

Table II

**Computation of Signal Level
on the Ground
From Proposed CH 265 FM Translator
Newport News, VA**

May, 2019

Depression Angle, Degrees	Relative Field	ERP Watts	dBk	Distance to the Ground in Kilometers	Free Space Signal
90	0.001	0.0003	-66.0	0.1050	60.5
85	0.023	0.1323	-38.8	0.1054	87.7
80	0.048	0.5760	-32.4	0.1066	94.0
75	0.077	1.4823	-28.3	0.1087	97.9
70	0.112	3.1360	-25.0	0.1117	100.9
65	0.156	6.0840	-22.2	0.1159	103.5
60	0.208	10.8160	-19.7	0.1212	105.6
55	0.271	18.3603	-17.4	0.1282	107.4
50	0.342	29.2410	-15.3	0.1371	108.8
45	0.422	44.5210	-13.5	0.1485	110.0
40	0.508	64.5160	-11.9	0.1634	110.8
35	0.593	87.9123	-10.6	0.1831	111.1
30	0.685	117.3063	-9.3	0.2100	111.2
25	0.770	148.2250	-8.3	0.2485	110.7
20	0.846	178.9290	-7.5	0.3070	109.7
15	0.921	212.0603	-6.7	0.4057	108.0
10	0.959	229.9203	-6.4	0.6047	104.9
5	0.990	245.0250	-6.1	1.2047	99.2

Notes:

Antenna radiation center above ground (meters): 105
Maximum ERP (watts) at 0° Depression angle: 250
Free Space Signal = $106.92 - 20 \cdot \log(\text{distance in km}) + \text{dBk}$
Relative field based on 2 bay 0.5 wavelength interbay spacing antenna.