

EXHIBIT 13-4

FREE SPACE SIGNAL LEVEL

Computation of Signal Level Two Meters Above Ground KXEN PROP. FM TRANSLATOR CH 264D ST. LOUIS, MISSOURI

April 30, 2018

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	0.9216	-30.4	0.1556	92.7
80	0.186	3.4596	-24.6	0.1574	98.4
75	0.273	7.4529	-21.3	0.1605	101.5
70	0.357	12.7449	-18.9	0.1649	103.6
65	0.437	19.0969	-17.2	0.1710	105.1
60	0.514	26.4196	-15.8	0.1790	106.1
55	0.586	34.3396	-14.6	0.1892	106.7
50	0.654	42.7716	-13.7	0.2023	107.1
45	0.717	51.4089	-12.9	0.2192	107.2
40	0.774	59.9076	-12.2	0.2411	107.0
35	0.826	68.2276	-11.7	0.2702	106.6
30	0.871	75.8641	-11.2	0.3100	105.9
25	0.910	82.8100	-10.8	0.3668	104.8
20	0.942	88.7364	-10.5	0.4532	103.3
15	0.967	93.5089	-10.3	0.5989	101.1
10	0.985	97.0225	-10.1	0.8926	97.8
5	0.996	99.2016	-10.0	1.7784	91.9

Notes:

Antenna radiation center above ground (meters): 155
Maximum ERP (watts) at 0° Depression angle: 100
Free Space Signal = $106.92 - 20 \cdot \log(\text{distance in km}) + \text{dBk}$
Relative field based on one bay antenna: Shively 6815-1