

ENVIRONMENTAL IMPACT

The proposed modification has been analyzed with respect to OET Bulletin 65 Edition 97-01 (OET65) entitled *Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*.

The instant application proposes an antenna side-mounted on an existing self-supporting lattice tower. This is the same tower which supports the antenna currently in use by the W43CH analog facility.

Per OET65 Appendix A, Table 1 (A) and (B), for digital operation on channel 43 (647 MHz center frequency), the maximum permissible power density is $2.157 \mu\text{W}/\text{cm}^2$ for occupational exposure, and $0.431 \mu\text{W}/\text{cm}^2$ for uncontrolled exposure. A radiofrequency radiation analysis is attached which demonstrates compliance with these exposure limits, with a worst-case exposure of only 0.36% of the uncontrolled limit at a depression angle of 67 degrees.

The applicant is the sole occupant of the tower. Signage is posted at the base of the tower warning that radiofrequency radiation levels above the prescribed limits may be realized at some locations on the tower. The base of the tower is marked with signage warning potential climbers that maximum exposure levels are exceeded at some elevations on the tower in proximity to the transmitting antennas, and that the antenna must de-energized whenever workers ascend the tower.

Based on the analyses above, it is concluded that the proposed operation is in full compliance with non-ionizing radiation exposure limits.

The proposed facility will have no other significant environmental impact. The tower is existing. The structure is below the height required for antenna structure registration or marking. The proposed location is not in a sensitive environmental area. The proposed facility does not require further environmental analysis under 47 CFR §1.1307 and is therefore excluded from environmental processing under 47 CFR §1.1306.

W43CH**Scala SL-8**ERP_V: **0.000** kWERP_H: **1.000** kWCOR: **35** m**ELEVATION PATTERN / RFR STUDY**

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Depr Angle (deg)	Relative Field	ERP (kW)	Horiz Dist (m)	Slant Dist (m)	Power Density w/ reflection gain (uW/cm ²)	Percentage of §1.1310 MPE Occupational	Percentage of §1.1310 MPE Uncontrolled
0	0.913	0.834	∞	∞	0.000000	0.00%	0.00%
1	0.995	0.990	1890.6	1890.9	0.000009	0.00%	0.00%
2	1.000	1.000	945.0	945.6	0.000037	0.00%	0.01%
3	0.929	0.863	629.7	630.5	0.000073	0.00%	0.02%
4	0.793	0.629	471.9	473.1	0.000094	0.00%	0.02%
5	0.611	0.373	377.2	378.6	0.000087	0.00%	0.02%
6	0.407	0.166	314.0	315.7	0.000056	0.00%	0.01%
7	0.211	0.045	268.8	270.8	0.000020	0.00%	0.00%
8	0.095	0.009	234.8	237.1	0.000005	0.00%	0.00%
9	0.166	0.028	208.4	211.0	0.000021	0.00%	0.00%
10	0.246	0.061	187.2	190.0	0.000056	0.00%	0.01%
11	0.281	0.079	169.8	172.9	0.000088	0.00%	0.02%
12	0.269	0.072	155.3	158.7	0.000096	0.00%	0.02%
13	0.223	0.050	142.9	146.7	0.000077	0.00%	0.02%
14	0.157	0.025	132.4	136.4	0.000044	0.00%	0.01%
15	0.087	0.008	123.2	127.5	0.000016	0.00%	0.00%
16	0.033	0.001	115.1	119.7	0.000003	0.00%	0.00%
17	0.029	0.001	107.9	112.9	0.000002	0.00%	0.00%
18	0.037	0.001	101.6	106.8	0.000004	0.00%	0.00%
19	0.022	0.000	95.8	101.4	0.000002	0.00%	0.00%
20	0.014	0.000	90.7	96.5	0.000001	0.00%	0.00%
21	0.064	0.004	86.0	92.1	0.000016	0.00%	0.00%
22	0.118	0.014	81.7	88.1	0.000060	0.00%	0.01%
23	0.167	0.028	77.7	84.5	0.000131	0.01%	0.03%
24	0.203	0.041	74.1	81.1	0.000209	0.01%	0.05%
25	0.221	0.049	70.8	78.1	0.000268	0.01%	0.06%
26	0.219	0.048	67.7	75.3	0.000283	0.01%	0.07%
27	0.199	0.040	64.8	72.7	0.000250	0.01%	0.06%
28	0.165	0.027	62.1	70.3	0.000184	0.01%	0.04%
29	0.126	0.016	59.5	68.1	0.000114	0.01%	0.03%
30	0.091	0.008	57.2	66.0	0.000064	0.00%	0.01%
31	0.071	0.005	54.9	64.1	0.000041	0.00%	0.01%
32	0.068	0.005	52.8	62.3	0.000040	0.00%	0.01%
33	0.073	0.005	50.8	60.6	0.000048	0.00%	0.01%
34	0.075	0.006	48.9	59.0	0.000054	0.00%	0.01%
35	0.076	0.006	47.1	57.5	0.000058	0.00%	0.01%
36	0.080	0.006	45.4	56.1	0.000068	0.00%	0.02%
37	0.094	0.009	43.8	54.8	0.000098	0.00%	0.02%
38	0.116	0.013	42.2	53.6	0.000156	0.01%	0.04%
39	0.138	0.019	40.8	52.4	0.000231	0.01%	0.05%
40	0.155	0.024	39.3	51.3	0.000305	0.01%	0.07%
41	0.165	0.027	38.0	50.3	0.000360	0.02%	0.08%
42	0.164	0.027	36.7	49.3	0.000369	0.02%	0.09%
43	0.153	0.023	35.4	48.4	0.000334	0.02%	0.08%
44	0.133	0.018	34.2	47.5	0.000262	0.01%	0.06%
45	0.108	0.012	33.0	46.7	0.000179	0.01%	0.04%

W43CH**Scala SL-8**ERP_V: **0.000** kWERP_H: **1.000** kWCOR: **35** m**ELEVATION PATTERN / RFR STUDY**

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Depr Angle (deg)	Relative Field	ERP (kW)	Horiz Dist (m)	Slant Dist (m)	Power Density w/ reflection gain (uW/cm ²)	Percentage of §1.1310 MPE Occupational	Percentage of §1.1310 MPE Uncontrolled
46	0.083	0.007	31.9	45.9	0.000109	0.01%	0.03%
47	0.066	0.004	30.8	45.1	0.000071	0.00%	0.02%
48	0.063	0.004	29.7	44.4	0.000067	0.00%	0.02%
49	0.073	0.005	28.7	43.7	0.000093	0.00%	0.02%
50	0.084	0.007	27.7	43.1	0.000127	0.01%	0.03%
51	0.091	0.008	26.7	42.5	0.000153	0.01%	0.04%
52	0.091	0.008	25.8	41.9	0.000158	0.01%	0.04%
53	0.083	0.007	24.9	41.3	0.000135	0.01%	0.03%
54	0.070	0.005	24.0	40.8	0.000098	0.00%	0.02%
55	0.053	0.003	23.1	40.3	0.000058	0.00%	0.01%
56	0.044	0.002	22.3	39.8	0.000041	0.00%	0.01%
57	0.054	0.003	21.4	39.3	0.000063	0.00%	0.01%
58	0.079	0.006	20.6	38.9	0.000138	0.01%	0.03%
59	0.110	0.012	19.8	38.5	0.000273	0.01%	0.06%
60	0.140	0.020	19.1	38.1	0.000451	0.02%	0.10%
61	0.168	0.028	18.3	37.7	0.000662	0.03%	0.15%
62	0.193	0.037	17.5	37.4	0.000891	0.04%	0.21%
63	0.213	0.045	16.8	37.0	0.001105	0.05%	0.26%
64	0.228	0.052	16.1	36.7	0.001288	0.06%	0.30%
65	0.238	0.057	15.4	36.4	0.001427	0.07%	0.33%
66	0.243	0.059	14.7	36.1	0.001512	0.07%	0.35%
67	0.244	0.060	14.0	35.8	0.001548	0.07%	0.36%
68	0.240	0.058	13.3	35.6	0.001519	0.07%	0.35%
69	0.232	0.054	12.7	35.3	0.001439	0.07%	0.33%
70	0.222	0.049	12.0	35.1	0.001335	0.06%	0.31%
71	0.209	0.044	11.4	34.9	0.001198	0.06%	0.28%
72	0.195	0.038	10.7	34.7	0.001055	0.05%	0.24%
73	0.179	0.032	10.1	34.5	0.000899	0.04%	0.21%
74	0.163	0.027	9.5	34.3	0.000753	0.03%	0.17%
75	0.147	0.022	8.8	34.2	0.000619	0.03%	0.14%
76	0.132	0.017	8.2	34.0	0.000503	0.02%	0.12%
77	0.116	0.013	7.6	33.9	0.000392	0.02%	0.09%
78	0.102	0.010	7.0	33.7	0.000305	0.01%	0.07%
79	0.088	0.008	6.4	33.6	0.000229	0.01%	0.05%
80	0.076	0.006	5.8	33.5	0.000172	0.01%	0.04%
81	0.065	0.004	5.2	33.4	0.000126	0.01%	0.03%
82	0.054	0.003	4.6	33.3	0.000088	0.00%	0.02%
83	0.045	0.002	4.1	33.2	0.000061	0.00%	0.01%
84	0.037	0.001	3.5	33.2	0.000042	0.00%	0.01%
85	0.029	0.001	2.9	33.1	0.000026	0.00%	0.01%
86	0.022	0.000	2.3	33.1	0.000015	0.00%	0.00%
87	0.016	0.000	1.7	33.0	0.000008	0.00%	0.00%
88	0.010	0.000	1.2	33.0	0.000003	0.00%	0.00%
89	0.010	0.000	0.6	33.0	0.000003	0.00%	0.00%
90	0.010	0.000	0.0	33.0	0.000003	0.00%	0.00%

W43CH

Scala SL-8

ERP_V: **0.000** kW

ERP_H: **1.000** kW

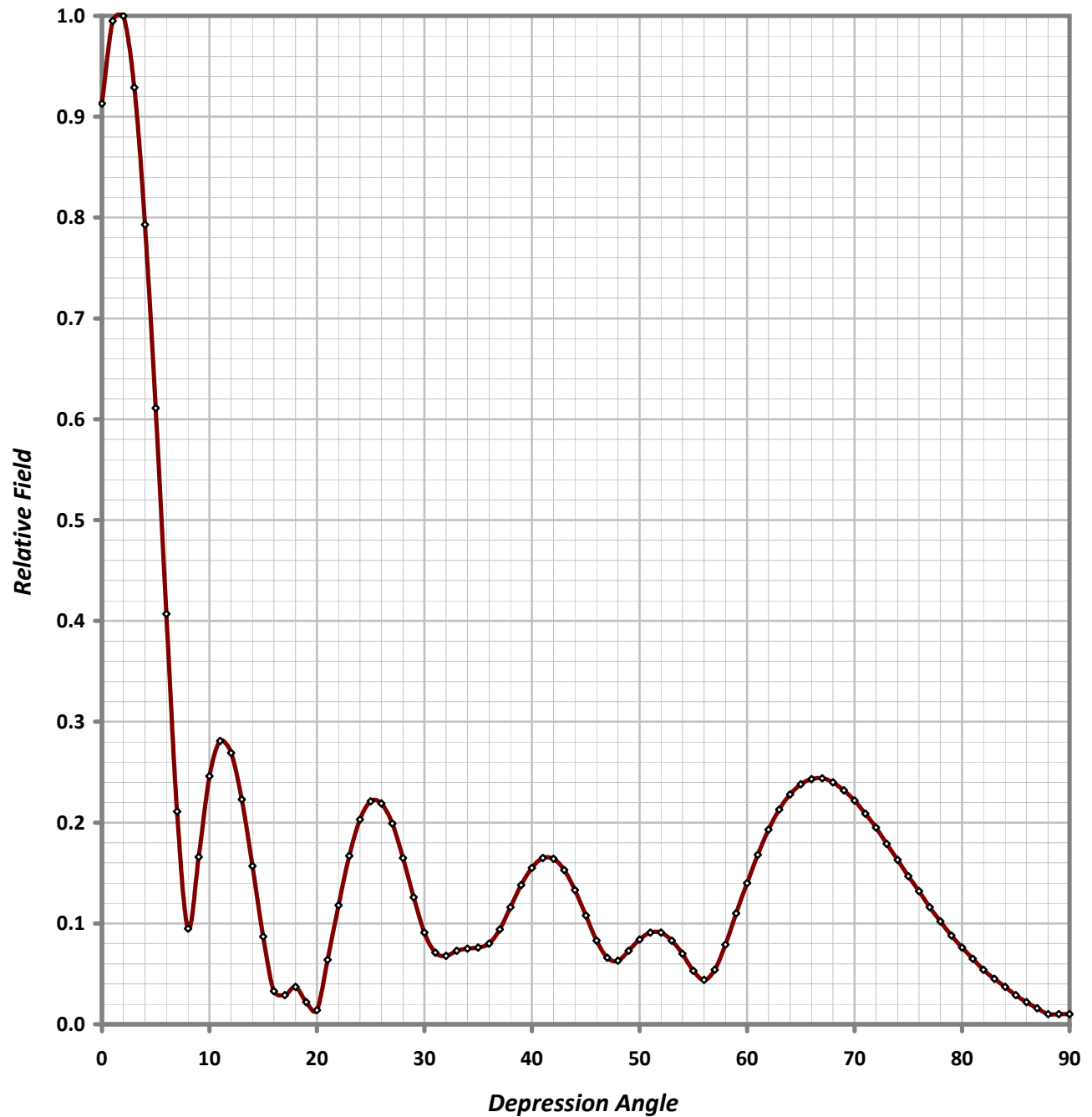
COR: **35** m



ELEVATION PATTERN / RFR STUDY

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ELEVATION PATTERN



W43CH

Scala SL-8

ERP_V: **0.000** kW

ERP_H: **1.000** kW

COR: **35** m



ELEVATION PATTERN / RFR STUDY

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POWER DENSITY

