

FREE SPACE SIGNAL LEVEL

**Computation of Signal Level
TWO METERS ABOVE GROUND
W283CA CP MODIFICATION
ST. LOUIS, MISSOURI**

January 15, 2016

Depression Angle, Degrees	Relative Field	ERP Watts	dBk	Distance to the Ground in Kilometers	Free Space Signal
90	0.001	0.0001	-70.0	0.1550	53.1
85	0.096	0.9124	-30.4	0.1556	92.7
80	0.186	3.4250	-24.7	0.1574	98.3
75	0.273	7.3784	-21.3	0.1605	101.5
70	0.357	12.6175	-19.0	0.1649	103.6
65	0.437	18.9059	-17.2	0.1710	105.0
60	0.514	26.1554	-15.8	0.1790	106.0
55	0.586	33.9962	-14.7	0.1892	106.7
50	0.654	42.3439	-13.7	0.2023	107.1
45	0.717	50.8948	-12.9	0.2192	107.2
40	0.774	59.3085	-12.3	0.2411	107.0
35	0.826	67.5453	-11.7	0.2702	106.6
30	0.871	75.1055	-11.2	0.3100	105.8
25	0.910	81.9819	-10.9	0.3668	104.8
20	0.942	87.8490	-10.6	0.4532	103.2
15	0.967	92.5738	-10.3	0.5989	101.0
10	0.985	96.0523	-10.2	0.8926	97.7
5	0.996	98.2096	-10.1	1.7784	91.8

Notes:

Antenna radiation center above ground (meters): 155

Maximum ERP (watts) at 0° Depression angle: 99

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

Relative field based on one bay antenna: SHIVELY 6815