

## **Freespace Interference Study for a given antenna based on Vertical Radiation Pattern**

Antenna Make: ETC

Antenna Model: FM-4CP (1/2 lambda)

Depression Angle from <u>Antenna</u>	Antenna Relative <u>Field</u>	ERP <u>Watts</u>	ERP <u>dBk</u>	Distance to Ground from <u>Antenna (km)</u>	Free Space <u>Signal (dBu)</u>	2.5 dB Loss <u>for Reflection</u>	Signal Strength <u>at Ground (dBu)</u>	Circular Distance <u>From Tower (m)</u>
90	0.001	0.000	-66.02	0.2740	52.1	0	52.1	0.00
85	0.001	0.000	-66.02	0.2750	52.1	0	52.1	23.97
80	0.001	0.000	-66.02	0.2782	52.0	0	52.0	48.31
75	0.001	0.000	-66.02	0.2837	51.8	0	51.8	73.42
70	0.002	0.001	-60.00	0.2916	57.6	0	57.6	99.73
65	0.003	0.002	-56.48	0.3023	60.8	0	60.8	127.77
60	0.003	0.002	-56.48	0.3164	60.4	0	60.4	158.19
55	0.001	0.000	-66.02	0.3345	50.4	0	50.4	191.86
50	0.013	0.042	-43.74	0.3577	72.1	0	72.1	229.91
45	0.038	0.361	-34.42	0.3875	80.7	0	80.7	274.00
40	0.085	1.806	-27.43	0.4263	86.9	0	86.9	326.54
35	0.160	6.400	-21.94	0.4777	91.4	0	91.4	391.31
30	0.267	17.822	-17.49	0.5480	94.7	0	94.7	474.58
25	0.395	39.006	-14.09	0.6483	96.6	0	96.6	587.59
20	0.495	61.256	-12.13	0.8011	96.7	0	96.7	752.81
15	0.627	98.282	-10.08	1.0587	96.3	0	96.3	1022.58
10	0.868	188.356	-7.25	1.5779	95.7	0	95.7	1553.93
5	0.965	232.806	-6.33	3.1438	90.6	0	90.6	3131.83

Distance to Ground Level assumes flat ground or a site where the ground level is above average terrain in all azimuths.

Maximum ERP                      250 watts  
Radiation Center AG            0.274 km  
Radiation Center AG            898.950 ft.

Max dBu to Ground Level                      96.72