

TFD and Jove Dipole — Galactic Background Measurements

Raw Data

Typinski, 2014

All measurements made with antenna under test connected through 1.9 dB line loss to RJ receiver #1, no multicoupler, RSP calibrated for feed loss.

20 MHz Avg Ant Temp kK @ UTC ~30 sec avg at date & time noted			Ant Temp (kK), Avg of 3 daily samples				
Date	0400 (kK)	1100 (kK)	0400 UTC (kK) (dB)		1100 UTC (kK) (dB)		Diurnal Variation (dB)

WITH GROUND PLANE, no MC, strip chart calibrated for 1.9 dB feed loss

22' 8" Jove Dipole at 10' Height With Ground Plane (REFERENCE ANTENNA)

10-Aug-14	52.64	36.82					
11-Aug-14	52.06	33.32					
12-Aug-14	45.50	28.71					
3-day avg	50.07	32.95	50.1	0.0	33.0	0.0	1.8

18' TFD at 9' 2" Height With Ground Plane

20-Aug-14	6.52	4.54					
21-Aug-14	5.96	4.60					
22-Aug-14	5.98	4.60					
3-day avg	6.15	4.58	6.2	-9.1	4.6	-8.6	1.3

24' TFD at 9' 2" Height With Ground Plane

13-Aug-14	20.92	13.89					
14-Aug-14	19.21	13.01					
15-Aug-14	19.00	13.23					
3-day avg	19.71	13.38	19.7	-4.0	13.4	-3.9	1.7

30' TFD at 9' 2" Height With Ground Plane

23-Aug-14	22.59	14.76					
24-Aug-14	21.03	14.96					
2-day avg	21.81	14.86	21.8	-3.6	14.9	-3.5	1.7

NO GROUND PLANE, no MC, strip chart calibrated for 1.9 dB feed loss

22' 8" Jove Dipole at 10' Height, No Ground Plane (REFERENCE ANTENNA)

06-Aug-14	32.01	21.51					
07-Aug-14	34.68	22.86					
08-Aug-14	39.30	21.36					
3-day avg	35.33	21.91	35.3	0.0	21.9	0.0	2.1

18' TFD at 9' 2" Height, No Ground Plane

31-Aug-14	3.78	3.09					
01-Sep-14	3.77	3.14					
02-Sep-14	3.84	3.26					
3-day avg	3.80	3.16	3.8	-9.7	3.2	-8.4	0.8

24' TFD at 9' 2" Height, No Ground Plane

03-Aug-14	14.10	8.11					
04-Aug-14	13.06	8.17					
05-Aug-14	12.15	8.34					
3-day avg	13.10	8.21	13.1	-4.3	8.2	-4.3	2.0

30' TFD at 9' 2" Height, No Ground Plane

25-Aug-14	14.17	10.25					
26-Aug-14	14.09	10.30					
27-Aug-14	16.62	10.59					
3-day avg	14.96	10.38	15.0	-3.7	10.4	-3.2	1.6

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Comparison

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All measurements made with antenna under test connected through 1.9 dB line loss to RJ receiver #1, no multicoupler, RSP calibrated for feed loss.

Antenna Configuration	Average 20 MHz Ant Temp (kK)		Diurnal Variation
	0400 UTC	1100 UTC	
Jove Dipole at 10' Height With Ground Plane	50.1	33.0	1.8 dB
Jove Dipole at 10' Height No Ground Plane	35.3 -1.5 dB	21.9 -1.8 dB	2.1 dB +0.3 dB
18' TFD at 9'2" Height With Ground Plane	6.2	4.6	1.3 dB
18' TFD at 9'2" Height No Ground Plane	3.8 -2.1 dB	3.2 -1.6 dB	0.8 dB -0.5 dB
24' TFD at 9'2" Height With Ground Plane	19.7	13.4	1.7 dB
24' TFD at 9'2" Height No Ground Plane	13.1 -1.8 dB	8.2 -2.1 dB	2.0 dB +0.3 dB
30' TFD at 9'2" Height With Ground Plane	21.8	14.9	1.7 dB
30' TFD at 9'2" Height No Ground Plane	15.0 -1.6 dB	10.4 -1.6 dB	1.6 dB -0.1 dB
Jove Dipole at 10' Height With Ground Plane	50.1	33.0	1.8 dB
18' TFD at 9'2" Height With Ground Plane	6.2 -9.1 dB	4.6 -8.6 dB	1.3 dB -0.5 dB
Jove Dipole at 10' Height No Ground Plane	35.3	21.9	2.1 dB
18' TFD at 9'2" Height No Ground Plane	3.8 -9.7 dB	3.2 -8.4 dB	0.8 dB -1.3 dB
Jove Dipole at 10' Height With Ground Plane	50.1	33.0	1.8 dB
24' TFD at 9'2" Height With Ground Plane	19.7 -4.0 dB	13.4 -3.9 dB	1.7 dB -0.1 dB
Jove Dipole at 10' Height No Ground Plane	35.3	21.9	2.1 dB
24' TFD at 9'2" Height No Ground Plane	13.1 -4.3 dB	8.2 -4.3 dB	2.0 dB -0.0 dB
Jove Dipole at 10' Height With Ground Plane	50.1	33.0	1.8 dB
30' TFD at 9'2" Height With Ground Plane	21.8 -3.6 dB	14.9 -3.5 dB	1.7 dB -0.2 dB
Jove Dipole at 10' Height No Ground Plane	35.3	21.9	2.1 dB
30' TFD at 9'2" Height No Ground Plane	15.0 -3.7 dB	10.4 -3.2 dB	1.6 dB -0.5 dB
30' TFD at 9'2" Height No Ground Plane	15.0	10.4	1.6 dB
24' TFD at 9'2" Height No Ground Plane	13.1 -0.6 dB	8.2 -1.0 dB	2.0 dB +0.4 dB