

# TFD Analysis

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8/18/12

## EZNEC Model

30' x 8", 7'4" height, 800 Ω terminator resistor, 16:1 transformer

Wires along N-S line

$$Loss_{dB} = 10 \log \left[ 1 - \left( \frac{SWR - 1}{SWR + 1} \right)^2 \right]$$

Freq (MHz)	N-S HPBW (deg)	E-W HPBW (deg)	SWR (50 Ω)	Zenith Directivity Gain (dBi)	Mismatch Loss (dB)	Net Gain (dB)
15	63	107	1.30	-3.48	-0.07	-3.55
16	62	108	1.42	-2.36	-0.13	-2.49
17	61	109	1.54	-1.44	-0.20	-1.64
18	60	110	1.67	-0.70	-0.28	-0.98
19	59	111	1.79	-0.13	-0.36	-0.49
20	58	112	1.89	0.32	-0.43	-0.11
21	57	113	1.97	0.67	-0.49	0.18
22	56	114	2.03	0.94	-0.53	0.41
23	55	115	2.06	1.12	-0.56	0.56
24	54	116	2.07	1.27	-0.56	0.71
25	53	117	2.06	1.38	-0.56	0.82
26	52	119	2.04	1.45	-0.54	0.91
27	50	120	2.00	1.51	-0.51	1.00
28	49	121	1.96	1.56	-0.48	1.08
29	48	123	1.91	1.58	-0.45	1.13
30	47	124	1.87	1.61	-0.42	1.19
31	45	126	1.81	1.64	-0.38	1.26
32	44	127	1.76	1.65	-0.34	1.31
33	43	128	1.70	1.67	-0.30	1.37
34	41	130	1.65	1.68	-0.27	1.41
<b>35</b>	<b>40</b>	<b>131</b>	<b>1.60</b>	<b>1.67</b>	<b>-0.24</b>	<b>1.43</b>

