866981	-22.13946	70.436843	-18.319587	0.233994	12.615906	5.475319	
28.82	1.610776	66.741464	-22.193963	70.334878	-18.393874	0.233944	12.617754	5.47299	
28.84	1.611264	66.597153	-22.287029	70.227434	-18.503075	0.234087	12.612436	5.479695	
28.860001	1.609605	66.515046	-22.250552	70.137996	-18.496104	0.2336	12.630529	5.456914	
28.879999	1.608823	66.544123	-22.200555	70.149732	-18.449844	0.233371	12.639073	5.446188	
28.9	1.607739	66.49023	-22.176876	70.091116	-18.445424	0.233052	12.650941	5.431326	
28.92	1.606394	66.375315	-22.170577	69.980118	-18.470301	0.232656	12.665708	5.41289	
28.940001	1.605216	66.341377	-22.13291	69.935999	-18.44984	0.232309	12.678664	5.396766	
28.959999	1.605911	66.328272	-22.171047	69.935649	-18.482876	0.232514	12.671011	5.406285	
28.98	1.605308	66.188946	-22.209698	69.81581	-18.549208	0.232336	12.677655	5.39802	
29	1.602695	66.039601	-22.160913	69.658704	-18.550243	0.231566	12.706509	5.362275	
29.02	1.604015	66.035511	-22.222798	69.674539	-18.59956	0.231955	12.691917	5.380322	
29.040001	1.603337	65.927289	-22.24219	69.578175	-18.643119	0.231755	12.699411	5.371046	
29.059999	1.602858	65.882822	-22.240966	69.535651	-18.653876	0.231614	12.704713	5.364493	
29.08	1.603422	65.86523	-22.274561	69.529739	-18.684743	0.23178	12.698463	5.372219	
29.1	1.601397	65.79928	-22.213237	69.447629	-18.654246	0.231182	12.720902	5.344533	
29.120001	1.60144	65.75069	-22.237309	69.409302	-18.685903	0.231195	12.720428	5.345117	
29.139999	1.601884	65.630831	-22.311321	69.319557	-18.775592	0.231326	12.715498	5.351188	
29.16	1.599237	65.549443	-22.228869	69.215982	-18.732656	0.230543	12.744945	5.315027	
29.18	1.59947	65.423904	-22.29496	69.118395	-18.817961	0.230612	12.74235	5.318204	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	1.599373	65.351585	-22.322331	69.058787	-18.85881	0.230584	12.743426	5.316887	
29.219999	1.598194	65.299663	-22.292406	68.999981	-18.849231	0.230235	12.756588	5.300797	
29.24	1.597327	65.150584	-22.318219	68.867274	-18.909627	0.229977	12.766293	5.288965	
29.26	1.596146	65.120108	-22.278865	68.825695	-18.886856	0.229627	12.779534	5.272865	
29.280001	1.59501	65.00442	-22.277882	68.715927	-18.917305	0.22929	12.792294	5.257395	
29.299999	1.595378	65.071946	-22.265402	68.775768	-18.889231	0.229399	12.788162	5.2624	
29.32	1.596715	65.027644	-22.343493	68.75919	-18.96275	0.229796	12.773142	5.280631	
29.34	1.593716	64.864464	-22.279695	68.584135	-18.956643	0.228906	12.806875	5.239774	
29.360001	1.59215	64.670515	-22.291276	68.404507	-19.018591	0.22844	12.824564	5.218475	
29.379999	1.5942	64.650044	-22.389527	68.417243	-19.101966	0.229049	12.801416	5.246363	
29.4	1.592692	64.575706	-22.353715	68.335279	-19.09399	0.228601	12.81844	5.225839	
29.42	1.59142	64.540748	-22.312255	68.288687	-19.070712	0.228222	12.832832	5.20855	
29.440001	1.589275	64.510246	-22.230704	68.233248	-19.01436	0.227583	12.857201	5.179406	
29.459999	1.589167	64.406675	-22.267842	68.147462	-19.072252	0.227551	12.858435	5.177934	
29.48	1.58901	64.335406	-22.289515	68.087201	-19.109085	0.227504	12.860219	5.175807	
29.5	1.58836	64.268209	-22.287872	68.023172	-19.126307	0.22731	12.867632	5.16698	
29.52	1.587718	64.132656	-22.313213	67.90344	-19.183985	0.227118	12.874961	5.158268	
29.540001	1.58668	63.989824	-22.32355	67.771959	-19.231918	0.226808	12.886825	5.144196	
29.559999	1.585733	63.989812	-22.282619	67.758476	-19.199242	0.226525	12.897678	5.131357	
29.58	1.584844	63.920658	-22.270747	67.689266	-19.209001	0.226259	12.907885	5.11931	
29.6	1.582523	63.788563	-22.22094	67.548138	-19.205972	0.225564	12.93462	5.087893	
29.620001	1.583346	63.777225	-22.260688	67.55052	-19.240972	0.22581	12.925124	5.09903	
29.639999	1.582994	63.699061	-22.274913	67.48142	-19.274246	0.225705	12.929186	5.094263	
29.66	1.580016	63.551684	-22.201929	67.318216	-19.257014	0.224811	12.963652	5.053995	
29.68	1.581031	63.585741	-22.23284	67.360565	-19.272282	0.225116	12.951882	5.067711	
29.700001	1.580598	63.413285	-22.277611	67.212623	-19.356831	0.224986	12.956892	5.061868	
29.719999	1.577215	63.309886	-22.170668	67.079656	-19.299922	0.223969	12.996261	5.016189	
29.74	1.5775	63.246902	-22.205515	67.03175	-19.345827	0.224054	12.992934	5.020033	
29.76	1.575732	63.142756	-22.167476	66.920883	-19.344636	0.223522	13.013601	4.996201	
29.780001	1.574141	63.019334	-22.143493	66.796487	-19.360294	0.223042	13.032279	4.974759	
29.799999	1.573913	62.964503	-22.15305	66.74793	-19.383637	0.222973	13.034955	4.971695	
29.82	1.571334	62.834267	-22.089098	66.603854	-19.368924	0.222194	13.065369	4.936999	
29.84	1.57317	62.844517	-22.163171	66.638123	-19.426086	0.222748	13.043706	4.961688	
29.860001	1.57156	62.787043	-22.11494	66.567886	-19.403388	0.222262	13.062693	4.940043	
29.879999	1.570854	62.757912	-22.095103	66.533819	-19.39561	0.222048	13.071046	4.93055	
29.9	1.571815	62.666408	-22.166693	66.471355	-19.480009	0.222339	13.059683	4.943467	
29.92	1.569194	62.5337	-22.101003	66.324339	-19.46474	0.221546	13.090728	4.908256	
29.940001	1.567971	62.476721	-22.068577	66.259813	-19.454721	0.221175	13.105284	4.891832	
29.959999	1.566175	62.41099	-22.014982	66.179991	-19.429924	0.22063	13.126717	4.86775	
29.98	1.5661	62.347941	-22.032659	66.126423	-19.462541	0.220607	13.127606	4.866754	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30	1.564142	62.145551	-22.016456	65.930219	-19.507868	0.220012	13.151069	4.840532	
30.02	1.562874	62.123904	-21.970469	65.894468	-19.476462	0.219626	13.166321	4.823562	
30.040001	1.560698	61.998019	-21.919885	65.758921	-19.47148	0.218963	13.192592	4.794472	
30.059999	1.563143	61.927333	-22.043808	65.733736	-19.593857	0.219708	13.163078	4.827165	
30.08	1.560135	61.942368	-21.914073	65.704517	-19.482879	0.218791	13.199402	4.786961	
30.1	1.55981	61.885944	-21.918264	65.652726	-19.502751	0.218692	13.203347	4.782614	
30.120001	1.559356	61.794799	-21.927784	65.57	-19.537181	0.218553	13.208849	4.776558	
30.139999	1.558521	61.692604	-21.924589	65.472627	-19.564454	0.218298	13.218986	4.765422	
30.16	1.558005	61.642281	-21.918542	65.423186	-19.574221	0.218141	13.225265	4.758538	
30.18	1.554924	61.561264	-21.815687	65.312429	-19.513017	0.217198	13.262886	4.717494	
30.200001	1.55472	61.513044	-21.821785	65.26902	-19.532202	0.217135	13.265394	4.714771	
30.219999	1.553706	61.369774	-21.822656	65.134303	-19.57506	0.216825	13.277833	4.701286	
30.24	1.549316	61.354007	-21.646193	65.060524	-19.43329	0.215476	13.332033	4.642978	
30.26	1.547241	61.147981	-21.621521	64.858043	-19.473291	0.214837	13.35783	4.615481	
30.280001	1.546935	60.9941	-21.653294	64.723607	-19.545221	0.214742	13.361643	4.611431	
30.299999	1.545707	60.968575	-21.61022	64.685151	-19.516829	0.214364	13.376974	4.595181	
30.32	1.544294	60.957294	-21.555453	64.656239	-19.474425	0.213927	13.394673	4.576492	
30.34	1.544193	60.945808	-21.554585	64.645121	-19.477094	0.213896	13.395941	4.575156	
30.360001	1.544908	60.874517	-21.604077	64.59445	-19.539566	0.214117	13.386977	4.584609	
30.379999	1.543228	60.861497	-21.538941	64.56042	-19.488953	0.213598	13.408062	4.562405	
30.4	1.54091	60.703985	-21.488116	64.394976	-19.493079	0.21288	13.43729	4.531803	
30.42	1.539783	60.599177	-21.470955	64.290452	-19.50983	0.212531	13.451548	4.516949	
30.440001	1.53775	60.519529	-21.409754	64.194945	-19.482084	0.2119	13.477362	4.49018	
30.459999	1.537682	60.510258	-21.409495	64.186118	-19.484626	0.211879	13.478229	4.489284	
30.48	1.535272	60.428688	-21.333296	64.083819	-19.444727	0.21113	13.509002	4.457586	
30.5	1.534185	60.305027	-21.322143	63.963506	-19.472181	0.210792	13.522932	4.443312	
30.52	1.530545	60.250964	-21.188372	63.868034	-19.375206	0.209657	13.569833	4.395585	
30.540001	1.529608	60.170377	-21.171573	63.786438	-19.384985	0.209364	13.58198	4.383308	
30.559999	1.528169	60.11083	-21.128719	63.716047	-19.366407	0.208914	13.600668	4.364486	
30.58	1.528464	60.050124	-21.156533	63.668016	-19.408137	0.209006	13.596834	4.368342	
30.6	1.526965	59.974822	-21.115167	63.583249	-19.395527	0.208537	13.616351	4.348754	
30.620001	1.527595	59.918841	-21.154992	63.543695	-19.446162	0.208734	13.608135	4.35699	
30.639999	1.525331	59.840402	-21.08322	63.44585	-19.408627	0.208025	13.637704	4.327426	
30.66	1.524284	59.778661	-21.056397	63.378704	-19.404304	0.207696	13.651428	4.313773	
30.68	1.521047	59.768383	-20.927918	63.326436	-19.297752	0.206679	13.694085	4.271609	
30.700001	1.522137	59.724754	-20.98306	63.303515	-19.357907	0.207022	13.679682	4.285799	
30.719999	1.518913	59.588748	-20.886527	63.143217	-19.316172	0.206007	13.722367	4.243882	
30.74	1.517702	59.517356	-20.855149	63.065466	-19.310724	0.205625	13.738487	4.228158	
30.76	1.514268	59.468793	-20.728287	62.977768	-19.216411	0.20454	13.784445	4.183651	
30.780001	1.511927	59.407283	-20.648715	62.893519	-19.166404	0.203798	13.815983	4.15338	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	1.510526	59.318054	-20.613877	62.797798	-19.163108	0.203354	13.834935	4.135295	
30.82	1.509169	59.275701	-20.569294	62.743164	-19.137348	0.202923	13.853361	4.117787	
30.84	1.507911	59.16753	-20.544472	62.632835	-19.148335	0.202523	13.870494	4.101575	
30.860001	1.507916	59.125132	-20.554712	62.596145	-19.16992	0.202525	13.870428	4.101637	
30.879999	1.507088	59.162162	-20.512577	62.617308	-19.122377	0.202262	13.881718	4.090988	
30.9	1.50534	59.05006	-20.468601	62.496986	-19.117952	0.201705	13.905665	4.068493	
30.92	1.506252	59.010651	-20.514527	62.474817	-19.169586	0.201996	13.89316	4.080224	
30.940001	1.501795	59.015611	-20.333754	62.420381	-19.011359	0.200574	13.954502	4.022997	
30.959999	1.5016	58.93633	-20.34452	62.348941	-19.044446	0.200512	13.957209	4.020491	
30.98	1.499151	58.893304	-20.255819	62.279366	-18.980225	0.199728	13.991213	3.989135	
31	1.49503	58.804631	-20.110201	62.148248	-18.879864	0.198406	14.048886	3.93651	
31.02	1.49292	58.71991	-20.044752	62.046917	-18.847994	0.197728	14.078631	3.909641	
31.040001	1.492146	58.684126	-20.021763	62.005626	-18.838572	0.197479	14.089593	3.899785	
31.059999	1.49278	58.652127	-20.054713	61.985995	-18.876947	0.197683	14.080613	3.907858	
31.08	1.491445	58.604578	-20.011748	61.927107	-18.853567	0.197253	14.099526	3.890876	
31.1	1.490003	58.652293	-19.942587	61.949966	-18.778773	0.196788	14.120024	3.872555	
31.120001	1.490239	58.562367	-19.97274	61.87456	-18.832015	0.196864	14.116663	3.875553	
31.139999	1.490262	58.496201	-19.988571	61.817056	-18.865698	0.196872	14.116331	3.875849	
31.16	1.488158	58.491965	-19.904799	61.78601	-18.793458	0.196192	14.146355	3.849147	
31.18	1.48651	58.421369	-19.854292	61.702911	-18.770177	0.19566	14.169965	3.828279	
31.200001	1.483646	58.429983	-19.73685	61.673383	-18.664298	0.194732	14.211235	3.792071	
31.219999	1.481619	58.45003	-19.650255	61.664727	-18.582109	0.194074	14.240636	3.766487	
31.24	1.479727	58.349307	-19.596798	61.552222	-18.56482	0.19346	14.268196	3.74266	
31.26	1.479246	58.305963	-19.587189	61.508075	-18.569189	0.193303	14.275222	3.73661	
31.280001	1.477529	58.252921	-19.529765	61.439519	-18.534178	0.192744	14.300378	3.715029	
31.299999	1.477494	58.176122	-19.545485	61.371713	-18.570884	0.192733	14.300889	3.714592	
31.32	1.476235	58.205048	-19.48823	61.380931	-18.511623	0.192322	14.319407	3.698787	
31.34	1.475734	58.08419	-19.494697	61.268396	-18.553241	0.192159	14.326802	3.692494	
31.360001	1.473642	58.121056	-19.402215	61.274	-18.46029	0.191476	14.357726	3.666295	
31.379999	1.471949	58.068954	-19.345342	61.206582	-18.425234	0.190922	14.382893	3.64511	
31.4	1.472985	58.022333	-19.397415	61.178843	-18.485302	0.191261	14.367481	3.658069	
31.42	1.470305	58.04202	-19.284879	61.161938	-18.379471	0.190383	14.407418	3.624584	
31.440001	1.468312	57.921646	-19.23083	61.030663	-18.36695	0.18973	14.43729	3.599739	
31.459999	1.468901	58.007281	-19.23581	61.113509	-18.346083	0.189923	14.428446	3.607077	
31.48	1.466496	58.0038	-19.139179	61.079857	-18.261074	0.189133	14.464654	3.577129	
31.5	1.465357	57.973181	-19.099866	61.038468	-18.235036	0.188758	14.481877	3.562971	
31.52	1.463562	57.91837	-19.039357	60.967489	-18.197144	0.188167	14.509113	3.540696	
31.540001	1.463407	57.913863	-19.034094	60.961564	-18.193769	0.188116	14.511465	3.538779	
31.559999	1.46304	57.819809	-19.039952	60.874051	-18.226647	0.187995	14.517065	3.53422	
31.58	1.462581	57.775661	-19.031022	60.829325	-18.231664	0.187844	14.524048	3.528542	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	1.461499	57.742336	-18.994454	60.786238	-18.208753	0.187487	14.540585	3.515131	
31.620001	1.45932	57.744448	-18.905854	60.760617	-18.128767	0.186767	14.573992	3.488195	
31.639999	1.45947	57.730771	-18.914902	60.750435	-18.140891	0.186817	14.571689	3.490046	
31.66	1.455858	57.717475	-18.771373	60.693256	-18.016039	0.185621	14.627478	3.445499	
31.68	1.457672	57.687036	-18.85161	60.689186	-18.096963	0.186222	14.599393	3.467854	
31.700001	1.454873	57.714504	-18.732026	60.678272	-17.981574	0.185294	14.642781	3.43338	
31.719999	1.451579	57.657695	-18.610709	60.586865	-17.889035	0.184199	14.694247	3.392933	
31.74	1.451545	57.642808	-18.612636	60.57329	-17.895095	0.184188	14.69478	3.392517	
31.76	1.453451	57.593078	-18.700971	60.553191	-17.989094	0.184822	14.664938	3.415909	
31.780001	1.451953	57.516702	-18.656717	60.466884	-17.971562	0.184324	14.688378	3.397521	
31.799999	1.451177	57.455017	-18.638429	60.402566	-17.973114	0.184065	14.70056	3.388005	
31.82	1.449753	57.483226	-18.574741	60.409787	-17.907401	0.183591	14.72296	3.370575	
31.84	1.449647	57.451963	-18.577126	60.380773	-17.918676	0.183556	14.724638	3.369273	
31.860001	1.448754	57.439243	-18.54365	60.358376	-17.892155	0.183258	14.738737	3.358352	
31.879999	1.446858	57.421321	-18.470593	60.31891	-17.831345	0.182625	14.768778	3.335202	
31.9	1.445669	57.435834	-18.419152	60.316997	-17.780607	0.182228	14.787699	3.320703	
31.92	1.445975	57.457092	-18.42696	60.339625	-17.781503	0.18233	14.782827	3.324431	
31.940001	1.445083	57.545988	-18.370949	60.407222	-17.705165	0.182032	14.797055	3.313558	
31.959999	1.44517	57.423337	-18.40158	60.299733	-17.768334	0.182061	14.795656	3.314625	
31.98	1.444156	57.400903	-18.365187	60.26727	-17.741894	0.181722	14.811872	3.302272	
32	1.441314	57.259949	-18.279944	60.107056	-17.705447	0.180769	14.857522	3.267742	
32.02	1.442661	57.329722	-18.319793	60.185645	-17.721384	0.181221	14.835833	3.284102	
32.040001	1.442861	57.269507	-18.340717	60.134669	-17.757838	0.181288	14.832628	3.286527	
32.060001	1.443236	57.275612	-18.354647	60.144732	-17.768702	0.181414	14.826607	3.291087	
32.080002	1.440627	57.23897	-18.256511	60.079946	-17.690242	0.180539	14.868602	3.259416	
32.099998	1.440065	57.28104	-18.224679	60.110369	-17.64915	0.18035	14.877689	3.252603	
32.119999	1.439853	57.329128	-18.205616	60.150423	-17.617959	0.180278	14.881127	3.25003	
32.139999	1.440036	57.37357	-18.20334	60.192093	-17.60309	0.18034	14.878163	3.252248	
32.16	1.438004	57.363841	-18.122518	60.158424	-17.532521	0.179657	14.911132	3.227653	
32.18	1.436999	57.249177	-18.106702	60.044324	-17.551091	0.179319	14.927493	3.215516	
32.200001	1.437591	57.124656	-18.157285	59.940915	-17.633083	0.179518	14.91785	3.222664	
32.220001	1.437925	57.150365	-18.16546	59.967893	-17.633086	0.17963	14.912412	3.226701	
32.240002	1.435546	57.181441	-18.062095	59.966295	-17.52997	0.178829	14.951245	3.197978	
32.259998	1.436636	57.141748	-18.114909	59.944385	-17.589535	0.179196	14.933419	3.211132	
32.279999	1.436801	57.151951	-18.119441	59.955481	-17.590716	0.179252	14.930733	3.213118	
32.299999	1.436117	57.233328	-18.074171	60.019409	-17.526044	0.179021	14.941901	3.204867	
32.32	1.435849	57.267794	-18.055701	60.04672	-17.499335	0.178931	14.94629	3.201629	
32.34	1.436728	57.174192	-18.111778	59.974367	-17.577316	0.179227	14.931915	3.212244	
32.360001	1.434427	57.115154	-18.030691	59.893627	-17.520424	0.178452	14.969591	3.184497	
32.380001	1.433816	57.060225	-18.017413	59.83725	-17.524133	0.178245	14.979639	3.177138	



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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	1.432223	57.078195	-17.948787	59.833764	-17.456286	0.177707	15.005903	3.157983	
32.419998	1.434157	56.966817	-18.050574	59.758191	-17.581419	0.17836	14.974033	3.181242	
32.439999	1.434545	57.023038	-18.054774	59.813057	-17.568987	0.178491	14.967656	3.185916	
32.459999	1.4335	57.061101	-18.004348	59.834153	-17.511951	0.178138	14.984853	3.173326	
32.48	1.433294	57.075505	-17.992959	59.844464	-17.497402	0.178069	14.988235	3.170856	
32.5	1.434162	57.088229	-18.025604	59.86642	-17.523538	0.178362	14.973946	3.181306	
32.52	1.433605	57.041844	-18.012664	59.818292	-17.525096	0.178174	14.98312	3.174593	
32.540001	1.433481	57.00153	-18.016004	59.780857	-17.539785	0.178132	14.985161	3.173101	
32.560001	1.432698	57.014312	-17.981568	59.782678	-17.504624	0.177868	14.998058	3.163692	
32.580002	1.435129	56.898811	-18.103594	59.70942	-17.649631	0.178688	14.958086	3.192945	
32.599998	1.433172	56.94962	-18.014116	59.730793	-17.553064	0.178028	14.990257	3.16938	
32.619999	1.433649	56.935546	-18.036344	59.724083	-17.577467	0.178189	14.982389	3.175127	
32.639999	1.434029	56.915698	-18.055726	59.71102	-17.600948	0.178317	14.976144	3.179696	
32.66	1.433474	56.965174	-18.023191	59.748359	-17.556862	0.17813	14.98528	3.173014	
32.68	1.435561	56.926178	-18.115629	59.739147	-17.652673	0.178834	14.950997	3.198161	
32.700001	1.43365	56.93239	-18.037026	59.721281	-17.579005	0.178189	14.982371	3.17514	
32.720001	1.431934	56.869794	-17.980109	59.644428	-17.545044	0.177609	15.010693	3.154501	
32.740002	1.433253	56.749184	-18.05717	59.55276	-17.650715	0.178055	14.988906	3.170366	
32.759998	1.433773	56.762262	-18.075589	59.570809	-17.663783	0.178231	14.980355	3.176614	
32.779999	1.433792	56.773893	-18.074123	59.581448	-17.659047	0.178237	14.980037	3.176847	
32.799999	1.433834	56.7132	-18.087449	59.527664	-17.688989	0.178251	14.979342	3.177356	
32.82	1.433412	56.75754	-18.061964	59.562177	-17.652673	0.178109	14.98629	3.172277	
32.84	1.434706	56.830931	-18.099912	59.643621	-17.666031	0.178546	14.965017	3.187853	
32.860001	1.434747	56.633586	-18.139033	59.467534	-17.759647	0.17856	14.964338	3.188351	
32.880001	1.434984	56.67721	-18.14044	59.509509	-17.748125	0.178639	14.960462	3.191198	
32.900002	1.434556	56.651026	-18.128112	59.480814	-17.744504	0.178495	14.967487	3.186041	
32.919998	1.434641	56.563941	-18.147439	59.403779	-17.787858	0.178523	14.966093	3.187064	
32.939999	1.435108	56.566809	-18.165637	59.412072	-17.803724	0.178681	14.958428	3.192694	
32.959999	1.434627	56.456034	-18.166025	59.30673	-17.836803	0.178519	14.966314	3.186901	
32.98	1.43351	56.542586	-18.105972	59.370786	-17.75605	0.178142	14.984687	3.173448	
33	1.437136	56.522406	-18.254629	59.397086	-17.898553	0.179365	14.925264	3.217167	
33.02	1.437739	56.50689	-18.281385	59.390552	-17.927716	0.179567	14.915447	3.224448	
33.040001	1.43752	56.481426	-18.277069	59.364996	-17.931318	0.179494	14.919008	3.221805	
33.060001	1.434896	56.359108	-18.19335	59.222859	-17.890691	0.17861	14.961902	3.19014	
33.080002	1.435296	56.296751	-18.219667	59.171619	-17.93349	0.178745	14.955335	3.194968	
33.099998	1.435518	56.320164	-18.224609	59.195416	-17.931064	0.178819	14.951706	3.197639	
33.119999	1.437192	56.307885	-18.293135	59.20487	-17.997817	0.179383	14.924354	3.217841	
33.139999	1.435741	56.26229	-18.242971	59.146016	-17.965248	0.178895	14.948046	3.200335	
33.16	1.437349	56.279331	-18.303996	59.181073	-18.016359	0.179436	14.921794	3.219738	
33.18	1.439185	56.274273	-18.377553	59.199057	-18.085575	0.180054	14.891951	3.24194	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
33.200001	1.437917	56.187848	-18.340983	59.105549	-18.077884	0.179627	14.912546	3.226602	
33.220001	1.436927	56.133862	-18.310201	59.044678	-18.065745	0.179294	14.928672	3.214644	
33.240002	1.436496	56.068165	-18.30317	58.98004	-18.079042	0.179149	14.935705	3.209442	
33.259998	1.437255	56.05444	-18.335158	58.97693	-18.112722	0.179405	14.923323	3.218605	
33.279999	1.435603	55.992324	-18.279206	58.900507	-18.079777	0.178848	14.950316	3.198662	
33.299999	1.437912	56.015837	-18.366717	58.950066	-18.15354	0.179626	14.91263	3.226539	
33.32	1.436777	55.97022	-18.328678	58.894872	-18.132202	0.179244	14.931123	3.21283	
33.34	1.440406	55.952121	-18.473855	58.923027	-18.271838	0.180464	14.872174	3.256736	
33.360001	1.441811	55.922644	-18.532996	58.913615	-18.335442	0.180936	14.849506	3.273779	
33.380001	1.439622	55.925674	-18.446799	58.889434	-18.254908	0.180201	14.884859	3.247238	
33.400002	1.439947	55.811473	-18.475039	58.789859	-18.31591	0.18031	14.879604	3.25117	
33.419998	1.439738	55.745268	-18.475563	58.727177	-18.336693	0.18024	14.882978	3.248644	
33.439999	1.439411	55.705066	-18.467935	58.686617	-18.341972	0.18013	14.888285	3.244677	
33.459999	1.437856	55.660086	-18.413001	58.626647	-18.304845	0.179607	14.913527	3.225873	
33.48	1.440565	55.616649	-18.523905	58.620361	-18.421093	0.180518	14.869601	3.258666	
33.5	1.440549	55.62712	-18.522001	58.629694	-18.416094	0.180512	14.869863	3.25847	
33.52	1.441502	55.585959	-18.563998	58.603933	-18.467764	0.180832	14.854484	3.270029	
33.540001	1.443481	55.50432	-18.650134	58.553882	-18.573014	0.181496	14.822682	3.294062	
33.560001	1.443088	55.47649	-18.638051	58.523653	-18.570479	0.181364	14.828983	3.289287	
33.580002	1.444379	55.432837	-18.692734	58.499724	-18.634864	0.181796	14.808295	3.304993	
33.599998	1.443452	55.411209	-18.659278	58.468545	-18.61057	0.181486	14.823137	3.293717	
33.619999	1.444929	55.377027	-18.719863	58.455524	-18.67754	0.18198	14.799505	3.311688	
33.639999	1.445104	55.290297	-18.735426	58.378361	-18.71927	0.182039	14.796714	3.313818	
33.66	1.443833	55.189615	-18.696362	58.270469	-18.714662	0.181613	14.817045	3.29834	
33.68	1.44131	55.15316	-18.602917	58.20601	-18.639056	0.180768	14.857585	3.267695	
33.700001	1.444039	55.182452	-18.70497	58.266447	-18.72494	0.181682	14.813739	3.300853	
33.720001	1.443259	55.107372	-18.681999	58.187967	-18.727251	0.181421	14.826247	3.29136	
33.740002	1.443531	55.074804	-18.695385	58.161426	-18.750041	0.181512	14.821875	3.294675	
33.759998	1.442844	55.011313	-18.674665	58.094644	-18.750818	0.181282	14.832893	3.286326	
33.779999	1.444466	54.986831	-18.738761	58.092106	-18.818443	0.181826	14.806904	3.306052	
33.799999	1.44486	54.934864	-18.758063	58.049154	-18.853021	0.181957	14.800609	3.310847	
33.82	1.446463	54.880601	-18.823382	58.018963	-18.931381	0.182493	14.775063	3.33038	
33.84	1.448069	54.827496	-18.888351	57.989862	-19.009123	0.18303	14.749577	3.349981	
33.860001	1.447215	54.766797	-18.860252	57.923322	-19.002401	0.182745	14.763113	3.339556	
33.880001	1.446388	54.707562	-18.832917	57.858414	-18.995907	0.182468	14.776263	3.329459	
33.900002	1.447631	54.66812	-18.882614	57.837328	-19.055175	0.182884	14.756508	3.344638	
33.919998	1.446745	54.594589	-18.85367	57.758376	-19.051851	0.182587	14.77058	3.333819	
33.939999	1.446815	54.595441	-18.856274	57.760032	-19.054017	0.182611	14.769464	3.334676	
33.959999	1.445398	54.57213	-18.804087	57.720976	-19.012606	0.182137	14.79203	3.317394	
33.98	1.446067	54.454022	-18.836112	57.619785	-19.080974	0.182361	14.781371	3.325546	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34	1.44725	54.414366	-18.882758	57.597585	-19.137722	0.182756	14.762567	3.339976	
34.02	1.447112	54.256201	-18.884948	57.448905	-19.1915	0.18271	14.764757	3.338292	
34.040001	1.447221	54.334639	-18.885558	57.523189	-19.166391	0.182746	14.763023	3.339625	
34.060001	1.449671	54.256864	-18.980894	57.481141	-19.281605	0.183564	14.724251	3.369573	
34.080002	1.44814	54.173281	-18.926798	57.384389	-19.258179	0.183053	14.748453	3.350848	
34.099998	1.449828	54.134821	-18.99131	57.369406	-19.331673	0.183616	14.721779	3.371492	
34.119999	1.450147	54.064858	-19.005455	57.308082	-19.368172	0.183722	14.716754	3.375395	
34.139999	1.449635	54.044352	-18.986958	57.282603	-19.35752	0.183552	14.724828	3.369126	
34.16	1.447677	54.030404	-18.9143	57.245395	-19.293536	0.182899	14.755791	3.345191	
34.18	1.448823	53.94235	-18.959448	57.177249	-19.365392	0.183281	14.737648	3.359195	
34.200001	1.447051	53.936994	-18.89356	57.15038	-19.304854	0.18269	14.765717	3.337554	
34.220001	1.448163	53.772173	-18.938355	57.009718	-19.402104	0.183061	14.748094	3.351125	
34.240002	1.449118	53.789934	-18.973543	57.038166	-19.429516	0.183379	14.732985	3.362804	
34.259998	1.448458	53.656378	-18.950806	56.904657	-19.452659	0.183159	14.74342	3.354733	
34.279999	1.450305	53.689957	-19.018866	56.95901	-19.505965	0.183775	14.714272	3.377325	
34.299999	1.450354	53.512029	-19.021687	56.792269	-19.568586	0.183792	14.71349	3.377933	
34.32	1.45188	53.523573	-19.077945	56.822011	-19.618138	0.184299	14.689522	3.396627	
34.34	1.452081	53.396343	-19.084961	56.704543	-19.667978	0.184366	14.686372	3.399091	
34.360001	1.452559	53.3701	-19.102352	56.68569	-19.693459	0.184525	14.678881	3.404959	
34.380001	1.449537	53.308064	-18.990724	56.589728	-19.608214	0.183519	14.726366	3.367933	
34.400002	1.450685	53.320968	-19.033048	56.616098	-19.644181	0.183902	14.708285	3.381984	
34.419998	1.450634	53.225288	-19.030017	56.524975	-19.673891	0.183885	14.709095	3.381353	
34.439999	1.450929	53.146793	-19.039536	56.454278	-19.709808	0.183983	14.704454	3.384968	
34.459999	1.450512	53.117776	-19.023722	56.421629	-19.704628	0.183844	14.711002	3.379868	
34.48	1.450261	53.033037	-19.012652	56.338122	-19.723087	0.183761	14.714956	3.376793	
34.5	1.452165	53.018985	-19.08188	56.3483	-19.794171	0.184394	14.685055	3.400122	
34.52	1.452081	52.90447	-19.075457	56.238385	-19.827523	0.184366	14.686376	3.399088	
34.540001	1.455989	52.795126	-19.213642	56.182643	-19.997915	0.185664	14.62544	3.447117	
34.560001	1.454016	52.783134	-19.141525	56.146747	-19.932944	0.185009	14.656122	3.422849	
34.580002	1.451532	52.819316	-19.052535	56.150505	-19.834993	0.184183	14.694987	3.392355	
34.599998	1.451713	52.689058	-19.053963	56.028477	-19.881563	0.184244	14.692134	3.394584	
34.619999	1.452903	52.591994	-19.092647	55.950397	-19.95262	0.18464	14.673501	3.40918	
34.639999	1.4531	52.635399	-19.101878	55.994347	-19.946343	0.184705	14.670419	3.4116	
34.66	1.452926	52.553594	-19.091542	55.913927	-19.964983	0.184647	14.673147	3.409457	
34.68	1.453517	52.514514	-19.110915	55.883819	-19.997333	0.184844	14.663903	3.416722	
34.700001	1.452327	52.373304	-19.059835	55.733655	-19.99763	0.184448	14.68252	3.402107	
34.720001	1.455411	52.328669	-19.168342	55.728941	-20.118156	0.185473	14.634406	3.440008	
34.740002	1.456383	52.223756	-19.196232	55.640058	-20.182283	0.185795	14.619334	3.451967	
34.759998	1.456779	52.211683	-19.20962	55.633347	-20.199514	0.185926	14.613196	3.456849	
34.779999	1.456833	52.125147	-19.205191	55.550611	-20.226046	0.185944	14.612361	3.457513	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34.799999	1.454496	52.070123	-19.117099	55.46856	-20.160313	0.185169	14.648639	3.428752	
34.82	1.45554	51.998542	-19.148838	55.41233	-20.216629	0.185515	14.632411	3.441589	
34.84	1.455624	51.907688	-19.144214	55.325482	-20.24465	0.185543	14.6311	3.442628	
34.860001	1.455068	51.789389	-19.113714	55.203939	-20.257436	0.185359	14.639746	3.43578	
34.880001	1.455468	51.816	-19.130464	55.234704	-20.264179	0.185491	14.633528	3.440703	
34.900002	1.457619	51.785905	-19.204516	55.232177	-20.347055	0.186204	14.600204	3.467206	
34.919998	1.456784	51.685668	-19.165055	55.124474	-20.344825	0.185928	14.61312	3.45691	
34.939999	1.459161	51.596621	-19.240614	55.067346	-20.450749	0.186715	14.576438	3.486231	
34.959999	1.458432	51.537802	-19.208447	55.000995	-20.440761	0.186473	14.587669	3.477227	
34.98	1.458771	51.447498	-19.210559	54.917125	-20.47573	0.186585	14.582446	3.481412	
35	1.459209	51.416603	-19.222592	54.892396	-20.498776	0.18673	14.575706	3.486819	
35.02	1.457294	51.348589	-19.146813	54.802172	-20.449468	0.186097	14.605234	3.463192	
35.040001	1.457673	51.284551	-19.152638	54.744212	-20.478596	0.186222	14.599382	3.467862	
35.060001	1.459719	51.201786	-19.21486	54.688515	-20.570002	0.186899	14.567868	3.493118	
35.080002	1.457967	51.131267	-19.143953	54.597595	-20.526336	0.186319	14.594838	3.471492	
35.099998	1.460606	51.066772	-19.228711	54.567009	-20.633427	0.187192	14.554245	3.504092	
35.119999	1.46116	50.955052	-19.232968	54.463973	-20.679034	0.187375	14.54577	3.510937	
35.139999	1.460069	50.978381	-19.197768	54.473384	-20.635731	0.187015	14.562492	3.497444	
35.16	1.459485	50.779644	-19.148791	54.270143	-20.661285	0.186821	14.571463	3.490227	
35.18	1.459327	50.79	-19.144784	54.278419	-20.65347	0.186769	14.573884	3.488282	
35.200001	1.459996	50.66825	-19.149909	54.166324	-20.703968	0.18699	14.563611	3.496544	
35.220001	1.45992	50.61106	-19.138349	54.108741	-20.713926	0.186966	14.564769	3.495611	
35.240002	1.458849	50.552509	-19.091455	54.037393	-20.689377	0.186611	14.581245	3.482375	
35.259998	1.461075	50.41007	-19.146057	53.923526	-20.797124	0.187347	14.547066	3.509889	
35.279999	1.461845	50.339516	-19.160942	53.862868	-20.838574	0.187601	14.535291	3.519419	
35.299999	1.464623	50.304784	-19.251891	53.86285	-20.942134	0.188517	14.492988	3.553867	
35.32	1.462712	50.217996	-19.169817	53.752479	-20.893493	0.187887	14.522057	3.530159	
35.34	1.463088	50.129606	-19.166843	53.668848	-20.924181	0.188011	14.516327	3.53482	
35.360001	1.462396	50.111883	-19.13944	53.642511	-20.903602	0.187783	14.526882	3.526239	
35.380001	1.465394	50.023921	-19.227248	53.591788	-21.024853	0.188771	14.481311	3.563436	
35.400002	1.464729	49.904055	-19.180886	53.463269	-21.024563	0.188552	14.491387	3.555177	
35.419998	1.463347	49.788973	-19.109868	53.330375	-20.997702	0.188096	14.512387	3.538028	
35.439999	1.462579	49.765754	-19.078482	53.297455	-20.975146	0.187843	14.524085	3.528511	
35.459999	1.465004	49.629201	-19.134149	53.189973	-21.083791	0.188642	14.487223	3.558588	
35.48	1.464762	49.510545	-19.100216	53.067055	-21.095692	0.188563	14.49089	3.555585	
35.5	1.46603	49.470535	-19.135285	53.042369	-21.14659	0.18898	14.471683	3.571344	
35.52	1.465823	49.374877	-19.106699	52.942841	-21.155083	0.188912	14.474823	3.568763	
35.540001	1.467308	49.25506	-19.130408	52.839696	-21.225947	0.1894	14.452398	3.587238	
35.560001	1.46521	49.236025	-19.053581	52.794177	-21.155705	0.18871	14.484101	3.561147	
35.580002	1.465443	49.125845	-19.035525	52.684911	-21.180636	0.188787	14.480565	3.564048	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	1.46611	49.059104	-19.042354	52.625154	-21.213823	0.189006	14.470477	3.572336	
35.619999	1.466784	48.983135	-19.046836	52.555965	-21.248348	0.189228	14.460309	3.58071	
35.639999	1.466194	48.92762	-19.012692	52.491852	-21.235572	0.189034	14.469205	3.573383	
35.66	1.466839	48.822317	-19.008059	52.392031	-21.272561	0.189246	14.459481	3.581393	
35.68	1.465763	48.742946	-18.950505	52.297193	-21.24535	0.188892	14.475724	3.568023	
35.700001	1.466746	48.693669	-18.971293	52.258811	-21.286171	0.189215	14.460882	3.580237	
35.720001	1.465271	48.571565	-18.887937	52.114787	-21.249513	0.18873	14.483176	3.561906	
35.740002	1.466038	48.462333	-18.884292	52.011674	-21.289382	0.188982	14.471573	3.571435	
35.759998	1.467854	48.382196	-18.924101	51.951501	-21.362379	0.189579	14.444187	3.594027	
35.779999	1.467537	48.340077	-18.901322	51.903979	-21.355898	0.189475	14.448947	3.59009	
35.799999	1.465807	48.261805	-18.819577	51.801335	-21.303217	0.188907	14.475062	3.568567	
35.82	1.466352	48.202303	-18.820947	51.746401	-21.328566	0.189086	14.466825	3.575341	
35.84	1.465523	48.132162	-18.771883	51.663223	-21.306172	0.188813	14.479365	3.565033	
35.860001	1.46631	48.04238	-18.771977	51.579622	-21.342507	0.189072	14.467465	3.574815	
35.880001	1.465814	47.953626	-18.727996	51.480949	-21.332864	0.188909	14.47496	3.56865	
35.900002	1.465906	47.845185	-18.697531	51.368856	-21.345214	0.188939	14.473565	3.569797	
35.919998	1.465318	47.796543	-18.662102	51.310658	-21.328136	0.188746	14.482468	3.562487	
35.939999	1.466584	47.718387	-18.680505	51.244567	-21.379086	0.189162	14.463325	3.578224	
35.959999	1.466123	47.618995	-18.63258	51.134545	-21.369679	0.18901	14.470287	3.572492	
35.98	1.466706	47.535849	-18.625146	51.054413	-21.39591	0.189202	14.461475	3.579748	
36	1.468019	47.37604	-18.616182	50.902371	-21.452139	0.189634	14.441693	3.596091	
36.02	1.466507	47.335951	-18.550848	50.841187	-21.400134	0.189137	14.464487	3.577267	
36.040001	1.465875	47.28144	-18.51047	50.775704	-21.380156	0.188929	14.47403	3.569414	
36.060001	1.467426	47.146247	-18.515925	50.651832	-21.441652	0.189439	14.450626	3.588702	
36.080002	1.464733	47.131424	-18.418749	50.602584	-21.345372	0.188553	14.491332	3.555222	
36.099998	1.465139	47.073351	-18.41185	50.545985	-21.362049	0.188687	14.485175	3.560267	
36.119999	1.464406	46.999056	-18.359958	50.457896	-21.337903	0.188445	14.496285	3.551171	
36.139999	1.463259	46.918712	-18.29133	50.3581	-21.298435	0.188068	14.513719	3.536943	
36.16	1.464038	46.780617	-18.266403	50.22039	-21.329165	0.188324	14.501873	3.546604	
36.18	1.463551	46.741445	-18.234923	50.172454	-21.311949	0.188164	14.509279	3.540561	
36.200001	1.463369	46.649488	-18.193509	50.071733	-21.306044	0.188104	14.512043	3.538309	
36.220001	1.462567	46.574938	-18.137154	49.981809	-21.276908	0.187839	14.524266	3.528364	
36.240002	1.460733	46.488687	-18.040508	49.866401	-21.209394	0.187234	14.552296	3.505665	
36.259998	1.461267	46.404587	-18.025237	49.782476	-21.228026	0.18741	14.544126	3.512266	
36.279999	1.462241	46.310134	-18.020344	49.692668	-21.2622	0.187732	14.529247	3.52432	
36.299999	1.462264	46.177601	-17.966577	49.549659	-21.259834	0.18774	14.528886	3.524613	
36.32	1.460349	46.184962	-17.904074	49.533893	-21.189369	0.187107	14.558195	3.500907	
36.34	1.45989	46.171188	-17.882642	49.513306	-21.172006	0.186956	14.565228	3.495241	
36.360001	1.459697	46.071294	-17.834071	49.402613	-21.161321	0.186892	14.568196	3.492854	
36.380001	1.460468	45.969176	-17.816913	49.301191	-21.185566	0.187146	14.55637	3.502378	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
36.400002	1.460404	45.838226	-17.757852	49.157749	-21.176538	0.187125	14.557349	3.501588	
36.419998	1.459103	45.802714	-17.697602	49.102889	-21.125952	0.186695	14.577339	3.485508	
36.439999	1.45843	45.734095	-17.644085	49.0196	-21.096511	0.186473	14.587694	3.477208	
36.459999	1.458473	45.624227	-17.596145	48.899841	-21.09044	0.186487	14.587036	3.477734	
36.48	1.458083	45.55082	-17.54928	48.81449	-21.070122	0.186358	14.593046	3.472925	
36.5	1.457406	45.461163	-17.484595	48.707581	-21.037034	0.186134	14.603506	3.46457	
36.52	1.456633	45.419819	-17.438711	48.652529	-21.004078	0.185877	14.615466	3.455042	
36.540001	1.45604	45.315565	-17.36913	48.53027	-20.971506	0.185681	14.624654	3.447741	
36.560001	1.454325	45.288863	-17.297292	48.47966	-20.903522	0.185112	14.651303	3.42665	
36.580002	1.454924	45.23163	-17.290492	48.423769	-20.920168	0.185311	14.64199	3.434005	
36.599998	1.453882	45.170597	-17.225001	48.343392	-20.873494	0.184965	14.658217	3.421198	
36.619999	1.454352	45.081798	-17.197791	48.250725	-20.880874	0.185121	14.650896	3.426971	
36.639999	1.452969	45.030425	-17.124595	48.176664	-20.821317	0.184662	14.672471	3.409988	
36.66	1.450393	44.967539	-17.003961	48.075089	-20.713575	0.183804	14.71289	3.3784	
36.68	1.451238	44.886523	-16.9924	47.995225	-20.734873	0.184086	14.699604	3.388751	
36.700001	1.449771	44.79143	-16.892885	47.871095	-20.663777	0.183597	14.722682	3.370791	
36.720001	1.449473	44.719684	-16.845389	47.787209	-20.640849	0.183498	14.727383	3.367144	
36.740002	1.450053	44.601512	-16.803575	47.661883	-20.643887	0.183691	14.718233	3.374246	
36.759998	1.448338	44.599672	-16.742872	47.638792	-20.576347	0.183119	14.745316	3.353269	
36.779999	1.446261	44.51716	-16.626392	47.520674	-20.47983	0.182426	14.778281	3.327913	
36.799999	1.446657	44.455445	-16.606978	47.456067	-20.483941	0.182558	14.771972	3.33275	
36.82	1.446023	44.383165	-16.545446	47.366835	-20.444813	0.182346	14.782065	3.325014	
36.84	1.443353	44.397197	-16.459617	47.350081	-20.341567	0.181453	14.824724	3.292514	
36.860001	1.443908	44.245994	-16.395421	47.185992	-20.3323	0.181638	14.815845	3.299252	
36.880001	1.442247	44.25447	-16.341836	47.175351	-20.267698	0.181082	14.842488	3.279074	
36.900002	1.440579	44.183297	-16.243109	47.074434	-20.184981	0.180522	14.869379	3.258833	
36.919998	1.441713	44.093814	-16.232162	46.986673	-20.210103	0.180903	14.851086	3.272589	
36.939999	1.440467	44.025278	-16.148756	46.893575	-20.143399	0.180485	14.871198	3.257468	
36.959999	1.439389	43.963243	-16.074629	46.809832	-20.084364	0.180123	14.88863	3.24442	
36.98	1.437366	43.928016	-15.982322	46.745109	-19.99293	0.179442	14.921516	3.219945	
37	1.435642	43.880349	-15.892995	46.669822	-19.909882	0.178861	14.949668	3.199139	
37.02	1.435323	43.82598	-15.849259	46.603814	-19.882089	0.178754	14.954904	3.195285	
37.040001	1.434559	43.786464	-15.79839	46.549367	-19.839749	0.178496	14.967424	3.186087	
37.060001	1.434036	43.722279	-15.74094	46.469504	-19.799978	0.17832	14.97602	3.179787	
37.080002	1.43292	43.681073	-15.67598	46.408754	-19.741752	0.177943	14.994397	3.16636	
37.099998	1.431236	43.66188	-15.603974	46.366408	-19.666014	0.177373	15.022238	3.146126	
37.119999	1.429415	43.620712	-15.513297	46.29718	-19.577486	0.176757	15.05249	3.124287	
37.139999	1.426382	43.589238	-15.384671	46.224558	-19.440343	0.175727	15.103214	3.088009	
37.16	1.426525	43.508693	-15.339313	46.133512	-19.420515	0.175776	15.100803	3.089724	
37.18	1.426144	43.469121	-15.300522	46.083299	-19.391389	0.175647	15.107199	3.085177	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
37.200001	1.424984	43.456187	-15.250364	46.054466	-19.33787	0.175252	15.126732	3.071332	
37.220001	1.423155	43.397657	-15.146695	45.964976	-19.240095	0.17463	15.157627	3.049561	
37.240002	1.422057	43.351679	-15.077122	45.898667	-19.177011	0.174256	15.176262	3.036504	
37.259998	1.421507	43.295248	-15.02036	45.826736	-19.133157	0.174068	15.185612	3.029973	
37.279999	1.420645	43.256058	-14.96323	45.771004	-19.081671	0.173774	15.200299	3.019744	
37.299999	1.419014	43.217681	-14.878285	45.707016	-18.996767	0.173217	15.228199	3.000407	
37.32	1.417726	43.219339	-14.832274	45.693627	-18.941539	0.172776	15.250312	2.985168	
37.34	1.416868	43.193865	-14.783889	45.653842	-18.894481	0.172483	15.265082	2.975033	
37.360001	1.415762	43.162112	-14.722019	45.603791	-18.833855	0.172104	15.284191	2.961972	
37.380001	1.41159	43.138721	-14.552623	45.527224	-18.641587	0.170672	15.356775	2.91288	
37.400002	1.413915	43.104237	-14.614983	45.514536	-18.729848	0.17147	15.316218	2.940209	
37.419998	1.410106	43.068691	-14.449989	45.428122	-18.547165	0.170161	15.382807	2.895472	
37.439999	1.4105	42.98305	-14.405483	45.332776	-18.528266	0.170296	15.375886	2.90009	
37.459999	1.40878	42.975529	-14.336382	45.303729	-18.448426	0.169704	15.40615	2.87995	
37.48	1.407068	43.016166	-14.300962	45.331094	-18.389704	0.169114	15.436428	2.859942	
37.5	1.406742	43.008093	-14.283231	45.317842	-18.371651	0.169001	15.442204	2.856141	
37.52	1.406128	42.938602	-14.211727	45.229379	-18.313433	0.168789	15.453118	2.848972	
37.540001	1.403421	42.954049	-14.121397	45.215752	-18.198616	0.167853	15.501431	2.817454	
37.560001	1.40359	42.950236	-14.125052	45.213271	-18.204526	0.167911	15.498397	2.819424	
37.580002	1.400181	42.888252	-13.953088	45.100896	-18.021599	0.166729	15.559755	2.77987	
37.599998	1.402681	42.865603	-14.030929	45.103513	-18.124531	0.167597	15.514695	2.808862	
37.619999	1.400452	42.846432	-13.933319	45.055012	-18.014145	0.166823	15.554856	2.783008	
37.639999	1.398644	42.830812	-13.853868	45.015643	-17.924125	0.166196	15.587606	2.7621	
37.66	1.397927	42.765844	-13.779514	44.930974	-17.859408	0.165946	15.600659	2.753811	
37.68	1.397202	42.803161	-13.779276	44.966421	-17.844537	0.165694	15.613858	2.745454	
37.700001	1.395883	42.801531	-13.72806	44.949202	-17.78303	0.165235	15.637982	2.730246	
37.720001	1.398088	42.712521	-13.746547	44.870113	-17.840221	0.166002	15.597712	2.75568	
37.740002	1.396483	42.659592	-13.646367	44.789107	-17.738973	0.165444	15.626987	2.737167	
37.759998	1.395022	42.68892	-13.612491	44.806739	-17.686288	0.164935	15.653765	2.720342	
37.779999	1.393729	42.683479	-13.559134	44.785371	-17.623368	0.164484	15.677544	2.705488	
37.799999	1.394354	42.630818	-13.543641	44.730491	-17.624876	0.164702	15.666041	2.712663	
37.82	1.395254	42.577723	-13.538083	44.678207	-17.6387	0.165015	15.649509	2.723009	
37.84	1.393026	42.535224	-13.42046	44.602175	-17.511247	0.164238	15.690523	2.697414	
37.860001	1.390937	42.593523	-13.384568	44.647003	-17.44481	0.163508	15.729218	2.673488	
37.880001	1.392702	42.513702	-13.391573	44.572963	-17.48416	0.164125	15.696505	2.693702	
37.900002	1.390918	42.510983	-13.320781	44.549151	-17.39837	0.163501	15.729589	2.673259	
37.919998	1.392059	42.449412	-13.317283	44.489354	-17.41778	0.1639	15.708417	2.686323	
37.939999	1.390323	42.432785	-13.237323	44.449612	-17.325853	0.163293	15.740657	2.666455	
37.959999	1.390993	42.402147	-13.239358	44.420971	-17.340128	0.163527	15.728187	2.674122	
37.98	1.390561	42.375121	-13.201456	44.383886	-17.30382	0.163376	15.736223	2.669179	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38	1.39085	42.343679	-13.187917	44.34984	-17.299204	0.163477	15.730845	2.672486	
38.02	1.388947	42.374146	-13.138094	44.36415	-17.226068	0.162811	15.766318	2.650746	
38.040001	1.389614	42.2788	-13.088404	44.258369	-17.201179	0.163045	15.753863	2.658359	
38.060001	1.388459	42.243881	-13.015384	44.203458	-17.12415	0.16264	15.775447	2.645181	
38.080002	1.388403	42.19065	-12.970174	44.139283	-17.088411	0.16262	15.776498	2.644541	
38.099998	1.388254	42.188482	-12.962588	44.134983	-17.079826	0.162568	15.779285	2.642844	
38.119999	1.388998	42.1598	-12.968357	44.109262	-17.097931	0.162829	15.765377	2.651321	
38.139999	1.390202	42.092945	-12.960852	44.043157	-17.11417	0.163251	15.742899	2.665079	
38.16	1.388811	42.129522	-12.936336	44.070913	-17.069713	0.162764	15.768858	2.649197	
38.18	1.388022	42.04231	-12.833367	43.957378	-16.974779	0.162487	15.783637	2.640197	
38.200001	1.387557	42.027391	-12.802626	43.934142	-16.942116	0.162324	15.792355	2.634902	
38.220001	1.388796	41.999093	-12.827852	43.914434	-16.984359	0.162758	15.769136	2.649027	
38.240002	1.388165	41.971706	-12.779979	43.874275	-16.935015	0.162537	15.78096	2.641825	
38.259998	1.388251	41.926561	-12.745317	43.820995	-16.908854	0.162567	15.779341	2.64281	
38.279999	1.387475	41.85275	-12.651655	43.723186	-16.819555	0.162295	15.793894	2.633968	
38.299999	1.387084	41.847023	-12.631188	43.711786	-16.796048	0.162158	15.801243	2.629515	
38.32	1.388222	41.78568	-12.623539	43.650851	-16.809703	0.162557	15.779898	2.642471	
38.34	1.389139	41.744957	-12.624738	43.612216	-16.826683	0.162878	15.76273	2.652937	
38.360001	1.388127	41.706531	-12.550818	43.554079	-16.748237	0.162524	15.781662	2.641398	
38.380001	1.389704	41.640375	-12.555586	43.49211	-16.779366	0.163076	15.752194	2.659381	
38.400002	1.390115	41.587172	-12.524888	43.432311	-16.760855	0.16322	15.744515	2.664088	
38.419998	1.389462	41.533134	-12.450304	43.359097	-16.687077	0.162991	15.756708	2.656619	
38.439999	1.39087	41.437504	-12.420439	43.258919	-16.685557	0.163484	15.730479	2.672712	
38.459999	1.390484	41.42662	-12.394973	43.241186	-16.657375	0.163349	15.73765	2.668302	
38.48	1.38994	41.385507	-12.33533	43.184726	-16.597199	0.163159	15.747777	2.662088	
38.5	1.391297	41.327438	-12.336641	43.129454	-16.620904	0.163634	15.722537	2.677604	
38.52	1.39057	41.247906	-12.23292	43.023645	-16.518842	0.163379	15.736059	2.66928	
38.540001	1.39173	41.238183	-12.270989	43.025166	-16.571127	0.163785	15.714504	2.682561	
38.560001	1.394413	41.0722	-12.222773	42.852325	-16.572632	0.164722	15.664962	2.713338	
38.580002	1.392614	41.085933	-12.162451	42.848327	-16.490084	0.164094	15.698143	2.692686	
38.599998	1.39192	41.07989	-12.128236	42.832832	-16.448493	0.163852	15.710987	2.684734	
38.619999	1.39261	40.973775	-12.053586	42.709942	-16.392755	0.164093	15.698206	2.692647	
38.639999	1.394385	40.872981	-12.027488	42.60588	-16.39734	0.164712	15.665473	2.713018	
38.66	1.393473	40.847686	-11.96467	42.563914	-16.325831	0.164394	15.682267	2.702547	
38.68	1.395489	40.727615	-11.927615	42.438268	-16.323388	0.165097	15.645194	2.725716	
38.700001	1.394808	40.689924	-11.860988	42.383405	-16.25127	0.16486	15.657688	2.717886	
38.720001	1.395434	40.634347	-11.83017	42.321425	-16.232271	0.165078	15.646197	2.725086	
38.740002	1.395654	40.602805	-11.806825	42.284618	-16.213847	0.165155	15.642174	2.727612	
38.759998	1.397562	40.490319	-11.769695	42.166239	-16.208079	0.165819	15.607306	2.749599	
38.779999	1.39652	40.396505	-11.626543	42.036343	-16.056409	0.165457	15.626314	2.737591	



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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	1.397552	40.360293	-11.631489	42.002914	-16.076554	0.165816	15.607473	2.749494	
38.82	1.396979	40.317785	-11.561389	41.942693	-16.000619	0.165616	15.617938	2.742876	
38.84	1.398144	40.254473	-11.542242	41.876556	-15.999314	0.166022	15.596697	2.756324	
38.860001	1.397625	40.159976	-11.416115	41.751064	-15.868675	0.165841	15.606154	2.750329	
38.880001	1.397997	40.125219	-11.393438	41.711432	-15.851768	0.165971	15.599375	2.754625	
38.900002	1.39819	40.085581	-11.35738	41.66346	-15.818956	0.166038	15.595869	2.75685	
38.919998	1.398736	40.01542	-11.301766	41.58081	-15.77158	0.166227	15.585945	2.763157	
38.939999	1.39951	39.943563	-11.253338	41.498504	-15.734199	0.166496	15.571902	2.772106	
38.959999	1.398478	39.869321	-11.122503	41.3917	-15.587747	0.166138	15.59062	2.760184	
38.98	1.399019	39.847962	-11.121243	41.370788	-15.594015	0.166326	15.580804	2.76643	
39	1.396947	39.801731	-10.975636	41.287315	-15.416634	0.165605	15.61852	2.742508	
39.02	1.39767	39.726989	-10.918503	41.200089	-15.367671	0.165857	15.605331	2.75085	
39.040001	1.399409	39.662189	-10.917726	41.137404	-15.390545	0.166461	15.573733	2.770937	
39.060001	1.401781	39.517759	-10.847307	40.979475	-15.349213	0.167285	15.530884	2.798412	
39.080002	1.399959	39.515158	-10.762397	40.954571	-15.235623	0.166652	15.563769	2.777302	
39.099998	1.399677	39.435873	-10.650603	40.848787	-15.113553	0.166555	15.56887	2.774042	
39.119999	1.400527	39.385516	-10.625525	40.793635	-15.097989	0.16685	15.553487	2.783885	
39.139999	1.399117	39.332765	-10.493738	40.708536	-14.938243	0.16636	15.579028	2.767561	
39.16	1.400204	39.256809	-10.445295	40.622669	-14.899843	0.166737	15.559343	2.780134	
39.18	1.397887	39.223314	-10.294173	40.551675	-14.705669	0.165932	15.601375	2.753357	
39.200001	1.39901	39.162365	-10.265576	40.485465	-14.688421	0.166323	15.580961	2.766329	
39.220001	1.398563	39.118818	-10.186286	40.42329	-14.595358	0.166167	15.58909	2.761156	
39.240002	1.398296	39.055737	-10.08814	40.33759	-14.483028	0.166074	15.593945	2.758072	
39.259998	1.401074	38.943105	-10.064879	40.22272	-14.491071	0.167039	15.543628	2.790212	
39.279999	1.399546	38.915919	-9.954244	40.16884	-14.347988	0.166509	15.571252	2.772521	
39.299999	1.400879	38.797825	-9.851329	40.028988	-14.247163	0.166972	15.547143	2.787955	
39.32	1.399736	38.798523	-9.797028	40.016336	-14.171559	0.166575	15.567808	2.77472	
39.34	1.400352	38.722935	-9.717823	39.9237	-14.087907	0.166789	15.55665	2.781858	
39.360001	1.40109	38.62943	-9.616757	39.808477	-13.979577	0.167045	15.543327	2.790406	
39.380001	1.400012	38.627326	-9.560381	39.792853	-13.90154	0.166671	15.562814	2.777913	
39.400002	1.401182	38.529999	-9.472419	39.677293	-13.812006	0.167077	15.541674	2.791467	
39.419998	1.39965	38.511458	-9.367459	39.63435	-13.671059	0.166545	15.569354	2.773733	
39.439999	1.397339	38.540313	-9.295132	39.645368	-13.559638	0.165742	15.611362	2.747032	
39.459999	1.4009	38.376973	-9.222159	39.469486	-13.512252	0.166979	15.546769	2.788195	
39.48	1.399351	38.351215	-9.101998	39.41652	-13.351169	0.166441	15.57478	2.77027	
39.5	1.398908	38.301311	-8.999007	39.344283	-13.22202	0.166287	15.582812	2.765151	
39.52	1.398716	38.229601	-8.871948	39.245558	-13.065387	0.166221	15.586306	2.762927	
39.540001	1.397104	38.231907	-8.790592	39.229494	-12.948877	0.16566	15.61565	2.744322	
39.560001	1.395726	38.192104	-8.65042	39.159501	-12.762052	0.16518	15.640844	2.728448	
39.580002	1.394671	38.1362	-8.497892	39.071523	-12.562014	0.164812	15.660213	2.716306	

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**Balun 2 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
39.599998	1.395327	38.071525	-8.421481	38.991824	-12.47309	0.165041	15.648166	2.723851	
39.619999	1.392716	38.049214	-8.237259	38.930645	-12.215453	0.16413	15.696251	2.693859	
39.639999	1.393058	38.007429	-8.181431	38.87802	-12.14807	0.164249	15.689926	2.697786	
39.66	1.392157	37.960611	-8.04505	38.803748	-11.965753	0.163935	15.706587	2.687456	
39.68	1.389102	37.962642	-7.8729	38.77041	-11.71625	0.162865	15.76342	2.652516	
39.700001	1.391213	37.877653	-7.8355	38.679602	-11.687568	0.163604	15.7241	2.67664	
39.720001	1.387651	37.927999	-7.722338	38.70617	-11.508433	0.162357	15.790592	2.635972	
39.740002	1.386407	37.871423	-7.538385	38.614401	-11.25772	0.16192	15.813996	2.621805	
39.759998	1.383746	37.880242	-7.39431	38.595188	-11.045394	0.160984	15.864326	2.591597	
39.779999	1.381529	37.889454	-7.276348	38.581809	-10.870837	0.160203	15.906566	2.566513	
39.799999	1.378809	37.920331	-7.1697	38.592177	-10.706699	0.159243	15.958794	2.535832	
39.82	1.377712	37.89527	-7.048722	38.545246	-10.536922	0.158855	15.979962	2.523503	
39.84	1.376883	37.872086	-6.946962	38.503963	-10.394359	0.158562	15.99602	2.514189	
39.860001	1.373126	37.921567	-6.808651	38.527951	-10.178772	0.15723	16.069296	2.472125	
39.880001	1.368557	38.015353	-6.710192	38.603027	-10.010337	0.155604	16.159576	2.421266	
39.900002	1.367426	38.003473	-6.609196	38.573896	-9.865673	0.155201	16.182138	2.40872	
39.919998	1.364484	38.079264	-6.577937	38.643235	-9.800756	0.154149	16.241159	2.376206	
39.939999	1.360844	38.138456	-6.46238	38.682091	-9.617167	0.152845	16.314951	2.336173	
39.959999	1.358852	38.168951	-6.394095	38.700818	-9.509951	0.15213	16.355713	2.314348	
39.98	1.356433	38.218906	-6.339261	38.741076	-9.417762	0.15126	16.405546	2.287944	
40	1.353992	38.280296	-6.307795	38.796512	-9.357083	0.150379	16.456231	2.261397	

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VNA version 530D

**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	1.574014	35.790091	-13.140764	38.126242	-20.161355	0.223003	13.033769	4.973053	
10.02	1.57545	35.777237	-13.180025	38.12773	-20.223397	0.223437	13.016906	4.992401	
10.04	1.577814	35.689385	-13.145482	38.033352	-20.220316	0.224149	12.989274	5.024265	
10.06	1.578295	35.677325	-13.147021	38.022568	-20.228773	0.224293	12.983668	5.030755	
10.08	1.580946	35.617598	-13.165367	37.972887	-20.285909	0.22509	12.952858	5.066572	
10.1	1.582292	35.576186	-13.157851	37.931438	-20.296948	0.225494	12.937285	5.084772	
10.12	1.583848	35.529505	-13.150689	37.885173	-20.311279	0.225961	12.919345	5.10582	
10.14	1.583511	35.543836	-13.158613	37.901364	-20.314992	0.22586	12.923229	5.101255	
10.16	1.588021	35.459616	-13.214312	37.841807	-20.438351	0.227209	12.871501	5.162379	
10.18	1.590198	35.392661	-13.200932	37.774397	-20.454797	0.227858	12.846705	5.191938	
10.2	1.591145	35.381135	-13.221743	37.770878	-20.490486	0.22814	12.835957	5.204804	
10.22	1.592646	35.326526	-13.199254	37.711851	-20.487523	0.228587	12.818959	5.225214	
10.24	1.594606	35.291089	-13.224413	37.687479	-20.542209	0.22917	12.796844	5.25189	
10.26	1.594791	35.273914	-13.205591	37.664793	-20.524565	0.229225	12.794756	5.254416	
10.28	1.596147	35.240757	-13.209572	37.63514	-20.547939	0.229628	12.779516	5.272886	
10.3	1.598481	35.183978	-13.216577	37.584441	-20.588319	0.23032	12.753383	5.30471	
10.32	1.600352	35.158897	-13.253526	37.57398	-20.654513	0.230873	12.732528	5.330245	
10.34	1.600962	35.112765	-13.206763	37.514328	-20.612535	0.231054	12.725738	5.338586	
10.36	1.602838	35.054298	-13.191723	37.45431	-20.622487	0.231608	12.704929	5.364226	
10.38	1.604869	35.033254	-13.241142	37.452059	-20.704584	0.232207	12.682493	5.39201	
10.4	1.604977	35.021863	-13.227707	37.436655	-20.691515	0.232239	12.681306	5.393485	
10.42	1.60991	34.928988	-13.281715	37.368946	-20.819296	0.23369	12.627196	5.461104	
10.44	1.609473	34.91041	-13.23483	37.334936	-20.762175	0.233562	12.631965	5.455109	
10.46	1.611492	34.872644	-13.256936	37.307474	-20.814481	0.234154	12.609962	5.482818	
10.48	1.613593	34.818468	-13.256201	37.256577	-20.84303	0.23477	12.587154	5.511687	
10.5	1.61374	34.806905	-13.243805	37.241362	-20.831536	0.234813	12.585562	5.513708	
10.52	1.615834	34.764395	-13.260953	37.207742	-20.879496	0.235425	12.562931	5.542515	
10.54	1.619065	34.68841	-13.270334	37.140107	-20.934796	0.236369	12.528202	5.587014	
10.56	1.617828	34.707945	-13.251566	37.151655	-20.896998	0.236008	12.541469	5.569973	
10.58	1.622271	34.6193	-13.289094	37.082287	-21.000022	0.237302	12.493955	5.631245	
10.6	1.623071	34.585462	-13.26692	37.04275	-20.986759	0.237535	12.485455	5.642278	
10.62	1.624796	34.547471	-13.275339	37.010301	-21.019993	0.238036	12.467145	5.666117	
10.64	1.626209	34.528675	-13.302027	37.002342	-21.069006	0.238446	12.452197	5.685653	
10.66	1.628994	34.431469	-13.256664	36.895327	-21.057537	0.239253	12.422861	5.724188	
10.68	1.628991	34.437798	-13.266858	36.904897	-21.068777	0.239252	12.422895	5.724143	
10.7	1.631967	34.387615	-13.305183	36.871885	-21.152382	0.240112	12.391722	5.765379	
10.72	1.633492	34.340741	-13.290048	36.822709	-21.156738	0.240552	12.375812	5.786537	
10.74	1.63343	34.322963	-13.258301	36.794678	-21.120625	0.240534	12.376466	5.785667	
10.76	1.636418	34.271774	-13.294797	36.760116	-21.202438	0.241395	12.345432	5.827158	
10.78	1.639907	34.178974	-13.282142	36.669027	-21.236445	0.242397	12.309439	5.875653	

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VNA version 530D

**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	1.6403	34.173478	-13.288923	36.666362	-21.249431	0.24251	12.305391	5.881132	
10.82	1.640615	34.161545	-13.281787	36.652654	-21.245796	0.242601	12.302162	5.885506	
10.84	1.642921	34.10216	-13.275978	36.595203	-21.271011	0.243261	12.278535	5.917613	
10.86	1.645272	34.05861	-13.298131	36.562675	-21.328119	0.243934	12.254547	5.950388	
10.88	1.645824	34.033764	-13.278752	36.532484	-21.31398	0.244092	12.248935	5.958082	
10.9	1.649655	33.957952	-13.305901	36.471763	-21.397003	0.245185	12.210129	6.011558	
10.92	1.651029	33.921093	-13.299107	36.434966	-21.408202	0.245576	12.196282	6.030757	
10.94	1.650274	33.907964	-13.246326	36.403505	-21.338403	0.245361	12.203886	6.020206	
10.96	1.651257	33.898197	-13.269528	36.402859	-21.378011	0.245641	12.193986	6.033945	
10.98	1.655238	33.825411	-13.306592	36.348642	-21.474238	0.246772	12.15409	6.089632	
11	1.657177	33.777192	-13.302581	36.302305	-21.496206	0.247321	12.134766	6.116788	
11.02	1.657919	33.744009	-13.27572	36.26159	-21.475929	0.247532	12.12739	6.127185	
11.04	1.658029	33.741597	-13.276055	36.259467	-21.477817	0.247563	12.12629	6.128737	
11.06	1.660934	33.683554	-13.293639	36.211913	-21.537334	0.248384	12.097518	6.169476	
11.08	1.66352	33.627901	-13.302027	36.163236	-21.582064	0.249114	12.072039	6.205776	
11.1	1.663175	33.632839	-13.296639	36.165847	-21.571249	0.249017	12.07543	6.200933	
11.12	1.665142	33.562409	-13.253978	36.084668	-21.549372	0.249571	12.056118	6.228568	
11.14	1.669216	33.495536	-13.302073	36.040201	-21.659537	0.250716	12.016344	6.285874	
11.16	1.670118	33.481218	-13.313442	36.031093	-21.684742	0.250969	12.007587	6.29856	
11.18	1.671769	33.452907	-13.330579	36.011127	-21.726722	0.251432	11.991575	6.321826	
11.2	1.67354	33.40028	-13.309737	35.954524	-21.726913	0.251928	11.974471	6.346773	
11.22	1.67289	33.384487	-13.25569	35.919873	-21.656153	0.251746	11.980742	6.337614	
11.24	1.675269	33.345817	-13.28363	35.894266	-21.720383	0.252412	11.957813	6.371163	
11.26	1.67788	33.28351	-13.278818	35.834607	-21.750104	0.253141	11.932766	6.408013	
11.28	1.680265	33.238188	-13.294618	35.79838	-21.800472	0.253805	11.909992	6.441705	
11.3	1.680359	33.227856	-13.280012	35.783364	-21.784901	0.253831	11.909099	6.44303	
11.32	1.684223	33.164799	-13.323458	35.740991	-21.887089	0.254905	11.87242	6.497676	
11.34	1.685349	33.115741	-13.28105	35.679667	-21.853265	0.255218	11.861778	6.513616	
11.36	1.686116	33.084176	-13.255262	35.640773	-21.833676	0.255431	11.854542	6.524478	
11.38	1.689449	33.029359	-13.291032	35.603231	-21.919919	0.256353	11.823219	6.571706	
11.4	1.690528	33.00092	-13.283139	35.573902	-21.925225	0.256651	11.813125	6.586997	
11.42	1.693044	32.941936	-13.2777	35.517157	-21.952616	0.257346	11.789653	6.622694	
11.44	1.692953	32.93838	-13.267543	35.510063	-21.939561	0.257321	11.790503	6.621399	
11.46	1.695803	32.876071	-13.269023	35.452829	-21.979403	0.258106	11.76404	6.661867	
11.48	1.695744	32.873179	-13.261357	35.447278	-21.969662	0.25809	11.764585	6.661032	
11.5	1.697759	32.827907	-13.25985	35.404733	-21.99481	0.258644	11.745952	6.689672	
11.52	1.699201	32.801657	-13.269895	35.38416	-22.025809	0.25904	11.732663	6.710173	
11.54	1.701977	32.751407	-13.289487	35.344945	-22.085799	0.259801	11.707173	6.749673	
11.56	1.704142	32.695012	-13.272677	35.286368	-22.094937	0.260394	11.687386	6.780495	
11.58	1.705785	32.644505	-13.245295	35.229271	-22.084572	0.260843	11.672418	6.803904	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	1.707597	32.607457	-13.249534	35.19654	-22.113641	0.261338	11.655957	6.829742	
11.62	1.708453	32.591516	-13.254343	35.183583	-22.13067	0.261571	11.648208	6.841939	
11.64	1.710031	32.561649	-13.262276	35.15891	-22.160981	0.262001	11.633941	6.864452	
11.66	1.710901	32.537495	-13.252197	35.132738	-22.160616	0.262238	11.626091	6.876871	
11.68	1.713932	32.473365	-13.254165	35.074098	-22.203109	0.263062	11.598842	6.920155	
11.7	1.715935	32.431566	-13.256255	35.036192	-22.232105	0.263605	11.580913	6.948782	
11.72	1.71585	32.412341	-13.216426	35.003339	-22.183663	0.263582	11.581676	6.947562	
11.74	1.719105	32.350097	-13.229957	34.950831	-22.24273	0.264464	11.55267	6.99412	
11.76	1.72035	32.324568	-13.231661	34.927847	-22.26117	0.2648	11.541628	7.011924	
11.78	1.722514	32.265804	-13.206946	34.864101	-22.260164	0.265385	11.522476	7.042914	
11.8	1.724849	32.224693	-13.222582	34.83199	-22.309586	0.266014	11.501896	7.076368	
11.82	1.727483	32.175692	-13.234855	34.791329	-22.358918	0.266723	11.478782	7.11413	
11.84	1.728123	32.169342	-13.248486	34.790644	-22.383656	0.266895	11.473181	7.123311	
11.86	1.729292	32.136485	-13.232367	34.754124	-22.379711	0.267209	11.462967	7.140083	
11.88	1.730953	32.108879	-13.246117	34.733841	-22.418024	0.267655	11.448493	7.16392	
11.9	1.733151	32.045909	-13.2128	34.662925	-22.406809	0.268244	11.429404	7.195477	
11.92	1.735064	32.015528	-13.23101	34.641791	-22.453806	0.268756	11.412843	7.222968	
11.94	1.735463	31.975411	-13.168755	34.580963	-22.383865	0.268862	11.409399	7.228698	
11.96	1.739287	31.927128	-13.228879	34.559294	-22.506518	0.269883	11.376485	7.28369	
11.98	1.740759	31.875087	-13.186082	34.49484	-22.473934	0.270275	11.363876	7.304868	
12	1.740021	31.891667	-13.188856	34.51122	-22.467668	0.270079	11.3702	7.29424	
12.02	1.745246	31.793703	-13.206734	34.427567	-22.557469	0.271468	11.325634	7.369476	
12.04	1.743934	31.806298	-13.178597	34.428418	-22.506185	0.271119	11.336789	7.350571	
12.06	1.746685	31.74664	-13.171495	34.37059	-22.533315	0.27185	11.313428	7.390218	
12.08	1.747861	31.721148	-13.16831	34.345823	-22.544704	0.272161	11.303477	7.40717	
12.1	1.749801	31.672974	-13.150566	34.294528	-22.548183	0.272675	11.287109	7.43514	
12.12	1.752471	31.630216	-13.172989	34.263657	-22.61023	0.27338	11.264658	7.473674	
12.14	1.753664	31.5882	-13.136775	34.210952	-22.581294	0.273695	11.25466	7.4909	
12.16	1.755606	31.53906	-13.116198	34.157678	-22.581076	0.274207	11.238432	7.518942	
12.18	1.757353	31.528233	-13.165111	34.166498	-22.663785	0.274667	11.223878	7.544183	
12.2	1.760652	31.460026	-13.160323	34.101721	-22.700519	0.275533	11.196515	7.591865	
12.22	1.761803	31.43369	-13.153323	34.074723	-22.70675	0.275835	11.187003	7.608511	
12.24	1.762424	31.411569	-13.133346	34.046607	-22.690107	0.275998	11.181879	7.617493	
12.26	1.760346	31.430344	-13.087369	34.04623	-22.606533	0.275453	11.199047	7.58744	
12.28	1.765293	31.346936	-13.117292	33.980785	-22.707171	0.276749	11.158271	7.659014	
12.3	1.768863	31.285125	-13.134853	33.930568	-22.774818	0.277682	11.129052	7.710717	
12.32	1.769232	31.256918	-13.091557	33.887812	-22.725783	0.277778	11.126042	7.716063	
12.34	1.772422	31.210608	-13.125049	33.85807	-22.808335	0.278609	11.100096	7.7623	
12.36	1.774814	31.157005	-13.110684	33.803092	-22.82111	0.279231	11.080725	7.796999	
12.38	1.77497	31.135147	-13.071413	33.767724	-22.774079	0.279272	11.079465	7.799262	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
12.4	1.777058	31.101786	-13.086454	33.742797	-22.819556	0.279814	11.062627	7.82956	
12.42	1.778558	31.060177	-13.060102	33.694226	-22.805692	0.280202	11.050568	7.851329	
12.44	1.781034	31.028088	-13.093179	33.677494	-22.878729	0.280843	11.030726	7.887282	
12.46	1.781541	31.006321	-13.067919	33.647622	-22.853508	0.280974	11.026673	7.894647	
12.48	1.783132	30.969814	-13.055435	33.609132	-22.858069	0.281385	11.013978	7.917758	
12.5	1.785995	30.921091	-13.068531	33.569337	-22.910968	0.282124	10.99121	7.959376	
12.52	1.787814	30.890271	-13.076939	33.544227	-22.944691	0.282592	10.976798	7.985832	
12.54	1.789393	30.839572	-13.032992	33.480414	-22.909257	0.282998	10.964332	8.008788	
12.56	1.790627	30.811484	-13.023099	33.45069	-22.912376	0.283315	10.954601	8.026753	
12.58	1.794163	30.755814	-13.047396	33.4089	-22.987928	0.284222	10.926843	8.078221	
12.6	1.794578	30.737209	-13.024235	33.38273	-22.963803	0.284328	10.923596	8.084263	
12.62	1.796677	30.70063	-13.030736	33.351593	-22.998603	0.284866	10.907198	8.114845	
12.64	1.800624	30.634029	-13.047021	33.296674	-23.069176	0.285873	10.876526	8.172358	
12.66	1.799032	30.637798	-12.990483	33.27803	-22.977075	0.285467	10.88887	8.149163	
12.68	1.801532	30.58756	-12.982939	33.228836	-22.998913	0.286105	10.869493	8.185604	
12.7	1.804137	30.548316	-13.003303	33.200686	-23.057724	0.286768	10.849387	8.223588	
12.72	1.805747	30.513595	-12.992877	33.164655	-23.064645	0.287177	10.836993	8.247089	
12.74	1.808847	30.444752	-12.967785	33.091485	-23.071369	0.287964	10.813233	8.292332	
12.76	1.809744	30.428069	-12.967511	33.076029	-23.082257	0.288191	10.806383	8.305422	
12.78	1.810622	30.392026	-12.92356	33.025651	-23.036627	0.288414	10.799683	8.318246	
12.8	1.813804	30.346842	-12.953105	32.995662	-23.114543	0.289218	10.775479	8.364733	
12.82	1.814323	30.329295	-12.935221	32.972505	-23.097932	0.289349	10.771547	8.37231	
12.84	1.815132	30.312107	-12.929948	32.954627	-23.101222	0.289554	10.765416	8.384138	
12.86	1.818154	30.250263	-12.915059	32.891902	-23.119633	0.290316	10.742591	8.428318	
12.88	1.820688	30.20842	-12.924568	32.857162	-23.163534	0.290953	10.723542	8.465367	
12.9	1.822814	30.162176	-12.907241	32.807831	-23.167481	0.291487	10.707613	8.496474	
12.92	1.824428	30.128687	-12.897497	32.773209	-23.174853	0.291892	10.695556	8.520094	
12.94	1.826786	30.102494	-12.934451	32.763702	-23.252288	0.292483	10.677997	8.554611	
12.96	1.826993	30.07897	-12.889592	32.724394	-23.196386	0.292535	10.676456	8.557647	
12.98	1.83011	30.020408	-12.883624	32.668221	-23.227222	0.293314	10.653355	8.603289	
13	1.832622	29.983518	-12.901992	32.64158	-23.282386	0.29394	10.634813	8.640099	
13.02	1.834882	29.937561	-12.889006	32.594233	-23.29335	0.294503	10.6182	8.673212	
13.04	1.835718	29.909507	-12.858732	32.556498	-23.263937	0.294711	10.612063	8.685478	
13.06	1.83629	29.88648	-12.829036	32.523619	-23.231898	0.294854	10.607873	8.693861	
13.08	1.83877	29.857785	-12.864215	32.511158	-23.308816	0.295469	10.589748	8.730221	
13.1	1.838964	29.845014	-12.842616	32.490885	-23.282747	0.295518	10.588334	8.733064	
13.12	1.841355	29.807675	-12.853899	32.461057	-23.32709	0.29611	10.570928	8.768135	
13.14	1.846592	29.709968	-12.840596	32.366079	-23.373958	0.297405	10.533024	8.844995	
13.16	1.847468	29.688411	-12.826031	32.340514	-23.365421	0.297622	10.52671	8.857864	
13.18	1.847066	29.691794	-12.817491	32.340234	-23.349156	0.297522	10.529606	8.851959	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	1.850855	29.616662	-12.796124	32.262787	-23.3672	0.298456	10.502394	8.907597	
13.22	1.852459	29.592842	-12.805655	32.244707	-23.399534	0.298851	10.490919	8.931165	
13.24	1.854374	29.546734	-12.775046	32.190236	-23.382124	0.299321	10.477259	8.9593	
13.26	1.856243	29.530824	-12.813886	32.191074	-23.456817	0.299779	10.463963	8.986772	
13.28	1.858516	29.467553	-12.756562	32.110225	-23.407923	0.300336	10.447848	9.020181	
13.3	1.861573	29.429469	-12.790932	32.088964	-23.491256	0.301084	10.426255	9.065141	
13.32	1.86335	29.396321	-12.784414	32.055966	-23.504188	0.301517	10.41375	9.09128	
13.34	1.864036	29.373865	-12.758655	32.025104	-23.477949	0.301685	10.408934	9.101366	
13.36	1.867825	29.316487	-12.775861	31.979353	-23.54718	0.302607	10.382412	9.157117	
13.38	1.867325	29.313547	-12.748307	31.965659	-23.504009	0.302486	10.385902	9.149763	
13.4	1.87027	29.253609	-12.724103	31.901041	-23.507077	0.303201	10.365375	9.19311	
13.42	1.871037	29.232987	-12.70549	31.874707	-23.491182	0.303387	10.360047	9.204397	
13.44	1.873078	29.204404	-12.719756	31.85419	-23.535208	0.303882	10.345889	9.234452	
13.46	1.875697	29.148593	-12.691051	31.791559	-23.527944	0.304516	10.327786	9.273024	
13.48	1.877161	29.110175	-12.656993	31.742743	-23.499261	0.30487	10.317698	9.294589	
13.5	1.878195	29.100047	-12.674651	31.740502	-23.535783	0.30512	10.310584	9.309827	
13.52	1.87943	29.081352	-12.67944	31.725278	-23.557194	0.305418	10.302104	9.328023	
13.54	1.881944	29.029776	-12.655594	31.668469	-23.554941	0.306024	10.284888	9.365073	
13.56	1.886211	28.968205	-12.678517	31.621222	-23.637599	0.30705	10.255817	9.427972	
13.58	1.886334	28.952921	-12.645614	31.594037	-23.594049	0.30708	10.254981	9.429787	
13.6	1.888783	28.910721	-12.641242	31.553618	-23.617444	0.307667	10.238383	9.465896	
13.62	1.891415	28.859531	-12.621532	31.498819	-23.621898	0.308297	10.220612	9.504707	
13.64	1.890678	28.871905	-12.622184	31.510418	-23.61397	0.308121	10.225583	9.493836	
13.66	1.89518	28.802327	-12.632871	31.450969	-23.682582	0.309197	10.195303	9.560259	
13.68	1.895939	28.77532	-12.596047	31.411454	-23.640857	0.309378	10.190222	9.571452	
13.7	1.898018	28.73924	-12.590536	31.376193	-23.658058	0.309873	10.176319	9.602141	
13.72	1.900542	28.710045	-12.620537	31.361515	-23.729666	0.310474	10.159502	9.639396	
13.74	1.90404	28.640507	-12.587826	31.284693	-23.726073	0.311304	10.136298	9.691035	
13.76	1.903084	28.643175	-12.555191	31.27402	-23.66937	0.311077	10.142632	9.676913	
13.78	1.907066	28.589345	-12.581805	31.235436	-23.753722	0.312021	10.116317	9.735725	
13.8	1.906667	28.577285	-12.534392	31.205323	-23.682961	0.311927	10.118951	9.729821	
13.82	1.908464	28.544303	-12.523799	31.170864	-23.689482	0.312352	10.107122	9.756359	
13.84	1.912911	28.478691	-12.538149	31.116571	-23.762218	0.313402	10.077976	9.822057	
13.86	1.912983	28.467524	-12.512204	31.095903	-23.726758	0.313419	10.077507	9.823116	
13.88	1.914415	28.444323	-12.511255	31.074282	-23.742368	0.313756	10.068158	9.844286	
13.9	1.918864	28.368178	-12.496879	30.998798	-23.774712	0.314802	10.039254	9.910022	
13.92	1.91894	28.369394	-12.50322	31.002468	-23.784529	0.31482	10.038758	9.911153	
13.94	1.920267	28.331261	-12.458302	30.949469	-23.736908	0.315131	10.030176	9.930758	
13.96	1.924596	28.274766	-12.489053	30.910174	-23.831239	0.316145	10.002277	9.994758	
13.98	1.92335	28.282324	-12.45738	30.904306	-23.771864	0.315853	10.010291	9.976333	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	1.928073	28.215761	-12.477262	30.851439	-23.855485	0.316957	9.979995	10.046169	
14.02	1.930366	28.170338	-12.451836	30.799613	-23.846401	0.317491	9.965361	10.080078	
14.04	1.932064	28.139947	-12.441369	30.767585	-23.851454	0.317887	9.954554	10.105192	
14.06	1.935492	28.093061	-12.45829	30.731565	-23.915654	0.318683	9.932817	10.155898	
14.08	1.935927	28.071597	-12.41894	30.696004	-23.864751	0.318784	9.930068	10.162327	
14.1	1.937331	28.050186	-12.419773	30.676761	-23.882354	0.31911	9.921198	10.183105	
14.12	1.938773	28.017869	-12.392741	30.63627	-23.860596	0.319444	9.912112	10.204432	
14.14	1.940452	27.981325	-12.363939	30.591201	-23.83895	0.319833	9.901547	10.229287	
14.16	1.943586	27.933863	-12.365665	30.548492	-23.877888	0.320557	9.881902	10.275662	
14.18	1.945847	27.895174	-12.354501	30.508596	-23.888128	0.321078	9.867786	10.309114	
14.2	1.946953	27.878629	-12.35544	30.49385	-23.902329	0.321333	9.860893	10.325491	
14.22	1.949034	27.843983	-12.347398	30.458917	-23.914906	0.321812	9.84796	10.356285	
14.24	1.950817	27.814703	-12.341428	30.429732	-23.92698	0.322222	9.836907	10.382675	
14.26	1.952628	27.771999	-12.299557	30.373723	-23.887454	0.322637	9.825709	10.409481	
14.28	1.954823	27.734563	-12.287822	30.334742	-23.89582	0.323141	9.81217	10.441984	
14.3	1.954762	27.721536	-12.249217	30.307208	-23.839069	0.323126	9.81255	10.44107	
14.32	1.958576	27.669695	-12.264595	30.266026	-23.905362	0.323999	9.789126	10.497536	
14.34	1.961112	27.629054	-12.25734	30.225933	-23.924008	0.324578	9.773614	10.535097	
14.36	1.962507	27.605399	-12.249549	30.201151	-23.928695	0.324896	9.765108	10.555752	
14.38	1.964761	27.567775	-12.238371	30.162227	-23.938274	0.325409	9.751399	10.589126	
14.4	1.965929	27.547714	-12.230896	30.140859	-23.940761	0.325675	9.744308	10.606429	
14.42	1.969114	27.4999	-12.229411	30.096562	-23.975115	0.326398	9.72504	10.653591	
14.44	1.971652	27.462018	-12.228502	30.061581	-24.00287	0.326974	9.709744	10.69118	
14.46	1.973681	27.42691	-12.213881	30.023563	-24.004634	0.327433	9.697557	10.721223	
14.48	1.974752	27.403436	-12.192073	29.993249	-23.98482	0.327675	9.69113	10.7371	
14.5	1.977303	27.364374	-12.187536	29.955717	-24.007262	0.328251	9.675876	10.774879	
14.52	1.978572	27.333719	-12.153088	29.913705	-23.970877	0.328537	9.668309	10.79367	
14.54	1.982517	27.279672	-12.163314	29.86849	-24.030923	0.329425	9.644857	10.852113	
14.56	1.981564	27.29339	-12.162823	29.88082	-24.019351	0.329211	9.650508	10.838002	
14.58	1.986375	27.214361	-12.136729	29.798013	-24.035375	0.330292	9.622048	10.909257	
14.6	1.987651	27.202807	-12.156755	29.795627	-24.079594	0.330578	9.614529	10.928162	
14.62	1.987989	27.189611	-12.132806	29.773812	-24.04788	0.330654	9.612535	10.93318	
14.64	1.989969	27.146702	-12.091303	29.717723	-24.008518	0.331097	9.600904	10.9625	
14.66	1.992453	27.115145	-12.10363	29.693921	-24.055022	0.331652	9.586347	10.999306	
14.68	1.993943	27.089684	-12.091829	29.665861	-24.054253	0.331985	9.577643	11.021374	
14.7	1.995047	27.054058	-12.033894	29.609739	-23.979981	0.332231	9.5712	11.037736	
14.72	1.998093	27.015847	-12.049641	29.581241	-24.037927	0.332909	9.55348	11.082864	
14.74	2.001093	26.979958	-12.069898	29.556735	-24.102129	0.333576	9.536102	11.1273	
14.76	2.00326	26.935856	-12.030627	29.500446	-24.067486	0.334057	9.523591	11.159402	
14.78	2.006766	26.886924	-12.032807	29.456665	-24.11017	0.334834	9.503422	11.211348	



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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	2.008041	26.850755	-11.978693	29.401567	-24.042709	0.335116	9.496109	11.230242	
14.82	2.009174	26.844337	-12.00719	29.407329	-24.098508	0.335366	9.489626	11.247017	
14.84	2.008145	26.854172	-11.993244	29.410618	-24.065884	0.335138	9.495518	11.231771	
14.86	2.01223	26.794786	-11.987558	29.354081	-24.10302	0.33604	9.472177	11.292297	
14.88	2.013444	26.765608	-11.951053	29.312548	-24.061176	0.336308	9.465265	11.310285	
14.9	2.017147	26.711281	-11.943259	29.259767	-24.090614	0.337122	9.444258	11.365125	
14.92	2.018332	26.70165	-11.964095	29.259488	-24.13556	0.337382	9.437553	11.382684	
14.94	2.022269	26.637724	-11.936253	29.189767	-24.136994	0.338246	9.415356	11.441011	
14.96	2.02279	26.619526	-11.902802	29.15949	-24.091634	0.33836	9.412431	11.44872	
14.98	2.024866	26.584286	-11.88287	29.119183	-24.084136	0.338814	9.400778	11.479478	
15	2.025536	26.57352	-11.878207	29.107452	-24.084403	0.33896	9.397028	11.489395	
15.02	2.02832	26.537665	-11.88588	29.077858	-24.127039	0.339568	9.381472	11.530623	
15.04	2.032529	26.469248	-11.85309	29.002015	-24.123168	0.340485	9.358052	11.592972	
15.06	2.032113	26.466181	-11.825957	28.988135	-24.076699	0.340394	9.360363	11.586805	
15.08	2.034685	26.429139	-11.820087	28.951923	-24.095999	0.340953	9.346109	11.624897	
15.1	2.036961	26.391258	-11.798682	28.908604	-24.087924	0.341447	9.333538	11.658595	
15.12	2.037668	26.386874	-11.815015	28.911273	-24.12102	0.3416	9.329638	11.66907	
15.14	2.040516	26.345348	-11.806096	28.869729	-24.138543	0.342217	9.31397	11.711242	
15.16	2.043926	26.293281	-11.787493	28.814608	-24.147126	0.342954	9.295286	11.761735	
15.18	2.04619	26.255047	-11.763169	28.769769	-24.134072	0.343442	9.282931	11.795243	
15.2	2.047376	26.236211	-11.754061	28.748856	-24.132855	0.343698	9.276471	11.812802	
15.22	2.05102	26.185514	-11.748315	28.700244	-24.163767	0.344482	9.256682	11.866751	
15.24	2.05116	26.176215	-11.72472	28.682107	-24.128366	0.344512	9.255924	11.868821	
15.26	2.054339	26.121699	-11.686173	28.6166	-24.10255	0.345194	9.238741	11.915873	
15.28	2.055958	26.103912	-11.698236	28.605296	-24.139156	0.345541	9.230015	11.939839	
15.3	2.056289	26.090012	-11.667796	28.580172	-24.094862	0.345612	9.228231	11.944745	
15.32	2.060619	26.033987	-11.672237	28.530854	-24.148936	0.346537	9.204997	12.008819	
15.34	2.062988	26.000814	-11.666162	28.4981	-24.165076	0.347043	9.192341	12.043866	
15.36	2.064765	25.973649	-11.65407	28.468365	-24.165254	0.347421	9.182867	12.070168	
15.38	2.063714	25.973549	-11.608833	28.449784	-24.082215	0.347198	9.188467	12.054615	
15.4	2.06741	25.927603	-11.617413	28.411351	-24.135822	0.347984	9.168809	12.109302	
15.42	2.069186	25.896678	-11.592412	28.372909	-24.115284	0.348361	9.159399	12.135569	
15.44	2.070656	25.87096	-11.571103	28.340731	-24.097206	0.348673	9.151626	12.157307	
15.46	2.074172	25.820892	-11.557207	28.289353	-24.112916	0.349418	9.133085	12.209321	
15.48	2.076431	25.794302	-11.566297	28.268803	-24.15175	0.349896	9.121221	12.24272	
15.5	2.076931	25.776429	-11.528656	28.237107	-24.096898	0.350002	9.118599	12.250113	
15.52	2.082337	25.703919	-11.519921	28.167357	-24.140896	0.351142	9.090354	12.330044	
15.54	2.08251	25.69572	-11.500018	28.15174	-24.110757	0.351178	9.089453	12.332601	
15.56	2.08379	25.690618	-11.53797	28.16261	-24.185473	0.351447	9.082792	12.351532	
15.58	2.08541	25.656608	-11.49398	28.113575	-24.132086	0.351788	9.07438	12.37548	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	2.087621	25.620898	-11.469288	28.070892	-24.115891	0.352252	9.062927	12.408156	
15.62	2.091141	25.577163	-11.473526	28.032714	-24.16032	0.35299	9.044757	12.46018	
15.64	2.092799	25.552687	-11.462215	28.005753	-24.159703	0.353336	9.03623	12.484668	
15.66	2.094465	25.517721	-11.415542	27.954761	-24.101751	0.353685	9.027676	12.509283	
15.68	2.096222	25.499112	-11.428095	27.942907	-24.14083	0.354052	9.01867	12.535249	
15.7	2.099373	25.456047	-11.417266	27.899181	-24.156706	0.354708	9.002575	12.581791	
15.72	2.097947	25.46584	-11.389147	27.896625	-24.095779	0.354411	9.009854	12.560722	
15.74	2.101707	25.415098	-11.377924	27.845724	-24.117324	0.355194	8.990693	12.616261	
15.76	2.10548	25.362049	-11.358603	27.789412	-24.125658	0.355977	8.971555	12.671981	
15.78	2.106751	25.341815	-11.343713	27.764859	-24.114682	0.356241	8.965132	12.690735	
15.8	2.111614	25.276404	-11.327533	27.698548	-24.139414	0.357247	8.940634	12.762526	
15.82	2.111287	25.277693	-11.317841	27.695763	-24.120026	0.357179	8.942278	12.757694	
15.84	2.113249	25.253771	-11.319567	27.674638	-24.143527	0.357584	8.932433	12.786649	
15.86	2.11619	25.208182	-11.287836	27.620059	-24.122143	0.358191	8.917718	12.830045	
15.88	2.118357	25.186052	-11.304268	27.606588	-24.172039	0.358637	8.906908	12.86202	
15.9	2.120073	25.15189	-11.258739	27.556791	-24.114761	0.358989	8.898368	12.887338	
15.92	2.122884	25.117668	-11.260126	27.526127	-24.1465	0.359566	8.88442	12.928794	
15.94	2.124644	25.085925	-11.22434	27.48253	-24.105492	0.359927	8.875707	12.954757	
15.96	2.125974	25.074133	-11.240342	27.478308	-24.145991	0.360199	8.869138	12.974368	
15.98	2.128234	25.039359	-11.215059	27.436236	-24.127517	0.360662	8.858	13.007685	
16	2.130269	24.997012	-11.152466	27.372032	-24.044176	0.361077	8.847997	13.037679	
16.02	2.129938	24.997505	-11.139751	27.367303	-24.019445	0.36101	8.849625	13.032794	
16.040001	2.133935	24.95196	-11.150747	27.330193	-24.079368	0.361825	8.830038	13.091706	
16.059999	2.135997	24.92345	-11.138088	27.298999	-24.079523	0.362244	8.81997	13.122089	
16.08	2.138762	24.883193	-11.113391	27.252169	-24.06665	0.362806	8.806509	13.162824	
16.1	2.14042	24.861648	-11.107749	27.230197	-24.074297	0.363142	8.79846	13.187241	
16.120001	2.14325	24.821339	-11.084951	27.184094	-24.065082	0.363716	8.784755	13.228924	
16.139999	2.144706	24.797735	-11.062544	27.153408	-24.04222	0.36401	8.777722	13.250363	
16.16	2.148349	24.754079	-11.062299	27.113445	-24.079333	0.364746	8.760179	13.303997	
16.18	2.151037	24.718223	-11.048331	27.07501	-24.083304	0.365288	8.747283	13.343559	
16.200001	2.151565	24.707669	-11.032603	27.058959	-24.06202	0.365395	8.744754	13.351332	
16.219999	2.154662	24.667549	-11.020247	27.017287	-24.072783	0.366018	8.729961	13.396887	
16.24	2.155327	24.652943	-10.99533	26.993793	-24.037141	0.366151	8.726789	13.406674	
16.26	2.154594	24.648619	-10.946935	26.970165	-23.946987	0.366004	8.730284	13.395892	
16.280001	2.159885	24.587909	-10.953632	26.917417	-24.012467	0.367066	8.705129	13.473708	
16.299999	2.1623	24.563681	-10.969354	26.901694	-24.064052	0.367549	8.693697	13.50922	
16.32	2.164757	24.520539	-10.915639	26.840417	-23.996905	0.36804	8.682102	13.545338	
16.34	2.167	24.492699	-10.90967	26.812557	-24.009448	0.368488	8.671544	13.578307	
16.360001	2.166621	24.495372	-10.903005	26.812288	-23.994113	0.368412	8.673328	13.572731	
16.379999	2.168161	24.467191	-10.864416	26.770861	-23.943187	0.368719	8.66609	13.595369	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	2.172239	24.424192	-10.881499	26.738514	-24.014035	0.36953	8.646996	13.655274	
16.42	2.174392	24.395256	-10.866501	26.705979	-24.009907	0.369958	8.636951	13.686893	
16.440001	2.17556	24.38039	-10.861455	26.690346	-24.012997	0.37019	8.63151	13.704052	
16.459999	2.181872	24.298202	-10.825713	26.600727	-24.014715	0.371439	8.602244	13.796713	
16.48	2.183044	24.276254	-10.792963	26.567359	-23.969462	0.371671	8.596837	13.813901	
16.5	2.182833	24.274692	-10.777562	26.559678	-23.940472	0.371629	8.597807	13.810813	
16.52	2.186617	24.233914	-10.787649	26.526514	-23.996126	0.372375	8.580387	13.866323	
16.540001	2.187879	24.214298	-10.767517	26.500409	-23.973609	0.372624	8.574592	13.884838	
16.559999	2.19097	24.173874	-10.747375	26.455288	-23.969322	0.373231	8.560438	13.930163	
16.58	2.191619	24.158083	-10.714456	26.427496	-23.918015	0.373359	8.557473	13.939676	
16.6	2.194934	24.121896	-10.720194	26.39675	-23.961244	0.374009	8.542361	13.988267	
16.620001	2.197002	24.098075	-10.718657	26.374359	-23.979209	0.374414	8.532961	14.018577	
16.639999	2.199158	24.067075	-10.692512	26.335412	-23.954647	0.374836	8.523183	14.050173	
16.66	2.199919	24.054022	-10.674797	26.316293	-23.930938	0.374984	8.519742	14.06131	
16.68	2.203039	24.012288	-10.648547	26.2675	-23.915529	0.375593	8.50565	14.107012	
16.700001	2.204698	23.990462	-10.635762	26.242364	-23.909329	0.375916	8.49818	14.131296	
16.719999	2.208734	23.942409	-10.624298	26.193791	-23.929005	0.376701	8.480059	14.190381	
16.74	2.208524	23.933778	-10.580204	26.168042	-23.848422	0.37666	8.480999	14.18731	
16.76	2.211064	23.905962	-10.582236	26.143426	-23.877143	0.377153	8.46964	14.224468	
16.780001	2.21346	23.872494	-10.554706	26.101681	-23.851621	0.377618	8.458949	14.259526	
16.799999	2.216612	23.843412	-10.578572	26.084756	-23.925396	0.378228	8.444931	14.305628	
16.82	2.21617	23.840306	-10.546076	26.068753	-23.86288	0.378142	8.446896	14.299155	
16.84	2.222699	23.757785	-10.503484	25.976057	-23.850601	0.379402	8.418005	14.394598	
16.860001	2.22214	23.76011	-10.487797	25.971845	-23.816874	0.379294	8.42047	14.38643	
16.879999	2.223961	23.738551	-10.481467	25.949566	-23.823311	0.379645	8.412446	14.413033	
16.9	2.227787	23.693085	-10.467006	25.902133	-23.834671	0.38038	8.395635	14.468932	
16.92	2.229324	23.672469	-10.451252	25.87691	-23.821211	0.380675	8.388903	14.491378	
16.940001	2.228995	23.675919	-10.450615	25.879808	-23.816835	0.380612	8.390347	14.486563	
16.959999	2.232187	23.633226	-10.417919	25.827551	-23.788725	0.381224	8.376399	14.533162	
16.98	2.236129	23.583671	-10.389892	25.770902	-23.776147	0.381978	8.359239	14.590699	
17	2.239613	23.540982	-10.368993	25.723411	-23.771883	0.382642	8.344139	14.641517	
17.02	2.24077	23.531145	-10.380151	25.71891	-23.803466	0.382863	8.339139	14.658384	
17.040001	2.244838	23.484697	-10.369113	25.671959	-23.822765	0.383636	8.321602	14.717694	
17.059999	2.246763	23.461559	-10.35871	25.646591	-23.822381	0.384002	8.313332	14.745747	
17.08	2.247585	23.442359	-10.31463	25.611243	-23.749519	0.384158	8.309808	14.757719	
17.1	2.250169	23.410039	-10.294705	25.573636	-23.737823	0.384647	8.298746	14.795356	
17.120001	2.251577	23.394518	-10.292649	25.558602	-23.74761	0.384914	8.292729	14.815868	
17.139999	2.254326	23.364232	-10.288416	25.529177	-23.766287	0.385433	8.281012	14.855895	
17.16	2.256004	23.341726	-10.268396	25.500513	-23.745498	0.38575	8.273877	14.88032	
17.18	2.258289	23.312565	-10.247229	25.465298	-23.728324	0.386181	8.264182	14.913576	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	2.25853	23.303705	-10.219958	25.446222	-23.680139	0.386226	8.263163	14.917077	
17.219999	2.263121	23.254447	-10.216724	25.399818	-23.718084	0.38709	8.243765	14.983855	
17.24	2.266332	23.217261	-10.201987	25.359846	-23.721395	0.387692	8.230257	15.03053	
17.26	2.268902	23.179157	-10.153326	25.305401	-23.655233	0.388174	8.219475	15.067893	
17.280001	2.271612	23.151594	-10.156811	25.281557	-23.687531	0.388681	8.208143	15.107258	
17.299999	2.27151	23.144771	-10.122061	25.261365	-23.621573	0.388661	8.20857	15.105773	
17.32	2.274771	23.108996	-10.114324	25.225488	-23.63803	0.38927	8.194973	15.153141	
17.34	2.274705	23.103176	-10.085459	25.208594	-23.583234	0.389258	8.195251	15.152173	
17.360001	2.279338	23.054498	-10.083035	25.163018	-23.622518	0.390121	8.176018	15.219422	
17.379999	2.279898	23.045733	-10.069843	25.149702	-23.602984	0.390225	8.173699	15.227551	
17.4	2.281827	23.023212	-10.058434	25.124498	-23.599707	0.390583	8.165724	15.25554	
17.42	2.283515	22.998331	-10.025041	25.088337	-23.552572	0.390897	8.158761	15.280019	
17.440001	2.286848	22.954616	-9.982706	25.031357	-23.503726	0.391514	8.145049	15.328339	
17.459999	2.288337	22.936713	-9.970904	25.010233	-23.495288	0.39179	8.138938	15.349923	
17.48	2.291633	22.905092	-9.98074	24.985164	-23.544884	0.392399	8.125444	15.397692	
17.5	2.294751	22.868431	-9.958889	24.942826	-23.532508	0.392974	8.112727	15.442844	
17.52	2.297796	22.830132	-9.925604	24.894428	-23.497467	0.393534	8.100347	15.486928	
17.540001	2.30018	22.80688	-9.930051	24.874881	-23.528214	0.393973	8.090682	15.521433	
17.559999	2.300431	22.799681	-9.908667	24.85975	-23.48965	0.394019	8.089667	15.525062	
17.58	2.303902	22.75811	-9.879013	24.809806	-23.465109	0.394655	8.075644	15.575272	
17.6	2.303942	22.756871	-9.875121	24.807119	-23.458002	0.394662	8.075485	15.575842	
17.620001	2.30601	22.729511	-9.84505	24.770056	-23.419386	0.395041	8.067155	15.605746	
17.639999	2.311138	22.670656	-9.811097	24.702556	-23.401379	0.395978	8.046576	15.679867	
17.66	2.309735	22.686897	-9.821173	24.721463	-23.40786	0.395722	8.052196	15.659592	
17.68	2.316289	22.620017	-9.815355	24.657785	-23.457191	0.396916	8.026022	15.754253	
17.700001	2.317712	22.597149	-9.774512	24.620565	-23.391183	0.397175	8.020364	15.774789	
17.719999	2.316843	22.604188	-9.766868	24.623993	-23.368355	0.397017	8.023817	15.762252	
17.74	2.322798	22.542123	-9.753398	24.561679	-23.396937	0.398098	8.000209	15.848168	
17.76	2.324711	22.518046	-9.729067	24.529924	-23.367111	0.398444	7.992653	15.875765	
17.780001	2.325225	22.510908	-9.719255	24.51948	-23.352679	0.398537	7.990629	15.883168	
17.799999	2.327663	22.480104	-9.687117	24.478466	-23.312197	0.398978	7.98103	15.918312	
17.82	2.331039	22.449264	-9.698743	24.454756	-23.365806	0.399587	7.967777	15.966962	
17.84	2.331862	22.43718	-9.679522	24.436044	-23.335672	0.399735	7.964557	15.978806	
17.860001	2.334551	22.403312	-9.643417	24.390652	-23.289311	0.400219	7.954046	16.017526	
17.879999	2.337347	22.373422	-9.631202	24.358368	-23.290717	0.400722	7.943144	16.057784	
17.9	2.338998	22.355922	-9.624489	24.339639	-23.292491	0.401018	7.936725	16.081535	
17.92	2.33958	22.337765	-9.563579	24.298926	-23.177503	0.401122	7.934464	16.08991	
17.940001	2.345937	22.278162	-9.574231	24.248349	-23.256071	0.40226	7.909862	16.181316	
17.959999	2.346147	22.272529	-9.556547	24.236195	-23.222919	0.402298	7.909051	16.184337	
17.98	2.350043	22.229478	-9.529998	24.186165	-23.205334	0.402993	7.894055	16.240316	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	2.350698	22.220942	-9.519015	24.173993	-23.189383	0.403109	7.89154	16.249724	
18.02	2.354251	22.184186	-9.506363	24.135224	-23.196133	0.403742	7.877927	16.30074	
18.040001	2.354141	22.183317	-9.496774	24.13065	-23.176016	0.403722	7.878348	16.29916	
18.059999	2.359947	22.121589	-9.466397	24.061948	-23.167369	0.404753	7.856208	16.382464	
18.08	2.359978	22.112896	-9.42417	24.03737	-23.082985	0.404758	7.856092	16.382902	
18.1	2.360394	22.113291	-9.446162	24.046364	-23.13082	0.404832	7.85451	16.388869	
18.120001	2.365799	22.050541	-9.38929	23.966333	-23.06472	0.405788	7.834026	16.466352	
18.139999	2.365729	22.05392	-9.403015	23.974822	-23.091734	0.405775	7.834294	16.465337	
18.16	2.370651	21.999225	-9.362114	23.908473	-23.052977	0.406643	7.81574	16.535832	
18.18	2.371259	21.992448	-9.356877	23.900186	-23.047788	0.40675	7.813452	16.544543	
18.200001	2.375632	21.947217	-9.336437	23.850564	-23.045142	0.407518	7.797056	16.607122	
18.219999	2.376726	21.930622	-9.303952	23.822588	-22.988872	0.40771	7.792967	16.622766	
18.24	2.378686	21.911271	-9.299092	23.802876	-22.996294	0.408054	7.785649	16.650801	
18.26	2.382997	21.865677	-9.271987	23.750318	-22.979072	0.408808	7.769607	16.712419	
18.280001	2.385918	21.836685	-9.262962	23.720103	-22.986342	0.409318	7.758777	16.754147	
18.299999	2.385241	21.836818	-9.230677	23.707636	-22.914387	0.4092	7.761286	16.744469	
18.32	2.389075	21.793243	-9.18918	23.651352	-22.862892	0.409868	7.747111	16.799213	
18.34	2.389567	21.793605	-9.215131	23.661781	-22.920454	0.409954	7.745294	16.80624	
18.360001	2.393917	21.745851	-9.175842	23.602502	-22.877757	0.41071	7.729285	16.868308	
18.379999	2.396123	21.722469	-9.159893	23.57476	-22.864136	0.411093	7.721193	16.899765	
18.4	2.398058	21.703207	-9.152326	23.554071	-22.865379	0.411429	7.71411	16.92735	
18.42	2.397667	21.700958	-9.12112	23.53989	-22.797521	0.411361	7.715543	16.921765	
18.440001	2.401379	21.664105	-9.106552	23.500271	-22.799593	0.412003	7.701988	16.974664	
18.459999	2.402085	21.655278	-9.093937	23.487247	-22.779568	0.412125	7.699417	16.984716	
18.48	2.407959	21.595218	-9.059805	23.418657	-22.759469	0.413139	7.678086	17.068344	
18.5	2.410108	21.575716	-9.060222	23.400837	-22.778881	0.413508	7.670315	17.098911	
18.52	2.409892	21.571922	-9.028976	23.385257	-22.711896	0.413471	7.671097	17.095836	
18.540001	2.415193	21.519108	-9.003468	23.32669	-22.704188	0.414382	7.651992	17.171206	
18.559999	2.418025	21.493279	-9.002349	23.302432	-22.726162	0.414867	7.641826	17.211449	
18.58	2.420191	21.472121	-8.993543	23.279514	-22.726289	0.415237	7.634071	17.242209	
18.6	2.420216	21.464114	-8.950725	23.255616	-22.636606	0.415242	7.633982	17.242563	
18.620001	2.42362	21.435256	-8.960518	23.232759	-22.686289	0.415823	7.621831	17.290872	
18.639999	2.425007	21.416053	-8.923199	23.200664	-22.619548	0.41606	7.616889	17.310559	
18.66	2.426282	21.400162	-8.898405	23.176466	-22.578078	0.416277	7.612355	17.328641	
18.68	2.427726	21.388291	-8.904317	23.167776	-22.602849	0.416523	7.607225	17.34912	
18.700001	2.433455	21.325659	-8.83992	23.085231	-22.515043	0.417496	7.586947	17.430319	
18.719999	2.436796	21.291924	-8.817086	23.045326	-22.494715	0.418063	7.575174	17.477631	
18.74	2.4392	21.269198	-8.809092	23.02127	-22.497973	0.418469	7.566724	17.51167	
18.76	2.440515	21.258516	-8.814496	23.013471	-22.520581	0.418692	7.562113	17.530273	
18.780001	2.440381	21.253385	-8.778567	22.994991	-22.442781	0.418669	7.562585	17.52837	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	2.444506	21.215067	-8.76771	22.955431	-22.454246	0.419365	7.548151	17.586722	
18.82	2.445045	21.207469	-8.751368	22.942171	-22.423776	0.419456	7.546272	17.594335	
18.84	2.448646	21.174256	-8.742464	22.908072	-22.434876	0.420062	7.533726	17.645234	
18.860001	2.45377	21.124553	-8.714569	22.851487	-22.417789	0.420923	7.515955	17.717584	
18.879999	2.453161	21.126311	-8.693926	22.845248	-22.368246	0.42082	7.518064	17.708984	
18.9	2.457959	21.076091	-8.645147	22.780259	-22.302859	0.421624	7.50149	17.776696	
18.92	2.459883	21.059863	-8.648022	22.766337	-22.325053	0.421946	7.494868	17.803821	
18.940001	2.462913	21.032498	-8.641701	22.738622	-22.336512	0.422452	7.484461	17.846535	
18.959999	2.465035	21.010653	-8.621256	22.710649	-22.309748	0.422805	7.477191	17.876434	
18.98	2.464827	21.009835	-8.605841	22.704045	-22.274542	0.422771	7.477903	17.873504	
19	2.471939	20.94251	-8.570111	22.628202	-22.255439	0.423953	7.453645	17.97362	
19.02	2.46996	20.958678	-8.565058	22.641254	-22.228109	0.423624	7.460379	17.94577	
19.040001	2.471034	20.948351	-8.558559	22.629236	-22.222768	0.423803	7.456724	17.960879	
19.059999	2.473604	20.922437	-8.535602	22.596568	-22.193733	0.424229	7.447992	17.99703	
19.08	2.479932	20.8627	-8.501904	22.528529	-22.171768	0.425276	7.426579	18.085983	
19.1	2.481654	20.845041	-8.483877	22.505375	-22.146234	0.42556	7.420776	18.110166	
19.120001	2.483367	20.82564	-8.454597	22.476376	-22.095744	0.425843	7.415014	18.13421	
19.139999	2.485014	20.805058	-8.414458	22.442227	-22.020559	0.426114	7.40948	18.157332	
19.16	2.485274	20.802748	-8.413795	22.439837	-22.021202	0.426157	7.408608	18.160975	
19.18	2.490599	20.752539	-8.382261	22.381469	-21.994558	0.427032	7.390782	18.235672	
19.200001	2.49179	20.74289	-8.384698	22.373436	-22.009598	0.427228	7.38681	18.25236	
19.219999	2.494162	20.716756	-8.346741	22.334997	-21.944449	0.427617	7.378908	18.285601	
19.24	2.499021	20.675356	-8.343032	22.295213	-21.975368	0.428412	7.362777	18.353645	
19.26	2.500677	20.660329	-8.335834	22.278585	-21.972663	0.428682	7.357296	18.376822	
19.280001	2.503317	20.634121	-8.309993	22.244616	-21.936194	0.429112	7.348577	18.413751	
19.299999	2.503349	20.626576	-8.264352	22.220602	-21.834299	0.429118	7.348473	18.414193	
19.32	2.507527	20.589913	-8.252641	22.182213	-21.841441	0.429798	7.334717	18.472611	
19.34	2.509334	20.572699	-8.238715	22.161055	-21.824579	0.430091	7.328786	18.497856	
19.360001	2.509232	20.572975	-8.235086	22.159962	-21.815601	0.430075	7.329122	18.496426	
19.379999	2.514249	20.523826	-8.186779	22.096397	-21.746672	0.430888	7.312704	18.56648	
19.4	2.515745	20.509507	-8.174224	22.078447	-21.730178	0.431131	7.307823	18.587359	
19.42	2.517114	20.500605	-8.1895	22.075841	-21.775562	0.431352	7.303364	18.606455	
19.440001	2.520762	20.461451	-8.130795	22.017738	-21.671495	0.431941	7.291508	18.657316	
19.459999	2.52296	20.438142	-8.096659	21.983484	-21.611248	0.432296	7.284385	18.687943	
19.48	2.526493	20.408266	-8.090411	21.953407	-21.624807	0.432864	7.272965	18.737148	
19.5	2.529782	20.379548	-8.078218	21.922216	-21.622842	0.433393	7.262365	18.782935	
19.52	2.530343	20.372626	-8.062845	21.91012	-21.592139	0.433483	7.260561	18.790739	
19.540001	2.534717	20.333166	-8.037224	21.864003	-21.567763	0.434184	7.246527	18.851562	
19.559999	2.536451	20.317602	-8.027323	21.845889	-21.558618	0.434461	7.240977	18.875665	
19.58	2.536419	20.313642	-7.99941	21.831963	-21.494307	0.434456	7.241082	18.875212	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	2.539918	20.279434	-7.960159	21.785766	-21.431222	0.435015	7.229911	18.923823	
19.620001	2.542674	20.256386	-7.954666	21.762304	-21.439932	0.435455	7.22114	18.962081	
19.639999	2.540973	20.265154	-7.921618	21.758412	-21.350489	0.435184	7.22655	18.938474	
19.66	2.550393	20.189567	-7.922164	21.688229	-21.424535	0.436682	7.196693	19.069123	
19.68	2.550755	20.182286	-7.892547	21.670647	-21.358672	0.436739	7.195551	19.074135	
19.700001	2.550101	20.189447	-7.905595	21.682071	-21.38389	0.436636	7.197615	19.065076	
19.719999	2.552601	20.15945	-7.837675	21.629438	-21.245331	0.437032	7.18973	19.09972	
19.74	2.557697	20.117464	-7.828135	21.586849	-21.262112	0.437839	7.173719	19.170266	
19.76	2.556971	20.120012	-7.806	21.581207	-21.204892	0.437724	7.175997	19.16021	
19.780001	2.564045	20.060324	-7.781201	21.516591	-21.200817	0.43884	7.153879	19.258041	
19.799999	2.566663	20.03922	-7.778259	21.495852	-21.213849	0.439252	7.145728	19.294218	
19.82	2.568755	20.020642	-7.763707	21.473268	-21.195588	0.43958	7.139234	19.323093	
19.84	2.56875	20.016485	-7.73451	21.458851	-21.126919	0.43958	7.139249	19.323026	
19.860001	2.570258	20.004968	-7.736942	21.448986	-21.144066	0.439816	7.134572	19.343844	
19.879999	2.57635	19.949449	-7.682621	21.377633	-21.061953	0.440771	7.115747	19.427875	
19.9	2.575744	19.95354	-7.678058	21.379812	-21.046602	0.440676	7.117614	19.419525	
19.92	2.579044	19.927688	-7.677561	21.355507	-21.070267	0.441192	7.107457	19.464997	
19.940001	2.582448	19.897047	-7.648418	21.316444	-21.02678	0.441723	7.097009	19.511881	
19.959999	2.583844	19.882592	-7.622768	21.293756	-20.976313	0.44194	7.092734	19.531095	
19.98	2.588804	19.842923	-7.614133	21.253626	-20.99286	0.442711	7.077589	19.599322	
20	2.586577	19.854451	-7.573081	21.249724	-20.878382	0.442365	7.084381	19.568696	
20.02	2.592625	19.803563	-7.543259	21.191552	-20.852081	0.443304	7.065966	19.651846	
20.040001	2.592939	19.800391	-7.537804	21.186646	-20.841347	0.443353	7.065014	19.656157	
20.059999	2.597991	19.757477	-7.50832	21.136054	-20.808042	0.444134	7.049714	19.725525	
20.08	2.598953	19.749928	-7.507095	21.128562	-20.812207	0.444283	7.046809	19.738724	
20.1	2.599963	19.736263	-7.46368	21.100393	-20.715194	0.444439	7.043762	19.752579	
20.120001	2.605506	19.693249	-7.458921	21.058479	-20.744481	0.445293	7.027087	19.828566	
20.139999	2.60629	19.685683	-7.447209	21.047257	-20.721961	0.445413	7.024734	19.839312	
20.16	2.611658	19.640504	-7.414887	20.993569	-20.683081	0.446238	7.008675	19.912808	
20.18	2.60924	19.653856	-7.377522	20.992901	-20.574804	0.445867	7.015898	19.879717	
20.200001	2.61279	19.62668	-7.375749	20.966837	-20.596364	0.446411	7.005298	19.928297	
20.219999	2.613567	19.614758	-7.330381	20.939752	-20.491639	0.44653	7.002981	19.938931	
20.24	2.617186	19.587988	-7.334813	20.916232	-20.52868	0.447084	6.992218	19.988407	
20.26	2.622315	19.544203	-7.295823	20.861565	-20.470567	0.447867	6.977019	20.058483	
20.280001	2.621966	19.544223	-7.275926	20.854634	-20.419336	0.447814	6.978054	20.053705	
20.299999	2.623225	19.532748	-7.260541	20.838515	-20.390699	0.448006	6.974332	20.070899	
20.32	2.629201	19.486708	-7.250802	20.791967	-20.409749	0.448915	6.956727	20.152425	
20.34	2.633362	19.451148	-7.215964	20.746501	-20.353823	0.449546	6.944524	20.209127	
20.360001	2.636	19.429621	-7.201203	20.721185	-20.336259	0.449945	6.936812	20.245046	
20.379999	2.634608	19.437144	-7.179216	20.720611	-20.272023	0.449734	6.94088	20.226094	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	2.635765	19.426133	-7.160428	20.703777	-20.233806	0.449909	6.937498	20.24185	
20.42	2.640369	19.388004	-7.129204	20.657208	-20.189122	0.450605	6.924076	20.304504	
20.440001	2.642572	19.372611	-7.136297	20.645213	-20.222342	0.450937	6.917673	20.334462	
20.459999	2.645319	19.345847	-7.084994	20.602401	-20.114189	0.451351	6.909708	20.371792	
20.48	2.649361	19.315891	-7.083338	20.573705	-20.138547	0.451959	6.898021	20.426684	
20.5	2.650577	19.303478	-7.055556	20.552497	-20.077746	0.452141	6.894514	20.443186	
20.52	2.650706	19.298677	-7.02468	20.537406	-20.00144	0.452161	6.894142	20.444937	
20.540001	2.651697	19.290448	-7.016954	20.527032	-19.989032	0.452309	6.891287	20.458383	
20.559999	2.654867	19.263534	-6.987049	20.491525	-19.936176	0.452784	6.88217	20.501376	
20.58	2.661542	19.213751	-6.97809	20.441672	-19.960149	0.453782	6.863053	20.591817	
20.6	2.661692	19.207887	-6.939187	20.42291	-19.863181	0.453804	6.862625	20.59385	
20.620001	2.66567	19.179428	-6.942572	20.397298	-19.899285	0.454397	6.851289	20.647673	
20.639999	2.667748	19.159843	-6.905339	20.366229	-19.819545	0.454706	6.84538	20.675783	
20.66	2.671643	19.130508	-6.895421	20.335269	-19.821281	0.455285	6.834338	20.728418	
20.68	2.670684	19.132188	-6.852012	20.322172	-19.70454	0.455142	6.837052	20.715469	
20.700001	2.676847	19.087558	-6.849761	20.279401	-19.741066	0.456056	6.819643	20.798677	
20.719999	2.674318	19.102479	-6.822536	20.284273	-19.65445	0.455681	6.826777	20.764541	
20.74	2.680202	19.056968	-6.794963	20.232141	-19.624263	0.456552	6.810204	20.843929	
20.76	2.681761	19.04554	-6.792717	20.220623	-19.629144	0.456782	6.805825	20.864958	
20.780001	2.685218	19.014966	-6.742753	20.175075	-19.524663	0.457291	6.796143	20.911526	
20.799999	2.68526	19.013582	-6.733499	20.170679	-19.501204	0.457297	6.796026	20.91209	
20.82	2.683435	19.022817	-6.701206	20.168632	-19.405967	0.457029	6.801133	20.887512	
20.84	2.689143	18.980842	-6.68982	20.125259	-19.415099	0.457869	6.785182	20.96437	
20.860001	2.696397	18.927256	-6.670989	20.068461	-19.415248	0.458933	6.765022	21.061913	
20.879999	2.69917	18.906927	-6.664398	20.047097	-19.416796	0.459338	6.75735	21.09915	
20.9	2.697993	18.912299	-6.638931	20.043714	-19.343033	0.459166	6.760605	21.083345	
20.92	2.704412	18.862821	-6.601325	19.984582	-19.288288	0.460103	6.742894	21.169498	
20.940001	2.705358	18.856585	-6.604863	19.979865	-19.303772	0.460241	6.740292	21.182186	
20.959999	2.710654	18.813882	-6.555141	19.923153	-19.209415	0.461011	6.725766	21.253156	
20.98	2.706192	18.843888	-6.544388	19.947961	-19.151891	0.460362	6.738001	21.193363	
21	2.710901	18.804511	-6.486946	19.891961	-19.032805	0.461047	6.725089	21.25647	
21.02	2.715836	18.773874	-6.520525	19.873993	-19.153123	0.461763	6.711614	21.322522	
21.040001	2.719001	18.748537	-6.490407	19.840187	-19.094968	0.462221	6.703005	21.364835	
21.059999	2.721922	18.724499	-6.456157	19.806282	-19.024088	0.462643	6.695075	21.403879	
21.08	2.724092	18.707274	-6.43596	19.783419	-18.985053	0.462956	6.6892	21.432854	
21.1	2.727217	18.683273	-6.413722	19.753494	-18.946706	0.463407	6.680756	21.474566	
21.120001	2.731847	18.651428	-6.413799	19.723401	-18.976954	0.464072	6.668286	21.536314	
21.139999	2.732042	18.644791	-6.365019	19.701312	-18.849077	0.4641	6.667763	21.538908	
21.16	2.733668	18.63171	-6.347234	19.683191	-18.812386	0.464334	6.663394	21.560586	
21.18	2.737073	18.607444	-6.338329	19.657349	-18.810624	0.464822	6.654271	21.605927	



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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	2.735874	18.613779	-6.320971	19.657758	-18.756779	0.46465	6.657481	21.589965	
21.219999	2.742103	18.569463	-6.304207	19.610405	-18.752035	0.465541	6.640838	21.672859	
21.24	2.743539	18.555529	-6.265033	19.584644	-18.656616	0.465746	6.637015	21.691945	
21.26	2.7473	18.526891	-6.235764	19.548157	-18.602188	0.466282	6.627018	21.741933	
21.280001	2.747828	18.522527	-6.228236	19.54162	-18.585353	0.466358	6.62562	21.748933	
21.299999	2.749728	18.506735	-6.200365	19.517781	-18.522577	0.466628	6.620584	21.774167	
21.32	2.754485	18.472385	-6.179058	19.478444	-18.495247	0.467304	6.608015	21.837276	
21.34	2.757356	18.450209	-6.151626	19.44872	-18.439331	0.467711	6.600453	21.875333	
21.360001	2.756145	18.453623	-6.105647	19.437467	-18.307575	0.467539	6.60364	21.859285	
21.379999	2.760885	18.421456	-6.102541	19.405954	-18.3287	0.46821	6.591181	21.922086	
21.4	2.76536	18.390312	-6.090962	19.372749	-18.325157	0.468842	6.579466	21.981304	
21.42	2.767797	18.371061	-6.061677	19.345279	-18.260747	0.469186	6.573102	22.013534	
21.440001	2.769504	18.360172	-6.066528	19.33646	-18.284508	0.469426	6.568654	22.036093	
21.459999	2.77017	18.351342	-6.022979	19.314452	-18.170061	0.46952	6.56692	22.044894	
21.48	2.77082	18.343553	-5.988406	19.296294	-18.079736	0.469611	6.565229	22.053479	
21.5	2.776305	18.305927	-5.976321	19.256775	-18.080297	0.470382	6.55099	22.125901	
21.52	2.779057	18.286183	-5.960901	19.233222	-18.054882	0.470767	6.543872	22.162195	
21.540001	2.782075	18.263203	-5.930028	19.201818	-17.988549	0.47119	6.536083	22.201978	
21.559999	2.785009	18.241505	-5.905935	19.173747	-17.940097	0.4716	6.528529	22.24063	
21.58	2.787835	18.220148	-5.877452	19.144666	-17.878684	0.471994	6.521271	22.27783	
21.6	2.792473	18.187731	-5.856623	19.107423	-17.849087	0.47264	6.509398	22.338818	
21.620001	2.79477	18.170969	-5.83853	19.085925	-17.812807	0.472959	6.503534	22.369002	
21.639999	2.797623	18.151823	-5.833059	19.066023	-17.814755	0.473355	6.496264	22.406479	
21.66	2.796254	18.158798	-5.812712	19.066452	-17.750132	0.473165	6.499749	22.388504	
21.68	2.803686	18.107442	-5.78114	19.00792	-17.706687	0.474194	6.480875	22.486017	
21.700001	2.805467	18.094878	-5.770397	18.992686	-17.687342	0.47444	6.476369	22.509358	
21.719999	2.811814	18.052775	-5.758993	18.949107	-17.693169	0.475315	6.460362	22.592475	
21.74	2.807185	18.077333	-5.702136	18.955325	-17.506875	0.474677	6.472027	22.531873	
21.76	2.812483	18.043542	-5.706531	18.924426	-17.550342	0.475408	6.458679	22.601231	
21.780001	2.812085	18.043176	-5.675063	18.914612	-17.45979	0.475353	6.459679	22.596028	
21.799999	2.817348	18.007798	-5.658519	18.8759	-17.444107	0.476076	6.446472	22.664845	
21.82	2.82089	17.984189	-5.648747	18.850449	-17.437282	0.476562	6.437615	22.711116	
21.84	2.821804	17.976261	-5.626022	18.836084	-17.378561	0.476687	6.435336	22.723036	
21.860001	2.825764	17.948837	-5.602775	18.802974	-17.335917	0.477229	6.42547	22.774719	
21.879999	2.824822	17.948774	-5.535683	18.783032	-17.140613	0.4771	6.427814	22.76243	
21.9	2.827642	17.930188	-5.528817	18.763248	-17.137303	0.477485	6.420804	22.799199	
21.92	2.831727	17.904497	-5.531937	18.73962	-17.169566	0.478042	6.410676	22.85243	
21.940001	2.834729	17.882432	-5.497977	18.708531	-17.090145	0.478451	6.403256	22.891509	
21.959999	2.839138	17.8543	-5.495183	18.680821	-17.10731	0.47905	6.392387	22.948868	
21.98	2.841226	17.836867	-5.446862	18.64999	-16.981183	0.479333	6.387256	22.976	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	2.846151	17.805026	-5.43709	18.616684	-16.981038	0.48	6.375183	23.039962	
22.02	2.842899	17.823477	-5.414258	18.627682	-16.897297	0.47956	6.38315	22.997732	
22.040001	2.848186	17.787827	-5.386197	18.585422	-16.846469	0.480275	6.370207	23.06637	
22.059999	2.852144	17.761223	-5.365025	18.553828	-16.807704	0.480809	6.360555	23.117693	
22.08	2.854153	17.747368	-5.349774	18.536158	-16.77496	0.481079	6.355669	23.143719	
22.1	2.85542	17.737098	-5.322142	18.518364	-16.702274	0.48125	6.352589	23.160137	
22.120001	2.860163	17.705117	-5.293125	18.479403	-16.644599	0.481887	6.341093	23.221522	
22.139999	2.861376	17.694692	-5.258853	18.459622	-16.551949	0.48205	6.338159	23.237218	
22.16	2.862122	17.689961	-5.257581	18.454725	-16.552349	0.48215	6.336358	23.246855	
22.18	2.863251	17.680868	-5.232643	18.438917	-16.48612	0.482301	6.33363	23.26146	
22.200001	2.867947	17.64969	-5.207027	18.401758	-16.437188	0.48293	6.32232	23.32212	
22.219999	2.876574	17.594986	-5.187732	18.34383	-16.427731	0.48408	6.301648	23.433392	
22.24	2.873302	17.614126	-5.176054	18.358893	-16.375882	0.483645	6.309471	23.391223	
22.26	2.878852	17.576989	-5.138581	18.312715	-16.296153	0.484384	6.296212	23.462746	
22.280001	2.880462	17.565651	-5.120356	18.296725	-16.25134	0.484598	6.292376	23.483475	
22.299999	2.883434	17.543486	-5.070676	18.26159	-16.121156	0.484992	6.285311	23.52171	
22.32	2.885959	17.528844	-5.080167	18.250164	-16.162546	0.485327	6.279318	23.55419	
22.34	2.889325	17.507254	-5.066363	18.225586	-16.139758	0.485772	6.271351	23.597442	
22.360001	2.891041	17.49327	-5.021604	18.199753	-16.016641	0.485999	6.267297	23.61948	
22.379999	2.893205	17.48161	-5.040054	18.193648	-16.082619	0.486284	6.262193	23.647251	
22.4	2.896387	17.458836	-4.995601	18.159488	-15.96776	0.486704	6.254703	23.688071	
22.42	2.896668	17.454706	-4.964542	18.146995	-15.877067	0.486741	6.254043	23.691673	
22.440001	2.903631	17.411236	-4.945487	18.099972	-15.856694	0.487657	6.237719	23.780892	
22.459999	2.90775	17.383523	-4.906848	18.06278	-15.762812	0.488197	6.228106	23.833585	
22.48	2.906314	17.39078	-4.889118	18.064958	-15.702441	0.488008	6.231455	23.815213	
22.5	2.911183	17.360841	-4.879073	18.033418	-15.697462	0.488646	6.220118	23.877467	
22.52	2.911451	17.357921	-4.861753	18.025927	-15.646972	0.488681	6.219495	23.88089	
22.540001	2.915101	17.333461	-4.826499	17.992887	-15.559879	0.489157	6.211026	23.927502	
22.559999	2.919821	17.306367	-4.839891	17.970389	-15.624185	0.489773	6.200109	23.987725	
22.58	2.921715	17.291894	-4.796857	17.9449	-15.504304	0.490019	6.195742	24.011862	
22.6	2.918852	17.30769	-4.780599	17.955786	-15.440843	0.489646	6.202348	23.975364	
22.620001	2.927267	17.255689	-4.752053	17.898067	-15.397078	0.49074	6.182972	24.08257	
22.639999	2.926531	17.258021	-4.724644	17.893059	-15.310479	0.490645	6.18466	24.073212	
22.66	2.9318	17.225819	-4.709531	17.85801	-15.290993	0.491327	6.172584	24.140239	
22.68	2.934134	17.209242	-4.670394	17.83173	-15.183736	0.491629	6.167251	24.169901	
22.700001	2.941355	17.166294	-4.662198	17.788135	-15.194491	0.49256	6.150811	24.261568	
22.719999	2.938523	17.182083	-4.651063	17.80046	-15.146584	0.492195	6.157249	24.225631	
22.74	2.944089	17.145372	-4.592847	17.749874	-14.996156	0.492912	6.144611	24.296229	
22.76	2.942916	17.150253	-4.564939	17.74739	-14.905048	0.492761	6.14727	24.281362	
22.780001	2.947929	17.119869	-4.548564	17.713818	-14.879144	0.493405	6.135923	24.344882	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	2.953461	17.087024	-4.538432	17.679472	-14.874742	0.494114	6.123455	24.414873	
22.82	2.953318	17.08595	-4.511004	17.671413	-14.789685	0.494096	6.123777	24.413065	
22.84	2.954819	17.076142	-4.494992	17.657847	-14.747576	0.494288	6.120401	24.432049	
22.860001	2.960298	17.043711	-4.484015	17.623691	-14.739902	0.494987	6.108116	24.501258	
22.879999	2.964298	17.018902	-4.458342	17.593176	-14.679604	0.495497	6.099177	24.551739	
22.9	2.964354	17.015516	-4.413022	17.578468	-14.539504	0.495504	6.099054	24.552438	
22.92	2.963455	17.018645	-4.382614	17.573889	-14.440978	0.49539	6.101059	24.541105	
22.940001	2.972033	16.969531	-4.384299	17.526752	-14.486354	0.496479	6.081974	24.649189	
22.959999	2.973576	16.957471	-4.335534	17.502933	-14.341669	0.496675	6.078553	24.668613	
22.98	2.973766	16.956652	-4.339581	17.503143	-14.355169	0.496699	6.078132	24.671003	
23	2.979657	16.920777	-4.30481	17.459785	-14.273818	0.497444	6.065113	24.745069	
23.02	2.982164	16.906453	-4.303709	17.445632	-14.281912	0.49776	6.059592	24.77655	
23.040001	2.985976	16.882569	-4.268918	17.413926	-14.190364	0.498241	6.051214	24.824389	
23.059999	2.988121	16.867943	-4.230266	17.390303	-14.078715	0.498511	6.046511	24.85129	
23.08	2.988441	16.865465	-4.219773	17.38535	-14.047161	0.498551	6.04581	24.8553	
23.1	2.989378	16.858167	-4.188314	17.370658	-13.952342	0.498669	6.043757	24.867055	
23.120001	2.995965	16.820442	-4.178966	17.331792	-13.95242	0.499495	6.029375	24.949537	
23.139999	3.000064	16.795902	-4.15484	17.302168	-13.894476	0.500008	6.02046	25.000803	
23.16	2.998676	16.802145	-4.130004	17.302283	-13.809678	0.499834	6.023476	24.983451	
23.18	3.002424	16.780146	-4.11404	17.277113	-13.775681	0.500303	6.015342	25.030286	
23.200001	3.009095	16.742499	-4.108009	17.239112	-13.786007	0.501134	6.000917	25.113564	
23.219999	3.007081	16.750187	-4.049988	17.232851	-13.592565	0.500884	6.005263	25.08844	
23.24	3.012865	16.717212	-4.037413	17.197845	-13.577659	0.501603	5.992797	25.160558	
23.26	3.015212	16.701478	-3.992394	17.172029	-13.443974	0.501894	5.987754	25.18979	
23.280001	3.01931	16.679479	-4.004233	17.153393	-13.499518	0.502402	5.978971	25.240787	
23.299999	3.01886	16.681585	-3.99782	17.153945	-13.477047	0.502346	5.979934	25.235193	
23.32	3.024764	16.645854	-3.945119	17.106969	-13.333287	0.503076	5.96732	25.30859	
23.34	3.025986	16.637038	-3.909497	17.090208	-13.223899	0.503227	5.964716	25.323773	
23.360001	3.031271	16.606577	-3.885158	17.054995	-13.167708	0.503879	5.953483	25.38936	
23.379999	3.034131	16.59155	-3.896507	17.042954	-13.216368	0.50423	5.947421	25.424823	
23.4	3.034316	16.588407	-3.859361	17.031439	-13.097132	0.504253	5.947031	25.427105	
23.42	3.036524	16.57399	-3.818293	17.008131	-12.973388	0.504524	5.94236	25.454466	
23.440001	3.042177	16.543374	-3.822399	16.979221	-13.010084	0.505217	5.930439	25.524435	
23.459999	3.03857	16.561858	-3.801336	16.992507	-12.926856	0.504775	5.93804	25.479799	
23.48	3.04495	16.524691	-3.758131	16.94665	-12.812596	0.505556	5.924609	25.558723	
23.5	3.051066	16.489837	-3.72759	16.905905	-12.737863	0.506303	5.911794	25.63425	
23.52	3.050736	16.490884	-3.714098	16.903958	-12.692474	0.506263	5.912484	25.630177	
23.540001	3.055463	16.464997	-3.707969	16.877357	-12.691485	0.506838	5.902615	25.688487	
23.559999	3.055228	16.464492	-3.675234	16.869702	-12.583396	0.50681	5.903105	25.685588	
23.58	3.056926	16.454663	-3.662765	16.857396	-12.549313	0.507016	5.899568	25.706512	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	3.059462	16.438874	-3.622922	16.833364	-12.428615	0.507324	5.894293	25.737756	
23.620001	3.066278	16.401589	-3.609747	16.794118	-12.412097	0.50815	5.880167	25.821609	
23.639999	3.06567	16.40265	-3.56791	16.786212	-12.271854	0.508076	5.881424	25.814135	
23.66	3.073474	16.360595	-3.561151	16.743681	-12.279842	0.509019	5.865328	25.909988	
23.68	3.071738	16.36843	-3.533716	16.745526	-12.182417	0.508809	5.868899	25.888691	
23.700001	3.073331	16.359212	-3.519585	16.733538	-12.141782	0.509001	5.865622	25.908234	
23.719999	3.07896	16.327118	-3.477388	16.693322	-12.023361	0.509679	5.854067	25.977258	
23.74	3.078356	16.330011	-3.471146	16.694853	-12.000341	0.509606	5.855305	25.969854	
23.76	3.080646	16.316713	-3.448437	16.677135	-11.933524	0.509881	5.850615	25.997914	
23.780001	3.088834	16.272226	-3.424801	16.628728	-11.885541	0.510863	5.83391	26.098106	
23.799999	3.09184	16.253793	-3.371991	16.599883	-11.720273	0.511222	5.827804	26.134827	
23.82	3.094799	16.238683	-3.381161	16.586955	-11.761891	0.511575	5.821806	26.170948	
23.84	3.094981	16.235938	-3.344403	16.576813	-11.639444	0.511597	5.821436	26.173175	
23.860001	3.096227	16.229925	-3.355371	16.573141	-11.680776	0.511746	5.818913	26.188383	
23.879999	3.102179	16.196637	-3.311304	16.53166	-11.554566	0.512454	5.806899	26.260931	
23.9	3.107345	16.168741	-3.291575	16.500383	-11.50685	0.513067	5.79651	26.323823	
23.92	3.103245	16.188565	-3.258373	16.513226	-11.380245	0.512581	5.804753	26.273912	
23.940001	3.112895	16.13699	-3.229714	16.45702	-11.317858	0.513724	5.785395	26.391285	
23.959999	3.116277	16.117863	-3.195072	16.431494	-11.212502	0.514124	5.778642	26.432354	
23.98	3.116412	16.117294	-3.197915	16.431489	-11.222613	0.51414	5.778372	26.433994	
24	3.120675	16.093841	-3.16683	16.402455	-11.132047	0.514643	5.769885	26.4857	
24.02	3.120517	16.093907	-3.150241	16.399325	-11.075137	0.514624	5.770199	26.483785	
24.040001	3.123583	16.0757	-3.096657	16.371238	-10.903334	0.514985	5.764109	26.52095	
24.059999	3.127576	16.054985	-3.092745	16.350157	-10.903606	0.515454	5.7562	26.569296	
24.08	3.12844	16.049565	-3.070365	16.340614	-10.830146	0.515556	5.754491	26.579748	
24.1	3.137762	16.00048	-3.039035	16.286531	-10.754334	0.516647	5.736124	26.6924	
24.120001	3.136985	16.003983	-3.028281	16.28797	-10.714871	0.516556	5.73765	26.683021	
24.139999	3.140371	15.985531	-3.000728	16.264734	-10.631587	0.516952	5.731004	26.723886	
24.16	3.14562	15.957442	-2.967851	16.231084	-10.535817	0.517563	5.720733	26.787163	
24.18	3.149142	15.939073	-2.955754	16.210816	-10.505651	0.517973	5.713863	26.829567	
24.200001	3.145035	15.958898	-2.931501	16.225909	-10.408685	0.517495	5.721877	26.780106	
24.219999	3.151458	15.924569	-2.888396	16.184397	-10.280552	0.518242	5.709355	26.857434	
24.24	3.155687	15.902571	-2.872602	16.159938	-10.239373	0.518732	5.701143	26.908267	
24.26	3.157119	15.894858	-2.860427	16.150187	-10.201732	0.518898	5.698366	26.925475	
24.280001	3.161908	15.87021	-2.846574	16.123478	-10.168794	0.519451	5.689106	26.982951	
24.299999	3.158487	15.885906	-2.808733	16.132297	-10.026665	0.519056	5.695719	26.941895	
24.32	3.160175	15.876557	-2.786942	16.119308	-9.956181	0.519251	5.692454	26.962156	
24.34	3.168801	15.832806	-2.774176	16.07401	-9.938322	0.520246	5.67583	27.065562	
24.360001	3.169246	15.830205	-2.764434	16.069769	-9.905713	0.520297	5.674975	27.070886	
24.379999	3.174017	15.804833	-2.723879	16.037838	-9.778578	0.520845	5.665826	27.127975	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
24.4	3.174714	15.800604	-2.704084	16.03032	-9.711421	0.520925	5.664491	27.136319	
24.42	3.177647	15.785444	-2.689025	16.012842	-9.667462	0.521262	5.658885	27.171368	
24.440001	3.183623	15.754053	-2.642182	15.974082	-9.520738	0.521945	5.647498	27.242701	
24.459999	3.183176	15.755423	-2.619307	15.971666	-9.438996	0.521894	5.648347	27.237379	
24.48	3.183402	15.753973	-2.610158	15.968737	-9.407468	0.52192	5.647918	27.240068	
24.5	3.188309	15.729113	-2.593663	15.941521	-9.363582	0.52248	5.638602	27.298565	
24.52	3.195284	15.693966	-2.571614	15.903263	-9.305806	0.523274	5.625414	27.381586	
24.540001	3.199656	15.671271	-2.536747	15.875258	-9.194869	0.523771	5.617179	27.433557	
24.559999	3.200488	15.666729	-2.523465	15.868657	-9.150149	0.523865	5.615615	27.443438	
24.58	3.200968	15.664065	-2.514502	15.864603	-9.11972	0.523919	5.614712	27.449141	
24.6	3.206756	15.634807	-2.486445	15.831286	-9.036244	0.524574	5.603861	27.517815	
24.620001	3.209387	15.620417	-2.440484	15.809914	-8.879935	0.524871	5.598941	27.549004	
24.639999	3.211859	15.60798	-2.428264	15.795744	-8.843106	0.52515	5.594329	27.578278	
24.66	3.215119	15.591738	-2.416162	15.777837	-8.808748	0.525518	5.588255	27.616872	
24.68	3.213101	15.600232	-2.376674	15.780235	-8.66234	0.52529	5.592013	27.592989	
24.700001	3.217729	15.577463	-2.366861	15.756249	-8.639535	0.525811	5.583404	27.647736	
24.719999	3.222748	15.552066	-2.332014	15.725935	-8.527914	0.526375	5.574099	27.707037	
24.74	3.225823	15.536774	-2.317709	15.708696	-8.484583	0.526719	5.568413	27.743337	
24.76	3.227194	15.528764	-2.272941	15.694227	-8.327249	0.526873	5.565883	27.759502	
24.780001	3.232663	15.502135	-2.261936	15.666287	-8.301532	0.527484	5.55581	27.823964	
24.799999	3.235622	15.487165	-2.236316	15.647792	-8.21662	0.527814	5.550376	27.858797	
24.82	3.238613	15.472248	-2.216388	15.63019	-8.152134	0.528148	5.544894	27.893985	
24.84	3.236529	15.480625	-2.163263	15.631042	-7.955014	0.527915	5.548713	27.869471	
24.860001	3.244699	15.442048	-2.177387	15.594803	-8.026021	0.528824	5.533776	27.965487	
24.879999	3.24321	15.448611	-2.159429	15.598805	-7.957341	0.528659	5.536493	27.948001	
24.9	3.253291	15.399775	-2.127114	15.545986	-7.864308	0.529776	5.518156	28.066253	
24.92	3.249796	15.415357	-2.092687	15.556753	-7.730852	0.529389	5.524498	28.025292	
24.940001	3.254646	15.392032	-2.080589	15.532015	-7.698202	0.529926	5.515701	28.082124	
24.959999	3.256911	15.380168	-2.039175	15.514761	-7.55251	0.530176	5.511603	28.108632	
24.98	3.265553	15.338637	-2.009533	15.469713	-7.463892	0.531128	5.496022	28.209659	
25	3.265999	15.336554	-2.009993	15.467707	-7.466585	0.531177	5.49522	28.214866	
25.02	3.268672	15.323055	-1.974527	15.44975	-7.342675	0.53147	5.490421	28.246058	
25.040001	3.270655	15.313296	-1.956931	15.43783	-7.282536	0.531688	5.486867	28.269186	
25.059999	3.273171	15.301013	-1.937639	15.423211	-7.217231	0.531964	5.482363	28.298519	
25.08	3.280397	15.266677	-1.91365	15.386146	-7.144671	0.532754	5.469472	28.382638	
25.1	3.279561	15.270052	-1.893472	15.386998	-7.068555	0.532662	5.47096	28.372919	
25.120001	3.281363	15.260987	-1.866665	15.374725	-6.973571	0.532859	5.467753	28.393875	
25.139999	3.279096	15.271597	-1.86893	15.385531	-6.977144	0.532612	5.471788	28.367507	
25.16	3.287803	15.230309	-1.8354	15.340503	-6.871574	0.533561	5.456324	28.468695	
25.18	3.29709	15.186564	-1.80109	15.292993	-6.763561	0.534569	5.439929	28.57637	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	3.292035	15.209458	-1.783081	15.313621	-6.686563	0.534021	5.448841	28.517793	
25.219999	3.29683	15.186616	-1.752898	15.287445	-6.584176	0.534541	5.440387	28.573361	
25.24	3.297894	15.181394	-1.739138	15.280685	-6.535166	0.534656	5.438514	28.585682	
25.26	3.304776	15.149121	-1.710989	15.245437	-6.443868	0.5354	5.426436	28.665295	
25.280001	3.302361	15.160111	-1.706922	15.255903	-6.424057	0.535139	5.430668	28.637372	
25.299999	3.306335	15.140955	-1.66537	15.232267	-6.276804	0.535568	5.423709	28.683297	
25.32	3.317701	15.088704	-1.648766	15.178518	-6.236067	0.536791	5.403903	28.814408	
25.34	3.314161	15.104243	-1.62199	15.191083	-6.12931	0.53641	5.410056	28.773616	
25.360001	3.318579	15.083367	-1.586023	15.166523	-6.002628	0.536885	5.40238	28.824514	
25.379999	3.319703	15.078029	-1.575018	15.160067	-5.963375	0.537005	5.400431	28.837454	
25.4	3.32221	15.066036	-1.545496	15.145098	-5.857007	0.537274	5.396087	28.866309	
25.42	3.327681	15.040793	-1.522331	15.117637	-5.779435	0.537859	5.386636	28.929197	
25.440001	3.328152	15.038507	-1.514648	15.114591	-5.751331	0.537909	5.385823	28.934615	
25.459999	3.328163	15.037382	-1.459827	15.108076	-5.544899	0.53791	5.385805	28.934736	
25.48	3.336015	15.001558	-1.437584	15.070282	-5.47389	0.538747	5.372304	29.024827	
25.5	3.336038	15.001811	-1.45642	15.072342	-5.545076	0.538749	5.372263	29.025099	
25.52	3.342366	14.972394	-1.402743	15.037961	-5.352349	0.539422	5.361433	29.097571	
25.540001	3.340679	14.979789	-1.393506	15.044466	-5.314698	0.539243	5.364317	29.078254	
25.559999	3.341792	14.974233	-1.362191	15.036064	-5.197844	0.539361	5.362415	29.090992	
25.58	3.350469	14.935102	-1.342856	14.99535	-5.137816	0.540279	5.347631	29.190188	
25.6	3.354839	14.91522	-1.318518	14.973386	-5.051872	0.540741	5.340218	29.240059	
25.620001	3.354264	14.917527	-1.303846	14.974399	-4.995175	0.54068	5.341192	29.233498	
25.639999	3.356806	14.905829	-1.280169	14.9607	-4.908741	0.540948	5.336888	29.262484	
25.66	3.364298	14.87218	-1.252971	14.924867	-4.815764	0.541736	5.324244	29.347805	
25.68	3.364434	14.871158	-1.227061	14.921696	-4.716958	0.54175	5.324014	29.349357	
25.700001	3.363851	14.873319	-1.200744	14.921709	-4.615566	0.541689	5.324996	29.342724	
25.719999	3.371782	14.838014	-1.1803	14.884884	-4.548063	0.542521	5.311674	29.432868	
25.74	3.37039	14.844019	-1.172174	14.890228	-4.515061	0.542375	5.314008	29.417058	
25.76	3.373178	14.831323	-1.143838	14.875366	-4.410106	0.542667	5.309337	29.44871	
25.780001	3.37042	14.842954	-1.109348	14.884352	-4.274291	0.542378	5.313957	29.417398	
25.799999	3.376108	14.817633	-1.08762	14.857495	-4.198012	0.542973	5.304436	29.481961	
25.82	3.385906	14.774408	-1.062913	14.812593	-4.11494	0.543994	5.28812	29.592933	
25.84	3.38939	14.758872	-1.037258	14.795277	-4.020162	0.544356	5.282343	29.632323	
25.860001	3.388942	14.760595	-1.020232	14.795811	-3.953922	0.544309	5.283084	29.627267	
25.879999	3.39049	14.753736	-1.010924	14.78833	-3.919779	0.54447	5.280522	29.644751	
25.9	3.39584	14.730346	-0.999892	14.764243	-3.883274	0.545024	5.271682	29.705157	
25.92	3.398356	14.719117	-0.974466	14.751338	-3.787696	0.545285	5.267535	29.733531	
25.940001	3.40477	14.691052	-0.947497	14.721575	-3.690179	0.545947	5.256994	29.805786	
25.959999	3.402187	14.701881	-0.920417	14.730665	-3.582354	0.54568	5.261234	29.776703	
25.98	3.408427	14.674661	-0.894559	14.701902	-3.488406	0.546323	5.251003	29.846931	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	3.407213	14.679668	-0.874841	14.705713	-3.410537	0.546198	5.252991	29.833272	
26.02	3.416376	14.639859	-0.835145	14.663661	-3.264962	0.54714	5.238031	29.936213	
26.040001	3.415976	14.641453	-0.823968	14.66462	-3.221007	0.547099	5.238682	29.93173	
26.059999	3.420819	14.620507	-0.803079	14.642546	-3.144003	0.547595	5.230809	29.98604	
26.08	3.422303	14.613919	-0.778528	14.634642	-3.049443	0.547747	5.228401	30.002668	
26.1	3.422688	14.612047	-0.755429	14.631561	-2.959509	0.547786	5.227776	30.006987	
26.120001	3.425931	14.59804	-0.736841	14.616624	-2.889576	0.548118	5.222525	30.043294	
26.139999	3.431598	14.573714	-0.713499	14.591169	-2.80285	0.548696	5.213372	30.106679	
26.16	3.437694	14.547712	-0.696115	14.564358	-2.739546	0.549316	5.203563	30.174753	
26.18	3.436118	14.554136	-0.667109	14.569417	-2.624399	0.549155	5.206096	30.157159	
26.200001	3.44178	14.530152	-0.662375	14.545242	-2.610098	0.54973	5.19701	30.220313	
26.219999	3.443487	14.522691	-0.631178	14.5364	-2.4886	0.549903	5.194277	30.239338	
26.24	3.448369	14.502126	-0.630517	14.515826	-2.489515	0.550397	5.186479	30.293688	
26.26	3.448233	14.502289	-0.577215	14.513772	-2.279269	0.550383	5.186695	30.292177	
26.280001	3.451442	14.488715	-0.56484	14.499721	-2.232538	0.550707	5.181581	30.327867	
26.299999	3.453832	14.478516	-0.539957	14.488581	-2.135785	0.550949	5.17778	30.354425	
26.32	3.461447	14.446449	-0.507209	14.455351	-2.010808	0.551715	5.165706	30.438935	
26.34	3.461367	14.446637	-0.483838	14.454737	-1.918202	0.551707	5.165832	30.438048	
26.360001	3.470658	14.407881	-0.470497	14.415561	-1.870361	0.552639	5.151176	30.540938	
26.379999	3.46943	14.412873	-0.452137	14.419963	-1.796801	0.552516	5.153108	30.527359	
26.4	3.47286	14.398518	-0.429985	14.404937	-1.710528	0.552859	5.147716	30.565281	
26.42	3.476398	14.383748	-0.407992	14.389533	-1.624751	0.553212	5.142165	30.604372	
26.440001	3.473831	14.394318	-0.39638	14.399774	-1.577372	0.552956	5.146191	30.576016	
26.459999	3.477085	14.380674	-0.359843	14.385175	-1.433398	0.553281	5.141089	30.611959	
26.48	3.481407	14.36274	-0.341728	14.366805	-1.362965	0.553712	5.134328	30.659653	
26.5	3.487347	14.338162	-0.314024	14.3416	-1.254653	0.554302	5.125065	30.725112	
26.52	3.493294	14.313684	-0.295464	14.316733	-1.182538	0.554892	5.115827	30.790536	
26.540001	3.491556	14.320749	-0.27898	14.323466	-1.116029	0.55472	5.118524	30.771427	
26.559999	3.494024	14.310535	-0.248839	14.312698	-0.99619	0.554965	5.114695	30.798563	
26.58	3.497255	14.297286	-0.240649	14.299311	-0.964301	0.555284	5.109692	30.834068	
26.6	3.500478	14.28405	-0.214258	14.285657	-0.859363	0.555603	5.104712	30.86944	
26.620001	3.500195	14.285142	-0.189884	14.286404	-0.761558	0.555575	5.105149	30.866339	
26.639999	3.506011	14.261415	-0.177156	14.262516	-0.711697	0.556148	5.096185	30.930112	
26.66	3.509943	14.245388	-0.152483	14.246204	-0.613273	0.556535	5.090143	30.973171	
26.68	3.513789	14.229766	-0.136191	14.230418	-0.548353	0.556913	5.084248	31.015245	
26.700001	3.517356	14.215303	-0.11366	14.215757	-0.458106	0.557263	5.078794	31.054222	
26.719999	3.51833	14.21132	-0.072516	14.211505	-0.29236	0.557359	5.077306	31.064858	
26.74	3.527204	14.175556	-0.061171	14.175688	-0.247244	0.558226	5.063795	31.161656	
26.76	3.523813	14.189189	-0.047517	14.189268	-0.191875	0.557895	5.068949	31.124693	
26.780001	3.529814	14.165057	-0.024707	14.165079	-0.099936	0.558481	5.059836	31.190073	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	3.528116	14.171869	0.009997	14.171873	0.040415	0.558315	5.062411	31.171589	
26.82	3.533251	14.151275	0.00943	14.151279	0.038182	0.558815	5.054632	31.227473	
26.84	3.535694	14.141517	0.059717	14.141643	0.241948	0.559053	5.050938	31.254043	
26.860001	3.540785	14.121181	0.058488	14.121303	0.237312	0.559548	5.04326	31.309348	
26.879999	3.542015	14.116308	0.089519	14.116592	0.363337	0.559667	5.041409	31.322692	
26.9	3.547053	14.096256	0.088192	14.096532	0.35846	0.560155	5.03384	31.377328	
26.92	3.548674	14.089866	0.124306	14.090414	0.505473	0.560311	5.031411	31.394884	
26.940001	3.557734	14.054028	0.151312	14.054843	0.616848	0.561185	5.017872	31.492913	
26.959999	3.556484	14.059014	0.17363	14.060086	0.707573	0.561065	5.019736	31.479398	
26.98	3.557326	14.055722	0.189937	14.057005	0.774201	0.561146	5.01848	31.488501	
27	3.561757	14.038276	0.207226	14.039805	0.845712	0.561572	5.011884	31.536364	
27.02	3.564363	14.028104	0.24063	14.030167	0.982722	0.561823	5.008013	31.564484	
27.040001	3.565484	14.023735	0.254389	14.026042	1.039228	0.56193	5.00635	31.576573	
27.059999	3.568135	14.01346	0.296696	14.0166	1.2129	0.562185	5.002422	31.605144	
27.08	3.569018	14.010036	0.308904	14.013441	1.263101	0.562269	5.001114	31.614664	
27.1	3.577677	13.976153	0.315452	13.979712	1.29299	0.563097	4.988333	31.707842	
27.120001	3.5861	13.94341	0.337424	13.947493	1.386263	0.5639	4.975964	31.798281	
27.139999	3.589481	13.930494	0.386428	13.935853	1.588963	0.564221	4.971018	31.834515	
27.16	3.586431	13.942325	0.383536	13.9476	1.57574	0.563931	4.975479	31.801828	
27.18	3.593867	13.913645	0.417998	13.919923	1.720785	0.564637	4.964615	31.881485	
27.200001	3.595806	13.90626	0.441082	13.913253	1.816716	0.564821	4.961789	31.902237	
27.219999	3.597019	13.90165	0.455579	13.909113	1.877005	0.564935	4.960024	31.915206	
27.24	3.598592	13.895753	0.487406	13.904299	2.008881	0.565084	4.957735	31.932025	
27.26	3.598092	13.897728	0.494731	13.906531	2.038758	0.565037	4.958462	31.92668	
27.280001	3.608141	13.859142	0.514483	13.868688	2.125978	0.565985	4.943894	32.033955	
27.299999	3.611365	13.847014	0.552691	13.85804	2.2857	0.566289	4.939239	32.068311	
27.32	3.610915	13.848733	0.551583	13.859713	2.28084	0.566247	4.939888	32.063518	
27.34	3.614472	13.835326	0.584709	13.847676	2.420001	0.566581	4.93476	32.101403	
27.360001	3.618431	13.82041	0.615408	13.834105	2.54964	0.566952	4.929067	32.143514	
27.379999	3.625147	13.794894	0.627077	13.809139	2.602719	0.567581	4.919439	32.21485	
27.4	3.623901	13.799871	0.657917	13.815546	2.729548	0.567465	4.921221	32.201631	
27.42	3.625076	13.795534	0.674894	13.812032	2.80075	0.567575	4.91954	32.214102	
27.440001	3.635413	13.756471	0.695065	13.77402	2.892496	0.568539	4.904795	32.323657	
27.459999	3.636657	13.751939	0.71592	13.770562	2.980108	0.568655	4.903026	32.336824	
27.48	3.637408	13.749328	0.742121	13.769342	3.089552	0.568725	4.90196	32.344766	
27.5	3.648113	13.709103	0.755781	13.72992	3.155518	0.569718	4.886804	32.45784	
27.52	3.649161	13.705402	0.781876	13.727686	3.265117	0.569815	4.885324	32.468899	
27.540001	3.65117	13.698097	0.80718	13.721859	3.372341	0.570001	4.882492	32.49008	
27.559999	3.648593	13.707701	0.799638	13.731004	3.338567	0.569762	4.886125	32.462912	
27.58	3.651512	13.697157	0.842113	13.72302	3.518173	0.570032	4.882011	32.493679	



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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
27.6	3.66049	13.66388	0.873478	13.691771	3.657724	0.570861	4.8694	32.588175	
27.620001	3.665105	13.64701	0.905726	13.677032	3.797051	0.571285	4.862942	32.63667	
27.639999	3.666467	13.641927	0.904519	13.671881	3.793412	0.57141	4.86104	32.650967	
27.66	3.667748	13.637611	0.945611	13.670355	3.966459	0.571528	4.859252	32.66441	
27.68	3.670209	13.628602	0.9579	13.662224	4.020486	0.571754	4.855821	32.690226	
27.700001	3.677431	13.602205	0.99017	13.638197	4.163497	0.572415	4.845782	32.765879	
27.719999	3.672867	13.61901	0.981518	13.654333	4.122172	0.571997	4.852122	32.718081	
27.74	3.680291	13.591763	1.001035	13.628577	4.212243	0.572676	4.841819	32.795793	
27.76	3.683745	13.57956	1.046225	13.619803	4.405608	0.572991	4.83704	32.831899	
27.780001	3.686261	13.570674	1.076989	13.613343	4.537575	0.57322	4.833566	32.858173	
27.799999	3.6897	13.558117	1.08431	13.601406	4.572506	0.573533	4.828825	32.894063	
27.82	3.696288	13.533966	1.085578	13.577434	4.585964	0.574132	4.819769	32.962721	
27.84	3.697265	13.531129	1.142578	13.579283	4.826656	0.57422	4.818429	32.972899	
27.860001	3.693868	13.543316	1.123156	13.589808	4.740735	0.573912	4.823091	32.937522	
27.879999	3.701192	13.517029	1.16165	13.566853	4.911924	0.574576	4.813051	33.013751	
27.9	3.699917	13.522017	1.185818	13.573913	5.011761	0.574461	4.814795	33.000496	
27.92	3.70596	13.500066	1.193056	13.552681	5.050351	0.575007	4.806537	33.063306	
27.940001	3.71264	13.476725	1.25987	13.535487	5.340778	0.575609	4.797442	33.132622	
27.959999	3.717232	13.460141	1.264399	13.519397	5.366428	0.576023	4.79121	33.180201	
27.98	3.717994	13.457557	1.276194	13.517933	5.417226	0.576091	4.790178	33.188087	
28	3.725549	13.430467	1.289949	13.492272	5.486238	0.576769	4.779965	33.266223	
28.02	3.725245	13.431896	1.312006	13.495821	5.578873	0.576742	4.780376	33.263079	
28.040001	3.724816	13.433925	1.343248	13.500913	5.709994	0.576703	4.780955	33.258641	
28.059999	3.733517	13.402952	1.365	13.472281	5.815149	0.577481	4.769243	33.34845	
28.08	3.733647	13.402615	1.373295	13.472789	5.850387	0.577493	4.769069	33.349793	
28.1	3.735459	13.396204	1.378968	13.466991	5.877177	0.577654	4.766638	33.368465	
28.120001	3.741209	13.376255	1.418814	13.451291	6.054714	0.578167	4.758939	33.427667	
28.139999	3.741099	13.376747	1.425004	13.452435	6.080709	0.578157	4.759086	33.426541	
28.16	3.745853	13.360416	1.464024	13.44039	6.253488	0.578579	4.752739	33.475422	
28.18	3.750765	13.343275	1.485014	13.425657	6.350499	0.579015	4.746202	33.525853	
28.200001	3.749715	13.34726	1.499612	13.431239	6.41051	0.578922	4.747597	33.515083	
28.219999	3.758186	13.317623	1.525758	13.404738	6.535712	0.579672	4.736357	33.601939	
28.24	3.757513	13.319991	1.524712	13.406973	6.530121	0.579612	4.737248	33.595042	
28.26	3.759616	13.313103	1.556548	13.403789	6.668671	0.579798	4.734466	33.616572	
28.280001	3.765347	13.293243	1.579214	13.386719	6.774899	0.580303	4.726899	33.675197	
28.299999	3.761373	13.307715	1.602742	13.403883	6.867469	0.579953	4.732142	33.634564	
28.32	3.771672	13.27158	1.613994	13.369361	6.933862	0.58086	4.718575	33.739798	
28.34	3.778278	13.248988	1.647224	13.350994	7.087132	0.581439	4.709914	33.807151	
28.360001	3.774867	13.261142	1.656844	13.364244	7.121629	0.58114	4.714382	33.772391	
28.379999	3.780797	13.240814	1.681722	13.347185	7.238419	0.58166	4.706621	33.832797	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
28.4	3.778005	13.251367	1.721297	13.362694	7.401056	0.581415	4.710272	33.804369	
28.42	3.782843	13.234643	1.732924	13.347614	7.459797	0.581839	4.703948	33.853627	
28.440001	3.784831	13.228026	1.749843	13.343262	7.53552	0.582012	4.701355	33.873842	
28.459999	3.795383	13.191831	1.779346	13.311291	7.681842	0.582932	4.68764	33.980991	
28.48	3.799292	13.178612	1.797017	13.300567	7.764897	0.583272	4.682579	34.02061	
28.5	3.794906	13.194477	1.827599	13.320448	7.886014	0.582891	4.688258	33.976151	
28.52	3.80441	13.161698	1.836782	13.289246	7.944622	0.583716	4.675972	34.07241	
28.540001	3.810549	13.140664	1.845197	13.269582	7.993161	0.584247	4.66807	34.134456	
28.559999	3.805313	13.159594	1.885358	13.293964	8.153227	0.583794	4.674807	34.081547	
28.58	3.812735	13.134378	1.90438	13.27172	8.249953	0.584436	4.665263	34.156527	
28.6	3.817609	13.118115	1.92804	13.259045	8.361221	0.584856	4.659017	34.205688	
28.620001	3.816041	13.124011	1.951078	13.268246	8.455948	0.584721	4.661024	34.189878	
28.639999	3.822403	13.102683	1.974806	13.250667	8.570991	0.585269	4.652889	34.253982	
28.66	3.8212	13.107412	2.001775	13.259388	8.683181	0.585166	4.654425	34.241869	
28.68	3.821534	13.106561	2.014813	13.260521	8.739426	0.585194	4.653999	34.245231	
28.700001	3.831984	13.07163	2.050761	13.23152	8.916265	0.586091	4.640694	34.350302	
28.719999	3.831465	13.073708	2.064093	13.235646	8.971888	0.586047	4.641353	34.345092	
28.74	3.837053	13.054567	2.059982	13.216098	8.967225	0.586525	4.634268	34.401172	
28.76	3.838941	13.049198	2.10516	13.217915	9.164292	0.586686	4.631879	34.420094	
28.780001	3.839596	13.046945	2.104054	13.215515	9.161114	0.586742	4.631051	34.426659	
28.799999	3.8474	13.021017	2.127101	13.193614	9.277848	0.587408	4.621208	34.504778	
28.82	3.856213	12.991845	2.152016	13.168873	9.405297	0.588156	4.610143	34.592797	
28.84	3.851451	13.008049	2.157751	13.185797	9.418374	0.587752	4.616115	34.545264	
28.860001	3.851676	13.007981	2.186359	13.190441	9.541014	0.587771	4.615832	34.547512	
28.879999	3.857157	12.990549	2.229444	13.18047	9.738275	0.588237	4.608961	34.602218	
28.9	3.857549	12.989382	2.235679	13.180376	9.765849	0.58827	4.608469	34.606131	
28.92	3.862361	12.973548	2.249777	13.167173	9.83799	0.588677	4.602456	34.654079	
28.940001	3.865068	12.965519	2.291983	13.166544	10.024924	0.588906	4.599079	34.681038	
28.959999	3.864341	12.968409	2.309538	13.172456	10.097929	0.588845	4.599986	34.673799	
28.98	3.865774	12.963816	2.318028	13.169426	10.137796	0.588966	4.598199	34.688065	
29	3.880328	12.915519	2.331277	13.124233	10.231849	0.590191	4.580142	34.832596	
29.02	3.879637	12.918832	2.370246	13.134469	10.396571	0.590133	4.580995	34.825749	
29.040001	3.880085	12.917566	2.37883	13.134776	10.434399	0.590171	4.580442	34.830186	
29.059999	3.886372	12.896957	2.390059	13.11655	10.498943	0.590698	4.572685	34.892455	
29.08	3.881069	12.9157	2.431959	13.142668	10.663659	0.590254	4.579226	34.839942	
29.1	3.892878	12.876826	2.443872	13.106684	10.746283	0.591243	4.564686	34.956782	
29.120001	3.897521	12.862118	2.467441	13.096654	10.859585	0.59163	4.558995	35.002618	
29.139999	3.891234	12.883482	2.488522	13.121618	10.932411	0.591105	4.566704	34.940536	
29.16	3.895021	12.871386	2.504415	13.112767	11.01062	0.591422	4.562057	34.977949	
29.18	3.904327	12.841443	2.531539	13.088597	11.152202	0.592197	4.550678	35.069714	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	3.907577	12.83096	2.538723	13.079704	11.191961	0.592467	4.546718	35.101703	
29.219999	3.91144	12.819027	2.565345	13.073196	11.316567	0.592787	4.54202	35.139694	
29.24	3.909394	12.826573	2.59489	13.086422	11.436925	0.592618	4.544507	35.119577	
29.26	3.91724	12.800963	2.598067	13.061952	11.472862	0.593268	4.534985	35.196661	
29.280001	3.931515	12.755386	2.630466	13.023794	11.652431	0.594445	4.517765	35.336499	
29.299999	3.919493	12.795049	2.648588	13.066304	11.695129	0.593454	4.532259	35.218767	
29.32	3.922511	12.786221	2.683707	13.064828	11.853793	0.593703	4.528611	35.248359	
29.34	3.929354	12.764175	2.691638	13.044887	11.907778	0.594267	4.520363	35.315369	
29.360001	3.934516	12.748123	2.715466	13.034124	12.024827	0.594692	4.514162	35.365829	
29.379999	3.933103	12.753532	2.743298	13.045239	12.139433	0.594576	4.515858	35.352019	
29.4	3.933565	12.752113	2.745946	13.044409	12.152118	0.594614	4.515303	35.356534	
29.42	3.940069	12.731536	2.762154	13.02772	12.240852	0.595147	4.50751	35.42004	
29.440001	3.940508	12.731737	2.815674	13.039369	12.470487	0.595183	4.506985	35.42432	
29.459999	3.939282	12.735408	2.80602	13.040873	12.425593	0.595083	4.508452	35.412358	
29.48	3.948477	12.706113	2.818411	13.014943	12.506613	0.595835	4.497476	35.501965	
29.5	3.954675	12.687422	2.858536	13.005457	12.697024	0.596341	4.490109	35.562237	
29.52	3.955093	12.686311	2.865994	13.006014	12.730151	0.596375	4.489613	35.5663	
29.540001	3.95673	12.681701	2.886566	13.006068	12.823025	0.596508	4.487672	35.582197	
29.559999	3.957365	12.68017	2.902732	13.008173	12.893948	0.59656	4.48692	35.588364	
29.58	3.955871	12.685466	2.918774	13.016923	12.957579	0.596438	4.488691	35.573855	
29.6	3.965787	12.655312	2.968622	12.998832	13.201504	0.597244	4.476963	35.67005	
29.620001	3.96516	12.657155	2.963672	12.999497	13.17841	0.597193	4.477702	35.663978	
29.639999	3.975012	12.626784	2.99532	12.977196	13.345029	0.597991	4.466109	35.759309	
29.66	3.979694	12.612183	3.003482	12.964878	13.395021	0.598369	4.46062	35.804532	
29.68	3.97318	12.633862	3.033981	12.993056	13.503709	0.597843	4.46826	35.741602	
29.700001	3.97105	12.640773	3.038053	13.000727	13.514043	0.597671	4.470763	35.721008	
29.719999	3.987787	12.588825	3.072662	12.958386	13.716508	0.599021	4.451165	35.882564	
29.74	3.99077	12.579637	3.079534	12.951093	13.755683	0.59926	4.447691	35.911279	
29.76	3.993672	12.571949	3.123543	12.954166	13.952835	0.599493	4.444316	35.939202	
29.780001	3.99253	12.575773	3.130332	12.959516	13.977888	0.599402	4.445643	35.928219	
29.799999	3.995169	12.568223	3.152953	12.957675	14.083017	0.599613	4.442577	35.953591	
29.82	4.005702	12.535685	3.168721	12.929973	14.185869	0.600456	4.430381	36.054701	
29.84	4.007177	12.531051	3.168215	12.925356	14.188732	0.600573	4.428679	36.068838	
29.860001	4.000456	12.55331	3.203284	12.955563	14.314963	0.600036	4.436447	36.004377	
29.879999	4.010004	12.524426	3.233172	12.935016	14.474873	0.600799	4.42542	36.095911	
29.9	4.008847	12.528061	3.233649	12.938655	14.472895	0.600706	4.426754	36.084826	
29.92	4.02183	12.488372	3.256263	12.905917	14.614142	0.601739	4.41184	36.208956	
29.940001	4.019242	12.497644	3.291562	12.923834	14.7552	0.601533	4.414804	36.18425	
29.959999	4.018598	12.500346	3.311479	12.931533	14.837489	0.601482	4.415542	36.1781	
29.98	4.027614	12.473179	3.335104	12.911356	14.969702	0.602197	4.405229	36.264119	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30	4.025228	12.48147	3.360256	12.925881	15.067918	0.602008	4.407954	36.241374	
30.02	4.026204	12.478889	3.37285	12.92667	15.124794	0.602085	4.406838	36.250686	
30.040001	4.032952	12.459014	3.40127	12.91494	15.269515	0.602619	4.399145	36.314957	
30.059999	4.036902	12.44714	3.410311	12.905872	15.322117	0.602931	4.394654	36.352527	
30.08	4.041219	12.435098	3.445231	12.903538	15.485794	0.603271	4.389757	36.39354	
30.1	4.043138	12.429413	3.451308	12.899684	15.518547	0.603422	4.387584	36.411756	
30.120001	4.043183	12.430156	3.475357	12.906854	15.620529	0.603425	4.387534	36.412176	
30.139999	4.049867	12.410866	3.509152	12.897432	15.78819	0.60395	4.37998	36.47556	
30.16	4.053507	12.399186	3.494766	12.882282	15.740754	0.604235	4.375879	36.510021	
30.18	4.060305	12.380505	3.551384	12.8798	16.005721	0.604767	4.36824	36.574302	
30.200001	4.05519	12.396463	3.560207	12.897572	16.023849	0.604367	4.373985	36.525946	
30.219999	4.065284	12.366069	3.571138	12.87139	16.107967	0.605155	4.362662	36.621308	
30.24	4.064721	12.368962	3.602457	12.882892	16.238215	0.605111	4.363292	36.615991	
30.26	4.069072	12.356377	3.619705	12.875648	16.327564	0.60545	4.358428	36.657027	
30.280001	4.072397	12.346762	3.632408	12.870001	16.393873	0.605709	4.354718	36.688354	
30.299999	4.07885	12.328093	3.65542	12.858614	16.515719	0.60621	4.347538	36.749061	
30.32	4.079352	12.327426	3.677682	12.864322	16.611625	0.606249	4.34698	36.75378	
30.34	4.076844	12.335978	3.702666	12.879678	16.707254	0.606054	4.349767	36.730201	
30.360001	4.079956	12.326773	3.708139	12.872437	16.742362	0.606296	4.346309	36.759461	
30.379999	4.092303	12.290729	3.738483	12.846722	16.918267	0.60725	4.332644	36.875305	
30.4	4.091015	12.296195	3.779202	12.863855	17.084696	0.607151	4.334065	36.863236	
30.42	4.098987	12.272208	3.77783	12.840525	17.110293	0.607765	4.325283	36.937857	
30.440001	4.103049	12.260699	3.794355	12.834402	17.195915	0.608077	4.320822	36.975815	
30.459999	4.104853	12.255726	3.805021	12.83281	17.247968	0.608216	4.318844	36.992663	
30.48	4.10979	12.242408	3.840804	12.830758	17.418208	0.608594	4.31344	37.038723	
30.5	4.108706	12.245419	3.835258	12.831971	17.390555	0.608511	4.314625	37.028621	
30.52	4.109192	12.246888	3.907983	12.855294	17.697919	0.608549	4.314094	37.033144	
30.540001	4.111727	12.239093	3.902144	12.846094	17.683678	0.608743	4.311323	37.056781	
30.559999	4.116044	12.227355	3.929553	12.84327	17.816084	0.609073	4.306613	37.09699	
30.58	4.117327	12.224233	3.946528	12.845504	17.892427	0.609171	4.305216	37.108926	
30.6	4.126978	12.196827	3.976026	12.828537	18.055407	0.609907	4.294732	37.198614	
30.620001	4.12638	12.198599	3.976074	12.830237	18.053157	0.609861	4.295381	37.19306	
30.639999	4.126217	12.200068	4.000071	12.83909	18.152945	0.609849	4.295558	37.191545	
30.66	4.135601	12.173648	4.031206	12.82374	18.321907	0.610562	4.28541	37.278548	
30.68	4.146623	12.143204	4.077973	12.809655	18.563292	0.611396	4.273553	37.380466	
30.700001	4.140262	12.162167	4.084867	12.829826	18.565519	0.610915	4.280388	37.321684	
30.719999	4.144353	12.150237	4.086979	12.819191	18.591443	0.611224	4.275989	37.359505	
30.74	4.143611	12.153367	4.109583	12.829381	18.68267	0.611168	4.276787	37.352643	
30.76	4.144632	12.151909	4.145939	12.839692	18.838439	0.611245	4.27569	37.36208	
30.780001	4.152884	12.127734	4.14577	12.81676	18.87262	0.611868	4.266848	37.438224	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	4.157573	12.115395	4.177574	12.815417	19.025012	0.612221	4.261839	37.481423	
30.82	4.158002	12.115219	4.202661	12.823451	19.131236	0.612253	4.261382	37.485371	
30.84	4.161546	12.105716	4.221797	12.820761	19.225952	0.612519	4.257606	37.517976	
30.860001	4.163548	12.100397	4.233551	12.819617	19.283382	0.612669	4.255476	37.536379	
30.879999	4.170042	12.082888	4.264823	12.813465	19.441225	0.613156	4.248581	37.596023	
30.9	4.173199	12.075085	4.295737	12.816436	19.583159	0.613392	4.245237	37.624981	
30.92	4.178342	12.060315	4.29816	12.803335	19.615527	0.613776	4.239802	37.672095	
30.940001	4.181458	12.052481	4.324714	12.804899	19.739215	0.614008	4.236516	37.700616	
30.959999	4.179499	12.059175	4.348317	12.819187	19.828406	0.613862	4.238581	37.682692	
30.98	4.17485	12.073149	4.36028	12.836393	19.85748	0.613515	4.243492	37.640107	
31	4.177985	12.066455	4.413559	12.848301	20.091086	0.613749	4.240179	37.668831	
31.02	4.17882	12.064097	4.414741	12.846493	20.099653	0.613812	4.239298	37.676468	
31.040001	4.185075	12.046282	4.419973	12.831565	20.14893	0.614278	4.232708	37.733685	
31.059999	4.197724	12.0118	4.461268	12.813518	20.375391	0.615216	4.219445	37.849098	
31.08	4.194503	12.021498	4.471535	12.826186	20.403302	0.614978	4.222814	37.819743	
31.1	4.196091	12.01913	4.519625	12.840814	20.608099	0.615095	4.221152	37.83422	
31.120001	4.196639	12.017637	4.521319	12.840012	20.617523	0.615136	4.220579	37.839214	
31.139999	4.202715	12.000421	4.525164	12.825257	20.66068	0.615585	4.214235	37.894527	
31.16	4.204505	11.996611	4.553669	12.83178	20.785778	0.615718	4.212369	37.910811	
31.18	4.20813	11.987389	4.578037	12.831833	20.902114	0.615985	4.208597	37.943753	
31.200001	4.214192	11.971332	4.604117	12.826172	21.036542	0.616431	4.202304	37.998777	
31.219999	4.213884	11.973416	4.630089	12.837462	21.141395	0.616409	4.202623	37.995982	
31.24	4.221881	11.952133	4.660508	12.828633	21.302391	0.616996	4.19435	38.068434	
31.26	4.221897	11.952391	4.667004	12.831234	21.329	0.616997	4.194333	38.068583	
31.280001	4.23208	11.923513	4.665132	12.803657	21.368198	0.617743	4.183846	38.160622	
31.299999	4.225323	11.944442	4.70427	12.837439	21.496837	0.617249	4.190798	38.099577	
31.32	4.228097	11.937949	4.732838	12.8419	21.626047	0.617452	4.187941	38.124651	
31.34	4.228662	11.936571	4.737426	12.84231	21.64734	0.617493	4.18736	38.129754	
31.360001	4.231949	11.929322	4.780094	12.851383	21.836076	0.617733	4.18398	38.159444	
31.379999	4.237233	11.91623	4.817562	12.853226	22.012819	0.618119	4.178559	38.207105	
31.4	4.238195	11.913576	4.818685	12.851187	22.021896	0.618189	4.177573	38.215775	
31.42	4.249741	11.882687	4.850141	12.834412	22.203785	0.619029	4.165782	38.31967	
31.440001	4.249623	11.883893	4.868171	12.842352	22.276226	0.61902	4.165903	38.318606	
31.459999	4.246298	11.894141	4.88734	12.859109	22.337951	0.618779	4.169291	38.288723	
31.48	4.249146	11.886308	4.890336	12.853003	22.363578	0.618986	4.166389	38.31432	
31.5	4.253831	11.874558	4.918109	12.852739	22.498004	0.619325	4.161622	38.356395	
31.52	4.25079	11.884608	4.949517	12.874068	22.610034	0.619105	4.164715	38.329093	
31.540001	4.262882	11.852132	4.975363	12.854076	22.772039	0.61998	4.152446	38.437527	
31.559999	4.259	11.863944	4.995435	12.872744	22.834066	0.6197	4.156376	38.402753	
31.58	4.264471	11.848677	4.994929	12.858478	22.858384	0.620095	4.150838	38.451758	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	4.269868	11.836697	5.055368	12.871058	23.127021	0.620484	4.14539	38.500024	
31.620001	4.272472	11.830979	5.085278	12.877582	23.259397	0.620671	4.142767	38.523283	
31.639999	4.272227	11.830576	5.063773	12.868735	23.17214	0.620654	4.143014	38.521095	
31.66	4.27383	11.829312	5.126688	12.892461	23.431394	0.620769	4.141401	38.535407	
31.68	4.280661	11.810125	5.121077	12.872625	23.442443	0.62126	4.134539	38.596341	
31.700001	4.281632	11.808386	5.139669	12.878439	23.521408	0.621329	4.133565	38.604995	
31.719999	4.281453	11.810069	5.162993	12.889307	23.613489	0.621316	4.133744	38.603402	
31.74	4.284489	11.802638	5.181544	12.889945	23.702273	0.621534	4.130703	38.63044	
31.76	4.280534	11.814829	5.206255	12.911052	23.780934	0.62125	4.134666	38.595207	
31.780001	4.296066	11.772976	5.224147	12.880011	23.928843	0.622361	4.11915	38.733348	
31.799999	4.294003	11.778655	5.224418	12.885312	23.919704	0.622214	4.121204	38.715028	
31.82	4.292513	11.785926	5.285718	12.916922	24.155185	0.622108	4.122688	38.701799	
31.84	4.298483	11.769538	5.285778	12.901995	24.185207	0.622533	4.116746	38.754794	
31.860001	4.297446	11.772192	5.282132	12.902923	24.165611	0.62246	4.117777	38.745595	
31.879999	4.29837	11.771076	5.309305	12.913054	24.277641	0.622525	4.116858	38.75379	
31.9	4.301881	11.761918	5.318132	12.90834	24.330067	0.622775	4.113371	38.784917	
31.92	4.30614	11.751806	5.347424	12.911231	24.467002	0.623078	4.10915	38.822637	
31.940001	4.304405	11.758104	5.376911	12.929199	24.574378	0.622955	4.110868	38.807277	
31.959999	4.311546	11.739814	5.399831	12.922128	24.700528	0.623462	4.103803	38.870464	
31.98	4.309772	11.745433	5.414474	12.933357	24.74906	0.623336	4.105556	38.854772	
32	4.319893	11.719653	5.447875	12.923993	24.93138	0.624053	4.095577	38.94416	
32.02	4.319223	11.721731	5.452732	12.927926	24.947018	0.624005	4.096235	38.938256	
32.040001	4.321575	11.716162	5.468044	12.929345	25.018953	0.624171	4.093923	38.958994	
32.060001	4.326691	11.70366	5.493634	12.92887	25.145148	0.624532	4.088901	39.004071	
32.080002	4.327839	11.700772	5.497719	12.927992	25.166975	0.624613	4.087776	39.014172	
32.099998	4.332255	11.690714	5.532751	12.933837	25.32638	0.624924	4.083454	39.05302	
32.119999	4.334641	11.685187	5.549715	12.936109	25.404766	0.625092	4.081122	39.073992	
32.139999	4.334598	11.687328	5.586959	12.954063	25.549504	0.625089	4.081165	39.07361	
32.16	4.338153	11.677912	5.590217	12.946975	25.580484	0.625339	4.077695	39.104838	
32.18	4.345482	11.658734	5.600246	12.934019	25.65724	0.625852	4.070563	39.169107	
32.200001	4.357704	11.627429	5.626742	12.917327	25.8233	0.626706	4.058726	39.276016	
32.220001	4.351274	11.644683	5.627566	12.933218	25.793292	0.626257	4.064945	39.219814	
32.240002	4.355533	11.636019	5.677452	12.947216	26.008743	0.626554	4.060824	39.257043	
32.259998	4.354929	11.638042	5.684863	12.952285	26.034283	0.626512	4.061407	39.251773	
32.279999	4.358249	11.63025	5.704532	12.953934	26.127578	0.626744	4.0582	39.280772	
32.299999	4.359938	11.626741	5.722639	12.95877	26.206288	0.626861	4.05657	39.295518	
32.32	4.370555	11.599416	5.739957	12.94193	26.328497	0.627599	4.046355	39.388048	
32.34	4.370457	11.600419	5.753321	12.948761	26.379527	0.627592	4.046449	39.387195	
32.360001	4.372326	11.596961	5.780379	12.957712	26.493509	0.627722	4.044656	39.40346	
32.380001	4.37873	11.580292	5.786082	12.945343	26.549008	0.628165	4.038526	39.459125	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	4.390445	11.551657	5.827466	12.93832	26.769627	0.628973	4.027358	39.560718	
32.419998	4.383074	11.572168	5.846202	12.965075	26.802728	0.628465	4.034377	39.496834	
32.439999	4.391053	11.551702	5.856792	12.951596	26.885368	0.629015	4.02678	39.565986	
32.459999	4.386449	11.564929	5.875944	12.972059	26.934398	0.628698	4.03116	39.526102	
32.48	4.390481	11.556569	5.916062	12.982837	27.108955	0.628976	4.027324	39.56103	
32.5	4.396198	11.542104	5.926411	12.974687	27.178743	0.629369	4.021897	39.610496	
32.52	4.399426	11.533456	5.923485	12.965658	27.184696	0.62959	4.01884	39.638387	
32.540001	4.411917	11.505019	5.998293	12.974782	27.535924	0.630445	4.007054	39.746111	
32.560001	4.410266	11.509354	5.998699	12.978814	27.528665	0.630332	4.008607	39.731898	
32.580002	4.416694	11.492975	6.005619	12.967496	27.589228	0.630771	4.002565	39.787214	
32.599998	4.41816	11.491585	6.047809	12.985859	27.757054	0.630871	4.001189	39.799822	
32.619999	4.419128	11.49067	6.075523	12.99798	27.867039	0.630937	4.000281	39.808138	
32.639999	4.42248	11.481937	6.075384	12.990195	27.884502	0.631165	3.997141	39.836935	
32.66	4.423646	11.48067	6.105753	13.003307	28.005387	0.631244	3.996049	39.846948	
32.68	4.431707	11.461069	6.128334	12.996637	28.133857	0.631792	3.988523	39.916066	
32.700001	4.437778	11.446689	6.151013	12.994678	28.251935	0.632203	3.982873	39.968023	
32.720001	4.444213	11.431792	6.180172	12.9954	28.39627	0.632637	3.976902	40.023014	
32.740002	4.451316	11.415463	6.213254	12.99682	28.558796	0.633116	3.970333	40.0836	
32.759998	4.446597	11.427991	6.219908	13.011004	28.55816	0.632798	3.974695	40.043363	
32.779999	4.449794	11.421447	6.248323	13.018871	28.681764	0.633014	3.971739	40.070626	
32.799999	4.455497	11.408225	6.272323	13.018819	28.802358	0.633397	3.966476	40.119209	
32.82	4.45844	11.402176	6.297449	13.025646	28.912025	0.633595	3.963766	40.144254	
32.84	4.458452	11.40418	6.331507	13.043899	29.038724	0.633596	3.963755	40.144355	
32.860001	4.468752	11.378766	6.346864	13.029159	29.152014	0.634286	3.9543	40.231854	
32.880001	4.467415	11.382866	6.358327	13.038327	29.187232	0.634196	3.955525	40.220506	
32.900002	4.471105	11.374884	6.38211	13.042979	29.295543	0.634443	3.952146	40.251809	
32.919998	4.477869	11.358938	6.403161	13.0394	29.410494	0.634895	3.945969	40.309103	
32.939999	4.484354	11.343975	6.427921	13.038555	29.537567	0.635326	3.940064	40.363944	
32.959999	4.489622	11.332439	6.457656	13.043217	29.676194	0.635676	3.935281	40.408423	
32.98	4.496962	11.316961	6.507868	13.054729	29.901296	0.636163	3.928637	40.47029	
33	4.490175	11.334023	6.506656	13.06892	29.859401	0.635713	3.934779	40.413089	
33.02	4.488665	11.339312	6.530635	13.085458	29.938927	0.635613	3.936149	40.400345	
33.040001	4.491231	11.33442	6.556644	13.094222	30.048229	0.635783	3.933823	40.421993	
33.060001	4.500667	11.312039	6.579856	13.08651	30.185265	0.636408	3.925291	40.501479	
33.080002	4.510365	11.289164	6.60412	13.078977	30.32753	0.637048	3.916562	40.582971	
33.099998	4.507346	11.297895	6.622793	13.095946	30.378761	0.636849	3.919275	40.557627	
33.119999	4.507401	11.298254	6.630815	13.100314	30.408233	0.636852	3.919225	40.558088	
33.139999	4.512856	11.287277	6.674367	13.112963	30.596632	0.637212	3.914326	40.60387	
33.16	4.516176	11.280484	6.698736	13.119542	30.703336	0.63743	3.91135	40.631698	
33.18	4.514674	11.286314	6.731764	13.141443	30.814176	0.637331	3.912695	40.619115	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
33.200001	4.534048	11.239529	6.756259	13.113888	31.010798	0.638601	3.89541	40.781109	
33.220001	4.532272	11.244888	6.771314	13.126241	31.055068	0.638485	3.896988	40.766296	
33.240002	4.5206	11.275006	6.787543	13.160414	31.047955	0.637721	3.907392	40.668746	
33.259998	4.532982	11.245535	6.80954	13.146554	31.196332	0.638531	3.896356	40.772222	
33.279999	4.537566	11.236919	6.853155	13.161841	31.378172	0.638831	3.892287	40.810441	
33.299999	4.530236	11.25609	6.868096	13.185989	31.390226	0.638352	3.898798	40.749303	
33.32	4.544633	11.221931	6.892751	13.169729	31.559193	0.639291	3.88603	40.869279	
33.34	4.548239	11.214281	6.912518	13.173572	31.649866	0.639525	3.882846	40.899255	
33.360001	4.544372	11.225314	6.935425	13.194991	31.709401	0.639274	3.886262	40.867102	
33.380001	4.556799	11.197106	6.973827	13.191264	31.915698	0.640081	3.875308	40.970308	
33.400002	4.550229	11.213278	6.973382	13.204759	31.876965	0.639655	3.881091	40.915789	
33.419998	4.561687	11.186984	7.003289	13.198283	32.047496	0.640397	3.871016	41.010813	
33.439999	4.562932	11.1843	7.009103	13.199094	32.075071	0.640477	3.869924	41.021127	
33.459999	4.56869	11.173237	7.056345	13.214887	32.274102	0.640849	3.864885	41.068755	
33.48	4.565798	11.181047	7.067374	13.22738	32.29643	0.640662	3.867414	41.044841	
33.5	4.568233	11.176138	7.083697	13.231962	32.367535	0.64082	3.865284	41.064983	
33.52	4.575997	11.160684	7.137927	13.248051	32.601412	0.64132	3.858508	41.129101	
33.540001	4.578103	11.156631	7.154548	13.253602	32.671384	0.641455	3.856674	41.146473	
33.560001	4.574031	11.168052	7.176802	13.275235	32.725626	0.641193	3.860221	41.112878	
33.580002	4.576999	11.162489	7.202437	13.284437	32.831613	0.641384	3.857635	41.137369	
33.599998	4.583093	11.149582	7.232134	13.289731	32.969363	0.641776	3.852335	41.187597	
33.619999	4.581034	11.156486	7.260399	13.31092	33.055262	0.641643	3.854124	41.170637	
33.639999	4.583596	11.150763	7.268269	13.310419	33.097093	0.641808	3.851899	41.191735	
33.66	4.59141	11.1341	7.303555	13.315784	33.263441	0.642308	3.845127	41.256016	
33.68	4.600416	11.113622	7.32399	13.309899	33.385346	0.642884	3.837352	41.329939	
33.700001	4.599868	11.116585	7.348374	13.325805	33.46588	0.642849	3.837824	41.325447	
33.720001	4.60469	11.106832	7.37684	13.333398	33.591033	0.643156	3.833674	41.364964	
33.740002	4.606932	11.102698	7.395874	13.340497	33.668953	0.643299	3.831746	41.383322	
33.759998	4.6078	11.102936	7.430341	13.359834	33.79141	0.643354	3.831001	41.390422	
33.779999	4.602296	11.117727	7.45214	13.384254	33.833749	0.643004	3.835733	41.345353	
33.799999	4.619446	11.077284	7.465791	13.358303	33.978968	0.644093	3.821028	41.485584	
33.82	4.617932	11.083054	7.49706	13.380583	34.07619	0.643997	3.822321	41.473232	
33.84	4.620627	11.077527	7.510996	13.383821	34.138862	0.644168	3.820019	41.49522	
33.860001	4.625433	11.068082	7.541547	13.393183	34.269716	0.644472	3.815921	41.534394	
33.880001	4.627256	11.065861	7.572836	13.408994	34.385542	0.644587	3.81437	41.549236	
33.900002	4.630466	11.059657	7.594418	13.41608	34.476573	0.64479	3.811639	41.575368	
33.919998	4.632259	11.056345	7.608589	13.421378	34.534446	0.644903	3.810116	41.589948	
33.939999	4.633305	11.057252	7.657808	13.450087	34.704978	0.644969	3.809228	41.598456	
33.959999	4.639162	11.043672	7.663753	13.442314	34.758766	0.645337	3.804263	41.646034	
33.98	4.651255	11.017066	7.695087	13.438382	34.933194	0.646096	3.794055	41.744041	



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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34	4.650262	11.020495	7.710458	13.449999	34.978513	0.646034	3.794891	41.736005	
34.02	4.651589	11.01801	7.720026	13.453451	35.017965	0.646117	3.793774	41.746743	
34.040001	4.65011	11.024912	7.768451	13.486939	35.169622	0.646025	3.795019	41.734781	
34.060001	4.649267	11.028634	7.792848	13.504046	35.245142	0.645972	3.79573	41.72795	
34.080002	4.667509	10.986005	7.801119	13.474041	35.378473	0.647111	3.780421	41.875299	
34.099998	4.659468	11.007322	7.833875	13.510393	35.439398	0.64661	3.787153	41.810433	
34.119999	4.669039	10.985803	7.849496	13.501943	35.54635	0.647207	3.779142	41.887629	
34.139999	4.671873	10.981677	7.885594	13.519609	35.680992	0.647383	3.776777	41.910449	
34.16	4.666792	10.994949	7.90367	13.540934	35.710362	0.647067	3.78102	41.869522	
34.18	4.672266	10.983453	7.9236	13.543252	35.807214	0.647407	3.776449	41.913615	
34.200001	4.689804	10.944183	7.950432	13.527177	35.996696	0.648494	3.76188	42.054455	
34.220001	4.682834	10.961979	7.970923	13.553619	36.022563	0.648063	3.767657	41.998554	
34.240002	4.679394	10.97244	8.00413	13.581625	36.109911	0.64785	3.770514	41.970929	
34.259998	4.691749	10.945276	8.029262	13.57454	36.263181	0.648614	3.760272	42.07003	
34.279999	4.691523	10.947594	8.054107	13.591117	36.341853	0.6486	3.760459	42.068221	
34.299999	4.693454	10.944672	8.076189	13.601863	36.424073	0.648719	3.758863	42.083684	
34.32	4.696431	10.939961	8.10722	13.616525	36.540908	0.648903	3.756404	42.10751	
34.34	4.702037	10.926503	8.101934	13.602566	36.55677	0.649248	3.751786	42.152314	
34.360001	4.70532	10.921425	8.137342	13.619613	36.689146	0.64945	3.749086	42.178527	
34.380001	4.7134	10.904788	8.166742	13.623879	36.830096	0.649946	3.742458	42.242947	
34.400002	4.701927	10.93284	8.185517	13.657586	36.822597	0.649241	3.751876	42.151436	
34.419998	4.705107	10.928625	8.229123	13.680399	36.979373	0.649437	3.749261	42.17683	
34.439999	4.714699	10.906507	8.231517	13.664178	37.043178	0.650025	3.741395	42.253291	
34.459999	4.71496	10.909465	8.279975	13.695781	37.197532	0.650041	3.741181	42.255367	
34.48	4.725785	10.884202	8.277175	13.673971	37.252187	0.650703	3.732345	42.341429	
34.5	4.724487	10.890067	8.316042	13.702194	37.366703	0.650624	3.733403	42.331118	
34.52	4.722724	10.895704	8.337142	13.719486	37.422449	0.650516	3.734839	42.317119	
34.540001	4.733097	10.872943	8.353104	13.711136	37.533225	0.651148	3.726401	42.399422	
34.560001	4.726823	10.889295	8.378419	13.739529	37.575396	0.650766	3.7315	42.349669	
34.580002	4.737901	10.866179	8.410884	13.741064	37.74146	0.65144	3.722505	42.437468	
34.599998	4.741607	10.858595	8.423394	13.742731	37.802059	0.651665	3.719506	42.466786	
34.619999	4.745183	10.851556	8.439046	13.746773	37.871587	0.651882	3.716616	42.495051	
34.639999	4.738719	10.869919	8.485998	13.790116	37.978744	0.65149	3.721842	42.443947	
34.66	4.759742	10.822809	8.499836	13.761556	38.144854	0.652762	3.704899	42.609856	
34.68	4.756031	10.833948	8.535351	13.792268	38.232303	0.652538	3.707879	42.580631	
34.700001	4.759608	10.824953	8.524302	13.778365	38.219359	0.652754	3.705008	42.608794	
34.720001	4.759909	10.828141	8.575723	13.812736	38.378755	0.652772	3.704765	42.611169	
34.740002	4.763941	10.819994	8.589499	13.814911	38.444524	0.653015	3.701535	42.642879	
34.759998	4.765504	10.817361	8.601749	13.82047	38.491084	0.653109	3.700283	42.655169	
34.779999	4.768852	10.812032	8.631924	13.835105	38.602632	0.653311	3.697606	42.681474	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34.799999	4.775862	10.797991	8.656602	13.839558	38.718745	0.653731	3.692014	42.736469	
34.82	4.778045	10.795528	8.689219	13.858064	38.830328	0.653862	3.690276	42.75357	
34.84	4.783243	10.784492	8.698781	13.85547	38.889746	0.654173	3.686144	42.794264	
34.860001	4.786506	10.77908	8.72449	13.867419	38.986463	0.654368	3.683555	42.819785	
34.880001	4.789309	10.774836	8.751706	13.881263	39.084804	0.654536	3.681334	42.84169	
34.900002	4.788618	10.778076	8.7736	13.897589	39.146443	0.654494	3.681881	42.83629	
34.919998	4.799102	10.758529	8.826498	13.915927	39.366162	0.655119	3.673596	42.918093	
34.939999	4.795607	10.765378	8.81332	13.912871	39.306315	0.654911	3.676354	42.890844	
34.959999	4.805455	10.748412	8.880192	13.942244	39.563123	0.655496	3.668593	42.967558	
34.98	4.809667	10.73817	8.869831	13.92775	39.557102	0.655746	3.665285	43.000305	
35	4.808364	10.744094	8.9086	13.957031	39.66432	0.655669	3.666307	42.990179	
35.02	4.820607	10.718296	8.928859	13.950139	39.796006	0.656393	3.656718	43.08521	
35.040001	4.824539	10.710867	8.946001	13.955415	39.869602	0.656625	3.653649	43.115661	
35.060001	4.827686	10.705352	8.965154	13.963472	39.944426	0.656811	3.651197	43.14002	
35.080002	4.827378	10.708687	8.99913	13.987863	40.042351	0.656792	3.651436	43.137637	
35.099998	4.82578	10.713406	9.013969	14.001025	40.076414	0.656698	3.652682	43.125266	
35.119999	4.827958	10.710939	9.044337	14.018711	40.177879	0.656827	3.650985	43.142118	
35.139999	4.833757	10.699665	9.064912	14.02339	40.271825	0.657168	3.646475	43.186944	
35.16	4.842124	10.681875	9.074537	14.016051	40.348857	0.657659	3.639988	43.251502	
35.18	4.855081	10.655432	9.101974	14.013714	40.504347	0.658416	3.629988	43.351207	
35.200001	4.854407	10.658987	9.128278	14.033512	40.57658	0.658377	3.630507	43.346026	
35.220001	4.857508	10.654034	9.152054	14.045232	40.663391	0.658558	3.628121	43.36985	
35.240002	4.860163	10.650334	9.179102	14.060069	40.756824	0.658713	3.626081	43.390223	
35.259998	4.864689	10.639576	9.16875	14.045162	40.753487	0.658976	3.622609	43.42493	
35.279999	4.865738	10.640579	9.210502	14.073211	40.879586	0.659037	3.621805	43.432966	
35.299999	4.859842	10.655751	9.238455	14.102981	40.925109	0.658694	3.626328	43.387762	
35.32	4.864832	10.647203	9.268756	14.1164	41.040763	0.658984	3.622499	43.426024	
35.34	4.876482	10.622252	9.275877	14.102274	41.129146	0.65966	3.613593	43.515174	
35.360001	4.880863	10.616274	9.320814	14.127379	41.282368	0.659914	3.610255	43.548628	
35.380001	4.877982	10.624624	9.346523	14.150623	41.338286	0.659747	3.612449	43.526632	
35.400002	4.889576	10.601571	9.37422	14.151654	41.484131	0.660417	3.603635	43.61506	
35.419998	4.890306	10.599976	9.374124	14.150395	41.488117	0.660459	3.603082	43.620618	
35.439999	4.898553	10.58649	9.429101	14.176802	41.690664	0.660934	3.596841	43.683351	
35.459999	4.898715	10.584873	9.413373	14.165138	41.64751	0.660943	3.596718	43.684579	
35.48	4.899692	10.586807	9.46361	14.200014	41.793791	0.660999	3.59598	43.692005	
35.5	4.90708	10.571079	9.466859	14.190459	41.845895	0.661423	3.590411	43.748071	
35.52	4.91983	10.546888	9.507656	14.199732	42.033644	0.662152	3.58084	43.844588	
35.540001	4.920396	10.546142	9.513486	14.203082	42.053128	0.662185	3.580416	43.848867	
35.560001	4.923734	10.541829	9.548777	14.223547	42.170323	0.662375	3.57792	43.874082	
35.580002	4.925724	10.538571	9.561264	14.22952	42.216395	0.662488	3.576433	43.889098	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	4.930761	10.530381	9.5934	14.245078	42.334259	0.662775	3.572675	43.927093	
35.619999	4.934523	10.523618	9.60927	14.250776	42.399735	0.662989	3.569874	43.955434	
35.639999	4.940187	10.513721	9.636347	14.26175	42.506878	0.66331	3.565666	43.998051	
35.66	4.946057	10.503295	9.661985	14.27141	42.611039	0.663643	3.561314	44.042156	
35.68	4.94161	10.512838	9.662721	14.278933	42.587288	0.663391	3.56461	44.008751	
35.700001	4.944923	10.510929	9.725608	14.320164	42.777707	0.663579	3.562154	44.033644	
35.720001	4.955707	10.48932	9.741912	14.3154	42.884345	0.664188	3.554184	44.114526	
35.740002	4.96158	10.480332	9.784046	14.337535	43.03216	0.664518	3.549859	44.158476	
35.759998	4.963551	10.47733	9.798272	14.345054	43.081878	0.664629	3.54841	44.173214	
35.779999	4.959409	10.486871	9.807471	14.358306	43.082683	0.664396	3.551457	44.142234	
35.799999	4.968209	10.472166	9.854999	14.3801	43.261012	0.664891	3.54499	44.208015	
35.82	4.974156	10.460188	9.862053	14.376217	43.314201	0.665225	3.540633	44.252385	
35.84	4.978745	10.451419	9.872985	14.377343	43.369874	0.665482	3.537278	44.286581	
35.860001	4.988617	10.434079	9.914143	14.393062	43.536376	0.666033	3.530084	44.360007	
35.880001	4.984484	10.445249	9.944014	14.421742	43.591842	0.665802	3.533092	44.32929	
35.900002	4.998476	10.415538	9.939551	14.397156	43.660508	0.666582	3.522928	44.433157	
35.919998	4.999033	10.416192	9.961408	14.412728	43.721571	0.666613	3.522525	44.437283	
35.939999	4.998825	10.42	10.001809	14.443427	43.826956	0.666601	3.522676	44.435742	
35.959999	5.009369	10.400542	10.032324	14.450564	43.967668	0.667186	3.515057	44.513767	
35.98	5.006451	10.410096	10.073665	14.48616	44.059119	0.667025	3.517162	44.492193	
36	5.014822	10.393056	10.078393	14.477211	44.119463	0.667488	3.51113	44.554032	
36.02	5.011985	10.400391	10.095393	14.494312	44.147522	0.667331	3.513172	44.533086	
36.040001	5.01845	10.38862	10.115312	14.499757	44.236395	0.667689	3.508522	44.580798	
36.060001	5.028974	10.367732	10.126335	14.492499	44.325228	0.668269	3.500979	44.658289	
36.080002	5.032013	10.365494	10.174322	14.524472	44.466819	0.668436	3.498807	44.68063	
36.099998	5.035762	10.359509	10.195153	14.534806	44.541948	0.668642	3.496131	44.708169	
36.119999	5.042567	10.346959	10.212646	14.538147	44.62578	0.669015	3.491285	44.758084	
36.139999	5.040481	10.353644	10.240815	14.5627	44.686178	0.668901	3.492769	44.742792	
36.16	5.058986	10.317233	10.259674	14.550127	44.839808	0.669912	3.479648	44.878178	
36.18	5.064843	10.307405	10.284999	14.561037	44.937737	0.670231	3.475516	44.920899	
36.200001	5.057509	10.325179	10.317597	14.596648	44.979035	0.669831	3.480691	44.867396	
36.220001	5.065142	10.31139	10.339036	14.602069	45.076782	0.670247	3.475305	44.923075	
36.240002	5.078023	10.287635	10.368352	14.6061	45.223971	0.670946	3.466253	45.016806	
36.259998	5.070817	10.304769	10.397122	14.638593	45.255678	0.670555	3.471311	44.964406	
36.279999	5.073423	10.299726	10.400271	14.637281	45.278376	0.670696	3.46948	44.983367	
36.299999	5.08566	10.277182	10.427517	14.640819	45.41609	0.671359	3.460909	45.072234	
36.32	5.084892	10.28079	10.451414	14.660378	45.471609	0.671317	3.461446	45.066662	
36.34	5.088299	10.276349	10.480162	14.677777	45.562665	0.671501	3.459066	45.091366	
36.360001	5.088101	10.278824	10.504245	14.696714	45.621506	0.67149	3.459204	45.089929	
36.380001	5.098926	10.258333	10.520633	14.694119	45.723306	0.672073	3.451666	45.168266	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
36.400002	5.106558	10.245674	10.552311	14.707994	45.844765	0.672483	3.446371	45.223372	
36.419998	5.107767	10.244775	10.570095	14.720133	45.895496	0.672548	3.445533	45.232091	
36.439999	5.108491	10.245883	10.599759	14.742219	45.97264	0.672587	3.445032	45.237313	
36.459999	5.116587	10.231109	10.617082	14.744424	46.060704	0.67302	3.439437	45.29563	
36.48	5.118828	10.229446	10.649735	14.766802	46.153266	0.67314	3.437892	45.311747	
36.5	5.120934	10.224714	10.64388	14.759301	46.150768	0.673252	3.436441	45.326893	
36.52	5.126014	10.218844	10.693382	14.790984	46.300006	0.673523	3.432946	45.363381	
36.540001	5.129969	10.213067	10.717845	14.804693	46.38158	0.673734	3.43023	45.391758	
36.560001	5.141237	10.193014	10.745585	14.810981	46.511771	0.674333	3.422515	45.472462	
36.580002	5.139595	10.197953	10.764706	14.828255	46.548772	0.674246	3.423637	45.460716	
36.599998	5.146852	10.185316	10.785264	14.834506	46.638811	0.67463	3.418685	45.512588	
36.619999	5.15104	10.179937	10.818811	14.855228	46.742733	0.674852	3.415832	45.542488	
36.639999	5.157587	10.16821	10.833019	14.85755	46.813215	0.675197	3.411384	45.589161	
36.66	5.157251	10.169836	10.843979	14.866655	46.837552	0.67518	3.411612	45.586766	
36.68	5.160124	10.166044	10.865523	14.879786	46.904953	0.675331	3.409664	45.607223	
36.700001	5.169743	10.148595	10.883081	14.880707	47.0002	0.675837	3.403156	45.67562	
36.720001	5.169946	10.150461	10.908842	14.900829	47.062509	0.675848	3.403019	45.677057	
36.740002	5.174723	10.142966	10.930553	14.911631	47.140419	0.676099	3.399796	45.710962	
36.759998	5.182677	10.129462	10.954668	14.920146	47.241424	0.676516	3.394444	45.767328	
36.779999	5.173426	10.150593	10.987984	14.958955	47.268634	0.676031	3.40067	45.701764	
36.799999	5.192051	10.114673	10.995179	14.939899	47.388543	0.677005	3.388159	45.833613	
36.82	5.186202	10.128968	11.027285	14.97321	47.431463	0.6767	3.392078	45.792272	
36.84	5.209709	10.08551	11.0547	14.964087	47.625018	0.677924	3.376383	45.958057	
36.860001	5.211194	10.083891	11.069	14.973564	47.666472	0.678001	3.375397	45.968494	
36.880001	5.208178	10.093701	11.113468	15.01306	47.753085	0.677844	3.377401	45.947288	
36.900002	5.216505	10.078118	11.120139	15.00753	47.81425	0.678276	3.371873	46.005808	
36.919998	5.215035	10.082142	11.133325	15.020004	47.836653	0.6782	3.372848	45.995488	
36.939999	5.225996	10.062108	11.146775	15.016544	47.92776	0.678766	3.365595	46.072365	
36.959999	5.230419	10.057176	11.187334	15.043378	48.045215	0.678994	3.362678	46.103325	
36.98	5.225066	10.067994	11.192652	15.054566	48.028129	0.678718	3.366209	46.065851	
37	5.24361	10.036422	11.239466	15.068356	48.236426	0.679672	3.354006	46.195469	
37.02	5.234574	10.055887	11.262596	15.098574	48.239793	0.679208	3.359941	46.132386	
37.040001	5.239191	10.048869	11.283533	15.109529	48.312521	0.679446	3.356906	46.164633	
37.060001	5.248862	10.030794	11.289282	15.101812	48.378237	0.679942	3.350566	46.232072	
37.080002	5.246357	10.038566	11.322283	15.131652	48.439238	0.679813	3.352206	46.214623	
37.099998	5.261352	10.010857	11.333614	15.121774	48.546277	0.68058	3.342414	46.318939	
37.119999	5.255212	10.02596	11.370937	15.159752	48.596879	0.680267	3.346416	46.276271	
37.139999	5.26481	10.007762	11.372641	15.149002	48.65277	0.680756	3.340164	46.34294	
37.16	5.27662	9.987626	11.398822	15.155389	48.775304	0.681357	3.332504	46.424758	
37.18	5.265139	10.012263	11.429489	15.194691	48.78164	0.680773	3.33995	46.345223	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
37.200001	5.268038	10.008374	11.447651	15.205797	48.837755	0.680921	3.338067	46.365327	
37.220001	5.29223	9.963764	11.46235	15.187563	49.000954	0.682148	3.322432	46.532541	
37.240002	5.283739	9.981082	11.476095	15.209298	48.985685	0.681718	3.327903	46.473967	
37.259998	5.295391	9.962064	11.509661	15.222189	49.12261	0.682307	3.3204	46.554323	
37.279999	5.292173	9.969326	11.522655	15.236766	49.133941	0.682145	3.322469	46.532148	
37.299999	5.306277	9.945009	11.54795	15.240025	49.2653	0.682856	3.313422	46.629185	
37.32	5.313176	9.933961	11.569132	15.248882	49.348692	0.683202	3.309014	46.676532	
37.34	5.312037	9.93812	11.591386	15.26848	49.391251	0.683145	3.309741	46.668718	
37.360001	5.315874	9.932678	11.610756	15.279651	49.454023	0.683338	3.307294	46.695023	
37.380001	5.327187	9.913996	11.638266	15.288445	49.574242	0.683904	3.3001	46.772436	
37.400002	5.322733	9.922471	11.639856	15.295153	49.553938	0.683681	3.302929	46.741984	
37.419998	5.335432	9.903067	11.687209	15.318668	49.724068	0.684315	3.294877	46.828717	
37.439999	5.334765	9.90339	11.67712	15.311181	49.698738	0.684282	3.295299	46.824169	
37.459999	5.349163	9.879236	11.705831	15.317499	49.837108	0.684998	3.286216	46.922203	
37.48	5.354399	9.872196	11.735038	15.335298	49.92759	0.685257	3.282925	46.957769	
37.5	5.349383	9.884158	11.764211	15.365326	49.963487	0.685009	3.286078	46.923698	
37.52	5.36254	9.861007	11.777352	15.360516	50.061136	0.68566	3.277822	47.01298	
37.540001	5.367854	9.856538	11.835625	15.402381	50.213044	0.685922	3.2745	47.048958	
37.560001	5.361226	9.867335	11.819957	15.397262	50.144862	0.685595	3.278644	47.00408	
37.580002	5.377243	9.840368	11.847778	15.401386	50.2882	0.686385	3.268646	47.112418	
37.599998	5.382599	9.832173	11.865646	15.409905	50.354086	0.686648	3.265317	47.14855	
37.619999	5.375694	9.845315	11.870657	15.42215	50.328369	0.686309	3.26961	47.10196	
37.639999	5.387445	9.82619	11.897233	15.43043	50.446027	0.686886	3.26231	47.181204	
37.66	5.395885	9.812177	11.912715	15.433457	50.52274	0.687299	3.257087	47.237983	
37.68	5.401288	9.807254	11.966379	15.471796	50.66316	0.687563	3.253752	47.274271	
37.700001	5.413354	9.787158	11.986554	15.474687	50.76806	0.688151	3.246329	47.355139	
37.720001	5.405915	9.80045	11.984034	15.481146	50.724054	0.687789	3.250901	47.305312	
37.740002	5.418579	9.780868	12.021162	15.497539	50.866993	0.688405	3.243125	47.390086	
37.759998	5.429228	9.764048	12.047685	15.507526	50.977046	0.688921	3.236616	47.461167	
37.779999	5.430308	9.763638	12.064371	15.520235	51.017008	0.688973	3.235957	47.468367	
37.799999	5.426463	9.771128	12.07024	15.529509	51.009147	0.688787	3.238303	47.442729	
37.82	5.429612	9.767418	12.091634	15.543811	51.069396	0.688939	3.236382	47.463724	
37.84	5.450325	9.730645	12.097099	15.524988	51.187644	0.689938	3.223798	47.601456	
37.860001	5.447505	9.740738	12.151526	15.573747	51.284212	0.689802	3.225505	47.582747	
37.880001	5.453064	9.732158	12.166547	15.580108	51.343382	0.69007	3.222141	47.619621	
37.900002	5.4582	9.723562	12.173043	15.579815	51.38299	0.690316	3.219039	47.653647	
37.919998	5.471199	9.704878	12.221777	15.606297	51.548252	0.690938	3.211215	47.739567	
37.939999	5.47495	9.6992	12.232543	15.611201	51.589144	0.691117	3.208965	47.764311	
37.959999	5.470378	9.708258	12.2424	15.624552	51.585574	0.690899	3.211708	47.734146	
37.98	5.489426	9.676731	12.267243	15.62448	51.732765	0.691806	3.20031	47.859597	

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VNA version 530D

**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38	5.487753	9.682657	12.299121	15.653185	51.788001	0.691727	3.201307	47.848608	
38.02	5.50143	9.661086	12.327122	15.661881	51.913368	0.692375	3.193168	47.938362	
38.040001	5.500065	9.663509	12.327286	15.663505	51.906762	0.692311	3.193978	47.929419	
38.060001	5.503937	9.660587	12.369189	15.694705	52.009534	0.692494	3.19168	47.954786	
38.080002	5.518095	9.63698	12.383012	15.691092	52.108538	0.693162	3.183306	48.047342	
38.099998	5.530184	9.617949	12.405839	15.697445	52.214531	0.69373	3.176192	48.126117	
38.119999	5.52215	9.634206	12.429451	15.726067	52.220429	0.693353	3.180916	48.073793	
38.139999	5.520451	9.637548	12.433336	15.731184	52.219476	0.693273	3.181917	48.062712	
38.16	5.527583	9.629484	12.480607	15.763645	52.347905	0.693608	3.17772	48.10919	
38.18	5.535762	9.612491	12.451712	15.730388	52.332616	0.693991	3.172919	48.162396	
38.200001	5.541856	9.606465	12.500795	15.765597	52.458956	0.694276	3.169352	48.201966	
38.220001	5.541973	9.608778	12.527648	15.788305	52.511678	0.694282	3.169284	48.202728	
38.240002	5.549784	9.597635	12.553651	15.802176	52.601118	0.694646	3.164724	48.253367	
38.259998	5.556915	9.586464	12.566439	15.805559	52.661442	0.694979	3.160572	48.299516	
38.279999	5.568331	9.569818	12.599407	15.821709	52.781783	0.695509	3.153949	48.373227	
38.299999	5.572385	9.563819	12.609994	15.826515	52.822262	0.695696	3.151604	48.39936	
38.32	5.565512	9.578597	12.640949	15.860111	52.847301	0.695378	3.155582	48.355046	
38.34	5.574033	9.565159	12.654419	15.862742	52.91537	0.695773	3.150652	48.409971	
38.360001	5.580845	9.555545	12.676851	15.874854	52.991873	0.696088	3.146721	48.453805	
38.380001	5.594822	9.534375	12.706659	15.885953	53.117556	0.696732	3.138688	48.543513	
38.400002	5.600747	9.522814	12.691468	15.866864	53.118024	0.697004	3.135295	48.581454	
38.419998	5.612361	9.509645	12.76186	15.915352	53.308037	0.697536	3.128666	48.655669	
38.439999	5.614865	9.504758	12.755206	15.907096	53.307833	0.697651	3.12724	48.671644	
38.459999	5.609463	9.517514	12.792904	15.944951	53.352018	0.697404	3.130317	48.63717	
38.48	5.617495	9.504203	12.796687	15.940046	53.398523	0.697771	3.125744	48.688411	
38.5	5.616927	9.505026	12.795197	15.939341	53.392954	0.697745	3.126066	48.684796	
38.52	5.623756	9.499345	12.857665	15.986154	53.542811	0.698056	3.122189	48.728288	
38.540001	5.637412	9.47733	12.869288	15.98244	53.631048	0.698678	3.114462	48.81506	
38.560001	5.637115	9.478492	12.876256	15.988739	53.642501	0.698664	3.114629	48.813175	
38.580002	5.635212	9.485192	12.912953	16.022273	53.701002	0.698578	3.115704	48.801095	
38.599998	5.653299	9.456104	12.927672	16.016948	53.816032	0.699397	3.105522	48.915648	
38.619999	5.654361	9.457044	12.95636	16.040665	53.87382	0.699445	3.104926	48.922359	
38.639999	5.651695	9.464594	12.988608	16.071169	53.91986	0.699325	3.106422	48.905513	
38.66	5.667483	9.436925	12.976134	16.0448	53.973483	0.700037	3.097583	49.005143	
38.68	5.670809	9.436775	13.033021	16.090754	54.093055	0.700186	3.095728	49.026085	
38.700001	5.65777	9.458633	13.03312	16.103663	54.030271	0.699599	3.103015	48.943889	
38.720001	5.664189	9.449457	13.049796	16.111778	54.09151	0.699888	3.099423	48.984385	
38.740002	5.672259	9.438821	13.079842	16.129898	54.184707	0.700251	3.09492	49.035211	
38.759998	5.682362	9.422854	13.089159	16.12812	54.250074	0.700705	3.0893	49.098695	
38.779999	5.702638	9.39081	13.10609	16.123179	54.37764	0.70161	3.078084	49.225661	

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**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	5.688185	9.418399	13.143925	16.170003	54.376262	0.700965	3.08607	49.135225	
38.82	5.70651	9.388095	13.144751	16.153043	54.465341	0.701782	3.075952	49.249842	
38.84	5.698825	9.402435	13.161705	16.175175	54.458909	0.70144	3.080187	49.201833	
38.860001	5.716465	9.377187	13.202484	16.19374	54.61547	0.702224	3.070483	49.3119	
38.880001	5.704646	9.397447	13.210229	16.211791	54.572939	0.701699	3.076978	49.238203	
38.900002	5.718167	9.377268	13.232588	16.218339	54.676818	0.7023	3.06955	49.322493	
38.919998	5.718024	9.378232	13.240189	16.225099	54.68956	0.702293	3.069628	49.321606	
38.939999	5.720037	9.378543	13.277927	16.256089	54.765547	0.702383	3.068525	49.33413	
38.959999	5.718578	9.382291	13.291881	16.269649	54.783119	0.702318	3.069324	49.325053	
38.98	5.72818	9.370634	13.334888	16.298099	54.903786	0.702743	3.064072	49.384744	
39	5.735771	9.358434	13.337572	16.293285	54.944314	0.703078	3.059933	49.431836	
39.02	5.741458	9.352563	13.373281	16.319163	55.033197	0.703328	3.056838	49.467068	
39.040001	5.729232	9.372765	13.374835	16.332022	54.978244	0.702789	3.063498	49.391275	
39.060001	5.730667	9.370507	13.375874	16.331577	54.98682	0.702853	3.062715	49.400182	
39.080002	5.754849	9.334444	13.412102	16.340634	55.163271	0.703916	3.049578	49.549829	
39.099998	5.763542	9.322031	13.430047	16.348285	55.234905	0.704297	3.044884	49.603419	
39.119999	5.754194	9.338337	13.44133	16.366853	55.210535	0.703888	3.049933	49.545789	
39.139999	5.769047	9.316127	13.46145	16.370731	55.314549	0.704537	3.041919	49.637297	
39.16	5.769966	9.316989	13.485766	16.391222	55.360442	0.704578	3.041424	49.642948	
39.18	5.770673	9.314727	13.474243	16.380457	55.344043	0.704608	3.041044	49.647296	
39.200001	5.788789	9.291151	13.533338	16.415746	55.52902	0.705397	3.031332	49.758442	
39.220001	5.790658	9.289689	13.54936	16.42813	55.564849	0.705478	3.030334	49.769886	
39.240002	5.784364	9.301213	13.563453	16.446271	55.559499	0.705205	3.033698	49.731339	
39.259998	5.784173	9.302362	13.572093	16.454046	55.573218	0.705196	3.033801	49.730168	
39.279999	5.800203	9.279065	13.598212	16.462455	55.69149	0.705891	3.025245	49.828232	
39.299999	5.816699	9.252287	13.594683	16.444458	55.761628	0.706603	3.016492	49.928757	
39.32	5.795902	9.289161	13.630867	16.495122	55.726455	0.705705	3.027536	49.801954	
39.34	5.812701	9.264174	13.651298	16.497965	55.838124	0.706431	3.018609	49.904434	
39.360001	5.821248	9.252447	13.671249	16.507902	55.910687	0.706799	3.014087	49.956414	
39.380001	5.814264	9.263551	13.670602	16.513593	55.877521	0.706498	3.017781	49.913942	
39.400002	5.814347	9.26637	13.700894	16.540257	55.928301	0.706502	3.017737	49.914451	
39.419998	5.826319	9.24773	13.705931	16.533997	55.991585	0.707016	3.011411	49.987209	
39.439999	5.823105	9.257947	13.758027	16.582909	56.062999	0.706878	3.013107	49.967694	
39.459999	5.828153	9.248919	13.748088	16.569624	56.069713	0.707095	3.010445	49.998334	
39.48	5.838019	9.236612	13.782905	16.591669	56.172087	0.707518	3.005254	50.058122	
39.5	5.826862	9.255178	13.791005	16.608737	56.134439	0.70704	3.011125	49.990501	
39.52	5.848088	9.220772	13.784316	16.584028	56.220262	0.707948	2.999977	50.11899	
39.540001	5.835223	9.243426	13.807083	16.615549	56.198981	0.707398	3.006723	50.041193	
39.560001	5.840721	9.236161	13.822174	16.624054	56.248723	0.707633	3.003836	50.07447	
39.580002	5.855538	9.215207	13.848023	16.633934	56.358203	0.708265	2.996084	50.163939	

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VNA version 530D

**Balun 3 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
39.599998	5.866741	9.200441	13.877815	16.650581	56.4573	0.708741	2.990249	50.231381	
39.619999	5.855282	9.218716	13.879682	16.662242	56.40847	0.708254	2.996218	50.162393	
39.639999	5.868016	9.200032	13.894151	16.663974	56.489507	0.708795	2.989586	50.239047	
39.66	5.867779	9.203396	13.924622	16.691243	56.537628	0.708785	2.989709	50.237621	
39.68	5.876059	9.191086	13.931988	16.690607	56.586822	0.709136	2.985413	50.287348	
39.700001	5.893487	9.166213	13.956866	16.697711	56.705074	0.709871	2.97641	50.391695	
39.720001	5.898618	9.161286	13.98832	16.721312	56.778351	0.710087	2.973771	50.422332	
39.740002	5.886241	9.180992	13.991876	16.735089	56.728581	0.709566	2.980147	50.348358	
39.759998	5.903215	9.153734	13.984422	16.713913	56.792685	0.71028	2.971409	50.449759	
39.779999	5.903724	9.156201	14.017629	16.743056	56.847858	0.710301	2.971148	50.45279	
39.799999	5.906582	9.153278	14.03319	16.754489	56.885327	0.710421	2.969682	50.46982	
39.82	5.920444	9.132835	14.044323	16.752662	56.964689	0.711001	2.962593	50.552271	
39.84	5.94393	9.098585	14.064851	16.751247	57.101178	0.711979	2.950661	50.69136	
39.860001	5.932761	9.118197	14.089318	16.782444	57.090331	0.711515	2.956323	50.625311	
39.880001	5.935358	9.11587	14.106441	16.795558	57.12873	0.711623	2.955004	50.640685	
39.900002	5.94249	9.105133	14.109046	16.791922	57.164327	0.711919	2.951389	50.682857	
39.919998	5.961808	9.078508	14.139851	16.803413	57.297563	0.712718	2.941642	50.796736	
39.939999	5.952343	9.093128	14.141023	16.812302	57.257794	0.712327	2.946409	50.741004	
39.959999	5.956845	9.08881	14.16735	16.83212	57.318626	0.712513	2.94414	50.767528	
39.98	5.968867	9.07197	14.183181	16.836367	57.395952	0.713009	2.938096	50.838228	
40	5.947757	9.106288	14.203078	16.87163	57.334181	0.712137	2.948725	50.713957	



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VNA version 530D

**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	1.567249	35.935674	-13.080224	38.242188	-20.001032	0.220956	13.113881	4.882159	
10.02	1.569969	35.878492	-13.106862	38.197592	-20.067917	0.221781	13.081529	4.918663	
10.04	1.571855	35.827075	-13.10773	38.149598	-20.095638	0.222351	13.059206	4.94401	
10.06	1.573005	35.796687	-13.109521	38.121678	-20.113858	0.222699	13.045645	4.959472	
10.08	1.574782	35.754494	-13.119203	38.085395	-20.149364	0.223235	13.024744	4.983399	
10.1	1.575516	35.735404	-13.120677	38.067982	-20.161345	0.223457	13.016131	4.993291	
10.12	1.577559	35.670396	-13.106759	38.002161	-20.175427	0.224072	12.992246	5.020829	
10.14	1.578069	35.675827	-13.135624	38.017223	-20.213437	0.224226	12.986296	5.027712	
10.16	1.580887	35.61509	-13.159189	37.968393	-20.278477	0.225073	12.953549	5.065766	
10.18	1.582153	35.569634	-13.142313	37.919906	-20.278362	0.225452	12.938902	5.082879	
10.2	1.583823	35.515501	-13.12852	37.864348	-20.287174	0.225953	12.91963	5.105485	
10.22	1.584941	35.491669	-13.137899	37.84525	-20.313002	0.226288	12.906769	5.120626	
10.24	1.587301	35.439257	-13.154251	37.801789	-20.363823	0.226994	12.879726	5.152612	
10.26	1.588866	35.388763	-13.140919	37.749812	-20.371521	0.227461	12.861865	5.173846	
10.28	1.59122	35.339281	-13.160935	37.710409	-20.426203	0.228163	12.835099	5.205831	
10.3	1.592545	35.311137	-13.171608	37.687765	-20.45634	0.228557	12.820096	5.223846	
10.32	1.592962	35.303051	-13.176139	37.681774	-20.467092	0.228681	12.81538	5.229522	
10.34	1.592278	35.292344	-13.131864	37.656279	-20.409675	0.228478	12.823121	5.22021	
10.36	1.59667	35.205992	-13.177162	37.591215	-20.520281	0.229783	12.77365	5.280013	
10.38	1.597546	35.184731	-13.179841	37.572243	-20.535473	0.230043	12.763834	5.29196	
10.4	1.599518	35.122647	-13.163538	37.508387	-20.545419	0.230627	12.741809	5.318867	
10.42	1.603602	35.055636	-13.224777	37.467217	-20.669074	0.231833	12.696479	5.374674	
10.44	1.602611	35.054158	-13.182281	37.450855	-20.609043	0.231541	12.707446	5.361119	
10.46	1.605014	35.029465	-13.241091	37.448497	-20.706562	0.23225	12.680895	5.393994	
10.48	1.607815	34.943069	-13.219095	37.359905	-20.721856	0.233074	12.65011	5.432366	
10.5	1.60771	34.925296	-13.186828	37.331873	-20.685188	0.233044	12.651259	5.430928	
10.52	1.607968	34.913639	-13.178903	37.318168	-20.680128	0.233119	12.648428	5.43447	
10.54	1.610663	34.851044	-13.189179	37.263249	-20.728899	0.233911	12.618981	5.471443	
10.56	1.613145	34.796133	-13.202568	37.216645	-20.778099	0.234639	12.592008	5.505531	
10.58	1.614211	34.787395	-13.231868	37.218882	-20.825043	0.234951	12.580463	5.520186	
10.6	1.614804	34.747513	-13.192278	37.167538	-20.789857	0.235124	12.574052	5.528341	
10.62	1.618643	34.676326	-13.233921	37.115822	-20.888961	0.236246	12.53272	5.581205	
10.64	1.619912	34.643321	-13.232262	37.084396	-20.904749	0.236615	12.519138	5.598687	
10.66	1.620843	34.587909	-13.180592	37.014206	-20.860636	0.236887	12.509183	5.611535	
10.68	1.62255	34.559342	-13.203614	36.995723	-20.909709	0.237384	12.490985	5.635098	
10.7	1.624627	34.520115	-13.224146	36.966422	-20.961134	0.237987	12.468941	5.663774	
10.72	1.626624	34.470857	-13.224941	36.920713	-20.989633	0.238566	12.447817	5.69139	
10.74	1.627175	34.451127	-13.215082	36.89876	-20.986314	0.238726	12.442004	5.699013	
10.76	1.628853	34.407618	-13.211932	36.857012	-21.005965	0.239212	12.424342	5.722236	
10.78	1.632034	34.33902	-13.228216	36.798831	-21.067921	0.240131	12.391019	5.766311	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	1.63347	34.317601	-13.251107	36.787085	-21.113183	0.240546	12.376046	5.786226	
10.82	1.633124	34.300999	-13.209697	36.756695	-21.062288	0.240446	12.379649	5.781428	
10.84	1.636915	34.219635	-13.228627	36.6876	-21.135543	0.241538	12.340288	5.834064	
10.86	1.638962	34.171728	-13.231872	36.644091	-21.167285	0.242126	12.319158	5.862519	
10.88	1.639535	34.149597	-13.218165	36.618505	-21.159788	0.242291	12.313259	5.870487	
10.9	1.641042	34.128654	-13.244219	36.608392	-21.209648	0.242723	12.297781	5.891446	
10.92	1.643588	34.070634	-13.250169	36.556464	-21.251242	0.243452	12.271721	5.926905	
10.94	1.642001	34.081392	-13.203899	36.54975	-21.177527	0.242998	12.287949	5.904799	
10.96	1.645632	33.999931	-13.213978	36.477452	-21.238513	0.244037	12.250886	5.955406	
10.98	1.647055	33.977496	-13.233751	36.463714	-21.280242	0.244443	12.236435	5.975256	
11	1.649648	33.90505	-13.215995	36.389764	-21.295591	0.245183	12.210201	6.011459	
11.02	1.650564	33.89066	-13.228666	36.380963	-21.322414	0.245444	12.200961	6.024263	
11.04	1.649583	33.898187	-13.201648	36.378161	-21.278462	0.245164	12.210863	6.010543	
11.06	1.653209	33.827506	-13.228128	36.321943	-21.357846	0.246196	12.174382	6.061245	
11.08	1.657358	33.744554	-13.253966	36.254138	-21.443621	0.247373	12.132965	6.119325	
11.1	1.655241	33.776114	-13.222425	36.272006	-21.379023	0.246773	12.154056	6.089679	
11.12	1.659466	33.676078	-13.22133	36.178472	-21.43516	0.247969	12.112037	6.148884	
11.14	1.661482	33.643283	-13.246237	36.157064	-21.49089	0.248539	12.092112	6.17716	
11.16	1.661184	33.628439	-13.2084	36.129402	-21.443683	0.248455	12.095054	6.172976	
11.18	1.664485	33.567274	-13.235838	36.082535	-21.519741	0.249386	12.062563	6.219332	
11.2	1.663817	33.574974	-13.222203	36.0847	-21.495116	0.249198	12.069116	6.209955	
11.22	1.665893	33.51804	-13.206896	36.026117	-21.505645	0.249782	12.04877	6.239115	
11.24	1.669393	33.445931	-13.222318	35.964705	-21.570616	0.250766	12.014622	6.288366	
11.26	1.670759	33.392181	-13.182894	35.900229	-21.543641	0.251149	12.00136	6.307598	
11.28	1.67154	33.390495	-13.211599	35.909212	-21.58723	0.251368	11.993798	6.31859	
11.3	1.673697	33.346033	-13.220378	35.871107	-21.626398	0.251972	11.972955	6.348988	
11.32	1.674922	33.315855	-13.216492	35.841622	-21.638403	0.252315	11.961155	6.366261	
11.34	1.676243	33.274877	-13.197169	35.796406	-21.63384	0.252684	11.948452	6.384911	
11.36	1.679195	33.203588	-13.189485	35.727311	-21.664535	0.253507	11.920196	6.426587	
11.38	1.681234	33.187909	-13.244046	35.732927	-21.75512	0.254075	11.900772	6.455395	
11.4	1.683108	33.117922	-13.194205	35.649457	-21.722412	0.254596	11.88298	6.481895	
11.42	1.684328	33.088058	-13.189803	35.620085	-21.733614	0.254935	11.871424	6.499166	
11.44	1.684373	33.072442	-13.16333	35.595782	-21.703339	0.254947	11.871001	6.499798	
11.46	1.686385	33.038082	-13.182736	35.571047	-21.752848	0.255505	11.852012	6.528281	
11.48	1.687893	33.02757	-13.224836	35.576912	-21.822094	0.255923	11.837825	6.549641	
11.5	1.691608	32.931806	-13.201109	35.479193	-21.844011	0.25695	11.803035	6.60232	
11.52	1.691684	32.92871	-13.198532	35.47536	-21.842008	0.256971	11.802325	6.603398	
11.54	1.694575	32.865265	-13.199511	35.416842	-21.881665	0.257768	11.775423	6.644429	
11.56	1.696256	32.829494	-13.20192	35.38455	-21.906872	0.258231	11.759839	6.668315	
11.58	1.697072	32.793712	-13.16899	35.33907	-21.878981	0.258455	11.752296	6.679907	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	1.700088	32.725823	-13.165612	35.274819	-21.914982	0.259283	11.72451	6.722782	
11.62	1.700445	32.723244	-13.175326	35.276053	-21.931183	0.259381	11.721229	6.727862	
11.64	1.702727	32.671808	-13.172244	35.227191	-21.957779	0.260007	11.70031	6.760347	
11.66	1.703141	32.651636	-13.151374	35.200681	-21.938551	0.26012	11.696527	6.766239	
11.68	1.705686	32.603018	-13.163748	35.160219	-21.986855	0.260816	11.67332	6.802492	
11.7	1.705962	32.581644	-13.134824	35.129576	-21.956162	0.260891	11.670806	6.806431	
11.72	1.708599	32.537795	-13.159466	35.098143	-22.020236	0.261611	11.646885	6.844024	
11.74	1.710951	32.490811	-13.166311	35.057161	-22.059397	0.262251	11.625643	6.87758	
11.76	1.71432	32.417388	-13.163954	34.988237	-22.100976	0.263167	11.595367	6.925693	
11.78	1.714638	32.388353	-13.121572	34.945401	-22.054503	0.263253	11.592518	6.930239	
11.8	1.717861	32.336482	-13.153523	34.909357	-22.135074	0.264127	11.56374	6.976314	
11.82	1.719418	32.304583	-13.155724	34.880641	-22.158167	0.264549	11.549889	6.998599	
11.84	1.719013	32.301102	-13.132559	34.868686	-22.12507	0.264439	11.553491	6.992796	
11.86	1.720879	32.26733	-13.143551	34.841549	-22.162732	0.264944	11.536935	7.019506	
11.88	1.722905	32.224896	-13.144128	34.802472	-22.189966	0.26549	11.519029	7.048507	
11.9	1.724798	32.179306	-13.132965	34.756043	-22.201311	0.266001	11.50235	7.075629	
11.92	1.726221	32.157903	-13.149364	34.742431	-22.239688	0.266384	11.489843	7.096035	
11.94	1.728133	32.086959	-13.089103	34.653969	-22.191861	0.266898	11.473094	7.123453	
11.96	1.731311	32.045099	-13.13661	34.633205	-22.29079	0.267751	11.445384	7.16905	
11.98	1.733379	32.001303	-13.134929	34.592048	-22.315728	0.268305	11.427426	7.198755	
12	1.733313	31.98747	-13.105056	34.567915	-22.278629	0.268287	11.428003	7.197798	
12.02	1.734965	31.962938	-13.124015	34.552412	-22.323143	0.268729	11.413706	7.221533	
12.04	1.736288	31.919255	-13.09172	34.499739	-22.301083	0.269083	11.402281	7.240556	
12.06	1.740848	31.832924	-13.106207	34.425394	-22.377915	0.270299	11.363117	7.306145	
12.08	1.741016	31.835407	-13.11797	34.432169	-22.394443	0.270344	11.36168	7.308563	
12.1	1.742523	31.800221	-13.109296	34.396332	-22.403413	0.270745	11.348803	7.330265	
12.12	1.745122	31.746475	-13.107728	34.34605	-22.435166	0.271435	11.326685	7.367693	
12.14	1.745997	31.705748	-13.061688	34.290847	-22.390031	0.271667	11.319262	7.380296	
12.16	1.747955	31.662107	-13.053655	34.247437	-22.405416	0.272186	11.302683	7.408525	
12.18	1.750659	31.626883	-13.092742	34.229806	-22.488376	0.272902	11.27988	7.447526	
12.2	1.753461	31.566696	-13.08503	34.17125	-22.515028	0.273642	11.25636	7.487968	
12.22	1.753635	31.552748	-13.063773	34.150228	-22.491045	0.273687	11.25491	7.490469	
12.24	1.755824	31.50498	-13.055754	34.103028	-22.509296	0.274264	11.236617	7.522086	
12.26	1.755009	31.506813	-13.026234	34.093431	-22.462286	0.274049	11.243421	7.510311	
12.28	1.758603	31.449754	-13.056151	34.052167	-22.545489	0.274995	11.213494	7.562243	
12.3	1.76187	31.395084	-13.077116	34.009738	-22.613422	0.275853	11.186445	7.609489	
12.32	1.762109	31.365976	-13.026954	33.963598	-22.554186	0.275916	11.184473	7.612945	
12.34	1.763457	31.340867	-13.030108	33.941621	-22.57536	0.276269	11.173363	7.632446	
12.36	1.766525	31.291488	-13.053052	33.904858	-22.643197	0.277072	11.148162	7.676863	
12.38	1.76604	31.270761	-12.990238	33.861582	-22.558607	0.276945	11.152136	7.669841	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
12.4	1.76995	31.211321	-13.026039	33.82047	-22.653247	0.277965	11.12019	7.726468	
12.42	1.771041	31.175164	-12.995039	33.775167	-22.628341	0.27825	11.111306	7.74229	
12.44	1.774064	31.125437	-13.014152	33.736642	-22.690794	0.279036	11.086795	7.786109	
12.46	1.774638	31.098681	-12.98133	33.699301	-22.656858	0.279185	11.082151	7.794439	
12.48	1.776989	31.049999	-12.974651	33.651806	-22.678293	0.279795	11.063187	7.828549	
12.5	1.779395	31.009161	-12.986503	33.618705	-22.723766	0.280419	11.043853	7.863479	
12.52	1.780641	30.986116	-12.98852	33.59823	-22.742119	0.280741	11.033868	7.881578	
12.54	1.781849	30.947365	-12.955422	33.5497	-22.715571	0.281054	11.024215	7.899117	
12.56	1.783051	30.92955	-12.966593	33.537585	-22.744929	0.281364	11.014619	7.916588	
12.58	1.787547	30.86711	-13.016709	33.499451	-22.86527	0.282523	10.978916	7.981938	
12.6	1.787965	30.821301	-12.935527	33.425745	-22.76756	0.282631	10.975608	7.988022	
12.62	1.790746	30.780574	-12.961499	33.398266	-22.835683	0.283346	10.953664	8.028486	
12.64	1.793604	30.725716	-12.959732	33.347028	-22.869464	0.284079	10.931218	8.070087	
12.66	1.792949	30.72756	-12.936931	33.339873	-22.832127	0.283911	10.936357	8.060543	
12.68	1.794323	30.702232	-12.938199	33.317023	-22.85104	0.284263	10.92559	8.080552	
12.7	1.797775	30.634783	-12.932594	33.252698	-22.887271	0.285146	10.898646	8.13084	
12.72	1.799435	30.597012	-12.917958	33.212208	-22.889351	0.28557	10.885743	8.155032	
12.74	1.800665	30.568642	-12.906119	33.181467	-22.889573	0.285884	10.876205	8.172963	
12.76	1.802807	30.530604	-12.910196	33.148015	-22.921637	0.28643	10.859643	8.20419	
12.78	1.803958	30.49164	-12.871421	33.097033	-22.886083	0.286723	10.850763	8.220983	
12.8	1.806416	30.444615	-12.868059	33.052405	-22.912416	0.287347	10.831862	8.256839	
12.82	1.807388	30.423003	-12.85997	33.029349	-22.914086	0.287594	10.8244	8.271038	
12.84	1.808585	30.406869	-12.873161	33.01963	-22.94607	0.287898	10.81524	8.288501	
12.86	1.811337	30.340801	-12.838683	32.945348	-22.935648	0.288595	10.794231	8.328694	
12.88	1.814126	30.312998	-12.890835	32.94012	-23.038036	0.2893	10.773035	8.369442	
12.9	1.814045	30.295343	-12.847951	32.907106	-22.981353	0.289279	10.773652	8.368253	
12.92	1.817144	30.231709	-12.831963	32.842282	-22.999019	0.290061	10.750207	8.41355	
12.94	1.819274	30.202623	-12.853711	32.824021	-23.053801	0.290598	10.734159	8.444698	
12.96	1.818656	30.203126	-12.829481	32.815003	-23.014529	0.290442	10.738811	8.435656	
12.98	1.823305	30.116853	-12.82466	32.733725	-23.065802	0.29161	10.703941	8.50366	
13	1.82568	30.074655	-12.826004	32.695431	-23.09694	0.292206	10.686223	8.538424	
13.02	1.826597	30.050885	-12.809343	32.667031	-23.086415	0.292435	10.679401	8.551847	
13.04	1.828992	30.009477	-12.812842	32.630318	-23.120578	0.293034	10.661627	8.586917	
13.06	1.830352	29.970254	-12.778575	32.580793	-23.092241	0.293374	10.651561	8.606843	
13.08	1.83238	29.937086	-12.785454	32.552987	-23.126275	0.29388	10.636595	8.636553	
13.1	1.834263	29.91503	-12.81185	32.543087	-23.184266	0.294349	10.622744	8.664143	
13.12	1.835555	29.881878	-12.788247	32.503321	-23.169026	0.294671	10.613258	8.683089	
13.14	1.840139	29.80315	-12.793609	32.433073	-23.232454	0.295809	10.579768	8.750306	
13.16	1.841652	29.771468	-12.781854	32.399322	-23.235453	0.296184	10.568764	8.772504	
13.18	1.840588	29.781985	-12.762699	32.401437	-23.196991	0.295921	10.576499	8.756894	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	1.844252	29.716542	-12.760102	32.34027	-23.238432	0.296828	10.549916	8.810659	
13.22	1.84554	29.697253	-12.767706	32.325549	-23.264306	0.297146	10.540613	8.829552	
13.24	1.846057	29.667424	-12.718762	32.278831	-23.205405	0.297273	10.536877	8.837151	
13.26	1.850009	29.612109	-12.75068	32.240609	-23.296271	0.298248	10.508454	8.895177	
13.28	1.85034	29.587498	-12.705972	32.200338	-23.240526	0.298329	10.506081	8.900039	
13.3	1.855096	29.513952	-12.726761	32.140999	-23.32631	0.299498	10.472117	8.969914	
13.32	1.858214	29.450527	-12.703436	32.073522	-23.332913	0.300262	10.449983	9.015747	
13.34	1.858032	29.450355	-12.695524	32.070232	-23.320055	0.300218	10.451273	9.013069	
13.36	1.861565	29.39332	-12.703935	32.0212	-23.374275	0.301082	10.426313	9.065018	
13.38	1.861041	29.389826	-12.67396	32.006111	-23.327501	0.300954	10.430002	9.057322	
13.4	1.863212	29.347162	-12.660403	31.961566	-23.335469	0.301484	10.414719	9.089252	
13.42	1.863814	29.331751	-12.647893	31.942461	-23.325816	0.301631	10.410491	9.098104	
13.44	1.866344	29.295113	-12.663335	31.914945	-23.377316	0.302247	10.392762	9.135322	
13.46	1.86923	29.243022	-12.655586	31.864058	-23.401691	0.302949	10.372611	9.177808	
13.48	1.86964	29.229766	-12.640108	31.845746	-23.385608	0.303048	10.369761	9.183831	
13.5	1.872719	29.174953	-12.632995	31.792616	-23.413051	0.303795	10.348377	9.229164	
13.52	1.873653	29.14782	-12.604914	31.756563	-23.38601	0.304022	10.341906	9.242925	
13.54	1.875919	29.106019	-12.595512	31.714464	-23.400394	0.30457	10.326252	9.2763	
13.56	1.878823	29.070583	-12.627868	31.694824	-23.479516	0.305272	10.306273	9.319073	
13.58	1.880451	29.037217	-12.612468	31.658085	-23.478011	0.305664	10.295106	9.343065	
13.6	1.883014	28.985676	-12.59025	31.601958	-23.478292	0.306282	10.27758	9.380845	
13.62	1.883921	28.960724	-12.56546	31.569199	-23.455067	0.3065	10.271401	9.394202	
13.64	1.884605	28.944936	-12.5543	31.550274	-23.447888	0.306664	10.266738	9.404293	
13.66	1.887605	28.895352	-12.554124	31.50472	-23.483475	0.307384	10.246363	9.448518	
13.68	1.889723	28.853749	-12.537141	31.459795	-23.485299	0.307892	10.232025	9.479764	
13.7	1.89062	28.841546	-12.543469	31.451127	-23.504732	0.308107	10.225974	9.49298	
13.72	1.892459	28.813534	-12.548889	31.427605	-23.53416	0.308547	10.213576	9.520119	
13.74	1.896016	28.74028	-12.510396	31.345075	-23.523118	0.309396	10.189705	9.57259	
13.76	1.897671	28.707072	-12.494373	31.308232	-23.520488	0.309791	10.178638	9.597017	
13.78	1.901193	28.663188	-12.528186	31.281524	-23.609352	0.310628	10.155176	9.649003	
13.8	1.901017	28.651272	-12.490387	31.255482	-23.554608	0.310587	10.156346	9.646402	
13.82	1.904279	28.596955	-12.486139	31.203998	-23.587315	0.311361	10.134717	9.694563	
13.84	1.904473	28.590736	-12.478154	31.195104	-23.578446	0.311407	10.133437	9.697422	
13.86	1.905474	28.574635	-12.478212	31.180371	-23.590377	0.311644	10.126817	9.712215	
13.88	1.90853	28.518002	-12.458584	31.120617	-23.598987	0.312367	10.106685	9.757341	
13.9	1.91068	28.48221	-12.45493	31.086357	-23.619224	0.312875	10.092574	9.789096	
13.92	1.912074	28.456381	-12.445615	31.058959	-23.622572	0.313204	10.083445	9.809694	
13.94	1.915568	28.387113	-12.409752	30.981125	-23.613137	0.314027	10.060653	9.861312	
13.96	1.916841	28.375075	-12.431104	30.978658	-23.658239	0.314327	10.052376	9.880125	
13.98	1.920176	28.324882	-12.437784	30.935375	-23.706876	0.31511	10.030763	9.929416	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	1.921239	28.30239	-12.422694	30.908714	-23.698027	0.315359	10.023897	9.945126	
14.02	1.924433	28.238598	-12.386771	30.835864	-23.684547	0.316107	10.003326	9.992345	
14.04	1.925804	28.217627	-12.388123	30.817204	-23.702512	0.316427	9.994525	10.012615	
14.06	1.929197	28.169979	-12.402431	30.779344	-23.762554	0.317219	9.972815	10.062792	
14.08	1.929162	28.155847	-12.36329	30.750653	-23.706418	0.317211	9.973038	10.062276	
14.1	1.929785	28.147484	-12.366863	30.744433	-23.718781	0.317356	9.969065	10.071485	
14.12	1.933833	28.091321	-12.384897	30.700293	-23.791756	0.318298	9.943325	10.131355	
14.14	1.934362	28.066542	-12.340369	30.659672	-23.734297	0.318421	9.93997	10.139184	
14.16	1.937923	28.002901	-12.317006	30.59201	-23.742215	0.319247	9.917464	10.191863	
14.18	1.940209	27.966412	-12.313422	30.557169	-23.763611	0.319776	9.903075	10.225687	
14.2	1.941295	27.956686	-12.332259	30.555865	-23.803287	0.320027	9.896259	10.24175	
14.22	1.944334	27.893058	-12.285734	30.478877	-23.771541	0.320729	9.877228	10.286726	
14.24	1.945195	27.876509	-12.276425	30.459979	-23.768063	0.320928	9.871852	10.299468	
14.26	1.944939	27.875094	-12.261857	30.452816	-23.744053	0.320869	9.873449	10.295682	
14.28	1.949494	27.801933	-12.251227	30.381574	-23.781257	0.321918	9.845107	10.363092	
14.3	1.949413	27.79254	-12.221919	30.361169	-23.737793	0.321899	9.845609	10.361892	
14.32	1.952749	27.75145	-12.247935	30.334055	-23.814019	0.322665	9.824959	10.411278	
14.34	1.955657	27.702655	-12.234247	30.283888	-23.827601	0.323331	9.807042	10.454319	
14.36	1.956732	27.6902	-12.244596	30.276679	-23.855038	0.323577	9.800434	10.470239	
14.38	1.959326	27.644181	-12.224915	30.226632	-23.856198	0.32417	9.784532	10.508646	
14.4	1.961064	27.607277	-12.194457	30.180565	-23.83165	0.324567	9.773913	10.534374	
14.42	1.962965	27.578768	-12.194117	30.154352	-23.852946	0.325	9.762322	10.562527	
14.44	1.965781	27.536923	-12.194373	30.116189	-23.885586	0.325641	9.745207	10.604233	
14.46	1.966904	27.516032	-12.182485	30.092274	-23.880995	0.325897	9.738405	10.620855	
14.48	1.966836	27.502205	-12.140568	30.062679	-23.818614	0.325881	9.738815	10.619853	
14.5	1.972687	27.424908	-12.166685	30.002563	-23.923855	0.327208	9.70352	10.706513	
14.52	1.973694	27.397082	-12.12967	29.962126	-23.880731	0.327436	9.697474	10.721426	
14.54	1.97441	27.386647	-12.129936	29.952693	-23.889277	0.327598	9.693181	10.732032	
14.56	1.975474	27.363595	-12.108689	29.923012	-23.869954	0.327838	9.686808	10.74779	
14.58	1.979695	27.302328	-12.110157	29.867591	-23.92009	0.32879	9.661619	10.81031	
14.6	1.981171	27.2729	-12.087393	29.831463	-23.903039	0.329123	9.652846	10.832169	
14.62	1.983422	27.24764	-12.109032	29.817152	-23.960723	0.329629	9.639498	10.865512	
14.64	1.984147	27.222968	-12.068165	29.778022	-23.908144	0.329792	9.635204	10.876261	
14.66	1.986001	27.192046	-12.05643	29.744997	-23.91162	0.330208	9.624249	10.903729	
14.68	1.98832	27.162007	-12.06661	29.721671	-23.95303	0.330728	9.610588	10.938083	
14.7	1.989387	27.126447	-12.007718	29.66529	-23.876966	0.330967	9.604317	10.953889	
14.72	1.99243	27.096077	-12.046996	29.653457	-23.970115	0.331647	9.586482	10.998965	
14.74	1.995664	27.044562	-12.031938	29.600268	-23.983991	0.332368	9.567607	11.046872	
14.76	1.997701	27.013184	-12.025305	29.568904	-23.996962	0.332822	9.555758	11.077052	
14.78	1.99989	26.978337	-12.014597	29.532714	-24.005479	0.333309	9.54306	11.109487	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	2.00063	26.947483	-11.954278	29.48002	-23.922782	0.333473	9.538781	11.120438	
14.82	2.003159	26.924662	-11.993171	29.474965	-24.009878	0.334035	9.524173	11.157905	
14.84	2.004519	26.90109	-11.980385	29.44823	-24.005815	0.334336	9.516337	11.178057	
14.86	2.007411	26.849885	-11.949487	29.388886	-23.991401	0.334976	9.499723	11.2209	
14.88	2.008918	26.82449	-11.936995	29.360605	-23.989278	0.335309	9.491091	11.243225	
14.9	2.009966	26.80809	-11.932009	29.343595	-23.993402	0.335541	9.485098	11.258751	
14.92	2.013685	26.755555	-11.930897	29.295154	-24.033197	0.336361	9.463897	11.313846	
14.94	2.015231	26.731491	-11.923525	29.270173	-24.039201	0.336701	9.455113	11.336753	
14.96	2.017661	26.687455	-11.892757	29.217425	-24.019275	0.337235	9.441348	11.372742	
14.98	2.016955	26.688619	-11.866387	29.207765	-23.971096	0.33708	9.445344	11.362283	
15	2.020928	26.639326	-11.884462	29.17009	-24.042874	0.337952	9.422907	11.421136	
15.02	2.023112	26.607163	-11.87867	29.138358	-24.058239	0.33843	9.410619	11.453496	
15.04	2.026749	26.546594	-11.846885	29.070094	-24.049701	0.339225	9.39024	11.507367	
15.06	2.026267	26.535836	-11.793203	29.038427	-23.961626	0.33912	9.392939	11.500218	
15.08	2.03093	26.480591	-11.820398	28.999026	-24.055057	0.340136	9.366937	11.569279	
15.1	2.030413	26.480169	-11.79715	28.989172	-24.013438	0.340024	9.369811	11.561627	
15.12	2.031712	26.465454	-11.806677	28.979612	-24.042483	0.340307	9.362591	11.580862	
15.14	2.035967	26.401044	-11.787024	28.912783	-24.058919	0.341231	9.339022	11.643883	
15.16	2.036914	26.380896	-11.764337	28.885139	-24.03412	0.341437	9.333793	11.657909	
15.18	2.040006	26.336983	-11.758215	28.842543	-24.058541	0.342107	9.316773	11.703687	
15.2	2.041471	26.313843	-11.747827	28.817179	-24.058437	0.342423	9.30873	11.725382	
15.22	2.043049	26.292139	-11.746639	28.796876	-24.073883	0.342764	9.300083	11.74875	
15.24	2.044806	26.256759	-11.709684	28.749506	-24.035401	0.343144	9.290481	11.774756	
15.26	2.049131	26.193947	-11.694707	28.686042	-24.05918	0.344075	9.266928	11.838787	
15.28	2.050142	26.182343	-11.700884	28.677967	-24.079901	0.344293	9.261439	11.853758	
15.3	2.051452	26.150663	-11.655652	28.630603	-24.023127	0.344574	9.25434	11.873151	
15.32	2.054121	26.11547	-11.656936	28.598985	-24.054179	0.345147	9.239914	11.912657	
15.34	2.056328	26.088333	-11.664067	28.577116	-24.089412	0.34562	9.228021	11.945323	
15.36	2.058028	26.051	-11.616411	28.523597	-24.032629	0.345984	9.218889	11.970468	
15.38	2.058859	26.042346	-11.624055	28.518808	-24.053737	0.346162	9.214424	11.98278	
15.4	2.063013	25.979732	-11.59892	28.451387	-24.058909	0.347048	9.192205	12.044243	
15.42	2.063428	25.978831	-11.613752	28.456614	-24.086918	0.347137	9.189992	12.050382	
15.44	2.065296	25.944311	-11.581386	28.411895	-24.055743	0.347535	9.180041	12.078023	
15.46	2.066271	25.923999	-11.556806	28.383331	-24.027148	0.347742	9.174861	12.092438	
15.48	2.070263	25.871297	-11.555391	28.334626	-24.067926	0.34859	9.153699	12.151506	
15.5	2.072109	25.847325	-11.55575	28.312887	-24.088372	0.348981	9.143955	12.1788	
15.52	2.074567	25.808091	-11.53191	28.26734	-24.076716	0.349502	9.131008	12.215162	
15.54	2.076724	25.782744	-11.5407	28.24779	-24.113968	0.349958	9.119681	12.247061	
15.56	2.077934	25.762793	-11.526532	28.223792	-24.104263	0.350213	9.113345	12.264943	
15.58	2.079078	25.739449	-11.498182	28.190911	-24.071044	0.350455	9.107356	12.281867	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	2.080308	25.708141	-11.446682	28.14134	-24.001307	0.350714	9.100932	12.300048	
15.62	2.085821	25.642537	-11.464487	28.088684	-24.088919	0.351874	9.072249	12.381552	
15.64	2.08577	25.63753	-11.44547	28.076356	-24.057661	0.351864	9.072513	12.3808	
15.66	2.088835	25.59432	-11.432066	28.031435	-24.068648	0.352507	9.056653	12.426096	
15.68	2.090006	25.579109	-11.43122	28.017202	-24.079754	0.352752	9.050607	12.443408	
15.7	2.092148	25.548524	-11.42011	27.984746	-24.084536	0.3532	9.039575	12.475056	
15.72	2.092968	25.536144	-11.413508	27.970749	-24.082538	0.353372	9.03536	12.48717	
15.74	2.093814	25.516497	-11.383268	27.94048	-24.042364	0.353549	9.031015	12.499669	
15.76	2.098759	25.448375	-11.36455	27.870644	-24.064277	0.35458	9.005705	12.572728	
15.78	2.101194	25.415733	-11.357911	27.838132	-24.079196	0.355087	8.993303	12.608681	
15.8	2.103618	25.378449	-11.334532	27.794555	-24.066554	0.355591	8.980991	12.644477	
15.82	2.104483	25.365901	-11.328718	27.780727	-24.066159	0.35577	8.976605	12.657253	
15.84	2.106815	25.333914	-11.31917	27.747627	-24.075092	0.356254	8.964807	12.691686	
15.86	2.107222	25.325825	-11.308775	27.736002	-24.062303	0.356338	8.962753	12.697691	
15.88	2.112015	25.259861	-11.287299	27.667014	-24.077389	0.357329	8.938623	12.768437	
15.9	2.114082	25.232397	-11.281109	27.639415	-24.088901	0.357756	8.928258	12.798945	
15.92	2.115954	25.205194	-11.267147	27.608882	-24.085492	0.358142	8.918895	12.82657	
15.94	2.117609	25.181529	-11.255946	27.582707	-24.08431	0.358483	8.910637	12.85098	
15.96	2.118262	25.16918	-11.240902	27.565295	-24.066238	0.358617	8.907382	12.860618	
15.98	2.120589	25.136197	-11.225804	27.529022	-24.06554	0.359095	8.895805	12.894944	
16	2.12373	25.079118	-11.16024	27.450193	-23.989168	0.35974	8.880232	12.941266	
16.02	2.124879	25.068536	-11.172758	27.44562	-24.022024	0.359975	8.874547	12.958219	
16.040001	2.127589	25.032026	-11.160773	27.407393	-24.030211	0.36053	8.861177	12.998171	
16.059999	2.130139	25.001455	-11.162739	27.380276	-24.060019	0.361051	8.848633	13.03577	
16.08	2.132599	24.964195	-11.136431	27.335529	-24.041508	0.361553	8.83657	13.072028	
16.1	2.134864	24.938486	-11.142801	27.31465	-24.075681	0.362014	8.8255	13.105393	
16.120001	2.136829	24.909797	-11.125164	27.281262	-24.066441	0.362413	8.815913	13.134352	
16.139999	2.139951	24.860012	-11.08127	27.217913	-24.02481	0.363047	8.800736	13.180335	
16.16	2.140425	24.854108	-11.080591	27.212243	-24.028565	0.363144	8.798432	13.187327	
16.18	2.142997	24.821664	-11.075057	27.180358	-24.04576	0.363665	8.785978	13.2252	
16.200001	2.144676	24.791738	-11.03926	27.138451	-24.002486	0.364004	8.777867	13.249923	
16.219999	2.14587	24.782634	-11.058315	27.137894	-24.047057	0.364246	8.772108	13.267504	
16.24	2.148696	24.738812	-11.0214	27.082837	-24.013516	0.364817	8.75851	13.309109	
16.26	2.147316	24.746475	-10.988879	27.076623	-23.944055	0.364538	8.765148	13.288783	
16.280001	2.151778	24.691844	-10.983403	27.024476	-23.980452	0.365437	8.743739	13.354453	
16.299999	2.155706	24.644141	-10.97932	26.979236	-24.013703	0.366227	8.724981	13.412258	
16.32	2.157497	24.614054	-10.946088	26.938235	-23.975181	0.366587	8.71646	13.4386	
16.34	2.159247	24.593572	-10.946696	26.919768	-23.994076	0.366938	8.708152	13.46433	
16.360001	2.160416	24.581998	-10.954941	26.91255	-24.020134	0.367172	8.70261	13.481523	
16.379999	2.161258	24.55852	-10.904001	26.870395	-23.941298	0.36734	8.698625	13.4939	



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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	2.164298	24.523291	-10.905746	26.83891	-23.975223	0.367948	8.684264	13.538596	
16.42	2.170113	24.452015	-10.893213	26.768697	-24.012702	0.369108	8.656938	13.624049	
16.440001	2.169507	24.456837	-10.884692	26.769636	-23.991843	0.368987	8.659779	13.61514	
16.459999	2.173898	24.396066	-10.847718	26.699083	-23.972379	0.36986	8.639254	13.679638	
16.48	2.174232	24.393486	-10.852657	26.698733	-23.984314	0.369926	8.637697	13.684542	
16.5	2.17611	24.36352	-10.821214	26.658577	-23.948749	0.370299	8.628954	13.71212	
16.52	2.178452	24.333619	-10.810343	26.626839	-23.953488	0.370763	8.618074	13.746516	
16.540001	2.180066	24.308285	-10.784399	26.593157	-23.924564	0.371082	8.610596	13.770204	
16.559999	2.18349	24.266874	-10.776475	26.552092	-23.945174	0.371759	8.59478	13.820445	
16.58	2.183824	24.257453	-10.754804	26.534691	-23.910664	0.371825	8.593238	13.825352	
16.6	2.18669	24.223556	-10.750635	26.502015	-23.932127	0.37239	8.58005	13.867398	
16.620001	2.190339	24.18079	-10.746297	26.46117	-23.961106	0.373107	8.563324	13.920908	
16.639999	2.189954	24.182992	-10.737762	26.459717	-23.942279	0.373032	8.565085	13.915265	
16.66	2.192444	24.144189	-10.696739	26.407614	-23.895098	0.373521	8.553704	13.951778	
16.68	2.195691	24.105529	-10.689551	26.369358	-23.914842	0.374157	8.538915	13.99937	
16.700001	2.195656	24.103402	-10.679566	26.363367	-23.89688	0.37415	8.539077	13.998849	
16.719999	2.198958	24.062868	-10.666908	26.321181	-23.907431	0.374796	8.52409	14.047239	
16.74	2.198948	24.053084	-10.627574	26.296315	-23.837719	0.374794	8.524139	14.047082	
16.76	2.202625	24.009395	-10.61844	26.252663	-23.858021	0.375512	8.507518	14.100945	
16.780001	2.205803	23.964952	-10.58321	26.197772	-23.826869	0.376131	8.493209	14.147479	
16.799999	2.207517	23.949256	-10.5972	26.189072	-23.86874	0.376465	8.485513	14.172572	
16.82	2.207336	23.944625	-10.570448	26.174023	-23.819289	0.37643	8.486324	14.169925	
16.84	2.214135	23.865508	-10.556779	26.096131	-23.861986	0.377749	8.455943	14.2694	
16.860001	2.214277	23.857534	-10.530807	26.07834	-23.816889	0.377776	8.455312	14.271474	
16.879999	2.214492	23.851738	-10.516942	26.067441	-23.794154	0.377818	8.454354	14.27462	
16.9	2.218476	23.800444	-10.487575	26.008659	-23.780547	0.378588	8.436664	14.332884	
16.92	2.221562	23.764849	-10.48114	25.973494	-23.79922	0.379183	8.423019	14.377986	
16.940001	2.221327	23.765822	-10.474526	25.971715	-23.785002	0.379138	8.424055	14.374557	
16.959999	2.225207	23.722822	-10.473046	25.931776	-23.820328	0.379885	8.406963	14.431242	
16.98	2.227511	23.688124	-10.433983	25.884265	-23.772246	0.380327	8.396846	14.464898	
17	2.228836	23.671015	-10.423122	25.864231	-23.765504	0.380582	8.391039	14.484253	
17.02	2.230324	23.653126	-10.416259	25.845092	-23.767563	0.380867	8.384532	14.505972	
17.040001	2.232336	23.623153	-10.382694	25.804141	-23.726178	0.381252	8.375747	14.535344	
17.059999	2.237916	23.566256	-10.398046	25.758257	-23.808363	0.382319	8.351486	14.616768	
17.08	2.235901	23.575585	-10.34558	25.745665	-23.693157	0.381934	8.360231	14.587368	
17.1	2.243403	23.495616	-10.350022	25.674246	-23.773948	0.383364	8.32778	14.696774	
17.120001	2.241879	23.510488	-10.343498	25.685229	-23.747255	0.383074	8.334352	14.674551	
17.139999	2.24465	23.474488	-10.317364	25.641755	-23.726198	0.383601	8.32241	14.714957	
17.16	2.24437	23.475409	-10.308459	25.639016	-23.707153	0.383547	8.323619	14.710862	
17.18	2.250313	23.403855	-10.274858	25.55999	-23.702677	0.384675	8.298129	14.797457	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	2.249919	23.407338	-10.271748	25.561931	-23.693156	0.3846	8.299815	14.791715	
17.219999	2.254587	23.356626	-10.267707	25.513875	-23.730609	0.385483	8.2799	14.859697	
17.24	2.255924	23.333703	-10.230182	25.4778	-23.6741	0.385735	8.274217	14.879156	
17.26	2.256963	23.317728	-10.2088	25.454588	-23.64446	0.385931	8.269805	14.894281	
17.280001	2.258653	23.30099	-10.213851	25.441283	-23.67	0.38625	8.262641	14.91887	
17.299999	2.261688	23.258852	-10.170107	25.385139	-23.617755	0.38682	8.249811	14.963009	
17.32	2.264228	23.228882	-10.156146	25.352086	-23.615983	0.387298	8.2391	14.999956	
17.34	2.264238	23.220688	-10.120667	25.330382	-23.549876	0.387299	8.239061	15.00009	
17.360001	2.267932	23.184684	-10.13293	25.30229	-23.607908	0.387992	8.223541	15.053792	
17.379999	2.268901	23.168703	-10.107259	25.277371	-23.569096	0.388174	8.219481	15.06787	
17.4	2.273633	23.112885	-10.079002	25.214911	-23.56096	0.389058	8.199714	15.136609	
17.42	2.275403	23.096098	-10.08632	25.202452	-23.591465	0.389388	8.192344	15.162317	
17.440001	2.274714	23.091784	-10.035198	25.178079	-23.488781	0.38926	8.195213	15.152306	
17.459999	2.278763	23.048924	-10.031574	25.137331	-23.520143	0.390014	8.178398	15.211086	
17.48	2.282498	23.00831	-10.022705	25.096552	-23.53858	0.390708	8.162956	15.265267	
17.5	2.284272	22.989008	-10.018234	25.077071	-23.546827	0.391037	8.155642	15.290998	
17.52	2.28614	22.964328	-9.993728	25.04466	-23.517988	0.391383	8.147955	15.318087	
17.540001	2.287515	22.942196	-9.957498	25.00992	-23.462114	0.391638	8.14231	15.33801	
17.559999	2.289874	22.9183	-9.958879	24.988552	-23.486834	0.392074	8.132641	15.372196	
17.58	2.29478	22.863628	-9.938322	24.930217	-23.493578	0.392979	8.112609	15.443263	
17.6	2.293345	22.870388	-9.902269	24.92207	-23.411368	0.392715	8.118457	15.422483	
17.620001	2.294617	22.854203	-9.887546	24.901369	-23.395077	0.392949	8.113273	15.440905	
17.639999	2.297345	22.821421	-9.86449	24.862128	-23.376309	0.393451	8.102177	15.480406	
17.66	2.30039	22.792218	-9.872329	24.838439	-23.419636	0.394011	8.089835	15.524461	
17.68	2.304596	22.749741	-9.872741	24.799632	-23.459514	0.394782	8.072845	15.585311	
17.700001	2.303996	22.747112	-9.832406	24.781189	-23.376385	0.394672	8.075266	15.576626	
17.719999	2.306211	22.720009	-9.810239	24.747517	-23.354172	0.395078	8.066345	15.608654	
17.74	2.311068	22.671025	-9.809503	24.702262	-23.397645	0.395965	8.046859	15.678845	
17.76	2.312792	22.643264	-9.760254	24.65725	-23.318233	0.39628	8.039966	15.70375	
17.780001	2.312763	22.642525	-9.755438	24.654665	-23.308633	0.396274	8.040079	15.703341	
17.799999	2.315933	22.604744	-9.72656	24.608543	-23.281692	0.396852	8.027439	15.749113	
17.82	2.318556	22.578782	-9.727375	24.58502	-23.307351	0.397328	8.017012	15.786972	
17.84	2.321803	22.544979	-9.720082	24.551092	-23.322933	0.397917	8.004142	15.833824	
17.860001	2.322182	22.533234	-9.68196	24.525232	-23.252013	0.397986	8.002645	15.839283	
17.879999	2.324723	22.50467	-9.665687	24.492564	-23.243415	0.398446	7.992606	15.875937	
17.9	2.329262	22.460609	-9.669181	24.453466	-23.291679	0.399266	7.974748	15.941352	
17.92	2.328043	22.463745	-9.626455	24.439486	-23.19677	0.399046	7.979534	15.923796	
17.940001	2.334741	22.400413	-9.638409	24.386008	-23.281195	0.400253	7.953303	16.020267	
17.959999	2.334701	22.390884	-9.590264	24.358261	-23.186029	0.400246	7.953457	16.019697	
17.98	2.338547	22.350182	-9.575055	24.314858	-23.190846	0.400937	7.938477	16.075048	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	2.338442	22.344738	-9.543369	24.297391	-23.12722	0.400918	7.938887	16.073533	
18.02	2.340738	22.326379	-9.563058	24.288254	-23.186944	0.40133	7.92997	16.106569	
18.040001	2.342867	22.302238	-9.546173	24.259415	-23.172736	0.401711	7.921722	16.137186	
18.059999	2.346909	22.254452	-9.503713	24.198785	-23.124835	0.402434	7.906114	16.195287	
18.08	2.347119	22.248641	-9.484975	24.186086	-23.089418	0.402471	7.905304	16.198307	
18.1	2.35108	22.208938	-9.477671	24.146701	-23.110422	0.403178	7.890074	16.25521	
18.120001	2.352739	22.184208	-9.433879	24.106787	-23.037762	0.403473	7.883716	16.279025	
18.139999	2.352481	22.186649	-9.433696	24.108961	-23.03509	0.403427	7.884703	16.275326	
18.16	2.357598	22.134559	-9.418639	24.055134	-23.050634	0.404336	7.865152	16.348759	
18.18	2.357534	22.135466	-9.420127	24.056551	-23.053051	0.404325	7.865395	16.347843	
18.200001	2.362858	22.078841	-9.39094	23.993019	-23.041867	0.405268	7.845157	16.424204	
18.219999	2.361369	22.087251	-9.361619	23.989301	-22.969562	0.405004	7.850806	16.402852	
18.24	2.365253	22.043513	-9.327084	23.935559	-22.934307	0.405691	7.83609	16.458527	
18.26	2.368358	22.009637	-9.304378	23.895514	-22.915817	0.406239	7.824369	16.503007	
18.280001	2.369905	21.997111	-9.315218	23.888201	-22.951466	0.406512	7.818543	16.525163	
18.299999	2.372031	21.969509	-9.2765	23.847699	-22.891665	0.406886	7.810552	16.555593	
18.32	2.373698	21.946038	-9.236325	23.810466	-22.824574	0.407179	7.8043	16.579445	
18.34	2.374536	21.938951	-9.240481	23.805547	-22.840411	0.407326	7.80116	16.591437	
18.360001	2.379567	21.889785	-9.230456	23.756346	-22.864157	0.408208	7.782364	16.663401	
18.379999	2.381417	21.868204	-9.208137	23.727792	-22.834746	0.408532	7.775479	16.689836	
18.4	2.385058	21.829252	-9.182071	23.681779	-22.813196	0.409168	7.761963	16.741858	
18.42	2.383503	21.839966	-9.162174	23.683951	-22.758777	0.408897	7.76773	16.719643	
18.440001	2.389517	21.777724	-9.128861	23.613669	-22.742665	0.409945	7.745478	16.80553	
18.459999	2.387699	21.795707	-9.134695	23.632509	-22.738854	0.409629	7.752193	16.779567	
18.48	2.39139	21.75583	-9.10474	23.584156	-22.709182	0.410271	7.738575	16.832261	
18.5	2.394786	21.720832	-9.085423	23.544415	-22.698698	0.410861	7.726098	16.880691	
18.52	2.395092	21.711743	-9.051854	23.523092	-22.631808	0.410914	7.724975	16.885057	
18.540001	2.399987	21.667996	-9.058837	23.485412	-22.688603	0.411762	7.707064	16.954835	
18.559999	2.402348	21.641858	-9.034667	23.451977	-22.658754	0.412171	7.698458	16.988468	
18.58	2.401298	21.648123	-9.016516	23.450774	-22.611932	0.411989	7.702282	16.973514	
18.6	2.406248	21.598497	-8.992926	23.395893	-22.605329	0.412844	7.684285	17.043998	
18.620001	2.408772	21.571671	-8.972083	23.363118	-22.583429	0.413278	7.675144	17.079911	
18.639999	2.410051	21.557397	-8.957653	23.344398	-22.56418	0.413499	7.670521	17.098104	
18.66	2.412054	21.535443	-8.937007	23.316205	-22.538032	0.413843	7.663292	17.126585	
18.68	2.413138	21.52181	-8.916065	23.29559	-22.503311	0.414029	7.659387	17.141994	
18.700001	2.417067	21.483226	-8.899313	23.253532	-22.501563	0.414703	7.645262	17.197836	
18.719999	2.420301	21.445115	-8.849541	23.199296	-22.424021	0.415256	7.633679	17.243765	
18.74	2.423361	21.418181	-8.852749	23.175626	-22.456752	0.415779	7.622754	17.287199	
18.76	2.424408	21.405578	-8.834801	23.157126	-22.427623	0.415957	7.619023	17.302057	
18.780001	2.423213	21.413607	-8.819697	23.158791	-22.385504	0.415754	7.623281	17.2851	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	2.42904	21.357336	-8.796631	23.097976	-22.385757	0.416746	7.602562	17.36776	
18.82	2.431533	21.336359	-8.803742	23.081293	-22.421909	0.41717	7.593736	17.403091	
18.84	2.432619	21.322296	-8.778878	23.058816	-22.378128	0.417354	7.589898	17.418476	
18.860001	2.437204	21.277012	-8.752956	23.007075	-22.361369	0.418132	7.573738	17.483413	
18.879999	2.440793	21.237326	-8.707536	22.953109	-22.294205	0.418739	7.561141	17.5342	
18.9	2.440423	21.238252	-8.694108	22.948875	-22.262309	0.418676	7.562435	17.528976	
18.92	2.443342	21.209748	-8.678234	22.916482	-22.252578	0.419169	7.552217	17.570264	
18.940001	2.443831	21.201327	-8.654427	22.899681	-22.205426	0.419251	7.550509	17.577174	
18.959999	2.448266	21.165213	-8.671007	22.872529	-22.278069	0.419998	7.535048	17.639861	
18.98	2.448307	21.157052	-8.625684	22.847829	-22.180655	0.420005	7.534905	17.640443	
19	2.452779	21.111544	-8.58835	22.791601	-22.136936	0.420756	7.519386	17.703594	
19.02	2.454467	21.098734	-8.599629	22.78399	-22.175347	0.421039	7.513543	17.727426	
19.040001	2.455495	21.084955	-8.57127	22.760537	-22.122331	0.421212	7.509993	17.741925	
19.059999	2.459172	21.048053	-8.542159	22.715392	-22.089361	0.421827	7.497314	17.793796	
19.08	2.462968	21.013702	-8.533525	22.680316	-22.101783	0.422461	7.484274	17.847305	
19.1	2.46494	20.989058	-8.488215	22.640458	-22.019009	0.422789	7.477517	17.875091	
19.120001	2.46546	20.980442	-8.463504	22.623215	-21.969172	0.422876	7.475737	17.882421	
19.139999	2.469058	20.951033	-8.472996	22.599501	-22.019383	0.423475	7.463453	17.933072	
19.16	2.469444	20.944775	-8.455325	22.587078	-21.98378	0.423539	7.462137	17.938507	
19.18	2.473982	20.89862	-8.411674	22.527951	-21.924775	0.424292	7.446707	18.002352	
19.200001	2.477386	20.867482	-8.399279	22.494437	-21.925101	0.424855	7.435178	18.050206	
19.219999	2.475493	20.880059	-8.377369	22.497937	-21.861378	0.424542	7.441586	18.023594	
19.24	2.477831	20.859911	-8.376282	22.478835	-21.87793	0.424929	7.433673	18.056466	
19.26	2.48314	20.808742	-8.339545	22.417666	-21.839531	0.425805	7.415775	18.131032	
19.280001	2.485026	20.794237	-8.34875	22.407631	-21.875175	0.426116	7.409439	18.157504	
19.299999	2.484754	20.786103	-8.284208	22.376107	-21.729571	0.426071	7.410353	18.153679	
19.32	2.489873	20.743852	-8.290652	22.339255	-21.785043	0.426913	7.393208	18.225491	
19.34	2.490661	20.731606	-8.255748	22.314947	-21.713492	0.427043	7.390576	18.236538	
19.360001	2.492603	20.71537	-8.256537	22.300156	-21.73081	0.427361	7.384097	18.263766	
19.379999	2.497203	20.674269	-8.24108	22.256253	-21.733021	0.428114	7.368803	18.328194	
19.4	2.497926	20.661169	-8.19671	22.227684	-21.639283	0.428233	7.366405	18.338317	
19.42	2.498004	20.661407	-8.202363	22.229991	-21.652598	0.428245	7.366146	18.339413	
19.440001	2.502284	20.621024	-8.173158	22.181685	-21.620974	0.428944	7.351986	18.399306	
19.459999	2.50753	20.573085	-8.145883	22.12707	-21.601055	0.429798	7.33471	18.472643	
19.48	2.50401	20.597842	-8.117009	22.139488	-21.507993	0.429225	7.346293	18.423438	
19.5	2.511872	20.527254	-8.08259	22.061197	-21.492039	0.430503	7.320473	18.533297	
19.52	2.512744	20.519282	-8.077662	22.051974	-21.487713	0.430645	7.317621	18.545473	
19.540001	2.512957	20.515361	-8.063636	22.043191	-21.457523	0.430679	7.316927	18.548438	
19.559999	2.516682	20.479744	-8.03183	21.998414	-21.41436	0.431282	7.30477	18.600429	
19.58	2.518708	20.459758	-8.01009	21.971874	-21.380609	0.431609	7.298181	18.628674	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	2.520633	20.439547	-7.981217	21.942536	-21.329646	0.43192	7.291925	18.655524	
19.620001	2.523406	20.414785	-7.967751	21.914573	-21.320398	0.432368	7.282939	18.694166	
19.639999	2.522398	20.420593	-7.951569	21.914106	-21.275464	0.432205	7.286206	18.68011	
19.66	2.530272	20.353485	-7.932686	21.844722	-21.29318	0.433471	7.260792	18.789741	
19.68	2.532347	20.335567	-7.925662	21.825476	-21.293081	0.433804	7.254126	18.818603	
19.700001	2.534192	20.315953	-7.894624	21.795941	-21.235783	0.4341	7.248209	18.84426	
19.719999	2.531245	20.334821	-7.86077	21.801299	-21.134892	0.433627	7.257664	18.803278	
19.74	2.536661	20.290623	-7.858706	21.759334	-21.171786	0.434495	7.240309	18.878571	
19.76	2.540491	20.254579	-7.824047	21.713215	-21.120853	0.435107	7.228088	18.931771	
19.780001	2.545225	20.21317	-7.801388	21.666423	-21.104416	0.435861	7.21304	18.99748	
19.799999	2.547821	20.189805	-7.783929	21.63834	-21.083564	0.436274	7.204818	19.033478	
19.82	2.547385	20.194057	-7.789131	21.644179	-21.092364	0.436204	7.206198	19.027434	
19.84	2.5516	20.153589	-7.742628	21.589706	-21.015869	0.436874	7.192886	19.085847	
19.860001	2.550223	20.161554	-7.721728	21.589659	-20.956511	0.436655	7.197228	19.066774	
19.879999	2.553305	20.135079	-7.708618	21.560246	-20.94914	0.437144	7.187515	19.109462	
19.9	2.553342	20.135055	-7.710531	21.560907	-20.95391	0.43715	7.187397	19.109983	
19.92	2.556709	20.102067	-7.667285	21.514654	-20.877775	0.437682	7.176819	19.156586	
19.940001	2.562218	20.055925	-7.649888	21.465342	-20.87828	0.438552	7.159577	19.232792	
19.959999	2.56499	20.030534	-7.625229	21.432835	-20.840879	0.438989	7.150934	19.271103	
19.98	2.566833	20.013476	-7.607301	21.410517	-20.81228	0.439278	7.145201	19.29656	
20	2.565887	20.016589	-7.576506	21.402506	-20.732259	0.43913	7.148143	19.283492	
20.02	2.575811	19.93396	-7.54244	21.313169	-20.725244	0.440686	7.117408	19.420446	
20.040001	2.574166	19.945886	-7.535736	21.321953	-20.697055	0.440429	7.122482	19.397768	
20.059999	2.576656	19.922918	-7.510444	21.291534	-20.65523	0.440818	7.114805	19.432091	
20.08	2.580419	19.893615	-7.510621	21.26418	-20.683527	0.441406	7.103233	19.483934	
20.1	2.579914	19.891293	-7.465325	21.246049	-20.571459	0.441327	7.104782	19.47699	
20.120001	2.585553	19.848041	-7.469223	21.206934	-20.62238	0.442206	7.087507	19.554615	
20.139999	2.584768	19.852098	-7.454412	21.205519	-20.581065	0.442084	7.089908	19.543809	
20.16	2.591969	19.790683	-7.412166	21.133181	-20.532372	0.443202	7.067959	19.642833	
20.18	2.590687	19.797105	-7.386574	21.130235	-20.461277	0.443003	7.071858	19.625206	
20.200001	2.591329	19.788568	-7.360032	21.11297	-20.401891	0.443103	7.069903	19.634039	
20.219999	2.596296	19.749016	-7.349905	21.072369	-20.413573	0.443872	7.054841	19.702251	
20.24	2.59787	19.734292	-7.330116	21.051672	-20.377073	0.444116	7.050081	19.723859	
20.26	2.599363	19.717093	-7.286824	21.020504	-20.282778	0.444346	7.045573	19.744342	
20.280001	2.602331	19.693766	-7.282026	20.99696	-20.292565	0.444804	7.036626	19.78506	
20.299999	2.603888	19.675623	-7.234541	20.96351	-20.188034	0.445044	7.031944	19.806404	
20.32	2.607658	19.647705	-7.240423	20.939342	-20.229504	0.445624	7.020632	19.858057	
20.34	2.612054	19.611865	-7.221349	20.899118	-20.214411	0.446298	7.007494	19.918224	
20.360001	2.615224	19.585341	-7.201797	20.867474	-20.189199	0.446784	6.998049	19.96159	
20.379999	2.61717	19.567399	-7.176707	20.841982	-20.141487	0.447082	6.992264	19.988197	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	2.61493	19.580747	-7.149235	20.845076	-20.05796	0.446739	6.998923	19.957572	
20.42	2.617563	19.559803	-7.140817	20.822515	-20.055965	0.447142	6.991098	19.993565	
20.440001	2.621961	19.525931	-7.134616	20.788572	-20.071926	0.447813	6.978068	20.053638	
20.459999	2.622204	19.518684	-7.092268	20.767265	-19.969049	0.44785	6.977349	20.056958	
20.48	2.626865	19.480478	-7.066343	20.722505	-19.937754	0.44856	6.963599	20.120563	
20.5	2.626574	19.477214	-7.023378	20.704824	-19.829063	0.448515	6.964454	20.116603	
20.52	2.632825	19.431192	-7.028036	20.66312	-19.884502	0.449464	6.946096	20.201814	
20.540001	2.63598	19.405296	-7.008413	20.632095	-19.857719	0.449942	6.936871	20.244774	
20.559999	2.635793	19.402045	-6.971291	20.616456	-19.763754	0.449914	6.937416	20.242233	
20.58	2.641572	19.360648	-6.982382	20.581262	-19.831782	0.450787	6.920578	20.320865	
20.6	2.637842	19.381357	-6.926928	20.582014	-19.667007	0.450224	6.931436	20.270122	
20.620001	2.643324	19.342208	-6.937873	20.548846	-19.732482	0.451051	6.915492	20.344677	
20.639999	2.645012	19.32128	-6.868683	20.505869	-19.570249	0.451305	6.910598	20.367615	
20.66	2.650846	19.279069	-6.873848	20.467836	-19.623452	0.452182	6.893738	20.446838	
20.68	2.650446	19.27792	-6.840269	20.4555	-19.535941	0.452122	6.894892	20.441407	
20.700001	2.655088	19.24179	-6.822229	20.415418	-19.522134	0.452818	6.881535	20.504375	
20.719999	2.655421	19.238591	-6.815839	20.410268	-19.508229	0.452867	6.880579	20.508887	
20.74	2.659146	19.207661	-6.784273	20.370582	-19.45359	0.453424	6.869904	20.55936	
20.76	2.661741	19.186801	-6.767532	20.345339	-19.428702	0.453812	6.862486	20.594505	
20.780001	2.663527	19.16966	-6.732328	20.317483	-19.351159	0.454078	6.857391	20.618681	
20.799999	2.664759	19.160279	-6.728501	20.307364	-19.349741	0.454262	6.853388	20.635358	
20.82	2.666124	19.145975	-6.690952	20.28145	-19.263044	0.454465	6.849997	20.653816	
20.84	2.671155	19.106261	-6.661866	20.234369	-19.222394	0.455212	6.83572	20.721825	
20.860001	2.676669	19.067761	-6.671544	20.201213	-19.284265	0.456029	6.820143	20.796281	
20.879999	2.678293	19.05197	-6.635783	20.174518	-19.203213	0.456269	6.815572	20.818181	
20.9	2.677047	19.059768	-6.626063	20.178688	-19.169866	0.456085	6.81908	20.801375	
20.92	2.682807	19.014636	-6.591898	20.124848	-19.120184	0.456936	6.802893	20.879049	
20.940001	2.685058	18.997044	-6.57842	20.103813	-19.100312	0.457268	6.796589	20.909379	
20.959999	2.687491	18.976632	-6.551209	20.075629	-19.045991	0.457626	6.789791	20.942132	
20.98	2.685509	18.988588	-6.532441	20.080818	-18.98424	0.457334	6.795328	20.915451	
21	2.69012	18.951771	-6.496542	20.034338	-18.921409	0.458012	6.782459	20.977519	
21.02	2.691742	18.941953	-6.511393	20.029873	-18.970702	0.45825	6.777943	20.999341	
21.040001	2.698544	18.886399	-6.444365	19.955599	-18.84056	0.459247	6.759079	21.090752	
21.059999	2.699424	18.879358	-6.436737	19.946471	-18.826353	0.459375	6.756648	21.102564	
21.08	2.701172	18.862027	-6.391223	19.915416	-18.718506	0.459631	6.751822	21.126024	
21.1	2.70625	18.82801	-6.405665	19.887848	-18.789363	0.460371	6.737841	21.194143	
21.120001	2.709135	18.805718	-6.38641	19.860545	-18.757488	0.460791	6.729925	21.23281	
21.139999	2.711399	18.786868	-6.358533	19.833743	-18.698743	0.46112	6.723727	21.263137	
21.16	2.71307	18.770563	-6.315589	19.804562	-18.596186	0.461362	6.719162	21.2855	
21.18	2.712929	18.770061	-6.301884	19.799721	-18.55906	0.461342	6.719547	21.28361	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	2.716094	18.748903	-6.309717	19.782161	-18.600071	0.461801	6.710912	21.325971	
21.219999	2.721786	18.705576	-6.273537	19.729568	-18.540623	0.462624	6.695444	21.402062	
21.24	2.723888	18.687836	-6.243336	19.703159	-18.473761	0.462927	6.689752	21.430129	
21.26	2.723164	18.690702	-6.223348	19.699554	-18.415982	0.462823	6.691711	21.420467	
21.280001	2.723588	18.684341	-6.190939	19.683301	-18.332324	0.462884	6.690562	21.426131	
21.299999	2.726518	18.659468	-6.146386	19.645707	-18.231796	0.463306	6.682642	21.465243	
21.32	2.733292	18.613406	-6.150537	19.603265	-18.285439	0.46428	6.664405	21.555571	
21.34	2.733744	18.608887	-6.136887	19.594694	-18.251688	0.464345	6.663191	21.561596	
21.360001	2.738127	18.573432	-6.08368	19.544399	-18.136109	0.464973	6.651452	21.619956	
21.379999	2.73881	18.568551	-6.081535	19.539093	-18.134586	0.46507	6.649625	21.629052	
21.4	2.740779	18.552025	-6.051157	19.513947	-18.064925	0.465352	6.644369	21.655245	
21.42	2.7444	18.523931	-6.016972	19.476652	-17.994944	0.465869	6.634723	21.703398	
21.440001	2.745352	18.519689	-6.038729	19.479352	-18.059665	0.466005	6.632192	21.716049	
21.459999	2.748885	18.489226	-5.974147	19.430437	-17.906456	0.466508	6.622817	21.762976	
21.48	2.751598	18.470628	-5.971398	19.411895	-17.915612	0.466894	6.615637	21.798985	
21.5	2.756068	18.437329	-5.939504	19.370411	-17.856147	0.467528	6.603842	21.85827	
21.52	2.75744	18.427273	-5.931082	19.358257	-17.841548	0.467723	6.600232	21.87645	
21.540001	2.760928	18.400533	-5.897352	19.322484	-17.770632	0.468216	6.591068	21.922657	
21.559999	2.760902	18.397687	-5.866709	19.310441	-17.686628	0.468213	6.591136	21.922313	
21.58	2.766946	18.355636	-5.849651	19.265196	-17.676289	0.469066	6.575322	22.002288	
21.6	2.768743	18.340611	-5.818224	19.241355	-17.600712	0.469319	6.570637	22.026034	
21.620001	2.771944	18.317694	-5.801365	19.214415	-17.573455	0.469769	6.562304	22.068336	
21.639999	2.772315	18.313808	-5.786613	19.206261	-17.535001	0.469822	6.561341	22.073233	
21.66	2.776426	18.285705	-5.777677	19.176771	-17.534842	0.470399	6.550676	22.127501	
21.68	2.780623	18.255115	-5.747725	19.138589	-17.476931	0.470987	6.539828	22.182844	
21.700001	2.785281	18.221735	-5.719147	19.098174	-17.425226	0.471638	6.527831	22.244207	
21.719999	2.787276	18.207601	-5.708211	19.081416	-17.406605	0.471916	6.522707	22.270466	
21.74	2.788343	18.197898	-5.679517	19.063589	-17.333037	0.472065	6.519969	22.284513	
21.76	2.790312	18.183374	-5.662136	19.04455	-17.29614	0.472339	6.514925	22.310409	
21.780001	2.791687	18.170991	-5.625731	19.021928	-17.202534	0.47253	6.511408	22.328482	
21.799999	2.795537	18.143728	-5.602705	18.98908	-17.160494	0.473065	6.501579	22.379076	
21.82	2.800802	18.111289	-5.622376	18.96391	-17.246197	0.473795	6.488186	22.448195	
21.84	2.800225	18.110442	-5.572487	18.94837	-17.102885	0.473715	6.489649	22.440631	
21.860001	2.80455	18.082157	-5.569867	18.920566	-17.12049	0.474314	6.478686	22.49735	
21.879999	2.804363	18.080817	-5.541877	18.911064	-17.04064	0.474288	6.47916	22.494896	
21.9	2.806492	18.061512	-5.480599	18.874724	-16.879965	0.474582	6.473778	22.522789	
21.92	2.810869	18.03485	-5.498135	18.854318	-16.954486	0.475185	6.462741	22.580104	
21.940001	2.813423	18.014913	-5.459076	18.823884	-16.858461	0.475537	6.456317	22.613526	
21.959999	2.814792	18.005131	-5.447984	18.811307	-16.834769	0.475725	6.452881	22.631426	
21.98	2.820077	17.967233	-5.402453	18.761875	-16.735203	0.47645	6.439648	22.700488	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	2.823969	17.94466	-5.428458	18.747773	-16.831176	0.476983	6.429938	22.751302	
22.02	2.822765	17.946531	-5.362197	18.730487	-16.635511	0.476818	6.432939	22.735584	
22.040001	2.826552	17.921906	-5.356576	18.705284	-16.640608	0.477336	6.423512	22.784988	
22.059999	2.834442	17.868499	-5.31798	18.643073	-16.573963	0.478412	6.403964	22.887775	
22.08	2.830704	17.889993	-5.292496	18.656429	-16.480119	0.477903	6.41321	22.839099	
22.1	2.834393	17.864804	-5.271257	18.626255	-16.439452	0.478405	6.404084	22.887144	
22.120001	2.839877	17.827426	-5.238751	18.581217	-16.375933	0.47915	6.39057	22.958471	
22.139999	2.84334	17.805221	-5.23382	18.558522	-16.380655	0.479619	6.382067	23.003466	
22.16	2.842953	17.807012	-5.226219	18.558099	-16.356581	0.479567	6.383016	22.99844	
22.18	2.845833	17.787514	-5.209415	18.534661	-16.323711	0.479957	6.375959	23.035841	
22.200001	2.847492	17.77399	-5.171967	18.511185	-16.22424	0.480181	6.371902	23.057369	
22.219999	2.852096	17.742845	-5.143498	18.473335	-16.166448	0.480802	6.360672	23.117071	
22.24	2.852663	17.737003	-5.115517	18.459951	-16.088082	0.480879	6.359291	23.124421	
22.26	2.85832	17.701621	-5.113538	18.425407	-16.112658	0.48164	6.345555	23.197679	
22.280001	2.858283	17.699729	-5.087518	18.416386	-16.036521	0.481635	6.345645	23.197195	
22.299999	2.860238	17.684143	-5.044945	18.389681	-15.922455	0.481897	6.340912	23.222493	
22.32	2.864906	17.655102	-5.043293	18.361303	-15.942357	0.482523	6.32964	23.282843	
22.34	2.870045	17.622811	-5.036119	18.328283	-15.948521	0.48321	6.317279	23.349207	
22.360001	2.867662	17.633404	-4.984771	18.324433	-15.785046	0.482892	6.323004	23.318445	
22.379999	2.871269	17.610865	-4.98077	18.301657	-15.792189	0.483374	6.314342	23.365001	
22.4	2.875748	17.582202	-4.966187	18.270108	-15.772644	0.483971	6.303621	23.422749	
22.42	2.87522	17.581327	-4.91373	18.255076	-15.614947	0.4839	6.304883	23.415944	
22.440001	2.880465	17.548713	-4.907253	18.221923	-15.622937	0.484598	6.292371	23.483504	
22.459999	2.886095	17.511162	-4.871609	18.176617	-15.546218	0.485345	6.278996	23.555939	
22.48	2.886862	17.505656	-4.854654	18.166333	-15.499742	0.485446	6.27718	23.565788	
22.5	2.887773	17.498275	-4.830573	18.152798	-15.432724	0.485567	6.275023	23.577499	
22.52	2.894739	17.45381	-4.801091	18.102098	-15.380224	0.486487	6.258579	23.666938	
22.540001	2.894795	17.453066	-4.795737	18.099962	-15.364507	0.486494	6.258447	23.667659	
22.559999	2.899185	17.426082	-4.789295	18.072235	-15.367481	0.487072	6.248132	23.723937	
22.58	2.899948	17.417601	-4.737401	18.050368	-15.215782	0.487173	6.246342	23.73372	
22.6	2.904116	17.392272	-4.733819	18.024987	-15.225926	0.48772	6.236587	23.787088	
22.620001	2.904454	17.387497	-4.696668	18.010656	-15.11588	0.487764	6.235797	23.791416	
22.639999	2.909184	17.357986	-4.68081	17.978033	-15.091614	0.488384	6.224766	23.851921	
22.66	2.912325	17.338298	-4.668262	17.955758	-15.069311	0.488795	6.217464	23.892063	
22.68	2.913548	17.329193	-4.643353	17.940503	-15.000057	0.488955	6.214626	23.907678	
22.700001	2.919633	17.289587	-4.596126	17.890059	-14.886788	0.489748	6.200544	23.985323	
22.719999	2.917766	17.299388	-4.578096	17.89491	-14.822933	0.489505	6.204857	23.961517	
22.74	2.922934	17.267239	-4.557187	17.858485	-14.784471	0.490178	6.192931	24.027404	
22.76	2.924503	17.255234	-4.518562	17.837054	-14.674349	0.490381	6.189322	24.047384	
22.780001	2.92985	17.223616	-4.517811	17.806278	-14.697784	0.491075	6.17705	24.115432	



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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	2.93155	17.212208	-4.497844	17.790186	-14.644905	0.491295	6.173157	24.137055	
22.82	2.935056	17.189447	-4.466802	17.760333	-14.566579	0.491748	6.165148	24.18161	
22.84	2.93573	17.183917	-4.443923	17.749238	-14.499586	0.491835	6.163611	24.19017	
22.860001	2.941345	17.150036	-4.42928	17.712771	-14.481169	0.492559	6.150835	24.261434	
22.879999	2.94154	17.146388	-4.392373	17.700044	-14.368448	0.492584	6.150393	24.263906	
22.9	2.945616	17.121452	-4.375267	17.671646	-14.334785	0.493108	6.141154	24.315579	
22.92	2.946567	17.11368	-4.341933	17.655889	-14.236224	0.49323	6.139003	24.327626	
22.940001	2.949212	17.09864	-4.347073	17.642578	-14.264415	0.49357	6.133028	24.361118	
22.959999	2.954443	17.066493	-4.319896	17.604735	-14.204473	0.49424	6.121246	24.427296	
22.98	2.953026	17.073649	-4.304028	17.607787	-14.148703	0.494059	6.124432	24.409383	
23	2.961393	17.023281	-4.273099	17.551396	-14.090991	0.495127	6.105666	24.515084	
23.02	2.961088	17.023661	-4.251951	17.546628	-14.023711	0.495088	6.106348	24.511234	
23.040001	2.963168	17.009689	-4.221025	17.525597	-13.936688	0.495353	6.101701	24.537475	
23.059999	2.967304	16.984296	-4.195555	17.494828	-13.875756	0.495879	6.092481	24.589626	
23.08	2.967471	16.981612	-4.16845	17.485741	-13.791641	0.4959	6.092109	24.591729	
23.1	2.969339	16.970235	-4.157907	17.472179	-13.76696	0.496138	6.087953	24.615274	
23.120001	2.978759	16.914737	-4.13045	17.411748	-13.722665	0.497331	6.067094	24.733784	
23.139999	2.978885	16.914503	-4.138125	17.413342	-13.747378	0.497347	6.066817	24.735365	
23.16	2.979467	16.907649	-4.081291	17.393261	-13.570888	0.49742	6.065532	24.742684	
23.18	2.982812	16.887606	-4.064298	17.369794	-13.531914	0.497842	6.058165	24.78469	
23.200001	2.990023	16.844688	-4.029716	17.319992	-13.453909	0.49875	6.042345	24.875138	
23.219999	2.990435	16.84085	-4.004681	17.310451	-13.376276	0.498801	6.041446	24.880289	
23.24	2.994718	16.815957	-3.992028	17.283307	-13.354559	0.499339	6.032093	24.93393	
23.26	2.993805	16.818695	-3.951922	17.276753	-13.223051	0.499224	6.034084	24.9225	
23.280001	3.000952	16.777838	-3.939634	17.234169	-13.214353	0.500119	6.018533	25.011903	
23.299999	3.000412	16.781086	-3.943358	17.238182	-13.223936	0.500051	6.019706	25.005149	
23.32	3.004761	16.753354	-3.885399	17.198	-13.057099	0.500594	6.010281	25.059474	
23.34	3.00658	16.74264	-3.875769	17.185389	-13.033893	0.500821	6.006347	25.082181	
23.360001	3.008221	16.730704	-3.827432	17.162916	-12.88567	0.501026	6.002803	25.102656	
23.379999	3.012606	16.707295	-3.84456	17.14393	-12.958917	0.501571	5.993356	25.157322	
23.4	3.014784	16.693114	-3.808022	17.121948	-12.850406	0.501841	5.988673	25.184462	
23.42	3.020828	16.658	-3.778606	17.081184	-12.780401	0.50259	5.975723	25.259673	
23.440001	3.02301	16.645425	-3.769164	17.066833	-12.758827	0.50286	5.971061	25.286803	
23.459999	3.021485	16.652846	-3.751366	17.07015	-12.695063	0.502671	5.974319	25.267841	
23.48	3.028442	16.613209	-3.727594	17.026264	-12.646334	0.50353	5.95949	25.354266	
23.5	3.032027	16.591579	-3.692	16.997393	-12.545224	0.503972	5.951879	25.398737	
23.52	3.033494	16.582689	-3.676308	16.985311	-12.500068	0.504152	5.948771	25.416921	
23.540001	3.037148	16.561675	-3.657232	16.960673	-12.452521	0.504601	5.941042	25.462191	
23.559999	3.037835	16.557446	-3.648458	16.954653	-12.426648	0.504685	5.93959	25.470707	
23.58	3.039281	16.547857	-3.616774	16.938495	-12.328966	0.504862	5.936539	25.488605	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	3.043115	16.524732	-3.574368	16.906888	-12.205302	0.505332	5.928466	25.536029	
23.620001	3.048471	16.495846	-3.577999	16.879425	-12.238079	0.505986	5.917223	25.602222	
23.639999	3.047009	16.501603	-3.536608	16.87633	-12.096604	0.505808	5.920288	25.584164	
23.66	3.053099	16.468444	-3.532774	16.843104	-12.10749	0.50655	5.907546	25.659335	
23.68	3.054182	16.460083	-3.484	16.824761	-11.951059	0.506682	5.905286	25.672691	
23.700001	3.056909	16.44473	-3.471253	16.807104	-11.919383	0.507014	5.899604	25.706305	
23.719999	3.059432	16.428864	-3.425974	16.782278	-11.77932	0.50732	5.894356	25.737382	
23.74	3.058513	16.434275	-3.435259	16.789473	-11.806568	0.507209	5.896267	25.72606	
23.76	3.064532	16.401278	-3.421732	16.754408	-11.784375	0.507938	5.88378	25.800139	
23.780001	3.069295	16.373397	-3.373392	16.717293	-11.641705	0.508514	5.873936	25.858682	
23.799999	3.069193	16.372675	-3.347575	16.711395	-11.555513	0.508502	5.874146	25.85743	
23.82	3.077502	16.327935	-3.337675	16.665579	-11.552977	0.509504	5.857055	25.959391	
23.84	3.07713	16.328939	-3.31763	16.66256	-11.484757	0.509459	5.857817	25.954835	
23.860001	3.080254	16.31118	-3.29309	16.640283	-11.414126	0.509834	5.851416	25.993118	
23.879999	3.085675	16.282172	-3.286404	16.610526	-11.411321	0.510485	5.840343	26.059477	
23.9	3.090449	16.255461	-3.254012	16.577956	-11.319847	0.511056	5.830629	26.117832	
23.92	3.084366	16.286052	-3.222037	16.601717	-11.190919	0.510328	5.843013	26.043458	
23.940001	3.09219	16.243765	-3.19975	16.555914	-11.14366	0.511264	5.827093	26.139102	
23.959999	3.097292	16.215631	-3.170452	16.522665	-11.062833	0.511873	5.81676	26.201371	
23.98	3.101387	16.193423	-3.153371	16.497596	-11.019414	0.51236	5.808495	26.251281	
24	3.100877	16.195861	-3.148362	16.499033	-11.000719	0.512299	5.809523	26.245067	
24.02	3.098404	16.207483	-3.119266	16.504918	-10.893872	0.512005	5.814513	26.21493	
24.040001	3.106845	16.161155	-3.068723	16.449924	-10.751498	0.513008	5.797514	26.317742	
24.059999	3.10953	16.146432	-3.051458	16.432245	-10.701929	0.513326	5.79213	26.350388	
24.08	3.109586	16.145307	-3.032361	16.427604	-10.637212	0.513333	5.792018	26.351069	
24.1	3.118977	16.095616	-3.008451	16.374359	-10.587081	0.514442	5.773263	26.465107	
24.120001	3.118153	16.099306	-2.995333	16.375582	-10.539591	0.514345	5.774903	26.455121	
24.139999	3.117176	16.103131	-2.966617	16.374115	-10.438357	0.51423	5.776849	26.443266	
24.16	3.1129271	16.040046	-2.947892	16.308683	-10.413816	0.515653	5.752849	26.589805	
24.18	3.130467	16.033	-2.9261	16.297827	-10.342945	0.515793	5.750486	26.604272	
24.200001	3.129784	16.035364	-2.898564	16.295231	-10.246203	0.515713	5.751836	26.596002	
24.219999	3.132103	16.023129	-2.890031	16.281675	-10.224313	0.515985	5.74726	26.624044	
24.24	3.13654	15.999274	-2.861513	16.253154	-10.140305	0.516504	5.738523	26.677658	
24.26	3.140036	15.980529	-2.838708	16.230698	-10.07271	0.516912	5.731662	26.719839	
24.280001	3.13989	15.980586	-2.821702	16.227788	-10.013555	0.516895	5.731946	26.718087	
24.299999	3.141712	15.969912	-2.786429	16.211177	-9.897348	0.517108	5.728377	26.740053	
24.32	3.144531	15.955206	-2.776931	16.19506	-9.873187	0.517436	5.722861	26.774041	
24.34	3.153474	15.90866	-2.744391	16.14364	-9.787735	0.518475	5.705438	26.881667	
24.360001	3.151393	15.919007	-2.740184	16.153124	-9.766791	0.518234	5.709482	26.856648	
24.379999	3.160073	15.873398	-2.691712	16.100002	-9.624327	0.519239	5.692651	26.960931	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
24.4	3.153816	15.904442	-2.679423	16.128565	-9.562847	0.518515	5.704772	26.885789	
24.42	3.161343	15.866131	-2.668282	16.088935	-9.546387	0.519386	5.690196	26.976175	
24.440001	3.163663	15.853495	-2.641627	16.072072	-9.46015	0.519654	5.68572	27.003995	
24.459999	3.162806	15.856015	-2.593387	16.0667	-9.288985	0.519555	5.687372	26.993727	
24.48	3.168964	15.824905	-2.585742	16.034764	-9.279969	0.520265	5.675515	27.06752	
24.5	3.171154	15.813251	-2.565799	16.020057	-9.216295	0.520516	5.671312	27.09373	
24.52	3.174995	15.794012	-2.56313	16.000639	-9.217895	0.520958	5.663954	27.139673	
24.540001	3.17883	15.773038	-2.509332	15.971396	-9.039444	0.521397	5.656627	27.185499	
24.559999	3.183716	15.748638	-2.504153	15.946485	-9.034841	0.521956	5.647321	27.243811	
24.58	3.184065	15.746746	-2.49954	15.943893	-9.01954	0.521996	5.646656	27.247982	
24.6	3.187055	15.73084	-2.467002	15.92311	-8.912878	0.522337	5.640979	27.283626	
24.620001	3.18704	15.729786	-2.433974	15.916985	-8.796011	0.522336	5.641007	27.28345	
24.639999	3.191074	15.70884	-2.402746	15.891534	-8.696293	0.522795	5.633366	27.331498	
24.66	3.194535	15.691792	-2.402071	15.874579	-8.703189	0.523189	5.626827	27.372679	
24.68	3.19257	15.700326	-2.368085	15.877911	-8.5773	0.522966	5.630537	27.349307	
24.700001	3.202601	15.649676	-2.323411	15.821207	-8.444683	0.524104	5.611647	27.46852	
24.719999	3.207588	15.625004	-2.313214	15.795307	-8.421239	0.524668	5.602304	27.527678	
24.74	3.202642	15.648465	-2.291931	15.815417	-8.332517	0.524109	5.611569	27.469017	
24.76	3.209733	15.613125	-2.268033	15.776998	-8.265244	0.524911	5.598295	27.553104	
24.780001	3.212314	15.599923	-2.247126	15.760938	-8.19693	0.525202	5.593479	27.583675	
24.799999	3.216236	15.580184	-2.224146	15.738137	-8.124369	0.525643	5.586178	27.630084	
24.82	3.218896	15.566298	-2.190965	15.719731	-8.011797	0.525942	5.581238	27.661528	
24.84	3.22281	15.547027	-2.179174	15.699007	-7.978986	0.526382	5.573983	27.707776	
24.860001	3.226066	15.530709	-2.15825	15.679954	-7.911546	0.526747	5.567965	27.746196	
24.879999	3.222608	15.547066	-2.147584	15.694692	-7.86476	0.526359	5.574359	27.705382	
24.9	3.233236	15.495251	-2.124151	15.640167	-7.805698	0.527548	5.554757	27.830712	
24.92	3.231385	15.503007	-2.085206	15.642612	-7.66051	0.527342	5.55816	27.808914	
24.940001	3.236108	15.479969	-2.070916	15.617879	-7.619821	0.527868	5.549486	27.864512	
24.959999	3.240003	15.46035	-2.035242	15.593737	-7.499462	0.528302	5.542351	27.910327	
24.98	3.244085	15.440324	-2.014681	15.571209	-7.434067	0.528756	5.534896	27.958277	
25	3.244241	15.439237	-2.002191	15.56852	-7.389005	0.528773	5.53461	27.960115	
25.02	3.247124	15.425083	-1.985955	15.552401	-7.336395	0.529093	5.529357	27.993955	
25.040001	3.253343	15.394075	-1.929018	15.514466	-7.142468	0.529782	5.518062	28.066855	
25.059999	3.250151	15.408864	-1.916199	15.527553	-7.088749	0.529428	5.523855	28.029447	
25.08	3.258589	15.368913	-1.914811	15.487737	-7.101889	0.530361	5.508571	28.128263	
25.1	3.260663	15.358468	-1.888971	15.474196	-7.01173	0.530589	5.504827	28.152519	
25.120001	3.260665	15.357968	-1.869661	15.471355	-6.940978	0.53059	5.504824	28.15254	
25.139999	3.263578	15.344354	-1.873557	15.458313	-6.961412	0.53091	5.499576	28.186583	
25.16	3.264843	15.337158	-1.823645	15.445197	-6.780856	0.53105	5.497299	28.201362	
25.18	3.270955	15.307984	-1.802928	15.41379	-6.717191	0.531721	5.48633	28.272684	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	3.27729	15.277873	-1.781739	15.381417	-6.651922	0.532414	5.475007	28.346489	
25.219999	3.275581	15.285215	-1.755139	15.385653	-6.550365	0.532227	5.478058	28.326586	
25.24	3.280006	15.264275	-1.741899	15.363343	-6.51022	0.532711	5.470168	28.378094	
25.26	3.28702	15.230587	-1.693786	15.32448	-6.345773	0.533475	5.457712	28.459603	
25.280001	3.285736	15.236831	-1.706575	15.332104	-6.39069	0.533336	5.459987	28.444695	
25.299999	3.292478	15.204638	-1.663027	15.295315	-6.241999	0.534069	5.448057	28.522938	
25.32	3.295397	15.191033	-1.656873	15.281123	-6.22461	0.534385	5.44291	28.556762	
25.34	3.295232	15.19126	-1.632713	15.278748	-6.134447	0.534367	5.4432	28.554856	
25.360001	3.30063	15.165747	-1.601921	15.250116	-6.029666	0.534952	5.433706	28.617347	
25.379999	3.296936	15.182355	-1.583808	15.264742	-5.955508	0.534552	5.440199	28.574596	
25.4	3.300165	15.166779	-1.549323	15.245707	-5.832681	0.534902	5.434523	28.611965	
25.42	3.308164	15.129696	-1.529704	15.206831	-5.773342	0.535765	5.420512	28.704423	
25.440001	3.309367	15.124085	-1.524302	15.200706	-5.755209	0.535895	5.418411	28.718311	
25.459999	3.311841	15.111939	-1.482088	15.184442	-5.601322	0.536161	5.414095	28.746865	
25.48	3.313846	15.102276	-1.455387	15.172241	-5.504533	0.536377	5.410604	28.769981	
25.5	3.317479	15.08596	-1.46717	15.157136	-5.554786	0.536767	5.404288	28.811854	
25.52	3.32194	15.064956	-1.428487	15.132531	-5.416707	0.537245	5.396555	28.863203	
25.540001	3.320964	15.069095	-1.413159	15.135212	-5.357459	0.53714	5.398244	28.851977	
25.559999	3.32456	15.052649	-1.405413	15.118116	-5.334051	0.537525	5.392023	28.893337	
25.58	3.326247	15.044328	-1.368034	15.1064	-5.195827	0.537706	5.389109	28.912728	
25.6	3.332926	15.0141	-1.363755	15.075909	-5.190035	0.538418	5.377607	28.989406	
25.620001	3.335476	15.002115	-1.335332	15.061426	-5.086479	0.53869	5.373228	29.018647	
25.639999	3.333305	15.011489	-1.312717	15.068776	-4.997667	0.538459	5.376954	28.993762	
25.66	3.342707	14.968532	-1.269669	15.022283	-4.848376	0.539458	5.360851	29.101465	
25.68	3.345485	14.955834	-1.253606	15.008281	-4.791372	0.539752	5.356112	29.13324	
25.700001	3.348838	14.940652	-1.241076	14.99211	-4.748498	0.540107	5.350403	29.171561	
25.719999	3.35105	14.930402	-1.217046	14.979923	-4.66015	0.540341	5.346644	29.196822	
25.74	3.347637	14.945304	-1.196863	14.993151	-4.57865	0.53998	5.352446	29.157845	
25.76	3.35482	14.912913	-1.171853	14.958884	-4.493065	0.540739	5.340249	29.239846	
25.780001	3.354999	14.911601	-1.137649	14.954935	-4.362815	0.540758	5.339946	29.241887	
25.799999	3.360303	14.887975	-1.131849	14.930938	-4.347522	0.541316	5.330978	29.302335	
25.82	3.36302	14.875387	-1.093336	14.915513	-4.203668	0.541602	5.326396	29.333267	
25.84	3.364751	14.867444	-1.072824	14.906101	-4.127276	0.541784	5.323481	29.352961	
25.860001	3.368161	14.852222	-1.060706	14.89005	-4.084982	0.542141	5.317748	29.391735	
25.879999	3.370493	14.841652	-1.039295	14.877996	-4.005638	0.542386	5.313835	29.41823	
25.9	3.373512	14.82808	-1.017423	14.862944	-3.925185	0.542702	5.308779	29.452499	
25.92	3.377204	14.811564	-0.994437	14.844909	-3.841036	0.543087	5.302606	29.494389	
25.940001	3.382127	14.789802	-0.978529	14.822137	-3.785315	0.543601	5.294401	29.550163	
25.959999	3.380512	14.796662	-0.96208	14.827906	-3.720145	0.543432	5.297091	29.53187	
25.98	3.388589	14.761066	-0.935794	14.790699	-3.627482	0.544273	5.283669	29.623274	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	3.388751	14.760037	-0.908811	14.78799	-3.523395	0.54429	5.283401	29.625107	
26.02	3.393324	14.739915	-0.889089	14.766705	-3.451817	0.544764	5.275834	29.676767	
26.040001	3.395403	14.730589	-0.862279	14.755805	-3.350085	0.544979	5.272402	29.700226	
26.059999	3.398932	14.715197	-0.85358	14.739933	-3.319826	0.545344	5.266586	29.740028	
26.08	3.399438	14.712663	-0.821728	14.735593	-3.196752	0.545396	5.265754	29.74573	
26.1	3.404461	14.690642	-0.791837	14.711967	-3.085305	0.545915	5.2575	29.802316	
26.120001	3.406464	14.681893	-0.7808	14.702641	-3.044192	0.546121	5.254217	29.824853	
26.139999	3.408289	14.673778	-0.755092	14.693193	-2.945769	0.546309	5.251229	29.845381	
26.16	3.416057	14.640326	-0.74625	14.659333	-2.917973	0.547107	5.238551	29.932634	
26.18	3.415806	14.641106	-0.714789	14.658544	-2.795006	0.547082	5.238959	29.929822	
26.200001	3.418576	14.628975	-0.685081	14.645007	-2.681233	0.547366	5.234451	29.9609	
26.219999	3.422628	14.611343	-0.648247	14.625716	-2.540322	0.54778	5.227874	30.00631	
26.24	3.427252	14.59181	-0.670061	14.607187	-2.629199	0.548253	5.220387	30.058085	
26.26	3.425476	14.598958	-0.618998	14.612075	-2.427899	0.548071	5.22326	30.038204	
26.280001	3.429141	14.58324	-0.604699	14.595772	-2.374431	0.548445	5.217335	30.079216	
26.299999	3.430718	14.576402	-0.58671	14.588205	-2.304953	0.548606	5.214791	30.096842	
26.32	3.4426	14.525889	-0.559238	14.53665	-2.204767	0.549813	5.195697	30.229457	
26.34	3.436849	14.550102	-0.545849	14.560337	-2.148454	0.54923	5.20492	30.165326	
26.360001	3.443627	14.521309	-0.522782	14.530716	-2.061819	0.549917	5.194054	30.240892	
26.379999	3.448172	14.502034	-0.502071	14.510722	-1.982833	0.550377	5.186793	30.291494	
26.4	3.450347	14.49275	-0.479557	14.500682	-1.895199	0.550597	5.183325	30.315692	
26.42	3.4535	14.47939	-0.457869	14.486628	-1.811215	0.550915	5.178308	30.350736	
26.440001	3.452049	14.485395	-0.44362	14.492187	-1.754156	0.550769	5.180616	30.334612	
26.459999	3.455525	14.470611	-0.403324	14.47623	-1.596534	0.551119	5.175091	30.373223	
26.48	3.458481	14.458164	-0.388319	14.463378	-1.538489	0.551417	5.170401	30.406045	
26.5	3.464045	14.434881	-0.375688	14.439769	-1.490867	0.551976	5.161598	30.467734	
26.52	3.463962	14.435025	-0.329602	14.438787	-1.308039	0.551967	5.16173	30.466809	
26.540001	3.468736	14.415161	-0.330563	14.418951	-1.313655	0.552446	5.154201	30.519671	
26.559999	3.47337	14.395844	-0.309809	14.399178	-1.232859	0.55291	5.146915	30.570922	
26.58	3.476475	14.382935	-0.29603	14.385981	-1.179099	0.55322	5.142045	30.605223	
26.6	3.474117	14.392608	-0.271266	14.395164	-1.079761	0.552984	5.145742	30.579178	
26.620001	3.47994	14.368438	-0.244591	14.37052	-0.975241	0.553565	5.13662	30.643472	
26.639999	3.487344	14.337948	-0.249581	14.34012	-0.997248	0.554302	5.12507	30.725078	
26.66	3.48657	14.341013	-0.207719	14.342518	-0.829829	0.554225	5.126276	30.716548	
26.68	3.488506	14.332995	-0.183591	14.334171	-0.733863	0.554417	5.123263	30.737866	
26.700001	3.496438	14.300464	-0.178131	14.301573	-0.71366	0.555204	5.110956	30.825094	
26.719999	3.499249	14.28889	-0.133695	14.289516	-0.536078	0.555481	5.10661	30.855959	
26.74	3.502738	14.274639	-0.121956	14.27516	-0.489496	0.555826	5.101225	30.894236	
26.76	3.50452	14.267354	-0.102862	14.267724	-0.413073	0.556002	5.09848	30.913773	
26.780001	3.509775	14.245973	-0.084974	14.246226	-0.341753	0.556519	5.090402	30.971326	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	3.510249	14.244026	-0.057648	14.244143	-0.231884	0.556565	5.089675	30.97651	
26.82	3.511025	14.240872	-0.051513	14.240966	-0.207252	0.556642	5.088484	30.985007	
26.84	3.517931	14.212902	0.001287	14.212902	0.005189	0.557319	5.077916	31.060496	
26.860001	3.520328	14.203223	0.006647	14.203225	0.026815	0.557554	5.074258	31.08667	
26.879999	3.522183	14.195753	0.042689	14.195817	0.172298	0.557736	5.071431	31.106913	
26.9	3.529408	14.166685	0.022153	14.166702	0.089595	0.558441	5.060451	31.185656	
26.92	3.530349	14.162922	0.052037	14.163017	0.210512	0.558533	5.059024	31.195902	
26.940001	3.536108	14.13988	0.078804	14.140099	0.319318	0.559093	5.050314	31.258537	
26.959999	3.538145	14.131761	0.101472	14.132125	0.411401	0.559291	5.047238	31.28068	
26.98	3.539628	14.125851	0.108713	14.12627	0.44094	0.559435	5.045003	31.29678	
27	3.549708	14.085785	0.138894	14.08647	0.564951	0.560411	5.029862	31.406084	
27.02	3.54974	14.085717	0.170904	14.086754	0.695143	0.560414	5.029814	31.406435	
27.040001	3.548984	14.088763	0.191888	14.090069	0.780318	0.560341	5.030945	31.398252	
27.059999	3.558935	14.049396	0.201364	14.050839	0.821143	0.561301	5.016084	31.505882	
27.08	3.554938	14.06529	0.238124	14.067306	0.96992	0.560916	5.022042	31.462683	
27.1	3.56168	14.038738	0.262159	14.041186	1.069819	0.561565	5.011999	31.535529	
27.120001	3.570393	14.004484	0.263681	14.006966	1.078659	0.562401	4.999081	31.629471	
27.139999	3.575787	13.983498	0.304962	13.986823	1.249353	0.562917	4.991116	31.687528	
27.16	3.573835	13.991194	0.31963	13.994844	1.308703	0.56273	4.993996	31.666526	
27.18	3.583474	13.953678	0.349442	13.958053	1.434563	0.56365	4.979813	31.770108	
27.200001	3.583394	13.954049	0.36243	13.958755	1.487815	0.563642	4.979932	31.769242	
27.219999	3.586024	13.943888	0.379092	13.949041	1.557318	0.563892	4.976076	31.797461	
27.24	3.589333	13.931211	0.415701	13.937411	1.709175	0.564207	4.971234	31.832929	
27.26	3.592747	13.918057	0.432879	13.924787	1.78144	0.564531	4.966247	31.869503	
27.280001	3.598624	13.895535	0.470561	13.9035	1.939539	0.565087	4.95769	31.932361	
27.299999	3.606581	13.86495	0.48364	13.873383	1.997798	0.565839	4.94615	32.017325	
27.32	3.608713	13.856792	0.489084	13.865421	2.021456	0.566039	4.943068	32.040053	
27.34	3.612569	13.842181	0.518636	13.851893	2.145746	0.566402	4.937503	32.081135	
27.360001	3.609892	13.852645	0.549668	13.863546	2.27229	0.56615	4.941365	32.052618	
27.379999	3.614781	13.834074	0.574465	13.845996	2.377868	0.56661	4.934316	32.104687	
27.4	3.616969	13.825665	0.568583	13.837352	2.354977	0.566815	4.931168	32.127965	
27.42	3.617799	13.822682	0.595463	13.835501	2.466706	0.566893	4.929975	32.13679	
27.440001	3.624211	13.79847	0.629277	13.812812	2.61116	0.567494	4.920777	32.204923	
27.459999	3.622043	13.806885	0.649321	13.822145	2.692571	0.567291	4.923884	32.181896	
27.48	3.62489	13.796052	0.650887	13.811397	2.70117	0.567557	4.919806	32.212128	
27.5	3.632106	13.768951	0.689545	13.786206	2.866966	0.568231	4.909502	32.288642	
27.52	3.634266	13.760833	0.697366	13.778492	2.901137	0.568432	4.906427	32.311512	
27.540001	3.634386	13.760769	0.742971	13.780811	3.090516	0.568443	4.906256	32.312787	
27.559999	3.631305	13.77249	0.748216	13.792799	3.109648	0.568156	4.910643	32.28016	
27.58	3.634378	13.761067	0.772482	13.782731	3.212949	0.568443	4.906268	32.312697	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
27.6	3.640048	13.739613	0.770699	13.761211	3.210546	0.56897	4.898213	32.372683	
27.620001	3.650013	13.702538	0.817235	13.726887	3.41315	0.569894	4.884123	32.477881	
27.639999	3.650775	13.699934	0.843342	13.725867	3.522581	0.569964	4.883049	32.485915	
27.66	3.645391	13.720515	0.87717	13.748526	3.658021	0.569466	4.890648	32.429122	
27.68	3.656675	13.67828	0.887396	13.707035	3.711944	0.570509	4.87475	32.548051	
27.700001	3.657955	13.67356	0.893867	13.702746	3.740219	0.570627	4.872953	32.561524	
27.719999	3.65587	13.681696	0.925138	13.712939	3.868384	0.570435	4.875881	32.539579	
27.74	3.664236	13.650717	0.94862	13.683638	3.975233	0.571205	4.864157	32.627541	
27.76	3.668933	13.633627	0.982867	13.66901	4.123404	0.571637	4.857599	32.676846	
27.780001	3.664105	13.65179	0.999527	13.688332	4.187494	0.571193	4.86434	32.626164	
27.799999	3.669321	13.632509	1.010224	13.669888	4.23811	0.571672	4.857059	32.680909	
27.82	3.670418	13.628587	1.023006	13.666928	4.292764	0.571773	4.85553	32.692414	
27.84	3.675108	13.611854	1.076619	13.654364	4.52236	0.572202	4.849006	32.741562	
27.860001	3.677403	13.60323	1.066217	13.64495	4.481671	0.572412	4.845821	32.765581	
27.879999	3.679198	13.597037	1.101363	13.64157	4.630868	0.572576	4.843332	32.784368	
27.9	3.68115	13.590393	1.14417	13.638471	4.812369	0.572755	4.840629	32.804775	
27.92	3.692466	13.548482	1.124859	13.595098	4.746091	0.573785	4.825018	32.922907	
27.940001	3.696374	13.534726	1.16749	13.584986	4.930076	0.57414	4.81965	32.963625	
27.959999	3.696011	13.536441	1.195417	13.589122	5.046766	0.574107	4.820148	32.959845	
27.98	3.700682	13.519668	1.217735	13.574399	5.14683	0.57453	4.813748	33.008454	
28	3.701516	13.516505	1.209436	13.570506	5.11313	0.574605	4.812607	33.017125	
28.02	3.708568	13.491276	1.242775	13.548395	5.263067	0.575242	4.802982	33.090384	
28.040001	3.703717	13.50938	1.272342	13.569164	5.380375	0.574804	4.809599	33.040007	
28.059999	3.711021	13.483123	1.294695	13.545141	5.484929	0.575464	4.799643	33.115832	
28.08	3.716807	13.462421	1.313769	13.526373	5.573734	0.575984	4.791787	33.175794	
28.1	3.712908	13.476672	1.321198	13.54128	5.599163	0.575634	4.797078	33.135399	
28.120001	3.717445	13.46106	1.374694	13.531072	5.831053	0.576042	4.790922	33.182401	
28.139999	3.721695	13.445516	1.364031	13.514528	5.792777	0.576423	4.785169	33.226383	
28.16	3.728702	13.421084	1.416282	13.495605	6.023948	0.577051	4.775716	33.298785	
28.18	3.731676	13.410353	1.414176	13.484712	6.019832	0.577317	4.771716	33.329471	
28.200001	3.725284	13.43366	1.432035	13.509772	6.084793	0.576745	4.780323	33.263484	
28.219999	3.733893	13.403123	1.458384	13.482232	6.209893	0.577515	4.768738	33.352329	
28.24	3.734794	13.400302	1.482794	13.482091	6.314319	0.577595	4.767529	33.361619	
28.26	3.744466	13.36625	1.515561	13.451899	6.468986	0.578456	4.75459	33.461163	
28.280001	3.740865	13.379209	1.520748	13.465359	6.484705	0.578136	4.759399	33.424133	
28.299999	3.743953	13.368625	1.546447	13.457772	6.598508	0.578411	4.755274	33.455894	
28.32	3.749298	13.349779	1.558525	13.440447	6.658884	0.578885	4.748152	33.510803	
28.34	3.747909	13.355063	1.577023	13.447851	6.734556	0.578762	4.750001	33.496535	
28.360001	3.752407	13.339553	1.604455	13.435696	6.858488	0.579161	4.74402	33.5427	
28.379999	3.761698	13.307109	1.632085	13.406821	6.992282	0.579982	4.731713	33.637889	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
28.4	3.755064	13.330769	1.639735	13.431237	7.012385	0.579396	4.740494	33.569943	
28.42	3.759239	13.316541	1.67045	13.420905	7.14995	0.579765	4.734964	33.612718	
28.440001	3.761272	13.309619	1.684911	13.415845	7.214906	0.579944	4.732276	33.633529	
28.459999	3.770439	13.277927	1.719482	13.3888	7.378712	0.580751	4.720195	33.727214	
28.48	3.765865	13.29436	1.734875	13.40708	7.43493	0.580349	4.726215	33.6805	
28.5	3.770961	13.277163	1.773421	13.395077	7.60794	0.580797	4.719509	33.732545	
28.52	3.773687	13.26766	1.777842	13.386244	7.632081	0.581037	4.71593	33.760356	
28.540001	3.774871	13.263426	1.774324	13.381581	7.619556	0.581141	4.714377	33.77243	
28.559999	3.769529	13.282857	1.805252	13.40497	7.739572	0.580671	4.721391	33.71793	
28.58	3.779253	13.249512	1.845498	13.377423	7.929608	0.581525	4.708639	33.817077	
28.6	3.781341	13.242752	1.871901	13.374396	8.045634	0.581707	4.70591	33.838339	
28.620001	3.786889	13.223839	1.894895	13.358913	8.154636	0.582192	4.698674	33.89476	
28.639999	3.788	13.22024	1.907927	13.357205	8.212161	0.582289	4.697228	33.906053	
28.66	3.786881	13.2243	1.91493	13.362225	8.239397	0.582191	4.698684	33.894681	
28.68	3.792149	13.206183	1.926862	13.346013	8.301238	0.582651	4.691834	33.948186	
28.700001	3.794838	13.197514	1.958234	13.342003	8.439925	0.582885	4.688346	33.975465	
28.719999	3.797014	13.190728	1.993026	13.340445	8.592015	0.583074	4.685527	33.997522	
28.74	3.800797	13.177665	1.996139	13.327994	8.613637	0.583403	4.680634	34.035849	
28.76	3.8008	13.178797	2.046109	13.336688	8.825165	0.583403	4.68063	34.035878	
28.780001	3.803737	13.168722	2.050541	13.327414	8.850636	0.583657	4.676839	34.065601	
28.799999	3.806726	13.158752	2.066645	13.320052	8.925679	0.583916	4.672987	34.095833	
28.82	3.816566	13.125235	2.084483	13.289728	9.024073	0.584766	4.660352	34.19517	
28.84	3.816392	13.126381	2.107815	13.294539	9.122608	0.584751	4.660574	34.193425	
28.860001	3.818831	13.118396	2.12465	13.289336	9.199732	0.584962	4.657453	34.218009	
28.879999	3.822012	13.108147	2.152509	13.283705	9.325417	0.585235	4.653389	34.250041	
28.9	3.823662	13.103107	2.177957	13.28288	9.437262	0.585377	4.651283	34.266652	
28.92	3.830884	13.079053	2.204665	13.263566	9.56811	0.585997	4.642091	34.339259	
28.940001	3.832484	13.074026	2.222196	13.261535	9.646408	0.586134	4.640059	34.355327	
28.959999	3.833444	13.071356	2.246347	13.262972	9.751199	0.586216	4.638841	34.364961	
28.98	3.836586	13.060785	2.251767	13.253473	9.782032	0.586485	4.63486	34.396482	
29	3.836706	13.061043	2.278139	13.258234	9.894152	0.586495	4.634707	34.39769	
29.02	3.841205	13.046223	2.297028	13.246897	9.98565	0.58688	4.629018	34.44278	
29.040001	3.840285	13.049488	2.302366	13.251039	10.005932	0.586801	4.630181	34.43356	
29.059999	3.853154	13.007102	2.349236	13.21755	10.237943	0.587897	4.613977	34.562274	
29.08	3.847006	13.02821	2.361122	13.240437	10.272321	0.587374	4.621704	34.500835	
29.1	3.852301	13.011272	2.397989	13.230403	10.4425	0.587824	4.615047	34.553755	
29.120001	3.863167	12.975003	2.410724	13.197056	10.525417	0.588745	4.60145	34.662108	
29.139999	3.852352	13.0112	2.401697	13.231004	10.458349	0.587829	4.614984	34.554261	
29.16	3.855518	13.001307	2.431255	13.226677	10.592042	0.588097	4.611014	34.585864	
29.18	3.864641	12.971099	2.449593	13.200375	10.694382	0.58887	4.599611	34.676788	



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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	3.872053	12.947207	2.484273	13.183391	10.861753	0.589495	4.590391	34.750491	
29.219999	3.871892	12.948505	2.511698	13.189861	10.977692	0.589482	4.590591	34.748889	
29.24	3.870568	12.95312	2.518297	13.195649	11.002001	0.58937	4.592235	34.735733	
29.26	3.879321	12.924206	2.529904	13.169491	11.075581	0.590107	4.581386	34.822619	
29.280001	3.8828	12.913414	2.558092	13.16435	11.205002	0.590399	4.577089	34.85709	
29.299999	3.877953	12.930313	2.584571	13.186091	11.303595	0.589992	4.583078	34.809051	
29.32	3.88423	12.910539	2.623918	13.174481	11.488253	0.590519	4.575324	34.871255	
29.34	3.879115	12.927637	2.626175	13.191686	11.483069	0.59009	4.581641	34.820571	
29.360001	3.895575	12.873495	2.643634	13.142133	11.604652	0.591468	4.561378	34.983419	
29.379999	3.889571	12.894526	2.682852	13.170668	11.753369	0.590966	4.568748	34.9241	
29.4	3.899817	12.861107	2.6989	13.141238	11.851553	0.591822	4.556185	35.025271	
29.42	3.90088	12.858078	2.714881	13.141565	11.922455	0.59191	4.554886	35.035745	
29.440001	3.896548	12.87326	2.744231	13.162509	12.033809	0.591549	4.560186	34.993017	
29.459999	3.898536	12.866676	2.743687	13.155956	12.037467	0.591715	4.557753	35.012631	
29.48	3.903088	12.852273	2.763873	13.146099	12.136605	0.592094	4.55219	35.057504	
29.5	3.908841	12.833954	2.783813	13.132403	12.238462	0.592572	4.54518	35.114139	
29.52	3.918107	12.80426	2.805769	13.108066	12.359762	0.593339	4.533935	35.205171	
29.540001	3.916309	12.811396	2.846431	13.123797	12.526504	0.593191	4.536112	35.187528	
29.559999	3.912881	12.822754	2.85054	13.135776	12.533254	0.592907	4.54027	35.153857	
29.58	3.923352	12.789123	2.870012	13.107198	12.648245	0.593773	4.527596	35.2566	
29.6	3.929147	12.771217	2.900754	13.096502	12.79663	0.59425	4.520612	35.313338	
29.620001	3.925017	12.784202	2.886143	13.105939	12.721767	0.59391	4.525587	35.27291	
29.639999	3.927689	12.776379	2.913943	13.104462	12.847864	0.59413	4.522368	35.299068	
29.66	3.934484	12.755322	2.945988	13.091107	13.005096	0.594689	4.5142	35.365518	
29.68	3.936215	12.750739	2.977967	13.093877	13.145956	0.594831	4.512124	35.382426	
29.700001	3.939113	12.741401	2.979387	13.085108	13.161307	0.595069	4.508654	35.410707	
29.719999	3.941712	12.73398	3.009766	13.084836	13.298237	0.595282	4.505545	35.436066	
29.74	3.948077	12.713967	3.02589	13.069085	13.387212	0.595803	4.497952	35.498074	
29.76	3.945147	12.723968	3.042714	13.082716	13.448748	0.595563	4.501444	35.469543	
29.780001	3.952259	12.7025	3.086113	13.072016	13.655638	0.596144	4.492978	35.538753	
29.799999	3.953077	12.700431	3.102901	13.07398	13.729272	0.596211	4.492006	35.546708	
29.82	3.961209	12.674569	3.109627	13.050459	13.784907	0.596872	4.482369	35.625672	
29.84	3.962461	12.671198	3.128516	13.0517	13.868964	0.596974	4.480889	35.637814	
29.860001	3.961242	12.675816	3.149659	13.061266	13.954153	0.596875	4.48233	35.625991	
29.879999	3.96329	12.670694	3.191486	13.066448	14.137567	0.597041	4.47991	35.645848	
29.9	3.961973	12.674638	3.183651	13.068362	14.100033	0.596934	4.481467	35.633079	
29.92	3.979823	12.618688	3.210776	13.020767	14.275774	0.598379	4.460469	35.805776	
29.940001	3.971578	12.64554	3.229237	13.051347	14.32525	0.597713	4.470143	35.726109	
29.959999	3.976657	12.630463	3.260364	13.044484	14.474103	0.598124	4.464178	35.77521	
29.98	3.978862	12.624243	3.28264	13.04405	14.575675	0.598302	4.461594	35.796499	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30	3.988119	12.595669	3.303816	13.021754	14.697489	0.599047	4.450779	35.885757	
30.02	3.982608	12.613663	3.319452	13.043131	14.743874	0.598604	4.457211	35.832652	
30.040001	3.98684	12.602045	3.369146	13.044642	14.967944	0.598944	4.452269	35.873446	
30.059999	3.989593	12.593346	3.369145	13.036238	14.977813	0.599166	4.449062	35.89995	
30.08	3.991421	12.587938	3.379253	13.033631	15.026884	0.599313	4.446933	35.91755	
30.1	3.999496	12.563031	3.393732	13.013346	15.116885	0.59996	4.437559	35.995158	
30.120001	4.00039	12.56152	3.429409	13.021238	15.270174	0.600031	4.436523	36.003743	
30.139999	4.003317	12.552878	3.44441	13.016862	15.343889	0.600265	4.433136	36.031834	
30.16	4.003213	12.553777	3.459924	13.021843	15.40867	0.600257	4.433257	36.03083	
30.18	4.006714	12.543755	3.485758	13.019074	15.529997	0.600536	4.429213	36.0644	
30.200001	4.009521	12.53567	3.504652	13.01636	15.619656	0.60076	4.425976	36.091288	
30.219999	4.0167	12.513844	3.520566	12.999641	15.713108	0.601332	4.41772	36.159966	
30.24	4.019344	12.507462	3.569881	13.006947	15.929837	0.601542	4.414687	36.185227	
30.26	4.025112	12.489223	3.561799	12.987189	15.917636	0.601999	4.408086	36.240267	
30.280001	4.025338	12.489754	3.594347	12.996664	16.054982	0.602017	4.407827	36.242426	
30.299999	4.025915	12.488382	3.605307	12.998381	16.10308	0.602062	4.407169	36.247925	
30.32	4.026236	12.488553	3.635811	13.00704	16.23197	0.602088	4.406801	36.25099	
30.34	4.032428	12.470563	3.666829	12.998483	16.385411	0.602577	4.399742	36.309964	
30.360001	4.034627	12.462946	3.645782	12.985251	16.305793	0.602751	4.397239	36.330891	
30.379999	4.037865	12.455756	3.718065	12.998841	16.620487	0.603006	4.393561	36.361675	
30.4	4.042142	12.442914	3.726912	12.989072	16.674084	0.603343	4.388712	36.402296	
30.42	4.051709	12.413777	3.73371	12.963118	16.739817	0.604094	4.377904	36.493003	
30.440001	4.048345	12.425079	3.75853	12.981106	16.830357	0.603831	4.381698	36.461137	
30.459999	4.054312	12.406571	3.753271	12.961869	16.831792	0.604298	4.374973	36.517638	
30.48	4.057996	12.397565	3.810344	12.969901	17.084642	0.604587	4.370831	36.552485	
30.5	4.058593	12.395191	3.796599	12.9636	17.029655	0.604633	4.370161	36.558127	
30.52	4.060179	12.392139	3.841335	12.973857	17.222502	0.604757	4.368381	36.573111	
30.540001	4.059365	12.395178	3.854977	12.980804	17.276048	0.604693	4.369295	36.565418	
30.559999	4.062986	12.38549	3.8887	12.981616	17.430872	0.604976	4.365234	36.599623	
30.58	4.066057	12.376636	3.901124	12.976898	17.494917	0.605216	4.361797	36.628597	
30.6	4.073524	12.355548	3.94061	12.96873	17.689306	0.605797	4.353462	36.698965	
30.620001	4.077944	12.341543	3.925989	12.950949	17.646506	0.60614	4.348543	36.740551	
30.639999	4.073837	12.355251	3.956398	12.973254	17.756132	0.605821	4.353114	36.701907	
30.66	4.082693	12.330298	4.00145	12.963327	17.979406	0.606508	4.343272	36.78517	
30.68	4.092438	12.301629	4.018646	12.94139	18.091002	0.607261	4.332495	36.876567	
30.700001	4.087277	12.317607	4.028922	12.95977	18.112248	0.606862	4.338196	36.828191	
30.719999	4.095097	12.295242	4.056971	12.947277	18.260993	0.607466	4.329564	36.901466	
30.74	4.089967	12.310514	4.053068	12.96056	18.223452	0.60707	4.335223	36.853412	
30.76	4.100479	12.280577	4.092107	12.944416	18.429026	0.60788	4.323643	36.951805	
30.780001	4.09511	12.297776	4.11753	12.968784	18.511563	0.607467	4.329549	36.90159	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	4.104438	12.270528	4.134489	12.948353	18.621	0.608184	4.319299	36.988789	
30.82	4.103714	12.274885	4.18526	12.968778	18.827421	0.608129	4.320092	36.982031	
30.84	4.113501	12.244884	4.16749	12.934649	18.795803	0.608879	4.309386	37.073312	
30.860001	4.111696	12.251518	4.196442	12.950283	18.907607	0.60874	4.311357	37.056492	
30.879999	4.113822	12.246831	4.234289	12.958166	19.072638	0.608903	4.309036	37.076299	
30.9	4.118055	12.234726	4.245618	12.950436	19.137512	0.609227	4.304423	37.115703	
30.92	4.126489	12.210321	4.259856	12.932066	19.232555	0.609869	4.295262	37.194075	
30.940001	4.124522	12.218171	4.305568	12.954598	19.412011	0.60972	4.297396	37.175806	
30.959999	4.125249	12.216306	4.31218	12.955039	19.442331	0.609775	4.296606	37.182566	
30.98	4.123143	12.223073	4.323848	12.965307	19.480999	0.609615	4.298892	37.163003	
31	4.131652	12.200125	4.374117	12.960554	19.72434	0.610262	4.289674	37.241968	
31.02	4.135387	12.189275	4.378124	12.951695	19.757223	0.610545	4.28564	37.276574	
31.040001	4.13227	12.198982	4.389248	12.964593	19.788989	0.610309	4.289006	37.247692	
31.059999	4.137669	12.185335	4.43965	12.96892	20.018928	0.610718	4.28318	37.297694	
31.08	4.138394	12.183407	4.444237	12.968679	20.040886	0.610773	4.282399	37.304407	
31.1	4.146308	12.162223	4.489974	12.964549	20.262863	0.611372	4.27389	37.377561	
31.120001	4.145082	12.165655	4.486306	12.9665	20.242404	0.611279	4.275206	37.366237	
31.139999	4.15105	12.149082	4.506614	12.958	20.352007	0.61173	4.26881	37.421315	
31.16	4.148769	12.157163	4.536693	12.976063	20.46412	0.611558	4.271252	37.400271	
31.18	4.153269	12.145168	4.562315	12.973813	20.588653	0.611897	4.266436	37.441775	
31.200001	4.153771	12.144543	4.580319	12.97957	20.664022	0.611935	4.2659	37.446396	
31.219999	4.159935	12.128056	4.612859	12.975678	20.824152	0.612398	4.259322	37.503154	
31.24	4.164336	12.115985	4.629012	12.970152	20.909806	0.612729	4.254638	37.543625	
31.26	4.167819	12.105535	4.622337	12.958008	20.898727	0.61299	4.250939	37.575616	
31.280001	4.170406	12.099477	4.653278	12.963423	21.036032	0.613183	4.248195	37.599364	
31.299999	4.17069	12.099726	4.675878	12.971785	21.128809	0.613204	4.247894	37.601972	
31.32	4.172857	12.094945	4.707435	12.978738	21.266364	0.613366	4.2456	37.62184	
31.34	4.179156	12.077957	4.733789	12.972502	21.402051	0.613837	4.238943	37.67955	
31.360001	4.177774	12.082475	4.744512	12.980624	21.438838	0.613734	4.240402	37.666894	
31.379999	4.182629	12.07064	4.790095	12.986353	21.645125	0.614095	4.235282	37.711324	
31.4	4.187658	12.056354	4.794735	12.974789	21.687437	0.61447	4.229993	37.757282	
31.42	4.188273	12.05554	4.814435	12.981326	21.769561	0.614515	4.229346	37.762903	
31.440001	4.190653	12.049743	4.836092	12.983993	21.8678	0.614692	4.226848	37.784633	
31.459999	4.189384	12.053834	4.844949	12.991091	21.897331	0.614598	4.22818	37.773044	
31.48	4.194488	12.041373	4.890085	12.996446	22.102448	0.614976	4.22283	37.819604	
31.5	4.199586	12.027289	4.901242	12.987604	22.171433	0.615354	4.217499	37.866055	
31.52	4.197869	12.033681	4.930755	13.004685	22.281219	0.615227	4.219293	37.850421	
31.540001	4.20529	12.013666	4.955739	12.995673	22.416604	0.615776	4.211552	37.917948	
31.559999	4.205462	12.014503	4.982216	13.006566	22.523018	0.615788	4.211373	37.919509	
31.58	4.202297	12.023383	4.978651	13.013405	22.493543	0.615554	4.21467	37.890729	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	4.203611	12.021123	5.00846	13.022752	22.618517	0.615652	4.213301	37.90268	
31.620001	4.212876	11.996287	5.040754	13.012306	22.791838	0.616335	4.203668	37.986841	
31.639999	4.215472	11.988678	5.03657	13.00367	22.78783	0.616526	4.200978	38.010383	
31.66	4.217918	11.984706	5.095198	13.022835	23.032408	0.616705	4.198446	38.032548	
31.68	4.215577	11.992194	5.111216	13.035998	23.084322	0.616533	4.200869	38.011329	
31.700001	4.22161	11.97546	5.119559	13.023883	23.14695	0.616976	4.194629	38.065988	
31.719999	4.227078	11.959852	5.117641	13.008778	23.166204	0.617377	4.188991	38.11544	
31.74	4.222961	11.972542	5.137369	13.028212	23.224014	0.617075	4.193234	38.078214	
31.76	4.223772	11.972657	5.183984	13.04677	23.411941	0.617135	4.192398	38.085549	
31.780001	4.235533	11.940515	5.206017	13.02607	23.55705	0.617995	4.180302	38.191773	
31.799999	4.234292	11.944346	5.212311	13.032098	23.575685	0.617904	4.181574	38.180586	
31.82	4.236964	11.938893	5.25219	13.043108	23.745824	0.618099	4.178835	38.204678	
31.84	4.241872	11.924493	5.241356	13.025565	23.727711	0.618457	4.173811	38.248893	
31.860001	4.234961	11.944758	5.256216	13.050098	23.751637	0.617953	4.180888	38.186622	
31.879999	4.241415	11.927834	5.28043	13.044392	23.878927	0.618424	4.174278	38.244782	
31.9	4.250109	11.904628	5.303666	13.032614	24.013633	0.619056	4.165408	38.322973	
31.92	4.248892	11.909366	5.328595	13.047104	24.105166	0.618967	4.166648	38.312036	
31.940001	4.244392	11.923193	5.350796	13.068801	24.169252	0.61864	4.171236	38.271578	
31.959999	4.255134	11.892883	5.347679	13.039875	24.211285	0.61942	4.160298	38.368092	
31.98	4.257856	11.887807	5.39507	13.054759	24.410122	0.619617	4.157536	38.392496	
32	4.258993	11.88528	5.407224	13.057486	24.463268	0.619699	4.156383	38.402696	
32.02	4.255711	11.895288	5.422561	13.072951	24.506291	0.619462	4.159713	38.373263	
32.040001	4.257755	11.890081	5.432037	13.072148	24.553548	0.61961	4.157639	38.391594	
32.060001	4.265227	11.870705	5.45943	13.065948	24.698114	0.620149	4.150075	38.458515	
32.080002	4.273338	11.847588	5.449269	13.040701	24.699992	0.620734	4.141895	38.531022	
32.099998	4.268474	11.863992	5.502281	13.077821	24.880964	0.620383	4.146796	38.48756	
32.119999	4.276058	11.84312	5.505957	13.060439	24.93412	0.620929	4.13916	38.555293	
32.139999	4.272551	11.853842	5.523975	13.077762	24.9859	0.620677	4.142688	38.523988	
32.16	4.282428	11.827288	5.539094	13.060103	25.095227	0.621386	4.132768	38.612084	
32.18	4.278553	11.838456	5.547107	13.073616	25.106271	0.621108	4.136654	38.577549	
32.200001	4.28963	11.810308	5.591993	13.067278	25.336855	0.621902	4.125565	38.676177	
32.220001	4.290617	11.807213	5.585189	13.06157	25.315688	0.621972	4.12458	38.684945	
32.240002	4.292632	11.803659	5.621318	13.073852	25.46548	0.622116	4.12257	38.702852	
32.259998	4.29459	11.800002	5.652515	13.083997	25.595708	0.622256	4.120619	38.720248	
32.279999	4.297805	11.791507	5.658707	13.079014	25.636248	0.622485	4.11742	38.748778	
32.299999	4.298365	11.790363	5.665763	13.081037	25.666278	0.622525	4.116863	38.753743	
32.32	4.304747	11.774723	5.699185	13.081468	25.827889	0.622979	4.110529	38.81031	
32.34	4.316888	11.742117	5.70921	13.056507	25.929826	0.62384	4.098534	38.91765	
32.360001	4.312196	11.75632	5.734257	13.080243	26.001291	0.623508	4.103161	38.876208	
32.380001	4.321694	11.731672	5.756082	13.067693	26.134676	0.62418	4.093806	38.960041	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	4.324948	11.7246	5.787395	13.075174	26.271511	0.624409	4.090611	38.988715	
32.419998	4.32722	11.719431	5.805023	13.078354	26.350785	0.62457	4.088382	39.008731	
32.439999	4.334841	11.700028	5.826722	13.070629	26.473777	0.625106	4.080927	39.075749	
32.459999	4.329724	11.713779	5.824989	13.082168	26.440134	0.624746	4.08593	39.03076	
32.48	4.33804	11.693456	5.863018	13.080975	26.628918	0.625331	4.077806	39.103838	
32.5	4.346745	11.670894	5.8787	13.067857	26.734721	0.625941	4.069337	39.180172	
32.52	4.347953	11.668797	5.898777	13.075029	26.817427	0.626025	4.068164	39.19075	
32.540001	4.352504	11.658793	5.9373	13.083538	26.987748	0.626343	4.063754	39.230566	
32.560001	4.354078	11.656329	5.967715	13.095176	27.111226	0.626453	4.062231	39.244332	
32.580002	4.356316	11.649427	5.952097	13.081919	27.064117	0.626609	4.060067	39.26389	
32.599998	4.354766	11.656132	5.996088	13.107956	27.222013	0.626501	4.061565	39.250346	
32.619999	4.367222	11.623371	6.005348	13.083079	27.323706	0.627368	4.049557	39.359026	
32.639999	4.36944	11.619255	6.036176	13.093606	27.451819	0.627522	4.047425	39.378348	
32.66	4.371325	11.61535	6.055226	13.098935	27.533638	0.627652	4.045616	39.394757	
32.68	4.37359	11.610665	6.07805	13.105351	27.631591	0.627809	4.043445	39.414454	
32.700001	4.385363	11.580753	6.100431	13.089274	27.77911	0.628623	4.032195	39.516687	
32.720001	4.383446	11.58854	6.146386	13.117634	27.94085	0.628491	4.034022	39.500063	
32.740002	4.398312	11.550922	6.17376	13.097295	28.123752	0.629514	4.019894	39.628768	
32.759998	4.396485	11.555269	6.165964	13.097456	28.084711	0.629388	4.021625	39.612977	
32.779999	4.393422	11.565591	6.203788	13.1244	28.209177	0.629178	4.024531	39.586481	
32.799999	4.396269	11.558781	6.215428	13.123908	28.268011	0.629374	4.02183	39.61111	
32.82	4.404177	11.539016	6.232627	13.114669	28.375084	0.629916	4.014348	39.679406	
32.84	4.409447	11.527335	6.268264	13.121379	28.536244	0.630276	4.009378	39.72484	
32.860001	4.417012	11.508945	6.29135	13.116283	28.663216	0.630793	4.002266	39.789949	
32.880001	4.416742	11.510564	6.306545	13.124999	28.718031	0.630774	4.002519	39.787631	
32.900002	4.422267	11.497213	6.324057	13.121722	28.813103	0.631151	3.99734	39.835108	
32.919998	4.421887	11.500101	6.355408	13.139388	28.926817	0.631125	3.997696	39.831845	
32.939999	4.423002	11.498342	6.374268	13.146983	29.002461	0.631201	3.996652	39.841419	
32.959999	4.432003	11.47643	6.398631	13.13967	29.141704	0.631812	3.988247	39.918603	
32.98	4.442369	11.453092	6.455776	13.147257	29.408745	0.632513	3.978612	40.007262	
33	4.435744	11.469181	6.438708	13.152912	29.309564	0.632065	3.984764	39.950629	
33.02	4.438977	11.46302	6.474638	13.165173	29.459044	0.632284	3.981759	39.978277	
33.040001	4.442509	11.456752	6.521027	13.1826	29.647992	0.632522	3.978481	40.008465	
33.060001	4.453156	11.431066	6.549413	13.174372	29.81054	0.63324	3.968634	40.099279	
33.080002	4.46231	11.408358	6.562099	13.160994	29.907609	0.633855	3.960208	40.177161	
33.099998	4.457281	11.42247	6.581636	13.182972	29.950631	0.633517	3.964832	40.134398	
33.119999	4.449938	11.442049	6.592718	13.205469	29.949881	0.633023	3.971606	40.071853	
33.139999	4.462755	11.411401	6.629138	13.197179	30.153316	0.633884	3.9598	40.180935	
33.16	4.463954	11.410074	6.656925	13.210013	30.260416	0.633965	3.958699	40.191121	
33.18	4.468337	11.400635	6.685129	13.216104	30.386652	0.634258	3.954679	40.228336	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
33.200001	4.484474	11.360945	6.707592	13.193289	30.557994	0.635334	3.939955	40.364956	
33.220001	4.477886	11.377774	6.708876	13.208435	30.525674	0.634896	3.945953	40.309247	
33.240002	4.476325	11.38439	6.750522	13.235328	30.666427	0.634792	3.947377	40.296037	
33.259998	4.482445	11.370644	6.779227	13.238182	30.803635	0.635199	3.941801	40.347808	
33.279999	4.487969	11.358056	6.801763	13.238936	30.915304	0.635566	3.93678	40.394476	
33.299999	4.483149	11.371901	6.82684	13.263705	30.977513	0.635246	3.94116	40.353763	
33.32	4.500609	11.329293	6.851791	13.240088	31.164989	0.636404	3.925344	40.500991	
33.34	4.49428	11.345848	6.860606	13.258816	31.160565	0.635985	3.931062	40.447697	
33.360001	4.49976	11.334664	6.901908	13.27068	31.338143	0.636348	3.926109	40.493851	
33.380001	4.500978	11.332796	6.920515	13.278772	31.410908	0.636428	3.925011	40.504095	
33.400002	4.50004	11.336102	6.934995	13.289145	31.456759	0.636366	3.925857	40.496206	
33.419998	4.507091	11.320198	6.963719	13.290608	31.598169	0.636832	3.919504	40.555482	
33.439999	4.511708	11.309979	6.985036	13.293094	31.699506	0.637136	3.915356	40.594236	
33.459999	4.512598	11.309949	7.018767	13.310825	31.823109	0.637195	3.914557	40.601704	
33.48	4.518613	11.296498	7.043719	13.312582	31.944883	0.63759	3.909169	40.652114	
33.5	4.520962	11.291209	7.052753	13.312878	31.989918	0.637744	3.907068	40.671781	
33.52	4.517912	11.301088	7.0867	13.339262	32.091109	0.637544	3.909796	40.646242	
33.540001	4.51684	11.303783	7.086813	13.341605	32.085373	0.637474	3.910755	40.637266	
33.560001	4.527366	11.280256	7.12928	13.344317	32.293517	0.638164	3.901354	40.725328	
33.580002	4.528088	11.278479	7.129672	13.343025	32.299017	0.638211	3.900711	40.731361	
33.599998	4.537856	11.258089	7.188946	13.357601	32.560663	0.638849	3.89203	40.812855	
33.619999	4.534766	11.267509	7.214852	13.379494	32.632452	0.638648	3.894772	40.787101	
33.639999	4.537072	11.261744	7.214449	13.374422	32.644318	0.638798	3.892725	40.806322	
33.66	4.549895	11.232894	7.258631	13.374065	32.870368	0.639633	3.881385	40.913015	
33.68	4.548207	11.238276	7.276517	13.388299	32.922155	0.639523	3.882874	40.89899	
33.700001	4.546807	11.242803	7.292202	13.400628	32.967932	0.639432	3.88411	40.887356	
33.720001	4.554166	11.228234	7.345956	13.417761	33.194361	0.63991	3.877623	40.948471	
33.740002	4.551697	11.234731	7.351713	13.426349	33.199741	0.63975	3.879797	40.927977	
33.759998	4.558894	11.21885	7.379585	13.42836	33.336355	0.640216	3.873467	40.987678	
33.779999	4.570683	11.192882	7.424102	13.431229	33.55589	0.640978	3.863143	41.085227	
33.799999	4.564365	11.208557	7.426212	13.445459	33.52646	0.64057	3.868669	41.032983	
33.82	4.570561	11.19521	7.453695	13.449546	33.655467	0.64097	3.86325	41.084219	
33.84	4.56716	11.204263	7.463809	13.462687	33.669943	0.64075	3.866223	41.056104	
33.860001	4.572291	11.193794	7.49481	13.471199	33.804362	0.641081	3.861739	41.098509	
33.880001	4.580857	11.175211	7.529548	13.475141	33.971058	0.641632	3.854278	41.169174	
33.900002	4.5754	11.189019	7.536005	13.4902	33.961034	0.641281	3.859028	41.124177	
33.919998	4.582375	11.173968	7.565137	13.49403	34.099329	0.64173	3.852959	41.181682	
33.939999	4.58586	11.167391	7.592971	13.504216	34.212764	0.641953	3.849934	41.210379	
33.959999	4.586633	11.167189	7.617067	13.517611	34.297707	0.642003	3.849264	41.216733	
33.98	4.598093	11.141284	7.645631	13.51236	34.459661	0.642735	3.839355	41.310887	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34	4.600491	11.135344	7.64394	13.506506	34.468005	0.642888	3.837288	41.330555	
34.02	4.597754	11.143749	7.66906	13.527661	34.535572	0.642714	3.839647	41.308109	
34.040001	4.600609	11.139316	7.704618	13.544205	34.670115	0.642896	3.837186	41.331526	
34.060001	4.600489	11.143074	7.753626	13.575228	34.831211	0.642888	3.837289	41.330538	
34.080002	4.612781	11.114061	7.764302	13.557534	34.938276	0.64367	3.826729	41.431158	
34.099998	4.611754	11.118516	7.792126	13.577136	35.023765	0.643605	3.827609	41.422766	
34.119999	4.611815	11.11933	7.805636	13.585561	35.068456	0.643609	3.827557	41.423265	
34.139999	4.620605	11.10005	7.832671	13.585354	35.208498	0.644166	3.820038	41.495037	
34.16	4.618821	11.106952	7.869094	13.612018	35.31701	0.644053	3.821562	41.480483	
34.18	4.621036	11.101575	7.868525	13.607302	35.328144	0.644194	3.819671	41.498549	
34.200001	4.630106	11.082908	7.912298	13.617463	35.523822	0.644767	3.811945	41.57244	
34.220001	4.635982	11.069632	7.923543	13.613203	35.594809	0.645137	3.806957	41.620213	
34.240002	4.625724	11.095207	7.936885	13.641766	35.577852	0.64449	3.815674	41.536762	
34.259998	4.645187	11.051756	7.980697	13.632052	35.833874	0.645716	3.799171	41.6949	
34.279999	4.634269	11.079079	7.997489	13.664034	35.823887	0.645029	3.80841	41.606288	
34.299999	4.644326	11.057287	8.028668	13.664666	35.983369	0.645662	3.799897	41.687924	
34.32	4.643637	11.060205	8.046168	13.677315	36.035507	0.645619	3.800479	41.682339	
34.34	4.650741	11.042781	8.039487	13.659296	36.055845	0.646064	3.794487	41.739885	
34.360001	4.652013	11.043705	8.093663	13.691998	36.236848	0.646144	3.793417	41.750174	
34.380001	4.655596	11.03724	8.121783	13.703431	36.347658	0.646368	3.790404	41.779155	
34.400002	4.653785	11.042601	8.136129	13.716254	36.382653	0.646255	3.791926	41.764512	
34.419998	4.657799	11.034705	8.158528	13.723203	36.477496	0.646506	3.788553	41.796958	
34.439999	4.665253	11.018193	8.17435	13.719351	36.571624	0.646971	3.782307	41.857112	
34.459999	4.667751	11.015546	8.21861	13.743646	36.726385	0.647126	3.780218	41.877253	
34.48	4.673236	11.003119	8.225862	13.738029	36.781623	0.647468	3.77564	41.921419	
34.5	4.664789	11.025594	8.259443	13.776143	36.837515	0.646942	3.782696	41.853371	
34.52	4.676807	10.998651	8.279199	13.766462	36.970552	0.647689	3.772666	41.950137	
34.540001	4.675248	11.003757	8.298373	13.782077	37.021473	0.647593	3.773964	41.937606	
34.560001	4.673106	11.011119	8.329162	13.806508	37.10509	0.647459	3.775749	41.920368	
34.580002	4.684197	10.987018	8.356495	13.803824	37.25592	0.648147	3.766525	42.009497	
34.599998	4.695213	10.96244	8.373472	13.794569	37.373846	0.648828	3.75741	42.097762	
34.619999	4.692106	10.969999	8.377184	13.802829	37.367044	0.648636	3.759977	42.072888	
34.639999	4.691446	10.975327	8.427411	13.837595	37.518942	0.648595	3.760522	42.067602	
34.66	4.704419	10.945043	8.428322	13.814144	37.598437	0.649395	3.749826	42.171336	
34.68	4.696793	10.965465	8.462739	13.851331	37.659694	0.648925	3.756106	42.110401	
34.700001	4.702223	10.953585	8.473561	13.848547	37.725167	0.64926	3.751633	42.153799	
34.720001	4.708087	10.942316	8.505413	13.859161	37.857829	0.64962	3.746814	42.200601	
34.740002	4.713834	10.930908	8.531393	13.866125	37.971517	0.649972	3.742102	42.246405	
34.759998	4.720772	10.914967	8.533614	13.854929	38.019318	0.650397	3.736432	42.301603	
34.779999	4.716988	10.926623	8.571359	13.887379	38.11238	0.650165	3.739523	42.271506	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34.799999	4.714602	10.933657	8.590831	13.904936	38.15762	0.650019	3.741474	42.252517	
34.82	4.730092	10.899647	8.61569	13.893611	38.324883	0.650965	3.728841	42.3756	
34.84	4.73111	10.897422	8.617382	13.892915	38.336046	0.651027	3.728014	42.383679	
34.860001	4.734948	10.891429	8.654801	13.911463	38.472242	0.651261	3.724898	42.414092	
34.880001	4.734483	10.894161	8.676383	13.927037	38.534764	0.651233	3.725275	42.410409	
34.900002	4.733896	10.897005	8.695718	13.941314	38.589637	0.651197	3.725752	42.405759	
34.919998	4.740925	10.884844	8.748033	13.964523	38.788536	0.651624	3.720058	42.461392	
34.939999	4.741297	10.883999	8.748201	13.96397	38.791247	0.651647	3.719756	42.46434	
34.959999	4.747392	10.872672	8.782876	13.976907	38.931127	0.652016	3.714834	42.512496	
34.98	4.752481	10.861995	8.795745	13.976697	38.999672	0.652324	3.710734	42.552648	
35	4.759381	10.849438	8.837397	13.993209	39.164568	0.65274	3.705189	42.60701	
35.02	4.759697	10.849866	8.85215	14.002862	39.210265	0.65276	3.704936	42.609499	
35.040001	4.767864	10.831675	8.857918	13.992422	39.275653	0.653251	3.698396	42.673709	
35.060001	4.766358	10.837145	8.884011	14.013185	39.344081	0.653161	3.6996	42.66188	
35.080002	4.778694	10.810372	8.900509	14.002971	39.465736	0.653901	3.689759	42.758658	
35.099998	4.77286	10.827023	8.943811	14.043368	39.558944	0.653551	3.694407	42.712927	
35.119999	4.777491	10.816667	8.945979	14.036766	39.59269	0.653829	3.690717	42.749232	
35.139999	4.781231	10.811118	8.98332	14.056326	39.724396	0.654053	3.687743	42.778518	
35.16	4.78765	10.796733	8.985309	14.046538	39.768137	0.654437	3.682648	42.82873	
35.18	4.79978	10.772534	9.025569	14.053767	39.957408	0.655159	3.673062	42.923372	
35.200001	4.796842	10.781222	9.051772	14.077262	40.016448	0.654985	3.675379	42.900479	
35.220001	4.79876	10.779015	9.07846	14.092749	40.105315	0.655099	3.673866	42.915427	
35.240002	4.798616	10.780335	9.090986	14.101831	40.140786	0.65509	3.67398	42.914301	
35.259998	4.802569	10.770447	9.078558	14.08626	40.12807	0.655325	3.670864	42.945095	
35.279999	4.807528	10.762846	9.123188	14.109267	40.286538	0.655619	3.666964	42.983676	
35.299999	4.809165	10.761203	9.148708	14.12453	40.369818	0.655716	3.665678	42.996407	
35.32	4.814936	10.751003	9.183015	14.139018	40.502508	0.656058	3.661154	43.041225	
35.34	4.8224	10.73446	9.184902	14.12767	40.551902	0.656499	3.655318	43.0991	
35.360001	4.821472	10.739927	9.227293	14.159413	40.667854	0.656444	3.656043	43.091909	
35.380001	4.820746	10.743236	9.248282	14.175607	40.723484	0.656401	3.65661	43.086284	
35.400002	4.832952	10.716264	9.251375	14.157198	40.804188	0.65712	3.6471	43.18073	
35.419998	4.840182	10.702575	9.280909	14.166171	40.930789	0.657545	3.641491	43.236535	
35.439999	4.834595	10.720456	9.348665	14.224124	41.089797	0.657217	3.645824	43.193422	
35.459999	4.84331	10.699925	9.334086	14.199069	41.09991	0.657728	3.63907	43.260644	
35.48	4.844436	10.700411	9.370936	14.223686	41.210481	0.657794	3.638199	43.269321	
35.5	4.84582	10.697427	9.371935	14.2221	41.221429	0.657875	3.63713	43.279976	
35.52	4.86056	10.66678	9.395421	14.214574	41.374039	0.658736	3.625776	43.393272	
35.540001	4.86265	10.664134	9.419513	14.228527	41.453883	0.658857	3.624172	43.4093	
35.560001	4.858749	10.675916	9.458715	14.263327	41.540576	0.65863	3.627168	43.37937	
35.580002	4.873387	10.643127	9.451153	14.233778	41.605318	0.659481	3.615954	43.491519	



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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	4.869477	10.654432	9.484655	14.264488	41.675787	0.659254	3.618943	43.461599	
35.619999	4.881875	10.629298	9.509367	14.262189	41.817078	0.659972	3.609485	43.556352	
35.639999	4.882584	10.629907	9.53578	14.280267	41.89443	0.660013	3.608946	43.561763	
35.66	4.887862	10.621259	9.570821	14.297264	42.022104	0.660318	3.604935	43.602005	
35.68	4.876565	10.646731	9.580357	14.322574	41.982227	0.659665	3.613529	43.515809	
35.700001	4.893278	10.612433	9.607011	14.314972	42.153357	0.66063	3.60083	43.643241	
35.720001	4.899226	10.601902	9.636154	14.326751	42.268024	0.660972	3.596332	43.688464	
35.740002	4.900683	10.600422	9.65654	14.339376	42.332281	0.661056	3.595233	43.699526	
35.759998	4.901841	10.600413	9.686855	14.359802	42.421725	0.661123	3.594359	43.708323	
35.779999	4.90024	10.603842	9.686286	14.361949	42.41082	0.661031	3.595567	43.696163	
35.799999	4.912125	10.58065	9.717147	14.365691	42.564082	0.661712	3.586618	43.786299	
35.82	4.921652	10.562308	9.743838	14.370273	42.691931	0.662256	3.579477	43.858355	
35.84	4.91611	10.575542	9.759318	14.390497	42.701505	0.66194	3.583627	43.816457	
35.860001	4.923856	10.56268	9.805392	14.412353	42.870791	0.662382	3.577829	43.875	
35.880001	4.927134	10.556067	9.81066	14.411093	42.904028	0.662569	3.57538	43.89974	
35.900002	4.936842	10.536382	9.824399	14.406046	42.997352	0.663121	3.56815	43.972885	
35.919998	4.941738	10.527337	9.841568	14.411151	43.071802	0.663398	3.564515	44.009707	
35.939999	4.941321	10.531536	9.881181	14.441295	43.175232	0.663375	3.564824	44.006575	
35.959999	4.953261	10.509133	9.917904	14.450145	43.342203	0.66405	3.555989	44.096194	
35.98	4.948345	10.520516	9.928701	14.465834	43.342358	0.663772	3.559621	44.059328	
36	4.948623	10.521414	9.946437	14.478665	43.390963	0.663788	3.559416	44.061413	
36.02	4.958122	10.503232	9.9708	14.482221	43.510422	0.664324	3.552404	44.132606	
36.040001	4.95856	10.505715	10.011292	14.511927	43.619617	0.664348	3.552082	44.135882	
36.060001	4.967789	10.48529	10.00134	14.490276	43.646845	0.664868	3.545298	44.204879	
36.080002	4.975356	10.474011	10.057372	14.520869	43.837545	0.665292	3.539755	44.261333	
36.099998	4.977696	10.469772	10.065688	14.523574	43.872791	0.665423	3.538044	44.278771	
36.119999	4.988319	10.448858	10.082981	14.520508	43.979177	0.666016	3.530301	44.357794	
36.139999	4.987076	10.454348	10.116928	14.548045	44.060368	0.665947	3.531205	44.348553	
36.16	4.997276	10.433305	10.121324	14.535992	44.130499	0.666515	3.523798	44.424257	
36.18	4.991649	10.448535	10.161664	14.575024	44.202636	0.666202	3.52788	44.382523	
36.200001	5.000588	10.431356	10.180058	14.575553	44.301551	0.666699	3.5214	44.448797	
36.220001	5.001597	10.432023	10.212672	14.598828	44.391329	0.666755	3.52067	44.456272	
36.240002	5.00694	10.422385	10.230642	14.604525	44.468158	0.667052	3.516809	44.495806	
36.259998	5.010703	10.41816	10.2731	14.63129	44.598401	0.66726	3.514095	44.523623	
36.279999	5.011769	10.414733	10.259046	14.618984	44.568612	0.667319	3.513327	44.531495	
36.299999	5.0241	10.392113	10.294523	14.627823	44.729785	0.668	3.504468	44.622425	
36.32	5.024785	10.392644	10.317317	14.644251	44.79168	0.668038	3.503977	44.627471	
36.34	5.025434	10.393049	10.33769	14.658898	44.847077	0.668074	3.503513	44.632244	
36.360001	5.032676	10.379722	10.357298	14.663296	44.938121	0.668472	3.498333	44.685505	
36.380001	5.035957	10.375983	10.392685	14.685671	45.046156	0.668652	3.495992	44.709597	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
36.400002	5.04118	10.365649	10.397982	14.682122	45.0893	0.668939	3.492272	44.747917	
36.419998	5.04478	10.360697	10.426653	14.69895	45.18187	0.669136	3.489712	44.774299	
36.439999	5.044769	10.362006	10.44155	14.710443	45.21915	0.669135	3.489719	44.774223	
36.459999	5.053594	10.345981	10.466251	14.716716	45.331177	0.669618	3.483461	44.83879	
36.48	5.067704	10.319761	10.49743	14.720513	45.489072	0.670386	3.473501	44.941742	
36.5	5.060734	10.334447	10.502267	14.73426	45.461534	0.670007	3.478414	44.890931	
36.52	5.065288	10.329434	10.551959	14.766213	45.610635	0.670255	3.475202	44.924144	
36.540001	5.072431	10.31482	10.551806	14.755884	45.650772	0.670643	3.470177	44.976155	
36.560001	5.073388	10.31657	10.594343	14.787553	45.761131	0.670695	3.469505	44.983115	
36.580002	5.077897	10.308889	10.611702	14.794641	45.829345	0.670939	3.466341	45.015893	
36.599998	5.084732	10.295992	10.623303	14.793986	45.896479	0.671308	3.461558	45.065502	
36.619999	5.087472	10.291891	10.640094	14.803197	45.953107	0.671456	3.459644	45.085367	
36.639999	5.093776	10.280877	10.660386	14.81014	46.038314	0.671796	3.455248	45.131024	
36.66	5.100219	10.271339	10.700392	14.832356	46.172112	0.672143	3.450768	45.177609	
36.68	5.104433	10.263847	10.712041	14.835578	46.22414	0.672369	3.447843	45.208039	
36.700001	5.100612	10.273071	10.729206	14.854354	46.244255	0.672164	3.450494	45.180451	
36.720001	5.108154	10.259936	10.753009	14.862486	46.344293	0.672569	3.445265	45.234882	
36.740002	5.110167	10.257449	10.770881	14.873706	46.39875	0.672677	3.443872	45.249398	
36.759998	5.107	10.265211	10.786501	14.890371	46.418568	0.672507	3.446064	45.226562	
36.779999	5.121178	10.239166	10.814704	14.892896	46.565956	0.673266	3.436273	45.328643	
36.799999	5.13022	10.223721	10.845029	14.904332	46.68922	0.673747	3.430057	45.393564	
36.82	5.128661	10.22782	10.856114	14.915211	46.706972	0.673664	3.431127	45.382379	
36.84	5.137829	10.213034	10.896125	14.934243	46.853523	0.674152	3.424845	45.448075	
36.860001	5.146316	10.195789	10.892318	14.919675	46.891842	0.674602	3.41905	45.508761	
36.880001	5.138452	10.214563	10.927412	14.958129	46.931206	0.674185	3.424419	45.452538	
36.900002	5.151354	10.190046	10.940577	14.951029	47.034295	0.674868	3.415619	45.544726	
36.919998	5.147618	10.199423	10.96256	14.973508	47.065372	0.674671	3.418162	45.518061	
36.939999	5.16398	10.167785	10.971647	14.958639	47.177799	0.675534	3.407052	45.634659	
36.959999	5.177967	10.145883	11.035623	14.990795	47.405407	0.676269	3.397612	45.733961	
36.98	5.164615	10.172481	11.038588	15.010989	47.33833	0.675568	3.406622	45.639175	
37	5.176641	10.149478	11.046711	15.001391	47.42396	0.676199	3.398504	45.724563	
37.02	5.170345	10.164388	11.074748	15.032126	47.454416	0.675869	3.402749	45.679895	
37.040001	5.176404	10.154212	11.094544	15.039845	47.53397	0.676187	3.398664	45.722884	
37.060001	5.179022	10.149724	11.101984	15.042305	47.565713	0.676324	3.396902	45.74144	
37.080002	5.193583	10.124431	11.13868	15.052385	47.731019	0.677085	3.387134	45.844429	
37.099998	5.19267	10.127345	11.151264	15.063658	47.755011	0.677038	3.387745	45.837983	
37.119999	5.204991	10.107166	11.194709	15.082318	47.922718	0.677679	3.379522	45.924857	
37.139999	5.200059	10.118748	11.216489	15.106246	47.945472	0.677422	3.382809	45.890113	
37.16	5.207554	10.103416	11.208599	15.09012	47.968627	0.677812	3.377816	45.9429	
37.18	5.208923	10.104561	11.25098	15.122391	48.072915	0.677883	3.376906	45.952527	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
37.200001	5.213275	10.097007	11.26116	15.124922	48.119973	0.678109	3.374015	45.983124	
37.220001	5.232928	10.06111	11.285381	15.119053	48.282538	0.679124	3.361025	46.120875	
37.240002	5.235892	10.056605	11.298892	15.126145	48.329332	0.679276	3.359074	46.141597	
37.259998	5.234397	10.063012	11.337976	15.159615	48.409451	0.679199	3.360058	46.131144	
37.279999	5.226665	10.079472	11.354681	15.183034	48.404841	0.678801	3.365154	46.077046	
37.299999	5.237554	10.058858	11.359399	15.172889	48.474885	0.679361	3.357982	46.153201	
37.32	5.246346	10.044516	11.388013	15.184832	48.586976	0.679813	3.352213	46.214548	
37.34	5.248375	10.041784	11.400914	15.192704	48.626884	0.679917	3.350885	46.228685	
37.360001	5.249985	10.040865	11.424893	15.2101	48.689185	0.679999	3.349832	46.239896	
37.380001	5.262987	10.019183	11.460493	15.22258	48.838939	0.680664	3.34135	46.330288	
37.400002	5.260274	10.023212	11.447715	15.215615	48.79585	0.680525	3.343116	46.311453	
37.419998	5.275997	9.997452	11.494425	15.233872	48.98447	0.681326	3.332907	46.420445	
37.439999	5.272557	10.00381	11.492321	15.236458	48.96124	0.681151	3.335135	46.396637	
37.459999	5.279427	9.994535	11.534099	15.261919	49.090482	0.6815	3.330688	46.444168	
37.48	5.292141	9.972463	11.556548	15.264463	49.208274	0.682143	3.322489	46.531933	
37.5	5.288524	9.98116	11.576833	15.285503	49.233269	0.68196	3.324817	46.506994	
37.52	5.291039	9.97737	11.587508	15.291117	49.270143	0.682087	3.323198	46.524335	
37.540001	5.297121	9.969239	11.624462	15.313845	49.38341	0.682395	3.319289	46.566231	
37.560001	5.290485	9.981854	11.625101	15.322545	49.349159	0.682059	3.323555	46.520516	
37.580002	5.310248	9.948231	11.665404	15.331306	49.542613	0.683055	3.310883	46.656448	
37.599998	5.308483	9.951755	11.667607	15.335269	49.537936	0.682967	3.312011	46.644332	
37.619999	5.323699	9.92521	11.689703	15.334894	49.666972	0.683729	3.302315	46.748592	
37.639999	5.324926	9.926032	11.723775	15.361414	49.746888	0.683791	3.301535	46.756984	
37.66	5.329542	9.916996	11.719361	15.352206	49.761981	0.684021	3.298607	46.788524	
37.68	5.335851	9.910419	11.776078	15.39131	49.917057	0.684336	3.294612	46.83158	
37.700001	5.34921	9.887751	11.799893	15.394969	50.038676	0.685	3.286186	46.922523	
37.720001	5.340701	9.903438	11.79846	15.403952	49.990529	0.684577	3.291548	46.864631	
37.740002	5.358407	9.873041	11.825318	15.405034	50.141344	0.685456	3.280411	46.984963	
37.759998	5.370482	9.854349	11.864555	15.423225	50.288068	0.686052	3.272859	47.066739	
37.779999	5.371676	9.852713	11.870675	15.426888	50.307264	0.686111	3.272114	47.074808	
37.799999	5.358181	9.879097	11.88656	15.455965	50.269611	0.685445	3.280552	46.983437	
37.82	5.371129	9.856838	11.904541	15.455593	50.37568	0.686084	3.272455	47.071114	
37.84	5.382778	9.83814	11.934097	15.466469	50.49886	0.686657	3.265205	47.149761	
37.860001	5.382998	9.839202	11.949973	15.479397	50.533206	0.686668	3.265069	47.151242	
37.880001	5.387453	9.832432	11.965137	15.486808	50.588202	0.686886	3.262305	47.181256	
37.900002	5.39194	9.827346	11.99901	15.50977	50.682165	0.687106	3.259526	47.211459	
37.919998	5.407684	9.799061	12.003854	15.495616	50.774426	0.687875	3.249813	47.317164	
37.939999	5.414216	9.791165	12.046913	15.524015	50.897499	0.688193	3.2458	47.360905	
37.959999	5.41386	9.791277	12.041131	15.519599	50.883714	0.688175	3.246019	47.358521	
37.98	5.416962	9.788361	12.070458	15.540527	50.960273	0.688326	3.244116	47.379271	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38	5.427683	9.77209	12.104425	15.556698	51.085615	0.688846	3.237559	47.450862	
38.02	5.430739	9.769267	12.133531	15.577585	51.160943	0.688994	3.235694	47.471241	
38.040001	5.443982	9.745817	12.138026	15.566394	51.238545	0.689633	3.227641	47.559352	
38.060001	5.441625	9.753316	12.173114	15.598457	51.297762	0.689519	3.229071	47.54369	
38.080002	5.465198	9.713257	12.196761	15.591932	51.466974	0.690651	3.214822	47.699936	
38.099998	5.465889	9.714652	12.225053	15.614941	51.527643	0.690684	3.214407	47.704499	
38.119999	5.456858	9.731055	12.227809	15.627308	51.486844	0.690252	3.219849	47.644755	
38.139999	5.461199	9.724285	12.238528	15.631484	51.530726	0.69046	3.217231	47.673489	
38.16	5.458753	9.731427	12.268169	15.659139	51.577735	0.690343	3.218705	47.657302	
38.18	5.474279	9.704615	12.27792	15.65014	51.676825	0.691085	3.209367	47.75989	
38.200001	5.482991	9.691256	12.300746	15.659782	51.766958	0.6915	3.204151	47.81728	
38.220001	5.472266	9.711677	12.315139	15.683728	51.7409	0.690989	3.210575	47.74661	
38.240002	5.484052	9.696771	12.379868	15.725409	51.929582	0.691551	3.203517	47.824264	
38.259998	5.480858	9.701706	12.371985	15.722249	51.89771	0.691399	3.205426	47.803244	
38.279999	5.49553	9.677317	12.389351	15.720893	52.006709	0.692096	3.196674	47.899679	
38.299999	5.504752	9.664987	12.431559	15.746607	52.136604	0.692532	3.191197	47.960123	
38.32	5.498706	9.676645	12.442031	15.76203	52.126516	0.692246	3.194785	47.920513	
38.34	5.510184	9.658787	12.467454	15.771163	52.234429	0.692789	3.18798	47.995664	
38.360001	5.506846	9.666397	12.485829	15.79035	52.253434	0.692631	3.189956	47.97383	
38.380001	5.519275	9.645479	12.495893	15.785519	52.335832	0.693217	3.18261	48.055041	
38.400002	5.526334	9.634057	12.506032	15.786573	52.391133	0.693549	3.178454	48.101057	
38.419998	5.539435	9.616351	12.56115	15.819504	52.563761	0.694163	3.170769	48.186252	
38.439999	5.543016	9.610549	12.565798	15.819669	52.59068	0.694331	3.168674	48.209492	
38.459999	5.547479	9.60502	12.589553	15.83519	52.658787	0.694539	3.166068	48.238429	
38.48	5.5597	9.584648	12.598428	15.829904	52.736896	0.695108	3.158954	48.317514	
38.5	5.543295	9.616141	12.630203	15.874262	52.71587	0.694344	3.168511	48.211305	
38.52	5.558959	9.592323	12.666164	15.888498	52.862765	0.695074	3.159385	48.312724	
38.540001	5.550973	9.60456	12.649005	15.88222	52.790199	0.694702	3.164031	48.261062	
38.560001	5.569834	9.573914	12.670444	15.880805	52.925033	0.695578	3.153079	48.382918	
38.580002	5.570561	9.576869	12.711495	15.918114	53.013123	0.695612	3.152659	48.387605	
38.599998	5.571344	9.577365	12.734434	15.93398	53.053849	0.695648	3.152206	48.392648	
38.619999	5.588802	9.549227	12.754646	15.933258	53.178404	0.696455	3.142143	48.504914	
38.639999	5.589292	9.550699	12.779045	15.953678	53.226688	0.696477	3.141861	48.508057	
38.66	5.596438	9.539065	12.785537	15.951919	53.274118	0.696806	3.137762	48.553867	
38.68	5.601941	9.534578	12.837439	15.990873	53.39821	0.697059	3.134612	48.589098	
38.700001	5.596363	9.543445	12.8303	15.990433	53.357453	0.696803	3.137804	48.553389	
38.720001	5.596559	9.544709	12.847092	16.004663	53.389699	0.696812	3.137692	48.554642	
38.740002	5.611566	9.521174	12.869244	16.008442	53.504598	0.6975	3.129118	48.650599	
38.759998	5.597186	9.548641	12.899532	16.049127	53.490081	0.69684	3.137333	48.55866	
38.779999	5.621083	9.50942	12.91588	16.038984	53.637439	0.697935	3.123705	48.711274	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	5.618697	9.516506	12.947591	16.068727	53.684131	0.697826	3.125061	48.69607	
38.82	5.632356	9.492961	12.943804	16.05174	53.743846	0.698448	3.117318	48.782965	
38.84	5.623432	9.510235	12.9662	16.080016	53.741407	0.698042	3.122372	48.726228	
38.860001	5.647582	9.470473	12.977638	16.06577	53.879876	0.699139	3.108733	48.879495	
38.880001	5.644887	9.476934	12.997757	16.085831	53.903528	0.699017	3.110249	48.862438	
38.900002	5.647614	9.477004	13.046538	16.125314	54.005443	0.69914	3.108715	48.879698	
38.919998	5.635854	9.494224	13.01896	16.113151	53.89827	0.698607	3.115342	48.805172	
38.939999	5.639932	9.491268	13.06004	16.144622	53.99265	0.698792	3.11304	48.831041	
38.959999	5.653733	9.471928	13.101032	16.166461	54.133505	0.699417	3.105278	48.918391	
38.98	5.64968	9.481014	13.12451	16.190812	54.156128	0.699234	3.107553	48.892772	
39	5.653902	9.473992	13.125444	16.187459	54.178211	0.699424	3.105183	48.91946	
39.02	5.667817	9.455119	13.17216	16.214348	54.3289	0.700052	3.097397	49.007248	
39.040001	5.658993	9.469291	13.165513	16.217219	54.274531	0.699654	3.10233	48.95161	
39.060001	5.664091	9.460406	13.162175	16.209322	54.293136	0.699884	3.099478	48.983767	
39.080002	5.67385	9.449303	13.216566	16.24706	54.436882	0.700323	3.094034	49.045215	
39.099998	5.690125	9.423102	13.226441	16.239877	54.532342	0.701052	3.084996	49.147379	
39.119999	5.675879	9.447084	13.228726	16.255664	54.468172	0.700414	3.092904	49.057974	
39.139999	5.682043	9.43768	13.237958	16.257716	54.514051	0.70069	3.089477	49.096695	
39.16	5.70458	9.402853	13.265284	16.25981	54.669877	0.701696	3.077014	49.237794	
39.18	5.695394	9.421775	13.303382	16.301835	54.693053	0.701287	3.082082	49.180369	
39.200001	5.709504	9.398946	13.309233	16.293431	54.770455	0.701915	3.074305	49.26852	
39.220001	5.700062	9.416757	13.331606	16.32198	54.764688	0.701495	3.079505	49.209563	
39.240002	5.709081	9.402937	13.343224	16.323506	54.82784	0.701897	3.074538	49.265878	
39.259998	5.708881	9.404633	13.357318	16.336005	54.851449	0.701888	3.074647	49.264634	
39.279999	5.730476	9.373117	13.399587	16.3525	55.027005	0.702844	3.062819	49.398999	
39.299999	5.735011	9.366703	13.410245	16.357561	55.066811	0.703044	3.060346	49.427128	
39.32	5.729544	9.375711	13.410529	16.362953	55.041523	0.702803	3.063327	49.393211	
39.34	5.72876	9.379087	13.43202	16.382504	55.074912	0.702768	3.063755	49.388342	
39.360001	5.754579	9.339849	13.463419	16.38586	55.250262	0.703905	3.049724	49.548166	
39.380001	5.749533	9.347871	13.461224	16.388631	55.222843	0.703683	3.052456	49.517007	
39.400002	5.739347	9.365761	13.473785	16.409155	55.196551	0.703235	3.057986	49.453996	
39.419998	5.745188	9.359478	13.507528	16.433294	55.281687	0.703492	3.054813	49.490146	
39.439999	5.746019	9.360412	13.53104	16.453157	55.325649	0.703529	3.054362	49.495283	
39.459999	5.749388	9.356463	13.547053	16.464084	55.368653	0.703677	3.052535	49.51611	
39.48	5.768453	9.325698	13.55018	16.449195	55.463018	0.704511	3.042238	49.633644	
39.5	5.749005	9.359402	13.570708	16.485222	55.40697	0.70366	3.052743	49.513741	
39.52	5.772857	9.320994	13.57529	16.467223	55.526032	0.704704	3.03987	49.660722	
39.540001	5.76784	9.331092	13.595288	16.489425	55.536439	0.704485	3.042568	49.629874	
39.560001	5.78454	9.305594	13.611405	16.488312	55.641182	0.705212	3.033604	49.73242	
39.580002	5.782707	9.309338	13.6194	16.497025	55.64612	0.705132	3.034585	49.721183	

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**Balun 3 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
39.599998	5.79664	9.288842	13.639786	16.502314	55.74481	0.705737	3.027143	49.806464	
39.619999	5.785104	9.309929	13.665111	16.535115	55.733811	0.705237	3.033303	49.735873	
39.639999	5.797685	9.290218	13.671137	16.529009	55.802038	0.705782	3.026586	49.812851	
39.66	5.803085	9.284639	13.702936	16.552189	55.879879	0.706016	3.023712	49.845822	
39.68	5.820222	9.257246	13.703689	16.537463	55.959913	0.706754	3.01463	49.950179	
39.700001	5.82517	9.25177	13.728559	16.555017	56.023797	0.706967	3.012017	49.980232	
39.720001	5.822068	9.25972	13.759211	16.584882	56.060203	0.706834	3.013654	49.961394	
39.740002	5.824688	9.256044	13.764416	16.587148	56.080773	0.706946	3.012272	49.977306	
39.759998	5.836635	9.238643	13.781161	16.59135	56.162907	0.707458	3.005982	50.049742	
39.779999	5.835451	9.243125	13.807711	16.615904	56.201049	0.707408	3.006604	50.042572	
39.799999	5.834405	9.247912	13.839523	16.645008	56.248272	0.707363	3.007154	50.036234	
39.82	5.867427	9.194783	13.830994	16.608444	56.384317	0.70877	2.989892	50.235509	
39.84	5.871338	9.190498	13.850151	16.622031	56.433175	0.708936	2.987861	50.259009	
39.860001	5.876193	9.183882	13.860527	16.627023	56.471942	0.709141	2.985343	50.28815	
39.880001	5.873296	9.191264	13.889483	16.655241	56.50579	0.709019	2.986845	50.270765	
39.900002	5.881843	9.182061	13.932567	16.686122	56.613785	0.70938	2.982419	50.322026	
39.919998	5.88911	9.170331	13.929029	16.676715	56.640746	0.709687	2.978666	50.365527	
39.939999	5.889346	9.170094	13.930372	16.677706	56.643963	0.709697	2.978545	50.366935	
39.959999	5.90034	9.159341	13.995887	16.726577	56.798124	0.710159	2.972886	50.43261	
39.98	5.910401	9.141649	13.975193	16.699574	56.810035	0.710581	2.967726	50.492562	
40	5.886226	9.180851	13.990208	16.733617	56.72585	0.709565	2.980155	50.348269	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
10	1.010951	50.529988	-0.137187	50.530174	-0.155556	0.005446	45.278945	0.002966
10.02	1.011315	50.549389	-0.134776	50.549568	-0.152763	0.005626	44.996201	0.003165
10.04	1.010518	50.520453	-0.075212	50.520509	-0.085299	0.005231	45.627697	0.002737
10.06	1.010661	50.521629	-0.109553	50.521748	-0.124242	0.005302	45.510501	0.002812
10.08	1.009854	50.478925	-0.115457	50.479057	-0.131049	0.004903	46.190818	0.002404
10.1	1.010376	50.503178	-0.125968	50.503335	-0.14291	0.005161	45.745183	0.002664
10.12	1.009823	50.487491	-0.059776	50.487527	-0.067837	0.004888	46.218093	0.002389
10.14	1.01057	50.522022	-0.082256	50.522089	-0.093285	0.005257	45.58493	0.002764
10.16	1.01012	50.496431	-0.097785	50.496526	-0.110952	0.005035	45.960519	0.002535
10.18	1.010497	50.518541	-0.080888	50.518606	-0.091739	0.005221	45.644854	0.002726
10.2	1.009633	50.479467	-0.045831	50.479488	-0.05202	0.004794	46.386867	0.002298
10.22	1.010507	50.522393	-0.055557	50.522424	-0.063005	0.005226	45.636459	0.002731
10.24	1.010371	50.511168	-0.08703	50.511243	-0.09872	0.005159	45.748918	0.002661
10.26	1.009688	50.482497	-0.042735	50.482516	-0.048502	0.004821	46.337973	0.002324
10.28	1.010197	50.506662	-0.056894	50.506694	-0.064542	0.005073	45.895107	0.002573
10.3	1.009988	50.498113	-0.035652	50.498126	-0.040452	0.004969	46.074401	0.002469
10.32	1.010101	50.502218	-0.053267	50.502246	-0.060433	0.005025	45.977091	0.002525
10.34	1.010011	50.500377	-0.012493	50.500379	-0.014175	0.00498	46.054698	0.00248
10.36	1.009832	50.491241	-0.018423	50.491244	-0.020906	0.004892	46.210571	0.002393
10.38	1.009781	50.488812	-0.014593	50.488814	-0.01656	0.004867	46.255657	0.002368
10.4	1.010402	50.519839	0.015912	50.519842	0.018046	0.005174	45.72359	0.002677
10.42	1.009774	50.481911	-0.0809	50.481976	-0.09182	0.004863	46.261728	0.002365
10.44	1.010528	50.526191	0.015319	50.526193	0.017372	0.005237	45.619043	0.002742
10.46	1.010753	50.535282	-0.050438	50.535307	-0.057186	0.005348	45.436332	0.00286
10.48	1.010293	50.514549	-0.010034	50.51455	-0.011381	0.00512	45.814393	0.002622
10.5	1.010438	50.521897	0.003833	50.521897	0.004347	0.005192	45.693281	0.002696
10.52	1.009847	50.492331	0.004184	50.492331	0.004748	0.004899	46.197208	0.0024
10.54	1.009562	50.476932	0.033624	50.476943	0.038166	0.004758	46.450673	0.002264
10.56	1.009617	50.479936	0.029392	50.479945	0.033361	0.004785	46.401662	0.00229
10.58	1.010468	50.523404	0.003131	50.523404	0.003551	0.005207	45.668451	0.002711
10.6	1.009367	50.4663	0.043446	50.466319	0.049326	0.004661	46.629563	0.002173
10.62	1.009704	50.482424	0.051536	50.482451	0.058492	0.004828	46.323938	0.002331
10.64	1.010131	50.505906	0.025961	50.505913	0.029451	0.00504	45.951015	0.00254
10.66	1.008843	50.43814	0.059269	50.438175	0.067327	0.004402	47.126958	0.001938
10.68	1.008968	50.444832	0.056184	50.444863	0.063815	0.004464	47.005899	0.001993
10.7	1.009899	50.49364	0.035869	50.493652	0.040702	0.004925	46.1517	0.002426
10.72	1.009286	50.461877	0.047481	50.4619	0.053912	0.004622	46.703835	0.002136
10.74	1.008929	50.435385	0.09865	50.435482	0.112069	0.004445	47.042836	0.001976
10.76	1.009327	50.463552	0.050935	50.463577	0.057831	0.004642	46.666087	0.002155
10.78	1.008202	50.407625	0.044769	50.407645	0.050886	0.004084	47.778044	0.001668

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
10.8	1.008971	50.444725	0.058457	50.444759	0.066396	0.004466	47.002317	0.001994
10.82	1.008926	50.436108	0.094514	50.436196	0.107369	0.004443	47.046593	0.001974
10.84	1.00804	50.38696	0.108792	50.387077	0.123709	0.004004	47.949849	0.001603
10.86	1.007829	50.384025	0.075766	50.384082	0.08616	0.003899	48.180257	0.00152
10.88	1.007854	50.381419	0.093252	50.381506	0.10605	0.003912	48.152887	0.00153
10.9	1.008934	50.440488	0.074023	50.440543	0.084083	0.004447	47.038549	0.001978
10.92	1.008717	50.421483	0.11069	50.421604	0.125781	0.004339	47.251292	0.001883
10.94	1.009102	50.419591	0.175803	50.419898	0.199778	0.00453	46.877446	0.002052
10.96	1.008998	50.426227	0.143713	50.426432	0.163291	0.004479	46.976503	0.002006
10.98	1.008744	50.414254	0.139397	50.414447	0.158424	0.004353	47.224717	0.001895
11	1.007713	50.364044	0.126964	50.364204	0.144438	0.003841	48.309991	0.001476
11.02	1.0087	50.402217	0.165358	50.402489	0.187974	0.004331	47.267459	0.001876
11.04	1.008505	50.398629	0.147709	50.398845	0.167923	0.004234	47.464436	0.001793
11.06	1.008602	50.405969	0.141715	50.406168	0.161086	0.004283	47.365972	0.001834
11.08	1.007952	50.383449	0.104852	50.383558	0.119237	0.00396	48.045935	0.001568
11.1	1.008919	50.408753	0.177919	50.409067	0.202227	0.00444	47.052723	0.001971
11.12	1.008573	50.380506	0.196912	50.38089	0.223939	0.004268	47.395253	0.001822
11.14	1.007199	50.335891	0.129126	50.336056	0.14698	0.003587	48.906567	0.001286
11.16	1.008245	50.370685	0.179955	50.371006	0.204695	0.004105	47.733009	0.001685
11.18	1.008238	50.378641	0.161788	50.378901	0.184002	0.004102	47.740002	0.001683
11.2	1.008032	50.363774	0.169801	50.36406	0.193172	0.004	47.958881	0.0016
11.22	1.00821	50.349915	0.214158	50.35037	0.2437	0.004088	47.769416	0.001671
11.24	1.007441	50.314723	0.197978	50.315113	0.225446	0.003706	48.620786	0.001374
11.26	1.007993	50.343857	0.203246	50.344268	0.231311	0.003981	48.000951	0.001585
11.28	1.008243	50.359201	0.201625	50.359605	0.229396	0.004104	47.734905	0.001685
11.3	1.007656	50.320959	0.20817	50.32139	0.237023	0.003813	48.373929	0.001454
11.32	1.008083	50.349948	0.201711	50.350352	0.229537	0.004025	47.904453	0.00162
11.34	1.008875	50.368002	0.247414	50.368609	0.281443	0.004418	47.095233	0.001952
11.36	1.006906	50.269791	0.215085	50.270251	0.245145	0.003441	49.26618	0.001184
11.38	1.007572	50.317847	0.205232	50.318265	0.233692	0.003771	48.469761	0.001422
11.4	1.007237	50.28632	0.220795	50.286805	0.25157	0.003605	48.861126	0.0013
11.42	1.007347	50.282408	0.234451	50.282954	0.26715	0.00366	48.730158	0.00134
11.44	1.006563	50.250465	0.211625	50.250911	0.241295	0.003271	49.706929	0.00107
11.46	1.007323	50.287982	0.225639	50.288488	0.257082	0.003648	48.758925	0.001331
11.48	1.008297	50.324701	0.257626	50.32536	0.293311	0.004131	47.677915	0.001707
11.5	1.007208	50.24557	0.263196	50.246259	0.300124	0.003591	48.896071	0.001289
11.52	1.008216	50.335745	0.236153	50.336299	0.268805	0.004091	47.763322	0.001674
11.54	1.007225	50.263309	0.246818	50.263915	0.281349	0.0036	48.875077	0.001296
11.56	1.007194	50.271478	0.235524	50.272029	0.268431	0.003584	48.911904	0.001285
11.58	1.007658	50.244493	0.294007	50.245353	0.335264	0.003814	48.37128	0.001455



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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
11.6	1.007172	50.236446	0.269044	50.237166	0.306849	0.003573	48.938564	0.001277
11.62	1.007069	50.224095	0.27276	50.224836	0.311162	0.003522	49.063725	0.001241
11.64	1.007643	50.259365	0.28	50.260145	0.319198	0.003807	48.388827	0.001449
11.66	1.007736	50.279965	0.266298	50.28067	0.303453	0.003853	48.283871	0.001485
11.68	1.007268	50.226589	0.283476	50.227389	0.323371	0.003621	48.823801	0.001311
11.7	1.007186	50.227556	0.277464	50.228322	0.316507	0.00358	48.921708	0.001282
11.72	1.007118	50.219756	0.279365	50.220533	0.318725	0.003547	49.003778	0.001258
11.74	1.006966	50.224357	0.265864	50.225061	0.303294	0.003471	49.190936	0.001205
11.76	1.007033	50.225712	0.269059	50.226432	0.306931	0.003504	49.108622	0.001228
11.78	1.007297	50.186975	0.312551	50.187948	0.356819	0.003635	48.789256	0.001322
11.8	1.007141	50.182661	0.306075	50.183595	0.349455	0.003558	48.976255	0.001266
11.82	1.00684	50.205378	0.272885	50.20612	0.311421	0.003408	49.349135	0.001162
11.84	1.007213	50.18549	0.308571	50.186438	0.352285	0.003594	48.889337	0.001291
11.86	1.007192	50.195691	0.301004	50.196594	0.343577	0.003583	48.914538	0.001284
11.88	1.006856	50.196239	0.280458	50.197022	0.320122	0.003416	49.329035	0.001167
11.9	1.007151	50.191262	0.301395	50.192167	0.344054	0.003563	48.964249	0.001269
11.92	1.006701	50.172916	0.286325	50.173733	0.32697	0.003339	49.527445	0.001115
11.94	1.007357	50.132329	0.342321	50.133498	0.391231	0.003665	48.718021	0.001343
11.96	1.006289	50.162351	0.268719	50.163071	0.30693	0.003134	50.076767	0.000982
11.98	1.007214	50.165398	0.319745	50.166417	0.365188	0.003594	48.888578	0.001292
12	1.007104	50.159231	0.316714	50.160231	0.361771	0.003539	49.021809	0.001253
12.02	1.006153	50.156651	0.264242	50.157347	0.301851	0.003067	50.265581	0.000941
12.04	1.007983	50.129979	0.376247	50.131391	0.430022	0.003975	48.012251	0.00158
12.06	1.006392	50.09977	0.302892	50.100685	0.346394	0.003186	49.935593	0.001015
12.08	1.006939	50.153452	0.310428	50.154413	0.354632	0.003458	49.224687	0.001195
12.1	1.006433	50.119471	0.297925	50.120356	0.340579	0.003206	49.880674	0.001028
12.12	1.006003	50.129758	0.270096	50.130486	0.308703	0.002993	50.479068	0.000896
12.14	1.00662	50.078577	0.320672	50.079604	0.366882	0.003299	49.632408	0.001088
12.16	1.006944	50.082981	0.336194	50.08411	0.384607	0.00346	49.218611	0.001197
12.18	1.00682	50.107841	0.32266	50.108879	0.368941	0.003398	49.374602	0.001155
12.2	1.006455	50.062875	0.315701	50.06387	0.361308	0.003217	49.851049	0.001035
12.22	1.006562	50.090464	0.314579	50.091452	0.359825	0.00327	49.708241	0.001069
12.24	1.00636	50.055628	0.312237	50.056602	0.357396	0.00317	49.979477	0.001005
12.26	1.00704	50.083072	0.341108	50.084234	0.390227	0.003508	49.099202	0.00123
12.28	1.00641	50.065745	0.31287	50.066723	0.358048	0.003195	49.910803	0.001021
12.3	1.006387	50.070051	0.310784	50.071015	0.35563	0.003184	49.941728	0.001014
12.32	1.007293	50.024532	0.362572	50.025846	0.415267	0.003633	48.794466	0.00132
12.34	1.006911	50.051308	0.340692	50.052467	0.389998	0.003444	49.259876	0.001186
12.36	1.006427	50.057446	0.315328	50.058439	0.360921	0.003203	49.887972	0.001026
12.38	1.006826	50.047644	0.336972	50.048778	0.385769	0.003402	49.36634	0.001157

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
12.4	1.006222	50.033792	0.308377	50.034742	0.353131	0.003101	50.169504	0.000962
12.42	1.006604	50.021685	0.328449	50.022763	0.376207	0.003291	49.653687	0.001083
12.44	1.00649	50.035435	0.321604	50.036468	0.368265	0.003234	49.804296	0.001046
12.46	1.005946	49.996538	0.29638	49.997417	0.339647	0.002964	50.562155	0.000879
12.48	1.006983	50.003089	0.347931	50.004299	0.398669	0.003479	49.170117	0.001211
12.5	1.006093	49.967028	0.301812	49.967939	0.346076	0.003037	50.350921	0.000922
12.52	1.006675	49.99913	0.332656	50.000236	0.381197	0.003327	49.560047	0.001107
12.54	1.006392	49.99255	0.318484	49.993565	0.365005	0.003186	49.935282	0.001015
12.56	1.006572	49.960283	0.324974	49.96134	0.372684	0.003275	49.695228	0.001073
12.58	1.005566	49.981566	0.276844	49.982332	0.317354	0.002775	51.134522	0.00077
12.6	1.006367	49.959449	0.314621	49.96044	0.360817	0.003174	49.969225	0.001007
12.62	1.006537	49.962191	0.323461	49.963239	0.370935	0.003258	49.741378	0.001061
12.64	1.005851	49.904531	0.275345	49.905291	0.316123	0.002917	50.701174	0.000851
12.66	1.007063	49.954817	0.348814	49.956034	0.400067	0.003519	49.071994	0.001238
12.68	1.00667	49.942181	0.327114	49.943253	0.375274	0.003324	49.56744	0.001105
12.7	1.00605	49.965899	0.299534	49.966797	0.343471	0.003016	50.412239	0.000909
12.72	1.006393	49.937053	0.312129	49.938029	0.35812	0.003186	49.934757	0.001015
12.74	1.006595	49.887373	0.308388	49.888326	0.354181	0.003287	49.664543	0.00108
12.76	1.007075	49.906891	0.339626	49.908046	0.389903	0.003525	49.057223	0.001242
12.78	1.006495	49.9217	0.313801	49.922686	0.360149	0.003237	49.797839	0.001048
12.8	1.006792	49.881212	0.316517	49.882216	0.363561	0.003385	49.409505	0.001146
12.82	1.006961	49.86641	0.319562	49.867434	0.367167	0.003468	49.19786	0.001203
12.84	1.006878	49.937548	0.336773	49.938684	0.38639	0.003427	49.301048	0.001175
12.86	1.00705	49.841416	0.312792	49.842397	0.359569	0.003513	49.087645	0.001234
12.88	1.005483	49.900461	0.25437	49.901109	0.292066	0.002734	51.263296	0.000748
12.9	1.007438	49.866391	0.345085	49.867585	0.396492	0.003705	48.623298	0.001373
12.92	1.007293	49.843638	0.327354	49.844713	0.376292	0.003633	48.793576	0.00132
12.94	1.006316	49.866754	0.284761	49.867567	0.327181	0.003148	50.038974	0.000991
12.96	1.005818	49.911693	0.276	49.912456	0.31683	0.0029	50.7509	0.000841
12.98	1.006851	49.808906	0.282115	49.809705	0.324517	0.003414	49.334887	0.001165
13	1.006	49.834957	0.248838	49.835579	0.28609	0.002991	50.484012	0.000895
13.02	1.006922	49.842068	0.306	49.843008	0.351758	0.003449	49.246255	0.00119
13.04	1.006609	49.795488	0.257345	49.796153	0.296104	0.003294	49.645946	0.001085
13.06	1.006885	49.823696	0.293599	49.824561	0.337627	0.003431	49.292337	0.001177
13.08	1.007196	49.813004	0.305084	49.813938	0.350909	0.003585	48.910196	0.001285
13.1	1.007225	49.814051	0.307436	49.814999	0.353607	0.0036	48.874804	0.001296
13.12	1.006872	49.786161	0.266492	49.786874	0.306687	0.003424	49.309051	0.001172
13.14	1.007714	49.747962	0.288718	49.7488	0.33252	0.003842	48.308453	0.001476
13.16	1.006467	49.788794	0.242536	49.789385	0.279103	0.003223	49.835129	0.001039
13.18	1.007125	49.828816	0.310306	49.829782	0.356802	0.00355	48.995491	0.00126

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
13.2	1.006812	49.7826	0.259704	49.783277	0.298896	0.003394	49.385149	0.001152
13.22	1.00718	49.793922	0.291518	49.794776	0.335435	0.003577	48.928688	0.00128
13.24	1.007706	49.758753	0.29731	49.759641	0.342341	0.003838	48.317912	0.001473
13.26	1.006756	49.751752	0.226182	49.752267	0.260477	0.003367	49.455921	0.001133
13.28	1.007792	49.736929	0.283929	49.73774	0.327077	0.003881	48.221402	0.001506
13.3	1.007494	49.730791	0.257139	49.731456	0.296252	0.003733	48.559176	0.001393
13.32	1.007761	49.684556	0.221324	49.685049	0.255228	0.003866	48.255621	0.001494
13.34	1.006869	49.756717	0.23961	49.757294	0.275914	0.003423	49.311887	0.001172
13.36	1.007345	49.726267	0.241277	49.726853	0.278004	0.003659	48.732991	0.001339
13.38	1.006961	49.770437	0.258908	49.77111	0.298053	0.003468	49.197942	0.001203
13.4	1.007848	49.687233	0.232359	49.687776	0.267938	0.003909	48.159705	0.001528
13.42	1.007436	49.723926	0.245412	49.724532	0.282781	0.003704	48.626478	0.001372
13.44	1.006761	49.735753	0.207529	49.736186	0.239073	0.003369	49.450294	0.001135
13.46	1.007265	49.699369	0.199576	49.69977	0.230079	0.003619	48.827447	0.00131
13.48	1.00848	49.642801	0.222254	49.643299	0.256516	0.004222	47.489507	0.001783
13.5	1.008064	49.665848	0.220265	49.666336	0.254102	0.004016	47.925024	0.001612
13.52	1.007131	49.723852	0.221978	49.724347	0.255779	0.003553	48.988457	0.001262
13.54	1.008601	49.660837	0.259047	49.661513	0.298872	0.004282	47.366538	0.001834
13.56	1.00724	49.688688	0.179921	49.689014	0.207465	0.003607	48.857396	0.001301
13.58	1.007973	49.687689	0.24317	49.688284	0.280402	0.003971	48.022999	0.001577
13.6	1.008493	49.626442	0.19474	49.626824	0.224835	0.004228	47.476279	0.001788
13.62	1.008269	49.652985	0.218967	49.653468	0.25267	0.004118	47.707283	0.001695
13.64	1.007332	49.710178	0.220549	49.710668	0.254202	0.003653	48.748122	0.001334
13.66	1.007807	49.651619	0.169583	49.651909	0.195691	0.003888	48.205094	0.001512
13.68	1.007902	49.667691	0.208408	49.668129	0.240415	0.003936	48.099765	0.001549
13.7	1.007392	49.673042	0.166745	49.673322	0.192333	0.003682	48.677715	0.001356
13.72	1.007883	49.64483	0.16402	49.645101	0.189298	0.003926	48.120821	0.001541
13.74	1.008421	49.606925	0.141094	49.607126	0.162963	0.004193	47.549953	0.001758
13.76	1.007766	49.655768	0.173514	49.656072	0.200211	0.003868	48.249799	0.001496
13.78	1.008407	49.609227	0.145357	49.60944	0.167878	0.004186	47.564693	0.001752
13.8	1.00857	49.60501	0.156808	49.605258	0.181119	0.004267	47.398323	0.00182
13.82	1.008142	49.640509	0.184329	49.640851	0.212754	0.004055	47.841236	0.001644
13.84	1.007836	49.64694	0.163062	49.647208	0.188184	0.003903	48.172609	0.001523
13.86	1.007642	49.649017	0.143816	49.649225	0.165965	0.003806	48.389703	0.001449
13.88	1.008399	49.61159	0.150538	49.611818	0.173854	0.004182	47.572602	0.001749
13.9	1.008714	49.598834	0.160461	49.599093	0.185362	0.004338	47.254063	0.001882
13.92	1.007373	49.653414	0.117725	49.653554	0.135845	0.003673	48.699425	0.001349
13.94	1.008467	49.604337	0.140643	49.604536	0.16245	0.004216	47.502318	0.001777
13.96	1.008831	49.582056	0.130259	49.582227	0.150523	0.004396	47.138658	0.001933
13.98	1.007847	49.628865	0.117812	49.629005	0.136013	0.003908	48.160127	0.001528

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
14	1.008288	49.599833	0.093961	49.599922	0.10854	0.004127	47.687276	0.001703
14.02	1.008903	49.568202	0.091006	49.568285	0.105194	0.004432	47.068044	0.001964
14.04	1.009257	49.547584	0.075281	49.547641	0.087053	0.004607	46.731248	0.002123
14.06	1.009236	49.548945	0.077016	49.549005	0.089058	0.004597	46.75134	0.002113
14.08	1.008831	49.568865	0.075471	49.568922	0.087236	0.004396	47.139117	0.001932
14.1	1.008528	49.59022	0.104383	49.59033	0.120602	0.004246	47.440289	0.001803
14.12	1.008843	49.570567	0.087791	49.570644	0.101473	0.004402	47.126893	0.001938
14.14	1.008902	49.568933	0.09407	49.569023	0.108734	0.004431	47.069543	0.001964
14.16	1.00917	49.552291	0.077527	49.552352	0.089642	0.004564	46.812806	0.002083
14.18	1.009647	49.526103	0.060445	49.52614	0.069928	0.0048	46.374979	0.002304
14.2	1.008857	49.563938	0.050663	49.563964	0.058566	0.004409	47.112855	0.001944
14.22	1.008987	49.555891	0.033072	49.555902	0.038238	0.004473	46.98753	0.002001
14.24	1.009539	49.529911	0.047409	49.529934	0.054842	0.004747	46.471525	0.002253
14.26	1.009404	49.538342	0.062095	49.538381	0.071818	0.00468	46.59554	0.00219
14.28	1.010274	49.494	0.050019	49.494026	0.057904	0.005111	45.830702	0.002612
14.3	1.01023	49.500783	0.084626	49.500856	0.097953	0.005089	45.867708	0.00259
14.32	1.010098	49.501994	0.043228	49.502013	0.050034	0.005024	45.979351	0.002524
14.34	1.009394	49.536123	0.036878	49.536137	0.042655	0.004675	46.604204	0.002186
14.36	1.009749	49.517251	0.003356	49.517251	0.003883	0.004851	46.283333	0.002353
14.38	1.009703	49.520061	0.022948	49.520067	0.026551	0.004828	46.324584	0.002331
14.4	1.009674	49.52155	0.024608	49.521556	0.028471	0.004814	46.350136	0.002317
14.42	1.009254	49.541553	-0.004635	49.541553	-0.005361	0.004606	46.733856	0.002121
14.44	1.009404	49.534756	-0.023313	49.534762	-0.026966	0.00468	46.594996	0.00219
14.46	1.009669	49.521524	-0.017994	49.521527	-0.020819	0.004811	46.355003	0.002315
14.48	1.009019	49.554671	-0.037513	49.554685	-0.043374	0.004489	46.956909	0.002015
14.5	1.00943	49.534673	-0.040618	49.534689	-0.046982	0.004693	46.571349	0.002202
14.52	1.010058	49.502503	-0.019775	49.502507	-0.022889	0.005004	46.014014	0.002504
14.54	1.010307	49.491071	-0.034356	49.491083	-0.039774	0.005127	45.802795	0.002629
14.56	1.009934	49.508235	-0.008209	49.508235	-0.0095	0.004943	46.120812	0.002443
14.58	1.010449	49.485417	-0.050737	49.485443	-0.058745	0.005198	45.684058	0.002701
14.6	1.0105	49.482866	-0.050168	49.482892	-0.058089	0.005223	45.642231	0.002728
14.62	1.009823	49.519053	-0.072499	49.519106	-0.083884	0.004887	46.218593	0.002389
14.64	1.010238	49.498464	-0.07254	49.498517	-0.083968	0.005093	45.860364	0.002594
14.66	1.010065	49.506403	-0.067891	49.506449	-0.078573	0.005007	46.008173	0.002507
14.68	1.009739	49.524253	-0.07911	49.524316	-0.091524	0.004846	46.2926	0.002348
14.7	1.010052	49.504085	-0.040791	49.504102	-0.047211	0.005001	46.019392	0.002501
14.72	1.009746	49.523093	-0.074081	49.523148	-0.085708	0.004849	46.286259	0.002352
14.74	1.010375	49.495153	-0.093657	49.495242	-0.108418	0.005161	45.745895	0.002663
14.76	1.009935	49.518139	-0.098972	49.518238	-0.114517	0.004943	46.120165	0.002443
14.78	1.011018	49.473403	-0.140379	49.473602	-0.162575	0.005479	45.226427	0.003002

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
14.8	1.011184	49.451485	-0.070755	49.451536	-0.081979	0.005561	45.096788	0.003093
14.82	1.010456	49.508232	-0.161273	49.508495	-0.18664	0.005201	45.678362	0.002705
14.84	1.010661	49.503638	-0.178812	49.503961	-0.206958	0.005302	45.510899	0.002811
14.86	1.010972	49.473868	-0.13329	49.474048	-0.154363	0.005456	45.262143	0.002977
14.88	1.009782	49.527094	-0.104897	49.527205	-0.121351	0.004867	46.254752	0.002369
14.9	1.010661	49.481646	-0.09772	49.481742	-0.113152	0.005302	45.51066	0.002811
14.92	1.010699	49.484532	-0.120406	49.484679	-0.139413	0.005321	45.480363	0.002831
14.94	1.011098	49.477925	-0.169702	49.478216	-0.196516	0.005518	45.163674	0.003045
14.96	1.011667	49.447961	-0.167	49.448243	-0.193504	0.005799	44.73224	0.003363
14.98	1.01144	49.458027	-0.161961	49.458292	-0.187627	0.005687	44.901766	0.003235
15	1.011383	49.461	-0.16217	49.461266	-0.187858	0.005659	44.944945	0.003203
15.02	1.010855	49.504895	-0.208288	49.505334	-0.241067	0.005398	45.35526	0.002914
15.04	1.01201	49.436574	-0.18674	49.436927	-0.216427	0.005969	44.481559	0.003563
15.06	1.011549	49.453881	-0.166707	49.454162	-0.193141	0.005741	44.819783	0.003296
15.08	1.011611	49.459418	-0.193253	49.459796	-0.223871	0.005772	44.773385	0.003332
15.1	1.011118	49.477161	-0.17043	49.477454	-0.197362	0.005528	45.148555	0.003056
15.12	1.011282	49.482065	-0.207746	49.482502	-0.24055	0.005609	45.021526	0.003147
15.14	1.012026	49.446534	-0.216749	49.447009	-0.251156	0.005977	44.470316	0.003572
15.16	1.01139	49.486835	-0.232538	49.487381	-0.269231	0.005663	44.9391	0.003207
15.18	1.012117	49.449506	-0.235873	49.450069	-0.273298	0.006022	44.405014	0.003627
15.2	1.011613	49.46937	-0.219459	49.469857	-0.254178	0.005773	44.772218	0.003333
15.22	1.011534	49.48604	-0.247449	49.486658	-0.286498	0.005734	44.83128	0.003288
15.24	1.011758	49.464135	-0.225435	49.464649	-0.261127	0.005845	44.664543	0.003416
15.26	1.012637	49.429786	-0.254232	49.43044	-0.294687	0.006279	44.042192	0.003943
15.28	1.012229	49.467463	-0.286011	49.46829	-0.33127	0.006077	44.325998	0.003693
15.3	1.011816	49.468482	-0.242457	49.469077	-0.280819	0.005873	44.62242	0.00345
15.32	1.012568	49.431722	-0.250283	49.432356	-0.290099	0.006245	44.089365	0.0039
15.34	1.01297	49.433503	-0.299242	49.434409	-0.346832	0.006443	43.817941	0.004152
15.36	1.011912	49.479216	-0.275102	49.479981	-0.318559	0.005921	44.552672	0.003505
15.38	1.011413	49.494734	-0.25179	49.495375	-0.291474	0.005674	44.922318	0.003219
15.4	1.013192	49.412509	-0.281471	49.41331	-0.326374	0.006553	43.671386	0.004294
15.42	1.012205	49.476776	-0.300535	49.477688	-0.348026	0.006066	44.342447	0.003679
15.44	1.012145	49.471289	-0.284483	49.472106	-0.329474	0.006036	44.385346	0.003643
15.46	1.011811	49.494644	-0.292967	49.495512	-0.339139	0.005871	44.625768	0.003447
15.48	1.011972	49.481895	-0.286273	49.482723	-0.331476	0.00595	44.509458	0.00354
15.5	1.012332	49.484648	-0.325711	49.48572	-0.37712	0.006128	44.25353	0.003755
15.52	1.012751	49.454684	-0.31556	49.45569	-0.365588	0.006335	43.965214	0.004013
15.54	1.01274	49.47834	-0.352619	49.479596	-0.408325	0.00633	43.972529	0.004006
15.56	1.011345	49.555433	-0.343047	49.556621	-0.396623	0.00564	44.97383	0.003181
15.58	1.012061	49.517608	-0.35093	49.518852	-0.406047	0.005994	44.44534	0.003593

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
15.6	1.012249	49.476595	-0.304493	49.477532	-0.352611	0.006087	44.311714	0.003705
15.62	1.013419	49.44148	-0.356826	49.442767	-0.413505	0.006665	43.524095	0.004442
15.64	1.011829	49.541211	-0.363386	49.542544	-0.420259	0.00588	44.613053	0.003457
15.66	1.012329	49.51156	-0.364898	49.512905	-0.422261	0.006127	44.255318	0.003754
15.68	1.012644	49.475459	-0.339733	49.476625	-0.393427	0.006282	44.037474	0.003947
15.7	1.013064	49.497585	-0.40558	49.499246	-0.469468	0.006489	43.755839	0.004211
15.72	1.01137	49.572183	-0.365784	49.573533	-0.422768	0.005653	44.954624	0.003195
15.74	1.012732	49.50013	-0.382469	49.501607	-0.442695	0.006326	43.977912	0.004001
15.76	1.013195	49.477911	-0.390562	49.479452	-0.452265	0.006554	43.669527	0.004296
15.78	1.011935	49.533025	-0.361292	49.534343	-0.417907	0.005932	44.53616	0.003519
15.8	1.013588	49.471921	-0.414357	49.473656	-0.479876	0.006748	43.41656	0.004553
15.82	1.012628	49.513892	-0.391874	49.515443	-0.453455	0.006274	44.048584	0.003937
15.84	1.013171	49.515818	-0.435264	49.517731	-0.503641	0.006542	43.685431	0.00428
15.86	1.012407	49.558039	-0.425948	49.559869	-0.492442	0.006165	44.200944	0.003801
15.88	1.013619	49.487253	-0.435725	49.489171	-0.504465	0.006763	43.396702	0.004574
15.9	1.013115	49.523945	-0.440217	49.525902	-0.509288	0.006515	43.721813	0.004244
15.92	1.012734	49.556888	-0.44767	49.55891	-0.517565	0.006327	43.976274	0.004003
15.94	1.013365	49.500887	-0.432586	49.502777	-0.500693	0.006638	43.559321	0.004406
15.96	1.013142	49.550654	-0.469516	49.552879	-0.54289	0.006528	43.704182	0.004262
15.98	1.012119	49.569754	-0.417799	49.571514	-0.482908	0.006023	44.403603	0.003628
16	1.0136	49.490198	-0.437807	49.492134	-0.506845	0.006754	43.408413	0.004562
16.02	1.012871	49.552555	-0.452785	49.554624	-0.523525	0.006394	43.884216	0.004089
16.040001	1.014162	49.496207	-0.485369	49.498587	-0.561836	0.007031	43.059685	0.004943
16.059999	1.01299	49.576535	-0.483319	49.578891	-0.558557	0.006453	43.804581	0.004164
16.08	1.013634	49.528956	-0.481965	49.531301	-0.557527	0.006771	43.386887	0.004585
16.1	1.013028	49.555853	-0.466799	49.558052	-0.539691	0.006472	43.7792	0.004189
16.120001	1.012818	49.564186	-0.460551	49.566326	-0.532379	0.006368	43.919451	0.004056
16.139999	1.013311	49.549919	-0.480236	49.552246	-0.555292	0.006611	43.594041	0.004371
16.16	1.014253	49.51594	-0.511459	49.518581	-0.591799	0.007076	43.003982	0.005007
16.18	1.013287	49.564723	-0.492273	49.567168	-0.56904	0.0066	43.609402	0.004356
16.200001	1.012752	49.607461	-0.494126	49.609922	-0.570689	0.006335	43.964416	0.004014
16.219999	1.013583	49.587292	-0.530103	49.590125	-0.612487	0.006746	43.419189	0.004551
16.24	1.013698	49.559818	-0.514696	49.562491	-0.595017	0.006802	43.346769	0.004627
16.26	1.012229	49.589471	-0.44476	49.591465	-0.513863	0.006078	44.325447	0.003694
16.280001	1.013482	49.578774	-0.51689	49.581469	-0.597323	0.006696	43.483702	0.004484
16.299999	1.013839	49.595601	-0.552161	49.598675	-0.637864	0.006872	43.258585	0.004722
16.32	1.013463	49.566298	-0.505124	49.568871	-0.583875	0.006687	43.495887	0.004471
16.34	1.013205	49.608433	-0.523009	49.61119	-0.604033	0.006559	43.663155	0.004302
16.360001	1.013421	49.62718	-0.54955	49.630223	-0.634444	0.006666	43.523308	0.004443
16.379999	1.012843	49.607294	-0.499717	49.609811	-0.577148	0.006381	43.902821	0.004071

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	1.013449	49.63915	-0.559249	49.642301	-0.645485	0.00668	43.504971	0.004462	
16.42	1.013809	49.599016	-0.55286	49.602097	-0.638627	0.006857	43.277252	0.004702	
16.440001	1.013194	49.657597	-0.55619	49.660712	-0.641715	0.006554	43.670272	0.004295	
16.459999	1.014163	49.607351	-0.580025	49.610742	-0.669892	0.007032	43.058679	0.004945	
16.48	1.013671	49.601345	-0.54619	49.604352	-0.630894	0.006789	43.363903	0.004609	
16.5	1.012435	49.634726	-0.495611	49.6372	-0.57209	0.006179	44.181294	0.003818	
16.52	1.013811	49.632624	-0.576161	49.635968	-0.66509	0.006858	43.275696	0.004704	
16.540001	1.013124	49.646217	-0.544866	49.649206	-0.628795	0.006519	43.715797	0.00425	
16.559999	1.013604	49.618439	-0.554442	49.621537	-0.640204	0.006756	43.405994	0.004565	
16.58	1.013946	49.611898	-0.570235	49.615175	-0.658525	0.006925	43.192205	0.004795	
16.6	1.014197	49.618914	-0.589743	49.622419	-0.680955	0.007048	43.038317	0.004968	
16.620001	1.013383	49.659963	-0.568524	49.663217	-0.655914	0.006647	43.547447	0.004418	
16.639999	1.014259	49.653853	-0.614696	49.657658	-0.709265	0.007079	43.000646	0.005011	
16.66	1.013322	49.677567	-0.575404	49.680899	-0.663615	0.006617	43.586676	0.004379	
16.68	1.013691	49.679113	-0.596948	49.6827	-0.688439	0.006799	43.351126	0.004623	
16.700001	1.013512	49.674205	-0.584164	49.67764	-0.673763	0.00671	43.464943	0.004503	
16.719999	1.014357	49.670345	-0.629307	49.674331	-0.725881	0.007128	42.941166	0.00508	
16.74	1.01289	49.684469	-0.554924	49.687568	-0.639909	0.006404	43.871402	0.004101	
16.76	1.013334	49.678216	-0.576404	49.68156	-0.664761	0.006623	43.579407	0.004386	
16.780001	1.012533	49.674863	-0.528751	49.677677	-0.609847	0.006227	44.113945	0.003878	
16.799999	1.01412	49.703489	-0.632962	49.707519	-0.729609	0.00701	43.085209	0.004914	
16.82	1.014195	49.724672	-0.646637	49.728876	-0.745054	0.007047	43.039449	0.004967	
16.84	1.01481	49.629037	-0.631415	49.633054	-0.728919	0.00735	42.673825	0.005403	
16.860001	1.012907	49.711711	-0.570678	49.714986	-0.657713	0.006412	43.860126	0.004111	
16.879999	1.012494	49.729863	-0.557089	49.732983	-0.641819	0.006208	44.140997	0.003854	
16.9	1.013934	49.715785	-0.628678	49.71976	-0.724493	0.006919	43.19925	0.004787	
16.92	1.014029	49.664256	-0.607677	49.667973	-0.701021	0.006966	43.140517	0.004852	
16.940001	1.013205	49.764657	-0.610627	49.768403	-0.703002	0.006559	43.662704	0.004303	
16.959999	1.014285	49.743345	-0.659189	49.747713	-0.759229	0.007092	42.984683	0.00503	
16.98	1.013554	49.747378	-0.622117	49.751268	-0.716478	0.006731	43.437903	0.004531	
17	1.014275	49.726683	-0.651765	49.730954	-0.750931	0.007087	42.99106	0.005022	
17.02	1.013592	49.792094	-0.640745	49.796217	-0.737266	0.00675	43.413654	0.004557	
17.040001	1.013809	49.758081	-0.639865	49.762195	-0.736756	0.006857	43.277132	0.004702	
17.059999	1.015028	49.750921	-0.701045	49.75586	-0.807309	0.007458	42.547336	0.005562	
17.08	1.013936	49.779892	-0.654452	49.784194	-0.753221	0.00692	43.198091	0.004788	
17.1	1.014468	49.709656	-0.654654	49.713967	-0.754518	0.007182	42.874846	0.005158	
17.120001	1.014412	49.803123	-0.686377	49.807853	-0.789591	0.007154	42.908458	0.005119	
17.139999	1.013846	49.78919	-0.652925	49.793471	-0.751324	0.006875	43.25393	0.004727	
17.16	1.013071	49.81704	-0.621768	49.82092	-0.715075	0.006493	43.751044	0.004216	
17.18	1.014085	49.746583	-0.649933	49.750828	-0.748521	0.006993	43.106125	0.004891	

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	1.013439	49.820418	-0.641614	49.82455	-0.737847	0.006675	43.511535	0.004455	
17.219999	1.013241	49.800696	-0.625409	49.804622	-0.719498	0.006577	43.639489	0.004326	
17.24	1.014372	49.786078	-0.679058	49.790708	-0.78144	0.007135	42.932523	0.00509	
17.26	1.013832	49.79438	-0.653881	49.798673	-0.752344	0.006868	43.26281	0.004718	
17.280001	1.014584	49.823195	-0.700712	49.828122	-0.805755	0.007239	42.805997	0.005241	
17.299999	1.014506	49.758052	-0.676371	49.762649	-0.778786	0.007201	42.852528	0.005185	
17.32	1.014111	49.804143	-0.671245	49.808666	-0.77217	0.007006	43.090699	0.004908	
17.34	1.013138	49.832578	-0.629656	49.836555	-0.72392	0.006526	43.70687	0.004259	
17.360001	1.013514	49.815913	-0.644139	49.820077	-0.740817	0.006711	43.463616	0.004504	
17.379999	1.013925	49.863532	-0.676905	49.868127	-0.777752	0.006915	43.204765	0.004781	
17.4	1.013229	49.829817	-0.633525	49.833844	-0.728407	0.006571	43.647508	0.004318	
17.42	1.013617	49.869844	-0.662714	49.874248	-0.761352	0.006762	43.397994	0.004573	
17.440001	1.013228	49.829537	-0.633426	49.833563	-0.728298	0.006571	43.647776	0.004317	
17.459999	1.013505	49.839593	-0.650159	49.843833	-0.747385	0.006707	43.469218	0.004499	
17.48	1.014022	49.855172	-0.679988	49.859809	-0.781426	0.006962	43.144911	0.004847	
17.5	1.013365	49.871196	-0.650359	49.875437	-0.74714	0.006638	43.558835	0.004407	
17.52	1.014324	49.84719	-0.693399	49.852013	-0.796963	0.007111	42.961302	0.005057	
17.540001	1.013465	49.855602	-0.652007	49.859865	-0.749268	0.006688	43.494631	0.004472	
17.559999	1.014107	49.873599	-0.688006	49.878344	-0.790347	0.007004	43.093201	0.004905	
17.58	1.013305	49.892359	-0.651304	49.89661	-0.747908	0.006608	43.598124	0.004367	
17.6	1.014603	49.881465	-0.714237	49.886579	-0.820346	0.007248	42.795075	0.005254	
17.620001	1.013421	49.875682	-0.65403	49.87997	-0.751289	0.006666	43.52329	0.004443	
17.639999	1.013196	49.873721	-0.642344	49.877858	-0.737897	0.006555	43.669162	0.004296	
17.66	1.014092	49.908483	-0.69303	49.913295	-0.795561	0.006997	43.102131	0.004895	
17.68	1.014063	49.898631	-0.690156	49.903404	-0.792418	0.006983	43.119759	0.004876	
17.700001	1.013847	49.890245	-0.678021	49.894852	-0.778618	0.006876	43.25346	0.004728	
17.719999	1.014074	49.901023	-0.691043	49.905807	-0.793399	0.006988	43.113307	0.004883	
17.74	1.014219	49.935205	-0.702488	49.940146	-0.805985	0.007059	43.025014	0.004983	
17.76	1.01384	49.907988	-0.680449	49.912627	-0.781127	0.006873	43.257602	0.004723	
17.780001	1.014573	49.910332	-0.717162	49.915485	-0.823228	0.007234	42.81272	0.005233	
17.799999	1.013771	49.94237	-0.681028	49.947013	-0.781254	0.006838	43.300905	0.004676	
17.82	1.012969	49.958556	-0.642677	49.962689	-0.737025	0.006443	43.818705	0.004151	
17.84	1.013868	49.94256	-0.685823	49.947269	-0.786751	0.006886	43.240617	0.004742	
17.860001	1.013664	49.954412	-0.676759	49.958996	-0.77617	0.006786	43.367901	0.004605	
17.879999	1.014372	49.926847	-0.709188	49.931883	-0.813808	0.007135	42.932664	0.00509	
17.9	1.013683	49.950338	-0.677384	49.954931	-0.776951	0.006795	43.355901	0.004618	
17.92	1.012603	49.946755	-0.623607	49.950648	-0.715327	0.006262	44.065774	0.003921	
17.940001	1.013774	49.977179	-0.683458	49.981852	-0.783495	0.00684	43.299144	0.004678	
17.959999	1.014037	49.963049	-0.695717	49.967893	-0.797772	0.006969	43.136115	0.004857	
17.98	1.014317	49.964086	-0.709605	49.969125	-0.813678	0.007108	42.965657	0.005052	



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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	1.013148	49.96482	-0.651921	49.969073	-0.747531	0.006531	43.700607	0.004265	
18.02	1.01406	49.97909	-0.69766	49.983959	-0.799743	0.006981	43.121622	0.004873	
18.040001	1.013685	50.020561	-0.679465	50.025176	-0.778243	0.006796	43.354669	0.004619	
18.059999	1.013378	49.97141	-0.663672	49.975817	-0.760904	0.006645	43.550584	0.004415	
18.08	1.013141	49.997721	-0.652738	50.001981	-0.747976	0.006527	43.705152	0.004261	
18.1	1.013002	49.996252	-0.645857	50.000424	-0.740114	0.006459	43.796976	0.004172	
18.120001	1.013423	49.994456	-0.666625	49.9989	-0.763937	0.006667	43.521779	0.004444	
18.139999	1.014062	50.041358	-0.697295	50.046216	-0.798331	0.006982	43.120215	0.004875	
18.16	1.013314	49.942203	-0.658408	49.946543	-0.75531	0.006613	43.591932	0.004373	
18.18	1.013147	50.062107	-0.65053	50.066333	-0.744487	0.006531	43.700824	0.004265	
18.200001	1.0132	50.049129	-0.654173	50.053404	-0.748849	0.006557	43.666178	0.004299	
18.219999	1.01291	50.058868	-0.63905	50.062947	-0.731398	0.006414	43.857888	0.004113	
18.24	1.012629	50.08349	-0.622433	50.087358	-0.712031	0.006275	44.04812	0.003937	
18.26	1.012613	50.015649	-0.626623	50.019575	-0.717796	0.006267	44.058701	0.003928	
18.280001	1.01268	50.030734	-0.629438	50.034693	-0.720803	0.0063	44.013443	0.003969	
18.299999	1.012852	50.04544	-0.637162	50.049496	-0.729433	0.006385	43.897091	0.004077	
18.32	1.01232	50.003825	-0.612241	50.007573	-0.701489	0.006122	44.261872	0.003748	
18.34	1.012417	50.065964	-0.613898	50.069727	-0.702515	0.00617	44.194107	0.003807	
18.360001	1.01258	50.052227	-0.623245	50.056107	-0.713405	0.006251	44.081137	0.003907	
18.379999	1.012921	50.04077	-0.640865	50.044874	-0.733741	0.006419	43.850841	0.00412	
18.4	1.01283	50.022141	-0.637187	50.026199	-0.729801	0.006374	43.911521	0.004063	
18.42	1.012224	50.029814	-0.606953	50.033495	-0.695069	0.006075	44.329189	0.00369	
18.440001	1.011898	50.053129	-0.589307	50.056598	-0.674549	0.005914	44.562774	0.003497	
18.459999	1.013251	50.119707	-0.648049	50.123897	-0.740796	0.006582	43.6327	0.004332	
18.48	1.012152	50.10952	-0.594597	50.113047	-0.679838	0.006039	44.380305	0.003647	
18.5	1.011493	50.088285	-0.565013	50.091471	-0.646289	0.005714	44.86188	0.003264	
18.52	1.011918	50.054385	-0.590206	50.057865	-0.675561	0.005924	44.548088	0.003509	
18.540001	1.012372	50.058805	-0.612357	50.06255	-0.700851	0.006148	44.225314	0.00378	
18.559999	1.012381	50.058874	-0.61279	50.062624	-0.701346	0.006152	44.219144	0.003785	
18.58	1.012572	50.126331	-0.612569	50.130074	-0.70015	0.006247	44.087135	0.003902	
18.6	1.011991	50.095529	-0.588836	50.09899	-0.67344	0.00596	44.495731	0.003552	
18.620001	1.012883	50.1394	-0.625575	50.143302	-0.714827	0.0064	43.876213	0.004096	
18.639999	1.012651	50.127941	-0.616269	50.131729	-0.704356	0.006286	44.032597	0.003951	
18.66	1.012173	50.141099	-0.589169	50.144561	-0.673208	0.00605	44.365397	0.00366	
18.68	1.012456	50.156525	-0.599829	50.160111	-0.685177	0.006189	44.167098	0.003831	
18.700001	1.011983	50.138714	-0.580068	50.142069	-0.662842	0.005956	44.501092	0.003547	
18.719999	1.011409	50.115031	-0.556123	50.118116	-0.635783	0.005672	44.924753	0.003218	
18.74	1.01165	50.100896	-0.570865	50.104148	-0.652818	0.005791	44.744645	0.003354	
18.76	1.011895	50.150108	-0.57277	50.153378	-0.654354	0.005912	44.565078	0.003495	
18.780001	1.011994	50.179839	-0.569467	50.18307	-0.650196	0.005961	44.493506	0.003553	

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	1.011869	50.152395	-0.570875	50.155644	-0.652159	0.0059	44.583594	0.00348	
18.82	1.011782	50.185123	-0.556749	50.188211	-0.635609	0.005856	44.647585	0.00343	
18.84	1.0123	50.194093	-0.580892	50.197454	-0.66305	0.006113	44.275436	0.003736	
18.860001	1.011153	50.135112	-0.538616	50.138005	-0.615523	0.005545	45.121232	0.003075	
18.879999	1.011566	50.160571	-0.55308	50.16362	-0.631729	0.00575	44.806872	0.003306	
18.9	1.01186	50.171255	-0.565137	50.174437	-0.645362	0.005895	44.590385	0.003475	
18.92	1.011895	50.136869	-0.576035	50.140178	-0.658258	0.005913	44.564525	0.003496	
18.940001	1.011762	50.145366	-0.567193	50.148573	-0.648044	0.005847	44.661855	0.003418	
18.959999	1.01268	50.197719	-0.599489	50.201299	-0.684227	0.0063	44.013246	0.003969	
18.98	1.012104	50.183913	-0.573954	50.187195	-0.655265	0.006016	44.414083	0.003619	
19	1.010925	50.119656	-0.530636	50.122465	-0.60659	0.005433	45.299179	0.002952	
19.02	1.011523	50.173791	-0.546899	50.176771	-0.624506	0.005728	44.83927	0.003282	
19.040001	1.011869	50.183348	-0.561876	50.186494	-0.641484	0.005899	44.583803	0.00348	
19.059999	1.011114	50.223867	-0.506623	50.226422	-0.57794	0.005526	45.151225	0.003054	
19.08	1.011259	50.118256	-0.547867	50.12125	-0.626304	0.005598	45.039124	0.003134	
19.1	1.01095	50.179397	-0.515184	50.182041	-0.588228	0.005445	45.279379	0.002965	
19.120001	1.010426	50.189716	-0.483719	50.192047	-0.552189	0.005186	45.703313	0.002689	
19.139999	1.011409	50.191327	-0.535149	50.194179	-0.610876	0.005672	44.924834	0.003217	
19.16	1.010814	50.192747	-0.503175	50.19527	-0.574364	0.005378	45.387814	0.002892	
19.18	1.010688	50.159973	-0.507835	50.162543	-0.580061	0.005316	45.488662	0.002826	
19.200001	1.010251	50.196671	-0.471573	50.198886	-0.538251	0.005099	45.849746	0.0026	
19.219999	1.010216	50.16749	-0.480744	50.169793	-0.549037	0.005082	45.878827	0.002583	
19.24	1.011183	50.20093	-0.51965	50.20362	-0.593071	0.00556	45.098206	0.003092	
19.26	1.010568	50.179569	-0.495028	50.18201	-0.565213	0.005256	45.586233	0.002763	
19.280001	1.010697	50.182916	-0.500602	50.185412	-0.571538	0.00532	45.481879	0.00283	
19.299999	1.010568	50.209707	-0.483165	50.212032	-0.551337	0.005256	45.586838	0.002763	
19.32	1.010576	50.189633	-0.491739	50.192042	-0.561346	0.00526	45.579734	0.002767	
19.34	1.010136	50.200829	-0.463658	50.20297	-0.529173	0.005043	45.946827	0.002543	
19.360001	1.00993	50.232257	-0.437373	50.234161	-0.498863	0.004941	46.124355	0.002441	
19.379999	1.010385	50.182013	-0.484455	50.184351	-0.553115	0.005166	45.737378	0.002668	
19.4	1.009551	50.208441	-0.428257	50.210267	-0.488698	0.004753	46.460743	0.002259	
19.42	1.010766	50.250814	-0.474585	50.253055	-0.541104	0.005354	45.425842	0.002867	
19.440001	1.009381	50.214935	-0.415596	50.216654	-0.47419	0.004669	46.615922	0.00218	
19.459999	1.009744	50.204743	-0.440582	50.206676	-0.502799	0.004848	46.288131	0.002351	
19.48	1.01044	50.241816	-0.460994	50.243931	-0.525703	0.005193	45.691539	0.002697	
19.5	1.008777	50.128546	-0.418187	50.13029	-0.477968	0.004369	47.191709	0.001909	
19.52	1.009844	50.210139	-0.443575	50.212098	-0.50616	0.004898	46.199639	0.002399	
19.540001	1.009607	50.207486	-0.43179	50.209343	-0.492738	0.004781	46.410394	0.002285	
19.559999	1.009728	50.247008	-0.417653	50.248744	-0.476232	0.00484	46.302573	0.002343	
19.58	1.009795	50.226226	-0.432953	50.228092	-0.493882	0.004874	46.242523	0.002375	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
19.6	1.009125	50.209327	-0.404155	50.210954	-0.461187	0.004542	46.855197	0.002063
19.620001	1.009228	50.248099	-0.387873	50.249596	-0.442268	0.004593	46.758254	0.002109
19.639999	1.009078	50.250467	-0.377428	50.251884	-0.430338	0.004518	46.900317	0.002042
19.66	1.009208	50.208386	-0.409245	50.210053	-0.467005	0.004583	46.777258	0.0021
19.68	1.008559	50.208386	-0.372712	50.209769	-0.425317	0.004261	47.409344	0.001816
19.700001	1.0098	50.256558	-0.416162	50.258281	-0.474442	0.004876	46.238118	0.002378
19.719999	1.008548	50.228239	-0.360341	50.229531	-0.411037	0.004256	47.420621	0.001811
19.74	1.009511	50.251224	-0.402549	50.252837	-0.458973	0.004733	46.496957	0.00224
19.76	1.007916	50.19958	-0.340892	50.200738	-0.389075	0.003942	48.085022	0.001554
19.780001	1.00826	50.187135	-0.367115	50.188477	-0.419108	0.004113	47.717103	0.001692
19.799999	1.008789	50.200538	-0.389841	50.202051	-0.444932	0.004375	47.180129	0.001914
19.82	1.009431	50.252444	-0.397049	50.254012	-0.45269	0.004693	46.57067	0.002203
19.84	1.007844	50.199973	-0.336496	50.2011	-0.384054	0.003906	48.164292	0.001526
19.860001	1.00838	50.245875	-0.33838	50.247014	-0.385853	0.004172	47.592097	0.001741
19.879999	1.007829	50.208751	-0.330274	50.209838	-0.376888	0.003899	48.180959	0.00152
19.9	1.008321	50.237241	-0.340879	50.238398	-0.388768	0.004143	47.653203	0.001717
19.92	1.00835	50.235348	-0.343923	50.236525	-0.392255	0.004158	47.623186	0.001729
19.940001	1.008327	50.220386	-0.352312	50.221622	-0.401942	0.004146	47.646409	0.001719
19.959999	1.007928	50.25362	-0.303907	50.254539	-0.34649	0.003948	48.071839	0.001559
19.98	1.008283	50.22805	-0.344813	50.229233	-0.393327	0.004125	47.692354	0.001701
20	1.007458	50.237499	-0.286815	50.238318	-0.32711	0.003715	48.600848	0.00138
20.02	1.007742	50.188145	-0.33745	50.18928	-0.385234	0.003856	48.276617	0.001487
20.040001	1.008027	50.250501	-0.312781	50.251474	-0.35663	0.003997	47.964789	0.001598
20.059999	1.007137	50.214441	-0.284614	50.215247	-0.324748	0.003556	48.98095	0.001264
20.08	1.008374	50.220769	-0.354811	50.222022	-0.40479	0.00417	47.598027	0.001739
20.1	1.007184	50.23825	-0.268213	50.238966	-0.30589	0.003579	48.924865	0.001281
20.120001	1.007397	50.200191	-0.310225	50.201149	-0.35407	0.003685	48.671949	0.001358
20.139999	1.007674	50.225234	-0.309914	50.226191	-0.353538	0.003823	48.353002	0.001461
20.16	1.006915	50.172776	-0.298812	50.173665	-0.34123	0.003446	49.254468	0.001187
20.18	1.00723	50.225042	-0.282295	50.225836	-0.322034	0.003602	48.868955	0.001297
20.200001	1.007758	50.236409	-0.306785	50.237346	-0.349891	0.003864	48.259459	0.001493
20.219999	1.006419	50.20519	-0.246308	50.205794	-0.281093	0.003199	49.899131	0.001023
20.24	1.006206	50.216435	-0.221955	50.216926	-0.253244	0.003093	50.19119	0.000957
20.26	1.006731	50.216311	-0.257312	50.216971	-0.293585	0.003354	49.488012	0.001125
20.280001	1.006183	50.205732	-0.230311	50.206261	-0.262834	0.003082	50.223805	0.00095
20.299999	1.006281	50.216158	-0.227378	50.216673	-0.259433	0.003131	50.087724	0.00098
20.32	1.006502	50.187622	-0.264941	50.188322	-0.302462	0.00324	49.78808	0.00105
20.34	1.005369	50.168128	-0.208964	50.168564	-0.238652	0.002678	51.445314	0.000717
20.360001	1.005592	50.143697	-0.239384	50.144268	-0.273526	0.002788	51.094152	0.000777
20.379999	1.00603	50.199015	-0.226047	50.199524	-0.258003	0.003006	50.441008	0.000903

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
20.4	1.005784	50.199163	-0.209359	50.199599	-0.238954	0.002884	50.800602	0.000832
20.42	1.006479	50.236368	-0.221112	50.236855	-0.252183	0.003229	49.818549	0.001043
20.440001	1.006563	50.22791	-0.235615	50.228462	-0.268769	0.003271	49.707434	0.00107
20.459999	1.005827	50.202307	-0.209279	50.202744	-0.238848	0.002905	50.737417	0.000844
20.48	1.005839	50.17661	-0.232023	50.177147	-0.264941	0.002911	50.719849	0.000847
20.5	1.005927	50.196716	-0.221268	50.197203	-0.25256	0.002955	50.589241	0.000873
20.52	1.005981	50.200236	-0.221751	50.200726	-0.253093	0.002982	50.510436	0.000889
20.540001	1.006103	50.201745	-0.228515	50.202265	-0.260805	0.003042	50.336431	0.000925
20.559999	1.006157	50.222723	-0.212131	50.223171	-0.242006	0.003069	50.260194	0.000942
20.58	1.005729	50.185554	-0.217869	50.186027	-0.248736	0.002856	50.883424	0.000816
20.6	1.004279	50.15841	-0.143649	50.158616	-0.16409	0.002135	53.411847	0.000456
20.620001	1.005717	50.21015	-0.193488	50.210523	-0.220793	0.002851	50.901303	0.000813
20.639999	1.004322	50.163832	-0.140711	50.16403	-0.160716	0.002156	53.326601	0.000465
20.66	1.004673	50.154619	-0.17493	50.154924	-0.199837	0.002331	52.648866	0.000543
20.68	1.005318	50.198298	-0.176843	50.198609	-0.201846	0.002652	51.529465	0.000703
20.700001	1.003971	50.143928	-0.136641	50.144114	-0.15613	0.001982	54.059068	0.000393
20.719999	1.005118	50.173208	-0.18811	50.17356	-0.214813	0.002553	51.860186	0.000652
20.74	1.004683	50.163231	-0.167637	50.163511	-0.191473	0.002336	52.630595	0.000546
20.76	1.00522	50.185124	-0.183717	50.18546	-0.209747	0.002603	51.689544	0.000678
20.780001	1.003885	50.141503	-0.132919	50.141679	-0.151884	0.001939	54.249978	0.000376
20.799999	1.004151	50.143605	-0.149649	50.143828	-0.170994	0.002071	53.676041	0.000429
20.82	1.005083	50.201286	-0.15495	50.201525	-0.176848	0.002535	51.920161	0.000643
20.84	1.003186	50.137017	-0.081146	50.137082	-0.092733	0.00159	55.970699	0.000253
20.860001	1.00436	50.127373	-0.176688	50.127684	-0.201954	0.002175	53.249399	0.000473
20.879999	1.003768	50.132794	-0.133469	50.132972	-0.152539	0.00188	54.515593	0.000354
20.9	1.004217	50.163038	-0.133576	50.163216	-0.152569	0.002104	53.538003	0.000443
20.92	1.003198	50.141923	-0.073566	50.141977	-0.084062	0.001596	55.937718	0.000255
20.940001	1.003233	50.121923	-0.106071	50.122035	-0.121253	0.001614	55.841454	0.000261
20.959999	1.003271	50.129421	-0.099916	50.12952	-0.1142	0.001633	55.740783	0.000267
20.98	1.004584	50.168217	-0.155493	50.168458	-0.177584	0.002287	52.81507	0.000523
21	1.003047	50.150016	-0.02663	50.150023	-0.030424	0.001521	56.355536	0.000231
21.02	1.00372	50.138704	-0.123787	50.138857	-0.141457	0.001857	54.626061	0.000345
21.040001	1.003321	50.115668	-0.119051	50.115809	-0.136107	0.001658	55.608503	0.000275
21.059999	1.002808	50.067314	-0.123067	50.067465	-0.140835	0.001402	57.066317	0.000197
21.08	1.002552	50.094429	-0.08574	50.094502	-0.098066	0.001274	57.894808	0.000162
21.1	1.002898	50.089043	-0.114226	50.089173	-0.130661	0.001447	56.790449	0.000209
21.120001	1.003418	50.111637	-0.129271	50.111804	-0.147804	0.001706	55.359771	0.000291
21.139999	1.002254	50.062132	-0.093937	50.06222	-0.10751	0.001126	58.972668	0.000127
21.16	1.002026	50.081218	-0.06052	50.081255	-0.069238	0.001012	59.895998	0.000102
21.18	1.002538	50.079081	-0.099176	50.079179	-0.113468	0.001267	57.94139	0.000161

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	1.002822	50.059881	-0.127654	50.060044	-0.146106	0.001409	57.020769	0.000199	
21.219999	1.002291	50.033747	-0.109359	50.033866	-0.125232	0.001144	58.830799	0.000131	
21.24	1.002118	50.076097	-0.073621	50.076152	-0.084236	0.001058	59.510205	0.000112	
21.26	1.001861	50.079343	-0.048621	50.079367	-0.055628	0.00093	60.632029	0.000086	
21.280001	1.002463	50.101309	-0.069972	50.101358	-0.08002	0.00123	58.201919	0.000151	
21.299999	1.001735	50.077309	-0.039339	50.077324	-0.045009	0.000867	61.242129	0.000075	
21.32	1.001106	50.052142	-0.018342	50.052146	-0.020996	0.000552	65.154073	0.000031	
21.34	1.002265	50.041427	-0.10529	50.041538	-0.120554	0.001131	58.930739	0.000128	
21.360001	1.001405	50.036498	-0.060003	50.036534	-0.068708	0.000702	63.072571	0.000049	
21.379999	1.001805	50.061656	-0.065855	50.0617	-0.075372	0.000902	60.89993	0.000081	
21.4	1.000908	50.041203	-0.019117	50.041207	-0.021888	0.000454	66.858284	0.000021	
21.42	1.001071	50.051325	-0.015236	50.051328	-0.017441	0.000535	65.431079	0.000029	
21.440001	1.001661	50.0459	-0.069175	50.045948	-0.079196	0.00083	61.620574	0.000069	
21.459999	1.000616	50.009867	-0.029151	50.009876	-0.033398	0.000308	70.236812	0.000009	
21.48	1.000509	50.025306	-0.002722	50.025306	-0.003118	0.000254	71.887926	0.000006	
21.5	1.00117	50.0289	-0.050826	50.028926	-0.058208	0.000585	64.664184	0.000034	
21.52	1.000608	50.030007	0.004775	50.030007	0.005468	0.000304	70.349503	0.000009	
21.540001	1.00068	50.021302	-0.026482	50.021309	-0.030334	0.00034	69.375615	0.000012	
21.559999	1.000313	50.013482	0.007954	50.013483	0.009112	0.000157	76.108812	0.000002	
21.58	1.00043	49.983445	0.013711	49.983447	0.015717	0.000215	73.351749	0.000005	
21.6	1.000339	49.987	-0.010892	49.987001	-0.012484	0.00017	75.410549	0.000003	
21.620001	1.000314	49.985584	0.006146	49.985585	0.007044	0.000157	76.096783	0.000002	
21.639999	1.000993	49.956528	-0.023909	49.956533	-0.027422	0.000496	66.084236	0.000025	
21.66	1.000449	49.978047	-0.004712	49.978047	-0.005402	0.000225	72.972686	0.000005	
21.68	1.000761	49.968922	-0.021874	49.968927	-0.025081	0.00038	68.400673	0.000014	
21.700001	1.001754	49.917147	-0.028297	49.917155	-0.032479	0.000876	61.147509	0.000077	
21.719999	1.00257	49.917159	-0.097876	49.917255	-0.112344	0.001283	57.833129	0.000165	
21.74	1.00061	49.975544	-0.018176	49.975548	-0.020839	0.000305	70.320253	0.000009	
21.76	1.001612	49.921296	-0.016889	49.921299	-0.019384	0.000806	61.877681	0.000065	
21.780001	1.001586	49.953819	-0.064319	49.95386	-0.073772	0.000792	62.023593	0.000063	
21.799999	1.000816	49.970876	0.028536	49.970884	0.032719	0.000408	67.789782	0.000017	
21.82	1.001777	49.937989	-0.063414	49.93803	-0.072758	0.000887	61.036686	0.000079	
21.84	1.002328	49.890018	0.037376	49.890032	0.042924	0.001163	58.689358	0.000135	
21.860001	1.001855	49.907881	-0.009064	49.907881	-0.010406	0.000926	60.663134	0.000086	
21.879999	1.001645	49.928939	0.041212	49.928956	0.047292	0.000822	61.702019	0.000068	
21.9	1.002198	49.892765	0.023058	49.89277	0.02648	0.001098	59.187636	0.000121	
21.92	1.001005	49.949796	0.000014	49.949796	0.000016	0.000502	65.98086	0.000025	
21.940001	1.00205	49.899392	-0.018554	49.899396	-0.021305	0.001024	59.793391	0.000105	
21.959999	1.002086	49.896071	-0.006069	49.896071	-0.006969	0.001042	59.64145	0.000109	
21.98	1.002358	49.884589	0.022811	49.884594	0.0262	0.001178	58.578601	0.000139	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
22	1.002195	49.900661	-0.046081	49.900682	-0.052911	0.001096	59.202556	0.00012
22.02	1.002388	49.881561	0.012526	49.881563	0.014388	0.001192	58.471533	0.000142
22.040001	1.002834	49.858999	0.008949	49.859	0.010284	0.001415	56.985824	0.0002
22.059999	1.002992	49.850934	-0.005132	49.850934	-0.005899	0.001494	56.514305	0.000223
22.08	1.002658	49.868031	-0.012312	49.868033	-0.014146	0.001327	57.541456	0.000176
22.1	1.003014	49.86251	0.060633	49.862547	0.069672	0.001505	56.450835	0.000226
22.120001	1.003225	49.840025	0.015598	49.840028	0.017931	0.00161	55.863973	0.000259
22.139999	1.003131	49.845264	0.020377	49.845269	0.023423	0.001563	56.120079	0.000244
22.16	1.002486	49.878112	0.022664	49.878117	0.026034	0.001241	58.122584	0.000154
22.18	1.002517	49.876416	-0.02211	49.876421	-0.025399	0.001257	58.013214	0.000158
22.200001	1.002936	49.856264	0.027592	49.856272	0.031709	0.001466	56.679055	0.000215
22.219999	1.004065	49.79921	-0.025859	49.799217	-0.029752	0.002029	53.856278	0.000412
22.24	1.003515	49.82832	-0.034656	49.828332	-0.039849	0.001754	55.117243	0.000308
22.26	1.004	49.800802	0.002879	49.800802	0.003312	0.001996	53.99606	0.000398
22.280001	1.003063	49.848978	0.022399	49.848983	0.025746	0.001529	56.311572	0.000234
22.299999	1.004143	49.797586	0.039896	49.797602	0.045904	0.002067	53.692078	0.000427
22.32	1.003411	49.83165	-0.023366	49.831656	-0.026866	0.001703	55.378241	0.00029
22.34	1.003953	49.804835	-0.025868	49.804842	-0.029758	0.001973	54.099366	0.000389
22.360001	1.004363	49.782907	0.007165	49.782907	0.008246	0.002177	53.243462	0.000474
22.379999	1.00367	49.817235	0.004592	49.817236	0.005281	0.001832	54.743532	0.000335
22.4	1.004111	49.797558	-0.030481	49.797568	-0.03507	0.002051	53.759043	0.000421
22.42	1.004347	49.78361	0.000887	49.78361	0.001021	0.002169	53.276366	0.00047
22.440001	1.004389	49.78221	-0.017284	49.782213	-0.019892	0.00219	53.193042	0.000479
22.459999	1.005027	49.750512	-0.01754	49.750515	-0.0202	0.002507	52.0159	0.000629
22.48	1.004423	49.7816	0.027943	49.781608	0.032161	0.002207	53.125456	0.000487
22.5	1.004636	49.769946	-0.017449	49.76995	-0.020088	0.002312	52.718504	0.000535
22.52	1.004852	49.759985	-0.026301	49.759992	-0.030284	0.00242	52.322514	0.000586
22.540001	1.004959	49.75325	0.000419	49.75325	0.000483	0.002474	52.133375	0.000612
22.559999	1.005107	49.748058	-0.032559	49.748069	-0.037499	0.002547	51.88014	0.000649
22.58	1.005145	49.744694	-0.017791	49.744697	-0.020492	0.002566	51.815545	0.000658
22.6	1.004468	49.780349	-0.034896	49.780361	-0.040164	0.002229	53.037985	0.000497
22.620001	1.005182	49.743597	-0.026725	49.743604	-0.030782	0.002585	51.752321	0.000668
22.639999	1.005661	49.722619	-0.047812	49.722642	-0.055094	0.002823	50.987201	0.000797
22.66	1.006105	49.698465	-0.033431	49.698477	-0.038542	0.003043	50.333964	0.000926
22.68	1.005299	49.739871	-0.042412	49.73989	-0.048855	0.002643	51.559676	0.000698
22.700001	1.006418	49.687189	-0.062006	49.687228	-0.071501	0.003199	49.899776	0.001023
22.719999	1.006274	49.694665	-0.062937	49.694705	-0.072564	0.003127	50.097193	0.000978
22.74	1.006333	49.685745	-0.016185	49.685747	-0.018664	0.003157	50.015499	0.000996
22.76	1.005859	49.709551	-0.021233	49.709556	-0.024474	0.002921	50.69019	0.000853
22.780001	1.007095	49.65649	-0.078158	49.656551	-0.090182	0.003535	49.032114	0.00125

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
22.799999	1.00656	49.674912	-0.022833	49.674917	-0.026336	0.00327	49.710331	0.001069
22.82	1.00643	49.680567	-0.001302	49.680567	-0.001501	0.003205	49.884544	0.001027
22.84	1.006571	49.675706	-0.036912	49.67572	-0.042574	0.003274	49.697103	0.001072
22.860001	1.006683	49.674964	-0.067374	49.675009	-0.07771	0.00333	49.550387	0.001109
22.879999	1.006959	49.666398	-0.09017	49.66648	-0.104022	0.003467	49.200185	0.001202
22.9	1.007791	49.613628	0.010794	49.613629	0.012466	0.00388	48.222869	0.001506
22.92	1.007399	49.633354	0.020386	49.633358	0.023533	0.003686	48.669742	0.001358
22.940001	1.006512	49.679591	-0.044803	49.679612	-0.051671	0.003246	49.773944	0.001053
22.959999	1.007508	49.630234	-0.045806	49.630255	-0.052881	0.00374	48.543145	0.001399
22.98	1.006983	49.660628	-0.071207	49.660679	-0.082155	0.003479	49.169848	0.001211
23	1.008374	49.591634	-0.07521	49.591691	-0.086894	0.004169	47.598593	0.001738
23.02	1.007571	49.63019	-0.066508	49.630235	-0.076781	0.003771	48.470014	0.001422
23.040001	1.008252	49.59118	-0.01803	49.591184	-0.020831	0.004109	47.725346	0.001688
23.059999	1.008276	49.597772	-0.081587	49.597839	-0.09425	0.004121	47.700438	0.001698
23.08	1.007638	49.622044	-0.027998	49.622052	-0.032328	0.003804	48.394515	0.001447
23.1	1.007827	49.616717	-0.062261	49.616756	-0.071897	0.003898	48.183144	0.001519
23.120001	1.00876	49.568736	-0.050567	49.568762	-0.05845	0.004361	47.208292	0.001902
23.139999	1.008767	49.577663	-0.102403	49.577769	-0.118344	0.004364	47.201966	0.001905
23.16	1.007435	49.640897	-0.085041	49.64097	-0.098155	0.003704	48.627402	0.001372
23.18	1.008268	49.604471	-0.10816	49.604589	-0.12493	0.004117	47.708835	0.001695
23.200001	1.009201	49.557251	-0.108853	49.55737	-0.125851	0.00458	46.783421	0.002097
23.219999	1.008716	49.57593	-0.082695	49.575999	-0.095573	0.004339	47.252257	0.001883
23.24	1.009132	49.552611	-0.067597	49.552657	-0.07816	0.004545	46.849319	0.002066
23.26	1.008803	49.564559	-0.027506	49.564567	-0.031796	0.004382	47.166223	0.00192
23.280001	1.009529	49.532485	-0.064741	49.532527	-0.074888	0.004742	46.480895	0.002249
23.299999	1.008975	49.575547	-0.133098	49.575726	-0.153825	0.004467	46.999142	0.001996
23.32	1.010124	49.504032	-0.072035	49.504084	-0.083373	0.005037	45.957078	0.002537
23.34	1.00942	49.543284	-0.09581	49.543376	-0.110802	0.004688	46.580277	0.002198
23.360001	1.009214	49.549965	-0.076718	49.550025	-0.088711	0.004586	46.771495	0.002103
23.379999	1.008808	49.580337	-0.120599	49.580484	-0.139366	0.004385	47.160858	0.001923
23.4	1.009804	49.519167	-0.06698	49.519213	-0.077499	0.004878	46.234795	0.00238
23.42	1.00963	49.531322	-0.088458	49.531401	-0.102325	0.004792	46.389692	0.002296
23.440001	1.010707	49.48571	-0.127121	49.485873	-0.147184	0.005325	45.473511	0.002836
23.459999	1.009902	49.524886	-0.121252	49.525034	-0.140277	0.004927	46.148655	0.002427
23.48	1.010764	49.484323	-0.132983	49.484502	-0.153975	0.005353	45.427933	0.002866
23.5	1.010949	49.467259	-0.097337	49.467354	-0.112741	0.005445	45.280665	0.002964
23.52	1.009996	49.523181	-0.132624	49.523358	-0.153439	0.004973	46.067792	0.002473
23.540001	1.010392	49.501356	-0.126171	49.501517	-0.146038	0.005169	45.731271	0.002672
23.559999	1.010788	49.476909	-0.105951	49.477023	-0.122695	0.005365	45.408292	0.002879
23.58	1.010477	49.497364	-0.127347	49.497528	-0.14741	0.005211	45.660978	0.002716

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
23.6	1.01077	49.476853	-0.100975	49.476956	-0.116933	0.005356	45.423119	0.002869
23.620001	1.011426	49.465055	-0.181934	49.465389	-0.210735	0.005681	44.911888	0.003227
23.639999	1.010637	49.501497	-0.169041	49.501786	-0.195656	0.00529	45.530558	0.002799
23.66	1.011375	49.460868	-0.160425	49.461128	-0.185837	0.005655	44.950697	0.003198
23.68	1.01126	49.465037	-0.154573	49.465278	-0.179043	0.005598	45.038704	0.003134
23.700001	1.011784	49.447648	-0.185069	49.447994	-0.214442	0.005858	44.645508	0.003431
23.719999	1.011715	49.447707	-0.174287	49.448014	-0.201948	0.005824	44.696238	0.003391
23.74	1.01028	49.535254	-0.207574	49.535689	-0.240093	0.005114	45.825284	0.002615
23.76	1.011264	49.468478	-0.166755	49.468759	-0.19314	0.0056	45.035588	0.003136
23.780001	1.011986	49.440372	-0.194297	49.440754	-0.225167	0.005957	44.499013	0.003549
23.799999	1.011848	49.433375	-0.149212	49.433975	-0.172943	0.005889	44.598967	0.003468
23.82	1.012657	49.408673	-0.202841	49.409089	-0.235219	0.006289	44.028819	0.003955
23.84	1.0119	49.443485	-0.190483	49.443852	-0.220734	0.005915	44.560868	0.003499
23.860001	1.011362	49.480175	-0.213537	49.480636	-0.247265	0.005649	44.960404	0.003191
23.879999	1.012931	49.410097	-0.24457	49.410702	-0.283601	0.006424	43.844161	0.004127
23.9	1.012172	49.427709	-0.185095	49.428055	-0.214558	0.006049	44.36575	0.00366
23.92	1.011986	49.44795	-0.215016	49.448417	-0.249139	0.005957	44.498976	0.003549
23.940001	1.012248	49.429088	-0.200811	49.429496	-0.232769	0.006087	44.312325	0.003705
23.959999	1.012804	49.400506	-0.201111	49.400915	-0.233253	0.006361	43.928938	0.004047
23.98	1.013209	49.388297	-0.225982	49.388814	-0.262162	0.006561	43.660301	0.004305
24	1.01279	49.412647	-0.232589	49.413195	-0.269695	0.006355	43.938244	0.004038
24.02	1.013334	49.402868	-0.277244	49.403646	-0.321535	0.006623	43.57882	0.004386
24.040001	1.012867	49.405723	-0.224954	49.406235	-0.260878	0.006392	43.886911	0.004086
24.059999	1.012405	49.430828	-0.227442	49.431351	-0.263629	0.006164	44.202182	0.0038
24.08	1.013057	49.396167	-0.225898	49.396683	-0.262023	0.006486	43.76019	0.004207
24.1	1.014424	49.343585	-0.274029	49.344346	-0.318189	0.00716	42.901559	0.005127
24.120001	1.013644	49.369879	-0.237197	49.370449	-0.275275	0.006776	43.381126	0.004591
24.139999	1.013466	49.397342	-0.280536	49.398139	-0.325389	0.006688	43.49432	0.004473
24.16	1.014266	49.352974	-0.276651	49.35375	-0.321172	0.007083	42.996039	0.005016
24.18	1.014474	49.333684	-0.255721	49.334346	-0.29699	0.007185	42.87162	0.005162
24.200001	1.013384	49.399012	-0.274639	49.399775	-0.31854	0.006648	43.546702	0.004419
24.219999	1.013926	49.373602	-0.282558	49.37441	-0.327892	0.006915	43.204066	0.004782
24.24	1.015056	49.314016	-0.282984	49.314828	-0.328784	0.007472	42.531457	0.005583
24.26	1.014649	49.349905	-0.315051	49.350911	-0.365774	0.007271	42.767679	0.005287
24.280001	1.014279	49.374887	-0.324781	49.375955	-0.376879	0.007089	42.988579	0.005025
24.299999	1.01315	49.415871	-0.283779	49.416686	-0.329028	0.006532	43.698733	0.004267
24.32	1.013226	49.430176	-0.319377	49.431208	-0.370194	0.00657	43.649172	0.004316
24.34	1.015687	49.308701	-0.345615	49.309913	-0.401593	0.007783	42.177556	0.006057
24.360001	1.01452	49.370548	-0.341719	49.371731	-0.396568	0.007208	42.844187	0.005195
24.379999	1.015211	49.337125	-0.350443	49.33837	-0.406967	0.007548	42.443277	0.005697



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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
24.4	1.014586	49.359384	-0.327313	49.360469	-0.379936	0.00724	42.80493	0.005242
24.42	1.015413	49.335976	-0.369046	49.337356	-0.42858	0.007648	42.32951	0.005849
24.440001	1.01485	49.341759	-0.320666	49.342801	-0.372354	0.00737	42.650163	0.005432
24.459999	1.014787	49.36532	-0.359236	49.366627	-0.41694	0.007339	42.686704	0.005387
24.48	1.013899	49.408586	-0.347795	49.40981	-0.403309	0.006902	43.220791	0.004763
24.5	1.01427	49.388531	-0.349159	49.389765	-0.405054	0.007085	42.993657	0.005019
24.52	1.015731	49.331774	-0.392974	49.333339	-0.456406	0.007804	42.153412	0.006091
24.540001	1.015446	49.327725	-0.357105	49.329017	-0.414783	0.007664	42.311095	0.005873
24.559999	1.015477	49.368432	-0.428199	49.370289	-0.496946	0.007679	42.294081	0.005896
24.58	1.015451	49.38493	-0.449648	49.386977	-0.521662	0.007666	42.308524	0.005877
24.6	1.015096	49.365627	-0.389479	49.367164	-0.452037	0.007491	42.508727	0.005612
24.620001	1.016148	49.310927	-0.397299	49.312527	-0.461624	0.008009	41.92825	0.006415
24.639999	1.01487	49.382116	-0.395172	49.383697	-0.458491	0.00738	42.638875	0.005446
24.66	1.016185	49.326428	-0.426684	49.328273	-0.495609	0.008027	41.908456	0.006444
24.68	1.015225	49.378267	-0.420885	49.380061	-0.488361	0.007555	42.435457	0.005708
24.700001	1.016014	49.338346	-0.429997	49.34022	-0.499337	0.007944	41.999748	0.00631
24.719999	1.015969	49.327375	-0.408194	49.329064	-0.474124	0.007921	42.024217	0.006274
24.74	1.016302	49.33337	-0.447934	49.335404	-0.520217	0.008085	41.846125	0.006537
24.76	1.015937	49.322595	-0.397082	49.324193	-0.461263	0.007906	42.041329	0.00625
24.780001	1.016492	49.307376	-0.424218	49.309201	-0.492936	0.008179	41.746317	0.006689
24.799999	1.016206	49.321793	-0.421151	49.323591	-0.489228	0.008038	41.897307	0.006461
24.82	1.016214	49.330069	-0.435064	49.331987	-0.505305	0.008042	41.892886	0.006467
24.84	1.016386	49.309219	-0.417318	49.310984	-0.4849	0.008127	41.801835	0.006604
24.860001	1.016756	49.325901	-0.476091	49.328198	-0.553	0.008309	41.609415	0.006903
24.879999	1.016166	49.369071	-0.486609	49.371469	-0.564722	0.008018	41.918348	0.006429
24.9	1.017004	49.341199	-0.517079	49.343908	-0.600419	0.00843	41.483115	0.007107
24.92	1.01522	49.38061	-0.423913	49.38243	-0.49185	0.007552	42.438363	0.005704
24.940001	1.016789	49.339439	-0.497538	49.341948	-0.577751	0.008325	41.592716	0.00693
24.959999	1.016548	49.319265	-0.448189	49.321301	-0.520663	0.008206	41.717286	0.006734
24.98	1.01787	49.279515	-0.50394	49.282091	-0.585896	0.008856	41.055202	0.007843
25	1.017311	49.30693	-0.495872	49.309423	-0.576197	0.008581	41.328922	0.007364
25.02	1.016662	49.353113	-0.505323	49.3557	-0.586628	0.008262	41.658339	0.006826
25.040001	1.017014	49.321885	-0.49201	49.324339	-0.571536	0.008435	41.478171	0.007115
25.059999	1.017029	49.332041	-0.507111	49.334647	-0.588955	0.008443	41.470302	0.007128
25.08	1.017552	49.300715	-0.50729	49.303325	-0.589537	0.0087	41.209776	0.007569
25.1	1.018118	49.30175	-0.554283	49.304866	-0.644131	0.008978	40.936791	0.00806
25.120001	1.017796	49.313364	-0.543814	49.316363	-0.631818	0.008819	41.091183	0.007778
25.139999	1.017494	49.355782	-0.572036	49.359096	-0.664033	0.008671	41.238547	0.007519
25.16	1.017213	49.358803	-0.554699	49.36192	-0.64387	0.008533	41.378036	0.007281
25.18	1.017894	49.32175	-0.561929	49.324951	-0.652751	0.008868	41.043598	0.007864

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
25.200001	1.018234	49.301338	-0.562807	49.304551	-0.654041	0.009034	40.881932	0.008162
25.219999	1.018104	49.325908	-0.582726	49.32935	-0.67685	0.008971	40.943363	0.008048
25.24	1.018208	49.335169	-0.600957	49.338829	-0.697893	0.009022	40.894254	0.008139
25.26	1.019113	49.268827	-0.590293	49.272363	-0.686433	0.009466	40.476514	0.008961
25.280001	1.018653	49.32021	-0.616593	49.324065	-0.716266	0.00924	40.686249	0.008538
25.299999	1.019252	49.261569	-0.59195	49.265125	-0.688461	0.009534	40.414223	0.00909
25.32	1.019976	49.252514	-0.636202	49.256623	-0.740058	0.009889	40.096548	0.00978
25.34	1.018061	49.346587	-0.603024	49.350271	-0.700131	0.00895	40.963726	0.00801
25.360001	1.01891	49.297074	-0.609023	49.300836	-0.707806	0.009366	40.568661	0.008773
25.379999	1.018402	49.32324	-0.601713	49.326911	-0.69894	0.009117	40.802708	0.008312
25.4	1.018506	49.337588	-0.625088	49.341548	-0.725878	0.009168	40.754152	0.008406
25.42	1.018752	49.318442	-0.621816	49.322362	-0.722359	0.009289	40.640571	0.008629
25.440001	1.01838	49.356016	-0.635564	49.360108	-0.737766	0.009106	40.813045	0.008293
25.459999	1.018074	49.348702	-0.60625	49.352426	-0.703846	0.008956	40.957647	0.008021
25.48	1.018608	49.304617	-0.595378	49.308212	-0.691843	0.009218	40.70694	0.008498
25.5	1.018582	49.378345	-0.671201	49.382907	-0.778776	0.009206	40.718961	0.008474
25.52	1.01873	49.34903	-0.652652	49.353346	-0.757707	0.009278	40.65072	0.008609
25.540001	1.019307	49.376809	-0.717254	49.382018	-0.832229	0.009561	40.389913	0.009141
25.559999	1.019196	49.360907	-0.695577	49.365808	-0.80734	0.009507	40.439575	0.009037
25.58	1.018899	49.3655	-0.680212	49.370186	-0.789435	0.009361	40.573358	0.008763
25.6	1.019408	49.378593	-0.725313	49.38392	-0.841547	0.009611	40.345069	0.009236
25.620001	1.01957	49.344301	-0.704859	49.349335	-0.818387	0.00969	40.273371	0.00939
25.639999	1.019621	49.358766	-0.721538	49.36404	-0.837505	0.009715	40.251136	0.009438
25.66	1.020129	49.309588	-0.708932	49.314684	-0.823695	0.009964	40.031092	0.009929
25.68	1.019704	49.311295	-0.681506	49.316004	-0.791807	0.009756	40.214608	0.009518
25.700001	1.019224	49.342715	-0.680135	49.347403	-0.789711	0.009521	40.426602	0.009064
25.719999	1.020495	49.325457	-0.748394	49.331134	-0.869259	0.010143	39.876361	0.010289
25.74	1.018926	49.38414	-0.699124	49.389088	-0.811075	0.009374	40.561067	0.008788
25.76	1.019749	49.352904	-0.724587	49.358223	-0.841143	0.009778	40.195232	0.00956
25.780001	1.018553	49.425559	-0.710781	49.430669	-0.823907	0.009191	40.732314	0.008448
25.799999	1.019641	49.375123	-0.737258	49.380627	-0.855465	0.009725	40.242227	0.009458
25.82	1.019758	49.353545	-0.725787	49.358882	-0.842526	0.009782	40.191093	0.00957
25.84	1.019764	49.349828	-0.722829	49.355121	-0.839155	0.009786	40.188308	0.009576
25.860001	1.020166	49.376942	-0.772	49.382977	-0.895738	0.009983	40.015211	0.009965
25.879999	1.019806	49.382791	-0.754212	49.38855	-0.874999	0.009806	40.17023	0.009616
25.9	1.019732	49.400195	-0.763747	49.406098	-0.885747	0.00977	40.202534	0.009544
25.92	1.020512	49.377142	-0.793705	49.383521	-0.920915	0.010152	39.868869	0.010307
25.940001	1.020138	49.399013	-0.787843	49.405296	-0.913709	0.009969	40.027326	0.009937
25.959999	1.020355	49.401986	-0.803367	49.408517	-0.931654	0.010075	39.935089	0.010151
25.98	1.02119	49.354976	-0.817912	49.361752	-0.949422	0.010484	39.589643	0.010991

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	1.020188	49.413963	-0.802218	49.420474	-0.930096	0.009993	40.00609	0.009986	
26.02	1.021482	49.317645	-0.805242	49.324219	-0.935425	0.010627	39.471874	0.011293	
26.040001	1.020179	49.402621	-0.793127	49.408987	-0.919769	0.009989	40.009853	0.009977	
26.059999	1.020993	49.409745	-0.847339	49.41701	-0.982484	0.010388	39.669754	0.01079	
26.08	1.019618	49.434161	-0.782797	49.440359	-0.907213	0.009714	40.25242	0.009435	
26.1	1.020069	49.41918	-0.798927	49.425637	-0.926184	0.009935	40.056801	0.00987	
26.120001	1.019945	49.434617	-0.802746	49.441134	-0.930319	0.009874	40.110001	0.00975	
26.139999	1.020462	49.433211	-0.832397	49.440219	-0.964704	0.010127	39.889978	0.010257	
26.16	1.020785	49.374992	-0.808836	49.381616	-0.938508	0.010286	39.755289	0.01058	
26.18	1.020498	49.413844	-0.820768	49.420661	-0.951602	0.010145	39.875002	0.010292	
26.200001	1.020527	49.43335	-0.836303	49.440424	-0.969227	0.010159	39.862841	0.010321	
26.219999	1.021009	49.397198	-0.839248	49.404327	-0.973352	0.010395	39.663266	0.010806	
26.24	1.021346	49.431812	-0.883091	49.439699	-1.023472	0.01056	39.526327	0.011152	
26.26	1.019443	49.470369	-0.797927	49.476803	-0.924067	0.009628	40.329531	0.009269	
26.280001	1.02041	49.445218	-0.837529	49.452311	-0.970415	0.010102	39.91205	0.010205	
26.299999	1.020506	49.410017	-0.818452	49.416795	-0.948991	0.010149	39.871656	0.0103	
26.32	1.020283	49.410946	-0.805749	49.417515	-0.934246	0.01004	39.965437	0.01008	
26.34	1.020613	49.458443	-0.858064	49.465886	-0.993937	0.010202	39.826651	0.010407	
26.360001	1.020628	49.41215	-0.82735	49.419076	-0.959264	0.010209	39.820403	0.010422	
26.379999	1.021204	49.445921	-0.883997	49.453823	-1.02423	0.010491	39.583981	0.011005	
26.4	1.021598	49.403258	-0.878539	49.411069	-1.018786	0.010684	39.425524	0.011414	
26.42	1.020635	49.4472	-0.851981	49.45454	-0.987116	0.010212	39.817653	0.010429	
26.440001	1.021471	49.431501	-0.890099	49.439514	-1.031599	0.010622	39.476256	0.011282	
26.459999	1.020583	49.465592	-0.860847	49.473082	-0.997016	0.010186	39.839561	0.010376	
26.48	1.020453	49.447105	-0.841312	49.454261	-0.97476	0.010123	39.893921	0.010247	
26.5	1.021079	49.442279	-0.874482	49.450011	-1.013282	0.01043	39.634559	0.010878	
26.52	1.021273	49.462718	-0.898447	49.470877	-1.040615	0.010525	39.555936	0.011077	
26.540001	1.021721	49.447369	-0.914462	49.455824	-1.059489	0.010744	39.376931	0.011543	
26.559999	1.020901	49.492258	-0.895021	49.500351	-1.036029	0.010342	39.707734	0.010696	
26.58	1.021755	49.501094	-0.947396	49.510159	-1.096445	0.010761	39.363339	0.011579	
26.6	1.021422	49.482508	-0.91858	49.491034	-1.063503	0.010598	39.49587	0.011231	
26.620001	1.020718	49.514435	-0.897407	49.522567	-1.038326	0.010253	39.783096	0.010512	
26.639999	1.021591	49.471036	-0.921394	49.479616	-1.067008	0.01068	39.428251	0.011407	
26.66	1.021487	49.534627	-0.950174	49.543739	-1.098915	0.010629	39.470018	0.011298	
26.68	1.02144	49.495167	-0.926763	49.503842	-1.072701	0.010607	39.488554	0.01125	
26.700001	1.02238	49.514466	-0.988504	49.524332	-1.1437	0.011066	39.119962	0.012246	
26.719999	1.021093	49.502918	-0.911812	49.511315	-1.055234	0.010436	39.628914	0.010892	
26.74	1.021176	49.498843	-0.914116	49.507283	-1.057987	0.010477	39.595364	0.010976	
26.76	1.021108	49.524329	-0.924237	49.532953	-1.069147	0.010444	39.622809	0.010907	
26.780001	1.021241	49.501636	-0.919293	49.510171	-1.063917	0.010509	39.568924	0.011044	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
26.799999	1.021888	49.49977	-0.954018	49.508962	-1.104137	0.010826	39.310834	0.01172
26.82	1.021898	49.522252	-0.966242	49.531678	-1.117773	0.01083	39.307255	0.011729
26.84	1.020194	49.55294	-0.889115	49.560916	-1.027934	0.009996	40.003376	0.009992
26.860001	1.022484	49.525481	-0.999545	49.535567	-1.156214	0.011117	39.080393	0.012358
26.879999	1.020528	49.541925	-0.901684	49.55013	-1.042694	0.01016	39.862286	0.010322
26.9	1.022686	49.552854	-1.023177	49.563416	-1.182888	0.011216	39.003458	0.012579
26.92	1.021719	49.543007	-0.966878	49.552441	-1.118041	0.010743	39.37752	0.011541
26.940001	1.021515	49.557738	-0.96293	49.567092	-1.113145	0.010643	39.458768	0.011327
26.959999	1.021633	49.589174	-0.983365	49.598923	-1.136042	0.010701	39.411704	0.011451
26.98	1.020562	49.5431	-0.904125	49.551349	-1.045491	0.010176	39.848265	0.010356
27	1.021607	49.572051	-0.974435	49.581627	-1.126117	0.010688	39.422153	0.011423
27.02	1.02133	49.596278	-0.970413	49.605771	-1.120923	0.010553	39.532857	0.011136
27.040001	1.021677	49.611086	-0.994792	49.621058	-1.148732	0.010722	39.394243	0.011497
27.059999	1.021764	49.567962	-0.98096	49.577668	-1.133749	0.010765	39.359844	0.011588
27.08	1.021078	49.61171	-0.963623	49.621067	-1.112735	0.010429	39.635038	0.010877
27.1	1.021245	49.562002	-0.950468	49.571115	-1.098649	0.010511	39.567207	0.011048
27.120001	1.022948	49.543128	-1.032713	49.55389	-1.194144	0.011344	38.904816	0.012868
27.139999	1.021528	49.611858	-0.987318	49.621682	-1.140086	0.01065	39.453384	0.011341
27.16	1.022549	49.609029	-1.039487	49.619918	-1.200379	0.011149	39.055434	0.01243
27.18	1.021493	49.56607	-0.965638	49.575475	-1.116087	0.010632	39.467543	0.011304
27.200001	1.021603	49.595009	-0.984292	49.604775	-1.136978	0.010686	39.42346	0.01142
27.219999	1.021449	49.658002	-1.000665	49.668083	-1.154421	0.010611	39.485125	0.011259
27.24	1.021414	49.645082	-0.994224	49.655036	-1.14729	0.010594	39.49895	0.011223
27.26	1.021955	49.641408	-1.020824	49.651903	-1.178064	0.010858	39.284909	0.01179
27.280001	1.021267	49.641282	-0.985181	49.651057	-1.136944	0.010522	39.558209	0.011071
27.299999	1.022219	49.621127	-1.026995	49.631753	-1.185668	0.010988	39.18197	0.012073
27.32	1.021682	49.663335	-1.014532	49.673696	-1.170289	0.010725	39.392143	0.011502
27.34	1.021162	49.665782	-0.988621	49.67562	-1.140351	0.01047	39.600775	0.010963
27.360001	1.021851	49.627103	-1.010114	49.637382	-1.166043	0.010807	39.325731	0.01168
27.379999	1.021566	49.629862	-0.996367	49.639862	-1.150115	0.010668	39.438405	0.01138
27.4	1.021731	49.707948	-1.031221	49.718643	-1.188467	0.010749	39.372952	0.011553
27.42	1.02136	49.653233	-0.994365	49.663189	-1.147265	0.010567	39.520909	0.011166
27.440001	1.021957	49.624663	-1.014731	49.635036	-1.17143	0.010859	39.283863	0.011793
27.459999	1.021722	49.679935	-1.022089	49.690448	-1.178609	0.010744	39.376572	0.011544
27.48	1.021285	49.685002	-1.001418	49.695093	-1.154662	0.010531	39.550974	0.011089
27.5	1.021616	49.648502	-1.005875	49.65869	-1.160652	0.010692	39.418614	0.011432
27.52	1.021744	49.655854	-1.015101	49.666228	-1.171121	0.010755	39.367809	0.011567
27.540001	1.021594	49.701769	-1.022413	49.712284	-1.178465	0.010682	39.427352	0.011409
27.559999	1.022171	49.707096	-1.05329	49.718254	-1.213915	0.010964	39.200551	0.012021
27.58	1.021572	49.713238	-1.024723	49.723798	-1.180854	0.010671	39.435941	0.011387

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
27.6	1.021627	49.681379	-1.017732	49.691802	-1.173552	0.010698	39.413993	0.011445
27.620001	1.020956	49.702509	-0.990163	49.712371	-1.141285	0.010369	39.685087	0.010752
27.639999	1.021536	49.676261	-1.011377	49.686556	-1.166346	0.010653	39.450384	0.011349
27.66	1.020203	49.76289	-0.969163	49.772326	-1.115732	0.010001	39.999383	0.010001
27.68	1.020813	49.749251	-0.996336	49.759227	-1.14732	0.010299	39.743795	0.010608
27.700001	1.021272	49.690599	-1.002528	49.700711	-1.155811	0.010524	39.556471	0.011075
27.719999	1.021062	49.756357	-1.010699	49.766621	-1.163689	0.010421	39.641504	0.01086
27.74	1.021938	49.688944	-1.035975	49.699743	-1.1944	0.01085	39.291552	0.011772
27.76	1.021441	49.760788	-1.030831	49.771464	-1.186756	0.010607	39.488124	0.011251
27.780001	1.020697	49.718215	-0.981751	49.727907	-1.131235	0.010242	39.792078	0.01049
27.799999	1.020941	49.743038	-1.001153	49.753111	-1.15301	0.010362	39.691005	0.010737
27.82	1.021726	49.759494	-1.044794	49.770461	-1.202858	0.010746	39.374708	0.011549
27.84	1.021582	49.712167	-1.02492	49.722732	-1.181107	0.010676	39.431937	0.011397
27.860001	1.022586	49.767096	-1.089527	49.779021	-1.25415	0.011167	39.041452	0.01247
27.879999	1.021719	49.787997	-1.050903	49.799086	-1.209196	0.010743	39.377556	0.011541
27.9	1.02089	49.819881	-1.01604	49.830241	-1.168346	0.010337	39.712188	0.010685
27.92	1.022707	49.733845	-1.087601	49.745736	-1.252771	0.011226	38.995386	0.012603
27.940001	1.021847	49.809766	-1.061646	49.821078	-1.221021	0.010806	39.327101	0.011676
27.959999	1.020755	49.744257	-0.992066	49.754149	-1.142519	0.010271	39.767953	0.010549
27.98	1.02143	49.823356	-1.043476	49.834281	-1.199802	0.010601	39.492758	0.011239
28	1.021572	49.764964	-1.038352	49.775795	-1.195312	0.010671	39.436138	0.011386
28.02	1.022488	49.815809	-1.094521	49.827832	-1.258666	0.011119	39.078745	0.012363
28.040001	1.021403	49.790417	-1.035688	49.801188	-1.191637	0.010588	39.503368	0.011211
28.059999	1.021694	49.789701	-1.050028	49.800772	-1.208149	0.010731	39.387374	0.011515
28.08	1.021365	49.778221	-1.031081	49.788899	-1.186628	0.01057	39.518909	0.011171
28.1	1.021475	49.756665	-1.031482	49.767356	-1.187604	0.010623	39.474857	0.011285
28.120001	1.021414	49.803103	-1.03882	49.813936	-1.194935	0.010593	39.499266	0.011222
28.139999	1.021724	49.829368	-1.059112	49.840623	-1.217627	0.010745	39.375534	0.011546
28.16	1.021727	49.834893	-1.060168	49.846168	-1.218707	0.010747	39.374563	0.011549
28.18	1.020526	49.820012	-0.997998	49.830007	-1.147601	0.010159	39.863186	0.01032
28.200001	1.021331	49.824049	-1.038718	49.834876	-1.194315	0.010553	39.532362	0.011137
28.219999	1.021806	49.879079	-1.070475	49.890565	-1.229461	0.010785	39.343396	0.011632
28.24	1.021324	49.836338	-1.040484	49.847199	-1.196051	0.010549	39.535392	0.011129
28.26	1.020721	49.861604	-1.014658	49.871927	-1.16578	0.010254	39.781976	0.010515
28.280001	1.020488	49.884191	-1.006247	49.894339	-1.155596	0.01014	39.879138	0.010282
28.299999	1.02177	49.876131	-1.068346	49.887572	-1.227089	0.010768	39.357502	0.011594
28.32	1.021649	49.887385	-1.06379	49.898726	-1.221583	0.010709	39.405184	0.011468
28.34	1.021267	49.869732	-1.042752	49.880633	-1.197854	0.010522	39.558279	0.011071
28.360001	1.021313	49.858969	-1.043503	49.869888	-1.198976	0.010544	39.539727	0.011118
28.379999	1.021189	49.908958	-1.043483	49.919866	-1.197753	0.010483	39.589918	0.01099

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
28.4	1.021353	49.960469	-1.05527	49.971612	-1.210029	0.010564	39.523692	0.011159	
28.42	1.020904	49.902983	-1.028897	49.913589	-1.181156	0.010344	39.706147	0.0107	
28.440001	1.02129	49.893126	-1.046769	49.904106	-1.201904	0.010533	39.549135	0.011094	
28.459999	1.020272	49.88635	-0.995856	49.896289	-1.143616	0.010034	39.97043	0.010068	
28.48	1.021017	49.89447	-1.033518	49.905173	-1.186662	0.010399	39.659888	0.010815	
28.5	1.020378	49.891518	-1.001741	49.901574	-1.150254	0.010086	39.925268	0.010174	
28.52	1.02046	49.915119	-1.008264	49.925302	-1.157195	0.010126	39.890912	0.010254	
28.540001	1.021363	49.921695	-1.053179	49.932803	-1.208571	0.010569	39.519689	0.011169	
28.559999	1.020347	49.912467	-1.002449	49.922532	-1.150584	0.010071	39.938598	0.010142	
28.58	1.021031	49.925348	-1.037222	49.936121	-1.190177	0.010406	39.654111	0.010829	
28.6	1.020364	49.935457	-1.005261	49.945574	-1.153279	0.010079	39.931388	0.010159	
28.620001	1.020663	49.937208	-1.020074	49.947625	-1.170228	0.010226	39.80594	0.010457	
28.639999	1.020246	49.895513	-0.995695	49.905447	-1.143222	0.010022	39.981265	0.010043	
28.66	1.020499	49.944622	-1.012522	49.954884	-1.161394	0.010145	39.874576	0.010293	
28.68	1.020928	49.963292	-1.034578	49.974003	-1.186243	0.010356	39.696548	0.010724	
28.700001	1.020309	49.936198	-1.002614	49.946262	-1.150226	0.010052	39.954667	0.010105	
28.719999	1.021036	49.965706	-1.039997	49.976528	-1.192396	0.010409	39.652131	0.010834	
28.74	1.02037	49.921789	-1.004437	49.931892	-1.15265	0.010082	39.928936	0.010165	
28.76	1.019655	49.97636	-0.972728	49.985826	-1.115053	0.009732	40.235961	0.009471	
28.780001	1.020342	49.985235	-1.006636	49.99537	-1.153707	0.010068	39.940775	0.010137	
28.799999	1.020436	49.964466	-1.010542	49.974684	-1.158664	0.010115	39.900899	0.010231	
28.82	1.021024	49.916982	-1.036152	49.927735	-1.189148	0.010403	39.656996	0.010822	
28.84	1.020968	49.92208	-1.033853	49.932784	-1.18639	0.010375	39.679921	0.010765	
28.860001	1.020903	49.960748	-1.033243	49.971431	-1.184773	0.010343	39.706742	0.010699	
28.879999	1.019401	49.950276	-0.959021	49.959481	-1.099918	0.009607	40.34786	0.00923	
28.9	1.019274	50.046633	-0.953848	50.055722	-1.091881	0.009545	40.404489	0.009111	
28.92	1.019258	49.952322	-0.952108	49.961395	-1.091947	0.009537	40.411647	0.009096	
28.940001	1.019443	49.953228	-0.961239	49.962475	-1.102396	0.009628	40.329441	0.009269	
28.959999	1.019595	49.974284	-0.969691	49.98369	-1.111618	0.009702	40.262458	0.009414	
28.98	1.020709	50.000823	-1.024892	50.011326	-1.174258	0.010248	39.786961	0.010503	
29	1.019022	49.930126	-0.938921	49.938953	-1.077305	0.009421	40.517745	0.008876	
29.02	1.019303	49.99833	-0.955928	50.007467	-1.095318	0.009559	40.391733	0.009137	
29.040001	1.019931	49.997658	-0.986743	50.007395	-1.130633	0.009867	40.116112	0.009736	
29.059999	1.019724	49.971099	-0.975884	49.980627	-1.118787	0.009765	40.206132	0.009536	
29.08	1.019426	50.003068	-0.962043	50.012322	-1.102219	0.00962	40.336732	0.009254	
29.1	1.018178	49.9727	-0.900092	49.980806	-1.031883	0.009007	40.908247	0.008113	
29.120001	1.019424	49.981757	-0.961572	49.991005	-1.102149	0.009619	40.337616	0.009252	
29.139999	1.019735	50.006621	-0.977206	50.016168	-1.119507	0.009771	40.20107	0.009548	
29.16	1.018354	50.02213	-0.909306	50.030394	-1.041414	0.009093	40.825509	0.008269	
29.18	1.018869	49.968505	-0.933838	49.977231	-1.070651	0.009346	40.587275	0.008735	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
29.200001	1.01923	50.004301	-0.952433	50.013371	-1.091184	0.009524	40.423991	0.00907
29.219999	1.018758	50.007262	-0.929257	50.015895	-1.064575	0.009292	40.638026	0.008634
29.24	1.020301	49.987554	-1.004693	49.997649	-1.151427	0.010048	39.95802	0.010097
29.26	1.019629	49.973944	-0.971335	49.983383	-1.11351	0.009719	40.247638	0.009446
29.280001	1.018897	49.98566	-0.935814	49.994419	-1.072548	0.00936	40.574328	0.008761
29.299999	1.01824	50.04248	-0.903166	50.05063	-1.033963	0.009037	40.879094	0.008168
29.32	1.019462	50.048073	-0.963022	50.057337	-1.102348	0.009637	40.32104	0.009287
29.34	1.019051	50.023047	-0.943546	50.031945	-1.080599	0.009436	40.504539	0.008903
29.360001	1.018359	50.013641	-0.909682	50.021913	-1.042022	0.009096	40.822773	0.008274
29.379999	1.019666	50.013764	-0.973787	50.023244	-1.115431	0.009737	40.231461	0.009481
29.4	1.019363	50.009459	-0.958972	50.018652	-1.098561	0.009589	40.364678	0.009195
29.42	1.018201	49.988248	-0.901721	49.996381	-1.033429	0.009019	40.897149	0.008134
29.440001	1.017597	50.020036	-0.87213	50.027638	-0.998888	0.008722	41.188152	0.007606
29.459999	1.018217	50.050584	-0.901717	50.058706	-1.032137	0.009026	40.889696	0.008148
29.48	1.018128	50.036323	-0.89788	50.044379	-1.028039	0.008983	40.932041	0.008069
29.5	1.018815	50.0322	-0.931785	50.040876	-1.066938	0.00932	40.611679	0.008686
29.52	1.018478	50.031641	-0.915242	50.040011	-1.048011	0.009155	40.767208	0.008381
29.540001	1.017759	50.050297	-0.879192	50.058018	-1.006366	0.008802	41.108838	0.007747
29.559999	1.017896	50.062983	-0.885199	50.070808	-1.012983	0.008868	41.043064	0.007865
29.58	1.018189	50.048565	-0.900405	50.056663	-1.030677	0.009012	40.903197	0.008122
29.6	1.016989	50.040295	-0.841708	50.047374	-0.96366	0.008423	41.490638	0.007095
29.620001	1.018293	49.993084	-0.906329	50.001299	-1.038608	0.009064	40.85379	0.008215
29.639999	1.018167	50.056103	-0.898955	50.064174	-1.028863	0.009002	40.913581	0.008103
29.66	1.01787	50.005281	-0.885654	50.013123	-1.014673	0.008856	41.055365	0.007843
29.68	1.017362	50.067677	-0.858596	50.075039	-0.982454	0.008606	41.303518	0.007407
29.700001	1.018136	50.037446	-0.898249	50.045508	-1.028439	0.008987	40.928123	0.008076
29.719999	1.017617	50.00306	-0.873215	50.010684	-1.00047	0.008732	41.178119	0.007624
29.74	1.017539	50.049725	-0.868358	50.057257	-0.993978	0.008693	41.216454	0.007557
29.76	1.017741	50.058884	-0.877827	50.066658	-1.004631	0.008792	41.117772	0.007731
29.780001	1.017799	50.042086	-0.881502	50.049849	-1.009175	0.008821	41.089636	0.007781
29.799999	1.01708	50.062326	-0.845047	50.069458	-0.967056	0.008468	41.444549	0.00717
29.82	1.01704	50.046714	-0.843924	50.053829	-0.966074	0.008448	41.465008	0.007137
29.84	1.017097	50.03785	-0.847135	50.04502	-0.96992	0.008476	41.435888	0.007185
29.860001	1.017617	50.027242	-0.872994	50.034858	-0.999733	0.008731	41.178248	0.007624
29.879999	1.01636	50.094326	-0.806675	50.10082	-0.922563	0.008114	41.815516	0.006583
29.9	1.017105	50.085702	-0.844427	50.09282	-0.965896	0.00848	41.432007	0.007191
29.92	1.017416	50.023179	-0.86322	50.030626	-0.988622	0.008633	41.27678	0.007453
29.940001	1.016906	50.047717	-0.837281	50.054721	-0.95845	0.008382	41.532945	0.007026
29.959999	1.015942	50.082742	-0.787148	50.088928	-0.900443	0.007908	42.038599	0.006254
29.98	1.017322	50.05117	-0.85762	50.058517	-0.981661	0.008587	41.323431	0.007373

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
30	1.016384	50.023078	-0.812442	50.029675	-0.930481	0.008126	41.802936	0.006602
30.02	1.017185	50.102125	-0.84671	50.109279	-0.96819	0.008519	41.391757	0.007258
30.040001	1.016561	50.078786	-0.818138	50.085468	-0.93596	0.008212	41.710513	0.006744
30.059999	1.017055	50.098031	-0.840702	50.105084	-0.9614	0.008455	41.457321	0.007149
30.08	1.016038	50.11712	-0.78781	50.123311	-0.900581	0.007955	41.987071	0.006328
30.1	1.016412	50.01562	-0.813924	50.022243	-0.932316	0.008139	41.788366	0.006625
30.120001	1.016548	50.109726	-0.814158	50.11634	-0.930833	0.008206	41.717462	0.006734
30.139999	1.016989	50.066327	-0.840245	50.073377	-0.961486	0.008423	41.490966	0.007094
30.16	1.017447	50.066781	-0.86283	50.074215	-0.987316	0.008648	41.261678	0.007479
30.18	1.016232	50.04381	-0.804266	50.050272	-0.920737	0.008051	41.883218	0.006482
30.200001	1.015773	50.09388	-0.777584	50.099915	-0.889306	0.007825	42.130616	0.006123
30.219999	1.016559	50.052414	-0.819953	50.05913	-0.93853	0.008212	41.711358	0.006743
30.24	1.014973	50.079309	-0.739437	50.084768	-0.84593	0.007431	42.579427	0.005522
30.26	1.015274	50.072983	-0.75496	50.078674	-0.863795	0.007579	42.407712	0.005744
30.280001	1.016506	50.028553	-0.818291	50.035244	-0.937075	0.008185	41.739333	0.0067
30.299999	1.015588	50.059623	-0.771546	50.065569	-0.883006	0.007734	42.232336	0.005981
30.32	1.015593	50.086996	-0.769411	50.092905	-0.880081	0.007736	42.229467	0.005985
30.34	1.015099	50.064706	-0.747026	50.070279	-0.85486	0.007493	42.506685	0.005615
30.360001	1.016707	50.050101	-0.827348	50.056939	-0.947037	0.008284	41.63499	0.006863
30.379999	1.015469	50.084331	-0.763557	50.090151	-0.873433	0.007675	42.298088	0.005891
30.4	1.015617	50.019224	-0.774753	50.025224	-0.887391	0.007748	42.215992	0.006003
30.42	1.016078	50.014695	-0.79752	50.021054	-0.913546	0.007975	41.965252	0.00636
30.440001	1.015556	50.007639	-0.771849	50.013595	-0.88427	0.007718	42.24985	0.005957
30.459999	1.015684	50.071817	-0.775351	50.07782	-0.887143	0.007781	42.179427	0.006054
30.48	1.014993	50.03657	-0.743457	50.042093	-0.851255	0.007441	42.567804	0.005536
30.5	1.01605	50.026521	-0.795905	50.032852	-0.911481	0.007961	41.980534	0.006338
30.52	1.014655	50.07625	-0.724008	50.081483	-0.828332	0.007274	42.764081	0.005292
30.540001	1.015757	50.062584	-0.7797	50.068655	-0.892283	0.007817	42.139259	0.00611
30.559999	1.0151	50.080342	-0.745662	50.085893	-0.853033	0.007494	42.506252	0.005615
30.58	1.014366	50.035451	-0.712551	50.040524	-0.815891	0.007132	42.936246	0.005086
30.6	1.014853	50.08299	-0.733131	50.088355	-0.838656	0.007372	42.64851	0.005434
30.620001	1.015282	50.022748	-0.758173	50.028493	-0.868343	0.007583	42.402947	0.00575
30.639999	1.016177	50.05017	-0.801196	50.056583	-0.917106	0.008023	41.912862	0.006437
30.66	1.01584	50.015339	-0.785777	50.021511	-0.900086	0.007858	42.093959	0.006175
30.68	1.013686	50.02683	-0.679326	50.031442	-0.777986	0.006797	43.354203	0.004619
30.700001	1.014973	50.042881	-0.742211	50.048385	-0.849721	0.007431	42.578944	0.005522
30.719999	1.014964	49.988626	-0.742493	49.99414	-0.850967	0.007426	42.584385	0.005515
30.74	1.015545	50.061375	-0.769327	50.067286	-0.880435	0.007713	42.255817	0.005949
30.76	1.01626	50.04865	-0.80538	50.05513	-0.921922	0.008064	41.868675	0.006503
30.780001	1.015438	50.041051	-0.76522	50.046902	-0.876091	0.00766	42.315615	0.005867



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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	1.015409	50.078753	-0.761108	50.084536	-0.870728	0.007645	42.331915	0.005845	
30.82	1.01482	50.050108	-0.734228	50.055493	-0.840462	0.007355	42.667791	0.00541	
30.84	1.014493	50.016545	-0.719368	50.021718	-0.824007	0.007194	42.86034	0.005176	
30.860001	1.014547	49.997239	-0.722098	50.002453	-0.827453	0.007221	42.827996	0.005214	
30.879999	1.014153	50.029686	-0.702259	50.034615	-0.804201	0.007027	43.06509	0.004937	
30.9	1.014071	50.002479	-0.698676	50.00736	-0.800534	0.006986	43.114852	0.004881	
30.92	1.015102	50.010446	-0.749479	50.016062	-0.858598	0.007495	42.505116	0.005617	
30.940001	1.014392	50.024185	-0.714254	50.029284	-0.818024	0.007145	42.920297	0.005105	
30.959999	1.014568	50.06669	-0.72057	50.071875	-0.824557	0.007231	42.815455	0.005229	
30.98	1.014754	50.059581	-0.730305	50.064908	-0.835814	0.007323	42.706505	0.005362	
31	1.01414	50.00071	-0.702038	50.005638	-0.804413	0.00702	43.073059	0.004928	
31.02	1.014046	49.995469	-0.697381	50.000333	-0.799161	0.006974	43.130237	0.004864	
31.040001	1.015119	50.007679	-0.750336	50.013308	-0.859627	0.007503	42.495338	0.005629	
31.059999	1.013531	50.016946	-0.671901	50.021459	-0.769636	0.00672	43.452803	0.004516	
31.08	1.014167	49.964046	-0.702209	49.968981	-0.805199	0.007034	43.056397	0.004947	
31.1	1.013362	50.013132	-0.663638	50.017535	-0.76023	0.006637	43.561013	0.004405	
31.120001	1.013789	50.031943	-0.684212	50.036621	-0.783502	0.006847	43.289703	0.004688	
31.139999	1.014058	50.03019	-0.69759	50.035053	-0.798846	0.00698	43.122705	0.004872	
31.16	1.013852	50.01081	-0.687851	50.01554	-0.788	0.006878	43.250189	0.004731	
31.18	1.014487	49.996121	-0.719132	50.001293	-0.824073	0.007192	42.863587	0.005172	
31.200001	1.013509	50.014261	-0.670861	50.01876	-0.768486	0.006709	43.466825	0.004501	
31.219999	1.013843	50.03306	-0.686844	50.037774	-0.786497	0.006874	43.255866	0.004725	
31.24	1.014432	50.055699	-0.7147	50.060801	-0.818021	0.007165	42.89628	0.005133	
31.26	1.014777	50.002217	-0.733465	50.007596	-0.840393	0.007334	42.692799	0.005379	
31.280001	1.012954	49.960418	-0.642058	49.964544	-0.736288	0.006435	43.828784	0.004141	
31.299999	1.015009	50.011158	-0.744858	50.016705	-0.853292	0.007448	42.558766	0.005548	
31.32	1.013521	49.979002	-0.671053	49.983506	-0.769249	0.006715	43.458982	0.004509	
31.34	1.014097	49.942703	-0.697174	49.947568	-0.799769	0.006999	43.099168	0.004899	
31.360001	1.012853	49.950333	-0.636328	49.954386	-0.729865	0.006386	43.89586	0.004078	
31.379999	1.012793	49.971337	-0.634756	49.975368	-0.727756	0.006356	43.936701	0.00404	
31.4	1.013524	49.98012	-0.671248	49.984627	-0.769454	0.006717	43.457006	0.004511	
31.42	1.012576	49.982311	-0.624543	49.986213	-0.715891	0.006249	44.083906	0.003905	
31.440001	1.013645	49.975232	-0.677025	49.979817	-0.776152	0.006776	43.380143	0.004592	
31.459999	1.013477	49.998937	-0.669331	50.003417	-0.766969	0.006693	43.487271	0.00448	
31.48	1.013443	49.988919	-0.667518	49.993375	-0.765045	0.006677	43.508776	0.004458	
31.5	1.013965	49.98156	-0.693075	49.986365	-0.794448	0.006934	43.179935	0.004808	
31.52	1.013641	49.932907	-0.673656	49.937451	-0.772945	0.006774	43.382733	0.004589	
31.540001	1.013271	49.975708	-0.658569	49.980047	-0.754989	0.006592	43.620151	0.004345	
31.559999	1.013627	49.977055	-0.676221	49.981629	-0.775202	0.006767	43.391439	0.00458	
31.58	1.014158	49.945951	-0.700495	49.950863	-0.803525	0.007029	43.061639	0.004941	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
31.6	1.012941	49.941864	-0.639917	49.945964	-0.734105	0.006429	43.836958	0.004133
31.620001	1.011131	49.990738	-0.562186	49.993899	-0.644311	0.005623	45.000554	0.003162
31.639999	1.0135	49.968467	-0.669522	49.972953	-0.767655	0.006705	43.472538	0.004495
31.66	1.012129	49.945454	-0.599982	49.949058	-0.688247	0.006028	44.396912	0.003633
31.68	1.013082	49.997412	-0.649865	50.001635	-0.744688	0.006499	43.743427	0.004223
31.700001	1.012838	49.91472	-0.631565	49.918715	-0.724919	0.006378	43.905934	0.004068
31.719999	1.012839	49.918989	-0.632168	49.922991	-0.725549	0.006378	43.905748	0.004068
31.74	1.011828	49.953551	-0.585808	49.956985	-0.671881	0.005879	44.613784	0.003456
31.76	1.013106	49.955242	-0.649213	49.959461	-0.744569	0.00651	43.727963	0.004238
31.780001	1.011993	49.94159	-0.592886	49.945109	-0.680161	0.005961	44.49371	0.003553
31.799999	1.013354	49.925852	-0.658612	49.930196	-0.755792	0.006633	43.566454	0.004399
31.82	1.012474	49.948957	-0.61742	49.952773	-0.708199	0.006198	44.154537	0.003842
31.84	1.014023	49.90752	-0.689473	49.912282	-0.791493	0.006963	43.144389	0.004848
31.860001	1.013424	49.973359	-0.666038	49.977798	-0.763586	0.006667	43.520959	0.004445
31.879999	1.013078	49.950477	-0.647457	49.954672	-0.742626	0.006497	43.746326	0.004221
31.9	1.0131	49.899179	-0.642206	49.903312	-0.737362	0.006507	43.732187	0.004234
31.92	1.013482	49.948446	-0.667268	49.952903	-0.765377	0.006696	43.483867	0.004483
31.940001	1.012433	49.98032	-0.617372	49.984133	-0.7077	0.006178	44.183108	0.003817
31.959999	1.012861	49.912727	-0.632416	49.916733	-0.725924	0.00639	43.890611	0.004083
31.98	1.013163	49.923044	-0.648788	49.927259	-0.744562	0.006538	43.690761	0.004275
32	1.012196	49.895173	-0.596319	49.898737	-0.684736	0.006061	44.349297	0.003673
32.02	1.013037	49.928869	-0.643276	49.933013	-0.73815	0.006476	43.773279	0.004194
32.040001	1.013056	49.95284	-0.646551	49.957024	-0.741552	0.006486	43.76099	0.004206
32.060001	1.013065	49.898068	-0.640285	49.902175	-0.735172	0.00649	43.755159	0.004212
32.080002	1.012943	49.902591	-0.63497	49.906631	-0.729004	0.00643	43.835623	0.004135
32.099998	1.012633	49.921745	-0.622311	49.925623	-0.714198	0.006277	44.045083	0.00394
32.119999	1.013428	49.903566	-0.659299	49.907921	-0.756918	0.006669	43.518226	0.004448
32.139999	1.013012	49.918179	-0.640678	49.922291	-0.735327	0.006464	43.790009	0.004178
32.16	1.013209	49.904403	-0.648506	49.908617	-0.744516	0.006561	43.660232	0.004305
32.18	1.012643	49.871564	-0.614075	49.875345	-0.705455	0.006282	44.038635	0.003946
32.200001	1.013735	49.826234	-0.658348	49.830583	-0.757	0.006821	43.323487	0.004652
32.220001	1.014466	49.88505	-0.708033	49.890075	-0.813163	0.007181	42.876165	0.005157
32.240002	1.013216	49.878021	-0.644227	49.882182	-0.739995	0.006565	43.65583	0.004309
32.259998	1.013799	49.876181	-0.673112	49.880723	-0.773199	0.006852	43.283165	0.004696
32.279999	1.012596	49.89935	-0.617071	49.903165	-0.708503	0.006258	44.070684	0.003917
32.299999	1.013351	49.888886	-0.653014	49.89316	-0.749924	0.006631	43.56813	0.004397
32.32	1.013598	49.886957	-0.665005	49.891389	-0.763722	0.006753	43.410159	0.00456
32.34	1.013761	49.870239	-0.670006	49.874739	-0.769724	0.006833	43.307421	0.004669
32.360001	1.013171	49.858188	-0.637764	49.862267	-0.732863	0.006543	43.685069	0.00428
32.380001	1.013612	49.84233	-0.65628	49.84665	-0.754378	0.00676	43.400998	0.00457

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	1.013396	49.868721	-0.651363	49.872975	-0.748331	0.006653	43.539386	0.004427	
32.419998	1.01408	49.885679	-0.688883	49.890435	-0.791162	0.006991	43.109379	0.004887	
32.439999	1.014556	49.801285	-0.69319	49.806109	-0.797457	0.007225	42.822899	0.00522	
32.459999	1.014398	49.849846	-0.697712	49.854728	-0.801877	0.007147	42.917005	0.005109	
32.48	1.013408	49.852059	-0.648304	49.856274	-0.745065	0.006659	43.531292	0.004435	
32.5	1.013549	49.802521	-0.641891	49.806657	-0.73843	0.006729	43.441032	0.004528	
32.52	1.013793	49.821804	-0.660089	49.826177	-0.759068	0.006849	43.287155	0.004691	
32.540001	1.013202	49.856422	-0.638885	49.860515	-0.734178	0.006557	43.665259	0.0043	
32.560001	1.012584	49.855954	-0.607549	49.859656	-0.698178	0.006253	44.078497	0.00391	
32.580002	1.015325	49.848393	-0.744024	49.853945	-0.85512	0.007604	42.378641	0.005783	
32.599998	1.014848	49.838079	-0.717695	49.843247	-0.825035	0.007369	42.65173	0.00543	
32.619999	1.013755	49.86831	-0.669344	49.872801	-0.768993	0.006831	43.310819	0.004666	
32.639999	1.014779	49.787297	-0.700411	49.792223	-0.805989	0.007335	42.691546	0.005381	
32.66	1.014141	49.838906	-0.682216	49.843575	-0.784241	0.007021	43.072116	0.004929	
32.68	1.015227	49.850103	-0.739466	49.855588	-0.849852	0.007556	42.433961	0.00571	
32.700001	1.013432	49.822439	-0.641816	49.826573	-0.738048	0.006671	43.516245	0.00445	
32.720001	1.013496	49.821961	-0.644996	49.826135	-0.741712	0.006703	43.474657	0.004493	
32.740002	1.013748	49.802434	-0.65209	49.806703	-0.750163	0.006827	43.315455	0.004661	
32.759998	1.014514	49.800786	-0.690901	49.805578	-0.794831	0.007205	42.847728	0.005191	
32.779999	1.015387	49.806681	-0.737106	49.812135	-0.847879	0.007635	42.34393	0.005829	
32.799999	1.014057	49.794646	-0.665584	49.799094	-0.765804	0.00698	43.123382	0.004871	
32.82	1.014535	49.820757	-0.697581	49.825641	-0.802194	0.007215	42.835071	0.005206	
32.84	1.013732	49.787355	-0.646406	49.791551	-0.74385	0.006819	43.325326	0.00465	
32.860001	1.014837	49.802931	-0.708029	49.807963	-0.814498	0.007364	42.658011	0.005422	
32.880001	1.014169	49.81817	-0.678266	49.822787	-0.780026	0.007035	43.054976	0.004949	
32.900002	1.013986	49.808636	-0.666206	49.813091	-0.766304	0.006945	43.167072	0.004823	
32.919998	1.014936	49.83246	-0.720827	49.837674	-0.828727	0.007413	42.600548	0.005495	
32.939999	1.015026	49.79947	-0.716711	49.804627	-0.824542	0.007457	42.54858	0.005561	
32.959999	1.015213	49.759276	-0.713576	49.764393	-0.821598	0.007549	42.442401	0.005698	
32.98	1.013748	49.795653	-0.649957	49.799894	-0.747811	0.006827	43.315354	0.004661	
33	1.015751	49.73817	-0.734079	49.743587	-0.845561	0.007814	42.142518	0.006106	
33.02	1.015511	49.828201	-0.74881	49.833827	-0.860968	0.007696	42.275089	0.005922	
33.040001	1.014886	49.831604	-0.718089	49.836778	-0.825595	0.007388	42.629522	0.005458	
33.060001	1.015013	49.764684	-0.705099	49.769679	-0.811752	0.007451	42.556129	0.005551	
33.080002	1.014966	49.769659	-0.704356	49.774643	-0.810815	0.007428	42.583084	0.005517	
33.099998	1.015751	49.774491	-0.746322	49.780086	-0.859034	0.007814	42.14266	0.006106	
33.119999	1.016151	49.808906	-0.776414	49.814957	-0.893048	0.008011	41.926358	0.006417	
33.139999	1.014588	49.74913	-0.677337	49.753741	-0.780038	0.007241	42.804	0.005243	
33.16	1.014692	49.816715	-0.704461	49.821695	-0.81017	0.007292	42.742679	0.005318	
33.18	1.015692	49.838173	-0.7602	49.84397	-0.873888	0.007785	42.175148	0.00606	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
33.200001	1.014388	49.739883	-0.66323	49.744304	-0.763936	0.007143	42.92291	0.005102
33.220001	1.016293	49.743555	-0.764115	49.749423	-0.880057	0.00808	41.851254	0.006529
33.240002	1.015013	49.812955	-0.719761	49.818155	-0.827826	0.00745	42.556385	0.005551
33.259998	1.015774	49.799121	-0.7547	49.80484	-0.868246	0.007825	42.130024	0.006123
33.279999	1.015247	49.744768	-0.710196	49.749838	-0.817946	0.007566	42.422924	0.005724
33.299999	1.015761	49.785451	-0.750171	49.791103	-0.863274	0.007819	42.13693	0.006114
33.32	1.014593	49.76242	-0.682507	49.7671	-0.785782	0.007244	42.800672	0.005247
33.34	1.016616	49.777297	-0.791384	49.783587	-0.910841	0.008239	41.682178	0.006789
33.360001	1.01676	49.770676	-0.796829	49.777054	-0.917229	0.008311	41.607448	0.006906
33.380001	1.015729	49.754544	-0.738714	49.760027	-0.850619	0.007803	42.154544	0.006089
33.400002	1.015477	49.77871	-0.733578	49.784115	-0.844296	0.007679	42.293823	0.005897
33.419998	1.015867	49.743409	-0.742012	49.748942	-0.854608	0.007871	42.079147	0.006196
33.439999	1.016575	49.728121	-0.773345	49.734134	-0.890963	0.00822	41.703044	0.006756
33.459999	1.015314	49.77321	-0.723463	49.778468	-0.832748	0.007599	42.385092	0.005774
33.48	1.01722	49.719077	-0.803583	49.725571	-0.925962	0.008536	41.374484	0.007287
33.5	1.016211	49.785456	-0.773106	49.791458	-0.889662	0.00804	41.894622	0.006465
33.52	1.015603	49.767036	-0.736352	49.772483	-0.847687	0.007741	42.22397	0.005992
33.540001	1.018444	49.74875	-0.876177	49.756465	-1.008993	0.009137	40.783456	0.008349
33.560001	1.01671	49.798902	-0.802123	49.805362	-0.922798	0.008286	41.633244	0.006866
33.580002	1.017246	49.744369	-0.81355	49.751022	-0.936968	0.008549	41.361456	0.007309
33.599998	1.015767	49.735796	-0.734048	49.741213	-0.845566	0.007822	42.133719	0.006118
33.619999	1.016511	49.740946	-0.774511	49.746975	-0.892077	0.008188	41.736623	0.006704
33.639999	1.017451	49.713217	-0.813481	49.719872	-0.937476	0.00865	41.259635	0.007482
33.66	1.017256	49.729523	-0.809118	49.736105	-0.932143	0.008554	41.35646	0.007317
33.68	1.016481	49.73022	-0.769192	49.736168	-0.886142	0.008173	41.75225	0.00668
33.700001	1.017049	49.732656	-0.799517	49.739082	-0.921026	0.008453	41.460165	0.007145
33.720001	1.016717	49.75037	-0.788285	49.756615	-0.907766	0.008289	41.629852	0.006871
33.740002	1.016637	49.74651	-0.782887	49.75267	-0.90162	0.00825	41.671255	0.006806
33.759998	1.016751	49.740832	-0.786906	49.747056	-0.906352	0.008306	41.612029	0.006899
33.779999	1.016873	49.775851	-0.804089	49.782346	-0.925488	0.008366	41.549704	0.006999
33.799999	1.017895	49.693777	-0.829387	49.700697	-0.956177	0.008868	41.043511	0.007864
33.82	1.017803	49.712477	-0.831489	49.71943	-0.958239	0.008823	41.087638	0.007785
33.84	1.018123	49.765125	-0.864596	49.772635	-0.995331	0.00898	40.934412	0.008064
33.860001	1.018233	49.769998	-0.871526	49.777628	-1.003209	0.009034	40.882321	0.008161
33.880001	1.016847	49.763866	-0.799199	49.770283	-0.920083	0.008353	41.563154	0.006977
33.900002	1.018094	49.751036	-0.859032	49.758452	-0.989207	0.008966	40.948212	0.008039
33.919998	1.017623	49.773303	-0.841512	49.780416	-0.968604	0.008735	41.175121	0.007629
33.939999	1.017597	49.806325	-0.848687	49.813556	-0.976212	0.008722	41.188049	0.007607
33.959999	1.017603	49.758987	-0.836372	49.766016	-0.962965	0.008725	41.184915	0.007612
33.98	1.017582	49.729745	-0.826008	49.736604	-0.951594	0.008714	41.195436	0.007594

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
34	1.017589	49.710207	-0.819577	49.716962	-0.944557	0.008718	41.191667	0.0076
34.02	1.018532	49.717017	-0.870701	49.724641	-1.003329	0.009181	40.74224	0.008429
34.040001	1.017496	49.735454	-0.823519	49.742272	-0.948618	0.008672	41.237292	0.007521
34.060001	1.018821	49.742314	-0.893504	49.750338	-1.029076	0.009323	40.609021	0.008692
34.080002	1.01658	49.766189	-0.786241	49.7724	-0.905125	0.008222	41.700807	0.00676
34.099998	1.017869	49.785437	-0.857226	49.792817	-0.986446	0.008855	41.055857	0.007842
34.119999	1.018661	49.732094	-0.882191	49.739917	-1.016257	0.009244	40.682671	0.008545
34.139999	1.018095	49.752317	-0.859476	49.75974	-0.989693	0.008966	40.947633	0.00804
34.16	1.01743	49.768834	-0.830447	49.775762	-0.955956	0.00864	41.269841	0.007465
34.18	1.019135	49.751175	-0.912049	49.759534	-1.050243	0.009477	40.466572	0.008981
34.200001	1.017327	49.75896	-0.822245	49.765753	-0.946703	0.008589	41.321265	0.007377
34.220001	1.01864	49.727815	-0.879782	49.735597	-1.013571	0.009234	40.692185	0.008527
34.240002	1.018302	49.750833	-0.869594	49.758432	-1.001372	0.009068	40.849648	0.008223
34.259998	1.019084	49.697256	-0.892412	49.705268	-1.028749	0.009452	40.489625	0.008934
34.279999	1.017065	49.799039	-0.820095	49.805791	-0.943468	0.00846	41.452282	0.007158
34.299999	1.01758	49.742651	-0.830148	49.749578	-0.956114	0.008713	41.196295	0.007592
34.32	1.018932	49.748012	-0.900842	49.756168	-1.037406	0.009377	40.558287	0.008794
34.34	1.019646	49.701803	-0.922919	49.710371	-1.063813	0.009728	40.239913	0.009463
34.360001	1.018981	49.715632	-0.893347	49.723657	-1.029447	0.009402	40.536051	0.008839
34.380001	1.018184	49.747655	-0.862626	49.755133	-0.993413	0.00901	40.905332	0.008118
34.400002	1.018757	49.78164	-0.901045	49.789793	-1.036939	0.009291	40.638586	0.008633
34.419998	1.018504	49.752209	-0.880296	49.759997	-1.013665	0.009167	40.755055	0.008404
34.439999	1.01881	49.739977	-0.892217	49.747979	-1.027642	0.009317	40.614287	0.008681
34.459999	1.017962	49.803472	-0.866405	49.811007	-0.996646	0.008901	41.010927	0.007923
34.48	1.019817	49.730606	-0.940695	49.739502	-1.083669	0.009811	40.165659	0.009626
34.5	1.018301	49.790875	-0.880408	49.798658	-1.013007	0.009068	40.850099	0.008222
34.52	1.019172	49.766156	-0.917978	49.774621	-1.056751	0.009495	40.450328	0.009015
34.540001	1.019571	49.758244	-0.936031	49.767047	-1.077699	0.00969	40.273098	0.009391
34.560001	1.020244	49.788298	-0.977332	49.797889	-1.12456	0.010021	39.982025	0.010041
34.580002	1.019124	49.771166	-0.916882	49.77961	-1.055382	0.009471	40.471771	0.008971
34.599998	1.018917	49.759354	-0.903267	49.767551	-1.039961	0.00937	40.565296	0.00878
34.619999	1.020148	49.773279	-0.96897	49.78271	-1.115277	0.009974	40.023	0.009947
34.639999	1.018842	49.775279	-0.903751	49.783483	-1.040185	0.009333	40.599299	0.008711
34.66	1.0191	49.803726	-0.923534	49.812288	-1.062343	0.00946	40.48239	0.008949
34.68	1.018409	49.768125	-0.879942	49.775903	-1.012934	0.009121	40.799533	0.008319
34.700001	1.019942	49.729646	-0.946801	49.738658	-1.090723	0.009873	40.11129	0.009747
34.720001	1.019339	49.774714	-0.928638	49.783376	-1.068835	0.009577	40.375499	0.009172
34.740002	1.019031	49.802585	-0.919797	49.811078	-1.058069	0.009426	40.513777	0.008884
34.759998	1.019786	49.80624	-0.958353	49.815459	-1.10233	0.009796	40.179053	0.009596
34.779999	1.0208	49.784035	-1.004163	49.794162	-1.155523	0.010293	39.749202	0.010594

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
34.799999	1.019697	49.81219	-0.955188	49.821347	-1.098559	0.009753	40.217557	0.009511
34.82	1.019449	49.74265	-0.925552	49.75126	-1.06597	0.009631	40.326561	0.009276
34.84	1.020968	49.713858	-0.994266	49.723799	-1.145752	0.010375	39.679912	0.010765
34.860001	1.020825	49.763288	-1.000507	49.773345	-1.151797	0.010305	39.738907	0.01062
34.880001	1.02005	49.780878	-0.965881	49.790247	-1.111553	0.009926	40.064922	0.009852
34.900002	1.021248	49.780277	-1.025691	49.790843	-1.180378	0.010512	39.566161	0.011051
34.919998	1.019927	49.802263	-0.964568	49.811603	-1.109566	0.009865	40.11777	0.009732
34.939999	1.020537	49.823964	-0.999264	49.833984	-1.148966	0.010164	39.858796	0.01033
34.959999	1.020711	49.808914	-1.005031	49.819053	-1.155944	0.010249	39.786013	0.010505
34.98	1.019809	49.803977	-0.959048	49.81321	-1.103179	0.009808	40.168804	0.009619
35	1.020093	49.820815	-0.976605	49.830386	-1.122991	0.009946	40.046662	0.009893
35.02	1.019779	49.845618	-0.965511	49.854968	-1.109684	0.009792	40.1822	0.009589
35.040001	1.020135	49.793652	-0.973089	49.803159	-1.119558	0.009967	40.028397	0.009935
35.060001	1.020222	49.786049	-0.975725	49.795609	-1.122761	0.01001	39.991319	0.01002
35.080002	1.021129	49.743979	-1.010885	49.75425	-1.164192	0.010454	39.61415	0.010929
35.099998	1.020535	49.798502	-0.994085	49.808423	-1.143596	0.010163	39.859578	0.010329
35.119999	1.020594	49.822366	-1.001803	49.832437	-1.151921	0.010192	39.834908	0.010387
35.139999	1.019419	49.846231	-0.947772	49.855241	-1.089288	0.009616	40.340104	0.009247
35.16	1.021321	49.798733	-1.033314	49.809452	-1.188708	0.010548	39.536601	0.011126
35.18	1.02059	49.845901	-1.005763	49.856047	-1.155927	0.01019	39.836362	0.010384
35.200001	1.020553	49.798184	-0.994949	49.808123	-1.144598	0.010172	39.851758	0.010347
35.220001	1.021015	49.827702	-1.023688	49.838217	-1.176953	0.010398	39.660807	0.010812
35.240002	1.020208	49.862713	-0.989482	49.87253	-1.136838	0.010003	39.997525	0.010006
35.259998	1.022833	49.777092	-1.104042	49.789334	-1.270599	0.011288	38.94791	0.012741
35.279999	1.02117	49.801823	-1.026418	49.812399	-1.180704	0.010474	39.597788	0.01097
35.299999	1.021408	49.862478	-1.048674	49.873504	-1.204831	0.010591	39.501663	0.011216
35.32	1.020416	49.874543	-1.001458	49.884597	-1.150321	0.010105	39.909249	0.010211
35.34	1.020701	49.822673	-1.007189	49.832852	-1.158106	0.010244	39.790231	0.010495
35.360001	1.021161	49.851166	-1.034809	49.861906	-1.189175	0.01047	39.601404	0.010961
35.380001	1.021889	49.866655	-1.072976	49.878092	-1.232642	0.010826	39.310439	0.011721
35.400002	1.022017	49.837788	-1.074996	49.849381	-1.235674	0.010889	39.260493	0.011856
35.419998	1.021243	49.84689	-1.038227	49.857701	-1.193204	0.01051	39.567876	0.011046
35.439999	1.020987	49.844272	-1.02512	49.854812	-1.178207	0.010384	39.672344	0.010784
35.459999	1.021933	49.815205	-1.066917	49.826629	-1.226947	0.010847	39.293443	0.011767
35.48	1.022403	49.87374	-1.099205	49.885851	-1.262582	0.011078	39.111055	0.012271
35.5	1.020716	49.831153	-1.00949	49.841378	-1.160553	0.010252	39.7839	0.01051
35.52	1.021491	49.845072	-1.050178	49.856134	-1.206979	0.010631	39.468252	0.011303
35.540001	1.021917	49.85482	-1.072698	49.866359	-1.232613	0.01084	39.299498	0.01175
35.560001	1.02192	49.866886	-1.07454	49.878462	-1.23443	0.010841	39.29834	0.011753
35.580002	1.021841	49.841115	-1.066841	49.852532	-1.226221	0.010803	39.329418	0.01167

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**02- post claibration.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	1.02174	49.878305	-1.06713	49.889719	-1.225639	0.010753	39.369459	0.011563	
35.619999	1.022702	49.841116	-1.109311	49.853459	-1.275021	0.011223	38.997465	0.012597	
35.639999	1.021984	49.855367	-1.07604	49.866978	-1.236438	0.010872	39.273604	0.011821	
35.66	1.021403	49.907476	-1.053831	49.918601	-1.209662	0.010588	39.503678	0.011211	
35.68	1.021737	49.848857	-1.062912	49.860187	-1.221517	0.010752	39.370472	0.01156	
35.700001	1.021157	49.90325	-1.041312	49.914114	-1.195398	0.010468	39.603118	0.010957	
35.720001	1.021805	49.880202	-1.070591	49.89169	-1.229566	0.010785	39.343577	0.011632	
35.740002	1.021555	49.908192	-1.061389	49.919477	-1.218318	0.010663	39.442652	0.011369	
35.759998	1.022205	49.906117	-1.093079	49.918087	-1.254734	0.010981	39.187412	0.012058	
35.779999	1.02224	49.891873	-1.09329	49.90385	-1.255334	0.010997	39.174145	0.012094	
35.799999	1.02059	49.915098	-1.014663	49.92541	-1.164537	0.01019	39.836334	0.010384	
35.82	1.021817	49.939449	-1.076804	49.951057	-1.235233	0.010791	39.338802	0.011644	
35.84	1.021348	49.968334	-1.055378	49.979478	-1.209963	0.010561	39.525665	0.011154	
35.860001	1.021825	49.993123	-1.079429	50.004774	-1.236914	0.010795	39.335855	0.011652	
35.880001	1.021585	49.904069	-1.062463	49.915378	-1.219651	0.010677	39.430617	0.011401	
35.900002	1.021652	49.923218	-1.067467	49.934629	-1.224924	0.01071	39.404323	0.01147	
35.919998	1.022381	49.899904	-1.101069	49.912051	-1.26406	0.011066	39.119794	0.012247	
35.939999	1.021899	49.976051	-1.082648	49.987777	-1.241026	0.010831	39.306556	0.011731	
35.959999	1.02169	49.921507	-1.069223	49.932956	-1.22698	0.010729	39.38897	0.011511	
35.98	1.021645	49.919192	-1.066822	49.93059	-1.224282	0.010707	39.406791	0.011464	
36	1.022175	49.972083	-1.096017	49.984101	-1.256446	0.010966	39.198933	0.012026	
36.02	1.021726	49.997593	-1.074638	50.00914	-1.231316	0.010746	39.375029	0.011548	
36.040001	1.021232	49.976349	-1.050001	49.987378	-1.203607	0.010505	39.572428	0.011035	
36.060001	1.022583	49.936245	-1.114073	49.948671	-1.278054	0.011165	39.042529	0.012467	
36.080002	1.021655	49.917621	-1.067136	49.929026	-1.224682	0.010711	39.403136	0.011473	
36.099998	1.022206	49.964006	-1.097188	49.976051	-1.257991	0.010981	39.1871	0.012058	
36.119999	1.021502	49.965907	-1.062813	49.977209	-1.218543	0.010637	39.463928	0.011314	
36.139999	1.021668	49.997702	-1.071817	50.00919	-1.228083	0.010718	39.397863	0.011487	
36.16	1.02169	49.965448	-1.072013	49.976947	-1.229099	0.010729	39.38899	0.011511	
36.18	1.02136	49.98386	-1.056492	49.995024	-1.210864	0.010567	39.520743	0.011167	
36.200001	1.021915	49.970216	-1.083217	49.981955	-1.241823	0.010839	39.300332	0.011748	
36.220001	1.020955	49.980603	-1.036569	49.991351	-1.188113	0.010369	39.685299	0.010752	
36.240002	1.021527	50.047117	-1.064415	50.058435	-1.2184	0.010649	39.453858	0.01134	
36.259998	1.022106	49.964283	-1.092331	49.976222	-1.252416	0.010932	39.22569	0.011952	
36.279999	1.02207	50.013601	-1.091598	50.025512	-1.250342	0.010915	39.239772	0.011913	
36.299999	1.021259	49.922792	-1.048198	49.933795	-1.202829	0.010518	39.561407	0.011063	
36.32	1.021225	49.989887	-1.050022	50.000913	-1.203306	0.010501	39.575226	0.011028	
36.34	1.021024	50.02262	-1.040315	50.033436	-1.191405	0.010403	39.65708	0.010822	
36.360001	1.022785	50.040042	-1.12624	50.052714	-1.289328	0.011264	38.965923	0.012688	
36.380001	1.021129	50.010414	-1.045524	50.021342	-1.19766	0.010454	39.614269	0.010929	

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
36.400002	1.021989	50.0342	-1.08737	50.046015	-1.244989	0.010875	39.271641	0.011826
36.419998	1.021469	49.987338	-1.061879	49.998616	-1.216951	0.01062	39.47727	0.011279
36.439999	1.02142	50.004405	-1.059737	50.015634	-1.214083	0.010596	39.496829	0.011228
36.459999	1.020651	50.001161	-1.02208	50.011606	-1.171029	0.01022	39.810849	0.010445
36.48	1.021311	50.010276	-1.05443	50.02139	-1.207862	0.010543	39.540611	0.011116
36.5	1.02257	49.971523	-1.115287	49.983967	-1.278543	0.011159	39.047502	0.012452
36.52	1.021718	50.0755	-1.072449	50.086983	-1.226898	0.010742	39.378049	0.01154
36.540001	1.020796	50.064579	-1.027778	50.075127	-1.176064	0.010291	39.75097	0.01059
36.560001	1.021139	50.025574	-1.045918	50.036506	-1.197749	0.010459	39.610145	0.010939
36.580002	1.022107	50.102636	-1.089625	50.114483	-1.245866	0.010933	39.225521	0.011952
36.599998	1.021455	50.070686	-1.059817	50.081901	-1.212567	0.010614	39.482733	0.011265
36.619999	1.021508	50.099766	-1.060382	50.110986	-1.21251	0.010639	39.461628	0.01132
36.639999	1.020686	50.076143	-1.021702	50.086565	-1.168843	0.010237	39.796528	0.01048
36.66	1.021183	50.071597	-1.0464	50.082529	-1.1972	0.01048	39.592449	0.010984
36.68	1.021466	50.096161	-1.058632	50.107345	-1.210597	0.010619	39.478245	0.011277
36.700001	1.022314	50.043084	-1.103098	50.055241	-1.262767	0.011034	39.145367	0.012175
36.720001	1.02089	50.076076	-1.031722	50.086703	-1.180305	0.010337	39.712268	0.010685
36.740002	1.021369	50.055197	-1.056351	50.066343	-1.208977	0.010571	39.517272	0.011176
36.759998	1.021999	50.094541	-1.084975	50.106289	-1.240752	0.01088	39.267471	0.011837
36.779999	1.021106	50.074482	-1.042481	50.085332	-1.192649	0.010443	39.62346	0.010906
36.799999	1.020949	50.06319	-1.035368	50.073895	-1.18478	0.010366	39.68791	0.010745
36.82	1.022027	50.093903	-1.086379	50.105682	-1.242373	0.010893	39.256706	0.011867
36.84	1.020575	50.130719	-1.011259	50.140917	-1.155641	0.010183	39.842579	0.010369
36.860001	1.021414	50.087193	-1.05676	50.09834	-1.208672	0.010594	39.499062	0.011223
36.880001	1.021041	50.103607	-1.037063	50.114339	-1.185762	0.010411	39.650225	0.010839
36.900002	1.020515	50.091819	-1.012148	50.102043	-1.157555	0.010153	39.86794	0.010309
36.919998	1.021318	50.082971	-1.052307	50.094025	-1.203683	0.010546	39.537915	0.011123
36.939999	1.021474	50.122977	-1.056529	50.134111	-1.207546	0.010623	39.475084	0.011285
36.959999	1.021234	50.140398	-1.042648	50.151238	-1.191271	0.010505	39.571862	0.011036
36.98	1.020716	50.127719	-1.018568	50.138066	-1.164061	0.010252	39.78398	0.01051
37	1.019786	50.146356	-0.970102	50.155739	-1.108275	0.009796	40.179018	0.009596
37.02	1.020956	50.197842	-1.020042	50.208205	-1.164118	0.010369	39.684876	0.010753
37.040001	1.021623	50.160518	-1.059278	50.171702	-1.209781	0.010696	39.41562	0.01144
37.060001	1.020786	50.116194	-1.023279	50.12664	-1.169713	0.010286	39.755016	0.01058
37.080002	1.020667	50.16227	-1.011557	50.172468	-1.155254	0.010228	39.804377	0.010461
37.099998	1.021186	50.166566	-1.036702	50.177276	-1.183862	0.010482	39.591157	0.010987
37.119999	1.020015	50.1792	-0.97633	50.188697	-1.114658	0.009908	40.080133	0.009817
37.139999	1.020285	50.147429	-0.994735	50.157294	-1.136384	0.010041	39.964713	0.010082
37.16	1.019816	50.139319	-0.972552	50.148751	-1.111229	0.009811	40.166025	0.009625
37.18	1.020567	50.182882	-1.003259	50.192909	-1.14531	0.010179	39.846076	0.010361



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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
37.200001	1.020886	50.154732	-1.023533	50.165174	-1.169104	0.010335	39.713713	0.010681
37.220001	1.020048	50.14618	-0.983121	50.155816	-1.123147	0.009924	40.066001	0.009849
37.240002	1.020589	50.169785	-1.006515	50.17988	-1.149325	0.01019	39.836919	0.010383
37.259998	1.020354	50.177194	-0.993588	50.187031	-1.134401	0.010074	39.935705	0.010149
37.279999	1.020399	50.212032	-0.989394	50.221779	-1.12883	0.010097	39.916424	0.010194
37.299999	1.019695	50.147652	-0.965421	50.156944	-1.1029	0.009752	40.218468	0.009509
37.32	1.020546	50.168857	-1.004517	50.178913	-1.147066	0.010168	39.854928	0.01034
37.34	1.019915	50.194293	-0.968621	50.203639	-1.105527	0.00986	40.122868	0.009721
37.360001	1.020244	50.147157	-0.992725	50.156982	-1.134095	0.01002	39.982221	0.010041
37.380001	1.01964	50.168695	-0.959395	50.177868	-1.095557	0.009724	40.24285	0.009456
37.400002	1.020456	50.219429	-0.990702	50.2292	-1.130155	0.010124	39.892615	0.01025
37.419998	1.019339	50.21616	-0.935119	50.224866	-1.066833	0.009577	40.375724	0.009171
37.439999	1.019733	50.159236	-0.965568	50.168529	-1.102812	0.00977	40.202031	0.009545
37.459999	1.020053	50.160733	-0.981282	50.17033	-1.120722	0.009927	40.063505	0.009855
37.48	1.019462	50.18652	-0.947399	50.195461	-1.081478	0.009637	40.320765	0.009288
37.5	1.020681	50.254334	-0.994097	50.264166	-1.13324	0.010235	39.798558	0.010475
37.52	1.019566	50.15874	-0.95733	50.167875	-1.093417	0.009688	40.275145	0.009386
37.540001	1.020177	50.254814	-0.96838	50.264143	-1.10392	0.009988	40.010844	0.009975
37.560001	1.020663	50.234376	-0.997855	50.244286	-1.137975	0.010226	39.806193	0.010456
37.580002	1.019034	50.15906	-0.930772	50.167695	-1.063083	0.009427	40.512305	0.008887
37.599998	1.02052	50.215852	-0.994685	50.225703	-1.134779	0.010156	39.865603	0.010314
37.619999	1.020049	50.206083	-0.973014	50.215511	-1.110279	0.009925	40.06533	0.009851
37.639999	1.020291	50.251105	-0.975141	50.260565	-1.111708	0.010044	39.962012	0.010088
37.66	1.019388	50.188795	-0.943253	50.197658	-1.076698	0.009601	40.353612	0.009218
37.68	1.01878	50.300413	-0.883399	50.30817	-1.006154	0.009303	40.627993	0.008654
37.700001	1.018313	50.23584	-0.878398	50.243519	-1.001744	0.009073	40.844667	0.008233
37.720001	1.020136	50.185911	-0.981206	50.195502	-1.120074	0.009968	40.028168	0.009935
37.740002	1.01991	50.220298	-0.963027	50.229531	-1.098574	0.009857	40.12523	0.009716
37.759998	1.019605	50.265022	-0.936593	50.273747	-1.067476	0.009708	40.257839	0.009424
37.779999	1.019567	50.255917	-0.937083	50.264653	-1.068228	0.009689	40.274614	0.009387
37.799999	1.019079	50.239531	-0.916472	50.247889	-1.045079	0.00945	40.491783	0.008929
37.82	1.019506	50.217521	-0.943262	50.226379	-1.076092	0.009659	40.301591	0.009329
37.84	1.018799	50.210084	-0.909236	50.218316	-1.037436	0.009312	40.619179	0.008671
37.860001	1.018561	50.255683	-0.885719	50.263487	-1.009693	0.009195	40.728986	0.008455
37.880001	1.018987	50.25808	-0.906897	50.266262	-1.033781	0.009404	40.533395	0.008844
37.900002	1.018641	50.272449	-0.885007	50.280238	-1.008544	0.009234	40.691807	0.008527
37.919998	1.017538	50.218902	-0.843239	50.225981	-0.96198	0.008693	41.217051	0.007556
37.939999	1.017545	50.232338	-0.840148	50.239363	-0.958198	0.008696	41.213299	0.007563
37.959999	1.018779	50.212065	-0.907776	50.22027	-1.03573	0.009302	40.628414	0.008653
37.98	1.017833	50.227142	-0.856213	50.23444	-0.976618	0.008838	41.07302	0.007811

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
38	1.017855	50.270541	-0.845038	50.277643	-0.963042	0.008849	41.062471	0.00783
38.02	1.01825	50.33423	-0.843479	50.341297	-0.960049	0.009042	40.874416	0.008176
38.040001	1.018015	50.220572	-0.867114	50.228057	-0.989179	0.008927	40.985638	0.00797
38.060001	1.017752	50.268595	-0.840293	50.275618	-0.957673	0.008798	41.112489	0.00774
38.080002	1.017375	50.251528	-0.826005	50.258317	-0.941711	0.008613	41.297339	0.007418
38.099998	1.017581	50.256718	-0.835087	50.263656	-0.951965	0.008714	41.19576	0.007593
38.119999	1.018222	50.292759	-0.856908	50.300059	-0.976136	0.009029	40.887573	0.008152
38.139999	1.018063	50.226622	-0.868042	50.234122	-0.990118	0.008951	40.962811	0.008012
38.16	1.018189	50.278742	-0.859754	50.286092	-0.979649	0.009013	40.90295	0.008123
38.18	1.018312	50.272948	-0.867915	50.280439	-0.989062	0.009073	40.844865	0.008232
38.200001	1.017787	50.250528	-0.847507	50.257674	-0.966239	0.008815	41.095358	0.007771
38.220001	1.017602	50.290397	-0.82541	50.297171	-0.940305	0.008724	41.185283	0.007612
38.240002	1.017858	50.294175	-0.837454	50.301147	-0.953952	0.00885	41.061284	0.007832
38.259998	1.018109	50.343392	-0.832377	50.350273	-0.947243	0.008973	40.941098	0.008052
38.279999	1.018015	50.284893	-0.848726	50.292055	-0.966968	0.008927	40.985989	0.007969
38.299999	1.016172	50.277982	-0.754804	50.283647	-0.860096	0.008021	41.9153	0.006434
38.32	1.017955	50.314794	-0.83525	50.321727	-0.951052	0.008898	41.014445	0.007917
38.34	1.016878	50.266152	-0.795775	50.272451	-0.906988	0.008368	41.54705	0.007003
38.360001	1.01629	50.283664	-0.758948	50.289391	-0.864719	0.008079	41.852727	0.006527
38.380001	1.017211	50.270132	-0.811796	50.276687	-0.925172	0.008532	41.378701	0.00728
38.400002	1.017481	50.268387	-0.826339	50.275179	-0.941776	0.008665	41.244861	0.007508
38.419998	1.015114	50.250342	-0.709023	50.255344	-0.808381	0.0075	42.498492	0.005625
38.439999	1.015931	50.237528	-0.755691	50.243212	-0.861801	0.007902	42.044791	0.006245
38.459999	1.016315	50.294592	-0.756209	50.300277	-0.861413	0.008092	41.839338	0.006547
38.48	1.016098	50.279865	-0.750224	50.285462	-0.854846	0.007985	41.954847	0.006376
38.5	1.017738	50.315329	-0.823624	50.322069	-0.937807	0.008791	41.119024	0.007729
38.52	1.015652	50.292048	-0.72199	50.29723	-0.82248	0.007765	42.196806	0.00603
38.540001	1.017103	50.316505	-0.789514	50.322699	-0.898953	0.008479	41.433288	0.007189
38.560001	1.016208	50.269642	-0.759642	50.275381	-0.865752	0.008039	41.896093	0.006462
38.580002	1.016298	50.277246	-0.761688	50.283015	-0.867952	0.008083	41.848422	0.006534
38.599998	1.015684	50.321	-0.711534	50.326031	-0.810104	0.007781	42.179586	0.006054
38.619999	1.015321	50.326852	-0.68917	50.33157	-0.784554	0.007602	42.380905	0.00578
38.639999	1.01525	50.261036	-0.712414	50.266085	-0.812073	0.007567	42.421105	0.005727
38.66	1.01512	50.327747	-0.677715	50.33231	-0.771502	0.007503	42.49496	0.00563
38.68	1.014995	50.28133	-0.691206	50.286081	-0.787584	0.007442	42.566741	0.005538
38.700001	1.015498	50.284667	-0.716676	50.289774	-0.816547	0.007689	42.282227	0.005913
38.720001	1.015623	50.245023	-0.737393	50.250433	-0.84081	0.007751	42.212675	0.006008
38.740002	1.01537	50.30214	-0.70274	50.307049	-0.800393	0.007626	42.353878	0.005816
38.759998	1.014988	50.298163	-0.683893	50.302812	-0.778991	0.007438	42.570547	0.005533
38.779999	1.014223	50.27309	-0.653274	50.277334	-0.74449	0.007061	43.022505	0.004986

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
38.799999	1.01465	50.243602	-0.687051	50.2483	-0.783437	0.007272	42.767281	0.005288
38.82	1.014765	50.249135	-0.691127	50.253888	-0.787998	0.007328	42.700094	0.00537
38.84	1.014827	50.243241	-0.696458	50.248068	-0.794169	0.007359	42.663566	0.005416
38.860001	1.013223	50.248418	-0.609817	50.252118	-0.695312	0.006568	43.650933	0.004314
38.880001	1.014151	50.263335	-0.653355	50.267581	-0.744727	0.007026	43.066298	0.004936
38.900002	1.014418	50.278903	-0.66133	50.283252	-0.753582	0.007157	42.905097	0.005123
38.919998	1.014954	50.280398	-0.689414	50.285125	-0.785557	0.007422	42.590092	0.005508
38.939999	1.013654	50.270192	-0.623941	50.274064	-0.711105	0.006781	43.374307	0.004598
38.959999	1.01414	50.267554	-0.651088	50.27177	-0.742081	0.00702	43.072946	0.004928
38.98	1.013993	50.316685	-0.620923	50.320516	-0.707012	0.006948	43.16275	0.004828
39	1.01452	50.258655	-0.674753	50.263184	-0.769185	0.007207	42.84432	0.005195
39.02	1.013295	50.262996	-0.607615	50.266669	-0.692599	0.006603	43.604637	0.00436
39.040001	1.015092	50.322849	-0.678489	50.327423	-0.772458	0.007489	42.51095	0.005609
39.060001	1.014454	50.22425	-0.683266	50.228897	-0.779423	0.007175	42.883572	0.005148
39.080002	1.013515	50.287455	-0.608691	50.291139	-0.693488	0.006712	43.462819	0.004505
39.099998	1.012405	50.238035	-0.570234	50.241271	-0.650317	0.006164	44.202121	0.0038
39.119999	1.012782	50.218629	-0.59772	50.222186	-0.681924	0.00635	43.943842	0.004033
39.139999	1.013243	50.223746	-0.620151	50.227575	-0.70744	0.006578	43.638184	0.004327
39.16	1.012826	50.239508	-0.592162	50.242998	-0.675303	0.006372	43.914112	0.004061
39.18	1.011349	50.228224	-0.517457	50.230889	-0.590248	0.005643	44.970478	0.003184
39.200001	1.012687	50.228567	-0.588986	50.232021	-0.671827	0.006303	44.008649	0.003973
39.220001	1.012333	50.213459	-0.575906	50.216762	-0.657107	0.006129	44.25257	0.003756
39.240002	1.012493	50.26872	-0.561462	50.271855	-0.639924	0.006208	44.141289	0.003854
39.259998	1.012731	50.221916	-0.593809	50.225427	-0.677418	0.006325	43.978704	0.004001
39.279999	1.012588	50.266114	-0.567872	50.269322	-0.647262	0.006255	44.076035	0.003912
39.299999	1.011262	50.209038	-0.520726	50.211738	-0.594204	0.005599	45.037186	0.003135
39.32	1.0118	50.235495	-0.538686	50.238383	-0.614372	0.005865	44.634311	0.00344
39.34	1.011883	50.200637	-0.55678	50.203724	-0.635448	0.005906	44.573652	0.003488
39.360001	1.011583	50.195797	-0.542706	50.19873	-0.619446	0.005758	44.794425	0.003316
39.380001	1.011656	50.198467	-0.545593	50.201432	-0.622708	0.005794	44.740266	0.003357
39.400002	1.011169	50.195801	-0.52086	50.198503	-0.594513	0.005554	45.108638	0.003084
39.419998	1.010428	50.213553	-0.473893	50.215789	-0.540717	0.005187	45.702108	0.00269
39.439999	1.012151	50.251736	-0.550577	50.254752	-0.627731	0.006039	44.381152	0.003647
39.459999	1.010723	50.242176	-0.476573	50.244436	-0.543465	0.005333	45.46092	0.002844
39.48	1.011287	50.234133	-0.511449	50.236737	-0.583327	0.005612	45.018084	0.003149
39.5	1.011794	50.250164	-0.531816	50.252978	-0.606361	0.005862	44.638469	0.003437
39.52	1.009985	50.14909	-0.474649	50.151336	-0.542275	0.004968	46.076946	0.002468
39.540001	1.011753	50.177544	-0.557659	50.180642	-0.636743	0.005842	44.668876	0.003413
39.560001	1.012033	50.26551	-0.537653	50.268385	-0.612828	0.00598	44.465371	0.003577
39.580002	1.009508	50.19559	-0.431852	50.197448	-0.492926	0.004731	46.500028	0.002239

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**02- post claibration.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
39.599998	1.011235	50.181872	-0.529284	50.184663	-0.604295	0.005586	45.057432	0.003121
39.619999	1.008679	50.140866	-0.409118	50.142535	-0.467488	0.004321	47.288769	0.001867
39.639999	1.009831	50.160615	-0.462838	50.162751	-0.528661	0.004891	46.211623	0.002392
39.66	1.010618	50.209606	-0.485905	50.211957	-0.554466	0.005281	45.546114	0.002789
39.68	1.009614	50.190451	-0.439829	50.192378	-0.502082	0.004784	46.404602	0.002288
39.700001	1.008532	50.128386	-0.405508	50.130026	-0.463478	0.004248	47.436363	0.001805
39.720001	1.010221	50.233779	-0.452862	50.23582	-0.516513	0.005084	45.875045	0.002585
39.740002	1.009552	50.154103	-0.450438	50.156125	-0.514565	0.004753	46.460057	0.002259
39.759998	1.009144	50.12287	-0.438789	50.124791	-0.501571	0.004551	46.837787	0.002071
39.779999	1.00998	50.169202	-0.467717	50.171383	-0.534142	0.004965	46.080986	0.002465
39.799999	1.009978	50.160692	-0.470535	50.162899	-0.537451	0.004964	46.083115	0.002464
39.82	1.009567	50.151503	-0.452097	50.15354	-0.516486	0.004761	46.446396	0.002267
39.84	1.008891	50.139152	-0.420805	50.140918	-0.480858	0.004426	47.079852	0.001959
39.860001	1.00772	50.074655	-0.377489	50.076078	-0.431918	0.003845	48.301843	0.001478
39.880001	1.00837	50.164121	-0.383827	50.165589	-0.438386	0.004168	47.602362	0.001737
39.900002	1.008305	50.107641	-0.399754	50.109235	-0.457092	0.004135	47.669554	0.00171
39.919998	1.008608	50.101084	-0.416929	50.102819	-0.476791	0.004286	47.359545	0.001837
39.939999	1.008475	50.076234	-0.415361	50.077956	-0.475234	0.00422	47.494298	0.001781
39.959999	1.007525	50.078303	-0.366893	50.079647	-0.419764	0.003749	48.522623	0.001405
39.98	1.007673	50.122397	-0.362561	50.123709	-0.414443	0.003822	48.354341	0.001461
40	1.008515	50.147878	-0.398001	50.149458	-0.454722	0.00424	47.453599	0.001797

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	1.966107	95.229637	14.651944	96.350212	8.746901	0.325715	9.743234	10.609053	
10.02	1.96792	95.347808	14.601027	96.459289	8.706334	0.326127	9.732257	10.635901	
10.04	1.969339	95.42348	14.599532	96.533864	8.698659	0.326449	9.723683	10.656919	
10.06	1.970958	95.498123	14.624599	96.61144	8.706659	0.326816	9.713923	10.680895	
10.08	1.970124	95.477556	14.57069	96.582962	8.676894	0.326628	9.718944	10.668556	
10.1	1.969644	95.504836	14.448863	96.591632	8.603015	0.326518	9.721845	10.661432	
10.12	1.971	95.581822	14.436307	96.665876	8.58883	0.326826	9.71367	10.68152	
10.14	1.972234	95.63626	14.461195	96.723422	8.598592	0.327105	9.706245	10.699797	
10.16	1.973423	95.76402	14.308808	96.827112	8.49813	0.327375	9.699101	10.717412	
10.18	1.974361	95.820936	14.291058	96.880783	8.482773	0.327587	9.693478	10.731296	
10.2	1.97455	95.845321	14.256875	96.899866	8.460656	0.327629	9.692346	10.734095	
10.22	1.975739	95.931851	14.200084	96.977123	8.419946	0.327898	9.685221	10.751719	
10.24	1.977006	96.004547	14.185684	97.04693	8.405251	0.328184	9.67765	10.770478	
10.26	1.979233	96.095285	14.24892	97.145949	8.434324	0.328686	9.664371	10.803461	
10.28	1.977315	96.056112	14.100968	97.085601	8.351344	0.328254	9.675802	10.775061	
10.3	1.979133	96.171371	14.053405	97.19275	8.313734	0.328664	9.664964	10.801986	
10.32	1.980217	96.234442	14.038561	97.253015	8.299708	0.328908	9.658515	10.818037	
10.34	1.980843	96.249263	14.082406	97.274019	8.324003	0.329049	9.654795	10.827308	
10.36	1.980624	96.273873	13.994637	97.285705	8.270758	0.328999	9.656095	10.824067	
10.38	1.981876	96.345243	13.98103	97.354379	8.256791	0.329281	9.648657	10.842622	
10.4	1.98306	96.430828	13.92357	97.430849	8.216123	0.329548	9.641639	10.860157	
10.42	1.980717	96.391159	13.717314	97.362315	8.099327	0.329021	9.655539	10.825452	
10.44	1.982966	96.490956	13.762481	97.467485	8.117348	0.329526	9.642195	10.858766	
10.46	1.985346	96.605562	13.787759	97.584511	8.12254	0.330061	9.628121	10.894013	
10.48	1.984442	96.603696	13.673887	97.56664	8.056495	0.329858	9.633459	10.880633	
10.5	1.983756	96.572423	13.662183	97.534035	8.052261	0.329704	9.637515	10.870474	
10.52	1.984309	96.627048	13.597323	97.579063	8.01006	0.329828	9.634248	10.878655	
10.54	1.985047	96.651724	13.632659	97.608427	8.028581	0.329994	9.629885	10.88959	
10.56	1.986547	96.759201	13.559265	97.704639	7.977161	0.33033	9.621031	10.911812	
10.58	1.987746	96.859608	13.462938	97.790768	7.913104	0.330599	9.613966	10.929579	
10.6	1.989383	96.933999	13.491654	97.868406	7.92376	0.330966	9.604343	10.953822	
10.62	1.987126	96.847806	13.409887	97.771788	7.883264	0.33046	9.617616	10.920395	
10.64	1.989474	97.009234	13.30935	97.917977	7.812036	0.330986	9.603807	10.955174	
10.66	1.989862	96.997786	13.391707	97.917865	7.86069	0.331073	9.601532	10.960914	
10.68	1.988539	96.972082	13.278917	97.877037	7.797342	0.330777	9.6093	10.941327	
10.7	1.991465	97.160107	13.186176	98.050811	7.728744	0.331431	9.592129	10.984672	
10.72	1.990893	97.123526	13.203967	98.016958	7.741925	0.331303	9.59548	10.9762	
10.74	1.990497	97.113732	13.175181	98.00338	7.726021	0.331215	9.597807	10.970321	
10.76	1.991406	97.191612	13.094407	98.069736	7.673141	0.331418	9.592478	10.983789	
10.78	1.991117	97.210034	13.004993	98.076096	7.619936	0.331353	9.594169	10.979512	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	1.992685	97.271501	13.059171	98.144214	7.646527	0.331704	9.584992	11.002739	
10.82	1.993539	97.328057	13.026865	98.195977	7.623454	0.331894	9.580002	11.015388	
10.84	1.991956	97.272861	12.953578	98.131568	7.585317	0.331541	9.589256	10.991941	
10.86	1.991855	97.281687	12.915555	98.135305	7.562632	0.331518	9.589847	10.990446	
10.88	1.993207	97.339241	12.950219	98.196925	7.578262	0.33182	9.581942	11.010469	
10.9	1.991639	97.314464	12.795793	98.152112	7.490811	0.33147	9.591115	10.987238	
10.92	1.992985	97.406666	12.73498	98.235626	7.448634	0.331771	9.583239	11.007182	
10.94	1.99348	97.382253	12.872218	98.229309	7.529854	0.331881	9.580345	11.014517	
10.96	1.994867	97.485542	12.787198	98.320615	7.472848	0.332191	9.572252	11.035064	
10.98	1.995715	97.543713	12.748517	98.373272	7.446105	0.33238	9.56731	11.047627	
11	1.994557	97.499854	12.703494	98.323956	7.423402	0.332122	9.574056	11.03048	
11.02	1.995004	97.532223	12.678172	98.352786	7.406337	0.332221	9.571451	11.037097	
11.04	1.997251	97.645217	12.688678	98.466192	7.403924	0.332722	9.558372	11.070386	
11.06	1.99569	97.596294	12.59909	98.406166	7.355868	0.332374	9.567455	11.047258	
11.08	1.994385	97.563424	12.50132	98.361094	7.301837	0.332083	9.57506	11.027929	
11.1	1.998022	97.720047	12.591825	98.527974	7.342465	0.332894	9.553891	11.081815	
11.12	1.99715	97.699376	12.522636	98.498652	7.304084	0.332699	9.558961	11.068885	
11.14	1.996519	97.721462	12.367288	98.500934	7.212822	0.332559	9.562629	11.059541	
11.16	1.997555	97.760503	12.409089	98.544921	7.234083	0.332789	9.556609	11.074882	
11.18	2.000224	97.902905	12.397827	98.684776	7.217186	0.333383	9.541129	11.114427	
11.2	1.999907	97.890378	12.386624	98.67094	7.211646	0.333313	9.542966	11.109728	
11.22	1.999927	97.88653	12.400575	98.668875	7.219964	0.333317	9.54285	11.110024	
11.24	1.999909	97.884297	12.4043	98.667128	7.222272	0.333313	9.542953	11.109759	
11.26	1.999109	97.877377	12.30538	98.647876	7.16578	0.333135	9.547586	11.097915	
11.28	2.00072	97.990283	12.22031	98.749337	7.108635	0.333493	9.538258	11.121778	
11.3	2.000804	97.993149	12.224562	98.752707	7.110877	0.333512	9.537774	11.123017	
11.32	2.00224	98.102908	12.121381	98.848917	7.043654	0.333831	9.529472	11.144301	
11.34	2.003225	98.142144	12.155709	98.892071	7.060606	0.334049	9.523793	11.158882	
11.36	2.001911	98.085903	12.121307	98.832031	7.044821	0.333758	9.531371	11.139427	
11.38	2.002945	98.167108	12.039744	98.902662	6.992157	0.333987	9.525403	11.154746	
11.4	2.000868	98.089936	11.949872	98.815156	6.945882	0.333526	9.537402	11.123969	
11.42	2.002036	98.146359	11.96172	98.872598	6.948742	0.333785	9.530652	11.141273	
11.44	2.002808	98.164854	12.025349	98.898673	6.984038	0.333957	9.526197	11.152708	
11.46	2.00356	98.246162	11.898898	98.964095	6.905648	0.334123	9.521862	11.163845	
11.48	2.006179	98.370213	11.932933	99.09134	6.916561	0.334704	9.506792	11.202652	
11.5	2.005209	98.353231	11.833179	99.062516	6.860468	0.334489	9.512367	11.188279	
11.52	2.007003	98.484745	11.715014	99.179063	6.783617	0.334886	9.502062	11.214859	
11.54	2.006422	98.440697	11.757855	99.140395	6.81121	0.334757	9.505399	11.206246	
11.56	2.005836	98.452289	11.629782	99.1368	6.736918	0.334628	9.508759	11.197577	
11.58	2.005531	98.416927	11.690053	99.108773	6.773919	0.33456	9.510513	11.193057	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	2.006005	98.446732	11.673637	99.136435	6.762465	0.334665	9.507791	11.200075	
11.62	2.008057	98.581567	11.584287	99.259867	6.702084	0.335119	9.496019	11.230474	
11.64	2.009968	98.690371	11.552354	99.36421	6.676474	0.335541	9.485088	11.258777	
11.66	2.010061	98.703441	11.526613	99.374202	6.660857	0.335562	9.484553	11.260162	
11.68	2.008706	98.654668	11.460572	99.318116	6.62628	0.335262	9.492303	11.240087	
11.7	2.009431	98.710544	11.402314	99.366918	6.589194	0.335423	9.488153	11.250834	
11.72	2.007364	98.620812	11.349254	99.271699	6.564715	0.334966	9.49999	11.220212	
11.74	2.008235	98.678589	11.308227	99.324417	6.537393	0.335158	9.494998	11.233116	
11.76	2.008944	98.739386	11.230539	99.37601	6.488902	0.335315	9.490938	11.243621	
11.78	2.009959	98.76931	11.301904	99.413831	6.52782	0.335539	9.485139	11.258644	
11.8	2.009054	98.758933	11.185795	99.390386	6.462	0.335339	9.49031	11.245246	
11.82	2.009447	98.816532	11.064472	99.434047	6.388801	0.335426	9.488062	11.25107	
11.84	2.009925	98.827202	11.109735	99.449696	6.414032	0.335532	9.485333	11.258143	
11.86	2.011036	98.885552	11.105806	99.507242	6.40803	0.335777	9.478989	11.2746	
11.88	2.012185	98.96809	11.02914	99.580745	6.358894	0.33603	9.472435	11.291627	
11.9	2.01182	98.943437	11.048506	99.558391	6.371542	0.33595	9.474513	11.286224	
11.92	2.012222	98.985421	10.978232	99.592345	6.328682	0.336038	9.472227	11.292168	
11.94	2.011256	98.917937	11.037026	99.531774	6.366603	0.335825	9.47773	11.277868	
11.96	2.012727	99.066018	10.796147	99.65256	6.219522	0.33615	9.469347	11.299657	
11.98	2.012454	99.037192	10.845908	99.629308	6.249766	0.33609	9.4709	11.295619	
12	2.014113	99.127737	10.827896	99.717358	6.233814	0.336455	9.461464	11.320187	
12.02	2.01474	99.203663	10.679813	99.776877	6.144548	0.336593	9.457904	11.329471	
12.04	2.014305	99.176018	10.697996	99.751339	6.156632	0.336497	9.460373	11.323031	
12.06	2.012766	99.129556	10.586909	99.693287	6.096019	0.336158	9.469124	11.300237	
12.08	2.015272	99.236911	10.65946	99.807758	6.130888	0.33671	9.454884	11.33735	
12.1	2.01664	99.347324	10.520907	99.902854	6.045117	0.337011	9.447123	11.357628	
12.12	2.015707	99.30728	10.493859	99.860187	6.032104	0.336806	9.452411	11.343808	
12.14	2.013376	99.179477	10.522645	99.736126	6.056264	0.336293	9.465652	11.309276	
12.16	2.016096	99.337643	10.457346	99.886552	6.009445	0.336891	9.450211	11.349557	
12.18	2.017277	99.421798	10.374386	99.961601	5.957106	0.337151	9.443521	11.367054	
12.2	2.016723	99.427888	10.252038	99.955036	5.88699	0.337029	9.446658	11.358845	
12.22	2.015807	99.376389	10.268511	99.9055	5.899417	0.336828	9.451847	11.345282	
12.24	2.015844	99.385903	10.241253	99.912167	5.883308	0.336836	9.45164	11.345824	
12.26	2.017847	99.476021	10.285651	100.006366	5.903318	0.337276	9.440296	11.375497	
12.28	2.019811	99.612039	10.158363	100.128671	5.822862	0.337707	9.4292	11.404598	
12.3	2.018328	99.545044	10.126125	100.058753	5.808389	0.337381	9.437576	11.382624	
12.32	2.016412	99.42733	10.197159	99.948867	5.85573	0.336961	9.448416	11.354249	
12.34	2.018823	99.58652	10.067498	100.094103	5.772599	0.33749	9.434776	11.389966	
12.36	2.018758	99.613031	9.957994	100.109528	5.708719	0.337476	9.435143	11.389002	
12.38	2.017526	99.537662	10.003539	100.039077	5.738968	0.337205	9.442108	11.370751	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
12.4	2.019155	99.632802	9.959879	100.129388	5.708667	0.337563	9.432903	11.394879	
12.42	2.018637	99.631466	9.866509	100.118815	5.655574	0.337449	9.435831	11.387198	
12.44	2.020728	99.753565	9.809398	100.234715	5.616209	0.337908	9.424034	11.418174	
12.46	2.019638	99.713867	9.749311	100.189342	5.584233	0.337669	9.430176	11.402037	
12.48	2.021649	99.790578	9.847094	100.275245	5.635575	0.33811	9.418847	11.431819	
12.5	2.019447	99.704171	9.748953	100.179658	5.584569	0.337627	9.431257	11.399197	
12.52	2.019634	99.723015	9.713874	100.195005	5.563557	0.337668	9.430199	11.401976	
12.54	2.021429	99.814835	9.713214	100.286329	5.558095	0.338062	9.420084	11.428562	
12.56	2.020258	99.768165	9.663215	100.235046	5.532233	0.337805	9.426682	11.411213	
12.58	2.020018	99.794393	9.5152	100.246994	5.446584	0.337752	9.428034	11.407662	
12.6	2.022727	99.908213	9.609408	100.369277	5.493953	0.338346	9.412787	11.447781	
12.62	2.023287	99.966771	9.493359	100.416529	5.424843	0.338468	9.409637	11.456086	
12.64	2.022093	99.938083	9.366834	100.376083	5.354493	0.338207	9.41635	11.438392	
12.66	2.024994	100.062197	9.460687	100.508447	5.401159	0.338842	9.400061	11.481374	
12.68	2.023294	99.984446	9.425584	100.42774	5.385396	0.33847	9.409597	11.456192	
12.7	2.022509	99.964692	9.345425	100.400581	5.340911	0.338298	9.414012	11.444552	
12.72	2.023351	100.003576	9.361422	100.440785	5.347932	0.338482	9.409282	11.457024	
12.74	2.023126	100.003459	9.31654	100.436497	5.322446	0.338433	9.41054	11.453704	
12.76	2.022824	100.010234	9.227827	100.435053	5.271697	0.338367	9.412239	11.449224	
12.78	2.024712	100.100773	9.250584	100.5273	5.279871	0.33878	9.401643	11.477193	
12.8	2.025948	100.171085	9.220933	100.594591	5.259369	0.33905	9.394724	11.495492	
12.82	2.025792	100.176886	9.165374	100.595291	5.227556	0.339016	9.395596	11.493185	
12.84	2.026564	100.218065	9.157919	100.63562	5.221193	0.339185	9.391274	11.504627	
12.86	2.026449	100.241178	9.039304	100.647915	5.152751	0.33916	9.39192	11.502918	
12.88	2.026492	100.261652	8.963529	100.66153	5.108748	0.339169	9.391682	11.503548	
12.9	2.027749	100.298937	9.073898	100.708552	5.169402	0.339443	9.384657	11.52217	
12.92	2.026758	100.28641	8.91693	100.682052	5.081081	0.339227	9.39019	11.507501	
12.94	2.027539	100.350895	8.812531	100.737098	5.018687	0.339397	9.385831	11.519055	
12.96	2.029049	100.391317	8.965407	100.790848	5.103248	0.339727	9.377407	11.541421	
12.98	2.027436	100.357541	8.762204	100.739329	4.989843	0.339375	9.386402	11.517541	
13	2.028418	100.431748	8.657942	100.804246	4.927137	0.339589	9.380923	11.532082	
13.02	2.028818	100.448423	8.673752	100.822218	4.935274	0.339676	9.378691	11.538009	
13.04	2.027073	100.37687	8.59948	100.744564	4.896692	0.339296	9.388434	11.512154	
13.06	2.028946	100.480842	8.561273	100.844906	4.870021	0.339704	9.377977	11.539908	
13.08	2.030562	100.576538	8.501313	100.935189	4.831496	0.340056	9.368983	11.56383	
13.1	2.031199	100.602358	8.530122	100.963347	4.846553	0.340195	9.365441	11.573266	
13.12	2.030218	100.553299	8.526726	100.914176	4.846985	0.339981	9.370897	11.558736	
13.14	2.030639	100.585708	8.478214	100.942384	4.817993	0.340073	9.368551	11.564979	
13.16	2.029905	100.576928	8.35114	100.92304	4.746524	0.339913	9.372638	11.554102	
13.18	2.032038	100.698087	8.292937	101.03899	4.707947	0.340378	9.36078	11.585694	



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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	2.031372	100.660099	8.311982	101.002696	4.720483	0.340233	9.364476	11.575836	
13.22	2.032309	100.706563	8.316829	101.049401	4.721054	0.340437	9.359275	11.589708	
13.24	2.030334	100.62403	8.236465	100.96056	4.679456	0.340007	9.370251	11.560453	
13.26	2.033247	100.799192	8.110538	101.124962	4.60025	0.340641	9.354071	11.603605	
13.28	2.033799	100.82669	8.112831	101.152555	4.600295	0.340761	9.351012	11.611178	
13.3	2.03379	100.847592	8.013006	101.165434	4.542991	0.340759	9.351061	11.611649	
13.32	2.032143	100.789706	7.8917	101.098189	4.477057	0.340401	9.360193	11.587257	
13.34	2.034884	100.908584	7.986816	101.224165	4.525479	0.340996	9.345008	11.627845	
13.36	2.034036	100.907122	7.788187	101.207228	4.413446	0.340812	9.349699	11.615291	
13.38	2.037038	101.058339	7.792115	101.3583	4.409082	0.341464	9.333112	11.659738	
13.4	2.035838	100.985612	7.849959	101.290254	4.444868	0.341203	9.339734	11.641973	
13.42	2.035228	100.963292	7.808548	101.2648	4.422486	0.341071	9.343105	11.632942	
13.44	2.035726	101.012939	7.689326	101.30518	4.353093	0.341179	9.340352	11.640316	
13.46	2.034454	100.959215	7.636463	101.247611	4.325571	0.340903	9.347389	11.62147	
13.48	2.035597	101.01	7.671555	101.300902	4.343196	0.341151	9.341067	11.638401	
13.5	2.035427	101.037316	7.492129	101.314714	4.240848	0.341114	9.342008	11.635879	
13.52	2.036029	101.060476	7.529008	101.340544	4.260673	0.341245	9.338681	11.644796	
13.54	2.035624	101.050689	7.47492	101.326779	4.230585	0.341157	9.340919	11.638797	
13.56	2.036352	101.113477	7.342142	101.379693	4.15313	0.341315	9.336897	11.64958	
13.58	2.037223	101.148882	7.386852	101.418252	4.176875	0.341504	9.332088	11.662487	
13.6	2.035773	101.096514	7.27832	101.358172	4.117842	0.341189	9.340093	11.641011	
13.62	2.034958	101.057489	7.266816	101.318423	4.112938	0.341012	9.3446	11.628936	
13.64	2.037328	101.185639	7.223233	101.44313	4.083194	0.341526	9.331513	11.664031	
13.66	2.03695	101.177444	7.165738	101.430878	4.051129	0.341445	9.333595	11.65844	
13.68	2.037191	101.192114	7.152374	101.444568	4.043014	0.341497	9.332269	11.662	
13.7	2.03825	101.25817	7.085632	101.505779	4.002806	0.341726	9.32643	11.677693	
13.72	2.036101	101.153998	7.061913	101.400207	3.993546	0.34126	9.33828	11.645872	
13.74	2.036187	101.185725	6.912787	101.421584	3.908256	0.341279	9.33781	11.647132	
13.76	2.037499	101.247212	6.939273	101.484735	3.920809	0.341564	9.330567	11.666573	
13.78	2.037698	101.28452	6.788013	101.511729	3.834194	0.341607	9.329473	11.669513	
13.8	2.039259	101.359107	6.811695	101.587734	3.844707	0.341945	9.320879	11.692628	
13.82	2.039502	101.383148	6.745505	101.607305	3.806558	0.341997	9.319542	11.696227	
13.84	2.038104	101.317758	6.716139	101.540113	3.792474	0.341695	9.327236	11.675525	
13.86	2.039483	101.412285	6.573105	101.625082	3.708483	0.341993	9.319646	11.695947	
13.88	2.041514	101.506804	6.619167	101.72239	3.73093	0.342433	9.308495	11.726018	
13.9	2.038995	101.390308	6.557711	101.602156	3.700622	0.341888	9.32233	11.68872	
13.92	2.041999	101.556299	6.47286	101.76237	3.646916	0.342538	9.305837	11.733194	
13.94	2.038011	101.351133	6.496395	101.559122	3.667528	0.341674	9.32775	11.674142	
13.96	2.037695	101.360697	6.344973	101.559094	3.581932	0.341606	9.32949	11.669467	
13.98	2.041664	101.55354	6.388813	101.754304	3.599785	0.342465	9.307673	11.728237	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	2.039921	101.487968	6.253875	101.680473	3.526219	0.342088	9.317239	11.702432	
14.02	2.03874	101.436276	6.205687	101.625925	3.500895	0.341832	9.323735	11.684941	
14.04	2.040094	101.516497	6.131521	101.701498	3.456429	0.342126	9.316288	11.704993	
14.06	2.040007	101.523133	6.06229	101.703972	3.417273	0.342107	9.316767	11.703702	
14.08	2.040927	101.572838	6.041195	101.752333	3.403748	0.342306	9.311714	11.717329	
14.1	2.041728	101.604189	6.098019	101.787018	3.434629	0.342479	9.307321	11.729188	
14.12	2.04093	101.581428	5.987521	101.757737	3.373292	0.342307	9.311696	11.717377	
14.14	2.041835	101.626525	5.990616	101.802937	3.373537	0.342502	9.306733	11.730774	
14.16	2.039518	101.525099	5.891896	101.69592	3.321377	0.342001	9.319456	11.696458	
14.18	2.038895	101.50062	5.847127	101.668897	3.296989	0.341866	9.32288	11.687242	
14.2	2.04156	101.643494	5.789933	101.808267	3.26023	0.342443	9.308242	11.7267	
14.22	2.039657	101.553525	5.750925	101.716231	3.241175	0.342031	9.318693	11.698515	
14.24	2.041764	101.673802	5.655702	101.830983	3.183857	0.342487	9.307121	11.729727	
14.26	2.041217	101.65839	5.572787	101.811022	3.137749	0.342369	9.310122	11.721625	
14.28	2.039514	101.572015	5.577355	101.725027	3.14298	0.342	9.319476	11.696406	
14.3	2.041527	101.674045	5.572205	101.826622	3.136939	0.342435	9.308425	11.726206	
14.32	2.040482	101.639822	5.444273	101.785527	3.066088	0.342209	9.314159	11.710732	
14.34	2.040378	101.640866	5.400048	101.784214	3.041197	0.342187	9.314728	11.709201	
14.36	2.042828	101.779962	5.285988	101.917134	2.973016	0.342717	9.301293	11.745478	
14.38	2.042463	101.752106	5.354444	101.89289	3.012271	0.342638	9.303295	11.740065	
14.4	2.039705	101.623029	5.284921	101.760357	2.976999	0.342041	9.318427	11.699231	
14.42	2.039876	101.644605	5.189784	101.777009	2.922883	0.342078	9.317487	11.701762	
14.44	2.040945	101.703356	5.152763	101.833804	2.900395	0.34231	9.311615	11.717596	
14.46	2.040862	101.71765	5.013095	101.841109	2.821511	0.342292	9.31207	11.716367	
14.48	2.043225	101.829011	5.069656	101.955132	2.850178	0.342802	9.299121	11.751353	
14.5	2.03821	101.601788	4.87758	101.718799	2.748483	0.341718	9.326654	11.677089	
14.52	2.039627	101.665201	4.938546	101.785079	2.781051	0.342024	9.318858	11.698071	
14.54	2.038534	101.631856	4.768136	101.743645	2.68611	0.341788	9.324866	11.681899	
14.56	2.040062	101.695677	4.871089	101.81227	2.742302	0.342119	9.316466	11.704514	
14.58	2.041219	101.773339	4.714503	101.882477	2.652253	0.342369	9.310112	11.721653	
14.6	2.038472	101.644953	4.635638	101.750605	2.611237	0.341774	9.325208	11.680978	
14.62	2.042207	101.828578	4.668532	101.935541	2.625004	0.342583	9.304693	11.736285	
14.64	2.041542	101.8092	4.551419	101.910885	2.55973	0.342439	9.308338	11.726441	
14.66	2.041334	101.794714	4.585181	101.897928	2.579058	0.342394	9.309483	11.72335	
14.68	2.040799	101.786514	4.425879	101.882692	2.48977	0.342278	9.312415	11.715437	
14.7	2.040228	101.754338	4.45607	101.851862	2.507524	0.342155	9.315553	11.706974	
14.72	2.039962	101.761776	4.272549	101.851429	2.404201	0.342097	9.317016	11.703032	
14.74	2.039979	101.762978	4.269429	101.852499	2.402419	0.342101	9.316922	11.703284	
14.76	2.041377	101.828051	4.315163	101.919442	2.426573	0.342403	9.309248	11.723985	
14.78	2.039586	101.749927	4.208913	101.836942	2.368709	0.342016	9.319081	11.697468	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	2.03992	101.771944	4.160548	101.856953	2.341015	0.342088	9.317245	11.702414	
14.82	2.042724	101.926321	4.031781	102.00603	2.265206	0.342694	9.301863	11.743936	
14.84	2.040349	101.807643	4.027364	101.887271	2.265362	0.342181	9.314886	11.708773	
14.86	2.040276	101.815307	3.91724	101.890635	2.203314	0.342165	9.315289	11.707686	
14.88	2.041009	101.853779	3.900697	101.928444	2.19319	0.342324	9.311262	11.718548	
14.9	2.039648	101.79129	3.842997	101.863807	2.162104	0.342029	9.318739	11.698389	
14.92	2.039399	101.784314	3.787295	101.854751	2.130941	0.341975	9.320108	11.694702	
14.94	2.039297	101.794221	3.631224	101.858967	2.043004	0.341953	9.320669	11.693193	
14.96	2.040837	101.873964	3.604419	101.937708	2.026349	0.342286	9.312206	11.716001	
14.98	2.039925	101.824408	3.644826	101.889621	2.050043	0.342089	9.317218	11.702487	
15	2.040592	101.865526	3.562642	101.927807	2.003048	0.342233	9.313554	11.712364	
15.02	2.040324	101.861938	3.454353	101.920493	1.94228	0.342175	9.315026	11.708397	
15.04	2.037154	101.706	3.421393	101.763532	1.926709	0.341489	9.332471	11.66146	
15.06	2.03946	101.826945	3.360433	101.882379	1.890159	0.341988	9.319772	11.695609	
15.08	2.039033	101.814251	3.258791	101.86639	1.833256	0.341896	9.322122	11.689281	
15.1	2.037024	101.715426	3.237028	101.766921	1.822789	0.341461	9.333187	11.659536	
15.12	2.036956	101.723909	3.091962	101.77089	1.741008	0.341446	9.333565	11.658521	
15.14	2.036339	101.69776	3.032341	101.742958	1.707896	0.341312	9.336968	11.649391	
15.16	2.036578	101.718212	2.922814	101.760196	1.645911	0.341364	9.335647	11.652934	
15.18	2.035029	101.647615	2.82927	101.686982	1.594368	0.341028	9.344205	11.629995	
15.2	2.036034	101.696548	2.848127	101.736423	1.604217	0.341246	9.338652	11.644875	
15.22	2.038139	101.807072	2.77844	101.844978	1.563287	0.341702	9.32704	11.676051	
15.24	2.0382	101.809132	2.792092	101.847411	1.570932	0.341716	9.326705	11.676951	
15.26	2.03517	101.66723	2.652848	101.701835	1.494708	0.341058	9.343426	11.632081	
15.28	2.036395	101.736679	2.532242	101.768188	1.425809	0.341324	9.336658	11.650221	
15.3	2.035461	101.686849	2.578595	101.719538	1.452609	0.341122	9.341817	11.636392	
15.32	2.032509	101.547018	2.456386	101.576723	1.385697	0.34048	9.358167	11.592666	
15.34	2.031924	101.523314	2.367397	101.550912	1.335826	0.340353	9.361414	11.584001	
15.36	2.033458	101.601942	2.33751	101.628828	1.317948	0.340686	9.352904	11.606722	
15.38	2.034819	101.669036	2.35495	101.696306	1.326901	0.340982	9.345366	11.626886	
15.4	2.032704	101.573958	2.171209	101.597161	1.22455	0.340523	9.357083	11.595558	
15.42	2.030715	101.478128	2.104157	101.499941	1.187865	0.34009	9.368132	11.566097	
15.44	2.02911	101.401393	2.038058	101.421872	1.15143	0.33974	9.377064	11.542332	
15.46	2.029036	101.401383	1.966806	101.420456	1.111185	0.339724	9.37748	11.541228	
15.48	2.031115	101.503561	2.003138	101.523325	1.130568	0.340177	9.365906	11.572025	
15.5	2.02866	101.389527	1.82602	101.405969	1.031784	0.339642	9.379576	11.535658	
15.52	2.028277	101.373204	1.765548	101.388577	0.997782	0.339558	9.381711	11.529988	
15.54	2.028203	101.370551	1.743483	101.385543	0.985341	0.339542	9.38212	11.528904	
15.56	2.031806	101.5539	1.673728	101.567692	0.944218	0.340327	9.362066	11.582262	
15.58	2.02686	101.308426	1.628109	101.321508	0.920712	0.339249	9.38962	11.50901	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	2.024395	101.184416	1.644008	101.197771	0.930841	0.338711	9.403421	11.472496	
15.62	2.022346	101.092814	1.367533	101.102063	0.775023	0.338262	9.414925	11.442146	
15.64	2.024363	101.193929	1.360986	101.203081	0.770542	0.338704	9.403601	11.472019	
15.66	2.022978	101.1256	1.333706	101.134394	0.755609	0.338401	9.411376	11.4515	
15.68	2.020944	101.024758	1.30802	101.033226	0.741798	0.337955	9.422817	11.421374	
15.7	2.017668	100.863588	1.227588	100.871058	0.697301	0.337237	9.441307	11.372849	
15.72	2.019294	100.943988	1.255797	100.951799	0.712755	0.337593	9.43212	11.396933	
15.74	2.013591	100.660619	1.19741	100.667741	0.681532	0.33634	9.464434	11.312448	
15.76	2.016319	100.797348	1.189583	100.804368	0.676159	0.33694	9.448942	11.352872	
15.78	2.016327	100.799405	1.135095	100.805796	0.645178	0.336942	9.448898	11.352988	
15.8	2.016018	100.786324	1.051515	100.791809	0.597752	0.336874	9.450653	11.348401	
15.82	2.015608	100.76697	1.009266	100.772024	0.573847	0.336784	9.452978	11.342329	
15.84	2.014328	100.704345	0.956534	100.708888	0.544205	0.336502	9.460242	11.323374	
15.86	2.014713	100.723984	0.941481	100.728384	0.535537	0.336587	9.458054	11.32908	
15.88	2.009934	100.48858	0.782919	100.49163	0.44639	0.335534	9.485281	11.258276	
15.9	2.008949	100.439096	0.795461	100.442246	0.453764	0.335316	9.49091	11.243694	
15.92	2.00855	100.419249	0.789225	100.42235	0.450296	0.335228	9.493196	11.237776	
15.94	2.00505	100.240081	0.967557	100.244751	0.553025	0.334454	9.513279	11.18593	
15.96	2.003599	100.169597	0.882335	100.173483	0.504672	0.334132	9.521635	11.164429	
15.98	2.003384	100.158293	0.905378	100.162385	0.51791	0.334084	9.522875	11.161242	
16	2.000905	100.03635	0.817259	100.039688	0.468075	0.333534	9.537188	11.124518	
16.02	2.002225	100.104592	0.707578	100.107092	0.404983	0.333827	9.529559	11.144076	
16.040001	2.000432	100.017088	0.582948	100.018787	0.333944	0.333429	9.539922	11.117516	
16.059999	1.999281	99.958693	0.632582	99.960695	0.362589	0.333173	9.546593	11.100454	
16.08	1.99805	99.897488	0.613685	99.899373	0.351973	0.3329	9.553729	11.082227	
16.1	1.99839	99.91379	0.653141	99.915925	0.37454	0.332975	9.55176	11.087255	
16.120001	1.995497	99.771347	0.511909	99.77266	0.293973	0.332331	9.568578	11.044402	
16.139999	1.993262	99.659472	0.521298	99.660835	0.2997	0.331833	9.581616	11.011294	
16.16	1.989939	99.492681	0.562787	99.494273	0.324095	0.33109	9.601079	10.962058	
16.18	1.988116	99.401061	0.59441	99.402838	0.34262	0.330682	9.611788	10.93506	
16.200001	1.988014	99.392259	0.79136	99.395409	0.456179	0.330659	9.612391	10.933542	
16.219999	1.986569	99.320696	0.757468	99.323584	0.436958	0.330335	9.620904	10.912132	
16.24	1.98525	99.253563	0.814206	99.256902	0.470005	0.330039	9.628684	10.892602	
16.26	1.984536	99.216779	0.861312	99.220517	0.497379	0.329879	9.632904	10.882021	
16.280001	1.982387	99.114488	0.599477	99.116301	0.34654	0.329396	9.645628	10.850187	
16.299999	1.981373	99.062903	0.652506	99.065052	0.37739	0.329168	9.651642	10.835172	
16.32	1.980104	98.99652	0.800258	98.999755	0.463153	0.328883	9.659185	10.81637	
16.34	1.981805	99.082222	0.770652	99.085219	0.445633	0.329265	9.649078	10.84157	
16.360001	1.979631	98.972243	0.82766	98.975703	0.479128	0.328776	9.662001	10.809358	
16.379999	1.976576	98.817051	0.92926	98.82142	0.538786	0.328087	9.680219	10.764109	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	1.976484	98.814	0.865261	98.817788	0.501696	0.328066	9.68077	10.762743	
16.42	1.97583	98.771829	1.202405	98.779148	0.697461	0.327919	9.684678	10.753063	
16.440001	1.976909	98.823493	1.270824	98.831664	0.736758	0.328162	9.678228	10.769045	
16.459999	1.973005	98.623794	1.391834	98.633615	0.808538	0.32728	9.701614	10.711212	
16.48	1.972506	98.598579	1.39917	98.608506	0.813006	0.327167	9.704608	10.703829	
16.5	1.972687	98.605715	1.44819	98.616349	0.841425	0.327208	9.703522	10.706506	
16.52	1.971836	98.569288	1.283135	98.577639	0.745812	0.327015	9.70864	10.693897	
16.540001	1.970132	98.479438	1.409572	98.489526	0.820041	0.326629	9.718896	10.668673	
16.559999	1.968989	98.423255	1.383134	98.432973	0.805121	0.32637	9.725795	10.651739	
16.58	1.969615	98.452903	1.427055	98.463245	0.830434	0.326512	9.722014	10.661017	
16.6	1.968569	98.397814	1.495863	98.409183	0.870956	0.326275	9.72833	10.645524	
16.620001	1.971121	98.521412	1.591419	98.534264	0.925421	0.326853	9.712942	10.683309	
16.639999	1.969021	98.417028	1.576158	98.429649	0.917521	0.326377	9.725602	10.652212	
16.66	1.968134	98.362149	1.802428	98.378662	1.049795	0.326176	9.730963	10.63907	
16.68	1.972157	98.56109	1.849878	98.578448	1.075251	0.327088	9.706709	10.698654	
16.700001	1.974683	98.676886	2.049674	98.698171	1.189954	0.327659	9.691545	10.736073	
16.719999	1.97488	98.687977	2.027183	98.708795	1.176769	0.327704	9.690367	10.738986	
16.74	1.974371	98.651177	2.222302	98.676205	1.290479	0.327589	9.693418	10.731444	
16.76	1.973588	98.613231	2.202043	98.637814	1.27921	0.327412	9.698111	10.719854	
16.780001	1.973994	98.62695	2.309088	98.653977	1.341186	0.327504	9.695677	10.725864	
16.799999	1.975191	98.696499	2.151331	98.719942	1.248706	0.327774	9.688501	10.743601	
16.82	1.977372	98.795879	2.312198	98.822933	1.340696	0.328267	9.675463	10.775903	
16.84	1.974789	98.663089	2.366408	98.691464	1.373963	0.327683	9.690912	10.737639	
16.860001	1.976968	98.763211	2.501719	98.794891	1.451022	0.328175	9.677877	10.769915	
16.879999	1.978526	98.839902	2.521407	98.872058	1.461302	0.328527	9.668578	10.793	
16.9	1.981832	99.003295	2.552201	99.036186	1.4767	0.329271	9.648921	10.841962	
16.92	1.983135	99.074126	2.470382	99.10492	1.428359	0.329564	9.641195	10.861267	
16.940001	1.986885	99.251463	2.62197	99.286089	1.513259	0.330406	9.619038	10.91682	
16.959999	1.989607	99.385439	2.654711	99.420888	1.530082	0.331016	9.603027	10.957142	
16.98	1.990413	99.428672	2.614082	99.463029	1.50602	0.331196	9.598299	10.969078	
17	1.99137	99.476678	2.612957	99.51099	1.504647	0.33141	9.592689	10.983256	
17.02	1.993231	99.565072	2.680641	99.601151	1.542233	0.331826	9.581799	11.010831	
17.040001	1.994257	99.612905	2.729269	99.650287	1.569443	0.332055	9.57581	11.026026	
17.059999	1.996942	99.756877	2.596356	99.790659	1.490894	0.332653	9.560169	11.065806	
17.08	1.99653	99.729879	2.686319	99.766052	1.542946	0.332561	9.562565	11.059704	
17.1	1.99685	99.753188	2.583095	99.786627	1.483338	0.332633	9.560705	11.064443	
17.120001	2.000808	99.947843	2.633647	99.982535	1.50941	0.333513	9.537752	11.123074	
17.139999	2.000816	99.938609	2.767295	99.976915	1.586115	0.333515	9.537704	11.123195	
17.16	2.004167	100.116377	2.629285	100.150897	1.504375	0.334258	9.518363	11.172843	
17.18	2.003973	100.112048	2.551541	100.144558	1.459976	0.334215	9.519478	11.169975	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	2.008875	100.349944	2.660614	100.385209	1.51875	0.3353	9.491335	11.242592	
17.219999	2.008851	100.356372	2.550538	100.388777	1.45585	0.335295	9.491471	11.242242	
17.24	2.009774	100.404626	2.519984	100.436245	1.437726	0.335498	9.486193	11.255912	
17.26	2.008876	100.350737	2.649695	100.385713	1.512509	0.3353	9.491333	11.242599	
17.280001	2.01233	100.527797	2.59128	100.561189	1.476575	0.336062	9.471606	11.293781	
17.299999	2.012364	100.529766	2.58734	100.563056	1.474302	0.33607	9.471413	11.294284	
17.32	2.012891	100.559222	2.542179	100.591351	1.448155	0.336186	9.468412	11.302092	
17.34	2.013898	100.602418	2.647472	100.637247	1.507461	0.336408	9.462684	11.317008	
17.360001	2.013819	100.60985	2.479026	100.640387	1.411485	0.33639	9.463135	11.315831	
17.379999	2.016905	100.7708	2.378149	100.798858	1.351908	0.337069	9.445627	11.361543	
17.4	2.016848	100.7648	2.428409	100.794058	1.380551	0.337057	9.445945	11.36071	
17.42	2.019286	100.892854	2.332325	100.919808	1.324264	0.337592	9.432163	11.39682	
17.440001	2.020627	100.957207	2.377214	100.985191	1.348882	0.337886	9.4246	11.416684	
17.459999	2.019701	100.914996	2.310048	100.941432	1.311332	0.337683	9.42982	11.40297	
17.48	2.022902	101.077035	2.279894	101.102744	1.292147	0.338384	9.4118	11.450382	
17.5	2.021847	101.026151	2.247334	101.051144	1.274341	0.338153	9.417732	11.434753	
17.52	2.022733	101.072298	2.216968	101.096609	1.256553	0.338347	9.412748	11.447883	
17.540001	2.024803	101.174924	2.233598	101.199577	1.264692	0.3388	9.401134	11.47854	
17.559999	2.027367	101.308658	2.138723	101.331231	1.209391	0.33936	9.386791	11.516511	
17.58	2.028655	101.374779	2.109399	101.396722	1.192037	0.339641	9.379599	11.535598	
17.6	2.029693	101.426028	2.121802	101.448219	1.198438	0.339867	9.373817	11.550967	
17.620001	2.030782	101.482603	2.083427	101.503987	1.176113	0.340104	9.36776	11.567087	
17.639999	2.031251	101.511291	1.98579	101.530712	1.120694	0.340207	9.365148	11.574046	
17.66	2.034345	101.67238	1.860314	101.689398	1.048234	0.340879	9.347989	11.619867	
17.68	2.03264	101.586873	1.863838	101.60397	1.051103	0.340509	9.357439	11.594609	
17.700001	2.035543	101.737269	1.753872	101.752386	0.987639	0.341139	9.341367	11.637595	
17.719999	2.037971	101.856034	1.81358	101.872179	1.020064	0.341666	9.327966	11.673563	
17.74	2.038021	101.862861	1.718043	101.877348	0.966274	0.341677	9.327695	11.674291	
17.76	2.038711	101.902325	1.603439	101.914939	0.90148	0.341826	9.323893	11.684515	
17.780001	2.040568	101.995752	1.590909	102.008159	0.893617	0.342228	9.313684	11.712015	
17.799999	2.039889	101.965577	1.495073	101.976537	0.840042	0.342081	9.317416	11.701953	
17.82	2.043064	102.122863	1.534967	102.134398	0.861126	0.342768	9.300002	11.74897	
17.84	2.041396	102.047047	1.327931	102.055687	0.745545	0.342407	9.309143	11.724267	
17.860001	2.044854	102.21901	1.35696	102.228016	0.760559	0.343154	9.290219	11.775467	
17.879999	2.044664	102.213681	1.231708	102.221102	0.6904	0.343113	9.291256	11.772655	
17.9	2.04772	102.368578	1.166077	102.37522	0.652627	0.343772	9.274594	11.817907	
17.92	2.045861	102.276468	1.135384	102.28277	0.636022	0.343371	9.284724	11.790373	
17.940001	2.04738	102.354724	1.05449	102.360156	0.590259	0.343698	9.276448	11.812865	
17.959999	2.049387	102.456836	0.988294	102.461602	0.552656	0.34413	9.265537	11.842578	
17.98	2.048776	102.430099	0.823866	102.433412	0.460832	0.343999	9.268856	11.833533	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	2.051002	102.541238	0.833363	102.544625	0.465639	0.344478	9.256776	11.866492	
18.02	2.05213	102.60186	0.602371	102.603628	0.336378	0.34472	9.250673	11.883182	
18.040001	2.053059	102.648335	0.601299	102.650096	0.335627	0.344919	9.24565	11.896934	
18.059999	2.050754	102.534009	0.5386	102.535424	0.300966	0.344424	9.25812	11.86282	
18.08	2.050898	102.538397	0.714215	102.540885	0.399079	0.344455	9.25734	11.864953	
18.1	2.052343	102.613704	0.518661	102.615015	0.289599	0.344766	9.249521	11.886333	
18.120001	2.050862	102.53894	0.571785	102.540534	0.319494	0.344448	9.257535	11.864419	
18.139999	2.053136	102.65414	0.456763	102.655156	0.254938	0.344936	9.245233	11.898074	
18.16	2.050819	102.538848	0.404033	102.539644	0.225762	0.344438	9.257772	11.863772	
18.18	2.055697	102.783668	0.302028	102.784112	0.168363	0.345485	9.231422	11.935972	
18.200001	2.054116	102.704586	0.306768	102.705044	0.171136	0.345146	9.239944	11.912574	
18.219999	2.056904	102.844157	0.284829	102.844552	0.158682	0.345743	9.224926	11.953838	
18.24	2.056079	102.803424	0.205517	102.80363	0.114542	0.345567	9.229362	11.941635	
18.26	2.055352	102.767344	0.142261	102.767443	0.079315	0.345411	9.233278	11.930872	
18.280001	2.056502	102.825084	-0.00452	102.825085	-0.002519	0.345657	9.227089	11.947887	
18.299999	2.05778	102.888959	0.041518	102.888968	0.02312	0.345931	9.22022	11.9668	
18.32	2.055865	102.793144	-0.100136	102.793193	-0.055815	0.345521	9.230513	11.938471	
18.34	2.058407	102.920054	-0.149953	102.920163	-0.083479	0.346065	9.216853	11.976082	
18.360001	2.059142	102.956867	-0.12872	102.956947	-0.071633	0.346222	9.212911	11.986955	
18.379999	2.05777	102.887026	-0.340687	102.88759	-0.189722	0.345929	9.220271	11.966658	
18.4	2.058218	102.910154	-0.239351	102.910432	-0.13326	0.346024	9.217868	11.973282	
18.42	2.059119	102.954034	-0.38859	102.954768	-0.216257	0.346217	9.213032	11.986622	
18.440001	2.060835	103.040015	-0.372057	103.040687	-0.206883	0.346584	9.203839	12.012021	
18.459999	2.062184	103.105887	-0.511692	103.107156	-0.284345	0.346871	9.19663	12.031978	
18.48	2.062505	103.12167	-0.530683	103.123035	-0.294853	0.34694	9.194918	12.036722	
18.5	2.063388	103.165209	-0.576039	103.166818	-0.319917	0.347128	9.190204	12.049794	
18.52	2.061362	103.062802	-0.647458	103.064836	-0.359938	0.346696	9.201021	12.019819	
18.540001	2.063134	103.151007	-0.669047	103.153176	-0.371621	0.347074	9.191562	12.046026	
18.559999	2.062378	103.110799	-0.799069	103.113895	-0.444012	0.346913	9.195595	12.034845	
18.58	2.064822	103.232351	-0.831781	103.235702	-0.461644	0.347434	9.182564	12.071009	
18.6	2.065548	103.265938	-0.952753	103.270333	-0.528609	0.347588	9.1787	12.081754	
18.620001	2.066698	103.321932	-1.012953	103.326897	-0.561702	0.347833	9.172591	12.098762	
18.639999	2.065792	103.27279	-1.152886	103.279225	-0.639596	0.34764	9.177405	12.085358	
18.66	2.067325	103.349425	-1.154893	103.355878	-0.640234	0.347966	9.16926	12.108045	
18.68	2.068754	103.418054	-1.247023	103.425572	-0.690845	0.34827	9.161689	12.129171	
18.700001	2.068062	103.381787	-1.298642	103.389944	-0.719691	0.348123	9.165355	12.118935	
18.719999	2.066702	103.312947	-1.324324	103.321435	-0.734411	0.347834	9.172568	12.098826	
18.74	2.067666	103.357394	-1.431528	103.367307	-0.793513	0.348038	9.167456	12.113076	
18.76	2.070526	103.499439	-1.460569	103.509744	-0.808498	0.348646	9.152309	12.155396	
18.780001	2.07128	103.532759	-1.574792	103.544735	-0.871436	0.348806	9.148329	12.166541	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	2.070125	103.475429	-1.563617	103.487242	-0.865732	0.348561	9.154431	12.149458	
18.82	2.07138	103.531384	-1.727655	103.545798	-0.956022	0.348827	9.147803	12.168015	
18.84	2.07197	103.555268	-1.853232	103.571849	-1.025262	0.348952	9.144686	12.176751	
18.860001	2.069253	103.422988	-1.773202	103.438188	-0.98225	0.348376	9.159043	12.136562	
18.879999	2.072514	103.57893	-1.927322	103.596859	-1.065997	0.349067	9.14182	12.184789	
18.9	2.073332	103.618713	-1.951148	103.637082	-1.078758	0.34924	9.137508	12.196892	
18.92	2.071987	103.550922	-1.960845	103.569486	-1.084828	0.348956	9.144599	12.176995	
18.940001	2.072488	103.572778	-2.025486	103.592582	-1.120345	0.349062	9.141953	12.184415	
18.959999	2.07341	103.609367	-2.204135	103.632809	-1.2187	0.349257	9.137099	12.198041	
18.98	2.073937	103.633335	-2.247625	103.657706	-1.242452	0.349369	9.134322	12.205843	
19	2.072073	103.543511	-2.184996	103.566562	-1.20889	0.348974	9.144146	12.178266	
19.02	2.073434	103.602163	-2.351211	103.628839	-1.300085	0.349262	9.13697	12.198404	
19.040001	2.07535	103.695878	-2.388166	103.723374	-1.319319	0.349668	9.126892	12.226745	
19.059999	2.076069	103.727656	-2.456562	103.756741	-1.356674	0.349819	9.123121	12.237363	
19.08	2.075454	103.69105	-2.549316	103.722383	-1.408375	0.349689	9.126348	12.228274	
19.1	2.073445	103.582696	-2.668001	103.61705	-1.475456	0.349265	9.136911	12.19857	
19.120001	2.075699	103.700454	-2.59362	103.732883	-1.432711	0.349741	9.125061	12.231898	
19.139999	2.075664	103.683958	-2.810801	103.72205	-1.552872	0.349734	9.125243	12.231386	
19.16	2.077427	103.770282	-2.838069	103.809085	-1.566625	0.350106	9.115999	12.257449	
19.18	2.074394	103.614282	-2.895083	103.65472	-1.600486	0.349465	9.131919	12.212598	
19.200001	2.077011	103.748436	-2.852319	103.787637	-1.574819	0.350019	9.118179	12.251299	
19.219999	2.076011	103.694382	-2.907415	103.735134	-1.606059	0.349807	9.123422	12.236516	
19.24	2.077536	103.761028	-3.03729	103.805472	-1.676685	0.350129	9.115429	12.259059	
19.26	2.076507	103.699713	-3.163077	103.747943	-1.747113	0.349912	9.120819	12.243854	
19.280001	2.077266	103.739369	-3.141926	103.786937	-1.734774	0.350072	9.116844	12.255064	
19.299999	2.076739	103.70265	-3.270247	103.754201	-1.806218	0.349961	9.119603	12.247281	
19.32	2.077665	103.743532	-3.336385	103.797167	-1.841997	0.350157	9.114753	12.260967	
19.34	2.075733	103.654239	-3.245611	103.70504	-1.793457	0.349748	9.124885	12.232396	
19.360001	2.081429	103.926525	-3.402935	103.982222	-1.875407	0.35095	9.095083	12.316624	
19.379999	2.078907	103.794877	-3.463988	103.852664	-1.911449	0.350419	9.108251	12.279336	
19.4	2.077755	103.727011	-3.578137	103.788708	-1.975679	0.350176	9.114282	12.262295	
19.42	2.081134	103.891873	-3.628349	103.955212	-2.000204	0.350888	9.09662	12.312266	
19.440001	2.078728	103.769397	-3.648758	103.833526	-2.013818	0.350381	9.109187	12.276691	
19.459999	2.077798	103.717218	-3.708545	103.783499	-2.047817	0.350185	9.114057	12.262932	
19.48	2.07872	103.750492	-3.845082	103.821719	-2.122463	0.350379	9.109229	12.276572	
19.5	2.077068	103.67347	-3.784274	103.742514	-2.090478	0.350031	9.117882	12.252136	
19.52	2.079782	103.786255	-4.021876	103.864153	-2.219193	0.350603	9.103678	12.292272	
19.540001	2.078816	103.737681	-4.022953	103.815657	-2.220824	0.3504	9.108729	12.277985	
19.559999	2.080836	103.827357	-4.136491	103.909724	-2.281466	0.350825	9.098178	12.307851	
19.58	2.081944	103.880002	-4.165066	103.963468	-2.296047	0.351059	9.092397	12.324244	



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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	2.080062	103.783129	-4.188099	103.867599	-2.310883	0.350662	9.102217	12.296408	
19.620001	2.081258	103.83167	-4.296004	103.920505	-2.369249	0.350915	9.095972	12.314102	
19.639999	2.08334	103.933513	-4.320316	104.023268	-2.380309	0.351353	9.085131	12.344882	
19.66	2.081425	103.810648	-4.56013	103.910757	-2.515241	0.35095	9.095102	12.316571	
19.68	2.081601	103.822399	-4.534259	103.921365	-2.500707	0.350987	9.094189	12.319161	
19.700001	2.08297	103.880793	-4.624273	103.983667	-2.548854	0.351275	9.087057	12.339407	
19.719999	2.081908	103.830981	-4.593831	103.932555	-2.53331	0.351051	9.092588	12.323701	
19.74	2.08245	103.846617	-4.693302	103.952619	-2.587701	0.351166	9.089762	12.331725	
19.76	2.080092	103.73431	-4.64126	103.838088	-2.561812	0.350669	9.102059	12.296857	
19.780001	2.077903	103.605618	-4.799021	103.716704	-2.652054	0.350207	9.113504	12.264492	
19.799999	2.079806	103.672854	-5.027647	103.794691	-2.776406	0.350608	9.103555	12.292622	
19.82	2.081578	103.766024	-4.995096	103.886181	-2.755986	0.350982	9.094306	12.318829	
19.84	2.083506	103.856026	-5.049268	103.978696	-2.783417	0.351388	9.084271	12.347324	
19.860001	2.082068	103.789342	-5.005385	103.909967	-2.761034	0.351085	9.091753	12.326071	
19.879999	2.081693	103.756439	-5.115694	103.882477	-2.822678	0.351006	9.093708	12.320526	
19.9	2.083473	103.819474	-5.317035	103.955539	-2.931803	0.351381	9.084441	12.346842	
19.92	2.082454	103.756607	-5.40336	103.897208	-2.981119	0.351166	9.089741	12.331784	
19.940001	2.081386	103.715269	-5.311489	103.851187	-2.931688	0.350941	9.09531	12.315982	
19.959999	2.082785	103.771454	-5.416326	103.912709	-2.987833	0.351236	9.088021	12.336668	
19.98	2.082349	103.738351	-5.497841	103.883934	-3.033683	0.351144	9.090287	12.330232	
20	2.084515	103.838478	-5.560981	103.987278	-3.065503	0.3516	9.079026	12.362245	
20.02	2.081576	103.670311	-5.704043	103.827114	-3.149301	0.350981	9.094317	12.318797	
20.040001	2.083966	103.789986	-5.70799	103.946825	-3.147849	0.351484	9.08188	12.354125	
20.059999	2.08363	103.771396	-5.719624	103.928902	-3.154816	0.351414	9.083627	12.349156	
20.08	2.084769	103.804149	-5.887941	103.971002	-3.246437	0.351653	9.077705	12.366006	
20.1	2.083412	103.743349	-5.837046	103.907428	-3.220317	0.351368	9.084758	12.345941	
20.120001	2.081918	103.644592	-5.994838	103.817819	-3.310325	0.351054	9.092533	12.323858	
20.139999	2.084189	103.755792	-6.015342	103.930019	-3.318069	0.351531	9.080722	12.357419	
20.16	2.082662	103.671428	-6.064598	103.848661	-3.347894	0.35121	9.088659	12.334856	
20.18	2.082311	103.648639	-6.097771	103.827853	-3.366903	0.351136	9.090488	12.329662	
20.200001	2.08495	103.763288	-6.215545	103.949281	-3.427996	0.351691	9.076766	12.368681	
20.219999	2.0838	103.698243	-6.260534	103.887054	-3.454909	0.351449	9.082742	12.351674	
20.24	2.083306	103.665151	-6.312319	103.857157	-3.484526	0.351346	9.085308	12.344377	
20.26	2.082937	103.634653	-6.38635	103.831242	-3.526324	0.351268	9.08723	12.338915	
20.280001	2.085248	103.744261	-6.42894	103.943268	-3.54604	0.351754	9.07522	12.373085	
20.299999	2.085219	103.725902	-6.532036	103.931373	-3.603393	0.351748	9.075374	12.372647	
20.32	2.081601	103.537454	-6.568582	103.745606	-3.630077	0.350987	9.094186	12.319169	
20.34	2.084278	103.655659	-6.6689	103.869966	-3.681175	0.35155	9.080256	12.358746	
20.360001	2.082768	103.561562	-6.774351	103.782893	-3.742607	0.351232	9.088107	12.336425	
20.379999	2.08208	103.518071	-6.82521	103.742829	-3.772204	0.351088	9.091691	12.326249	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	2.08364	103.596315	-6.828057	103.821091	-3.770931	0.351416	9.08357	12.349318	
20.42	2.084006	103.591572	-6.960983	103.825185	-3.844299	0.351493	9.081669	12.354725	
20.440001	2.084456	103.600564	-7.038492	103.839382	-3.886637	0.351588	9.07933	12.36138	
20.459999	2.084991	103.61629	-7.101481	103.85936	-3.920719	0.3517	9.076554	12.369286	
20.48	2.083809	103.539871	-7.193689	103.78947	-3.974387	0.351451	9.082696	12.351804	
20.5	2.083999	103.545138	-7.21742	103.796372	-3.987253	0.351491	9.081708	12.354614	
20.52	2.083467	103.498764	-7.323173	103.757521	-4.04729	0.351379	9.084474	12.34675	
20.540001	2.082944	103.467947	-7.346707	103.728445	-4.061458	0.351269	9.087195	12.339016	
20.559999	2.084394	103.532414	-7.393982	103.796106	-4.084969	0.351574	9.079654	12.36046	
20.58	2.084603	103.524442	-7.492192	103.795198	-4.139357	0.351618	9.078567	12.363552	
20.6	2.083778	103.48753	-7.466928	103.75656	-4.126913	0.351445	9.082854	12.351355	
20.620001	2.084226	103.478618	-7.631475	103.759645	-4.217895	0.351539	9.080528	12.357971	
20.639999	2.08379	103.464303	-7.59154	103.742438	-4.19648	0.351447	9.082793	12.351529	
20.66	2.084101	103.453876	-7.72606	103.741971	-4.270997	0.351513	9.081175	12.356132	
20.68	2.082035	103.345958	-7.743198	103.635631	-4.284889	0.351078	9.091926	12.325581	
20.700001	2.081341	103.275306	-7.921381	103.578652	-4.386098	0.350932	9.095541	12.315326	
20.719999	2.083257	103.368268	-7.941268	103.672864	-4.393127	0.351335	9.085565	12.343648	
20.74	2.084504	103.414006	-8.026805	103.725051	-4.438302	0.351597	9.079086	12.362077	
20.76	2.085282	103.434896	-8.117098	103.752904	-4.487123	0.351761	9.075044	12.373586	
20.780001	2.083244	103.340009	-8.076642	103.655148	-4.468932	0.351333	9.085632	12.343458	
20.799999	2.083193	103.320587	-8.158106	103.642165	-4.514667	0.351322	9.085896	12.342707	
20.82	2.085565	103.409792	-8.305715	103.742807	-4.592059	0.35182	9.073579	12.37776	
20.84	2.08112	103.207464	-8.196966	103.532463	-4.541034	0.350885	9.096692	12.312061	
20.860001	2.08199	103.210595	-8.390334	103.551073	-4.647554	0.351069	9.092159	12.324921	
20.879999	2.082527	103.229604	-8.428478	103.573116	-4.667733	0.351182	9.089365	12.332852	
20.9	2.08458	103.326943	-8.459849	103.672688	-4.680635	0.351613	9.078691	12.363201	
20.92	2.081129	103.153314	-8.453574	103.499126	-4.685017	0.350887	9.096648	12.312188	
20.940001	2.080503	103.082445	-8.632506	103.443272	-4.787	0.350755	9.099914	12.302932	
20.959999	2.081461	103.116685	-8.697383	103.482826	-4.821213	0.350957	9.094915	12.3171	
20.98	2.083429	103.207978	-8.735899	103.577037	-4.838199	0.351371	9.08467	12.346192	
21	2.082688	103.174385	-8.717777	103.542036	-4.829775	0.351215	9.088527	12.33523	
21.02	2.083023	103.157924	-8.866745	103.538285	-4.912685	0.351286	9.08678	12.340193	
21.040001	2.080188	102.994786	-8.950584	103.382972	-4.966721	0.350689	9.101557	12.298279	
21.059999	2.080484	102.982207	-9.069929	103.380842	-5.03322	0.350751	9.100014	12.302649	
21.08	2.081879	103.050053	-9.083094	103.449582	-5.037187	0.351045	9.092738	12.323277	
21.1	2.079246	102.894441	-9.176034	103.302786	-5.096114	0.35049	9.106476	12.284355	
21.120001	2.079209	102.862447	-9.302659	103.282247	-5.167658	0.350483	9.106671	12.283803	
21.139999	2.079592	102.8791	-9.314509	103.2999	-5.173372	0.350563	9.104669	12.289469	
21.16	2.079248	102.852916	-9.350547	103.277079	-5.194594	0.350491	9.10647	12.284374	
21.18	2.080001	102.867677	-9.447898	103.300637	-5.247627	0.350649	9.102536	12.295507	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	2.079522	102.834306	-9.484833	103.270792	-5.269726	0.350549	9.105037	12.288428	
21.219999	2.08163	102.910364	-9.612092	103.358286	-5.3361	0.350993	9.094035	12.319598	
21.24	2.080527	102.850689	-9.626176	103.300181	-5.346956	0.35076	9.099788	12.303287	
21.26	2.081957	102.922421	-9.630633	103.372017	-5.345711	0.351062	9.092331	12.32443	
21.280001	2.079663	102.789885	-9.693651	103.245955	-5.387383	0.350578	9.104299	12.290515	
21.299999	2.080163	102.803909	-9.73931	103.264214	-5.411874	0.350684	9.101689	12.297904	
21.32	2.078497	102.707513	-9.784918	103.172563	-5.442139	0.350332	9.110397	12.27327	
21.34	2.078231	102.684564	-9.822068	103.153249	-5.463889	0.350276	9.111787	12.269342	
21.360001	2.078212	102.657575	-9.924026	103.136143	-5.521701	0.350272	9.111887	12.269061	
21.379999	2.078196	102.646667	-9.963293	103.129072	-5.543998	0.350269	9.11197	12.268826	
21.4	2.078507	102.635564	-10.06729	103.128121	-5.602102	0.350334	9.110345	12.273418	
21.42	2.078953	102.629125	-10.178814	103.132659	-5.664114	0.350429	9.10801	12.280018	
21.440001	2.080276	102.67432	-10.263242	103.185998	-5.708288	0.350707	9.1011	12.299573	
21.459999	2.076712	102.501588	-10.228341	103.010652	-5.698528	0.349955	9.119747	12.246875	
21.48	2.078284	102.577685	-10.244109	103.087939	-5.703049	0.350287	9.111511	12.270122	
21.5	2.076585	102.459405	-10.36205	102.982046	-5.774882	0.349929	9.12041	12.245007	
21.52	2.07645	102.457495	-10.343369	102.978267	-5.764648	0.3499	9.121121	12.243	
21.540001	2.074887	102.330434	-10.517297	102.869486	-5.86814	0.34957	9.129328	12.219886	
21.559999	2.079034	102.535647	-10.542224	103.076173	-5.870261	0.350446	9.10759	12.281207	
21.58	2.074954	102.320622	-10.565664	102.864682	-5.895498	0.349584	9.128972	12.220888	
21.6	2.076297	102.347558	-10.716359	102.907059	-5.977417	0.349868	9.121921	12.240745	
21.620001	2.077085	102.381967	-10.73757	102.943492	-5.987164	0.350034	9.117789	12.252399	
21.639999	2.074136	102.201069	-10.8439	102.774747	-6.056638	0.349411	9.133275	12.208786	
21.66	2.075227	102.242618	-10.894407	102.821404	-6.082182	0.349642	9.127539	12.224922	
21.68	2.075168	102.222832	-10.953232	102.80798	-6.11595	0.349629	9.127848	12.224053	
21.700001	2.075169	102.203463	-11.020758	102.795939	-6.154523	0.349629	9.127847	12.224055	
21.719999	2.073085	102.042248	-11.207645	102.655889	-6.267877	0.349188	9.138811	12.193233	
21.74	2.074184	102.117683	-11.142623	102.723801	-6.227233	0.349421	9.133022	12.209497	
21.76	2.073574	102.068331	-11.204253	102.681446	-6.264406	0.349292	9.136236	12.200466	
21.780001	2.073051	102.021865	-11.270915	102.642557	-6.304226	0.349181	9.13899	12.192731	
21.799999	2.072697	101.992992	-11.3072	102.617851	-6.326133	0.349106	9.140851	12.187507	
21.82	2.0721	101.907045	-11.491812	102.55295	-6.433938	0.34898	9.144001	12.178671	
21.84	2.072255	101.945204	-11.391346	102.579664	-6.375788	0.349012	9.143184	12.180962	
21.860001	2.069917	101.797643	-11.482657	102.443211	-6.435706	0.348517	9.155532	12.146378	
21.879999	2.069503	101.773647	-11.49175	102.420386	-6.442266	0.348429	9.15772	12.140262	
21.9	2.070186	101.772318	-11.611382	102.432558	-6.508843	0.348574	9.154109	12.15036	
21.92	2.070823	101.78597	-11.673573	102.453189	-6.542533	0.348709	9.150744	12.159777	
21.940001	2.070183	101.738335	-11.721305	102.411316	-6.5721	0.348573	9.154126	12.150311	
21.959999	2.06902	101.650953	-11.809957	102.334702	-6.627009	0.348326	9.16028	12.133107	
21.98	2.067657	101.582564	-11.804353	102.266124	-6.628312	0.348037	9.167502	12.112948	

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
22	2.068345	101.571941	-11.950864	102.272589	-6.71053	0.348183	9.163853	12.123127
22.02	2.067337	101.536439	-11.898927	102.231272	-6.683946	0.347969	9.169197	12.108219
22.040001	2.068005	101.549801	-11.96541	102.252301	-6.720074	0.34811	9.165658	12.118091
22.059999	2.066589	101.470201	-11.986497	102.175721	-6.737041	0.34781	9.173168	12.097155
22.08	2.066803	101.461523	-12.048321	102.174374	-6.772041	0.347855	9.172031	12.100321
22.1	2.066885	101.475001	-12.019232	102.184333	-6.754953	0.347872	9.171599	12.101525
22.120001	2.066887	101.401047	-12.249147	102.13821	-6.887912	0.347873	9.171588	12.101555
22.139999	2.066616	101.403159	-12.199667	102.134384	-6.860213	0.347815	9.173025	12.097551
22.16	2.067181	101.405035	-12.28347	102.146291	-6.906757	0.347935	9.170027	12.105906
22.18	2.067545	101.353926	-12.495579	102.12129	-7.028347	0.348013	9.168097	12.111286
22.200001	2.065387	101.264973	-12.427845	102.024733	-6.996706	0.347554	9.179557	12.079371
22.219999	2.066767	101.325019	-12.461744	102.088464	-7.011486	0.347848	9.172222	12.099789
22.24	2.065583	101.236167	-12.544792	102.010457	-7.063874	0.347596	9.178515	12.08227
22.26	2.063856	101.131264	-12.591277	101.912084	-7.097062	0.347228	9.187712	12.056709
22.280001	2.065061	101.165246	-12.675273	101.956213	-7.141544	0.347484	9.181293	12.074543
22.299999	2.06371	101.09262	-12.683402	101.885163	-7.151158	0.347197	9.188487	12.054558
22.32	2.063537	101.041089	-12.808149	101.849646	-7.224397	0.34716	9.189412	12.051992
22.34	2.065124	101.090164	-12.904263	101.910457	-7.274536	0.347498	9.18096	12.075469
22.360001	2.064068	101.079439	-12.776496	101.883717	-7.204026	0.347273	9.186579	12.059855
22.379999	2.064101	101.017402	-12.961386	101.845535	-7.311596	0.34728	9.186405	12.060339
22.4	2.061884	100.900792	-12.966445	101.730519	-7.32278	0.346807	9.198231	12.027542
22.42	2.061711	100.873817	-13.018012	101.710351	-7.35353	0.346771	9.199156	12.02498
22.440001	2.062617	100.901741	-13.072269	101.745003	-7.381819	0.346964	9.19432	12.038379
22.459999	2.061629	100.836916	-13.110949	101.685695	-7.408126	0.346753	9.199594	12.023767
22.48	2.061088	100.765005	-13.234569	101.630409	-7.482465	0.346638	9.202486	12.015764
22.5	2.060312	100.74102	-13.188702	101.600664	-7.45858	0.346472	9.206643	12.004268
22.52	2.060478	100.719011	-13.274549	101.590023	-7.508199	0.346507	9.205754	12.006726
22.540001	2.061148	100.719049	-13.371261	101.602743	-7.562267	0.34665	9.202169	12.016641
22.559999	2.061054	100.694947	-13.424486	101.585871	-7.593814	0.34663	9.202669	12.015258
22.58	2.058709	100.581553	-13.401047	101.470375	-7.589157	0.346129	9.215233	11.980549
22.6	2.059649	100.574313	-13.555015	101.483648	-7.675863	0.34633	9.210189	11.99447
22.620001	2.05913	100.533645	-13.592169	101.448316	-7.699726	0.346219	9.212972	11.986786
22.639999	2.059122	100.488928	-13.711854	101.420114	-7.770116	0.346218	9.213016	11.986665
22.66	2.059862	100.559809	-13.624501	101.47858	-7.715837	0.346376	9.20905	11.997617
22.68	2.05742	100.412044	-13.680299	101.339672	-7.758316	0.345854	9.222152	11.961478
22.700001	2.054218	100.260482	-13.639529	101.183995	-7.747026	0.345168	9.239392	11.914088
22.719999	2.056972	100.338234	-13.815421	101.284881	-7.83969	0.345758	9.224558	11.954852
22.74	2.057027	100.330531	-13.843473	101.28108	-7.856005	0.34577	9.224264	11.955661
22.76	2.059184	100.408815	-13.933897	101.37102	-7.900586	0.346231	9.212685	11.987581
22.780001	2.056299	100.232452	-14.002027	101.205737	-7.952515	0.345614	9.228177	11.944893

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	2.05993	100.365084	-14.150295	101.357688	-8.02515	0.34639	9.208686	11.998623	
22.82	2.05632	100.188639	-14.119038	101.178607	-8.021572	0.345618	9.228066	11.9452	
22.84	2.056224	100.178456	-14.132391	101.170388	-8.029865	0.345598	9.228584	11.943774	
22.860001	2.056138	100.136337	-14.229582	101.142311	-8.087716	0.345579	9.229043	11.942512	
22.879999	2.058262	100.183992	-14.391591	101.212401	-8.174721	0.346034	9.217628	11.973944	
22.9	2.05673	100.15508	-14.260838	101.165268	-8.103748	0.345706	9.225861	11.951267	
22.92	2.05616	100.093143	-14.342924	101.115562	-8.154744	0.345584	9.228929	11.942825	
22.940001	2.059141	100.142994	-14.610849	101.203242	-8.300892	0.346222	9.212915	11.986946	
22.959999	2.054174	99.90601	-14.552827	100.960367	-8.287725	0.345158	9.239631	11.913431	
22.98	2.055805	99.985463	-14.567828	101.041152	-8.289649	0.345508	9.230839	11.937576	
23	2.055318	99.912343	-14.68632	100.985961	-8.362156	0.345404	9.23346	11.930373	
23.02	2.056406	99.927326	-14.790059	101.015921	-8.419135	0.345637	9.227605	11.946468	
23.040001	2.054504	99.867824	-14.690848	100.942574	-8.368373	0.345229	9.237849	11.918322	
23.059999	2.056533	99.930782	-14.79796	101.020497	-8.423281	0.345664	9.226921	11.94835	
23.08	2.057877	100.015253	-14.763501	101.099019	-8.39695	0.345951	9.219699	11.968234	
23.1	2.057092	99.901233	-14.941949	101.012466	-8.506528	0.345784	9.223912	11.956631	
23.120001	2.056123	99.845477	-14.953745	100.95907	-8.517829	0.345576	9.229125	11.942287	
23.139999	2.055415	99.733629	-15.13346	100.875261	-8.628189	0.345424	9.23294	11.931802	
23.16	2.056	99.76907	-15.122322	100.908631	-8.618917	0.34555	9.229787	11.940466	
23.18	2.056258	99.734496	-15.237128	100.891723	-8.686321	0.345605	9.228398	11.944286	
23.200001	2.055426	99.6627	-15.303307	100.830774	-8.729657	0.345427	9.232881	11.931963	
23.219999	2.056413	99.677103	-15.391756	100.85847	-8.778079	0.345638	9.227567	11.946572	
23.24	2.053437	99.554343	-15.311879	100.724976	-8.743831	0.345001	9.243605	11.902535	
23.26	2.053692	99.54604	-15.362885	100.724537	-8.773226	0.345055	9.242232	11.906301	
23.280001	2.053174	99.484122	-15.443852	100.675732	-8.824141	0.344944	9.245026	11.898641	
23.299999	2.053886	99.45785	-15.591721	100.672567	-8.909595	0.345097	9.241184	11.909173	
23.32	2.051446	99.357325	-15.526461	100.56316	-8.881733	0.344573	9.254376	11.873051	
23.34	2.054398	99.462168	-15.643934	100.684931	-8.938568	0.345206	9.238423	11.916745	
23.360001	2.052565	99.351067	-15.676693	100.580283	-8.966837	0.344813	9.248322	11.889615	
23.379999	2.053694	99.340508	-15.836542	100.594894	-9.057707	0.345056	9.242218	11.906337	
23.4	2.052614	99.279538	-15.845172	100.536044	-9.068034	0.344824	9.248056	11.890343	
23.42	2.05193	99.239888	-15.853017	100.498127	-9.076014	0.344677	9.251755	11.880222	
23.440001	2.050865	99.152588	-15.922583	100.422928	-9.123064	0.344448	9.257521	11.864457	
23.459999	2.051357	99.152777	-15.980472	100.432309	-9.155654	0.344554	9.254855	11.871744	
23.48	2.051606	99.110413	-16.103989	100.410221	-9.229084	0.344607	9.253506	11.875432	
23.5	2.051335	99.080272	-16.138832	100.386066	-9.251472	0.344549	9.254973	11.87142	
23.52	2.051984	99.033851	-16.316042	100.368904	-9.355578	0.344688	9.251464	11.881016	
23.540001	2.050964	98.998214	-16.275663	100.327182	-9.336133	0.344469	9.256986	11.86592	
23.559999	2.04813	98.849902	-16.270991	100.180079	-9.347257	0.34386	9.272365	11.823975	
23.58	2.049575	98.865534	-16.403565	100.217118	-9.420594	0.344171	9.264517	11.845361	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
23.6	2.049278	98.852572	-16.397422	100.203326	-9.418342	0.344107	9.266131	11.840959	
23.620001	2.051135	98.842612	-16.630595	100.231925	-9.550766	0.344506	9.256058	11.868455	
23.639999	2.048716	98.689551	-16.681971	100.089538	-9.594307	0.343986	9.269179	11.832652	
23.66	2.046697	98.605332	-16.63246	99.998251	-9.574378	0.343551	9.280167	11.802752	
23.68	2.047244	98.638998	-16.62285	100.029851	-9.565742	0.343669	9.277189	11.810847	
23.700001	2.048111	98.56385	-16.877964	99.998491	-9.717038	0.343856	9.272471	11.823686	
23.719999	2.049839	98.659706	-16.870461	100.091709	-9.703543	0.344228	9.263083	11.849274	
23.74	2.05065	98.615647	-17.051683	100.078997	-9.810061	0.344402	9.258687	11.861273	
23.76	2.049195	98.516709	-17.095224	99.988943	-9.844306	0.344089	9.266579	11.839739	
23.780001	2.044751	98.326485	-16.997794	99.784882	-9.80786	0.343132	9.290779	11.773948	
23.799999	2.043996	98.251307	-17.069217	99.723004	-9.855654	0.342969	9.294903	11.762772	
23.82	2.047441	98.351562	-17.240588	99.851227	-9.942691	0.343712	9.276115	11.81377	
23.84	2.047299	98.359215	-17.20962	99.853423	-9.92443	0.343681	9.276888	11.811668	
23.860001	2.044591	98.171955	-17.294948	99.68374	-9.991291	0.343097	9.291652	11.77158	
23.879999	2.04738	98.230805	-17.476786	99.773389	-10.088266	0.343699	9.276446	11.81287	
23.9	2.043793	98.06471	-17.424051	99.600627	-10.075136	0.342925	9.296014	11.759763	
23.92	2.045128	98.147417	-17.402009	99.678209	-10.054345	0.343213	9.288719	11.779534	
23.940001	2.045674	98.097602	-17.559313	99.656756	-10.148395	0.343331	9.285743	11.787607	
23.959999	2.045216	98.03131	-17.641504	99.606026	-10.201653	0.343232	9.288241	11.780829	
23.98	2.041895	97.883346	-17.581266	99.449737	-10.182595	0.342515	9.306406	11.731658	
24	2.042031	97.810371	-17.738378	99.405829	-10.279161	0.342544	9.30566	11.733672	
24.02	2.04448	97.857984	-17.901758	99.481948	-10.366855	0.343073	9.292261	11.76993	
24.040001	2.042246	97.783113	-17.813825	99.392503	-10.324759	0.342591	9.304479	11.736864	
24.059999	2.044504	97.820033	-17.977295	99.458242	-10.413594	0.343079	9.292127	11.770295	
24.08	2.043844	97.763352	-18.017572	99.409788	-10.442331	0.342936	9.295736	11.760517	
24.1	2.04208	97.594226	-18.157871	99.269034	-10.539659	0.342555	9.305389	11.734405	
24.120001	2.042085	97.62244	-18.104966	99.287112	-10.506666	0.342556	9.305363	11.734476	
24.139999	2.043355	97.571652	-18.329882	99.278456	-10.639639	0.342831	9.29841	11.753278	
24.16	2.03874	97.297514	-18.374672	99.017346	-10.694399	0.341833	9.323732	11.684949	
24.18	2.04043	97.396767	-18.360454	99.112242	-10.675675	0.342198	9.314443	11.709967	
24.200001	2.04147	97.451442	-18.363624	99.166558	-10.671623	0.342423	9.308735	11.72537	
24.219999	2.039785	97.255044	-18.557457	99.00971	-10.802898	0.342059	9.317986	11.700419	
24.24	2.038936	97.258799	-18.465875	98.996275	-10.750425	0.341875	9.322654	11.68785	
24.26	2.039068	97.21039	-18.567882	98.967803	-10.813672	0.341903	9.321929	11.6898	
24.280001	2.040287	97.198305	-18.710595	98.982811	-10.896126	0.342167	9.31523	11.707845	
24.299999	2.040835	97.189029	-18.781406	98.987113	-10.937389	0.342286	9.312219	11.715967	
24.32	2.039673	97.107482	-18.814329	98.913306	-10.965076	0.342034	9.318603	11.698758	
24.34	2.037732	96.956593	-18.895245	98.780622	-11.027801	0.341614	9.329283	11.670024	
24.360001	2.039647	96.978616	-19.041889	98.830387	-11.108804	0.342029	9.318745	11.698374	
24.379999	2.036753	96.89106	-18.916815	98.72043	-11.047364	0.341402	9.334685	11.655515	

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
24.4	2.037657	96.843058	-19.089313	98.706533	-11.150977	0.341598	9.329699	11.668904
24.42	2.038482	96.82662	-19.197427	98.711375	-11.214391	0.341777	9.325153	11.681126
24.440001	2.03706	96.753842	-19.188625	98.638275	-11.217597	0.341468	9.33299	11.660066
24.459999	2.0363	96.667372	-19.266825	98.568714	-11.271963	0.341304	9.337184	11.64881
24.48	2.037367	96.746877	-19.230171	98.639534	-11.242056	0.341535	9.331295	11.664618
24.5	2.036593	96.605871	-19.401071	98.534745	-11.355509	0.341367	9.335564	11.653158
24.52	2.034852	96.474957	-19.461804	98.418388	-11.405179	0.340989	9.345183	11.627376
24.540001	2.033538	96.440114	-19.397866	98.371606	-11.372688	0.340704	9.352458	11.607915
24.559999	2.033344	96.250802	-19.70137	98.246429	-11.567982	0.340662	9.353534	11.60504
24.58	2.034504	96.307823	-19.712885	98.304601	-11.567893	0.340914	9.347111	11.622214
24.6	2.033137	96.207562	-19.754742	98.214789	-11.603544	0.340617	9.354684	11.601967
24.620001	2.031718	96.144033	-19.730204	98.147624	-11.596971	0.340308	9.362555	11.580959
24.639999	2.032761	96.139093	-19.834455	98.163796	-11.657158	0.340535	9.356768	11.596399
24.66	2.034701	96.157475	-19.981563	98.211622	-11.739042	0.340956	9.346023	11.625127
24.68	2.032863	96.060713	-19.973727	98.115291	-11.746059	0.340557	9.356199	11.59792
24.700001	2.030346	95.885752	-20.032508	97.956005	-11.800554	0.340009	9.370182	11.560639
24.719999	2.032406	95.93036	-20.145948	98.022922	-11.860127	0.340458	9.358734	11.591152
24.74	2.029241	95.789371	-20.089978	97.873442	-11.845024	0.339769	9.376338	11.544264
24.76	2.028689	95.713165	-20.164125	97.814119	-11.896695	0.339648	9.379413	11.536091
24.780001	2.030922	95.676717	-20.422116	97.831983	-12.048944	0.340135	9.366979	11.569167
24.799999	2.028933	95.605185	-20.359803	97.74903	-12.021977	0.339702	9.378049	11.539715
24.82	2.027296	95.523352	-20.345135	97.665937	-12.023559	0.339344	9.387186	11.515462
24.84	2.027051	95.43569	-20.462926	97.604827	-12.101908	0.339291	9.388556	11.511831
24.860001	2.027963	95.426827	-20.557213	97.615974	-12.15711	0.33949	9.383463	11.525339
24.879999	2.028243	95.426791	-20.581874	97.621135	-12.171264	0.339551	9.381899	11.529491
24.9	2.027747	95.252076	-20.811374	97.499083	-12.324747	0.339443	9.384669	11.522138
24.92	2.029346	95.43038	-20.672846	97.643863	-12.223002	0.339792	9.375748	11.545832
24.940001	2.024962	95.089509	-20.821852	97.34251	-12.351197	0.338835	9.400245	11.480889
24.959999	2.02565	95.114647	-20.842527	97.37149	-12.359917	0.338985	9.396388	11.49109
24.98	2.024417	95.008458	-20.899632	97.280017	-12.406158	0.338716	9.403296	11.472827
25	2.023935	94.942475	-20.959201	97.2284	-12.448796	0.33861	9.406002	11.46568
25.02	2.023535	94.863029	-21.045973	97.169579	-12.508856	0.338523	9.408244	11.459763
25.040001	2.022097	94.797693	-21.022555	97.100723	-12.503716	0.338208	9.416326	11.438456
25.059999	2.023649	94.79884	-21.152639	97.130089	-12.578484	0.338548	9.407605	11.461448
25.08	2.021752	94.645696	-21.222273	96.995838	-12.638331	0.338132	9.418264	11.433352
25.1	2.022008	94.598692	-21.313804	96.970051	-12.697179	0.338188	9.416828	11.437133
25.120001	2.020721	94.537098	-21.29748	96.906375	-12.695768	0.337906	9.424074	11.418068
25.139999	2.022566	94.512901	-21.487241	96.924661	-12.808345	0.338311	9.413688	11.445407
25.16	2.020712	94.374939	-21.535766	96.800921	-12.854454	0.337904	9.424123	11.417939
25.18	2.020355	94.33728	-21.561278	96.769887	-12.874142	0.337826	9.426133	11.412655

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	2.020372	94.284526	-21.639444	96.735916	-12.926237	0.33783	9.426037	11.412909	
25.219999	2.020328	94.208221	-21.746161	96.685492	-12.99799	0.33782	9.426285	11.412257	
25.24	2.018602	94.08258	-21.785837	96.572017	-13.037692	0.337442	9.436025	11.386689	
25.26	2.017587	94.031631	-21.776156	96.520198	-13.038917	0.337219	9.441766	11.371648	
25.280001	2.018748	93.966846	-21.962555	96.499336	-13.155415	0.337474	9.435205	11.388841	
25.299999	2.015709	93.786002	-21.973369	96.325714	-13.18616	0.336806	9.452401	11.343836	
25.32	2.016149	93.754398	-22.053104	96.313169	-13.236632	0.336903	9.44991	11.350343	
25.34	2.0156	93.772063	-21.984236	96.314622	-13.194346	0.336782	9.45302	11.342218	
25.360001	2.01257	93.563601	-22.03404	96.123079	-13.251611	0.336115	9.47024	11.297334	
25.379999	2.013055	93.556128	-22.083212	96.127089	-13.28116	0.336222	9.467479	11.304518	
25.4	2.013284	93.517416	-22.15528	96.106001	-13.328278	0.336272	9.46618	11.3079	
25.42	2.010292	93.323622	-22.186319	95.924612	-13.373003	0.335613	9.483236	11.263578	
25.440001	2.011802	93.301072	-22.336478	95.937523	-13.463364	0.335946	9.474616	11.285956	
25.459999	2.008887	93.151448	-22.312063	95.786326	-13.469999	0.335302	9.491267	11.242768	
25.48	2.007677	93.105026	-22.280493	95.73383	-13.458096	0.335035	9.498197	11.224844	
25.5	2.010438	93.073018	-22.539639	95.763364	-13.613344	0.335645	9.482399	11.265749	
25.52	2.007142	92.949166	-22.450401	95.622006	-13.578843	0.334917	9.501267	11.216912	
25.540001	2.009133	92.934864	-22.624018	95.649021	-13.681948	0.335357	9.48986	11.246413	
25.559999	2.006873	92.811035	-22.614997	95.526574	-13.694258	0.334857	9.50281	11.212928	
25.58	2.007249	92.799096	-22.659896	95.525615	-13.722118	0.33494	9.500652	11.218501	
25.6	2.007189	92.73333	-22.742552	95.481381	-13.779664	0.334927	9.500998	11.217607	
25.620001	2.007218	92.69367	-22.797196	95.455899	-13.817189	0.334933	9.500829	11.218043	
25.639999	2.006783	92.579993	-22.913297	95.373341	-13.901229	0.334837	9.503325	11.211598	
25.66	2.005017	92.471102	-22.921458	95.269607	-13.921726	0.334446	9.513473	11.18543	
25.68	2.004942	92.424523	-22.976396	95.237636	-13.960549	0.33443	9.513903	11.184322	
25.700001	2.003853	92.409459	-22.9136	95.207884	-13.926062	0.334188	9.520174	11.168185	
25.719999	2.005063	92.316061	-23.125596	95.168526	-14.063475	0.334456	9.513208	11.186112	
25.74	2.00399	92.22384	-23.163558	95.088312	-14.099166	0.334219	9.519384	11.170218	
25.76	2.001867	92.116128	-23.142752	94.978776	-14.102822	0.333748	9.531626	11.138773	
25.780001	2.004368	92.166602	-23.264789	95.057524	-14.166749	0.334303	9.517206	11.175821	
25.799999	2.000871	91.944949	-23.286199	94.847882	-14.21206	0.333527	9.537387	11.124008	
25.82	1.998818	91.835134	-23.272917	94.738169	-14.220578	0.33307	9.549277	11.093594	
25.84	1.999278	91.766668	-23.392929	94.701375	-14.301138	0.333173	9.546606	11.10042	
25.860001	2.001359	91.786531	-23.520806	94.752285	-14.373101	0.333635	9.534562	11.131246	
25.879999	1.999119	91.649646	-23.527029	94.621238	-14.397327	0.333138	9.547529	11.098061	
25.9	1.996793	91.5092	-23.531207	94.48625	-14.420957	0.33262	9.561034	11.063603	
25.92	1.998855	91.570907	-23.60509	94.56443	-14.455001	0.333079	9.549062	11.094144	
25.940001	1.996786	91.414882	-23.646702	94.423764	-14.503084	0.332618	9.561078	11.063491	
25.959999	1.997661	91.283212	-23.869909	94.352516	-14.654332	0.332813	9.555991	11.076457	
25.98	1.995409	91.221036	-23.783594	94.270551	-14.613138	0.332312	9.569091	11.043097	



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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	1.995388	91.181622	-23.829759	94.244074	-14.646341	0.332307	9.569213	11.042788	
26.02	1.991974	90.935532	-23.881774	94.019201	-14.71493	0.331545	9.589148	10.992213	
26.040001	1.992912	90.984622	-23.889796	94.068718	-14.71206	0.331755	9.583662	11.006109	
26.059999	1.992534	90.834269	-24.042046	93.962143	-14.825139	0.33167	9.585873	11.000506	
26.08	1.991337	90.866491	-23.918957	93.961884	-14.747553	0.331403	9.592879	10.982774	
26.1	1.991041	90.643524	-24.161608	93.808484	-14.925543	0.331336	9.594618	10.978379	
26.120001	1.989616	90.574759	-24.142309	93.737069	-14.92497	0.331018	9.602971	10.957283	
26.139999	1.989185	90.504353	-24.194351	93.682466	-14.966815	0.330921	9.605507	10.950887	
26.16	1.985811	90.300741	-24.195764	93.486142	-14.999881	0.330165	9.625374	10.900907	
26.18	1.99082	90.433724	-24.389992	93.664989	-15.093589	0.331287	9.595913	10.975106	
26.200001	1.987643	90.235861	-24.39763	93.475959	-15.12969	0.330576	9.614575	10.928047	
26.219999	1.98574	90.160915	-24.352136	93.39174	-15.114748	0.330149	9.625791	10.899861	
26.24	1.985782	90.06175	-24.468294	93.326396	-15.199469	0.330159	9.625541	10.900486	
26.26	1.98657	90.070062	-24.512912	93.346125	-15.224559	0.330336	9.620895	10.912154	
26.280001	1.985153	89.939458	-24.563744	93.233489	-15.275779	0.330018	9.629256	10.891167	
26.299999	1.983389	89.832786	-24.563501	93.130526	-15.292925	0.329621	9.639693	10.865023	
26.32	1.982654	89.704601	-24.657215	93.031681	-15.369419	0.329456	9.644047	10.854138	
26.34	1.982377	89.607559	-24.746476	92.961835	-15.438319	0.329394	9.645686	10.850042	
26.360001	1.98006	89.51976	-24.687405	92.861485	-15.417608	0.328873	9.659449	10.815713	
26.379999	1.979629	89.377663	-24.815273	92.758636	-15.517082	0.328775	9.662013	10.809328	
26.4	1.977778	89.282961	-24.795187	92.662012	-15.520781	0.328358	9.673039	10.781921	
26.42	1.97804	89.218851	-24.882787	92.623736	-15.583605	0.328417	9.671478	10.785795	
26.440001	1.977318	89.107794	-24.955393	92.53632	-15.645381	0.328254	9.675788	10.775098	
26.459999	1.975474	89.043889	-24.902113	92.460421	-15.624267	0.327838	9.686809	10.747789	
26.48	1.97564	88.894657	-25.073882	92.363194	-15.751816	0.327876	9.685818	10.750242	
26.5	1.973269	88.720679	-25.103636	92.203858	-15.79896	0.32734	9.700027	10.715127	
26.52	1.974329	88.733565	-25.159475	92.231474	-15.830159	0.327579	9.693669	10.730826	
26.540001	1.972509	88.641481	-25.137967	92.137015	-15.832911	0.327168	9.704588	10.703878	
26.559999	1.971776	88.548229	-25.188655	92.06116	-15.879096	0.327002	9.708996	10.693019	
26.58	1.971656	88.520961	-25.209568	92.040658	-15.896261	0.326975	9.709719	10.691242	
26.6	1.970414	88.396029	-25.259923	91.934333	-15.947769	0.326693	9.717198	10.672845	
26.620001	1.970053	88.329497	-25.306045	91.883055	-15.986822	0.326611	9.719372	10.667503	
26.639999	1.966761	88.108468	-25.322964	91.675267	-16.035034	0.325864	9.739266	10.618749	
26.66	1.966211	87.976986	-25.423157	91.576673	-16.118005	0.325739	9.742602	10.610597	
26.68	1.964028	87.825379	-25.438653	91.435345	-16.153707	0.325242	9.755856	10.578265	
26.700001	1.966052	87.818273	-25.575022	91.466556	-16.236996	0.325703	9.743565	10.608245	
26.719999	1.963026	87.719373	-25.482747	91.345819	-16.198771	0.325014	9.761952	10.563427	
26.74	1.963156	87.637926	-25.573571	91.29301	-16.26777	0.325044	9.761157	10.56536	
26.76	1.963795	87.615395	-25.636777	91.28911	-16.309813	0.32519	9.757269	10.574824	
26.780001	1.960307	87.406832	-25.625624	91.085821	-16.339923	0.324394	9.778536	10.523166	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	1.959873	87.262723	-25.741891	90.98037	-16.435718	0.324295	9.781184	10.51675	
26.82	1.960541	87.337614	-25.709426	91.04303	-16.402787	0.324448	9.777105	10.526634	
26.84	1.957967	87.21536	-25.669282	90.914416	-16.400274	0.32386	9.792857	10.488523	
26.860001	1.957354	87.04308	-25.801083	90.786528	-16.510769	0.32372	9.796617	10.479446	
26.879999	1.954153	86.978055	-25.665267	90.685654	-16.440173	0.322987	9.8163	10.432059	
26.9	1.955544	86.837168	-25.889846	90.614446	-16.601582	0.323306	9.807733	10.452658	
26.92	1.954112	86.746004	-25.889703	90.527046	-16.61798	0.322978	9.816553	10.431451	
26.940001	1.951876	86.669533	-25.825565	90.435434	-16.592898	0.322465	9.830357	10.398347	
26.959999	1.953856	86.620194	-25.995344	90.436806	-16.704908	0.322919	9.818131	10.42766	
26.98	1.949512	86.42405	-25.916684	90.226331	-16.692868	0.321922	9.844997	10.363354	
27	1.948246	86.268072	-25.988148	90.097526	-16.764891	0.321631	9.852855	10.344619	
27.02	1.94923	86.246547	-26.068643	90.100172	-16.817851	0.321857	9.846744	10.359184	
27.040001	1.9473	86.13404	-26.057563	89.989274	-16.831824	0.321413	9.858734	10.330626	
27.059999	1.94574	86.041612	-26.049871	89.89858	-16.844189	0.321053	9.868455	10.307527	
27.08	1.945966	86.010913	-26.092498	89.881564	-16.875867	0.321106	9.867044	10.310877	
27.1	1.943908	85.859263	-26.109963	89.741536	-16.914644	0.320631	9.879894	10.280415	
27.120001	1.943561	85.710236	-26.227634	89.633327	-17.014325	0.320551	9.88206	10.275287	
27.139999	1.941727	85.650469	-26.172699	89.560109	-16.991907	0.320127	9.89355	10.24814	
27.16	1.940934	85.461962	-26.298737	89.416836	-17.104442	0.319944	9.89852	10.236418	
27.18	1.937598	85.354264	-26.198093	89.284324	-17.06304	0.319172	9.919517	10.187048	
27.200001	1.938813	85.350867	-26.273742	89.303304	-17.110079	0.319453	9.911857	10.205031	
27.219999	1.93721	85.205455	-26.310696	89.175234	-17.160258	0.319082	9.921962	10.181313	
27.24	1.937134	85.200648	-26.310525	89.170591	-17.161065	0.319064	9.922444	10.180184	
27.26	1.938327	85.086042	-26.484459	89.112631	-17.289661	0.319341	9.914917	10.197842	
27.280001	1.933072	84.911981	-26.330579	88.900753	-17.228308	0.318121	9.948154	10.120096	
27.299999	1.933621	84.826402	-26.439488	88.851364	-17.311732	0.318249	9.944669	10.12822	
27.32	1.934313	84.828465	-26.478322	88.864898	-17.33524	0.31841	9.940278	10.138465	
27.34	1.931608	84.741926	-26.396456	88.757912	-17.301439	0.31778	9.957456	10.098442	
27.360001	1.929132	84.495699	-26.469571	88.544686	-17.393994	0.317204	9.973229	10.061834	
27.379999	1.927325	84.395969	-26.451887	88.444231	-17.402376	0.316782	9.984779	10.035109	
27.4	1.929993	84.435994	-26.572095	88.518435	-17.468874	0.317405	9.967737	10.074565	
27.42	1.924917	84.18347	-26.497729	88.255233	-17.472034	0.31622	10.000218	9.999497	
27.440001	1.925882	84.089044	-26.635385	88.206638	-17.575741	0.316446	9.99402	10.013779	
27.459999	1.926965	84.093288	-26.694097	88.228431	-17.611256	0.316698	9.987082	10.029789	
27.48	1.924161	83.932136	-26.671148	88.067892	-17.628747	0.316043	10.005072	9.988328	
27.5	1.921899	83.776006	-26.674786	87.92021	-17.66182	0.315514	10.019635	9.954891	
27.52	1.921776	83.72554	-26.710663	87.883023	-17.69409	0.315485	10.020428	9.953074	
27.540001	1.92053	83.658023	-26.696725	87.814463	-17.698815	0.315193	10.028475	9.934648	
27.559999	1.923056	83.5771	-26.908516	87.802049	-17.846534	0.315785	10.012183	9.971987	
27.58	1.922564	83.541058	-26.910803	87.768444	-17.855165	0.315669	10.015348	9.964722	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
27.6	1.916192	83.277521	-26.770057	87.474461	-17.820344	0.314174	10.056592	9.870538	
27.620001	1.915651	83.23948	-26.771168	87.438587	-17.828665	0.314047	10.060109	9.862546	
27.639999	1.915127	83.094926	-26.861419	87.328704	-17.914072	0.313923	10.063524	9.854796	
27.66	1.917064	83.082578	-26.980332	87.353609	-17.990778	0.314379	10.050927	9.883421	
27.68	1.913562	82.931356	-26.908011	87.187447	-17.976269	0.313555	10.073726	9.831673	
27.700001	1.911066	82.716131	-26.943963	86.993882	-18.04254	0.312966	10.090044	9.794801	
27.719999	1.913252	82.758564	-27.031314	87.061311	-18.08855	0.313482	10.075748	9.827096	
27.74	1.908805	82.551809	-26.951073	86.839862	-18.08058	0.312433	10.104875	9.761408	
27.76	1.910914	82.504524	-27.105873	86.843104	-18.18735	0.312931	10.091038	9.79256	
27.780001	1.906481	82.339681	-26.992521	86.651135	-18.150164	0.311883	10.120176	9.727077	
27.799999	1.904891	82.197152	-27.018301	86.523756	-18.195787	0.311506	10.13067	9.703602	
27.82	1.90611	82.152813	-27.120392	86.513585	-18.269188	0.311795	10.122624	9.721597	
27.84	1.905537	82.004284	-27.205565	86.399336	-18.353701	0.311659	10.126407	9.713132	
27.860001	1.903117	81.881544	-27.16929	86.271418	-18.356503	0.311085	10.142407	9.677413	
27.879999	1.901885	81.720407	-27.227195	86.136781	-18.426815	0.310793	10.150584	9.659211	
27.9	1.90032	81.701879	-27.156518	86.096884	-18.38609	0.310421	10.16098	9.636117	
27.92	1.899856	81.47492	-27.305812	85.928865	-18.528288	0.310311	10.164069	9.629265	
27.940001	1.897634	81.413689	-27.232658	85.847577	-18.494981	0.309782	10.178884	9.596473	
27.959999	1.89613	81.348014	-27.201636	85.775453	-18.489245	0.309423	10.188937	9.574283	
27.98	1.894929	81.138718	-27.295737	85.606944	-18.593398	0.309137	10.196987	9.556553	
28	1.893012	81.051885	-27.258363	85.512726	-18.588214	0.308679	10.209862	9.528265	
28.02	1.894161	80.987114	-27.368365	85.48649	-18.671934	0.308953	10.202142	9.545216	
28.040001	1.892077	80.862952	-27.349803	85.362924	-18.686811	0.308455	10.216153	9.514473	
28.059999	1.890641	80.735428	-27.368047	85.247987	-18.725888	0.308112	10.225829	9.493297	
28.08	1.888496	80.571429	-27.375221	85.094993	-18.765912	0.307598	10.240326	9.461662	
28.1	1.887608	80.468544	-27.403684	85.006755	-18.806386	0.307385	10.246341	9.448567	
28.120001	1.886925	80.367794	-27.44109	84.92347	-18.852188	0.307221	10.250975	9.43849	
28.139999	1.886054	80.286049	-27.454608	84.850487	-18.878663	0.307012	10.256884	9.425657	
28.16	1.883637	80.134803	-27.436958	84.701672	-18.90047	0.306431	10.273335	9.39002	
28.18	1.883243	80.016386	-27.501332	84.610551	-18.967687	0.306337	10.276022	9.384212	
28.200001	1.880322	79.889819	-27.439245	84.470677	-18.955765	0.305633	10.295988	9.341169	
28.219999	1.882865	79.827796	-27.615563	84.4695	-19.082542	0.306246	10.278602	9.378638	
28.24	1.880485	79.718262	-27.569335	84.350871	-19.077191	0.305672	10.294873	9.343567	
28.26	1.879667	79.63521	-27.585314	84.277614	-19.105912	0.305475	10.300481	9.33151	
28.280001	1.879523	79.574132	-27.620598	84.231467	-19.142189	0.30544	10.301469	9.329386	
28.299999	1.877681	79.38503	-27.657112	84.064849	-19.207963	0.304996	10.314121	9.302248	
28.32	1.874796	79.202518	-27.634894	83.885196	-19.234646	0.304299	10.334002	9.259761	
28.34	1.872205	79.026158	-27.623105	83.714811	-19.266791	0.303671	10.351935	9.221604	
28.360001	1.871173	78.880235	-27.669686	83.592482	-19.329934	0.303421	10.3591	9.206404	
28.379999	1.869383	78.795282	-27.636074	83.501192	-19.327466	0.302986	10.371548	9.180054	

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
28.4	1.87073	78.794634	-27.704978	83.523411	-19.372216	0.303313	10.362178	9.199881
28.42	1.867639	78.594113	-27.68284	83.326911	-19.403591	0.302562	10.38371	9.154381
28.440001	1.868241	78.468097	-27.797074	83.246139	-19.506563	0.302709	10.379505	9.16325
28.459999	1.86453	78.396697	-27.657283	83.132228	-19.432179	0.301805	10.405467	9.108636
28.48	1.86231	78.184287	-27.685886	82.941492	-19.499629	0.301264	10.421063	9.075984
28.5	1.860341	78.075183	-27.658617	82.829544	-19.50704	0.300783	10.434945	9.047019
28.52	1.858823	77.956592	-27.660048	82.718248	-19.535404	0.300411	10.445675	9.024695
28.540001	1.858592	77.822497	-27.735533	82.617194	-19.615837	0.300355	10.447307	9.021303
28.559999	1.856567	77.702169	-27.712232	82.49603	-19.628649	0.299859	10.461661	8.991537
28.58	1.855089	77.584754	-27.714097	82.386075	-19.657301	0.299497	10.472164	8.969818
28.6	1.855744	77.516612	-27.789994	82.347489	-19.72298	0.299657	10.467507	8.979442
28.620001	1.852503	77.355372	-27.731953	82.176121	-19.722825	0.298861	10.490601	8.931818
28.639999	1.850055	77.215988	-27.69906	82.033814	-19.734052	0.298259	10.508127	8.895847
28.66	1.850663	77.220201	-27.726428	82.047024	-19.751049	0.298409	10.503764	8.904788
28.68	1.849149	76.977994	-27.803272	81.84518	-19.858978	0.298036	10.514623	8.88255
28.700001	1.846611	76.799949	-27.789091	81.672919	-19.892052	0.29741	10.532883	8.845282
28.719999	1.84525	76.786678	-27.730764	81.64061	-19.856728	0.297074	10.542704	8.825303
28.74	1.84268	76.604747	-27.717077	81.464861	-19.891137	0.296438	10.561309	8.787575
28.76	1.839881	76.47711	-27.658781	81.325005	-19.883111	0.295745	10.581646	8.746522
28.780001	1.839126	76.358687	-27.69409	81.225684	-19.934944	0.295558	10.587153	8.735439
28.799999	1.838074	76.18502	-27.747825	81.080818	-20.012483	0.295297	10.594828	8.720014
28.82	1.83581	76.021078	-27.736525	80.922921	-20.044689	0.294734	10.611388	8.686828
28.84	1.835018	75.871526	-27.786982	80.799783	-20.11465	0.294537	10.617199	8.675212
28.860001	1.834818	75.794508	-27.822629	80.739743	-20.157199	0.294487	10.618669	8.672276
28.879999	1.831144	75.676188	-27.716048	80.591964	-20.115054	0.293572	10.64571	8.618446
28.9	1.830525	75.621059	-27.718649	80.541095	-20.130279	0.293417	10.650287	8.609369
28.92	1.828479	75.430721	-27.731619	80.366886	-20.185662	0.292906	10.665432	8.579397
28.940001	1.823092	75.257962	-27.574792	80.15067	-20.123054	0.291557	10.705531	8.500548
28.959999	1.823968	75.266114	-27.611846	80.17108	-20.145914	0.291777	10.698986	8.513367
28.98	1.822468	75.057766	-27.660182	79.992212	-20.229815	0.2914	10.710198	8.491418
29	1.81914	74.839009	-27.62687	79.775443	-20.261694	0.290564	10.735168	8.442736
29.02	1.817556	74.756503	-27.598625	79.68826	-20.263186	0.290165	10.747099	8.419574
29.040001	1.81589	74.620769	-27.596348	79.560151	-20.295501	0.289745	10.759678	8.395222
29.059999	1.81433	74.472966	-27.605415	79.424691	-20.33862	0.289351	10.771491	8.372418
29.08	1.814498	74.393167	-27.657451	79.36799	-20.393865	0.289394	10.770219	8.37487
29.1	1.808685	74.219173	-27.48115	79.143536	-20.318126	0.287923	10.814473	8.289965
29.120001	1.807926	74.112746	-27.504189	79.051752	-20.36057	0.28773	10.820283	8.278882
29.139999	1.807256	73.972358	-27.549542	78.935968	-20.426887	0.28756	10.825416	8.269104
29.16	1.804962	73.852188	-27.507876	78.808813	-20.428992	0.286978	10.843034	8.235625
29.18	1.801799	73.713473	-27.435726	78.653641	-20.415009	0.286173	10.867429	8.189494

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	1.798273	73.571898	-27.348117	78.490405	-20.391123	0.285273	10.894775	8.13809	
29.219999	1.797806	73.522029	-27.353244	78.445451	-20.407324	0.285154	10.898404	8.131292	
29.24	1.794144	73.320923	-27.290985	78.235258	-20.415946	0.284217	10.926988	8.077952	
29.26	1.792645	73.154137	-27.310032	78.08563	-20.471734	0.283833	10.938743	8.056116	
29.280001	1.790929	73.032519	-27.294863	77.966392	-20.492549	0.283393	10.952228	8.03114	
29.299999	1.789996	72.949615	-27.295314	77.888898	-20.51421	0.283153	10.95957	8.017575	
29.32	1.789956	72.82429	-27.358432	77.793708	-20.590096	0.283143	10.959891	8.016981	
29.34	1.788075	72.693958	-27.339422	77.665022	-20.610781	0.282659	10.974739	7.989619	
29.360001	1.784224	72.545714	-27.239432	77.491078	-20.580167	0.281667	11.005279	7.933632	
29.379999	1.783637	72.468225	-27.252141	77.423012	-20.609129	0.281515	11.009957	7.925092	
29.4	1.78003	72.292599	-27.176949	77.232159	-20.602777	0.280583	11.038764	7.872699	
29.42	1.776045	72.161702	-27.061767	77.069128	-20.556867	0.279551	11.070789	7.814859	
29.440001	1.77236	72.083574	-26.933386	76.950951	-20.487791	0.278593	11.1006	7.761398	
29.459999	1.773208	72.043803	-26.992167	76.934301	-20.539165	0.278814	11.093721	7.773703	
29.48	1.770098	71.86173	-26.942285	76.746302	-20.551983	0.278004	11.118984	7.728614	
29.5	1.769521	71.751454	-26.971089	76.653185	-20.601079	0.277853	11.123685	7.720253	
29.52	1.76614	71.5793	-26.903332	76.468199	-20.598943	0.276971	11.151324	7.671275	
29.540001	1.76293	71.441134	-26.826369	76.311793	-20.58135	0.276131	11.177706	7.624816	
29.559999	1.763555	71.386378	-26.881393	76.279908	-20.6345	0.276294	11.172555	7.633865	
29.58	1.761465	71.183333	-26.885926	76.091523	-20.691574	0.275747	11.18979	7.60363	
29.6	1.757759	71.016046	-26.800173	75.90473	-20.675637	0.274773	11.220504	7.550045	
29.620001	1.756588	70.91672	-26.795216	75.810058	-20.698637	0.274465	11.230252	7.533119	
29.639999	1.754118	70.781297	-26.749213	75.667115	-20.702295	0.273815	11.250865	7.497448	
29.66	1.750325	70.562253	-26.68337	75.43894	-20.714329	0.272813	11.282692	7.442705	
29.68	1.749451	70.590369	-26.631189	75.446806	-20.669711	0.272582	11.290054	7.430099	
29.700001	1.745889	70.451906	-26.537519	75.284201	-20.640207	0.271638	11.320178	7.37874	
29.719999	1.743479	70.358123	-26.474137	75.1741	-20.620196	0.270999	11.340662	7.344019	
29.74	1.742349	70.217787	-26.489426	75.048167	-20.668853	0.270698	11.35029	7.327756	
29.76	1.740424	70.108641	-26.454511	74.933722	-20.673331	0.270186	11.366748	7.300039	
29.780001	1.7373	69.995087	-26.36836	74.797077	-20.642296	0.269353	11.393562	7.255107	
29.799999	1.734645	69.851416	-26.316729	74.644427	-20.644086	0.268644	11.416472	7.216934	
29.82	1.731332	69.654173	-26.260217	74.439927	-20.656907	0.267757	11.445197	7.169358	
29.84	1.730516	69.523153	-26.283439	74.325554	-20.709288	0.267538	11.452296	7.157649	
29.860001	1.729147	69.323817	-26.31214	74.149311	-20.7845	0.26717	11.464237	7.137996	
29.879999	1.724368	69.242392	-26.138492	74.011686	-20.681188	0.265885	11.506131	7.069471	
29.9	1.724171	69.107365	-26.18957	73.903461	-20.755207	0.265832	11.507862	7.066653	
29.92	1.718285	68.95979	-25.996557	73.697175	-20.655546	0.264242	11.559967	6.982377	
29.940001	1.718143	68.927063	-26.004755	73.669446	-20.67049	0.264204	11.561226	6.980354	
29.959999	1.713515	68.886709	-25.819396	73.566432	-20.546514	0.262949	11.602582	6.914197	
29.98	1.712151	68.681557	-25.849836	73.385082	-20.624984	0.262578	11.614833	6.894722	

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
30	1.710086	68.610712	-25.790329	73.297823	-20.600957	0.262016	11.633444	6.865238
30.02	1.709563	68.537281	-25.799385	73.232282	-20.627803	0.261874	11.638162	6.857783
30.040001	1.70515	68.449405	-25.644519	73.09557	-20.538461	0.260669	11.678197	6.794856
30.059999	1.703629	68.32111	-25.633581	72.971601	-20.56576	0.260253	11.69207	6.773186
30.08	1.699439	68.11286	-25.540196	72.74382	-20.554513	0.259105	11.730473	6.713557
30.1	1.697591	67.813497	-25.586186	72.479813	-20.671641	0.258598	11.747508	6.687275
30.120001	1.694958	67.74198	-25.502009	72.383205	-20.629283	0.257873	11.77187	6.649868
30.139999	1.690439	67.49983	-25.406837	72.123051	-20.6263	0.256627	11.813959	6.585732
30.16	1.689343	67.465985	-25.373435	72.079611	-20.610928	0.256324	11.824219	6.570193
30.18	1.685388	67.44197	-25.212309	72.000554	-20.497643	0.255229	11.861408	6.514172
30.200001	1.684335	67.395364	-25.185996	71.947686	-20.491012	0.254936	11.871364	6.499256
30.219999	1.680478	67.189554	-25.104018	71.726201	-20.487221	0.253864	11.907967	6.44471
30.24	1.676071	67.155089	-24.927463	71.632286	-20.364582	0.252636	11.950102	6.382484
30.26	1.674579	67.050049	-24.906192	71.526412	-20.377889	0.252219	11.964452	6.361431
30.280001	1.671579	66.794561	-24.880781	71.278094	-20.430253	0.251379	11.993421	6.319138
30.299999	1.668391	66.735584	-24.767171	71.183221	-20.36113	0.250485	12.024376	6.274258
30.32	1.666677	66.608399	-24.744593	71.056131	-20.379744	0.250003	12.0411	6.250144
30.34	1.662622	66.407628	-24.650389	70.835123	-20.364869	0.248861	12.080872	6.193167
30.360001	1.66127	66.227371	-24.663476	70.670727	-20.425673	0.248479	12.094206	6.174181
30.379999	1.656986	66.14815	-24.510998	70.543368	-20.332071	0.247267	12.13666	6.11412
30.4	1.653194	65.975746	-24.415934	70.348681	-20.308258	0.246191	12.174541	6.061023
30.42	1.649104	65.877556	-24.27897	70.209122	-20.231244	0.245028	12.215697	6.003857
30.440001	1.647057	65.857029	-24.199171	70.162298	-20.175896	0.244444	12.236412	5.975288
30.459999	1.644804	65.719402	-24.156272	70.018321	-20.181789	0.2438	12.259314	5.94386
30.48	1.642036	65.649554	-24.064733	69.921208	-20.131131	0.243008	12.287588	5.905289
30.5	1.641113	65.560684	-24.059646	69.836021	-20.152306	0.242743	12.29705	5.892438
30.52	1.634939	65.440265	-23.841572	69.648036	-20.018018	0.240969	12.360767	5.806618
30.540001	1.632244	65.320681	-23.772241	69.511947	-19.998066	0.240192	12.388833	5.769215
30.559999	1.629295	65.156417	-23.709062	69.335981	-19.995427	0.23934	12.419705	5.728349
30.58	1.626537	64.95569	-23.667448	69.133131	-20.019902	0.238541	12.448735	5.690186
30.6	1.621064	64.815522	-23.486566	68.939616	-19.918536	0.236951	12.50683	5.614577
30.620001	1.61768	64.641309	-23.40754	68.748903	-19.906079	0.235965	12.543057	5.567937
30.639999	1.614498	64.502032	-23.323698	68.589409	-19.879839	0.235035	12.577362	5.524129
30.66	1.610563	64.420939	-23.186047	68.466416	-19.794588	0.233882	12.620073	5.470068
30.68	1.606575	64.34406	-23.044381	68.346189	-19.704669	0.23271	12.663709	5.415381
30.700001	1.605797	64.393843	-22.992345	68.375544	-19.649553	0.23248	12.67227	5.404718
30.719999	1.600426	64.217147	-22.828713	68.154178	-19.569952	0.230895	12.731696	5.331267
30.74	1.600833	64.153737	-22.869851	68.108238	-19.620427	0.231016	12.727174	5.336821
30.76	1.596787	64.050227	-22.735314	67.965624	-19.542897	0.229818	12.772337	5.28161
30.780001	1.593271	63.862316	-22.654565	67.761528	-19.531703	0.228773	12.811896	5.233719

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
30.799999	1.588087	63.789726	-22.45962	67.628128	-19.396607	0.227228	12.87075	5.163272	
30.82	1.583513	63.569573	-22.345102	67.382447	-19.366928	0.22586	12.923205	5.101284	
30.84	1.578648	63.425829	-22.189697	67.195375	-19.282561	0.2244	12.979552	5.035526	
30.860001	1.57298	63.269153	-22.004421	66.986418	-19.177232	0.222691	13.045934	4.959142	
30.879999	1.568811	63.149264	-21.86965	66.828969	-19.101862	0.22143	13.095278	4.903116	
30.9	1.565192	63.061757	-21.746454	66.706023	-19.026468	0.220331	13.138477	4.854588	
30.92	1.563431	63.008905	-21.690219	66.637735	-18.995573	0.219796	13.15962	4.831011	
30.940001	1.559874	62.996421	-21.541905	66.577795	-18.878383	0.218711	13.202568	4.783471	
30.959999	1.558366	62.968136	-21.487444	66.533423	-18.841888	0.218251	13.22087	4.763356	
30.98	1.554367	62.906234	-21.337903	66.426654	-18.737058	0.217027	13.269722	4.710075	
31	1.549877	62.71051	-21.216767	66.202411	-18.692188	0.215648	13.325072	4.650426	
31.02	1.544785	62.553873	-21.054854	66.002226	-18.602624	0.214079	13.388514	4.582987	
31.040001	1.541755	62.47659	-20.952513	65.896374	-18.539725	0.213142	13.42661	4.54296	
31.059999	1.537126	62.385357	-20.786071	65.75708	-18.427502	0.211706	13.485317	4.481964	
31.08	1.530374	62.152713	-20.579693	65.471241	-18.320512	0.209603	13.572045	4.393347	
31.1	1.523059	62.141715	-20.266031	65.36287	-18.062527	0.207311	13.667534	4.297804	
31.120001	1.518438	61.930253	-20.144012	65.124016	-18.01815	0.205857	13.728689	4.237709	
31.139999	1.514278	61.873019	-19.984091	65.020262	-17.899738	0.204543	13.784312	4.18378	
31.16	1.511341	61.786058	-19.888546	64.908176	-17.843074	0.203613	13.823898	4.145818	
31.18	1.507777	61.775099	-19.736741	64.851382	-17.718373	0.202481	13.872324	4.099846	
31.200001	1.505993	61.727849	-19.676519	64.78806	-17.680358	0.201913	13.896704	4.076896	
31.219999	1.502904	61.7055	-19.549414	64.728265	-17.57917	0.200928	13.939178	4.037218	
31.24	1.497935	61.556755	-19.387819	64.537754	-17.482291	0.199339	14.008168	3.973592	
31.26	1.4947	61.468894	-19.279055	64.421323	-17.413501	0.198301	14.053523	3.93231	
31.280001	1.487937	61.355853	-19.024116	64.23751	-17.226705	0.196121	14.149516	3.846346	
31.299999	1.484979	61.257731	-18.93124	64.116312	-17.1734	0.195164	14.191994	3.808909	
31.32	1.477528	61.226379	-18.612768	63.993005	-16.909257	0.192744	14.300388	3.71502	
31.34	1.471228	61.063599	-18.396181	63.774467	-16.765621	0.190686	14.393642	3.6361	
31.360001	1.464112	61.002214	-18.102028	63.631387	-16.527957	0.188349	14.500751	3.547521	
31.379999	1.459768	60.939536	-17.931937	63.523078	-16.396962	0.186915	14.567107	3.493729	
31.4	1.456076	60.877555	-17.790621	63.423836	-16.290299	0.185693	14.624098	3.448182	
31.42	1.454373	60.911033	-17.699686	63.430535	-16.202974	0.185128	14.650564	3.427233	
31.440001	1.450279	60.82566	-17.549379	63.306726	-16.093901	0.183766	14.71468	3.377007	
31.459999	1.449298	60.812914	-17.510119	63.283606	-16.062948	0.18344	14.73014	3.365007	
31.48	1.443872	60.760465	-17.284781	63.171179	-15.87971	0.181627	14.816411	3.298822	
31.5	1.439135	60.754001	-17.070241	63.106591	-15.693963	0.180037	14.892761	3.241335	
31.52	1.434824	60.682219	-16.902854	62.992366	-15.56505	0.178586	14.963075	3.189279	
31.540001	1.430156	60.668504	-16.692792	62.923102	-15.384139	0.177008	15.040158	3.133172	
31.559999	1.423197	60.589195	-16.404194	62.770599	-15.149355	0.174644	15.156921	3.050057	
31.58	1.415407	60.5538	-16.054462	62.645897	-14.849065	0.171982	15.290332	2.957786	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	1.409193	60.557565	-15.757746	62.574158	-14.585566	0.169846	15.398877	2.884778	
31.620001	1.405754	60.563398	-15.590438	62.537884	-14.435877	0.16866	15.459769	2.844613	
31.639999	1.404145	60.570255	-15.509769	62.524465	-14.362721	0.168103	15.488468	2.825877	
31.66	1.401766	60.588884	-15.385751	62.511872	-14.248368	0.167279	15.531153	2.798238	
31.68	1.400142	60.613285	-15.294802	62.513209	-14.16207	0.166716	15.560452	2.779424	
31.700001	1.395348	60.565135	-15.086025	62.415733	-13.987057	0.165048	15.647784	2.724091	
31.719999	1.389431	60.558709	-14.799093	62.34076	-13.73259	0.162981	15.757278	2.65627	
31.74	1.386254	60.547473	-14.648026	62.29415	-13.600069	0.161866	15.81687	2.620071	
31.76	1.382154	60.584786	-14.423542	62.278045	-13.391262	0.160424	15.894633	2.573574	
31.780001	1.37664	60.586901	-14.144967	62.216177	-13.141241	0.158476	16.000743	2.511456	
31.799999	1.37043	60.579427	-13.833299	62.138773	-12.862955	0.156271	16.122424	2.442067	
31.82	1.366249	60.739868	-13.521337	62.226667	-12.550032	0.15478	16.20569	2.395692	
31.84	1.363766	60.746276	-13.387569	62.203996	-12.42848	0.153893	16.255647	2.368292	
31.860001	1.359863	60.782179	-13.159136	62.190322	-12.215837	0.152493	16.334988	2.325419	
31.879999	1.359082	60.846048	-13.076522	62.235336	-12.129061	0.152213	16.35098	2.316872	
31.9	1.356506	60.808831	-12.963045	62.175192	-12.034029	0.151286	16.404033	2.288742	
31.92	1.354394	60.864075	-12.812995	62.198139	-11.888233	0.150524	16.447858	2.265762	
31.940001	1.352819	61.000688	-12.634763	62.295434	-11.701937	0.149956	16.480734	2.248675	
31.959999	1.349627	60.965128	-12.484158	62.230226	-11.572796	0.148801	16.547877	2.214177	
31.98	1.347601	61.087423	-12.285139	62.310496	-11.370954	0.148066	16.590874	2.192364	
32	1.343674	61.153125	-12.015926	62.322445	-11.116402	0.146639	16.675008	2.150301	
32.02	1.341593	61.336111	-11.757092	62.452764	-10.851028	0.14588	16.720056	2.128111	
32.040001	1.339322	61.512199	-11.483683	62.574959	-10.574808	0.145052	16.769555	2.103994	
32.060001	1.337249	61.586913	-11.298262	62.614684	-10.395471	0.144293	16.815086	2.082051	
32.080002	1.334991	61.643281	-11.113956	62.637162	-10.220345	0.143466	16.865039	2.05824	
32.099998	1.335334	61.764102	-11.030163	62.741284	-10.125462	0.143591	16.85743	2.061849	
32.119999	1.334829	61.78274	-10.982704	62.751309	-10.079812	0.143406	16.868634	2.056537	
32.139999	1.333499	61.847981	-10.842016	62.791099	-9.942998	0.142918	16.898264	2.042554	
32.16	1.333188	61.975206	-10.706441	62.893196	-9.801331	0.142804	16.905201	2.039294	
32.18	1.332884	62.18839	-10.485725	63.066206	-9.570766	0.142692	16.912005	2.036102	
32.200001	1.331318	62.238254	-10.335033	63.090515	-9.42829	0.142116	16.947127	2.019702	
32.220001	1.332202	62.434229	-10.197531	63.261541	-9.276361	0.142441	16.92727	2.028958	
32.240002	1.332753	62.775295	-9.877195	63.547594	-8.941745	0.142644	16.914937	2.034728	
32.259998	1.334785	62.965638	-9.810808	63.725375	-8.856181	0.14339	16.869608	2.056076	
32.279999	1.334439	63.006548	-9.740752	63.755058	-8.788313	0.143263	16.877317	2.05243	
32.299999	1.333406	62.967881	-9.710806	63.712274	-8.767012	0.142884	16.900347	2.041575	
32.32	1.335033	63.109507	-9.666838	63.845577	-8.708643	0.143481	16.864102	2.058684	
32.34	1.334591	63.132583	-9.608679	63.85961	-8.653929	0.143319	16.87393	2.054031	
32.360001	1.336829	63.330095	-9.541665	64.044861	-8.568072	0.144139	16.824343	2.077618	
32.380001	1.337415	63.480625	-9.405592	64.173631	-8.427915	0.144354	16.811435	2.083802	



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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	1.337756	63.598323	-9.287489	64.272888	-8.308392	0.144479	16.803925	2.087409	
32.419998	1.340963	63.832548	-9.239091	64.497713	-8.235782	0.145651	16.733375	2.121412	
32.439999	1.342002	64.025896	-9.071407	64.665337	-8.0642	0.14603	16.711176	2.132467	
32.459999	1.344393	64.250422	-8.963464	64.872648	-7.941989	0.146901	16.659528	2.157979	
32.48	1.3444	64.322968	-8.865749	64.931084	-7.847746	0.146903	16.659368	2.158058	
32.5	1.346117	64.417924	-8.875016	65.026416	-7.844411	0.147528	16.622528	2.176443	
32.52	1.346697	64.454485	-8.871872	65.062207	-7.837274	0.147738	16.610146	2.182657	
32.540001	1.347039	64.48356	-8.859679	65.089349	-7.823151	0.147862	16.602839	2.186332	
32.560001	1.348405	64.645165	-8.746028	65.234119	-7.704939	0.148358	16.573777	2.201011	
32.580002	1.350207	64.684492	-8.839879	65.285734	-7.781933	0.149011	16.535631	2.220429	
32.599998	1.351587	64.821807	-8.760032	65.411045	-7.69635	0.149511	16.506557	2.235344	
32.619999	1.353686	64.99615	-8.684989	65.57384	-7.610971	0.150269	16.462618	2.258074	
32.639999	1.355629	65.10043	-8.697767	65.678894	-7.609971	0.15097	16.42219	2.279192	
32.66	1.356357	65.207325	-8.601863	65.772238	-7.51483	0.151232	16.407121	2.287115	
32.68	1.35769	65.309227	-8.56442	65.868387	-7.470948	0.151712	16.379592	2.301658	
32.700001	1.360858	65.559003	-8.460469	66.102665	-7.35346	0.15285	16.314672	2.336322	
32.720001	1.363936	65.752417	-8.433048	66.291	-7.308559	0.153953	16.252215	2.370164	
32.740002	1.366953	65.938347	-8.410635	66.472584	-7.26901	0.155032	16.191582	2.403487	
32.759998	1.367354	65.984337	-8.373276	66.513491	-7.232074	0.155175	16.183575	2.407922	
32.779999	1.370306	66.109178	-8.442241	66.646041	-7.277381	0.156227	16.124877	2.440688	
32.799999	1.368773	66.088151	-8.335376	66.611727	-7.188493	0.155681	16.155288	2.423657	
32.82	1.367038	66.0329	-8.265084	66.548144	-7.134402	0.155062	16.189887	2.404425	
32.84	1.367769	66.087575	-8.243116	66.599674	-7.109807	0.155323	16.175281	2.412525	
32.860001	1.369072	66.142758	-8.273488	66.658195	-7.129842	0.155787	16.149349	2.426974	
32.880001	1.37199	66.333608	-8.229655	66.842163	-7.072255	0.156826	16.091641	2.459438	
32.900002	1.3732	66.411243	-8.213535	66.917227	-7.050374	0.157256	16.067859	2.472943	
32.919998	1.374266	66.472062	-8.21202	66.977401	-7.042701	0.157635	16.046972	2.484865	
32.939999	1.377478	66.651695	-8.212939	67.155795	-7.024689	0.158773	15.984488	2.520874	
32.959999	1.379371	66.768361	-8.194492	67.269337	-6.996942	0.159442	15.94796	2.542166	
32.98	1.382923	67.034399	-8.075238	67.519035	-6.868997	0.160695	15.879965	2.582281	
33	1.38516	67.093113	-8.19168	67.591342	-6.961042	0.161482	15.837523	2.607641	
33.02	1.388203	67.259814	-8.196396	67.757387	-6.947916	0.16255	15.780246	2.642259	
33.040001	1.389202	67.300732	-8.222334	67.801146	-6.965492	0.1629	15.761562	2.653651	
33.060001	1.387772	67.274633	-8.12728	67.763773	-6.888391	0.162399	15.788324	2.637349	
33.080002	1.387861	67.269508	-8.145308	67.76085	-6.904044	0.16243	15.786652	2.638364	
33.099998	1.389199	67.353079	-8.128549	67.841805	-6.881509	0.162899	15.761618	2.653617	
33.119999	1.395999	67.681574	-8.215922	68.17842	-6.92133	0.165275	15.635856	2.731583	
33.139999	1.394827	67.625857	-8.199329	68.12111	-6.913123	0.164867	15.65734	2.718103	
33.16	1.396236	67.736292	-8.14018	68.22366	-6.852646	0.165358	15.631508	2.734319	
33.18	1.397548	67.792765	-8.169577	68.283241	-6.871482	0.165815	15.607547	2.749447	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
33.200001	1.397813	67.807192	-8.169943	68.297608	-6.870339	0.165907	15.602725	2.752501	
33.220001	1.403312	68.070629	-8.243896	68.568013	-6.905359	0.167815	15.503384	2.816188	
33.240002	1.406058	68.205834	-8.273988	68.705857	-6.916715	0.168765	15.454368	2.848152	
33.259998	1.4102	68.358345	-8.413939	68.874217	-7.017013	0.170193	15.381151	2.896576	
33.279999	1.412358	68.467	-8.433236	68.984415	-7.021896	0.170936	15.343352	2.921896	
33.299999	1.413065	68.512678	-8.421084	69.028268	-7.00725	0.171179	15.331007	2.930214	
33.32	1.410371	68.411226	-8.334046	68.916995	-6.945719	0.170252	15.378146	2.898581	
33.34	1.411836	68.458081	-8.396697	68.971105	-6.992675	0.170756	15.352474	2.915766	
33.360001	1.412685	68.521426	-8.366175	69.030274	-6.961129	0.171048	15.337643	2.92574	
33.380001	1.416746	68.721726	-8.40971	69.234376	-6.976802	0.172441	15.267187	2.973592	
33.400002	1.415636	68.650987	-8.427453	69.166321	-6.998509	0.172061	15.286372	2.960484	
33.419998	1.418409	68.805454	-8.424255	69.319251	-6.980329	0.17301	15.238574	2.993247	
33.439999	1.420209	68.88021	-8.469624	69.398976	-7.010008	0.173625	15.207745	3.014571	
33.459999	1.423686	68.990953	-8.619219	69.52728	-7.121227	0.174811	15.148641	3.055877	
33.48	1.425395	69.028866	-8.722378	69.577756	-7.20165	0.175392	15.119803	3.076236	
33.5	1.4289	69.209075	-8.746861	69.759614	-7.203045	0.176582	15.061065	3.118125	
33.52	1.431797	69.279868	-8.908877	69.850328	-7.327611	0.177563	15.012953	3.15286	
33.540001	1.432966	69.326793	-8.940868	69.900953	-7.348714	0.177958	14.993645	3.166909	
33.560001	1.430944	69.297879	-8.79077	69.853229	-7.229643	0.177274	15.027081	3.14262	
33.580002	1.43038	69.286362	-8.754853	69.837292	-7.2016	0.177083	15.036446	3.135851	
33.599998	1.431515	69.29869	-8.846722	69.861097	-7.275084	0.177468	15.017617	3.149476	
33.619999	1.43431	69.389889	-8.961203	69.966133	-7.358621	0.178412	14.971521	3.183082	
33.639999	1.434837	69.443591	-8.91696	70.013745	-7.317084	0.17859	14.962862	3.189435	
33.66	1.437148	69.531553	-8.988964	70.110187	-7.366293	0.179369	14.925063	3.217316	
33.68	1.43718	69.574728	-8.913889	70.143426	-7.300953	0.17938	14.924542	3.217702	
33.700001	1.442103	69.708339	-9.163852	70.308099	-7.489166	0.181034	14.844813	3.277319	
33.720001	1.443815	69.762559	-9.236226	70.371319	-7.541837	0.181608	14.817323	3.29813	
33.740002	1.446458	69.841623	-9.355496	70.465436	-7.629539	0.182492	14.775146	3.330316	
33.759998	1.449693	69.936832	-9.503262	70.579548	-7.738171	0.183571	14.72391	3.369838	
33.779999	1.44916	69.93157	-9.460933	70.568645	-7.704691	0.183394	14.732315	3.363322	
33.799999	1.449405	69.936332	-9.476335	70.575431	-7.716564	0.183475	14.728451	3.366316	
33.82	1.448861	69.949245	-9.401035	70.578158	-7.654581	0.183294	14.73704	3.359665	
33.84	1.45102	70.013326	-9.498752	70.654739	-7.726195	0.184013	14.703023	3.386084	
33.860001	1.452976	70.073062	-9.583993	70.725434	-7.788117	0.184664	14.672365	3.410072	
33.880001	1.454346	70.130241	-9.617058	70.786571	-7.808362	0.185119	14.650989	3.426897	
33.900002	1.456301	70.166644	-9.741704	70.839669	-7.904242	0.185768	14.620601	3.45096	
33.919998	1.456293	70.133745	-9.796718	70.814673	-7.951991	0.185765	14.620733	3.450855	
33.939999	1.460057	70.320045	-9.837733	71.004857	-7.963972	0.187011	14.562676	3.497296	
33.959999	1.461522	70.338517	-9.944964	71.038083	-8.047561	0.187495	14.540226	3.515421	
33.98	1.462017	70.298683	-10.057665	71.014516	-8.142094	0.187658	14.53266	3.521551	

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
34	1.465095	70.335534	-10.280981	71.082951	-8.316075	0.188672	14.485844	3.559718
34.02	1.466232	70.353358	-10.355855	71.111453	-8.373692	0.189046	14.468633	3.573853
34.040001	1.467685	70.469201	-10.301114	71.218124	-8.316548	0.189524	14.44673	3.591923
34.060001	1.468933	70.458848	-10.431559	71.226868	-8.421581	0.189933	14.42797	3.607473
34.080002	1.4666	70.465057	-10.208126	71.200633	-8.24299	0.189167	14.463076	3.578429
34.099998	1.469297	70.519717	-10.366658	71.277612	-8.362808	0.190053	14.42251	3.612011
34.119999	1.469944	70.483605	-10.483386	71.258964	-8.459889	0.190265	14.412824	3.620075
34.139999	1.471986	70.56924	-10.531109	71.350697	-8.487677	0.190934	14.382342	3.645573
34.16	1.472026	70.548064	-10.568403	71.335268	-8.519814	0.190947	14.381743	3.646076
34.18	1.474322	70.568757	-10.740851	71.381478	-8.654245	0.191698	14.347655	3.674806
34.200001	1.474963	70.601043	-10.747326	71.41437	-8.655483	0.191907	14.338177	3.682836
34.220001	1.477339	70.54417	-11.042883	71.403257	-8.896813	0.192682	14.303165	3.712646
34.240002	1.478987	70.626013	-11.061717	71.487029	-8.901582	0.193219	14.279016	3.733348
34.259998	1.478251	70.503405	-11.182386	71.384704	-9.012496	0.192979	14.289792	3.724096
34.279999	1.480614	70.651392	-11.163973	71.527991	-8.97936	0.193748	14.255256	3.753829
34.299999	1.479394	70.580746	-11.164963	71.458367	-8.988985	0.193351	14.273058	3.738472
34.32	1.481535	70.672881	-11.210965	71.556564	-9.01384	0.194047	14.241844	3.765439
34.34	1.480152	70.547001	-11.27987	71.443088	-9.084235	0.193598	14.261986	3.748016
34.360001	1.482558	70.608151	-11.393786	71.52153	-9.166614	0.194379	14.226993	3.778337
34.380001	1.48243	70.584627	-11.417322	71.502062	-9.188236	0.194338	14.228858	3.776715
34.400002	1.483722	70.552455	-11.572026	71.495179	-9.314741	0.194757	14.210146	3.793022
34.419998	1.484323	70.607267	-11.543268	71.544623	-9.284909	0.194952	14.201457	3.800619
34.439999	1.485151	70.57894	-11.652759	71.534422	-9.375118	0.19522	14.189512	3.811087
34.459999	1.487286	70.571262	-11.839072	71.557436	-9.523307	0.195911	14.158839	3.838098
34.48	1.487735	70.509177	-11.961883	71.516646	-9.628571	0.196056	14.152403	3.843791
34.5	1.489978	70.534552	-12.107404	71.566139	-9.740037	0.19678	14.120382	3.872236
34.52	1.489074	70.490505	-12.095131	71.520651	-9.736316	0.196488	14.133261	3.860769
34.540001	1.491285	70.523206	-12.227003	71.57529	-9.835932	0.197202	14.101792	3.888847
34.560001	1.490355	70.520033	-12.157278	71.560286	-9.78136	0.196902	14.115014	3.877025
34.580002	1.490615	70.534287	-12.158709	71.574575	-9.780551	0.196986	14.11131	3.880333
34.599998	1.491093	70.505284	-12.235911	71.559154	-9.845411	0.19714	14.104517	3.886407
34.619999	1.492272	70.535119	-12.289167	71.597672	-9.883319	0.19752	14.0878	3.901396
34.639999	1.492003	70.497946	-12.317614	71.565942	-9.910864	0.197433	14.091618	3.897967
34.66	1.492301	70.449451	-12.405402	71.533343	-9.986815	0.197529	14.087399	3.901756
34.68	1.493268	70.454151	-12.474667	71.550015	-10.040788	0.19784	14.073727	3.914058
34.700001	1.491948	70.318429	-12.549417	71.429471	-10.11881	0.197415	14.092399	3.897266
34.720001	1.495423	70.366124	-12.754616	71.512738	-10.273945	0.198533	14.043366	3.941517
34.740002	1.49593	70.292118	-12.886729	71.463625	-10.38875	0.198695	14.036242	3.947988
34.759998	1.495971	70.263495	-12.925699	71.442511	-10.423631	0.198709	14.035661	3.948516
34.779999	1.496415	70.227551	-13.003689	71.421319	-10.490381	0.198851	14.029436	3.95418

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
34.799999	1.496694	70.27866	-12.961024	71.463825	-10.449286	0.198941	14.025534	3.957734
34.82	1.496814	70.23898	-13.019314	71.435403	-10.501035	0.198979	14.02385	3.959269
34.84	1.496266	70.14011	-13.100267	71.35301	-10.57942	0.198803	14.031522	3.952281
34.860001	1.497098	70.160953	-13.136362	71.380132	-10.604829	0.19907	14.019869	3.9629
34.880001	1.49738	70.154592	-13.164954	71.379149	-10.628327	0.199161	14.015922	3.966503
34.900002	1.498221	70.07942	-13.317387	71.333568	-10.759799	0.19943	14.004173	3.977249
34.919998	1.498138	70.102302	-13.283833	71.349793	-10.729897	0.199404	14.005341	3.976179
34.939999	1.497949	69.967829	-13.43017	71.245116	-10.865659	0.199343	14.007972	3.973771
34.959999	1.497746	69.91574	-13.476703	71.202754	-10.910334	0.199278	14.010815	3.97117
34.98	1.497877	69.825638	-13.590841	71.136001	-11.01434	0.19932	14.008982	3.972847
35	1.49882	69.805465	-13.68099	71.133483	-11.088719	0.199622	13.99582	3.984905
35.02	1.498077	69.762186	-13.677925	71.090423	-11.093003	0.199384	14.006182	3.975409
35.040001	1.497384	69.664326	-13.740301	71.006438	-11.157587	0.199162	14.015865	3.966555
35.060001	1.498251	69.696402	-13.764883	71.042666	-11.172032	0.19944	14.003759	3.977627
35.080002	1.498279	69.669679	-13.797004	71.022683	-11.201631	0.199449	14.003363	3.97799
35.099998	1.500247	69.689869	-13.911728	71.064857	-11.289202	0.200079	13.975969	4.003162
35.119999	1.499885	69.676962	-13.900945	71.05009	-11.282713	0.199963	13.980996	3.99853
35.139999	1.500472	69.695346	-13.921259	71.072095	-11.295873	0.200151	13.972847	4.00604
35.16	1.498027	69.434165	-14.040313	70.839492	-11.431678	0.199368	14.006881	3.974769
35.18	1.499743	69.487501	-14.09976	70.903569	-11.470221	0.199918	13.982977	3.996707
35.200001	1.498703	69.380918	-14.144126	70.807967	-11.522554	0.199585	13.997454	3.983406
35.220001	1.498424	69.258322	-14.256234	70.710363	-11.631407	0.199495	14.001344	3.97984
35.240002	1.496658	69.129267	-14.273817	70.587515	-11.666505	0.198929	14.026036	3.957276
35.259998	1.498174	69.175545	-14.326755	70.643555	-11.700965	0.199415	14.004833	3.976643
35.279999	1.498125	69.138568	-14.362192	70.614546	-11.735204	0.1994	14.005517	3.976018
35.299999	1.499641	69.196524	-14.402805	70.679557	-11.757884	0.199885	13.984395	3.995402
35.32	1.498593	69.154942	-14.376323	70.633452	-11.743726	0.19955	13.998987	3.982001
35.34	1.49939	69.09588	-14.490518	70.598978	-11.844219	0.199805	13.98789	3.992188
35.360001	1.498142	68.98048	-14.526625	70.493471	-11.892193	0.199405	14.005274	3.97624
35.380001	1.498715	68.964136	-14.58088	70.48868	-11.938085	0.199588	13.997291	3.983556
35.400002	1.495874	68.732303	-14.629094	70.2719	-12.015646	0.198678	14.037023	3.947278
35.419998	1.494835	68.638744	-14.654921	70.185781	-12.052168	0.198344	14.051625	3.934029
35.439999	1.495694	68.713311	-14.636337	70.254833	-12.024648	0.19862	14.039558	3.944975
35.459999	1.496344	68.634666	-14.756314	70.203035	-12.13379	0.198828	14.030428	3.953276
35.48	1.497431	68.655237	-14.805973	70.233599	-12.16987	0.199177	14.015211	3.967153
35.5	1.497332	68.629826	-14.824507	70.21267	-12.189025	0.199145	14.016596	3.965887
35.52	1.49606	68.532347	-14.838153	70.120278	-12.216741	0.198737	14.034413	3.949651
35.540001	1.495985	68.455389	-14.90775	70.059841	-12.285688	0.198713	14.035475	3.948685
35.560001	1.497114	68.447693	-14.986689	70.069162	-12.350098	0.199075	14.019651	3.963099
35.580002	1.494183	68.303476	-14.939052	69.918096	-12.337241	0.198134	14.060816	3.925712

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	1.492191	68.196372	-14.915202	69.808369	-12.336901	0.197493	14.08896	3.900354	
35.619999	1.49407	68.149338	-15.077243	69.797246	-12.475096	0.198098	14.062398	3.924282	
35.639999	1.494823	68.207694	-15.069717	69.852601	-12.458729	0.19834	14.051794	3.933876	
35.66	1.494629	68.13895	-15.121711	69.796724	-12.51258	0.198278	14.054529	3.931399	
35.68	1.495276	68.162196	-15.140381	69.823464	-12.523404	0.198485	14.045426	3.939648	
35.700001	1.494138	68.062572	-15.161881	69.730885	-12.5584	0.19812	14.061451	3.925138	
35.720001	1.493108	68.003241	-15.152754	69.670989	-12.561682	0.197788	14.075983	3.912026	
35.740002	1.492616	67.960118	-15.161965	69.630904	-12.576798	0.19763	14.08293	3.905773	
35.759998	1.487781	67.781165	-15.027224	69.426967	-12.500426	0.196071	14.151752	3.844367	
35.779999	1.490919	67.798415	-15.204727	69.482435	-12.640248	0.197083	14.107	3.884186	
35.799999	1.4887	67.654194	-15.198918	69.340443	-12.661642	0.196368	14.138607	3.85602	
35.82	1.490563	67.652132	-15.314217	69.363796	-12.754939	0.196969	14.112058	3.879665	
35.84	1.490427	67.627837	-15.327531	69.343042	-12.7701	0.196925	14.113993	3.877937	
35.860001	1.489623	67.556398	-15.342031	69.276582	-12.794856	0.196665	14.125438	3.86773	
35.880001	1.490193	67.521513	-15.407101	69.257011	-12.853743	0.196849	14.117318	3.874969	
35.900002	1.489193	67.43758	-15.420235	69.178109	-12.879813	0.196527	14.131568	3.862275	
35.919998	1.489493	67.36993	-15.496798	69.129286	-12.954172	0.196624	14.127282	3.866089	
35.939999	1.489794	67.380114	-15.50596	69.141265	-12.959679	0.196721	14.123001	3.869902	
35.959999	1.487559	67.257372	-15.478149	69.015413	-12.960031	0.195999	14.154929	3.841555	
35.98	1.487896	67.267858	-15.489224	69.028116	-12.967038	0.196108	14.150105	3.845825	
36	1.48692	67.164724	-15.519254	68.934371	-13.010596	0.195792	14.164081	3.833469	
36.02	1.486203	67.076528	-15.551412	68.855697	-13.05319	0.19556	14.174384	3.824385	
36.040001	1.48514	66.977041	-15.572315	68.763516	-13.08888	0.195216	14.189674	3.810945	
36.060001	1.484719	66.84558	-15.656692	68.654669	-13.182313	0.19508	14.195749	3.805618	
36.080002	1.481781	66.813329	-15.511567	68.590303	-13.070423	0.194127	14.23828	3.768531	
36.099998	1.484547	66.824415	-15.66408	68.635748	-13.192347	0.195024	14.198228	3.803445	
36.119999	1.483685	66.753884	-15.671744	68.568831	-13.212032	0.194745	14.210677	3.792559	
36.139999	1.484344	66.718719	-15.738615	68.549919	-13.273163	0.194959	14.201151	3.800886	
36.16	1.483365	66.632734	-15.751537	68.469206	-13.300207	0.194641	14.21531	3.788515	
36.18	1.483107	66.569461	-15.78752	68.415926	-13.341724	0.194558	14.219039	3.785263	
36.200001	1.482708	66.509294	-15.812611	68.363184	-13.373822	0.194428	14.224824	3.780225	
36.220001	1.48378	66.480855	-15.896472	68.35497	-13.447722	0.194776	14.209299	3.793762	
36.240002	1.482496	66.502888	-15.805536	68.355315	-13.369294	0.194359	14.227902	3.777546	
36.259998	1.482103	66.370806	-15.887436	68.245839	-13.461831	0.194232	14.233594	3.772598	
36.279999	1.481035	66.253083	-15.918607	68.138631	-13.510366	0.193885	14.249119	3.759137	
36.299999	1.47901	66.165937	-15.871521	68.042901	-13.488958	0.193226	14.278671	3.733644	
36.32	1.478509	66.116547	-15.881336	67.997166	-13.506707	0.193063	14.286012	3.727338	
36.34	1.478148	66.119954	-15.858331	67.99511	-13.487188	0.192946	14.291297	3.722805	
36.360001	1.479211	66.002984	-16.007592	67.916396	-13.63265	0.193292	14.275734	3.736169	
36.380001	1.478459	66.033588	-15.942149	67.93075	-13.572924	0.193047	14.286744	3.72671	

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
36.400002	1.477323	65.897155	-15.981981	67.807513	-13.632696	0.192677	14.303403	3.712442
36.419998	1.476409	65.878041	-15.945332	67.780306	-13.606397	0.192379	14.316844	3.70097
36.439999	1.47778	65.823915	-16.062276	67.755328	-13.71328	0.192826	14.296698	3.718178
36.459999	1.4753	65.690444	-16.023851	67.616553	-13.70846	0.192017	14.333194	3.687063
36.48	1.475253	65.683395	-16.026418	67.610313	-13.711989	0.192002	14.333901	3.686464
36.5	1.474565	65.593697	-16.054484	67.529842	-13.753163	0.191777	14.344063	3.677847
36.52	1.475903	65.553076	-16.157702	67.515014	-13.846442	0.192214	14.324309	3.694615
36.540001	1.471729	65.422255	-16.023478	67.355945	-13.762214	0.19085	14.386172	3.64236
36.560001	1.469845	65.377485	-15.952448	67.295588	-13.712543	0.190232	14.414309	3.618838
36.580002	1.470906	65.309658	-16.05975	67.255238	-13.815048	0.19058	14.39844	3.632085
36.599998	1.47	65.24024	-16.06004	67.1879	-13.829424	0.190283	14.411978	3.62078
36.619999	1.469015	65.240623	-16.005936	67.175359	-13.784536	0.18996	14.426745	3.60849
36.639999	1.468578	65.18559	-16.021534	67.125634	-13.80866	0.189817	14.433293	3.603053
36.66	1.466566	65.075584	-15.990271	67.011346	-13.805151	0.189156	14.46359	3.578006
36.68	1.467929	65.042632	-16.087548	67.002635	-13.892656	0.189604	14.443061	3.594959
36.700001	1.465865	64.978576	-16.020801	66.924446	-13.850351	0.188926	14.474182	3.569289
36.720001	1.464269	64.850915	-16.023866	66.801239	-13.879115	0.1884	14.498373	3.549463
36.740002	1.46636	64.913404	-16.093187	66.878551	-13.923928	0.189088	14.466704	3.575441
36.759998	1.465001	64.807616	-16.093366	66.77592	-13.94592	0.188641	14.487265	3.558553
36.779999	1.462882	64.736505	-16.028549	66.691299	-13.906599	0.187943	14.519465	3.532267
36.799999	1.46205	64.652767	-16.041505	66.613138	-13.934727	0.187669	14.532158	3.521958
36.82	1.460968	64.525754	-16.070233	66.496806	-13.985106	0.187312	14.548701	3.508568
36.84	1.461921	64.590375	-16.077208	66.561199	-13.977489	0.187626	14.534134	3.520356
36.860001	1.458567	64.419127	-16.014313	66.379832	-13.960511	0.186518	14.585589	3.478893
36.880001	1.459734	64.427236	-16.070987	66.401396	-14.006281	0.186904	14.567632	3.493307
36.900002	1.45805	64.294657	-16.070311	66.272602	-14.033456	0.186347	14.593557	3.472517
36.919998	1.46003	64.343986	-16.142341	66.337951	-14.083479	0.187002	14.563082	3.496969
36.939999	1.457437	64.161837	-16.125685	66.15723	-14.107874	0.186144	14.603023	3.464956
36.959999	1.457251	64.216779	-16.079688	66.199328	-14.057674	0.186082	14.605903	3.462659
36.98	1.455963	64.148267	-16.056937	66.127343	-14.052971	0.185656	14.62584	3.446799
37	1.452832	64.085194	-15.933151	66.036183	-13.962071	0.184616	14.674616	3.408304
37.02	1.454328	64.041956	-16.040578	66.020241	-14.061601	0.185113	14.651259	3.426685
37.040001	1.451824	63.929053	-15.982579	65.896636	-14.036535	0.184281	14.690405	3.395936
37.060001	1.452698	63.893217	-16.051678	65.878673	-14.102396	0.184571	14.676714	3.406659
37.080002	1.451533	63.840371	-16.024826	65.820879	-14.090935	0.184184	14.694959	3.392377
37.099998	1.450262	63.728987	-16.029868	65.714081	-14.118843	0.183761	14.714947	3.3768
37.119999	1.449346	63.746903	-15.970563	65.717019	-14.064888	0.183455	14.729389	3.365589
37.139999	1.44817	63.625283	-15.986965	65.603046	-14.104597	0.183063	14.74797	3.351221
37.16	1.44528	63.535082	-15.89377	65.492889	-14.044755	0.182098	14.793912	3.315956
37.18	1.446516	63.54519	-15.951706	65.516777	-14.091761	0.182511	14.774218	3.331027

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**Balun 4 Resistor 1.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
37.200001	1.446885	63.454769	-16.027677	65.447644	-14.175541	0.182634	14.768353	3.335529
37.220001	1.443746	63.413927	-15.890688	65.374613	-14.067903	0.181584	14.818427	3.297291
37.240002	1.443548	63.351126	-15.919792	65.320785	-14.106056	0.181518	14.821605	3.294879
37.259998	1.442979	63.272989	-15.938983	65.249692	-14.139121	0.181327	14.830738	3.287958
37.279999	1.442492	63.237086	-15.936081	65.214168	-14.144354	0.181164	14.838561	3.28204
37.299999	1.442029	63.177715	-15.948855	65.159724	-14.168003	0.181009	14.845994	3.276428
37.32	1.44209	63.165092	-15.959694	65.150139	-14.179963	0.181029	14.845024	3.27716
37.34	1.43916	63.026072	-15.894218	64.999323	-14.154024	0.180045	14.892358	3.241636
37.360001	1.439988	63.005632	-15.949022	64.99293	-14.205277	0.180324	14.878942	3.251665
37.380001	1.437868	62.939308	-15.880728	64.911895	-14.161205	0.179611	14.913338	3.226013
37.400002	1.439607	62.961668	-15.956113	64.952053	-14.220858	0.180196	14.885101	3.247057
37.419998	1.436772	62.839434	-15.884875	64.816076	-14.186359	0.179242	14.931204	3.21277
37.439999	1.434018	62.667661	-15.847062	64.640275	-14.19118	0.178313	14.976321	3.179566
37.459999	1.434942	62.681034	-15.886064	64.662811	-14.221778	0.178625	14.961143	3.190698
37.48	1.434605	62.665064	-15.878382	64.645443	-14.218656	0.178511	14.966679	3.186633
37.5	1.435562	62.669933	-15.924041	64.661392	-14.256815	0.178834	14.95098	3.198173
37.52	1.433174	62.570681	-15.861425	64.549787	-14.224643	0.178028	14.990211	3.169413
37.540001	1.43343	62.584223	-15.866429	64.564143	-14.225994	0.178115	14.985997	3.17249
37.560001	1.434151	62.463455	-15.972889	64.473377	-14.344076	0.178358	14.974138	3.181165
37.580002	1.430793	62.401232	-15.839821	64.380228	-14.243062	0.177223	15.029593	3.140803
37.599998	1.431822	62.393457	-15.896101	64.386563	-14.293306	0.177571	15.012541	3.153159
37.619999	1.429902	62.349855	-15.824607	64.326686	-14.241186	0.176921	15.044394	3.130117
37.639999	1.432025	62.345018	-15.934027	64.349005	-14.336678	0.17764	15.009182	3.155599
37.66	1.426511	62.159695	-15.763185	64.127262	-14.22979	0.175771	15.101045	3.089552
37.68	1.428567	62.188347	-15.849882	64.176392	-14.29853	0.176469	15.066634	3.114129
37.700001	1.427689	62.167256	-15.817935	64.14807	-14.275532	0.176171	15.081293	3.103635
37.720001	1.427577	62.093215	-15.854042	64.08524	-14.323139	0.176133	15.083181	3.102287
37.740002	1.425904	62.050885	-15.794347	64.029475	-14.280753	0.175565	15.111241	3.082307
37.759998	1.426223	62.08116	-15.793237	64.058541	-14.273112	0.175673	15.105883	3.086112
37.779999	1.424122	61.967508	-15.752206	63.938283	-14.262587	0.174959	15.141269	3.061069
37.799999	1.425478	61.902869	-15.855465	63.901181	-14.366598	0.17542	15.118405	3.077226
37.82	1.422802	61.774213	-15.793501	63.76118	-14.341344	0.174509	15.163622	3.045354
37.84	1.422793	61.731809	-15.816156	63.725718	-14.370522	0.174506	15.163776	3.045246
37.860001	1.421329	61.674577	-15.774942	63.660052	-14.347373	0.174007	15.188654	3.027852
37.880001	1.421799	61.636319	-15.818766	63.633868	-14.394138	0.174168	15.180657	3.033433
37.900002	1.419501	61.631565	-15.708033	63.601824	-14.29858	0.173383	15.219853	3.006178
37.919998	1.419289	61.600058	-15.714617	63.572921	-14.311343	0.173311	15.223492	3.00366
37.939999	1.418512	61.504743	-15.727641	63.483794	-14.343997	0.173045	15.236811	2.994462
37.959999	1.418664	61.463306	-15.757221	63.450989	-14.379145	0.173097	15.234198	2.996265
37.98	1.415588	61.412532	-15.633166	63.37109	-14.281896	0.172044	15.287197	2.959922

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38	1.417609	61.472599	-15.700464	63.445922	-14.327411	0.172736	15.252318	2.98379	
38.02	1.415453	61.371771	-15.648279	63.335321	-14.304242	0.171998	15.289531	2.958332	
38.040001	1.414382	61.266996	-15.651166	63.234514	-14.330232	0.171631	15.308108	2.945705	
38.060001	1.415168	61.239105	-15.704222	63.22065	-14.383077	0.1719	15.294465	2.954973	
38.080002	1.41249	61.142554	-15.623828	63.107178	-14.334149	0.170981	15.341041	2.923452	
38.099998	1.412507	61.056854	-15.668954	63.035351	-14.393175	0.170987	15.340745	2.923651	
38.119999	1.413529	61.063807	-15.715021	63.053552	-14.43215	0.171338	15.322929	2.935669	
38.139999	1.412038	61.001048	-15.674724	62.982735	-14.410878	0.170826	15.348945	2.918135	
38.16	1.411279	61.02735	-15.624402	62.995709	-14.360596	0.170565	15.362226	2.909226	
38.18	1.409544	60.861345	-15.624863	62.83502	-14.398547	0.169968	15.392679	2.888897	
38.200001	1.409363	60.808799	-15.642526	62.788524	-14.426082	0.169905	15.395872	2.886774	
38.220001	1.409627	60.867148	-15.625919	62.840903	-14.398163	0.169996	15.391229	2.889862	
38.240002	1.407801	60.789781	-15.576618	62.753714	-14.372129	0.169366	15.42345	2.868501	
38.259998	1.408116	60.780461	-15.596526	62.74963	-14.39185	0.169475	15.417878	2.872184	
38.279999	1.407242	60.673176	-15.607863	62.648541	-14.42628	0.169174	15.433346	2.861972	
38.299999	1.405108	60.658437	-15.512402	62.610547	-14.345037	0.168437	15.471269	2.83709	
38.32	1.406539	60.594227	-15.613007	62.573368	-14.448852	0.168931	15.445809	2.853771	
38.34	1.404925	60.532911	-15.56559	62.502167	-14.420784	0.168373	15.474542	2.834953	
38.360001	1.403617	60.451966	-15.542367	62.417989	-14.418643	0.167921	15.497919	2.819734	
38.380001	1.402344	60.421727	-15.496097	62.377192	-14.384397	0.16748	15.520755	2.804946	
38.400002	1.401805	60.336605	-15.511491	62.298574	-14.41756	0.167293	15.530443	2.798696	
38.419998	1.399048	60.283752	-15.405169	62.220977	-14.334855	0.166336	15.580268	2.766771	
38.439999	1.398845	60.243344	-15.414894	62.184238	-14.352755	0.166265	15.583962	2.764419	
38.459999	1.39917	60.222771	-15.440253	62.1706	-14.380096	0.166378	15.578066	2.768174	
38.48	1.398063	60.222551	-15.387533	62.157315	-14.333072	0.165994	15.598169	2.75539	
38.5	1.397572	60.168982	-15.389715	62.105955	-14.347256	0.165823	15.607117	2.749719	
38.52	1.395232	60.070341	-15.3251	61.994391	-14.311992	0.165008	15.649902	2.722763	
38.540001	1.397152	60.030563	-15.435059	61.983139	-14.41957	0.165676	15.614783	2.74487	
38.560001	1.395452	59.866175	-15.430667	61.822847	-14.453567	0.165084	15.645878	2.725287	
38.580002	1.39333	59.84117	-15.341915	61.776533	-14.379646	0.164344	15.684916	2.7009	
38.599998	1.393524	59.865079	-15.340098	61.799242	-14.372509	0.164412	15.681323	2.703135	
38.619999	1.39247	59.875451	-15.285362	61.795727	-14.32096	0.164044	15.700792	2.691044	
38.639999	1.390143	59.636034	-15.285098	61.563713	-14.375837	0.16323	15.744007	2.664399	
38.66	1.390516	59.733253	-15.258496	61.651304	-14.329456	0.163361	15.737054	2.668668	
38.68	1.387951	59.631489	-15.183835	61.534245	-14.285552	0.162462	15.784973	2.639385	
38.700001	1.387084	59.529621	-15.189091	61.436832	-14.313744	0.162158	15.801249	2.629512	
38.720001	1.386531	59.504254	-15.174482	61.40864	-14.306388	0.161964	15.811649	2.623223	
38.740002	1.386538	59.490778	-15.180829	61.397152	-14.315235	0.161966	15.811526	2.623297	
38.759998	1.385339	59.40069	-15.164673	61.305867	-14.321423	0.161545	15.834141	2.609672	
38.779999	1.382354	59.281872	-15.077236	61.169138	-14.269597	0.160494	15.890807	2.575843	



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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	1.381272	59.214214	-15.056226	61.098389	-14.266141	0.160113	15.911489	2.563605	
38.82	1.380439	59.112402	-15.061555	61.001037	-14.294557	0.159819	15.927432	2.554211	
38.84	1.380718	59.072228	-15.091768	60.969579	-14.331393	0.159917	15.92209	2.557355	
38.860001	1.378097	59.050193	-14.979101	60.92043	-14.233856	0.158991	15.972528	2.527826	
38.880001	1.378161	59.0366	-14.987928	60.909425	-14.245048	0.159014	15.971296	2.528544	
38.900002	1.376867	58.937057	-14.970197	60.80858	-14.251935	0.158556	15.996344	2.514002	
38.919998	1.375103	58.877879	-14.913302	60.73723	-14.213658	0.157931	16.030633	2.494231	
38.939999	1.375002	58.797636	-14.942336	60.666593	-14.258848	0.157895	16.032617	2.493092	
38.959999	1.373242	58.69524	-14.903445	60.557773	-14.247047	0.157271	16.067021	2.47342	
38.98	1.374488	58.764961	-14.932176	60.632421	-14.257148	0.157713	16.042639	2.487345	
39	1.372297	58.661047	-14.873839	60.517349	-14.227847	0.156935	16.08559	2.462867	
39.02	1.370881	58.617893	-14.826134	60.463804	-14.194079	0.156432	16.11351	2.447085	
39.040001	1.371073	58.57917	-14.850904	60.432347	-14.225848	0.1565	16.109714	2.449225	
39.060001	1.369731	58.467228	-14.834475	60.319801	-14.236851	0.156022	16.136261	2.434299	
39.080002	1.368001	58.505648	-14.739112	60.333675	-14.140098	0.155406	16.170654	2.415097	
39.099998	1.365106	58.342426	-14.671747	60.158946	-14.115859	0.154372	16.228636	2.383068	
39.119999	1.366088	58.399332	-14.694059	60.219576	-14.123242	0.154723	16.208907	2.393918	
39.139999	1.364482	58.310383	-14.655867	60.123998	-14.108631	0.154149	16.241206	2.37618	
39.16	1.363335	58.218089	-14.639897	60.030596	-14.115321	0.153738	16.26437	2.36354	
39.18	1.362451	58.245526	-14.58835	60.04466	-14.061234	0.153422	16.282268	2.35382	
39.200001	1.361099	58.227951	-14.533111	60.014212	-14.014153	0.152937	16.309754	2.33897	
39.220001	1.361042	58.183184	-14.548358	59.974475	-14.038642	0.152916	16.310923	2.33834	
39.240002	1.359695	58.141334	-14.503046	59.922893	-14.006317	0.152433	16.338422	2.323581	
39.259998	1.359493	58.078288	-14.518658	59.865507	-14.035419	0.15236	16.342562	2.321367	
39.279999	1.35779	58.065059	-14.445609	59.834996	-13.970631	0.151748	16.377547	2.302742	
39.299999	1.355178	57.963779	-14.365457	59.717385	-13.919463	0.150807	16.43155	2.274286	
39.32	1.356504	58.014712	-14.406362	59.776669	-13.945776	0.151285	16.404077	2.288718	
39.34	1.355547	57.936478	-14.393072	59.697537	-13.951493	0.15094	16.42389	2.278301	
39.360001	1.354648	57.905627	-14.363829	59.66055	-13.931381	0.150616	16.442571	2.268522	
39.380001	1.354048	57.829285	-14.365838	59.586941	-13.950929	0.1504	16.455066	2.262004	
39.400002	1.351978	57.759968	-14.29772	59.503267	-13.903364	0.149652	16.498352	2.239571	
39.419998	1.351698	57.797598	-14.270441	59.53325	-13.869177	0.149551	16.504229	2.236542	
39.439999	1.352067	57.823207	-14.277427	59.559786	-13.869797	0.149684	16.496496	2.240528	
39.459999	1.350696	57.761231	-14.238525	59.490297	-13.847731	0.149188	16.525317	2.225708	
39.48	1.349048	57.718424	-14.179464	59.434617	-13.802326	0.148591	16.560143	2.207932	
39.5	1.348782	57.698458	-14.174951	59.414151	-13.802693	0.148495	16.565781	2.205068	
39.52	1.346571	57.641457	-14.095496	59.339874	-13.741321	0.147692	16.612835	2.181306	
39.540001	1.347428	57.624592	-14.14119	59.334365	-13.788052	0.148004	16.594559	2.190504	
39.560001	1.346401	57.675025	-14.074767	59.367563	-13.714193	0.147631	16.616462	2.179485	
39.580002	1.344365	57.610851	-14.006048	59.288949	-13.66438	0.146891	16.660124	2.157683	

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**Balun 4 Resistor 1.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
39.599998	1.345046	57.59338	-14.044041	59.280963	-13.704051	0.147138	16.645477	2.164972	
39.619999	1.342667	57.565545	-13.9455	59.230642	-13.617822	0.146272	16.696773	2.139551	
39.639999	1.341596	57.489594	-13.925493	59.152116	-13.616307	0.145882	16.719982	2.128148	
39.66	1.341986	57.519445	-13.93195	59.182648	-13.615579	0.146024	16.711527	2.132295	
39.68	1.340146	57.477842	-13.863444	59.126114	-13.56055	0.145353	16.751544	2.112738	
39.700001	1.340158	57.468052	-13.867733	59.117603	-13.566816	0.145357	16.751289	2.112862	
39.720001	1.33998	57.538555	-13.832317	59.177853	-13.51747	0.145292	16.755182	2.110969	
39.740002	1.339081	57.406944	-13.841597	59.05207	-13.556073	0.144963	16.774847	2.101432	
39.759998	1.337691	57.426869	-13.770173	59.054746	-13.484176	0.144455	16.805346	2.086726	
39.779999	1.339628	57.426249	-13.859376	59.075007	-13.568447	0.145163	16.762861	2.107239	
39.799999	1.337775	57.406152	-13.781963	59.03735	-13.499991	0.144486	16.803507	2.08761	
39.82	1.337056	57.376654	-13.76023	59.003596	-13.486157	0.144223	16.819333	2.080016	
39.84	1.336368	57.374279	-13.72952	58.994132	-13.457691	0.143971	16.834525	2.072753	
39.860001	1.334473	57.316087	-13.664618	58.922454	-13.409483	0.143275	16.876566	2.052785	
39.880001	1.334714	57.357678	-13.659776	58.96179	-13.395533	0.143364	16.871197	2.055324	
39.900002	1.334045	57.32358	-13.642068	58.924518	-13.386464	0.143118	16.886092	2.048287	
39.919998	1.3358	57.343172	-13.71527	58.960563	-13.451259	0.143762	16.847109	2.066755	
39.939999	1.333818	57.286182	-13.64596	58.889038	-13.398572	0.143035	16.891134	2.04591	
39.959999	1.333894	57.320285	-13.636403	58.920001	-13.381847	0.143063	16.889448	2.046705	
39.98	1.333168	57.277507	-13.619361	58.874441	-13.375347	0.142796	16.905655	2.039081	
40	1.333227	57.303967	-13.611971	58.898475	-13.362399	0.142818	16.904328	2.039704	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10	2.015599	97.476097	15.494817	98.699943	9.032193	0.336782	9.453027	11.3422	
10.02	2.017742	97.60365	15.46331	98.820982	9.002542	0.337253	9.440886	11.373953	
10.04	2.020127	97.745697	15.427536	98.955698	8.969214	0.337776	9.427422	11.409269	
10.06	2.018432	97.647893	15.445853	98.861951	8.988537	0.337404	9.436989	11.384164	
10.08	2.018083	97.635945	15.43112	98.847849	8.981184	0.337328	9.438963	11.378991	
10.1	2.020149	97.787224	15.336014	98.982496	8.913136	0.337781	9.427297	11.409598	
10.12	2.021158	97.810516	15.40435	99.016115	8.950113	0.338002	9.421609	11.424549	
10.14	2.022562	97.895772	15.379392	99.096457	8.92819	0.33831	9.41371	11.445349	
10.16	2.023017	97.969704	15.265362	99.151874	8.856465	0.338409	9.411156	11.452081	
10.18	2.024201	98.019582	15.294438	99.205637	8.868622	0.338668	9.40451	11.46962	
10.2	2.0248	98.103547	15.17392	99.270105	8.792423	0.338799	9.401148	11.4785	
10.22	2.025832	98.162395	15.163664	99.326696	8.781388	0.339025	9.395373	11.493776	
10.24	2.026758	98.226284	15.128722	99.384511	8.755856	0.339227	9.390193	11.507491	
10.26	2.026924	98.212841	15.180384	99.379103	8.786474	0.339263	9.389262	11.509959	
10.28	2.027049	98.271782	15.058393	99.418803	8.711806	0.339291	9.388564	11.511811	
10.3	2.028367	98.321848	15.103778	99.475172	8.733278	0.339578	9.381207	11.531327	
10.32	2.031437	98.48223	15.107181	99.634214	8.721208	0.340247	9.364118	11.576792	
10.34	2.030603	98.43965	15.104022	99.591648	8.723126	0.340065	9.36875	11.56445	
10.36	2.030707	98.476227	15.031002	99.616757	8.678423	0.340088	9.368172	11.56599	
10.38	2.031771	98.564124	14.95568	99.692322	8.628007	0.34032	9.36226	11.581744	
10.4	2.0332	98.628129	14.982263	99.759591	8.637587	0.34063	9.354334	11.602902	
10.42	2.032277	98.657926	14.795314	99.761153	8.528864	0.34043	9.359452	11.589236	
10.44	2.032684	98.670115	14.817444	99.776492	8.540393	0.340518	9.357193	11.595265	
10.46	2.035858	98.822516	14.852282	99.932377	8.54717	0.341208	9.339623	11.642271	
10.48	2.034356	98.797346	14.722577	99.888287	8.475743	0.340882	9.347931	11.620022	
10.5	2.035787	98.848534	14.780619	99.947483	8.504327	0.341192	9.340018	11.641213	
10.52	2.03655	98.897289	14.759675	99.992609	8.488327	0.341358	9.335806	11.652509	
10.54	2.034881	98.848141	14.666289	99.930251	8.43953	0.340996	9.345023	11.627804	
10.56	2.036428	98.940432	14.63923	100.017579	8.416437	0.341331	9.336479	11.650702	
10.58	2.037757	99.034283	14.580299	100.10182	8.375207	0.34162	9.329145	11.670394	
10.6	2.038958	99.08509	14.610279	100.156455	8.387941	0.34188	9.322532	11.688177	
10.62	2.037372	99.030616	14.539522	100.09226	8.35242	0.341536	9.331271	11.664681	
10.64	2.040156	99.199631	14.482699	100.251261	8.306257	0.342139	9.315945	11.705917	
10.66	2.039837	99.167444	14.520928	100.224944	8.33054	0.34207	9.317701	11.701185	
10.68	2.041119	99.26162	14.453996	100.30846	8.284918	0.342347	9.310662	11.720167	
10.7	2.041613	99.279137	14.474807	100.328795	8.295238	0.342454	9.307953	11.727479	
10.72	2.040915	99.271701	14.402212	100.310988	8.25482	0.342303	9.31178	11.71715	
10.74	2.040985	99.291649	14.361419	100.324882	8.230128	0.342318	9.311397	11.718183	
10.76	2.042288	99.408853	14.237884	100.423291	8.150799	0.3426	9.304252	11.737479	
10.78	2.041651	99.377463	14.232993	100.391525	8.150576	0.342462	9.307742	11.728051	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
10.8	2.042974	99.444159	14.239311	100.458443	8.14875	0.342748	9.300497	11.74763	
10.82	2.043143	99.454084	14.236606	100.467884	8.146421	0.342785	9.299571	11.750137	
10.84	2.042133	99.425132	14.175928	100.430641	8.114494	0.342567	9.305099	11.73519	
10.86	2.043479	99.523476	14.104368	100.517936	8.0662	0.342857	9.297731	11.755116	
10.88	2.045507	99.614955	14.141577	100.613734	8.07987	0.343295	9.286654	11.785136	
10.9	2.043505	99.556819	14.021902	100.539414	8.017003	0.342863	9.297592	11.755491	
10.92	2.044741	99.599966	14.077277	100.589875	8.044808	0.34313	9.290833	11.773801	
10.94	2.044933	99.599173	14.1051	100.592988	8.060563	0.343171	9.289786	11.77664	
10.96	2.046641	99.738967	13.97432	100.713173	7.975746	0.343539	9.280471	11.801927	
10.98	2.047907	99.78549	14.025233	100.76632	8.000745	0.343812	9.273578	11.820674	
11	2.047682	99.837835	13.857806	100.795001	7.902357	0.343764	9.274804	11.817336	
11.02	2.046814	99.778323	13.895161	100.7412	7.928054	0.343577	9.279528	11.804489	
11.04	2.048832	99.877531	13.911157	100.841665	7.929281	0.344011	9.268549	11.834368	
11.06	2.048185	99.876933	13.823984	100.829084	7.880266	0.343872	9.272066	11.824789	
11.08	2.047457	99.833129	13.839353	100.787804	7.892334	0.343715	9.276027	11.81401	
11.1	2.049423	99.945162	13.814186	100.895328	7.869442	0.344138	9.265344	11.843105	
11.12	2.050217	99.996585	13.787681	100.942643	7.850543	0.344309	9.261035	11.854862	
11.14	2.04844	99.955243	13.651168	100.883126	7.776945	0.343927	9.270682	11.828559	
11.16	2.049777	100.007069	13.698843	100.940934	7.799777	0.344214	9.26342	11.848353	
11.18	2.05166	100.140798	13.60322	101.060511	7.735776	0.344619	9.253214	11.87623	
11.2	2.052635	100.180347	13.633375	101.103763	7.749692	0.344828	9.247941	11.890657	
11.22	2.052193	100.168249	13.603913	101.087806	7.734071	0.344733	9.250334	11.884108	
11.24	2.053001	100.190906	13.656165	101.1173	7.761681	0.344907	9.245966	11.896068	
11.26	2.053173	100.196374	13.665636	101.123998	7.76658	0.344944	9.245032	11.898625	
11.28	2.054757	100.324969	13.540921	101.234658	7.686806	0.345283	9.236487	11.922061	
11.3	2.056125	100.399338	13.532321	101.30721	7.676361	0.345577	9.229114	11.942319	
11.32	2.056606	100.453098	13.453689	101.35002	7.628247	0.345679	9.22653	11.949426	
11.34	2.056703	100.451828	13.47106	101.351069	7.638075	0.3457	9.226005	11.95087	
11.36	2.055456	100.399295	13.43731	101.29452	7.623104	0.345433	9.232718	11.93241	
11.38	2.056437	100.491681	13.323213	101.371031	7.552258	0.345643	9.227436	11.946933	
11.4	2.056706	100.498463	13.343032	101.380361	7.562858	0.345701	9.225993	11.950904	
11.42	2.05631	100.498116	13.287075	101.372667	7.531532	0.345616	9.228118	11.945057	
11.44	2.0581	100.582402	13.31108	101.459374	7.538733	0.345999	9.218502	11.971534	
11.46	2.057943	100.582039	13.289467	101.456181	7.526659	0.345966	9.219343	11.969216	
11.48	2.059264	100.681409	13.203388	101.543467	7.471163	0.346248	9.212257	11.988761	
11.5	2.057552	100.609305	13.15638	101.465869	7.450138	0.345882	9.221442	11.963431	
11.52	2.061646	100.827753	13.139279	101.680266	7.424623	0.346757	9.199508	12.024008	
11.54	2.057857	100.646588	13.095817	101.495006	7.413508	0.345947	9.219805	11.967943	
11.56	2.060276	100.782529	13.066044	101.625979	7.386974	0.346464	9.206836	12.003735	
11.58	2.060106	100.771509	13.07239	101.615867	7.391322	0.346428	9.207743	12.001228	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
11.6	2.060131	100.803855	12.98384	101.636594	7.339472	0.346433	9.20761	12.001597	
11.62	2.062305	100.90633	13.01303	101.74196	7.348404	0.346897	9.195985	12.033764	
11.64	2.060727	100.852402	12.933164	101.678286	7.307655	0.34656	9.204419	12.010417	
11.66	2.064214	101.064978	12.840697	101.877443	7.240868	0.347304	9.185802	12.062014	
11.68	2.064395	101.069719	12.854095	101.883835	7.248006	0.347343	9.18484	12.064685	
11.7	2.063113	101.009972	12.834946	101.82215	7.241558	0.34707	9.191669	12.045729	
11.72	2.063315	101.023181	12.826923	101.834243	7.236144	0.347113	9.190592	12.048716	
11.74	2.062301	101.030532	12.651584	101.8196	7.137741	0.346896	9.196004	12.033712	
11.76	2.064176	101.11638	12.684419	101.908865	7.150062	0.347296	9.186004	12.061452	
11.78	2.065638	101.158879	12.781798	101.963195	7.201384	0.347607	9.178222	12.083084	
11.8	2.063162	101.115063	12.532697	101.888785	7.065499	0.34708	9.191412	12.046443	
11.82	2.06463	101.162215	12.618268	101.946135	7.109967	0.347393	9.183587	12.068167	
11.84	2.066547	101.267453	12.600082	102.048318	7.092521	0.347801	9.173392	12.096531	
11.86	2.067012	101.326946	12.49391	102.094308	7.02927	0.347899	9.170926	12.103401	
11.88	2.068836	101.436978	12.446365	102.197713	6.995266	0.348287	9.16125	12.130398	
11.9	2.067001	101.347012	12.431824	102.106646	6.993315	0.347897	9.17098	12.103249	
11.92	2.068047	101.425945	12.356103	102.175807	6.945781	0.348119	9.165434	12.118715	
11.94	2.068711	101.417207	12.486515	102.182988	7.018961	0.348261	9.161913	12.128545	
11.96	2.066805	101.373012	12.322118	102.119156	6.930445	0.347856	9.172021	12.100349	
11.98	2.068894	101.475667	12.337771	102.22295	6.932211	0.348299	9.160947	12.131242	
12	2.070537	101.558802	12.342908	102.306098	6.929448	0.348648	9.152253	12.155552	
12.02	2.070512	101.603825	12.200504	102.333716	6.847258	0.348643	9.152384	12.155185	
12.04	2.070834	101.605178	12.247564	102.340682	6.873326	0.348711	9.150685	12.159943	
12.06	2.070294	101.626797	12.094085	102.343894	6.786572	0.348597	9.153537	12.151959	
12.08	2.07303	101.728757	12.215703	102.45957	6.847367	0.349177	9.139098	12.192427	
12.1	2.070992	101.66475	12.087843	102.380844	6.780593	0.348745	9.14985	12.162279	
12.12	2.071178	101.705197	11.990839	102.409606	6.72403	0.348784	9.148868	12.16503	
12.14	2.071326	101.686071	12.075013	102.400503	6.772056	0.348815	9.148086	12.167222	
12.16	2.072471	101.76166	12.022864	102.469433	6.738117	0.349058	9.142045	12.184157	
12.18	2.074258	101.873206	11.961255	102.573007	6.696629	0.349437	9.132632	12.210595	
12.2	2.072613	101.816048	11.873536	102.506042	6.651659	0.349088	9.141295	12.186262	
12.22	2.073058	101.832151	11.895297	102.524559	6.662696	0.349183	9.138949	12.192847	
12.24	2.074922	101.943679	11.845375	102.62956	6.62779	0.349577	9.129142	12.220411	
12.26	2.073357	101.852332	11.879895	102.542818	6.65284	0.349246	9.137377	12.19726	
12.28	2.075011	101.97286	11.766077	102.649426	6.581944	0.349596	9.128675	12.221724	
12.3	2.075547	102.026337	11.681874	102.692938	6.531854	0.349709	9.125861	12.229646	
12.32	2.073741	101.921746	11.720008	102.593377	6.559657	0.349327	9.135356	12.202938	
12.34	2.074288	101.995615	11.570622	102.649816	6.47211	0.349443	9.132475	12.211037	
12.36	2.075483	102.061522	11.555657	102.713619	6.459671	0.349696	9.126198	12.228698	
12.38	2.077773	102.132249	11.709847	102.801346	6.540628	0.35018	9.114183	12.262575	

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
12.4	2.07626	102.104056	11.547067	102.754917	6.452244	0.34986	9.122118	12.240191
12.42	2.076742	102.143447	11.498575	102.788623	6.422918	0.349962	9.119591	12.247316
12.44	2.077065	102.155039	11.515208	102.802003	6.431407	0.35003	9.117896	12.252096
12.46	2.074903	102.088125	11.368126	102.71913	6.354063	0.349573	9.12924	12.220134
12.48	2.077163	102.179866	11.449432	102.81933	6.393435	0.350051	9.11738	12.253552
12.5	2.076545	102.177573	11.350731	102.806106	6.338911	0.34992	9.120621	12.244412
12.52	2.077759	102.253115	11.306085	102.876271	6.309552	0.350177	9.114257	12.262368
12.54	2.076707	102.196239	11.315718	102.820799	6.318371	0.349954	9.119774	12.2468
12.56	2.077007	102.235524	11.234685	102.850963	6.271095	0.350018	9.1182	12.251239
12.58	2.076779	102.251838	11.138804	102.856751	6.217012	0.349969	9.119396	12.247865
12.6	2.07777	102.286335	11.194854	102.897129	6.245959	0.350179	9.114201	12.262524
12.62	2.079176	102.365292	11.17129	102.973058	6.228145	0.350475	9.106847	12.283308
12.64	2.079226	102.402224	11.052738	102.996983	6.160357	0.350486	9.106581	12.28406
12.66	2.080285	102.41566	11.193693	103.025561	6.237491	0.350709	9.10105	12.299712
12.68	2.08051	102.460375	11.079315	103.057653	6.171577	0.350757	9.099874	12.303044
12.7	2.080758	102.491418	11.015469	103.081673	6.134441	0.350809	9.098581	12.306707
12.72	2.08042	102.497313	10.934024	103.078863	6.089079	0.350738	9.100348	12.301702
12.74	2.077726	102.346772	10.978025	102.933857	6.122322	0.35017	9.114432	12.261872
12.76	2.0801	102.48947	10.903949	103.067879	6.072917	0.35067	9.102018	12.296973
12.78	2.08136	102.55593	10.897199	103.133252	6.065282	0.350936	9.095441	12.315609
12.8	2.08261	102.61171	10.92613	103.19178	6.077983	0.351199	9.088933	12.334078
12.82	2.080522	102.564753	10.712731	103.1227	5.962846	0.350759	9.099814	12.303213
12.84	2.083113	102.655111	10.863746	103.228353	6.041002	0.351305	9.086314	12.341519
12.86	2.081796	102.6247	10.731517	103.184275	5.969763	0.351028	9.093172	12.322044
12.88	2.081369	102.6278	10.641638	103.178049	5.919943	0.350938	9.095393	12.315745
12.9	2.082692	102.67357	10.720677	103.231753	5.960958	0.351216	9.088505	12.335293
12.92	2.08254	102.688411	10.638896	103.238054	5.914961	0.351184	9.089297	12.333045
12.94	2.083519	102.75897	10.564293	103.300581	5.869769	0.35139	9.0842	12.347527
12.96	2.084168	102.765761	10.660391	103.317209	5.922397	0.351527	9.080829	12.357114
12.98	2.083858	102.794229	10.498381	103.328938	5.831413	0.351462	9.082439	12.352534
13	2.084485	102.857782	10.381512	103.380362	5.763398	0.351594	9.079181	12.361806
13.02	2.084251	102.808414	10.520048	103.345253	5.842564	0.351544	9.080399	12.358338
13.04	2.084662	102.866076	10.384343	103.388897	5.764497	0.351631	9.078261	12.364425
13.06	2.083725	102.828676	10.345147	103.347756	5.74496	0.351434	9.083131	12.350568
13.08	2.085761	102.943723	10.303566	103.458076	5.71567	0.351862	9.072561	12.380662
13.1	2.087584	103.049528	10.255406	103.558575	5.683326	0.352244	9.063122	12.407602
13.12	2.087358	103.060837	10.168577	103.561267	5.634904	0.352197	9.064286	12.404275
13.14	2.085985	103.006098	10.109676	103.501023	5.605431	0.351909	9.071401	12.383971
13.16	2.085661	102.994376	10.091119	103.487546	5.59584	0.351841	9.073082	12.379178
13.18	2.089791	103.194795	10.130751	103.690876	5.606836	0.352707	9.05172	12.440218

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
13.2	2.085582	102.995161	10.072671	103.48653	5.585633	0.351824	9.073489	12.378019	
13.22	2.088529	103.156147	10.031357	103.642746	5.554239	0.352443	9.058234	12.421574	
13.24	2.086405	103.039558	10.06324	103.529799	5.578046	0.351997	9.069225	12.390175	
13.26	2.089653	103.239861	9.92809	103.716131	5.492983	0.352678	9.052432	12.438179	
13.28	2.088519	103.207013	9.829647	103.674055	5.440566	0.35244	9.058284	12.42143	
13.3	2.088004	103.20723	9.723913	103.664298	5.382378	0.352332	9.060949	12.41381	
13.32	2.086762	103.135127	9.759378	103.595849	5.405647	0.352072	9.067373	12.395461	
13.34	2.090747	103.332165	9.783253	103.79426	5.408521	0.352907	9.046789	12.45435	
13.36	2.09032	103.338572	9.670148	103.790039	5.346027	0.352818	9.048987	12.448049	
13.38	2.089745	103.309486	9.669339	103.761004	5.347079	0.352697	9.051953	12.439551	
13.4	2.090447	103.332156	9.722124	103.788507	5.374925	0.352845	9.048332	12.449926	
13.42	2.090404	103.377232	9.529849	103.815558	5.266945	0.352835	9.048557	12.449282	
13.44	2.090806	103.383901	9.586422	103.827407	5.297695	0.35292	9.046484	12.455227	
13.46	2.090371	103.390573	9.467954	103.82318	5.232256	0.352829	9.048726	12.448797	
13.48	2.090632	103.386735	9.538574	103.825822	5.271258	0.352883	9.047379	12.452658	
13.5	2.090075	103.391989	9.39949	103.818369	5.194558	0.352766	9.050254	12.44442	
13.52	2.091342	103.457009	9.39714	103.882909	5.190021	0.353032	9.043724	12.463143	
13.54	2.091586	103.484926	9.332115	103.904852	5.152918	0.353083	9.042469	12.466744	
13.56	2.092328	103.559092	9.177664	103.964971	5.064472	0.353238	9.038647	12.477721	
13.58	2.093023	103.589135	9.200166	103.996884	5.07536	0.353383	9.035077	12.487984	
13.6	2.090564	103.479458	9.13457	103.881849	5.044674	0.352869	9.047732	12.451647	
13.62	2.090839	103.486784	9.163121	103.891662	5.060003	0.352927	9.046314	12.455712	
13.64	2.092894	103.620519	9.03658	104.013805	4.984073	0.353357	9.035738	12.486083	
13.66	2.092309	103.589729	9.041058	103.983521	4.988005	0.353234	9.03875	12.477427	
13.68	2.092889	103.633234	8.97981	104.021556	4.952313	0.353355	9.035766	12.486002	
13.7	2.094144	103.703875	8.949508	104.089324	4.932339	0.353618	9.02932	12.504548	
13.72	2.094608	103.725027	8.96001	104.111301	4.937096	0.353715	9.026942	12.511396	
13.74	2.091547	103.590199	8.868973	103.969168	4.893508	0.353075	9.042671	12.466167	
13.76	2.093112	103.673453	8.85229	104.050699	4.880444	0.353402	9.034617	12.489305	
13.78	2.094057	103.735429	8.789659	104.107144	4.843198	0.3536	9.029765	12.503266	
13.8	2.094158	103.762465	8.69057	104.125766	4.787612	0.353621	9.029251	12.504747	
13.82	2.095364	103.803761	8.780502	104.174459	4.835006	0.353872	9.023067	12.522564	
13.84	2.093856	103.776331	8.557104	104.12853	4.713793	0.353558	9.030798	12.500294	
13.86	2.096696	103.916679	8.57407	104.269799	4.716746	0.35415	9.016245	12.542252	
13.88	2.096878	103.931584	8.547817	104.282498	4.701698	0.354188	9.015314	12.54494	
13.9	2.095719	103.900328	8.419379	104.240895	4.632748	0.353946	9.021248	12.52781	
13.92	2.096772	103.96768	8.353504	104.30273	4.593691	0.354166	9.015855	12.543376	
13.94	2.095773	103.906395	8.403712	104.245678	4.623895	0.353958	9.020972	12.528608	
13.96	2.094474	103.847023	8.373288	104.184049	4.609851	0.353687	9.027628	12.509421	
13.98	2.096735	103.981145	8.280312	104.310316	4.553025	0.354158	9.016047	12.542824	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14	2.097096	104.004432	8.25643	104.331638	4.538935	0.354234	9.014199	12.548162	
14.02	2.095682	103.957761	8.13579	104.27563	4.474886	0.353939	9.021434	12.527275	
14.04	2.095906	103.9732	8.115675	104.289455	4.463206	0.353986	9.020289	12.530577	
14.06	2.096739	104.022364	8.081577	104.335824	4.442437	0.354159	9.016024	12.542889	
14.08	2.098769	104.124087	8.086764	104.437643	4.440951	0.354583	9.005654	12.572876	
14.1	2.100144	104.193286	8.088726	104.506786	4.439086	0.354869	8.998646	12.59318	
14.12	2.100704	104.250923	7.94331	104.553102	4.357192	0.354985	8.995793	12.601454	
14.14	2.097804	104.102129	7.953486	104.405514	4.368963	0.354381	9.010581	12.55862	
14.16	2.096385	104.042809	7.89076	104.341603	4.337101	0.354085	9.017838	12.537652	
14.18	2.095952	104.022111	7.884617	104.3205	4.334597	0.353995	9.020055	12.531253	
14.2	2.101383	104.320276	7.765548	104.608909	4.257224	0.355126	8.992341	12.611475	
14.22	2.099693	104.255133	7.660415	104.536188	4.202411	0.354775	9.000947	12.586509	
14.24	2.099638	104.250936	7.667919	104.532553	4.206681	0.354763	9.001224	12.585705	
14.26	2.100095	104.272276	7.677136	104.554512	4.210861	0.354859	8.998895	12.592457	
14.28	2.098507	104.212378	7.57063	104.487005	4.155027	0.354528	9.006991	12.569005	
14.3	2.099077	104.236598	7.594684	104.512906	4.167217	0.354647	9.004085	12.577419	
14.32	2.098896	104.253958	7.454218	104.520108	4.089728	0.354609	9.005009	12.574743	
14.34	2.100606	104.347807	7.414295	104.610881	4.064252	0.354965	8.996294	12.600002	
14.36	2.101622	104.414281	7.33223	104.671408	4.016865	0.355176	8.991125	12.615008	
14.38	2.099947	104.321639	7.375751	104.582054	4.044205	0.354828	8.999651	12.590265	
14.4	2.09882	104.291528	7.229281	104.541787	3.965294	0.354593	9.005395	12.573624	
14.42	2.100171	104.36025	7.226424	104.610148	3.961129	0.354874	8.99851	12.593573	
14.44	2.100315	104.387455	7.115267	104.629669	3.899376	0.354904	8.997778	12.595696	
14.46	2.101915	104.467897	7.117351	104.710067	3.89752	0.355237	8.989634	12.619338	
14.48	2.102441	104.490802	7.137667	104.734302	3.907756	0.355346	8.986965	12.627097	
14.5	2.099441	104.372335	6.950732	104.603523	3.810024	0.354722	9.002227	12.582801	
14.52	2.10166	104.465905	7.05574	104.70391	3.863957	0.355184	8.990933	12.615564	
14.54	2.099914	104.393349	6.966872	104.625564	3.818079	0.354821	8.999821	12.589774	
14.56	2.100019	104.400791	6.95483	104.632188	3.811228	0.354843	8.999281	12.591339	
14.58	2.100271	104.461543	6.672443	104.674427	3.654789	0.354895	8.998001	12.595051	
14.6	2.100581	104.466572	6.735827	104.683504	3.689234	0.35496	8.996422	12.599631	
14.62	2.102342	104.546074	6.791122	104.766412	3.716614	0.355326	8.987464	12.625645	
14.64	2.101348	104.522676	6.631468	104.732833	3.630286	0.355119	8.992517	12.610966	
14.66	2.1023	104.56871	6.643055	104.779508	3.635015	0.355317	8.987682	12.625011	
14.68	2.10218	104.573381	6.578135	104.780074	3.599425	0.355292	8.988289	12.623246	
14.7	2.102113	104.590747	6.450478	104.78947	3.529168	0.355278	8.988627	12.622264	
14.72	2.101428	104.564559	6.39826	104.76013	3.501544	0.355136	8.992112	12.61214	
14.74	2.100793	104.523983	6.451816	104.722915	3.532147	0.355004	8.995343	12.602761	
14.76	2.10081	104.54868	6.301756	104.73843	3.449382	0.355007	8.995258	12.603009	
14.78	2.103242	104.677513	6.261281	104.864605	3.423072	0.355513	8.982899	12.638923	



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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
14.8	2.10119	104.567677	6.302863	104.757458	3.449361	0.355086	8.993321	12.608629	
14.82	2.104385	104.746932	6.184846	104.929368	3.379147	0.35575	8.977101	12.65581	
14.84	2.101646	104.623252	6.091531	104.800437	3.332204	0.355181	8.991002	12.615363	
14.86	2.102825	104.681076	6.101531	104.858745	3.335822	0.355426	8.985015	12.632768	
14.88	2.103768	104.729425	6.096019	104.906691	3.331281	0.355622	8.980227	12.646702	
14.9	2.102741	104.689784	6.015743	104.862482	3.288751	0.355409	8.98544	12.631532	
14.92	2.103024	104.70601	6.002449	104.877919	3.280992	0.355467	8.984004	12.635709	
14.94	2.101818	104.672458	5.817814	104.834013	3.181297	0.355217	8.990127	12.617907	
14.96	2.103459	104.744922	5.887231	104.910238	3.216954	0.355558	8.981796	12.642134	
14.98	2.102206	104.708732	5.700639	104.863797	3.116273	0.355298	8.988156	12.623633	
15	2.10403	104.799894	5.704646	104.955042	3.115752	0.355676	8.978903	12.65056	
15.02	2.103718	104.803457	5.566918	104.951204	3.040567	0.355612	8.980484	12.645954	
15.04	2.101931	104.729614	5.449758	104.871311	2.978788	0.35524	8.989555	12.619567	
15.06	2.104633	104.862885	5.469078	105.005407	2.985537	0.355802	8.975843	12.659476	
15.08	2.103871	104.825065	5.465205	104.967437	2.9845	0.355643	8.979708	12.648215	
15.1	2.10246	104.765937	5.377537	104.903858	2.938365	0.35535	8.986865	12.627387	
15.12	2.106251	104.958343	5.363702	105.095305	2.925455	0.356137	8.967656	12.683361	
15.14	2.102443	104.778069	5.279291	104.910985	2.88444	0.355347	8.986951	12.627137	
15.16	2.103095	104.820803	5.202366	104.949823	2.841323	0.355482	8.983644	12.636756	
15.18	2.102007	104.790898	5.006764	104.910438	2.735438	0.355256	8.989167	12.620695	
15.2	2.102447	104.804385	5.075597	104.927217	2.77263	0.355348	8.986934	12.627187	
15.22	2.103553	104.875503	4.950186	104.992264	2.702394	0.355577	8.981321	12.643516	
15.24	2.102127	104.806895	4.925785	104.922584	2.690851	0.355281	8.988557	12.622468	
15.26	2.099509	104.684336	4.852014	104.796718	2.653707	0.354737	9.001882	12.583798	
15.28	2.100736	104.752409	4.79793	104.862231	2.622466	0.354992	8.995634	12.601915	
15.3	2.101352	104.785544	4.779675	104.894497	2.611677	0.35512	8.992497	12.611023	
15.32	2.100436	104.762492	4.58195	104.862643	2.504328	0.354929	8.997158	12.597495	
15.34	2.100241	104.751584	4.591664	104.852171	2.509892	0.354889	8.998153	12.594611	
15.36	2.101196	104.801442	4.574925	104.90125	2.499565	0.355088	8.99329	12.60872	
15.38	2.103255	104.914527	4.487873	105.010471	2.449422	0.355515	8.982831	12.63912	
15.4	2.101494	104.831741	4.437185	104.925605	2.423701	0.355149	8.991777	12.613114	
15.42	2.101363	104.847332	4.230516	104.932647	2.310595	0.355122	8.992443	12.611178	
15.44	2.101627	104.85544	4.279258	104.942724	2.337007	0.355177	8.991101	12.615075	
15.46	2.101583	104.856608	4.247157	104.942587	2.319469	0.355168	8.991326	12.614423	
15.48	2.099872	104.788912	4.071226	104.867969	2.224923	0.354812	9.000033	12.589159	
15.5	2.098729	104.74096	3.977387	104.816451	2.174684	0.354574	9.005859	12.572282	
15.52	2.097333	104.67205	3.96615	104.747164	2.169972	0.354283	9.012989	12.551659	
15.54	2.097771	104.706981	3.831904	104.777074	2.09589	0.354374	9.010752	12.558126	
15.56	2.099316	104.788261	3.791728	104.856839	2.072328	0.354696	9.002864	12.580954	
15.58	2.098499	104.75534	3.704665	104.820827	2.025421	0.354526	9.007036	12.568874	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
15.6	2.098003	104.722534	3.790622	104.791116	2.073023	0.354423	9.009564	12.56156	
15.62	2.094312	104.558518	3.560246	104.619114	1.950187	0.353653	9.028457	12.507033	
15.64	2.096358	104.661666	3.553031	104.721958	1.944321	0.35408	9.017977	12.53725	
15.66	2.093904	104.556872	3.340829	104.610232	1.83011	0.353568	9.030551	12.501004	
15.68	2.094156	104.56817	3.35686	104.622037	1.838688	0.35362	9.029257	12.504728	
15.7	2.093588	104.54794	3.256718	104.598652	1.784217	0.353502	9.032172	12.496338	
15.72	2.095128	104.626944	3.233533	104.676899	1.770186	0.353823	9.024274	12.519086	
15.74	2.091565	104.45255	3.181843	104.501002	1.744813	0.353078	9.042576	12.466437	
15.76	2.088794	104.319948	3.102867	104.366084	1.703692	0.352498	9.056862	12.425497	
15.78	2.089637	104.355374	3.189223	104.404096	1.750485	0.352675	9.052514	12.437945	
15.8	2.08821	104.290251	3.108617	104.33657	1.707333	0.352376	9.05988	12.416867	
15.82	2.089039	104.343374	2.954424	104.385192	1.621868	0.352549	9.055602	12.429105	
15.84	2.089858	104.390117	2.875711	104.429719	1.577973	0.352721	9.051373	12.441212	
15.86	2.088162	104.309984	2.807968	104.347772	1.542002	0.352366	9.060131	12.416149	
15.88	2.085722	104.192527	2.740109	104.228551	1.506449	0.351854	9.072761	12.380093	
15.9	2.085738	104.191265	2.769833	104.228076	1.522802	0.351857	9.07268	12.380324	
15.92	2.086546	104.236187	2.704482	104.271266	1.486249	0.352027	9.068492	12.392267	
15.94	2.083563	104.088512	2.679074	104.122983	1.47438	0.3514	9.083976	12.348166	
15.96	2.08377	104.104949	2.587254	104.137094	1.423645	0.351443	9.082896	12.351235	
15.98	2.084766	104.15223	2.626449	104.185341	1.444547	0.351653	9.077726	12.365948	
16	2.078182	103.820743	2.654915	103.854684	1.464857	0.350266	9.112043	12.26862	
16.02	2.078625	103.854751	2.470567	103.884132	1.362736	0.350359	9.109727	12.275163	
16.040001	2.077653	103.80921	2.420001	103.837413	1.33544	0.350154	9.114814	12.260794	
16.059999	2.078546	103.859105	2.333157	103.885308	1.286914	0.350343	9.110138	12.274003	
16.08	2.075963	103.737553	2.196906	103.760813	1.213204	0.349797	9.123676	12.235802	
16.1	2.078377	103.856262	2.234563	103.880298	1.232583	0.350307	9.111025	12.271495	
16.120001	2.077164	103.799765	2.158657	103.822208	1.191374	0.350051	9.117375	12.253566	
16.139999	2.073999	103.639586	2.191328	103.662749	1.211268	0.349382	9.133996	12.206761	
16.16	2.072788	103.585019	2.078438	103.605869	1.14949	0.349125	9.140376	12.188842	
16.18	2.070454	103.472656	1.992115	103.491831	1.102957	0.34863	9.152693	12.15432	
16.200001	2.071891	103.542602	2.031075	103.562521	1.123763	0.348935	9.145103	12.17558	
16.219999	2.0706	103.476079	2.068298	103.496748	1.145088	0.348662	9.15192	12.156486	
16.24	2.06764	103.325362	2.116767	103.347043	1.173623	0.348033	9.167594	12.112691	
16.26	2.066046	103.240366	2.212398	103.264069	1.227639	0.347694	9.176055	12.089114	
16.280001	2.064168	103.154378	2.064564	103.175036	1.146585	0.347294	9.18605	12.061325	
16.299999	2.063222	103.107825	2.05006	103.128203	1.139046	0.347093	9.191089	12.047337	
16.32	2.061725	103.035619	1.997291	103.054975	1.110511	0.346773	9.199082	12.025185	
16.34	2.063655	103.136705	1.906214	103.154319	1.058845	0.347185	9.188781	12.053742	
16.360001	2.06124	103.014527	1.933469	103.03267	1.075254	0.34667	9.201676	12.018005	
16.379999	2.059322	102.915755	1.989732	102.934987	1.107597	0.34626	9.211944	11.989625	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
16.4	2.059495	102.926134	1.955396	102.944707	1.088379	0.346297	9.211017	11.992185	
16.42	2.05751	102.830077	1.888391	102.847415	1.052074	0.345873	9.221669	11.962806	
16.440001	2.055392	102.721948	1.93238	102.740122	1.077709	0.345419	9.233065	11.931457	
16.459999	2.054512	102.667859	2.126901	102.689887	1.18679	0.345231	9.237805	11.918442	
16.48	2.054536	102.665088	2.198753	102.688631	1.226904	0.345236	9.237676	11.918797	
16.5	2.052531	102.564101	2.210075	102.58791	1.234434	0.344806	9.248503	11.88912	
16.52	2.051869	102.531368	2.203044	102.555033	1.230901	0.344664	9.252083	11.879322	
16.540001	2.051177	102.492311	2.279504	102.517656	1.274092	0.344515	9.255833	11.869069	
16.559999	2.04764	102.325897	2.090923	102.347258	1.170619	0.343755	9.27503	11.816721	
16.58	2.048896	102.379118	2.263333	102.404133	1.266455	0.344025	9.268202	11.835314	
16.6	2.048241	102.348849	2.218958	102.3729	1.242	0.343884	9.271766	11.825606	
16.620001	2.048642	102.361611	2.343779	102.38844	1.311678	0.34397	9.269586	11.831543	
16.639999	2.047316	102.291567	2.404218	102.319816	1.34641	0.343685	9.276795	11.811919	
16.66	2.048829	102.361818	2.491765	102.392141	1.394462	0.34401	9.268566	11.834322	
16.68	2.046701	102.255465	2.488586	102.285743	1.394132	0.343552	9.280145	11.802812	
16.700001	2.047939	102.311538	2.579416	102.344048	1.444203	0.343819	9.273405	11.821143	
16.719999	2.048113	102.314474	2.665433	102.349188	1.492299	0.343856	9.272457	11.823726	
16.74	2.049302	102.356064	2.915781	102.397586	1.631726	0.344112	9.265997	11.841326	
16.76	2.051295	102.460349	2.855029	102.500119	1.596121	0.344541	9.255193	11.870819	
16.780001	2.04771	102.265465	3.057112	102.311149	1.712286	0.34377	9.274649	11.817758	
16.799999	2.049308	102.359312	2.875857	102.399704	1.609345	0.344113	9.265966	11.841409	
16.82	2.051038	102.438834	2.970804	102.481902	1.661158	0.344485	9.256585	11.867017	
16.84	2.048498	102.309031	3.004276	102.353131	1.681994	0.343939	9.270367	11.829416	
16.860001	2.050159	102.38893	3.046873	102.434254	1.704498	0.344296	9.261349	11.854006	
16.879999	2.050659	102.404321	3.167865	102.453308	1.771876	0.344404	9.258638	11.861406	
16.9	2.051964	102.477183	3.074314	102.523287	1.71836	0.344684	9.251572	11.88072	
16.92	2.053555	102.545437	3.216413	102.595867	1.796538	0.345026	9.242972	11.90427	
16.940001	2.058671	102.793932	3.310965	102.84724	1.844847	0.346121	9.215433	11.979997	
16.959999	2.058482	102.780286	3.359506	102.835176	1.872123	0.346081	9.216451	11.977188	
16.98	2.058353	102.779281	3.295449	102.832099	1.836469	0.346053	9.217142	11.975284	
17	2.057197	102.713074	3.392428	102.769082	1.891692	0.345806	9.22335	11.958178	
17.02	2.058326	102.771608	3.370028	102.826847	1.878141	0.346048	9.217284	11.974892	
17.040001	2.05955	102.827548	3.432131	102.88481	1.911686	0.346309	9.210721	11.993002	
17.059999	2.060731	102.900541	3.270296	102.952494	1.820315	0.346561	9.204399	12.010473	
17.08	2.06189	102.94819	3.393305	103.004099	1.887863	0.346809	9.198201	12.027626	
17.1	2.061866	102.944674	3.4199	103.001464	1.902713	0.346804	9.19833	12.027269	
17.120001	2.068175	103.262481	3.401187	103.318479	1.886489	0.348147	9.164754	12.120613	
17.139999	2.067099	103.204002	3.453545	103.261769	1.916593	0.347918	9.170462	12.104694	
17.16	2.071088	103.406748	3.42114	103.463325	1.894903	0.348765	9.149341	12.163705	
17.18	2.068852	103.29738	3.390068	103.352994	1.879692	0.348291	9.161166	12.130633	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
17.200001	2.070349	103.360766	3.522994	103.420788	1.952143	0.348608	9.153246	12.152773	
17.219999	2.071435	103.419218	3.477575	103.47767	1.925906	0.348839	9.147509	12.168837	
17.24	2.071079	103.409755	3.380638	103.465	1.872431	0.348763	9.149391	12.163564	
17.26	2.071074	103.397801	3.515014	103.45753	1.947027	0.348762	9.149417	12.163493	
17.280001	2.074981	103.594145	3.509413	103.653571	1.940245	0.34959	9.128831	12.221285	
17.299999	2.075818	103.640836	3.455425	103.698423	1.909559	0.349767	9.124434	12.233665	
17.32	2.078755	103.789236	3.441189	103.846268	1.898981	0.350387	9.109046	12.277088	
17.34	2.079883	103.846952	3.427561	103.903502	1.890415	0.350625	9.103149	12.29377	
17.360001	2.080459	103.875927	3.426374	103.932421	1.889234	0.350746	9.100141	12.302288	
17.379999	2.081693	103.942759	3.367568	103.997296	1.85564	0.351006	9.093707	12.320527	
17.4	2.082933	103.995748	3.474073	104.053759	1.91331	0.351267	9.087252	12.338853	
17.42	2.084386	104.077381	3.371421	104.131973	1.85536	0.351573	9.079696	12.360339	
17.440001	2.084895	104.096848	3.442177	104.153744	1.893916	0.35168	9.077054	12.36786	
17.459999	2.086756	104.191014	3.431683	104.247512	1.886441	0.352071	9.067405	12.395369	
17.48	2.087789	104.252923	3.310892	104.305484	1.819007	0.352287	9.062061	12.410631	
17.5	2.091821	104.457752	3.27714	104.509146	1.796947	0.353132	9.041256	12.470229	
17.52	2.090743	104.396431	3.365471	104.450664	1.846432	0.352906	9.046808	12.454297	
17.540001	2.091119	104.425876	3.236243	104.476011	1.775078	0.352985	9.044872	12.45985	
17.559999	2.095874	104.667976	3.187321	104.716494	1.744219	0.353979	9.020454	12.530101	
17.58	2.095279	104.635999	3.214787	104.685373	1.759778	0.353855	9.023501	12.521314	
17.6	2.09604	104.681395	3.121967	104.727939	1.708258	0.354013	9.019605	12.532552	
17.620001	2.094513	104.607445	3.089291	104.653052	1.691584	0.353695	9.027427	12.509999	
17.639999	2.097159	104.734646	3.158086	104.782248	1.727131	0.354247	9.01388	12.549084	
17.66	2.101716	104.975416	2.993806	105.018098	1.633585	0.355196	8.990646	12.616399	
17.68	2.099136	104.854173	2.883683	104.893819	1.575345	0.354659	9.003785	12.578287	
17.700001	2.101714	104.982881	2.889344	105.022633	1.576502	0.355195	8.990657	12.616365	
17.719999	2.102618	105.024307	2.942736	105.065526	1.604986	0.355383	8.986065	12.629713	
17.74	2.103525	105.076212	2.852286	105.114918	1.554911	0.355572	8.981459	12.643115	
17.76	2.104424	105.125029	2.797558	105.162246	1.524382	0.355758	8.976902	12.656388	
17.780001	2.10701	105.259469	2.724412	105.29472	1.482648	0.356294	8.963821	12.694566	
17.799999	2.105844	105.199854	2.742458	105.235594	1.49331	0.356053	8.969717	12.677345	
17.82	2.106935	105.250438	2.80185	105.287725	1.524902	0.356279	8.964202	12.693453	
17.84	2.109833	105.406844	2.632328	105.439708	1.430554	0.356879	8.949589	12.736236	
17.860001	2.109569	105.397629	2.569804	105.428953	1.396711	0.356824	8.950916	12.732344	
17.879999	2.110662	105.45617	2.508055	105.48599	1.362406	0.35705	8.945418	12.748473	
17.9	2.110628	105.459839	2.419179	105.487583	1.314099	0.357043	8.945588	12.747975	
17.92	2.111767	105.519704	2.369956	105.546315	1.28664	0.357278	8.939868	12.764777	
17.940001	2.113352	105.600097	2.351598	105.626278	1.275705	0.357606	8.931916	12.78817	
17.959999	2.113527	105.612212	2.29263	105.637094	1.243584	0.357642	8.931038	12.790756	
17.98	2.113879	105.632133	2.25121	105.656119	1.220893	0.357714	8.929274	12.795952	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18	2.113829	105.628901	2.263999	105.653161	1.227864	0.357704	8.929527	12.795207	
18.02	2.116142	105.753126	2.105402	105.774082	1.140533	0.358181	8.917956	12.829343	
18.040001	2.116442	105.771339	2.042267	105.791054	1.10615	0.358243	8.916456	12.833773	
18.059999	2.115866	105.742306	2.045974	105.762098	1.108462	0.358124	8.919336	12.825267	
18.08	2.117496	105.823394	2.055408	105.843353	1.112718	0.358459	8.9112	12.849315	
18.1	2.119186	105.913412	1.943268	105.931238	1.05113	0.358807	8.902782	12.874247	
18.120001	2.11967	105.943051	1.825258	105.958773	0.987034	0.358907	8.900372	12.881393	
18.139999	2.121456	106.033037	1.810499	106.048493	0.978224	0.359273	8.891501	12.907731	
18.16	2.118966	105.910237	1.769672	105.925021	0.957278	0.358762	8.903877	12.871001	
18.18	2.123319	106.134252	1.617512	106.146576	0.873136	0.359655	8.882267	12.935206	
18.200001	2.122599	106.097611	1.634283	106.110197	0.882492	0.359508	8.885829	12.924598	
18.219999	2.122019	106.068772	1.629779	106.081292	0.880299	0.359389	8.888705	12.916043	
18.24	2.125003	106.215352	1.696806	106.228905	0.915232	0.360001	8.873933	12.960051	
18.26	2.123369	106.139524	1.545165	106.15077	0.834047	0.359666	8.882019	12.935943	
18.280001	2.124861	106.216985	1.468179	106.227131	0.791919	0.359972	8.874636	12.957952	
18.299999	2.124386	106.198676	1.304899	106.206693	0.703978	0.359874	8.876988	12.950939	
18.32	2.12529	106.241656	1.374119	106.250542	0.741018	0.360059	8.872519	12.964271	
18.34	2.127743	106.365411	1.341949	106.373876	0.72283	0.360561	8.860419	13.000441	
18.360001	2.127613	106.363457	1.192833	106.370145	0.642529	0.360535	8.861061	12.99852	
18.379999	2.128074	106.388646	1.116793	106.394507	0.60143	0.360629	8.858789	13.005321	
18.4	2.127173	106.347052	0.980058	106.351568	0.528004	0.360445	8.863227	12.992039	
18.42	2.128312	106.403805	0.9896	106.408406	0.53286	0.360678	8.857615	13.008836	
18.440001	2.128623	106.41908	1.001489	106.423793	0.539184	0.360741	8.856084	13.013424	
18.459999	2.130808	106.53057	0.903675	106.534403	0.486016	0.361187	8.845351	13.045625	
18.48	2.129615	106.471099	0.894936	106.47486	0.481586	0.360944	8.851209	13.02804	
18.5	2.132059	106.59317	0.90096	106.596977	0.484272	0.361442	8.839219	13.064058	
18.52	2.130221	106.503091	0.813581	106.506199	0.437677	0.361068	8.848231	13.036976	
18.540001	2.132102	106.599605	0.67644	106.601751	0.363573	0.361451	8.839006	13.064699	
18.559999	2.131151	106.552118	0.672885	106.554243	0.361823	0.361257	8.843667	13.050685	
18.58	2.133871	106.69054	0.502501	106.691723	0.269856	0.361812	8.830347	13.090773	
18.6	2.133258	106.659634	0.519564	106.6609	0.279099	0.361687	8.833349	13.081726	
18.620001	2.136796	106.837958	0.393956	106.838684	0.211273	0.362407	8.816073	13.13387	
18.639999	2.135477	106.772846	0.285923	106.773228	0.15343	0.362138	8.822508	13.114424	
18.66	2.136409	106.819289	0.31437	106.819752	0.168622	0.362328	8.817958	13.12817	
18.68	2.136823	106.840872	0.150008	106.840978	0.080445	0.362412	8.815944	13.13426	
18.700001	2.138406	106.919626	0.240903	106.919898	0.129094	0.362734	8.808237	13.157589	
18.719999	2.136761	106.837661	0.174745	106.837804	0.093714	0.3624	8.816248	13.133342	
18.74	2.136677	106.833774	0.068479	106.833796	0.036726	0.362382	8.816656	13.132105	
18.76	2.13929	106.964487	0.04449	106.964496	0.023831	0.362913	8.803942	13.170607	
18.780001	2.141564	107.078151	-0.067923	107.078173	-0.036345	0.363374	8.792912	13.204099	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
18.799999	2.138474	106.923368	-0.163181	106.923492	-0.087442	0.362748	8.80791	13.15858	
18.82	2.140812	107.040545	-0.054381	107.040558	-0.029108	0.363222	8.796559	13.193016	
18.84	2.142059	107.101948	-0.293259	107.102349	-0.156883	0.363475	8.790514	13.211394	
18.860001	2.139452	106.971075	-0.355183	106.971665	-0.190243	0.362946	8.803158	13.172986	
18.879999	2.14147	107.072523	-0.287393	107.072909	-0.153787	0.363355	8.793367	13.202716	
18.9	2.141744	107.084842	-0.444319	107.085764	-0.237732	0.363411	8.792041	13.206748	
18.92	2.14126	107.060576	-0.452765	107.061533	-0.242306	0.363313	8.794383	13.199627	
18.940001	2.143555	107.174758	-0.49903	107.17592	-0.266781	0.363778	8.783282	13.23341	
18.959999	2.141926	107.091683	-0.621815	107.093488	-0.332678	0.363448	8.79116	13.209428	
18.98	2.143389	107.164056	-0.672334	107.166165	-0.359463	0.363744	8.784083	13.230972	
19	2.142786	107.131996	-0.781579	107.134847	-0.417994	0.363622	8.786999	13.222089	
19.02	2.145582	107.272447	-0.748573	107.275059	-0.399818	0.364188	8.773495	13.263268	
19.040001	2.146542	107.318564	-0.846821	107.321905	-0.452097	0.364382	8.768871	13.277394	
19.059999	2.146982	107.339186	-0.912415	107.343064	-0.48702	0.36447	8.766754	13.28387	
19.08	2.146543	107.315203	-1.001168	107.319873	-0.534511	0.364382	8.768868	13.277405	
19.1	2.144416	107.208968	-0.995757	107.213592	-0.532149	0.363952	8.779123	13.246091	
19.120001	2.147283	107.349198	-1.121478	107.355056	-0.598549	0.364531	8.765304	13.288306	
19.139999	2.146229	107.292858	-1.249563	107.300134	-0.667254	0.364318	8.770379	13.272786	
19.16	2.149251	107.44527	-1.206195	107.45204	-0.643184	0.364928	8.755847	13.317272	
19.18	2.146099	107.28326	-1.348987	107.291741	-0.720404	0.364292	8.771007	13.270867	
19.200001	2.148446	107.400654	-1.349286	107.40913	-0.719777	0.364766	8.759714	13.305421	
19.219999	2.149937	107.474299	-1.377797	107.48313	-0.73448	0.365067	8.752557	13.327364	
19.24	2.149824	107.464107	-1.509815	107.474713	-0.804924	0.365044	8.7531	13.325698	
19.26	2.147937	107.365805	-1.615733	107.377962	-0.862172	0.364663	8.762159	13.29793	
19.280001	2.151107	107.522375	-1.666727	107.535292	-0.888085	0.365302	8.74695	13.344582	
19.299999	2.15186	107.557694	-1.725237	107.57153	-0.918953	0.365454	8.743345	13.355664	
19.32	2.148747	107.4	-1.772717	107.414629	-0.945626	0.364827	8.758267	13.309854	
19.34	2.149089	107.414567	-1.831732	107.430184	-0.976967	0.364896	8.756626	13.314883	
19.360001	2.153412	107.629533	-1.861796	107.645635	-0.991016	0.365766	8.735925	13.378502	
19.379999	2.150659	107.483449	-2.04183	107.502842	-1.088301	0.365212	8.749096	13.337991	
19.4	2.15417	107.658786	-2.048453	107.678273	-1.090053	0.365919	8.732309	13.389647	
19.42	2.15472	107.687033	-2.033785	107.706237	-1.081965	0.366029	8.729683	13.397744	
19.440001	2.15355	107.623896	-2.127465	107.644921	-1.132454	0.365794	8.735264	13.380538	
19.459999	2.153032	107.591829	-2.245278	107.615254	-1.195505	0.36569	8.737742	13.372906	
19.48	2.152933	107.580429	-2.363658	107.606392	-1.25865	0.36567	8.738213	13.371457	
19.5	2.151463	107.506144	-2.376053	107.532398	-1.266122	0.365374	8.745245	13.349822	
19.52	2.154766	107.665036	-2.48785	107.693776	-1.323718	0.366039	8.729462	13.398428	
19.540001	2.153507	107.600827	-2.507852	107.630048	-1.335153	0.365785	8.73547	13.379903	
19.559999	2.156698	107.752846	-2.634192	107.78504	-1.400411	0.366427	8.720261	13.426842	
19.58	2.155656	107.698475	-2.66975	107.73156	-1.420023	0.366217	8.725219	13.411522	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
19.6	2.154497	107.639261	-2.68785	107.672815	-1.430433	0.365984	8.730748	13.394459	
19.620001	2.154164	107.619585	-2.735221	107.654338	-1.455898	0.365918	8.732333	13.389572	
19.639999	2.15692	107.745127	-2.920427	107.784699	-1.552622	0.366471	8.719206	13.430103	
19.66	2.158124	107.795556	-3.059977	107.838979	-1.626013	0.366713	8.713482	13.447816	
19.68	2.157011	107.74629	-2.969075	107.787191	-1.578455	0.366489	8.718774	13.431441	
19.700001	2.159624	107.868165	-3.09441	107.912541	-1.643194	0.367013	8.706365	13.469874	
19.719999	2.157903	107.780617	-3.112764	107.825557	-1.654277	0.366668	8.714534	13.444561	
19.74	2.158984	107.826497	-3.223279	107.874663	-1.712247	0.366885	8.709399	13.460466	
19.76	2.156085	107.68138	-3.221703	107.729564	-1.713715	0.366303	8.723181	13.417819	
19.780001	2.155084	107.624946	-3.303041	107.675619	-1.757875	0.366102	8.72795	13.403094	
19.799999	2.157868	107.750994	-3.470735	107.806877	-1.844903	0.366661	8.714697	13.444056	
19.82	2.159251	107.818171	-3.496056	107.874836	-1.857196	0.366939	8.708134	13.464387	
19.84	2.159691	107.833361	-3.57785	107.892701	-1.900348	0.367027	8.706049	13.470854	
19.860001	2.158252	107.765128	-3.532301	107.823003	-1.877359	0.366738	8.712873	13.449703	
19.879999	2.158022	107.738655	-3.706271	107.802385	-1.970234	0.366692	8.713968	13.446311	
19.9	2.159961	107.823935	-3.839509	107.892274	-2.039391	0.367081	8.704768	13.474826	
19.92	2.160123	107.828397	-3.879752	107.898173	-2.060663	0.367113	8.703999	13.477214	
19.940001	2.159089	107.777145	-3.873423	107.846727	-2.058282	0.366906	8.708902	13.462008	
19.959999	2.158575	107.737527	-4.021381	107.812552	-2.137618	0.366803	8.711342	13.454446	
19.98	2.158997	107.755189	-4.057885	107.831569	-2.156651	0.366888	8.709339	13.460651	
20	2.162525	107.929688	-4.082979	108.00689	-2.166469	0.367594	8.692633	13.512532	
20.02	2.157747	107.680668	-4.1791	107.761733	-2.222544	0.366637	8.715275	13.442266	
20.040001	2.161164	107.85074	-4.192371	107.932192	-2.226083	0.367322	8.699068	13.492523	
20.059999	2.162762	107.921662	-4.284204	108.006664	-2.273301	0.367641	8.691514	13.516013	
20.08	2.162248	107.877754	-4.459649	107.969895	-2.367254	0.367539	8.693941	13.508462	
20.1	2.161979	107.865464	-4.448252	107.957145	-2.36148	0.367485	8.695212	13.504509	
20.120001	2.161487	107.824808	-4.597158	107.922764	-2.441357	0.367386	8.697542	13.497267	
20.139999	2.163243	107.903855	-4.679665	108.005283	-2.483299	0.367737	8.689244	13.523079	
20.16	2.161117	107.805786	-4.601391	107.90394	-2.444032	0.367312	8.699292	13.491829	
20.18	2.161697	107.828927	-4.655763	107.929392	-2.472346	0.367428	8.696548	13.500356	
20.200001	2.161619	107.806106	-4.823981	107.913981	-2.5621	0.367413	8.696918	13.499204	
20.219999	2.162817	107.858678	-4.890037	107.969472	-2.595871	0.367652	8.691253	13.516826	
20.24	2.164019	107.911821	-4.951949	108.025381	-2.627398	0.367893	8.685578	13.534498	
20.26	2.161844	107.785619	-5.094384	107.905942	-2.706021	0.367458	8.695854	13.502512	
20.280001	2.163882	107.891944	-5.061274	108.010593	-2.685814	0.367865	8.686229	13.532472	
20.299999	2.163551	107.87444	-5.068849	107.993463	-2.690264	0.367799	8.687788	13.527614	
20.32	2.162967	107.817181	-5.296088	107.947178	-2.812171	0.367682	8.690547	13.519022	
20.34	2.161711	107.758603	-5.259974	107.886903	-2.794541	0.367431	8.696483	13.500556	
20.360001	2.161202	107.725179	-5.322494	107.856586	-2.828579	0.367329	8.698892	13.493072	
20.379999	2.163582	107.835094	-5.398592	107.970145	-2.866034	0.367805	8.687643	13.528064	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
20.4	2.164867	107.889947	-5.474149	108.028732	-2.904603	0.368062	8.681583	13.546957	
20.42	2.165699	107.920976	-5.556722	108.063936	-2.947494	0.368228	8.677664	13.559185	
20.440001	2.164855	107.863302	-5.671279	108.012292	-3.009754	0.368059	8.68164	13.546776	
20.459999	2.163599	107.797688	-5.68987	107.947747	-3.021437	0.367809	8.68756	13.528324	
20.48	2.162669	107.725192	-5.877131	107.885391	-3.122779	0.367623	8.691953	13.514646	
20.5	2.164451	107.82236	-5.82273	107.979468	-3.091146	0.367979	8.683544	13.54084	
20.52	2.163313	107.745106	-5.965911	107.910148	-3.169271	0.367751	8.688911	13.524116	
20.540001	2.163272	107.729167	-6.062938	107.899642	-3.221182	0.367743	8.689106	13.523509	
20.559999	2.163417	107.749718	-5.970423	107.915002	-3.171527	0.367772	8.688418	13.52565	
20.58	2.167123	107.902363	-6.204505	108.080599	-3.290953	0.368512	8.670965	13.580117	
20.6	2.166476	107.872204	-6.187924	108.049539	-3.283093	0.368383	8.67401	13.570599	
20.620001	2.166022	107.841445	-6.241655	108.021922	-3.31248	0.368292	8.676145	13.563929	
20.639999	2.165684	107.823437	-6.248361	108.004331	-3.316583	0.368225	8.677736	13.558961	
20.66	2.166374	107.830067	-6.43522	108.02192	-3.415325	0.368363	8.674487	13.569107	
20.68	2.165023	107.761902	-6.436187	107.953935	-3.417993	0.368093	8.680846	13.549254	
20.700001	2.162567	107.613806	-6.593629	107.815616	-3.506205	0.367602	8.692434	13.513149	
20.719999	2.165589	107.764091	-6.605973	107.966375	-3.507866	0.368206	8.678181	13.557571	
20.74	2.16569	107.746769	-6.747035	107.95781	-3.583153	0.368226	8.677708	13.559048	
20.76	2.165969	107.750216	-6.812991	107.965392	-3.617973	0.368282	8.676393	13.563154	
20.780001	2.164587	107.682833	-6.799104	107.897267	-3.612871	0.368006	8.682901	13.542846	
20.799999	2.164721	107.687425	-6.81247	107.902694	-3.619801	0.368033	8.682269	13.544817	
20.82	2.165768	107.720019	-6.935758	107.943074	-3.684019	0.368242	8.677338	13.560202	
20.84	2.164435	107.652398	-6.938379	107.875762	-3.687716	0.367976	8.683617	13.540612	
20.860001	2.164472	107.627182	-7.100339	107.861138	-3.774432	0.367983	8.683443	13.541156	
20.879999	2.16415	107.609786	-7.107168	107.84423	-3.778661	0.367919	8.684961	13.536423	
20.9	2.166801	107.708857	-7.309006	107.956562	-3.882084	0.368448	8.672478	13.575387	
20.92	2.165476	107.629587	-7.379753	107.882292	-3.922422	0.368183	8.678715	13.555905	
20.940001	2.163869	107.553045	-7.353988	107.804168	-3.911544	0.367863	8.686286	13.532292	
20.959999	2.167282	107.698878	-7.503043	107.959919	-3.985185	0.368544	8.67022	13.582446	
20.98	2.166674	107.656264	-7.569422	107.922043	-4.021913	0.368422	8.673078	13.573512	
21	2.164252	107.549514	-7.483078	107.809528	-3.980117	0.367939	8.68448	13.537921	
21.02	2.166031	107.614087	-7.623084	107.883749	-4.051913	0.368294	8.676101	13.564065	
21.040001	2.16254	107.432242	-7.653608	107.704524	-4.074946	0.367597	8.69256	13.512757	
21.059999	2.163213	107.450395	-7.739543	107.72877	-4.119849	0.367731	8.689384	13.522644	
21.08	2.164543	107.510207	-7.779256	107.791286	-4.13862	0.367997	8.68311	13.542192	
21.1	2.164945	107.477463	-8.059455	107.779218	-4.288443	0.368077	8.681217	13.548098	
21.120001	2.163846	107.408249	-8.129872	107.71549	-4.328547	0.367858	8.686398	13.531944	
21.139999	2.161604	107.30882	-8.057994	107.610939	-4.294381	0.36741	8.696989	13.498983	
21.16	2.162543	107.330249	-8.191856	107.642412	-4.364579	0.367598	8.692548	13.512795	
21.18	2.163022	107.330433	-8.313353	107.65191	-4.429049	0.367693	8.690286	13.519835	



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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
21.200001	2.162463	107.29285	-8.359818	107.618038	-4.455258	0.367582	8.692927	13.511616	
21.219999	2.163092	107.334932	-8.308581	107.656027	-4.426332	0.367707	8.689955	13.520866	
21.24	2.163158	107.328981	-8.354952	107.653683	-4.451183	0.36772	8.689646	13.521829	
21.26	2.162805	107.299809	-8.411202	107.62898	-4.482242	0.36765	8.691312	13.516641	
21.280001	2.164426	107.358117	-8.528052	107.6963	-4.541793	0.367974	8.683663	13.540469	
21.299999	2.163306	107.297505	-8.547308	107.637405	-4.554566	0.36775	8.688943	13.524016	
21.32	2.162803	107.248393	-8.661696	107.597596	-4.617362	0.36765	8.691319	13.516621	
21.34	2.162689	107.228057	-8.731368	107.582958	-4.655219	0.367627	8.691857	13.514945	
21.360001	2.162901	107.233464	-8.756669	107.590404	-4.668415	0.367669	8.690857	13.518057	
21.379999	2.16232	107.194455	-8.80212	107.555235	-4.694238	0.367553	8.6936	13.509523	
21.4	2.1623	107.167008	-8.925946	107.538087	-4.761188	0.367549	8.693697	13.509222	
21.42	2.163556	107.219145	-8.979454	107.594496	-4.787279	0.3678	8.687766	13.527683	
21.440001	2.164032	107.203794	-9.160426	107.594456	-4.883995	0.367895	8.68552	13.534681	
21.459999	2.161605	107.100187	-9.071715	107.483702	-4.84158	0.36741	8.696982	13.499007	
21.48	2.163571	107.168551	-9.214001	107.563916	-4.914028	0.367803	8.687695	13.527902	
21.5	2.162091	107.074292	-9.300031	107.477414	-4.964026	0.367507	8.694682	13.506156	
21.52	2.163514	107.140682	-9.326011	107.545805	-4.974755	0.367792	8.687961	13.527075	
21.540001	2.161158	107.01124	-9.369568	107.420642	-5.003886	0.36732	8.699098	13.492431	
21.559999	2.16372	107.106712	-9.521387	107.529087	-5.080036	0.367833	8.686993	13.530091	
21.58	2.160985	106.977297	-9.480065	107.396525	-5.064191	0.367286	8.699917	13.489886	
21.6	2.161417	106.982099	-9.554536	107.407908	-5.103536	0.367372	8.697874	13.496234	
21.620001	2.162753	107.022851	-9.671321	107.458946	-5.163625	0.367639	8.691558	13.515875	
21.639999	2.161854	106.962064	-9.735754	107.404227	-5.200776	0.36746	8.695806	13.502663	
21.66	2.161408	106.942972	-9.720607	107.383842	-5.193651	0.367371	8.697914	13.49611	
21.68	2.161528	106.915644	-9.861729	107.369496	-5.269969	0.367395	8.697346	13.497876	
21.700001	2.161268	106.876183	-9.970904	107.340288	-5.329933	0.367342	8.698578	13.494047	
21.719999	2.1586	106.696886	-10.14921	107.178505	-5.433743	0.366808	8.711222	13.454816	
21.74	2.159699	106.787335	-10.008259	107.255304	-5.35421	0.367028	8.706007	13.470984	
21.76	2.158832	106.698897	-10.188896	107.184272	-5.454761	0.366855	8.710121	13.45823	
21.780001	2.161298	106.795725	-10.304479	107.291701	-5.511289	0.367349	8.698434	13.494494	
21.799999	2.159169	106.710165	-10.212703	107.197755	-5.466855	0.366922	8.708521	13.463189	
21.82	2.158461	106.614749	-10.448774	107.125541	-5.597405	0.36678	8.711883	13.452769	
21.84	2.158385	106.636137	-10.349107	107.137154	-5.543243	0.366765	8.712241	13.451661	
21.860001	2.15901	106.614816	-10.557968	107.136313	-5.65552	0.36689	8.709277	13.460845	
21.879999	2.158476	106.622393	-10.421823	107.130523	-5.582661	0.366783	8.711809	13.452999	
21.9	2.15862	106.593617	-10.563121	107.115725	-5.65938	0.366812	8.711126	13.455113	
21.92	2.158823	106.5723	-10.685423	107.106645	-5.72561	0.366853	8.710163	13.458098	
21.940001	2.155964	106.419436	-10.712275	106.95723	-5.748092	0.366279	8.723753	13.41605	
21.959999	2.155577	106.37109	-10.820948	106.920071	-5.808629	0.366202	8.725596	13.41036	
21.98	2.154604	106.331211	-10.783907	106.876653	-5.791037	0.366006	8.730234	13.396045	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22	2.157027	106.37948	-11.066162	106.953512	-5.938863	0.366493	8.718695	13.431686	
22.02	2.154782	106.322563	-10.850811	106.874822	-5.82719	0.366042	8.729387	13.398658	
22.040001	2.155455	106.314625	-11.008924	106.883094	-5.911942	0.366177	8.726179	13.40856	
22.059999	2.1537	106.213143	-11.052595	106.786664	-5.940857	0.365824	8.73455	13.382739	
22.08	2.154712	106.277166	-11.006974	106.845634	-5.91297	0.366028	8.729723	13.397622	
22.1	2.154009	106.194979	-11.177163	106.781565	-6.008346	0.365886	8.733073	13.387291	
22.120001	2.15366	106.166078	-11.217332	106.757036	-6.03141	0.365816	8.73474	13.382152	
22.139999	2.152199	106.087662	-11.230804	106.680472	-6.043031	0.365522	8.741722	13.360658	
22.16	2.155097	106.201373	-11.355073	106.806692	-6.102902	0.366105	8.727887	13.403286	
22.18	2.152516	106.053704	-11.410885	106.665816	-6.141144	0.365586	8.740208	13.365317	
22.200001	2.151202	105.979158	-11.436858	106.594482	-6.159312	0.365322	8.746494	13.345985	
22.219999	2.152251	106.0078	-11.525467	106.6325	-6.204997	0.365533	8.741473	13.361423	
22.24	2.151949	105.989274	-11.536133	106.615236	-6.211771	0.365472	8.74292	13.356971	
22.26	2.151845	105.961715	-11.614159	106.596312	-6.255068	0.365451	8.743415	13.35545	
22.280001	2.152067	105.982382	-11.581624	106.613317	-6.236477	0.365496	8.742353	13.358715	
22.299999	2.148613	105.807034	-11.576115	106.438409	-6.243782	0.3648	8.758912	13.307878	
22.32	2.152202	105.927855	-11.794664	106.582478	-6.353508	0.365523	8.741709	13.360697	
22.34	2.149612	105.778918	-11.849992	106.440602	-6.391979	0.365001	8.754114	13.322589	
22.360001	2.150094	105.785459	-11.911709	106.453991	-6.424598	0.365098	8.751805	13.329673	
22.379999	2.150057	105.783658	-11.911487	106.452176	-6.424588	0.365091	8.75198	13.329137	
22.4	2.148845	105.693042	-12.007402	106.372914	-6.481388	0.364846	8.757797	13.311294	
22.42	2.150128	105.755384	-12.019224	106.436192	-6.483923	0.365105	8.751639	13.330182	
22.440001	2.149802	105.728016	-12.054852	106.413029	-6.504648	0.365039	8.753204	13.325381	
22.459999	2.148623	105.665988	-12.059915	106.351975	-6.511143	0.364802	8.758862	13.308029	
22.48	2.148772	105.641124	-12.168068	106.339593	-6.570559	0.364832	8.758147	13.310221	
22.5	2.151563	105.748989	-12.285081	106.460189	-6.626478	0.365394	8.744767	13.351292	
22.52	2.148204	105.575611	-12.287654	106.288269	-6.638641	0.364717	8.760877	13.301857	
22.540001	2.150396	105.660246	-12.379239	106.382955	-6.682367	0.365159	8.750353	13.33413	
22.559999	2.148429	105.56187	-12.370202	106.284196	-6.683699	0.364762	8.759796	13.305168	
22.58	2.14937	105.58067	-12.466013	106.31406	-6.733805	0.364952	8.755278	13.319019	
22.6	2.147807	105.50542	-12.449462	106.237388	-6.729699	0.364637	8.762786	13.296013	
22.620001	2.147913	105.488212	-12.522458	106.22888	-6.769886	0.364659	8.762273	13.297584	
22.639999	2.146219	105.3772	-12.598494	106.127642	-6.817715	0.364316	8.770428	13.272636	
22.66	2.146203	105.349076	-12.685001	106.110023	-6.865898	0.364313	8.770505	13.272401	
22.68	2.147753	105.410111	-12.744249	106.177717	-6.893704	0.364626	8.763043	13.295224	
22.700001	2.145601	105.282599	-12.796423	106.05741	-6.929954	0.364191	8.773406	13.263539	
22.719999	2.145438	105.268052	-12.81563	106.045288	-6.941204	0.364158	8.774192	13.26114	
22.74	2.145244	105.270341	-12.777315	106.042937	-6.920504	0.364119	8.775125	13.258289	
22.76	2.149088	105.412475	-12.951412	106.205127	-7.004504	0.364896	8.756628	13.314877	
22.780001	2.147378	105.280539	-13.085838	106.090674	-7.08525	0.36455	8.764846	13.289706	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
22.799999	2.147029	105.275699	-13.04555	106.080909	-7.063978	0.36448	8.766527	13.284565	
22.82	2.145175	105.163494	-13.096176	105.975801	-7.098602	0.364105	8.775457	13.257276	
22.84	2.146814	105.214331	-13.198448	106.038929	-7.150044	0.364436	8.767564	13.281393	
22.860001	2.147622	105.212323	-13.329977	106.053388	-7.220686	0.3646	8.763676	13.293289	
22.879999	2.146688	105.152269	-13.365236	105.998251	-7.243674	0.364411	8.768169	13.279541	
22.9	2.144262	105.048961	-13.299528	105.887495	-7.215451	0.363921	8.779865	13.243828	
22.92	2.147738	105.228592	-13.299179	106.065662	-7.203076	0.364623	8.763118	13.294995	
22.940001	2.147032	105.130062	-13.483843	105.991244	-7.308791	0.36448	8.766514	13.284603	
22.959999	2.147206	105.110068	-13.56918	105.982305	-7.355926	0.364516	8.765676	13.287168	
22.98	2.14634	105.05234	-13.607007	105.929905	-7.380216	0.364341	8.769845	13.274418	
23	2.146691	105.043688	-13.685068	105.931381	-7.422688	0.364412	8.768156	13.279583	
23.02	2.146799	105.015429	-13.78296	105.916053	-7.477174	0.364433	8.767636	13.281173	
23.040001	2.144016	104.887659	-13.735897	105.78325	-7.460906	0.363871	8.781054	13.240201	
23.059999	2.146829	105.004822	-13.817922	105.910092	-7.496674	0.364439	8.767492	13.281614	
23.08	2.146802	105.010227	-13.798466	105.912914	-7.485858	0.364434	8.767618	13.281226	
23.1	2.148052	104.985996	-14.052019	105.922229	-7.623549	0.364687	8.761606	13.299625	
23.120001	2.14841	104.979829	-14.12159	105.925369	-7.661291	0.364759	8.759886	13.304892	
23.139999	2.146753	104.880629	-14.158606	105.832001	-7.688311	0.364424	8.767857	13.280496	
23.16	2.14715	104.9054	-14.146981	105.854995	-7.680282	0.364504	8.765945	13.286344	
23.18	2.147206	104.859047	-14.284029	105.827469	-7.75717	0.364516	8.765677	13.287165	
23.200001	2.146701	104.795074	-14.388045	105.77818	-7.817672	0.364414	8.768107	13.279731	
23.219999	2.144266	104.706551	-14.283575	105.67631	-7.768085	0.363921	8.779846	13.243885	
23.24	2.146459	104.775569	-14.407113	105.761452	-7.829344	0.364365	8.76927	13.276176	
23.26	2.145023	104.687605	-14.443597	105.679289	-7.855437	0.364075	8.77619	13.255038	
23.280001	2.144912	104.609304	-14.639881	105.628749	-7.966712	0.364052	8.776728	13.253396	
23.299999	2.145248	104.622166	-14.652322	105.643212	-7.972428	0.36412	8.775107	13.258346	
23.32	2.145625	104.611226	-14.734173	105.643762	-8.017213	0.364196	8.773287	13.2639	
23.34	2.147402	104.691134	-14.767727	105.727571	-8.029179	0.364555	8.764734	13.29005	
23.360001	2.143876	104.515088	-14.747606	105.55044	-8.031712	0.363843	8.78173	13.238142	
23.379999	2.147231	104.650308	-14.852616	105.69904	-8.077835	0.364521	8.765553	13.287542	
23.4	2.147377	104.617566	-14.958933	105.68162	-8.137398	0.36455	8.764854	13.289682	
23.42	2.146181	104.552164	-14.967007	105.618021	-8.146756	0.364309	8.770609	13.272083	
23.440001	2.143741	104.380353	-15.083113	105.464488	-8.222423	0.363815	8.782383	13.236151	
23.459999	2.147765	104.553531	-15.178533	105.649556	-8.260208	0.364629	8.762986	13.295399	
23.48	2.145756	104.426266	-15.236173	105.53192	-8.301104	0.364223	8.772657	13.265826	
23.5	2.144333	104.328177	-15.296961	105.44366	-8.341484	0.363935	8.779523	13.244869	
23.52	2.145076	104.334342	-15.380106	105.461854	-8.385692	0.364085	8.775939	13.255805	
23.540001	2.144814	104.270856	-15.506011	105.417493	-8.458424	0.364032	8.777199	13.251959	
23.559999	2.144641	104.268823	-15.488254	105.412872	-8.449039	0.363997	8.778038	13.249401	
23.58	2.145825	104.282862	-15.608461	105.444485	-8.512527	0.364237	8.772326	13.266837	

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
23.6	2.142511	104.127056	-15.564327	105.283864	-8.501325	0.363566	8.788328	13.218044
23.620001	2.143746	104.137223	-15.699927	105.314049	-8.57347	0.363816	8.782357	13.236229
23.639999	2.145557	104.171226	-15.850032	105.370146	-8.651422	0.364183	8.773618	13.262891
23.66	2.14431	104.058062	-15.966617	105.27589	-8.723415	0.36393	8.779634	13.244532
23.68	2.144137	104.106744	-15.82561	105.302726	-8.643563	0.363895	8.780468	13.241989
23.700001	2.143113	103.961751	-16.047696	105.193033	-8.775022	0.363688	8.785416	13.22691
23.719999	2.142455	103.93788	-16.021923	105.165512	-8.763129	0.363555	8.788598	13.217222
23.74	2.1441	103.974938	-16.140687	105.220291	-8.82397	0.363888	8.780646	13.241444
23.76	2.144915	103.954833	-16.290896	105.223575	-8.906473	0.364053	8.776712	13.253445
23.780001	2.141708	103.796689	-16.265953	105.063476	-8.906387	0.363404	8.792213	13.206224
23.799999	2.144036	103.879195	-16.360483	105.159652	-8.950311	0.363875	8.780956	13.240502
23.82	2.141271	103.746402	-16.330486	105.02381	-8.945416	0.363315	8.794332	13.199782
23.84	2.142777	103.746258	-16.516834	105.052805	-9.045826	0.36362	8.787041	13.221962
23.860001	2.142897	103.716369	-16.601014	105.03656	-9.093737	0.363644	8.786461	13.223729
23.879999	2.14147	103.588581	-16.72211	104.929611	-9.170058	0.363355	8.79337	13.202708
23.9	2.141727	103.578602	-16.776111	104.928378	-9.200037	0.363407	8.792122	13.206501
23.92	2.143913	103.68767	-16.790497	105.038344	-9.198271	0.36385	8.781552	13.238685
23.940001	2.141422	103.510792	-16.893783	104.880332	-9.269416	0.363346	8.793602	13.202003
23.959999	2.142331	103.493973	-17.040149	104.887412	-9.349807	0.36353	8.7892	13.21539
23.98	2.139001	103.33515	-17.001379	104.724401	-9.342993	0.362855	8.805347	13.166348
24	2.142717	103.507226	-17.056192	104.903096	-9.357276	0.363608	8.787334	13.221071
24.02	2.141185	103.360613	-17.202495	104.782356	-9.449246	0.363298	8.794748	13.19852
24.040001	2.140906	103.384685	-17.116015	104.791942	-9.400443	0.363241	8.796103	13.194401
24.059999	2.142248	103.373229	-17.299046	104.810693	-9.500179	0.363513	8.789602	13.214166
24.08	2.139051	103.165388	-17.383323	104.619679	-9.564488	0.362865	8.805104	13.167085
24.1	2.139432	103.098952	-17.571537	104.585625	-9.672212	0.362942	8.803254	13.172694
24.120001	2.14018	103.179576	-17.482927	104.650263	-9.616972	0.363094	8.799623	13.183711
24.139999	2.141058	103.137538	-17.674429	104.640992	-9.7242	0.363272	8.795365	13.196644
24.16	2.138444	102.944936	-17.788914	104.470595	-9.803928	0.362742	8.808053	13.158145
24.18	2.136823	102.905241	-17.689815	104.414645	-9.754052	0.362412	8.815942	13.134266
24.200001	2.140597	103.018963	-17.874845	104.558198	-9.843421	0.363178	8.797601	13.189851
24.219999	2.139682	102.951865	-17.913695	104.498742	-9.870698	0.362993	8.80204	13.176376
24.24	2.137844	102.845804	-17.930886	104.397203	-9.889972	0.36262	8.810974	13.1493
24.26	2.139103	102.852028	-18.058447	104.425318	-9.958335	0.362875	8.804851	13.167852
24.280001	2.137287	102.746832	-18.07588	104.324728	-9.977756	0.362507	8.813682	13.141103
24.299999	2.1418	102.9468	-18.160629	104.536367	-10.004514	0.363422	8.791768	13.207579
24.32	2.139782	102.84836	-18.141494	104.4361	-10.003558	0.363013	8.801552	13.177857
24.34	2.135245	102.516164	-18.326587	104.141383	-10.135591	0.362091	8.823638	13.111012
24.360001	2.137773	102.575497	-18.48087	104.227037	-10.213341	0.362605	8.81132	13.148252
24.379999	2.136498	102.567102	-18.359371	104.197298	-10.148408	0.362346	8.817526	13.129477

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
24.4	2.139813	102.592543	-18.666673	104.276913	-10.312153	0.363019	8.801403	13.178309	
24.42	2.136966	102.45835	-18.629873	104.1383	-10.30545	0.362441	8.815247	13.136368	
24.440001	2.137404	102.466403	-18.660792	104.151759	-10.321392	0.36253	8.813112	13.142826	
24.459999	2.137441	102.453038	-18.691478	104.144114	-10.339319	0.362538	8.812932	13.143373	
24.48	2.137558	102.399712	-18.809978	104.112997	-10.408741	0.362562	8.812364	13.145091	
24.5	2.138018	102.33619	-18.983822	104.082089	-10.509182	0.362655	8.810124	13.151872	
24.52	2.134023	102.160397	-18.907532	103.895339	-10.485498	0.361843	8.829607	13.093003	
24.540001	2.133541	102.099661	-18.975748	103.848061	-10.528604	0.361744	8.831961	13.085908	
24.559999	2.133563	101.968361	-19.232145	103.76619	-10.681042	0.361749	8.831856	13.086226	
24.58	2.136694	102.110242	-19.283657	103.915162	-10.694453	0.362386	8.816573	13.132359	
24.6	2.135106	102.033458	-19.266823	103.836588	-10.693187	0.362063	8.824315	13.108967	
24.620001	2.133217	101.909801	-19.308546	103.72284	-10.728509	0.361678	8.833548	13.081129	
24.639999	2.134153	101.929182	-19.367821	103.75293	-10.758679	0.361869	8.828972	13.09492	
24.66	2.132998	101.773436	-19.54446	103.633095	-10.870695	0.361634	8.834618	13.077907	
24.68	2.133265	101.802445	-19.51698	103.656405	-10.852754	0.361688	8.833314	13.081834	
24.700001	2.130111	101.574025	-19.625452	103.452602	-10.935574	0.361045	8.848772	13.035355	
24.719999	2.13214	101.612106	-19.758762	103.515355	-11.004023	0.361459	8.83882	13.065257	
24.74	2.129846	101.517251	-19.70431	103.411856	-10.98444	0.360991	8.850074	13.031445	
24.76	2.129163	101.422041	-19.811809	103.338948	-11.053009	0.360851	8.853431	13.021378	
24.780001	2.13132	101.438073	-19.996707	103.390285	-11.15187	0.361292	8.842839	13.053173	
24.799999	2.12893	101.320883	-19.97378	103.270874	-11.151965	0.360804	8.854577	13.017942	
24.82	2.128466	101.254256	-20.048999	103.220089	-11.200083	0.360709	8.856858	13.011106	
24.84	2.128126	101.23978	-20.041725	103.204475	-11.197683	0.36064	8.858533	13.00609	
24.860001	2.127809	101.099052	-20.263696	103.109824	-11.333865	0.360575	8.860092	13.001421	
24.879999	2.128504	101.125534	-20.284	103.139781	-11.342033	0.360717	8.85667	13.011669	
24.9	2.127214	100.97638	-20.42381	103.021169	-11.434585	0.360453	8.863023	12.992647	
24.92	2.127125	101.002954	-20.368181	103.036205	-11.401335	0.360435	8.863465	12.991325	
24.940001	2.126152	100.904861	-20.447719	102.955816	-11.455517	0.360236	8.86826	12.97699	
24.959999	2.126902	100.899492	-20.529048	102.966738	-11.500464	0.360389	8.864562	12.988044	
24.98	2.12431	100.750355	-20.542227	102.823232	-11.524229	0.359859	8.877359	12.94983	
25	2.122912	100.628273	-20.621654	102.719531	-11.581244	0.359572	8.88428	12.929211	
25.02	2.123885	100.635047	-20.702146	102.742355	-11.624459	0.359772	8.879461	12.943564	
25.040001	2.122559	100.48453	-20.835956	102.622014	-11.714569	0.3595	8.88603	12.924002	
25.059999	2.124601	100.588383	-20.849829	102.726522	-11.710385	0.359918	8.875923	12.954114	
25.08	2.121888	100.386331	-20.940581	102.547176	-11.782948	0.359362	8.889356	12.914108	
25.1	2.119589	100.183635	-21.06958	102.375231	-11.876788	0.35889	8.900773	12.880203	
25.120001	2.118532	100.116912	-21.083969	102.312902	-11.892364	0.358673	8.906034	12.86461	
25.139999	2.118916	100.078816	-21.182995	102.296083	-11.951035	0.358752	8.904122	12.870274	
25.16	2.118702	100.025543	-21.251907	102.258266	-11.994991	0.358707	8.905191	12.867107	
25.18	2.118791	100.017357	-21.27368	102.254786	-12.007878	0.358726	8.904744	12.86843	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
25.200001	2.117505	99.882067	-21.379807	102.144621	-12.081893	0.358461	8.911154	12.849452	
25.219999	2.117517	99.830559	-21.465321	102.112196	-12.134862	0.358464	8.911094	12.84963	
25.24	2.114224	99.695484	-21.388625	101.964027	-12.108683	0.357786	8.927545	12.801047	
25.26	2.1137	99.630188	-21.447908	101.912644	-12.148971	0.357677	8.930173	12.793304	
25.280001	2.113295	99.569772	-21.509737	101.86662	-12.19012	0.357594	8.932202	12.787328	
25.299999	2.111419	99.456433	-21.525112	101.75909	-12.212057	0.357206	8.941615	12.759642	
25.32	2.110565	99.435088	-21.483166	101.729362	-12.19151	0.35703	8.945904	12.747047	
25.34	2.112419	99.461513	-21.606403	101.781281	-12.256178	0.357413	8.936592	12.774408	
25.360001	2.109915	99.350502	-21.561705	101.663313	-12.244842	0.356896	8.949174	12.737453	
25.379999	2.111537	99.398998	-21.628299	101.724845	-12.275705	0.357231	8.941022	12.761384	
25.4	2.111119	99.315128	-21.725564	101.663636	-12.339318	0.357145	8.94312	12.75522	
25.42	2.106806	99.138471	-21.625292	101.469649	-12.305323	0.356252	8.964854	12.691548	
25.440001	2.112971	99.293361	-21.923564	101.684876	-12.450928	0.357527	8.933825	12.78255	
25.459999	2.108787	99.11162	-21.843042	101.490057	-12.42866	0.356662	8.954858	12.720794	
25.48	2.108353	99.139547	-21.760578	101.499619	-12.379807	0.356572	8.957043	12.714394	
25.5	2.112159	99.158742	-22.064152	101.583871	-12.544729	0.357359	8.937898	12.770568	
25.52	2.105959	98.886854	-21.949058	101.29349	-12.514585	0.356077	8.969132	12.679052	
25.540001	2.108907	98.943728	-22.116702	101.385451	-12.60011	0.356687	8.954251	12.72257	
25.559999	2.107648	98.877648	-22.110245	101.319555	-12.604698	0.356427	8.960599	12.703988	
25.58	2.107942	98.836381	-22.199518	101.29881	-12.659068	0.356487	8.959118	12.708323	
25.6	2.106058	98.739917	-22.185914	101.201709	-12.663522	0.356097	8.968635	12.680503	
25.620001	2.104501	98.629597	-22.221793	101.101956	-12.697067	0.355774	8.976514	12.65752	
25.639999	2.105827	98.564481	-22.434572	101.085444	-12.822834	0.356049	8.969801	12.677099	
25.66	2.102173	98.398549	-22.375554	100.910554	-12.81107	0.355291	8.988324	12.623145	
25.68	2.102543	98.373187	-22.445391	100.901336	-12.852932	0.355368	8.986444	12.628611	
25.700001	2.102649	98.325691	-22.525919	100.872982	-12.903527	0.355389	8.985908	12.63017	
25.719999	2.101987	98.234169	-22.607377	100.802011	-12.960276	0.355252	8.98927	12.620398	
25.74	2.102591	98.246454	-22.639786	100.821256	-12.976658	0.355378	8.9862	12.629322	
25.76	2.100604	98.131683	-22.644241	100.71042	-12.993791	0.354964	8.996302	12.599978	
25.780001	2.102518	98.151082	-22.775405	100.758891	-13.063986	0.355362	8.986571	12.628243	
25.799999	2.098583	97.92919	-22.775487	100.542772	-13.092614	0.354544	9.006604	12.570124	
25.82	2.097367	97.84754	-22.794662	100.467595	-13.113813	0.35429	9.012816	12.552158	
25.84	2.096782	97.798385	-22.818325	100.425097	-13.133324	0.354168	9.015808	12.543513	
25.860001	2.096636	97.696369	-22.955227	100.356977	-13.222674	0.354138	9.016553	12.541363	
25.879999	2.095439	97.523247	-23.10746	100.223443	-13.330033	0.353888	9.022679	12.523684	
25.9	2.093935	97.484366	-23.040721	100.170237	-13.298016	0.353574	9.030392	12.501462	
25.92	2.095273	97.510948	-23.111536	100.212415	-13.333922	0.353853	9.023534	12.521219	
25.940001	2.093677	97.340433	-23.225831	100.072969	-13.420112	0.35352	9.031719	12.497643	
25.959999	2.096378	97.410362	-23.344615	100.168606	-13.476917	0.354084	9.017872	12.537555	
25.98	2.09114	97.169566	-23.263666	99.915578	-13.463957	0.35299	9.044763	12.460163	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26	2.093567	97.162371	-23.468482	99.95647	-13.579092	0.353497	9.032281	12.496025	
26.02	2.08899	97.026554	-23.29277	99.783292	-13.499329	0.352539	9.055854	12.428382	
26.040001	2.091477	97.029554	-23.487508	99.831846	-13.607604	0.35306	9.043027	12.465145	
26.059999	2.091737	96.946376	-23.623782	99.78318	-13.694893	0.353115	9.041688	12.468987	
26.08	2.089918	96.954022	-23.468729	99.754015	-13.607328	0.352734	9.051062	12.442104	
26.1	2.087822	96.663612	-23.704575	99.527689	-13.77862	0.352294	9.061887	12.411129	
26.120001	2.08961	96.732348	-23.750748	99.605448	-13.794999	0.352669	9.052654	12.437543	
26.139999	2.084236	96.433052	-23.738544	99.311893	-13.829335	0.351541	9.080477	12.358118	
26.16	2.083094	96.21463	-23.945122	99.149503	-13.975421	0.351301	9.08641	12.341245	
26.18	2.084682	96.334383	-23.906998	99.256526	-13.937371	0.351635	9.078158	12.364717	
26.200001	2.081567	96.030984	-24.072724	99.002252	-14.07275	0.35098	9.094363	12.318665	
26.219999	2.081486	96.050765	-24.040201	99.013538	-14.051712	0.350963	9.094786	12.317468	
26.24	2.077902	95.710833	-24.215401	98.726638	-14.198245	0.350207	9.113512	12.264469	
26.26	2.077488	95.759909	-24.119446	98.750736	-14.137288	0.350119	9.115678	12.258356	
26.280001	2.077012	95.562947	-24.340991	98.614202	-14.29006	0.350019	9.118172	12.251316	
26.299999	2.072124	95.292805	-24.322986	98.347986	-14.318742	0.348985	9.143872	12.179033	
26.32	2.069102	95.096946	-24.348692	98.164596	-14.361552	0.348344	9.159845	12.134323	
26.34	2.066287	94.957162	-24.317657	98.021483	-14.364245	0.347745	9.174773	12.092685	
26.360001	2.061104	94.690171	-24.272599	97.751662	-14.377484	0.346641	9.202404	12.015991	
26.379999	2.059488	94.613822	-24.249702	97.672019	-14.375594	0.346296	9.211056	11.992077	
26.4	2.060281	94.582026	-24.34925	97.66599	-14.436797	0.346465	9.206805	12.00382	
26.42	2.057629	94.46509	-24.300946	97.540705	-14.426444	0.345898	9.221029	11.96457	
26.440001	2.058427	94.414482	-24.424123	97.52247	-14.503937	0.346069	9.216742	11.976386	
26.459999	2.057599	94.375264	-24.412439	97.481576	-14.503062	0.345892	9.221189	11.964129	
26.48	2.059977	94.322453	-24.65331	97.49108	-14.647885	0.3464	9.208433	11.999322	
26.5	2.058605	94.178606	-24.73168	97.371792	-14.713905	0.346107	9.215788	11.979018	
26.52	2.060073	94.263016	-24.73411	97.454053	-14.702682	0.346421	9.207918	12.000745	
26.540001	2.060032	94.115744	-24.912339	97.357064	-14.826135	0.346412	9.208142	12.000125	
26.559999	2.057718	94.073181	-24.797192	97.286505	-14.766993	0.345917	9.220553	11.965881	
26.58	2.054744	93.920609	-24.769299	97.131864	-14.774022	0.345281	9.236554	11.921877	
26.6	2.05444	93.920571	-24.747357	97.126234	-14.761512	0.345216	9.238192	11.91738	
26.620001	2.052466	93.77681	-24.780772	96.995756	-14.802236	0.344792	9.248855	11.888155	
26.639999	2.050986	93.702922	-24.764265	96.920103	-14.803961	0.344474	9.256867	11.866244	
26.66	2.050719	93.669692	-24.785552	96.89342	-14.821152	0.344417	9.258315	11.862289	
26.68	2.050039	93.565555	-24.863235	96.812672	-14.881362	0.344271	9.262002	11.852223	
26.700001	2.050756	93.599735	-24.873286	96.848288	-14.881915	0.344425	9.25811	11.862848	
26.719999	2.045697	93.403027	-24.748777	96.626225	-14.840519	0.343336	9.285619	11.787944	
26.74	2.045916	93.323183	-24.861051	96.577888	-14.917038	0.343383	9.284423	11.791193	
26.76	2.0488	93.27258	-25.12655	96.59771	-15.076935	0.344004	9.268723	11.833894	
26.780001	2.044666	93.145601	-24.984996	96.438338	-15.015353	0.343114	9.291244	11.772688	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
26.799999	2.043383	93.035801	-25.024821	96.342628	-15.055146	0.342837	9.298258	11.753688	
26.82	2.043838	93.131219	-24.943419	96.413682	-14.993703	0.342935	9.295768	11.76043	
26.84	2.04305	93.117877	-24.9034	96.390448	-14.972777	0.342765	9.300078	11.748764	
26.860001	2.041094	93.007375	-24.896588	96.281939	-14.98585	0.342342	9.310796	11.719806	
26.879999	2.041868	93.17075	-24.755547	96.403453	-14.879767	0.342509	9.306554	11.731258	
26.9	2.039611	93.003216	-24.79608	96.251981	-14.928695	0.342021	9.318944	11.697838	
26.92	2.041496	93.140915	-24.764945	96.377034	-14.889721	0.342429	9.308593	11.725751	
26.940001	2.041294	93.136009	-24.756413	96.3701	-14.885569	0.342385	9.309702	11.722757	
26.959999	2.041077	93.034974	-24.862324	96.299749	-14.961911	0.342338	9.310894	11.719542	
26.98	2.039779	92.94102	-24.88244	96.214183	-14.987929	0.342057	9.318021	11.700324	
27	2.038404	92.783552	-24.972351	96.085409	-15.064002	0.34176	9.325583	11.67997	
27.02	2.040446	92.772191	-25.129361	96.115369	-15.156143	0.342202	9.314354	11.710208	
27.040001	2.040549	92.672312	-25.253363	96.051495	-15.243115	0.342224	9.313788	11.711734	
27.059999	2.037369	92.601096	-25.114394	95.946317	-15.174229	0.341535	9.331286	11.664642	
27.08	2.0384	92.660566	-25.116934	96.004379	-15.166401	0.341759	9.325604	11.679913	
27.1	2.037898	92.616311	-25.133565	95.966021	-15.182898	0.34165	9.328373	11.672469	
27.120001	2.037136	92.509147	-25.205418	95.881465	-15.241108	0.341485	9.332569	11.661196	
27.139999	2.036371	92.504679	-25.157246	95.864501	-15.214031	0.341319	9.336794	11.649856	
27.16	2.039186	92.453746	-25.411649	95.882465	-15.368712	0.341929	9.32128	11.691548	
27.18	2.035844	92.367933	-25.279264	95.764692	-15.305946	0.341205	9.339703	11.642058	
27.200001	2.037604	92.418052	-25.343339	95.829959	-15.334987	0.341586	9.329991	11.66812	
27.219999	2.037289	92.372313	-25.374184	95.794016	-15.360014	0.341518	9.331729	11.663451	
27.24	2.037434	92.367084	-25.390252	95.793231	-15.37011	0.34155	9.330926	11.665609	
27.26	2.038754	92.360331	-25.48893	95.812923	-15.428079	0.341835	9.323658	11.685149	
27.280001	2.035839	92.215295	-25.454128	95.663856	-15.431095	0.341204	9.339729	11.641986	
27.299999	2.036229	92.214277	-25.482089	95.670318	-15.447399	0.341288	9.337574	11.647765	
27.32	2.039868	92.302826	-25.630809	95.795355	-15.519029	0.342077	9.31753	11.701648	
27.34	2.03753	92.184479	-25.605038	95.674428	-15.523122	0.34157	9.330396	11.667033	
27.360001	2.03575	92.098205	-25.581043	95.584879	-15.523103	0.341184	9.340219	11.640674	
27.379999	2.034351	91.963048	-25.638036	95.469948	-15.577768	0.34088	9.347958	11.619949	
27.4	2.036361	91.945064	-25.794494	95.494768	-15.671091	0.341317	9.336845	11.649719	
27.42	2.033848	91.745104	-25.847116	95.316513	-15.734014	0.340771	9.35074	11.612507	
27.440001	2.034048	91.684036	-25.927927	95.279693	-15.790747	0.340815	9.349635	11.615463	
27.459999	2.03362	91.616032	-25.973966	95.226804	-15.828536	0.340722	9.352007	11.609119	
27.48	2.030958	91.468408	-25.957811	95.080374	-15.843434	0.340143	9.36678	11.569696	
27.5	2.031744	91.494095	-25.982172	95.111738	-15.853328	0.340314	9.362413	11.581337	
27.52	2.032109	91.495044	-26.005466	95.119017	-15.866669	0.340393	9.360387	11.58674	
27.540001	2.033046	91.552978	-26.004714	95.174539	-15.856698	0.340597	9.355185	11.600629	
27.559999	2.03488	91.542301	-26.138401	95.200887	-15.935851	0.340995	9.345031	11.627783	
27.58	2.0316	91.424535	-26.048461	95.062969	-15.903214	0.340282	9.363209	11.579214	



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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
27.6	2.029802	91.250369	-26.117912	94.914568	-15.972343	0.339891	9.373209	11.552583
27.620001	2.030586	91.205365	-26.218053	94.898919	-16.037946	0.340062	9.36885	11.564185
27.639999	2.029144	91.076318	-26.261328	94.786882	-16.084638	0.339747	9.376876	11.542832
27.66	2.030104	90.99035	-26.415456	94.747138	-16.188597	0.339957	9.37153	11.557051
27.68	2.028692	90.927251	-26.390065	94.679462	-16.184487	0.339649	9.379395	11.536139
27.700001	2.029228	90.882318	-26.472295	94.659274	-16.239868	0.339766	9.37641	11.544072
27.719999	2.029373	90.825244	-26.541624	94.623901	-16.289837	0.339797	9.375597	11.546233
27.74	2.027464	90.670405	-26.579707	94.485994	-16.33834	0.339381	9.386248	11.517949
27.76	2.027585	90.613386	-26.646715	94.450162	-16.387078	0.339408	9.38557	11.519748
27.780001	2.025286	90.577813	-26.535467	94.384698	-16.328381	0.338905	9.39843	11.485688
27.799999	2.024728	90.493103	-26.587469	94.318054	-16.373164	0.338784	9.401552	11.477434
27.82	2.022736	90.352926	-26.604263	94.188312	-16.407003	0.338348	9.412736	11.447916
27.84	2.022464	90.284934	-26.656773	94.137946	-16.44935	0.338288	9.414265	11.443886
27.860001	2.022895	90.224879	-26.745792	94.105611	-16.511684	0.338383	9.41184	11.450278
27.879999	2.02119	90.109301	-26.755016	93.997431	-16.537097	0.338009	9.421428	11.425026
27.9	2.019277	90.065814	-26.677521	93.933705	-16.499334	0.33759	9.432215	11.396683
27.92	2.020742	89.866805	-26.971245	93.826919	-16.705827	0.337911	9.423953	11.418387
27.940001	2.020782	89.903878	-26.936649	93.852492	-16.679092	0.33792	9.423726	11.418983
27.959999	2.016951	89.774517	-26.824922	93.696533	-16.636348	0.337079	9.445365	11.362227
27.98	2.015702	89.651268	-26.869796	93.591323	-16.684271	0.336805	9.45244	11.343733
28	2.01337	89.483939	-26.89015	93.436907	-16.725685	0.336291	9.46569	11.309176
28.02	2.01448	89.467174	-26.976271	93.445677	-16.779214	0.336536	9.459377	11.325627
28.040001	2.011958	89.359901	-26.924829	93.328122	-16.76799	0.33598	9.473728	11.288264
28.059999	2.010779	89.21346	-26.99567	93.20841	-16.835654	0.33572	9.480454	11.270796
28.08	2.008985	89.108901	-26.986792	93.105763	-16.849061	0.335324	9.490703	11.244228
28.1	2.009053	89.038399	-27.059879	93.059517	-16.90471	0.335339	9.490316	11.245232
28.120001	2.006923	88.981914	-26.98307	92.983155	-16.869547	0.334868	9.50252	11.213676
28.139999	2.008954	88.921786	-27.166923	92.979168	-16.988718	0.335317	9.490883	11.243763
28.16	2.008236	88.792509	-27.247291	92.879086	-17.059434	0.335159	9.494994	11.233124
28.18	2.0089	88.827823	-27.254119	92.914849	-17.057071	0.335305	9.491191	11.242967
28.200001	2.006529	88.625827	-27.302266	92.735921	-17.122116	0.334781	9.504782	11.207837
28.219999	2.004652	88.491137	-27.315925	92.611236	-17.154725	0.334365	9.515571	11.180028
28.24	2.001748	88.256682	-27.361098	92.400604	-17.22437	0.333722	9.532316	11.137005
28.26	2.000481	88.209273	-27.328999	92.345818	-17.214058	0.33344	9.539641	11.118236
28.280001	1.998564	88.061534	-27.351708	92.21144	-17.254703	0.333014	9.55075	11.089832
28.299999	1.995178	87.846214	-27.348606	92.004911	-17.292632	0.33226	9.57044	11.039669
28.32	1.994282	87.742858	-27.390718	91.918771	-17.336846	0.33206	9.575663	11.026398
28.34	1.991898	87.527392	-27.446702	91.729852	-17.41033	0.331528	9.589598	10.991077
28.360001	1.989641	87.390186	-27.437899	91.596304	-17.430756	0.331023	9.60283	10.95764
28.379999	1.987509	87.330963	-27.365172	91.518029	-17.398422	0.330546	9.615362	10.926065

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
28.4	1.99109	87.306501	-27.599979	91.56519	-17.543205	0.331347	9.594329	10.979108
28.42	1.990446	87.146887	-27.705725	91.444995	-17.636524	0.331203	9.598105	10.969567
28.440001	1.989142	87.074574	-27.693852	91.372484	-17.643168	0.330912	9.605759	10.95025
28.459999	1.986587	86.953509	-27.652059	91.244447	-17.6412	0.330339	9.620798	10.912397
28.48	1.985398	86.861303	-27.664585	91.160382	-17.666265	0.330072	9.627813	10.894785
28.5	1.985889	86.944428	-27.619189	91.225836	-17.623254	0.330183	9.624916	10.902057
28.52	1.984846	86.814289	-27.674094	91.118474	-17.680934	0.329949	9.631074	10.886608
28.540001	1.985585	86.744874	-27.778762	91.084207	-17.756926	0.330115	9.626705	10.897565
28.559999	1.985795	86.740984	-27.794404	91.085274	-17.767043	0.330162	9.625468	10.900671
28.58	1.984634	86.618103	-27.834924	90.980651	-17.814957	0.329901	9.632328	10.883466
28.6	1.986104	86.562991	-27.968181	90.969063	-17.905484	0.330231	9.623645	10.905246
28.620001	1.985503	86.490986	-27.996009	90.909115	-17.936125	0.330096	9.627193	10.896342
28.639999	1.982303	86.283883	-27.990842	90.710505	-17.973305	0.329377	9.646124	10.848948
28.66	1.986597	86.369653	-28.16339	90.845438	-18.060127	0.330342	9.620737	10.912551
28.68	1.984389	86.19588	-28.185607	90.687144	-18.107509	0.329846	9.633772	10.879848
28.700001	1.983853	86.039425	-28.287603	90.570255	-18.199599	0.329726	9.636945	10.871902
28.719999	1.98323	86.052481	-28.241212	90.568181	-18.169139	0.329586	9.640634	10.86267
28.74	1.981591	85.876802	-28.296211	90.418476	-18.236966	0.329217	9.650348	10.8384
28.76	1.978394	85.725358	-28.242344	90.257781	-18.234575	0.328497	9.669365	10.791045
28.780001	1.977598	85.55143	-28.342254	90.123973	-18.329502	0.328318	9.674115	10.779248
28.799999	1.978186	85.574768	-28.355933	90.150429	-18.33309	0.32845	9.67061	10.787953
28.82	1.977944	85.422084	-28.468204	90.040941	-18.431465	0.328396	9.67205	10.784376
28.84	1.97627	85.344265	-28.438508	89.957726	-18.429192	0.328018	9.682046	10.759582
28.860001	1.977428	85.236735	-28.590523	89.903944	-18.542768	0.328279	9.675127	10.776736
28.879999	1.975769	85.195515	-28.531871	89.846221	-18.515666	0.327905	9.685041	10.752164
28.9	1.975401	85.133157	-28.561927	89.796648	-18.546486	0.327822	9.687247	10.746705
28.92	1.975654	85.081946	-28.617227	89.765713	-18.590347	0.327879	9.685735	10.750447
28.940001	1.973181	84.885066	-28.638702	89.58599	-18.643507	0.32732	9.700555	10.713823
28.959999	1.973667	84.836189	-28.70442	89.560721	-18.693339	0.32743	9.697635	10.721029
28.98	1.97232	84.64332	-28.783223	89.403386	-18.780793	0.327125	9.705728	10.701069
29	1.970179	84.523403	-28.760652	89.282589	-18.791855	0.32664	9.718615	10.669363
29.02	1.970731	84.505465	-28.804808	89.279844	-18.82239	0.326765	9.715288	10.67754
29.040001	1.969207	84.355813	-28.838752	89.149182	-18.874071	0.32642	9.724476	10.654973
29.059999	1.965954	84.229985	-28.760053	89.004668	-18.852336	0.325681	9.744158	10.606795
29.08	1.969135	84.154346	-28.990425	89.007858	-19.008408	0.326403	9.724913	10.653901
29.1	1.965509	84.006611	-28.90842	88.841474	-18.989438	0.32558	9.746857	10.600206
29.120001	1.966737	84.044974	-28.945119	88.889694	-19.003759	0.325859	9.739415	10.618385
29.139999	1.965753	83.818179	-29.064868	88.71445	-19.12458	0.325635	9.745377	10.603819
29.16	1.963741	83.718457	-29.032648	88.609676	-19.126022	0.325177	9.757598	10.574021
29.18	1.963883	83.549274	-29.167022	88.494047	-19.244111	0.32521	9.756732	10.576131

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
29.200001	1.96301	83.485363	-29.168261	88.434119	-19.258516	0.325011	9.762046	10.563197	
29.219999	1.962547	83.458681	-29.163577	88.407384	-19.261354	0.324905	9.764863	10.556348	
29.24	1.963194	83.372628	-29.261394	88.358498	-19.33964	0.325053	9.760927	10.565919	
29.26	1.958409	83.268335	-29.085652	88.201988	-19.254356	0.323961	9.790147	10.49507	
29.280001	1.955202	83.057944	-29.07157	87.99874	-19.290873	0.323227	9.809838	10.447593	
29.299999	1.9542	83.021781	-29.045305	87.955931	-19.282506	0.322998	9.816011	10.432752	
29.32	1.954921	82.975835	-29.117022	87.936285	-19.336499	0.323163	9.811568	10.44343	
29.34	1.955419	82.892128	-29.204219	87.88624	-19.408208	0.323277	9.808503	10.450803	
29.360001	1.95044	82.722966	-29.066187	87.680855	-19.359867	0.322135	9.839242	10.377096	
29.379999	1.950903	82.614624	-29.168853	87.612773	-19.446699	0.322241	9.836376	10.383945	
29.4	1.950313	82.450295	-29.255994	87.486938	-19.536342	0.322106	9.84003	10.375213	
29.42	1.948085	82.324559	-29.229931	87.359727	-19.547809	0.321593	9.853857	10.342233	
29.440001	1.948091	82.262028	-29.274653	87.315786	-19.589193	0.321595	9.853815	10.342332	
29.459999	1.948509	82.216773	-29.328212	87.291132	-19.632272	0.321691	9.85122	10.348515	
29.48	1.945368	82.033139	-29.295358	87.107141	-19.652501	0.320968	9.870774	10.302025	
29.5	1.943274	81.912898	-29.271798	86.985982	-19.664522	0.320485	9.883856	10.27104	
29.52	1.940939	81.823388	-29.214285	86.882341	-19.64867	0.319945	9.898489	10.236491	
29.540001	1.939088	81.619583	-29.261033	86.706196	-19.723048	0.319517	9.910126	10.209098	
29.559999	1.937813	81.637383	-29.183342	86.696769	-19.670746	0.319221	9.918158	10.190234	
29.58	1.93696	81.482482	-29.246912	86.572378	-19.744872	0.319024	9.923537	10.177622	
29.6	1.934178	81.338095	-29.204178	86.422044	-19.750545	0.318378	9.941138	10.136457	
29.620001	1.932889	81.212606	-29.224478	86.310819	-19.791378	0.318079	9.949311	10.1174	
29.639999	1.932034	81.142831	-29.228561	86.246553	-19.809626	0.31788	9.954746	10.104747	
29.66	1.928566	80.877966	-29.2322	85.998645	-19.87171	0.317072	9.976845	10.05346	
29.68	1.930431	80.860544	-29.33809	86.018319	-19.941987	0.317507	9.964944	10.081045	
29.700001	1.930421	80.735158	-29.421186	85.928877	-20.022587	0.317504	9.965007	10.0809	
29.719999	1.927271	80.631072	-29.33212	85.800601	-19.990503	0.31677	9.985123	10.034314	
29.74	1.925103	80.471154	-29.329262	85.649356	-20.025279	0.316263	9.999019	10.002259	
29.76	1.923531	80.482634	-29.242832	85.630588	-19.968313	0.315896	10.009122	9.979017	
29.780001	1.922137	80.352272	-29.259138	85.513653	-20.008411	0.315569	10.018102	9.958406	
29.799999	1.918745	80.190552	-29.195837	85.340035	-20.005627	0.314774	10.040026	9.908261	
29.82	1.917122	80.044255	-29.210645	85.207656	-20.048638	0.314393	10.050551	9.884277	
29.84	1.917576	79.958368	-29.289114	85.153936	-20.118047	0.314499	10.047605	9.890985	
29.860001	1.916451	79.736746	-29.376065	84.975889	-20.224496	0.314235	10.054908	9.874366	
29.879999	1.916741	79.721246	-29.400253	84.969712	-20.243413	0.314303	10.053027	9.878644	
29.9	1.917354	79.62566	-29.491197	84.91158	-20.323307	0.314447	10.049041	9.887714	
29.92	1.912432	79.418625	-29.380203	84.67889	-20.301534	0.313289	10.081104	9.814983	
29.940001	1.91228	79.400309	-29.384292	84.663131	-20.308431	0.313253	10.082098	9.812738	
29.959999	1.909731	79.346887	-29.292781	84.581295	-20.262854	0.312651	10.0988	9.775073	
29.98	1.908881	79.172967	-29.360435	84.441659	-20.346788	0.31245	10.10438	9.762522	

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
30	1.907892	79.022467	-29.405821	84.316384	-20.411264	0.312216	10.110883	9.747914
30.02	1.906436	78.930627	-29.391755	84.225406	-20.424085	0.311872	10.120472	9.726415
30.040001	1.904224	78.714923	-29.41691	84.0321	-20.491482	0.311348	10.135079	9.693756
30.059999	1.906632	78.705067	-29.539371	84.065819	-20.572017	0.311918	10.119179	9.729311
30.08	1.902883	78.627001	-29.405635	83.945796	-20.505281	0.31103	10.143959	9.673955
30.1	1.898616	78.443523	-29.310903	83.740763	-20.488546	0.310016	10.172329	9.610968
30.120001	1.898685	78.397922	-29.3419	83.708908	-20.519345	0.310032	10.171868	9.611988
30.139999	1.896478	78.29845	-29.295553	83.599502	-20.513493	0.309506	10.186612	9.579412
30.16	1.895159	78.148305	-29.322407	83.468324	-20.566875	0.309192	10.195444	9.55995
30.18	1.892696	78.067063	-29.252687	83.367776	-20.541627	0.308604	10.211982	9.523613
30.200001	1.890063	77.88752	-29.233515	83.192934	-20.572651	0.307974	10.22973	9.484774
30.219999	1.890077	77.781319	-29.297138	83.115918	-20.639438	0.307977	10.22964	9.484971
30.24	1.88594	77.63968	-29.183042	82.943173	-20.600169	0.306985	10.257661	9.42397
30.26	1.884395	77.441515	-29.225718	82.772767	-20.676083	0.306614	10.26817	9.401193
30.280001	1.884662	77.201029	-29.37741	82.601642	-20.833425	0.306678	10.266354	9.405126
30.299999	1.881949	77.147444	-29.279994	82.516945	-20.783438	0.306025	10.284857	9.36514
30.32	1.880983	77.133103	-29.24258	82.490267	-20.762677	0.305793	10.291461	9.350911
30.34	1.878141	77.048882	-29.156554	82.381034	-20.727496	0.305107	10.310954	9.309034
30.360001	1.876059	76.874214	-29.158256	82.218299	-20.771686	0.304604	10.325292	9.278352
30.379999	1.874402	76.786577	-29.130109	82.126376	-20.775009	0.304203	10.336726	9.253956
30.4	1.870576	76.58893	-29.062147	81.917475	-20.779598	0.303276	10.363247	9.197617
30.42	1.868832	76.488092	-29.037154	81.81433	-20.788287	0.302852	10.375385	9.171947
30.440001	1.868341	76.366728	-29.082323	81.716943	-20.848097	0.302733	10.378809	9.164717
30.459999	1.865564	76.176191	-29.058658	81.530471	-20.880209	0.302057	10.398219	9.12385
30.48	1.862801	76.013008	-29.020107	81.364267	-20.895802	0.301384	10.417609	9.083206
30.5	1.860626	75.837454	-29.015376	81.198593	-20.936865	0.300852	10.432934	9.051208
30.52	1.857938	75.647251	-28.994358	81.013452	-20.971051	0.300195	10.45194	9.011685
30.540001	1.854652	75.546527	-28.896787	80.884498	-20.932048	0.299389	10.475278	8.963387
30.559999	1.855476	75.547095	-28.934672	80.898571	-20.956965	0.299591	10.469413	8.975501
30.58	1.851903	75.422728	-28.836572	80.747358	-20.923524	0.298714	10.494893	8.922996
30.6	1.849659	75.337507	-28.778783	80.647122	-20.906798	0.298162	10.510967	8.890032
30.620001	1.847809	75.183553	-28.776262	80.502422	-20.944223	0.297706	10.524256	8.862871
30.639999	1.847093	75.033388	-28.823497	80.379123	-21.01393	0.297529	10.529411	8.852356
30.66	1.842102	74.843308	-28.694858	80.155571	-20.976817	0.296296	10.565498	8.779104
30.68	1.838017	74.659611	-28.604324	79.951641	-20.963364	0.295283	10.595242	8.719184
30.700001	1.836543	74.463746	-28.639558	79.781412	-21.037317	0.294916	10.606022	8.697567
30.719999	1.831498	74.250553	-28.519932	79.539494	-21.012018	0.29366	10.643101	8.623625
30.74	1.829956	74.125455	-28.514315	79.42071	-21.040594	0.293275	10.654496	8.601029
30.76	1.829516	74.089865	-28.512632	79.38689	-21.048683	0.293165	10.657748	8.59459
30.780001	1.825009	73.971269	-28.368342	79.224437	-20.982099	0.292038	10.691224	8.528598

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
30.799999	1.823802	73.899907	-28.350128	79.151285	-20.988286	0.291735	10.700225	8.51094
30.82	1.8203	73.7885	-28.247817	79.010645	-20.947952	0.290855	10.726455	8.459692
30.84	1.81555	73.539093	-28.159444	78.746127	-20.952781	0.289659	10.76225	8.390251
30.860001	1.81253	73.389764	-28.098256	78.584791	-20.950052	0.288897	10.785154	8.346119
30.879999	1.808982	73.339572	-27.962487	78.489448	-20.870595	0.287998	10.812202	8.294302
30.9	1.805139	73.034287	-27.942787	78.197227	-20.936798	0.287023	10.841671	8.238211
30.92	1.799314	72.775614	-27.808909	77.9078	-20.912819	0.285539	10.886681	8.15327
30.940001	1.797464	72.770656	-27.727663	77.874204	-20.858281	0.285067	10.901066	8.126311
30.959999	1.797237	72.695222	-27.755142	77.813516	-20.896966	0.285009	10.902837	8.122998
30.98	1.796873	72.661974	-27.755279	77.782504	-20.905796	0.284916	10.905672	8.117697
31	1.792661	72.535493	-27.627939	77.618946	-20.851301	0.283837	10.938615	8.056353
31.02	1.789385	72.281359	-27.606006	77.373681	-20.903108	0.282996	10.964388	8.008684
31.040001	1.786879	72.14005	-27.562573	77.226176	-20.91041	0.282351	10.984202	7.97223
31.059999	1.782136	72.014916	-27.410512	77.055074	-20.837997	0.281128	11.021924	7.903284
31.08	1.775991	71.6763	-27.299358	76.699067	-20.850377	0.279537	11.071228	7.814067
31.1	1.771351	71.570162	-27.142581	76.544156	-20.768987	0.27833	11.10879	7.746776
31.120001	1.769708	71.487831	-27.10872	76.455168	-20.767138	0.277902	11.12216	7.722964
31.139999	1.767163	71.343101	-27.064444	76.304143	-20.774586	0.277238	11.14294	7.686099
31.16	1.766049	71.261215	-27.053876	76.223834	-20.78899	0.276947	11.152063	7.66997
31.18	1.760482	71.094719	-26.884436	76.008105	-20.714125	0.275489	11.19792	7.58941
31.200001	1.758602	70.99431	-26.848292	75.901402	-20.715415	0.274995	11.213505	7.562223
31.219999	1.756077	70.902153	-26.779343	75.79082	-20.691304	0.274331	11.234503	7.525749
31.24	1.750843	70.670268	-26.655569	75.530167	-20.66562	0.27295	11.278331	7.450182
31.26	1.745303	70.435947	-26.518903	75.262705	-20.631228	0.271483	11.325149	7.370299
31.280001	1.739852	70.161942	-26.404378	74.965921	-20.6231	0.270034	11.371644	7.291814
31.299999	1.735381	69.969215	-26.295114	74.747068	-20.596747	0.26884	11.410106	7.227521
31.32	1.734224	70.03941	-26.210914	74.783227	-20.517439	0.268531	11.420111	7.21089
31.34	1.728336	69.815404	-26.053054	74.518134	-20.46413	0.266952	11.471323	7.126359
31.360001	1.726803	69.793824	-25.994762	74.47755	-20.42792	0.26654	11.484744	7.10437
31.379999	1.724326	69.667739	-25.943098	74.341362	-20.424523	0.265873	11.506502	7.068866
31.4	1.720003	69.511154	-25.823213	74.152807	-20.379937	0.264707	11.544703	7.006961
31.42	1.715054	69.453063	-25.629416	74.03104	-20.254994	0.263366	11.588791	6.936188
31.440001	1.709553	69.243537	-25.481416	73.783263	-20.203501	0.261871	11.638253	6.857641
31.459999	1.704629	69.083316	-25.335964	73.582713	-20.140297	0.260527	11.682945	6.787433
31.48	1.696995	68.979541	-25.042415	73.384601	-19.953018	0.258434	11.753009	6.678811
31.5	1.69355	68.840904	-24.952957	73.223767	-19.924239	0.257486	11.784943	6.629881
31.52	1.689425	68.713513	-24.827529	73.061297	-19.865808	0.256347	11.823446	6.571363
31.540001	1.686387	68.728325	-24.683686	73.026482	-19.755718	0.255506	11.851988	6.528316
31.559999	1.68222	68.559227	-24.575955	72.830936	-19.720919	0.254349	11.891401	6.469339
31.58	1.680091	68.50052	-24.507738	72.752666	-19.685948	0.253757	11.911652	6.439243

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
31.6	1.675256	68.451637	-24.312446	72.641047	-19.553901	0.252408	11.957935	6.370984	
31.620001	1.671118	68.400127	-24.152247	72.539013	-19.448281	0.251267	11.997282	6.313523	
31.639999	1.667645	68.270832	-24.053943	72.384382	-19.408984	0.250275	12.03165	6.263758	
31.66	1.660888	68.213956	-23.773545	72.237976	-19.214215	0.248371	12.097977	6.168823	
31.68	1.658267	68.129815	-23.694884	72.13265	-19.177209	0.24763	12.123928	6.132072	
31.700001	1.650225	67.921728	-23.428614	71.848876	-19.031164	0.245347	12.204378	6.019525	
31.719999	1.641811	67.836668	-23.083456	71.656538	-18.792441	0.242944	12.28989	5.90216	
31.74	1.636571	67.737122	-22.890977	71.500451	-18.67212	0.241439	12.343848	5.829284	
31.76	1.631651	67.645842	-22.708717	71.355769	-18.55694	0.240021	12.395026	5.760994	
31.780001	1.628924	67.597445	-22.606458	71.277391	-18.491395	0.239233	12.423595	5.723221	
31.799999	1.626462	67.536815	-22.522631	71.19333	-18.44289	0.238519	12.449532	5.689143	
31.82	1.623519	67.608351	-22.348109	71.20623	-18.291464	0.237665	12.480688	5.648474	
31.84	1.620271	67.431378	-22.287459	71.019164	-18.289816	0.23672	12.5153	5.603637	
31.860001	1.615719	67.406169	-22.086881	70.932517	-18.142374	0.235392	12.564166	5.540939	
31.879999	1.610444	67.406675	-21.837396	70.85571	-17.950535	0.233847	12.621371	5.468433	
31.9	1.604687	67.268325	-21.637867	70.662754	-17.831198	0.232153	12.684502	5.389516	
31.92	1.601875	67.205182	-21.537926	70.572082	-17.769654	0.231324	12.715602	5.351059	
31.940001	1.597509	67.240852	-21.309941	70.536839	-17.584458	0.230031	12.764256	5.291446	
31.959999	1.587517	67.04755	-20.935476	70.240075	-17.34091	0.227058	12.877252	5.155548	
31.98	1.583911	67.105241	-20.728313	70.233727	-17.165562	0.22598	12.918619	5.106674	
32	1.577081	67.041886	-20.430764	70.08588	-16.948433	0.223928	12.997821	5.014388	
32.02	1.574779	67.104493	-20.281123	70.102332	-16.816525	0.223234	13.024785	4.983351	
32.040001	1.571789	66.95732	-20.219504	69.943627	-16.803085	0.222331	13.059988	4.94312	
32.060001	1.569987	67.052543	-20.07453	69.993073	-16.666944	0.221786	13.081318	4.918902	
32.080002	1.566282	66.973907	-19.937079	69.878404	-16.57747	0.220662	13.125432	4.86919	
32.099998	1.563411	66.953502	-19.806149	69.821594	-16.479271	0.219789	13.159863	4.830741	
32.119999	1.558239	66.934208	-19.558602	69.733257	-16.288728	0.218212	13.222414	4.761662	
32.139999	1.556558	66.954181	-19.461577	69.725284	-16.207596	0.217698	13.242909	4.739245	
32.16	1.552884	66.968386	-19.266586	69.684761	-16.050382	0.216572	13.287936	4.690362	
32.18	1.548198	66.981483	-19.018887	69.629284	-15.851523	0.215132	13.345919	4.628157	
32.200001	1.543787	66.993164	-18.784094	69.576765	-15.662898	0.213771	13.401036	4.569791	
32.220001	1.539378	67.10781	-18.478652	69.60545	-15.39533	0.212405	13.456689	4.511606	
32.240002	1.535109	67.120464	-18.245094	69.556022	-15.207076	0.211079	13.51109	4.455444	
32.259998	1.53159	67.1871	-18.011819	69.559558	-15.007259	0.209983	13.556331	4.409272	
32.279999	1.531055	67.258929	-17.932685	69.60851	-14.929034	0.209816	13.563248	4.402255	
32.299999	1.529424	67.261243	-17.843217	69.587752	-14.857365	0.209306	13.584363	4.380904	
32.32	1.52933	67.352146	-17.773168	69.657714	-14.782502	0.209277	13.585584	4.379672	
32.34	1.526578	67.327269	-17.641571	69.600188	-14.68298	0.208416	13.621399	4.343703	
32.360001	1.522774	67.347962	-17.418262	69.563955	-14.500739	0.207222	13.671289	4.29409	
32.380001	1.521642	67.422329	-17.300546	69.606604	-14.391601	0.206866	13.686214	4.279357	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
32.400002	1.518508	67.46211	-17.096177	69.594652	-14.220488	0.205879	13.727764	4.238612	
32.419998	1.517139	67.554002	-16.948702	69.647697	-14.084315	0.205447	13.746002	4.220849	
32.439999	1.515008	67.622657	-16.774348	69.672107	-13.931502	0.204774	13.774507	4.193236	
32.459999	1.511612	67.686968	-16.52866	69.675837	-13.722678	0.203699	13.820234	4.149317	
32.48	1.508886	67.848163	-16.237922	69.764198	-13.459311	0.202833	13.857211	4.114138	
32.5	1.509274	68.062684	-16.079419	69.936233	-13.292116	0.202957	13.851936	4.119138	
32.52	1.508593	68.113373	-15.995298	69.966286	-13.21553	0.20274	13.861196	4.110365	
32.540001	1.508266	68.189492	-15.909563	70.020861	-13.132995	0.202636	13.865648	4.106153	
32.560001	1.507351	68.23207	-15.817032	70.041373	-13.051367	0.202345	13.878137	4.094363	
32.580002	1.506553	68.126535	-15.861716	69.948687	-13.106544	0.202091	13.889039	4.084097	
32.599998	1.506355	68.276805	-15.717014	70.062448	-12.963426	0.202028	13.891754	4.081545	
32.619999	1.506443	68.389819	-15.620846	70.15111	-12.866176	0.202056	13.89055	4.082677	
32.639999	1.50674	68.450363	-15.584148	70.201979	-12.825974	0.202151	13.886478	4.086507	
32.66	1.504867	68.514616	-15.409425	70.226085	-12.67534	0.201554	13.912157	4.062415	
32.68	1.504391	68.622202	-15.279239	70.302644	-12.552586	0.201403	13.918694	4.056305	
32.700001	1.50201	68.723744	-15.031962	70.34851	-12.338029	0.200643	13.951538	4.025745	
32.720001	1.503347	68.922338	-14.923699	70.51954	-12.217621	0.20107	13.933074	4.042896	
32.740002	1.504538	69.120229	-14.803782	70.68775	-12.088679	0.201449	13.916681	4.058186	
32.759998	1.504676	69.160648	-14.77207	70.720642	-12.056699	0.201494	13.914777	4.059966	
32.779999	1.502989	69.196332	-14.625044	70.724991	-11.934179	0.200955	13.938004	4.038309	
32.799999	1.503809	69.262714	-14.610965	70.787032	-11.911919	0.201217	13.926706	4.048829	
32.82	1.504761	69.306008	-14.629289	70.833176	-11.919193	0.20152	13.913617	4.06105	
32.84	1.499404	69.229934	-14.352006	70.701937	-11.712063	0.199809	13.987688	3.992374	
32.860001	1.501836	69.342032	-14.397099	70.820857	-11.729376	0.200587	13.953937	4.023521	
32.880001	1.502859	69.496088	-14.302572	70.952589	-11.629347	0.200914	13.939807	4.036633	
32.900002	1.502056	69.574524	-14.163467	71.001536	-11.506639	0.200657	13.950896	4.02634	
32.919998	1.502695	69.66748	-14.105842	71.081168	-11.446176	0.200861	13.942072	4.034529	
32.939999	1.505292	69.918904	-14.007222	71.308172	-11.328421	0.20169	13.906315	4.067883	
32.959999	1.504639	70.044599	-13.819077	71.394767	-11.160557	0.201482	13.91529	4.059486	
32.98	1.506594	70.293479	-13.670215	71.61039	-11.005162	0.202105	13.888475	4.084628	
33	1.50828	70.307374	-13.774846	71.644073	-11.085178	0.202641	13.865464	4.106327	
33.02	1.509515	70.361845	-13.799795	71.702326	-11.096373	0.203033	13.848659	4.122247	
33.040001	1.506916	70.313184	-13.670233	71.629736	-11.002166	0.202207	13.884076	4.088767	
33.060001	1.507609	70.440868	-13.569313	71.735919	-10.903579	0.202427	13.874613	4.097686	
33.080002	1.508071	70.517294	-13.511528	71.800071	-10.846764	0.202574	13.868313	4.103635	
33.099998	1.510711	70.675833	-13.513771	71.956204	-10.824762	0.203413	13.832434	4.137677	
33.119999	1.512018	70.858599	-13.387	72.112085	-10.698558	0.203827	13.814756	4.154554	
33.139999	1.512635	70.929969	-13.344657	72.174375	-10.65501	0.204023	13.806426	4.162531	
33.16	1.516896	71.190654	-13.338749	72.429493	-10.612288	0.205371	13.749237	4.217706	
33.18	1.51949	71.378429	-13.297478	72.606494	-10.552989	0.206189	13.71471	4.251371	

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
33.200001	1.519519	71.492522	-13.15311	72.6924	-10.424653	0.206198	13.71432	4.251753
33.220001	1.521013	71.548211	-13.195979	72.754934	-10.449921	0.206668	13.694528	4.271173
33.240002	1.521483	71.613877	-13.146864	72.810627	-10.40254	0.206816	13.688324	4.27728
33.259998	1.518823	71.555689	-13.016667	72.729982	-10.309935	0.205978	13.723573	4.242704
33.279999	1.5213	71.692234	-13.029794	72.866673	-10.300875	0.206758	13.690734	4.274906
33.299999	1.524185	71.813813	-13.094379	72.997853	-10.333686	0.207665	13.652735	4.312474
33.32	1.523636	71.899668	-12.936812	73.05425	-10.200033	0.207493	13.65994	4.305326
33.34	1.525893	71.970432	-13.020042	73.138666	-10.254387	0.208201	13.630349	4.33476
33.360001	1.528946	72.192507	-12.962344	73.346986	-10.179153	0.209157	13.590567	4.37465
33.380001	1.534326	72.441526	-13.05247	73.608027	-10.213947	0.210836	13.521121	4.445165
33.400002	1.533764	72.483694	-12.949611	73.631368	-10.129358	0.21066	13.528342	4.43778
33.419998	1.536834	72.603266	-13.031829	73.76356	-10.17589	0.211616	13.489044	4.478118
33.439999	1.533606	72.521609	-12.8845	73.657274	-10.074313	0.210611	13.530363	4.435716
33.459999	1.53399	72.545866	-12.881852	73.680695	-10.068985	0.210731	13.525437	4.44075
33.48	1.534413	72.551879	-12.907726	73.691143	-10.087975	0.210863	13.520009	4.446303
33.5	1.538775	72.834737	-12.867034	73.962554	-10.018559	0.212218	13.464341	4.503663
33.52	1.540555	72.926564	-12.883233	74.0558	-10.018542	0.21277	13.441776	4.527124
33.540001	1.543324	72.966501	-13.052879	74.124813	-10.142303	0.213628	13.406853	4.563675
33.560001	1.54658	73.188074	-13.007399	74.334962	-10.077721	0.214633	13.366074	4.606729
33.580002	1.550093	73.313055	-13.118471	74.477502	-10.145026	0.215715	13.322396	4.653293
33.599998	1.548473	73.344574	-12.940848	74.47746	-10.006246	0.215216	13.342494	4.631809
33.619999	1.552085	73.446522	-13.093122	74.604433	-10.107808	0.216327	13.297788	4.679734
33.639999	1.549876	73.405711	-12.969372	74.542626	-10.019672	0.215648	13.325086	4.650411
33.66	1.551272	73.481381	-12.976518	74.618385	-10.014966	0.216077	13.30782	4.668937
33.68	1.552433	73.531363	-13.001051	74.671873	-10.026834	0.216434	13.29349	4.684368
33.700001	1.55499	73.624417	-13.079228	74.777142	-10.073406	0.217218	13.262083	4.718366
33.720001	1.55565	73.762243	-12.935564	74.887898	-9.946741	0.21742	13.253999	4.727158
33.740002	1.559343	73.90848	-13.031897	75.048609	-9.999895	0.21855	13.209002	4.77639
33.759998	1.562558	74.002338	-13.16392	75.164053	-10.086581	0.21953	13.170124	4.81934
33.779999	1.565685	74.168033	-13.184829	75.330849	-10.080167	0.220481	13.132579	4.861184
33.799999	1.567354	74.18036	-13.305548	75.364205	-10.168887	0.220988	13.112637	4.883557
33.82	1.568726	74.283071	-13.271744	75.459352	-10.129854	0.221404	13.096292	4.901972
33.84	1.568612	74.310347	-13.222813	75.477615	-10.089647	0.221369	13.097651	4.900438
33.860001	1.569832	74.378916	-13.225227	75.545548	-10.08234	0.221739	13.083153	4.916824
33.880001	1.571053	74.424521	-13.260943	75.596706	-10.10294	0.222109	13.068695	4.933221
33.900002	1.575408	74.556463	-13.43263	75.756859	-10.213271	0.223424	13.017401	4.991832
33.919998	1.576668	74.629551	-13.431948	75.82867	-10.202972	0.223804	13.002651	5.008814
33.939999	1.575558	74.586771	-13.40145	75.781167	-10.186007	0.223469	13.015641	4.993854
33.959999	1.579458	74.732233	-13.515581	75.944569	-10.251348	0.224643	12.970126	5.046467
33.98	1.579561	74.723525	-13.536609	75.939745	-10.268129	0.224674	12.968928	5.047859



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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
34	1.585302	74.88636	-13.776952	76.143098	-10.424244	0.226396	12.902621	5.125519	
34.02	1.586019	74.876215	-13.849712	76.14632	-10.47947	0.22661	12.894406	5.135225	
34.040001	1.58743	74.993876	-13.798911	76.252812	-10.425855	0.227032	12.878255	5.154357	
34.060001	1.591156	75.085379	-13.973994	76.374647	-10.54261	0.228144	12.835834	5.204951	
34.080002	1.588003	75.059259	-13.753032	76.308835	-10.383092	0.227203	12.871707	5.162134	
34.099998	1.591489	75.1672	-13.885854	76.439027	-10.466438	0.228243	12.832057	5.209479	
34.119999	1.591775	75.200444	-13.862136	76.467416	-10.444437	0.228328	12.828816	5.213368	
34.139999	1.595593	75.319677	-14.005857	76.610821	-10.533977	0.229463	12.785743	5.265331	
34.16	1.597757	75.416466	-14.045973	76.713315	-10.550218	0.230105	12.761476	5.294835	
34.18	1.59865	75.38364	-14.164656	76.702872	-10.641864	0.23037	12.751497	5.307015	
34.200001	1.602418	75.568225	-14.212014	76.89303	-10.651146	0.231484	12.709581	5.358483	
34.220001	1.605578	75.63371	-14.376226	76.987882	-10.762242	0.232416	12.674676	5.401724	
34.240002	1.609206	75.72763	-14.537669	77.110426	-10.867059	0.233483	12.634885	5.451443	
34.259998	1.611207	75.692979	-14.743749	77.115532	-11.022282	0.234071	12.613061	5.478906	
34.279999	1.61712	75.906663	-14.921746	77.35942	-11.121424	0.235801	12.549079	5.560221	
34.299999	1.618686	75.929362	-15.014093	77.399554	-11.18526	0.236258	12.532263	5.581793	
34.32	1.620086	75.98121	-15.054436	77.458249	-11.207095	0.236666	12.517268	5.601098	
34.34	1.623513	76.021421	-15.267409	77.539346	-11.355691	0.237663	12.480759	5.648382	
34.360001	1.626762	76.186484	-15.301768	77.707944	-11.356565	0.238606	12.446361	5.693298	
34.380001	1.629789	76.2904	-15.399274	77.829061	-11.411877	0.239483	12.414513	5.735201	
34.400002	1.634175	76.40238	-15.590447	77.976828	-11.53329	0.240749	12.368715	5.796002	
34.419998	1.636727	76.390083	-15.800734	78.007102	-11.686433	0.241484	12.342242	5.83144	
34.439999	1.63814	76.390022	-15.90755	78.028748	-11.763251	0.24189	12.327639	5.851081	
34.459999	1.637341	76.399901	-15.834658	78.023594	-11.709368	0.24166	12.335894	5.83997	
34.48	1.63291	76.204969	-15.748213	77.815189	-11.676172	0.240384	12.381878	5.778462	
34.5	1.635042	76.276431	-15.818224	77.899359	-11.715962	0.240999	12.359706	5.808037	
34.52	1.633091	76.185521	-15.786589	77.80392	-11.706746	0.240436	12.379996	5.780966	
34.540001	1.63542	76.16599	-15.985879	77.825486	-11.853331	0.241108	12.355778	5.813292	
34.560001	1.637782	76.170499	-16.155673	77.864952	-11.974926	0.241787	12.331329	5.846111	
34.580002	1.639259	76.300244	-16.104171	77.981226	-11.918129	0.242212	12.316103	5.866643	
34.599998	1.641285	76.361883	-16.178013	78.056808	-11.96182	0.242793	12.295279	5.894842	
34.619999	1.643879	76.40028	-16.322319	78.124393	-12.059518	0.243536	12.268748	5.930962	
34.639999	1.64596	76.475245	-16.383419	78.210482	-12.091818	0.244131	12.247553	5.959979	
34.66	1.65047	76.564689	-16.604695	78.344544	-12.236351	0.245417	12.201912	6.022943	
34.68	1.653177	76.598102	-16.761143	78.410492	-12.342898	0.246187	12.174706	6.060792	
34.700001	1.662383	76.699997	-17.299686	78.626768	-12.710397	0.248793	12.083223	6.189815	
34.720001	1.670578	76.797832	-17.761542	78.824992	-13.022237	0.251098	12.003119	6.305044	
34.740002	1.674968	76.885845	-17.966008	78.957018	-13.152403	0.252328	11.960706	6.366919	
34.759998	1.674777	76.739769	-18.114948	78.848865	-13.281945	0.252274	11.96255	6.364218	
34.779999	1.673812	76.702354	-18.090374	78.806807	-13.270806	0.252004	11.971846	6.350609	

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
34.799999	1.66923	76.554056	-17.941254	78.628316	-13.189851	0.25072	12.016209	6.286069
34.82	1.667536	76.511348	-17.872574	78.571085	-13.148196	0.250244	12.032711	6.262228
34.84	1.666965	76.487457	-17.859931	78.544944	-13.143179	0.250084	12.038287	6.254193
34.860001	1.667444	76.46003	-17.923054	78.532618	-13.192577	0.250219	12.033611	6.26093
34.880001	1.673005	76.59916	-18.148728	78.719805	-13.329386	0.251778	11.979629	6.339238
34.900002	1.678115	76.625865	-18.464057	78.819062	-13.547958	0.253206	11.930515	6.411335
34.919998	1.678463	76.629839	-18.483054	78.827378	-13.560705	0.253303	11.927191	6.416244
34.939999	1.677759	76.56158	-18.508947	78.767104	-13.590657	0.253107	11.933921	6.406309
34.959999	1.670592	76.431734	-18.167763	78.561299	-13.371046	0.251102	12.002979	6.305247
34.98	1.667628	76.356152	-18.049527	78.460483	-13.299808	0.25027	12.031813	6.263524
35	1.668402	76.354141	-18.104032	78.471083	-13.338876	0.250488	12.024274	6.274406
35.02	1.673342	76.311914	-18.480039	78.517642	-13.612963	0.251873	11.976381	6.343982
35.040001	1.676995	76.295326	-18.738454	78.562754	-13.79898	0.252894	11.941245	6.395515
35.060001	1.679337	76.194021	-18.995176	78.526082	-13.998519	0.253547	11.918845	6.428587
35.080002	1.677728	76.208642	-18.875843	78.511493	-13.911437	0.253098	11.93422	6.405868
35.099998	1.673591	76.150734	-18.665335	78.404905	-13.772291	0.251942	11.973974	6.347498
35.119999	1.670176	76.110481	-18.482612	78.322489	-13.649475	0.250986	12.007018	6.299385
35.139999	1.672307	76.205755	-18.523351	78.424688	-13.661972	0.251583	11.986379	6.329394
35.16	1.674769	75.974292	-18.922939	78.295406	-13.986122	0.252272	11.962627	6.364105
35.18	1.675208	76.051346	-18.873065	78.358151	-13.937118	0.252395	11.958395	6.370309
35.200001	1.668766	75.874963	-18.634729	78.129784	-13.798636	0.25059	12.020727	6.279533
35.220001	1.670267	75.843371	-18.764678	78.130212	-13.896708	0.251011	12.006139	6.300661
35.240002	1.668626	75.775932	-18.727044	78.055711	-13.881781	0.250551	12.022085	6.277568
35.259998	1.660597	75.506655	-18.480552	77.735357	-13.753024	0.248289	12.100849	6.164745
35.279999	1.655713	75.376684	-18.295428	77.565244	-13.643022	0.246906	12.149352	6.096279
35.299999	1.652696	75.330982	-18.144863	77.485436	-13.542801	0.24605	12.179535	6.054057
35.32	1.648493	75.167241	-18.03874	77.301424	-13.49475	0.244853	12.221874	5.995323
35.34	1.64595	75.096558	-17.944878	77.210826	-13.43926	0.244128	12.247655	5.959839
35.360001	1.646005	75.113654	-17.930611	77.224141	-13.426017	0.244143	12.247098	5.960604
35.380001	1.645855	75.019174	-18.019212	77.15289	-13.506307	0.244101	12.248617	5.958519
35.400002	1.642499	74.772664	-18.053705	76.921308	-13.574173	0.243141	12.282846	5.911741
35.419998	1.641939	74.707499	-18.08381	76.865041	-13.607388	0.24298	12.288585	5.903934
35.439999	1.640561	74.694482	-18.007502	76.83447	-13.554365	0.242585	12.30271	5.884764
35.459999	1.640291	74.574827	-18.111775	76.742695	-13.650984	0.242508	12.305484	5.881006
35.48	1.64006	74.476585	-18.195744	76.667117	-13.729292	0.242441	12.307867	5.877779
35.5	1.638394	74.411135	-18.154279	76.5937	-13.71078	0.241963	12.325012	5.854621
35.52	1.637488	74.302527	-18.204565	76.500142	-13.766649	0.241703	12.334366	5.842025
35.540001	1.639933	74.24353	-18.418323	76.494029	-13.932676	0.242405	12.309164	5.876025
35.560001	1.640715	74.239743	-18.471426	76.503157	-13.971959	0.242629	12.301135	5.886898
35.580002	1.641529	74.281642	-18.482072	76.546386	-13.97212	0.242863	12.292777	5.898238

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
35.599998	1.643806	74.260307	-18.64603	76.565447	-14.095039	0.243515	12.269495	5.929942	
35.619999	1.646808	74.322439	-18.774302	76.657024	-14.176717	0.244373	12.238944	5.971805	
35.639999	1.648108	74.444761	-18.738154	76.766795	-14.1282	0.244744	12.225771	5.989946	
35.66	1.649407	74.370671	-18.890382	76.732283	-14.251934	0.245114	12.21263	6.008098	
35.68	1.651642	74.414916	-18.987266	76.799063	-14.313863	0.24575	12.190115	6.039326	
35.700001	1.653289	74.493917	-19.014613	76.882372	-14.319055	0.246219	12.173585	6.062357	
35.720001	1.652745	74.35676	-19.110262	76.773237	-14.413536	0.246064	12.179044	6.054742	
35.740002	1.655232	74.402058	-19.221065	76.84475	-14.485144	0.24677	12.154143	6.089557	
35.759998	1.654898	74.325658	-19.271539	76.783434	-14.53587	0.246675	12.157484	6.084875	
35.779999	1.65646	74.301761	-19.388929	76.789858	-14.625131	0.247118	12.141901	6.106747	
35.799999	1.654114	74.213045	-19.327498	76.688514	-14.597458	0.246453	12.165325	6.073898	
35.82	1.654192	74.191981	-19.351563	76.6742	-14.618827	0.246475	12.164544	6.07499	
35.84	1.654644	74.113759	-19.450267	76.623509	-14.705007	0.246603	12.160023	6.081318	
35.860001	1.654425	74.058805	-19.486746	76.579631	-14.741843	0.246541	12.162215	6.078249	
35.880001	1.653688	73.942431	-19.546997	76.48247	-14.807678	0.246332	12.169587	6.06794	
35.900002	1.653608	73.913443	-19.568116	76.459847	-14.828529	0.246309	12.170384	6.066826	
35.919998	1.653337	73.759162	-19.688541	76.341684	-14.945535	0.246232	12.173102	6.063031	
35.939999	1.653688	73.767019	-19.702453	76.352864	-14.9541	0.246332	12.169591	6.067935	
35.959999	1.650513	73.609501	-19.652223	76.187719	-14.948173	0.245429	12.201484	6.023538	
35.98	1.651723	73.658053	-19.681458	76.24217	-14.959987	0.245773	12.189303	6.040455	
36	1.650061	73.542508	-19.683967	76.131197	-14.98426	0.2453	12.206038	6.017224	
36.02	1.649868	73.580284	-19.639569	76.156227	-14.944644	0.245245	12.207986	6.014526	
36.040001	1.647441	73.437561	-19.620539	76.013426	-14.958529	0.244554	12.232517	5.980649	
36.060001	1.647971	73.435418	-19.653671	76.019914	-14.983071	0.244705	12.227154	5.988039	
36.080002	1.646064	73.392596	-19.57828	75.959083	-14.936488	0.24416	12.246493	5.961433	
36.099998	1.647507	73.411665	-19.646911	75.995222	-14.982778	0.244572	12.231853	5.981563	
36.119999	1.645545	73.369348	-19.567807	75.93392	-14.933373	0.244012	12.251776	5.954187	
36.139999	1.646049	73.369826	-19.597199	75.941962	-14.954707	0.244156	12.246646	5.961223	
36.16	1.643057	73.267272	-19.509595	75.820298	-14.910748	0.2433	12.277141	5.919512	
36.18	1.644625	73.345459	-19.534251	75.902195	-14.913546	0.243749	12.261135	5.941369	
36.200001	1.641968	73.22969	-19.477915	75.775832	-14.894912	0.242989	12.288285	5.904342	
36.220001	1.641518	73.252869	-19.431084	75.786212	-14.856192	0.24286	12.292891	5.898083	
36.240002	1.642576	73.295131	-19.45683	75.833663	-14.866808	0.243163	12.282059	5.912812	
36.259998	1.643236	73.198596	-19.579681	75.772016	-14.975322	0.243352	12.275311	5.922007	
36.279999	1.642515	73.172063	-19.560139	75.741335	-14.966227	0.243145	12.282686	5.911959	
36.299999	1.639265	73.101254	-19.429825	75.639351	-14.884716	0.242213	12.316046	5.866721	
36.32	1.639999	73.119888	-19.457021	75.664349	-14.900994	0.242424	12.308488	5.876939	
36.34	1.638709	73.059104	-19.433583	75.599582	-14.895675	0.242054	12.32177	5.858993	
36.360001	1.636304	72.971836	-19.367336	75.498228	-14.864113	0.241362	12.346613	5.825574	
36.380001	1.63541	72.940166	-19.341977	75.461115	-14.851672	0.241105	12.355887	5.813147	

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Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
36.400002	1.632536	72.802024	-19.292054	75.314793	-14.841898	0.240276	12.385782	5.77327	
36.419998	1.630067	72.737093	-19.202596	75.229146	-14.788706	0.239563	12.411601	5.739049	
36.439999	1.630307	72.722719	-19.229219	75.222049	-14.811108	0.239633	12.409083	5.742377	
36.459999	1.627803	72.633231	-19.158896	75.117572	-14.7767	0.238908	12.43539	5.707698	
36.48	1.626424	72.585672	-19.118702	75.061338	-14.756293	0.238508	12.449926	5.688627	
36.5	1.626018	72.49649	-19.171701	74.988634	-14.812807	0.238391	12.454215	5.683012	
36.52	1.626209	72.5295	-19.154548	75.016165	-14.793696	0.238446	12.452195	5.685655	
36.540001	1.622547	72.455553	-19.002399	74.90593	-14.695617	0.237382	12.491026	5.635045	
36.560001	1.621842	72.338591	-19.06181	74.807916	-14.762357	0.237177	12.498533	5.625314	
36.580002	1.619725	72.241423	-19.020809	74.703509	-14.750938	0.236561	12.521132	5.596117	
36.599998	1.619955	72.246806	-19.029683	74.710975	-14.756468	0.236628	12.518676	5.599283	
36.619999	1.618681	72.183915	-19.008752	74.644827	-14.753227	0.236257	12.532318	5.581722	
36.639999	1.617062	72.129433	-18.96038	74.57983	-14.72795	0.235784	12.549699	5.559427	
36.66	1.616499	72.055779	-18.99027	74.516211	-14.764575	0.23562	12.555761	5.551673	
36.68	1.615372	72.003622	-18.968687	74.460276	-14.758744	0.23529	12.567915	5.536159	
36.700001	1.614599	71.848328	-19.054901	74.33217	-14.853499	0.235064	12.576262	5.525529	
36.720001	1.613606	71.872254	-18.976913	74.335349	-14.790669	0.234774	12.587012	5.511867	
36.740002	1.614113	71.79462	-19.071701	74.284569	-14.876644	0.234922	12.581518	5.518845	
36.759998	1.613221	71.74879	-19.058314	74.236838	-14.875739	0.234661	12.591177	5.506584	
36.779999	1.60931	71.608455	-18.948846	74.073137	-14.82177	0.233514	12.633743	5.452877	
36.799999	1.608561	71.573055	-18.93499	74.03537	-14.818412	0.233294	12.641934	5.442602	
36.82	1.607281	71.465992	-18.950036	73.935728	-14.850904	0.232917	12.655963	5.42505	
36.84	1.607381	71.496926	-18.930079	73.960518	-14.829818	0.232947	12.654871	5.426414	
36.860001	1.605822	71.392799	-18.926447	73.858934	-14.847769	0.232488	12.671997	5.405058	
36.880001	1.604792	71.273463	-18.965553	73.753635	-14.90089	0.232184	12.683342	5.390956	
36.900002	1.603043	71.23856	-18.893644	73.701439	-14.853845	0.231668	12.702664	5.367024	
36.919998	1.602239	71.180728	-18.895002	73.64589	-14.8664	0.231431	12.711562	5.35604	
36.939999	1.599209	71.025361	-18.848272	73.483734	-14.862265	0.230535	12.745262	5.314639	
36.959999	1.600874	71.077882	-18.900833	73.54799	-14.891346	0.231028	12.726723	5.337374	
36.98	1.599549	71.074467	-18.827571	73.525895	-14.836858	0.230636	12.74147	5.319282	
37	1.597406	71.016006	-18.752359	73.450146	-14.791821	0.230001	12.765403	5.290049	
37.02	1.598195	70.989274	-18.819613	73.441506	-14.847875	0.230235	12.756582	5.300804	
37.040001	1.597302	70.907506	-18.835126	73.366453	-14.87595	0.22997	12.766575	5.288622	
37.060001	1.594714	70.810675	-18.765832	73.25509	-14.843011	0.229202	12.795622	5.253368	
37.080002	1.59585	70.766761	-18.866208	73.238435	-14.927718	0.229539	12.782857	5.268832	
37.099998	1.595482	70.72315	-18.880365	73.199946	-14.947219	0.22943	12.78699	5.26382	
37.119999	1.593618	70.685201	-18.80485	73.143831	-14.897734	0.228877	12.807974	5.238448	
37.139999	1.59421	70.712398	-18.816618	73.173139	-14.901164	0.229052	12.801305	5.246498	
37.16	1.592681	70.571784	-18.842606	73.043963	-14.949226	0.228598	12.818558	5.225697	
37.18	1.595405	70.631164	-18.949527	73.128968	-15.018162	0.229407	12.787857	5.262769	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
37.200001	1.593062	70.539139	-18.890176	73.024714	-14.991895	0.228711	12.814259	5.230872	
37.220001	1.591392	70.52539	-18.806534	72.989837	-14.931264	0.228214	12.833155	5.208162	
37.240002	1.593104	70.476923	-18.94185	72.978012	-15.04372	0.228724	12.813783	5.231445	
37.259998	1.59225	70.398135	-18.95586	72.905569	-15.070424	0.22847	12.823431	5.219836	
37.279999	1.590874	70.334358	-18.928548	72.836885	-15.062723	0.22806	12.83903	5.201121	
37.299999	1.590396	70.30941	-18.921267	72.810902	-15.062292	0.227917	12.844455	5.194629	
37.32	1.591047	70.335938	-18.937037	72.840617	-15.068847	0.228111	12.837066	5.203474	
37.34	1.589224	70.206534	-18.935922	72.71538	-15.094507	0.227568	12.857782	5.178713	
37.360001	1.588888	70.199123	-18.922891	72.704832	-15.086114	0.227468	12.861606	5.174154	
37.380001	1.585533	70.124829	-18.792705	72.599294	-15.002172	0.226465	12.899975	5.128643	
37.400002	1.588926	70.178992	-18.940672	72.690027	-15.103776	0.227479	12.861176	5.174667	
37.419998	1.587561	70.066903	-18.951237	72.584573	-15.134882	0.227071	12.876756	5.156136	
37.439999	1.586954	69.997811	-18.970638	72.522952	-15.16393	0.22689	12.883696	5.147903	
37.459999	1.585782	69.960724	-18.933934	72.47756	-15.143594	0.226539	12.897121	5.132014	
37.48	1.585594	69.939583	-18.939746	72.458673	-15.152397	0.226483	12.899271	5.129475	
37.5	1.587253	69.98271	-18.998831	72.515759	-15.188551	0.226979	12.880278	5.151957	
37.52	1.584777	69.859379	-18.955741	72.385448	-15.181211	0.226239	12.908655	5.118403	
37.540001	1.582872	69.82388	-18.877132	72.330632	-15.128479	0.225668	12.930595	5.092611	
37.560001	1.584044	69.786787	-18.970406	72.319236	-15.207485	0.226019	12.917085	5.108478	
37.580002	1.580134	69.711201	-18.811286	72.204681	-15.101375	0.224847	12.962276	5.055596	
37.599998	1.582204	69.682223	-18.947946	72.212443	-15.212051	0.225468	12.938305	5.083578	
37.619999	1.580078	69.69378	-18.821469	72.190516	-15.11278	0.22483	12.96293	5.054835	
37.639999	1.580934	69.680088	-18.879355	72.192414	-15.159966	0.225087	12.953	5.066406	
37.66	1.578302	69.578558	-18.810777	72.076494	-15.128455	0.224296	12.983581	5.030857	
37.68	1.580122	69.585923	-18.905778	72.108453	-15.199797	0.224843	12.962415	5.055435	
37.700001	1.579193	69.546156	-18.884522	72.064506	-15.191778	0.224564	12.973208	5.042886	
37.720001	1.578791	69.427375	-18.951414	71.967468	-15.267954	0.224443	12.977891	5.037452	
37.740002	1.577079	69.421731	-18.861582	71.938418	-15.200115	0.223927	12.997854	5.014349	
37.759998	1.578569	69.444062	-18.926791	71.977088	-15.245546	0.224376	12.980472	5.034458	
37.779999	1.576133	69.334714	-18.874698	71.857893	-15.228399	0.223643	13.008908	5.001603	
37.799999	1.575762	69.29823	-18.881495	71.824477	-15.241276	0.223531	13.013256	4.996598	
37.82	1.574916	69.213919	-18.897732	71.74741	-15.271486	0.223276	13.023168	4.985207	
37.84	1.573711	69.196136	-18.844944	71.716366	-15.234543	0.222912	13.037337	4.968969	
37.860001	1.572654	69.190689	-18.791084	71.696975	-15.194158	0.222593	13.049787	4.954745	
37.880001	1.574983	69.189572	-18.919338	71.729619	-15.293256	0.223296	13.022386	4.986104	
37.900002	1.572532	69.115193	-18.84039	71.637073	-15.24804	0.222556	13.051215	4.953116	
37.919998	1.571164	69.016076	-18.83866	71.540995	-15.26758	0.222142	13.067383	4.934711	
37.939999	1.569995	68.9605	-18.815778	71.481355	-15.261617	0.221788	13.08122	4.919013	
37.959999	1.570237	68.888946	-18.881102	71.429566	-15.327275	0.221862	13.078356	4.922258	
37.98	1.568027	68.888449	-18.761386	71.397535	-15.234727	0.221192	13.10461	4.892592	

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**Balun 4 Resistor 2.csv**

Z0 50

Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower
38	1.569546	68.908159	-18.829606	71.434504	-15.283367	0.221652	13.086552	4.912978
38.02	1.567553	68.836957	-18.77323	71.350969	-15.254769	0.221048	13.11026	4.886231
38.040001	1.564388	68.636529	-18.747073	71.150727	-15.276914	0.220087	13.148122	4.843818
38.060001	1.564648	68.633849	-18.763097	71.152365	-15.28993	0.220166	13.144998	4.847303
38.080002	1.560489	68.542586	-18.603768	71.022435	-15.185359	0.218899	13.19512	4.791682
38.099998	1.561356	68.559757	-18.638355	71.048073	-15.20865	0.219164	13.184635	4.803265
38.119999	1.561771	68.536041	-18.678027	71.035608	-15.244547	0.21929	13.179617	4.808818
38.139999	1.559223	68.363845	-18.664134	70.865825	-15.270316	0.218513	13.210459	4.774788
38.16	1.559238	68.386579	-18.648645	70.88368	-15.253398	0.218517	13.210281	4.774984
38.18	1.555932	68.249795	-18.568239	70.730574	-15.219711	0.217506	13.250556	4.730907
38.200001	1.555784	68.223555	-18.579015	70.708085	-15.233718	0.217461	13.252365	4.728936
38.220001	1.55542	68.179657	-18.59069	70.6688	-15.252203	0.21735	13.25682	4.724089
38.240002	1.556511	68.165724	-18.659173	70.673409	-15.308739	0.217684	13.243481	4.73862
38.259998	1.554236	68.04383	-18.623248	70.546354	-15.306735	0.216987	13.271328	4.708333
38.279999	1.553532	67.946876	-18.653556	70.460862	-15.351318	0.216771	13.279976	4.698967
38.299999	1.551738	67.946733	-18.55783	70.435443	-15.276258	0.21622	13.302064	4.675129
38.32	1.553073	67.913284	-18.652512	70.428193	-15.357734	0.21663	13.285618	4.692867
38.34	1.551254	67.841699	-18.605414	70.346696	-15.336185	0.216072	13.308043	4.668697
38.360001	1.550314	67.807022	-18.579455	70.306389	-15.323257	0.215783	13.319666	4.656219
38.380001	1.547779	67.726118	-18.500663	70.207561	-15.27869	0.215003	13.351128	4.62261
38.400002	1.548606	67.689338	-18.570205	70.190448	-15.341361	0.215257	13.340839	4.633574
38.419998	1.546381	67.673256	-18.462939	70.14663	-15.260344	0.214572	13.368552	4.604101
38.439999	1.543929	67.506687	-18.447786	69.981952	-15.284269	0.213814	13.399261	4.57166
38.459999	1.544482	67.521348	-18.467079	70.001182	-15.296339	0.213985	13.392315	4.578978
38.48	1.54221	67.521799	-18.345891	69.969744	-15.20052	0.213283	13.420873	4.548966
38.5	1.544031	67.416553	-18.515011	69.912783	-15.356886	0.213846	13.397974	4.573015
38.52	1.54014	67.377159	-18.33584	69.827535	-15.22368	0.212642	13.447023	4.521658
38.540001	1.539455	67.258876	-18.38064	69.725206	-15.284724	0.21243	13.4557	4.512632
38.560001	1.537052	67.133946	-18.33863	69.593621	-15.278475	0.211683	13.486263	4.480987
38.580002	1.535756	67.096864	-18.295399	69.546465	-15.252169	0.211281	13.502805	4.463952
38.599998	1.535595	67.139449	-18.257883	69.577697	-15.213137	0.211231	13.504865	4.461835
38.619999	1.53458	66.997812	-18.300387	69.45222	-15.277635	0.210915	13.51787	4.448494
38.639999	1.531808	66.906174	-18.216198	69.341661	-15.230481	0.210051	13.553519	4.412128
38.66	1.530521	66.898897	-18.153239	69.318125	-15.181849	0.209649	13.570148	4.395266
38.68	1.529911	66.730227	-18.234465	69.176722	-15.283362	0.209458	13.578045	4.387282
38.700001	1.529528	66.616092	-18.289987	69.081309	-15.352736	0.209339	13.58301	4.382269
38.720001	1.527767	66.583882	-18.219306	69.031562	-15.303242	0.208788	13.605901	4.359231
38.740002	1.527427	66.544971	-18.227206	68.996117	-15.318099	0.208681	13.61033	4.354788
38.759998	1.526154	66.464336	-18.213816	68.91481	-15.325072	0.208283	13.626941	4.338163
38.779999	1.52472	66.394221	-18.185057	68.839588	-15.317411	0.207833	13.645715	4.319451

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
38.799999	1.523945	66.34172	-18.179048	68.787365	-15.324135	0.20759	13.655878	4.309354	
38.82	1.523582	66.247471	-18.221278	68.707659	-15.37887	0.207476	13.660655	4.304617	
38.84	1.522545	66.244938	-18.169216	68.691428	-15.33756	0.20715	13.674305	4.291109	
38.860001	1.520414	66.193471	-18.092046	68.621409	-15.286788	0.20648	13.70246	4.26338	
38.880001	1.520122	66.14263	-18.109814	68.577058	-15.312307	0.206388	13.706329	4.259583	
38.900002	1.519079	66.097479	-18.08494	68.526942	-15.302217	0.206059	13.720168	4.246031	
38.919998	1.51892	66.09164	-18.080461	68.520128	-15.299894	0.206009	13.722284	4.243963	
38.939999	1.518313	66.038742	-18.083133	68.469812	-15.31373	0.205818	13.730349	4.236089	
38.959999	1.517025	65.988417	-18.048844	68.41222	-15.297164	0.205411	13.747523	4.219371	
38.98	1.517274	65.982834	-18.065305	68.41118	-15.311696	0.20549	13.744196	4.222605	
39	1.514643	65.9149	-17.972904	68.321295	-15.252	0.204659	13.779404	4.188511	
39.02	1.51437	65.931583	-17.948044	68.330856	-15.22821	0.204572	13.783069	4.184977	
39.040001	1.514425	65.913298	-17.962664	68.317056	-15.244068	0.20459	13.782329	4.185691	
39.060001	1.513286	65.755092	-18.004847	68.175557	-15.313231	0.204229	13.797645	4.170955	
39.080002	1.513211	65.843874	-17.944434	68.245282	-15.244627	0.204205	13.798657	4.169984	
39.099998	1.510869	65.7698	-17.870842	68.154483	-15.201311	0.203463	13.830285	4.139725	
39.119999	1.510373	65.775438	-17.84155	68.152249	-15.176303	0.203306	13.837011	4.133319	
39.139999	1.510648	65.785779	-17.849123	68.164212	-15.180171	0.203393	13.833288	4.136864	
39.16	1.51031	65.760035	-17.848175	68.139119	-15.185071	0.203286	13.837866	4.132505	
39.18	1.510081	65.736494	-17.851395	68.117244	-15.192872	0.203213	13.840979	4.129544	
39.200001	1.510874	65.669716	-17.934814	68.074732	-15.275358	0.203465	13.830224	4.139783	
39.220001	1.509323	65.612718	-17.891078	68.00823	-15.252463	0.202972	13.851272	4.119768	
39.240002	1.510349	65.651891	-17.919072	68.053391	-15.266526	0.203298	13.837342	4.133003	
39.259998	1.509535	65.480166	-17.9851	67.905199	-15.358424	0.20304	13.848381	4.122512	
39.279999	1.509159	65.530297	-17.934576	67.940186	-15.30614	0.20292	13.853492	4.117663	
39.299999	1.506925	65.340474	-17.938494	67.758151	-15.351707	0.20221	13.883948	4.088887	
39.32	1.506916	65.312969	-17.954973	67.735994	-15.371308	0.202207	13.884076	4.088767	
39.34	1.507009	65.245293	-18.00115	67.683009	-15.424186	0.202237	13.882809	4.089961	
39.360001	1.506884	65.184959	-18.031519	67.63294	-15.462582	0.202197	13.884511	4.088358	
39.380001	1.504403	65.12024	-17.945217	67.547587	-15.406663	0.201407	13.918527	4.056461	
39.400002	1.504366	65.003593	-18.0136	67.453368	-15.488984	0.201395	13.919046	4.055976	
39.419998	1.502059	64.922017	-17.946245	67.356781	-15.452301	0.200658	13.950854	4.026379	
39.439999	1.503932	64.896197	-18.055688	67.361148	-15.547878	0.201256	13.925012	4.050408	
39.459999	1.501796	64.786506	-18.013395	67.244136	-15.538212	0.200574	13.954491	4.023008	
39.48	1.502334	64.6856	-18.099159	67.169981	-15.631752	0.200746	13.947048	4.029908	
39.5	1.502013	64.64117	-18.108841	67.129807	-15.649929	0.200643	13.951498	4.025781	
39.52	1.497445	64.389141	-18.026785	66.864986	-15.640479	0.199182	14.015019	3.967328	
39.540001	1.499139	64.392133	-18.108785	66.890021	-15.707426	0.199724	13.99138	3.988982	
39.560001	1.495824	64.339694	-17.974703	66.803339	-15.608897	0.198661	14.037733	3.946632	
39.580002	1.490674	64.182498	-17.809196	66.607511	-15.508163	0.197005	14.110475	3.881079	

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**Balun 4 Resistor 2.csv**

Z0	50								
Freq(MHz)	SWR	Rs	Xs	Zmag	Phase(deg)	Rho	ReturnLoss	%ReflectedPower	
39.599998	1.491729	64.058798	-17.931018	66.521057	-15.637757	0.197345	14.095499	3.894486	
39.619999	1.488636	64.045661	-17.785962	66.469445	-15.520401	0.196347	14.139512	3.855217	
39.639999	1.485488	63.932735	-17.694109	66.336084	-15.470058	0.195329	14.18466	3.815346	
39.66	1.484324	63.836702	-17.690546	66.242584	-15.489243	0.194952	14.201447	3.800627	
39.68	1.481454	63.833956	-17.550353	66.202635	-15.372953	0.194021	14.243034	3.764408	
39.700001	1.47819	63.752464	-17.434805	66.093488	-15.295097	0.192959	14.290685	3.72333	
39.720001	1.478141	63.775804	-17.419148	66.111874	-15.276673	0.192944	14.291395	3.722721	
39.740002	1.473666	63.640407	-17.273915	65.943078	-15.185939	0.191483	14.357381	3.666586	
39.759998	1.47099	63.583484	-17.173291	65.861835	-15.114431	0.190608	14.397187	3.633133	
39.779999	1.472161	63.635511	-17.201861	65.919514	-15.126613	0.190991	14.379728	3.647768	
39.799999	1.468494	63.510405	-17.090749	65.76979	-15.061612	0.189789	14.434565	3.601999	
39.82	1.467396	63.542387	-17.01761	65.781714	-14.992857	0.189429	14.451071	3.588334	
39.84	1.464785	63.438613	-16.946871	65.663186	-14.956659	0.18857	14.490544	3.555868	
39.860001	1.461426	63.373942	-16.816164	65.567064	-14.860895	0.187463	14.541687	3.514239	
39.880001	1.46068	63.368102	-16.782151	65.552704	-14.83347	0.187217	14.553108	3.505009	
39.900002	1.458671	63.351223	-16.69103	65.513113	-14.760213	0.186552	14.58399	3.480175	
39.919998	1.458779	63.251184	-16.754481	65.432598	-14.836258	0.186588	14.582315	3.481517	
39.939999	1.456026	63.182633	-16.656156	65.341202	-14.768305	0.185676	14.624864	3.447574	
39.959999	1.454887	63.197451	-16.590421	65.338808	-14.709254	0.185299	14.64256	3.433555	
39.98	1.454191	63.141705	-16.587803	65.284226	-14.719455	0.185068	14.653397	3.424998	
40	1.45253	63.147763	-16.500846	65.268047	-14.644273	0.184516	14.679334	3.404604	