

Human exposure to excess levels of radiofrequency radiation

The proposed facility is to be built using a 1-bay circularly polarized full-wave spaced antenna.

According to OET 65, "Applicants and licensees should be able to calculate, based on considerations of frequency, power and antenna characteristics the distance from their transmitter where their signal produces an RF field equal to, or greater than, the 5% threshold limit. The applicant or licensee then shares responsibility for compliance in any accessible area or areas within this 5% "contour" where the appropriate limits are found to be exceeded."

As can be seen in Exhibit 17-A, the proposed facility's maximum contribution to RF on the site is $4.54 \mu\text{W}/\text{cm}^2$ at a distance of 7 meters from the tower, which is 2.27% of the uncontrolled (public) exposure limit.

Therefore, because the proposed facility will not cause an RF field that is equal to or greater than 5% of the $200 \mu\text{W}/\text{cm}^2$ limit for uncontrolled exposure at any point, the proposed facility complies with the requirements of OET 65.

EMF will fully cooperate with other site users to temporarily reduce power or cease broadcasting, as necessary, to protect workers and others having access to the site from excessive levels of RF Radiation.

RF Analysis: FAIRBANKS, AK
 K203CT
 204
 D
 K203CT
 Site type: Application
 Channel: 204
 Class: D
 ERP: 50WATTS
 Antenna: RFSCPF500
 1 BAY
 FULL WAVE
 COR AGL: 21M
 Polarization: CIRCULAR

Distance From Tower (m)	K203CT Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
0	3.7880	3.79	1.89
1	3.9024	3.90	1.95
2	4.0307	4.03	2.02
3	4.3018	4.30	2.15
4	4.4988	4.50	2.25
5	4.5427	4.54	2.27
6	4.5571	4.56	2.28
7	4.5377	4.54	2.27
8	4.5213	4.52	2.26
9	4.5237	4.52	2.26
10	4.4886	4.49	2.24
11	4.3722	4.37	2.19
12	4.2488	4.25	2.12
13	4.1569	4.16	2.08
14	4.0618	4.06	2.03
15	3.9379	3.94	1.97
16	3.7625	3.76	1.88
17	3.5926	3.59	1.80
18	3.4334	3.43	1.72
19	3.2873	3.29	1.64
20	3.1466	3.15	1.57
21	3.0115	3.01	1.51
22	2.8600	2.86	1.43
23	2.7180	2.72	1.36
24	2.5851	2.59	1.29
25	2.4605	2.46	1.23
26	2.4349	2.43	1.22
27	2.4075	2.41	1.20
28	2.3763	2.38	1.19
29	2.3420	2.34	1.17
30	2.3047	2.30	1.15
31	2.2107	2.21	1.11
32	2.1213	2.12	1.06
33	2.0364	2.04	1.02
34	1.9558	1.96	0.98
35	1.8793	1.88	0.94
36	1.8066	1.81	0.90
37	1.7411	1.74	0.87
38	1.6806	1.68	0.84
39	1.6230	1.62	0.81
40	1.5679	1.57	0.78
41	1.5154	1.52	0.76
42	1.4652	1.47	0.73
43	1.4172	1.42	0.71
44	1.3713	1.37	0.69
45	1.3275	1.33	0.66

Distance From Tower (m)	K203CT Facility	Total RF (uW/cm2)	Percent of 200uW/cm2
46	1.2773	1.28	0.64
47	1.2295	1.23	0.61
48	1.1842	1.18	0.59
49	1.1412	1.14	0.57
50	1.1004	1.10	0.55
51	1.0617	1.06	0.53
52	1.0249	1.02	0.51
53	0.9898	0.99	0.49
54	0.9565	0.96	0.48
55	0.9247	0.92	0.46
56	0.8945	0.89	0.45
57	0.8656	0.87	0.43
58	0.8382	0.84	0.42
59	0.8120	0.81	0.41
60	0.7870	0.79	0.39
61	0.7632	0.76	0.38
62	0.7403	0.74	0.37
63	0.7185	0.72	0.36
64	0.6976	0.70	0.35
65	0.6775	0.68	0.34
66	0.6583	0.66	0.33
67	0.6399	0.64	0.32
68	0.6222	0.62	0.31
69	0.6052	0.61	0.30
70	0.5889	0.59	0.29
71	0.5733	0.57	0.29
72	0.5582	0.56	0.28
73	0.5437	0.54	0.27
74	0.5297	0.53	0.26
75	0.5163	0.52	0.26
76	0.5034	0.50	0.25
77	0.4909	0.49	0.25
78	0.4789	0.48	0.24
79	0.4680	0.47	0.23
80	0.4578	0.46	0.23
81	0.4479	0.45	0.22
82	0.4383	0.44	0.22
83	0.4290	0.43	0.21
84	0.4200	0.42	0.21
85	0.4113	0.41	0.21
86	0.4029	0.40	0.20
87	0.3947	0.39	0.20
88	0.3867	0.39	0.19
89	0.3790	0.38	0.19
90	0.3715	0.37	0.19
91	0.3642	0.36	0.18
92	0.3571	0.36	0.18
93	0.3502	0.35	0.18
94	0.3436	0.34	0.17
95	0.3371	0.34	0.17
96	0.3307	0.33	0.17
97	0.3246	0.32	0.16
98	0.3186	0.32	0.16
99	0.3128	0.31	0.16
100	0.3071	0.31	0.15