

FREE SPACE SIGNAL LEVEL

Computation of Signal Level 2 METERS AGL FROM PROPOSED CH 238 FM TRANSLATOR DALLAS, TEXAS

June 22, 2018

Depression Angle, Degrees	Relative Field	ERP Watts	dBk	Distance to the Ground in Kilometers	Free Space Signal
90	0.021	0.1103	-39.6	0.1320	84.9
85	0.018	0.0810	-40.9	0.1325	83.6
80	0.025	0.1563	-38.1	0.1340	86.3
75	0.036	0.3240	-34.9	0.1367	89.3
70	0.056	0.7840	-31.1	0.1405	92.9
65	0.090	2.0250	-26.9	0.1456	96.7
60	0.143	5.1123	-22.9	0.1524	100.3
55	0.212	11.2360	-19.5	0.1611	103.3
50	0.293	21.4623	-16.7	0.1723	105.5
45	0.382	36.4810	-14.4	0.1867	107.1
40	0.477	56.8823	-12.5	0.2054	108.2
35	0.575	82.6563	-10.8	0.2301	108.9
30	0.676	114.2440	-9.4	0.2640	109.1
25	0.765	146.3063	-8.3	0.3123	108.7
20	0.844	178.0840	-7.5	0.3859	107.7
15	0.913	208.3923	-6.8	0.5100	106.0
10	0.963	231.8423	-6.3	0.7602	103.0
5	0.992	246.0160	-6.1	1.5145	97.2
4	0.995	247.5063	-6.1	1.8923	95.3
3	0.998	249.0010	-6.0	2.5222	92.8
2	0.998	249.0010	-6.0	3.7823	89.3
1	0.999	249.5003	-6.0	7.5634	83.3

Notes:

Antenna radiation center above ground (meters): 132

Maximum ERP (watts) at 0° Depression angle: 250

Free Space Signal = $106.92 - 20 \cdot \log(\text{distance in km}) + \text{dBk}$

Relative Field from ALDENA SINGLE BAY AST.04.03.334 PSIFMY-1-DA