

**FREE SPACE SIGNAL LEVEL**

**Computation of Signal Level  
2 METERS AGL  
FROM PROPOSED CH 254 FM TRANSLATOR  
KENDALL, FLORIDA**

**June 13, 2018**

<b>Depression Angle, Degrees</b>	<b>Relative Field</b>	<b>ERP Watts</b>	<b>dBk</b>	<b>Distance to the Ground in Kilometers</b>	<b>Free Space Signal</b>
90	0.012	0.0360	-44.4	0.2420	74.8
85	0.011	0.0303	-45.2	0.2429	74.0
80	0.017	0.0723	-41.4	0.2457	77.7
75	0.027	0.1823	-37.4	0.2505	81.5
70	0.043	0.4623	-33.4	0.2575	85.4
65	0.073	1.3323	-28.8	0.2670	89.6
60	0.121	3.6603	-24.4	0.2794	93.6
55	0.186	8.6490	-20.6	0.2954	96.9
50	0.264	17.4240	-17.6	0.3159	99.3
45	0.354	31.3290	-15.0	0.3422	101.2
40	0.450	50.6250	-13.0	0.3765	102.4
35	0.552	76.1760	-11.2	0.4219	103.2
30	0.656	107.5840	-9.7	0.4840	103.5
25	0.751	141.0003	-8.5	0.5726	103.3
20	0.834	173.8890	-7.6	0.7076	102.3
15	0.907	205.6623	-6.9	0.9350	100.6
10	0.960	230.4000	-6.4	1.3936	97.7
5	0.991	245.5203	-6.1	2.7766	92.0
4	0.994	247.0090	-6.1	3.4692	90.0
3	0.997	248.5023	-6.0	4.6240	87.6
2	0.998	249.0010	-6.0	6.9342	84.1
1	0.999	249.5003	-6.0	13.8663	78.1

**Notes:**

Antenna radiation center above ground (meters): 242

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 ARRAY TWO FOUR ELEMENT YAGIS PHASED - EX 13 - 3