

Exhibit #13

Vertical Radiation Calculation Chart

2-bay Full Wave Spaced Circularly Polarized FM Antenna

Frequency = Mhz
Interfering Contour dBu (50,10)

ERP= watts
Height = m AGL

Degrees	Rel. Field	Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	Degrees	Rel. Field	Power (w)	Distance to Contour (m)	Distance from Antenna to Ground (m)	
1	1.000	20.0	108.77	2,406.54	46	0.242	1.2	26.32	58.39	
2	0.995	19.8	108.23	1,203.46	47	0.258	1.3	28.06	57.43	
3	0.989	19.6	107.57	802.51	48	0.273	1.5	29.69	56.52	
4	0.980	19.2	106.60	602.09	49	0.287	1.6	31.22	55.65	
5	0.969	18.8	105.40	481.90	50	0.299	1.8	32.52	54.83	
6	0.956	18.3	103.99	401.80	51	0.310	1.9	33.72	54.04	
7	0.941	17.7	102.35	344.63	52	0.319	2.0	34.70	53.30	
8	0.974	19.0	105.94	301.78	53	0.327	2.1	35.57	52.59	
9	0.923	17.0	100.40	268.48	54	0.334	2.2	36.33	51.91	
10	0.881	15.5	95.83	241.87	55	0.339	2.3	36.87	51.27	
11	0.858	14.7	93.33	220.12	56	0.343	2.4	37.31	50.66	
12	0.832	13.8	90.50	202.01	57	0.346	2.4	37.63	50.08	
13	0.805	13.0	87.56	186.71	58	0.348	2.4	37.85	49.53	
14	0.776	12.0	84.41	173.61	59	0.348	2.4	37.85	49.00	
15	0.745	11.1	81.03	162.28	60	0.347	2.4	37.74	48.50	
16	0.714	10.2	77.66	152.37	61	0.345	2.4	37.53	48.02	
17	0.681	9.3	74.07	143.65	62	0.343	2.4	37.31	47.57	
18	0.647	8.4	70.38	135.91	63	0.339	2.3	36.87	47.14	
19	0.612	7.5	66.57	129.01	64	0.334	2.2	36.33	46.73	
20	0.576	6.6	62.65	122.80	65	0.328	2.2	35.68	46.34	
21	0.539	5.8	58.63	117.20	66	0.322	2.1	35.02	45.97	
22	0.502	5.0	54.60	112.12	67	0.315	2.0	34.26	45.63	
23	0.465	4.3	50.58	107.49	68	0.306	1.9	33.28	45.30	
24	0.427	3.6	46.45	103.26	69	0.298	1.8	32.41	44.99	
25	0.387	3.0	42.09	99.38	70	0.288	1.7	31.33	44.70	
26	0.352	2.5	38.29	95.81	71	0.278	1.5	30.24	44.42	
27	0.314	2.0	34.15	92.51	72	0.267	1.4	29.04	44.16	
28	0.277	1.5	30.13	89.46	73	0.256	1.3	27.85	43.92	
29	0.240	1.2	26.11	86.63	74	0.244	1.2	26.54	43.69	
30	0.203	0.8	22.08	84.00	75	0.231	1.1	25.13	43.48	
31	0.168	0.6	18.27	81.55	76	0.218	1.0	23.71	43.29	
32	0.132	0.3	14.36	79.26	77	0.205	0.8	22.30	43.10	
33	0.098	0.2	10.66	77.12	78	0.191	0.7	20.78	42.94	
34	0.065	0.1	7.07	75.11	79	0.177	0.6	19.25	42.79	
35	0.032	0.0	3.48	73.22	80	0.162	0.5	17.62	42.65	
36	0.001	0.0	0.11	71.45	81	0.148	0.4	16.10	42.52	
37	0.029	0.0	3.15	69.79	82	0.132	0.3	14.36	42.41	
38	0.058	0.1	6.31	68.22	83	0.117	0.3	12.73	42.32	
39	0.086	0.1	9.35	66.74	84	0.101	0.2	10.99	42.23	
40	0.112	0.3	12.18	65.34	85	0.085	0.1	9.25	42.16	
41	0.137	0.4	14.90	64.02	86	0.069	0.1	7.51	42.10	
42	0.161	0.5	17.51	62.77	87	0.052	0.1	5.66	42.06	
43	0.183	0.7	19.91	61.58	88	0.036	0.0	3.92	42.03	
44	0.204	0.8	22.19	60.46	89	0.018	0.0	1.96	42.01	
45	0.224	1.0	24.36	59.40	90	0.000	0.0	0.00	42.00	

NOTES:

- HEIGHT HAS BEEN REDUCED BY 2 METERS TO ALLOW FOR HUMAN EXPOSURE
- DISTANCE FROM ANTENNA TO GROUND IS ACTUALLY TO A POINT 2 METERS ABOVE GROUND