

## Exhibit 12

### *Freespace Interference Study based on Vertical Radiation Pattern ERI 100-2HW 2 Bay Half Wave Spaced Antenna*

Depression Angle from Antenna	Antenna Relative Field	ERP Watts	ERP dBk	Distance to Ground from Antenna (m)	Free Space Signal (dBu)	dB Loss for Reflection	Signal Strength at Ground (dBu)	Circular Distance From Tower (m)	Distance to Contour using Free Space (m)	Height of Contour above Ground (m)
90	0.000	0.000	-84.95	92.00	42.70	0	42.70	0.00	0.10	91.90
85	0.001	0.000	-76.99	92.35	50.62	0	50.62	8.05	0.26	91.74
80	0.007	0.001	-60.09	93.42	67.42	0	67.42	16.22	1.83	90.19
75	0.019	0.007	-51.41	95.25	75.93	0	75.93	24.65	4.98	87.19
70	0.040	0.032	-44.95	97.90	82.16	0	82.16	33.49	10.49	82.15
65	0.073	0.107	-39.72	101.51	87.07	0	87.07	42.90	19.14	74.66
60	0.120	0.288	-35.41	106.23	90.99	0	90.99	53.12	31.46	64.76
55	0.176	0.620	-32.08	112.31	93.83	0	93.83	64.42	46.13	54.21
50	0.247	1.220	-29.14	120.10	96.19	0	96.19	77.20	64.75	42.40
45	0.330	2.178	-26.62	130.11	98.01	0	98.01	92.00	86.50	30.83
40	0.423	3.579	-24.46	143.13	99.34	0	99.34	109.64	110.88	20.73
35	0.523	5.471	-22.62	160.40	100.20	0	100.20	131.39	137.09	13.37
30	0.624	7.788	-21.09	184.00	100.54	0	100.54	159.35	163.57	10.22
25	0.723	10.455	-19.81	217.69	100.36	0	100.36	197.29	189.52	11.91
20	0.814	13.252	-18.78	268.99	99.55	0	99.55	252.77	213.37	19.02
15	0.891	15.878	-17.99	355.46	97.91	0	97.91	343.35	233.56	31.55
10	0.950	18.050	-17.44	529.81	95.00	0	95.00	521.76	249.02	48.76
5	0.987	19.483	-17.10	1055.58	89.35	0	89.35	1051.56	258.72	69.45

Distance to Ground Level assumes flat ground or a site where the site level is above average terrain in all azimuths.

Maximum ERP	20	watts	Max dBu at Ground Level	100.54	Lowest Height of Contour (m)	10.22
Radiation Center AG	92	m			(ft)	33.51
Radiation Center AG	302	ft.				
Maximum ERP	-16.99	dBk				
Protected dBu	61.56	dBu				
Interfering dBu	101.56	dBu				
Free Space Distance	262.13	m				
	859.84	feet				