Computation of Signal Level
Above The Ground
Creative Educational Media
Akron, Ohio FCC ID 141395

December 30, 2003

Depression Angle, Degrees	Relative Field	ERP Watts	dBk	Distance to the Ground in Kilometers	Free Space Signal	dB Loss for Reflection	Signal Strength dBu
90	0.010	0.0009	-60.5	0.0450	73.4	2.47	70.9
85	0.122	0.1340	-38.7	0.0452	95.1	2.47	92.6
80	0.164	0.2421	-36.2	0.0457	97.6	2.47	95.1
75	0.221	0.4396	-33.6	0.0466	100.0	2.47	97.5
70	0.288	0.7465	-31.3	0.0479	102.0	2.47	99.6
65	0.362	1.1794	-29.3	0.0497	103.7	2.47	101.2
60	0.440	1.7424	-27.6	0.0520	105.0	2.47	102.5
55	0.514	2.3778	-26.2	0.0549	105.9	2.47	103.4
50	0.584	3.0695	-25.1	0.0587	106.4	2.47	103.9
45	0.657	3.8848	-24.1	0.0636	106.7	2.47	104.3
40	0.727	4.7568	-23.2	0.0700	106.8	2.47	104.3
35	0.785	5.5460	-22.6	0.0785	106.5	2.47	104.0
30	0.836	6.2901	-22.0	0.0900	105.8	2.47	103.4
25	0.882	7.0013	-21.5	0.1065	104.8	2.47	102.4
20	0.922	7.6508	-21.2	0.1316	103.4	2.47	100.9
15	0.958	8.2599	-20.8	0.1739	101.3	2.47	98.8
10	0.984	8.7143	-20.6	0.2591	98.1	2.47	95.6
5	0.997	8.9461	-20.5	0.5163	92.2	2.47	89.7

Notes:

Antenna radiation center above ground (meters):	45
Maximum ERP (watts) at 0° Depression angle:	9

Free Space Signal = 106.92 -20*log(distance in km) + dBk

Relative field based on one bay antenna.