

Table III

**Computation of Signal Level
on the Ground
from Proposed W255BM FM translator
Beckley, West Virginia**

July 14, 2017

Depression Angle, Degrees	Relative Field	ERP Watts	dBk	Distance to the Ground in Kilometers	Free Space Signal
90	0.001	0.0003	-65.2	0.1480	58.3
85	0.061	0.9303	-30.3	0.1486	93.2
80	0.118	3.4810	-24.6	0.1503	98.8
75	0.168	7.0560	-21.5	0.1532	101.7
70	0.205	10.5063	-19.8	0.1575	103.2
65	0.226	12.7690	-18.9	0.1633	103.7
60	0.227	12.8823	-18.9	0.1709	103.4
55	0.202	10.2010	-19.9	0.1807	101.9
50	0.149	5.5503	-22.6	0.1932	98.6
45	0.068	1.1560	-29.4	0.2093	91.1
40	0.043	0.4623	-33.4	0.2302	86.3
35	0.178	7.9210	-21.0	0.2580	97.7
30	0.331	27.3903	-15.6	0.2960	101.9
25	0.493	60.7623	-12.2	0.3502	103.9
20	0.650	105.6250	-9.8	0.4327	104.4
15	0.792	156.8160	-8.0	0.5718	103.7
10	0.903	203.8523	-6.9	0.8523	101.4
9	0.921	212.0603	-6.7	0.9461	100.7
8	0.937	219.4923	-6.6	1.0634	99.8
7	0.952	226.5760	-6.4	1.2144	98.8
6	0.964	232.3240	-6.3	1.4159	97.6
5	0.975	237.6563	-6.2	1.6981	96.1

Notes:

Antenna radiation center above ground (meters): 148
Maximum ERP (watts) at 0° Depression angle: 250
Free Space Signal = $106.92 - 20 \cdot \log(\text{distance in km}) + \text{dBk}$
Relative field basec PSI Model PSIFLV-2A-75WS-DA Custom