

## **Exhibit 2 Rf Hazard SOC Compliance**

**K212FU, Lewistown, MT (FIN: 141964)**

**4/30/2016**

Power density for proposed K212FU was calculated according to the standard formula specified in OET 65 for worst case scenario.

$$S = 33.4 (F^2) ERP \div R^2$$

The general population exposure limit (GPE) was obtained for K212FU based on the value of  $200\mu\text{W}/\text{cm}^2$  as specified in OET 65<sup>1</sup>.

Pages 2 through 4 of this exhibit consist of a table summarizing the pertinent data for K212. The table shows the depression angle, interpolated relative field value, the power density ( $\mu\text{W}/\text{cm}^2$ ) and the percent of the GPE limit. Calculations were performed on horizontal distances of 0m to 100m from the base of the tower. The interpolated Relative Field Values were calculated using the manufacturer's vertical radiation data for the NIC BKG77-1 antenna.

### **Conclusion**

K212FU, as depicted in the attached photos, is the only AM, FM or TV Rf emitter on the transmit pole. The analysis presented in this exhibit demonstrates that the greatest Rf power density resulting from this proposal occurs at a distance of 7m from the base of the tower and represents  $91.378\mu\text{W}/\text{cm}^2$  or 45.7% of the allowable GPE limit. There is no location on the ground that exceeds the GPE limit. This application is therefore compliant with the guidelines for human exposure as specified in OET Bulletin No. 65, Edition 97-01, August 1997.

Furthermore, the antenna is located in remote area with limited access to the general population. A warning sign has been posted.

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<sup>1</sup>OET Bulletin 65, Edition 97-01, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, page 67, Table 1B.

**Rf Hazard Calculations**  
**K212FU, Lewistown, MT (FIN: 141964)**  
**April 30, 2016**

Station: K212FU  
Antenna: bkg77  
RCAGL (m): 8.000  
ERP (kW): 0.5 (250W H & 250W V)  
Limit ( $\mu\text{W}/\text{cm}^2$ ): 200.000

Horizontal Distance (m)	Depression Angle (°)	Interpolated Relative Field Value	Power Density ( $\mu\text{W}/\text{cm}^2$ )	% of Limit
0	90.0	0.105	5.114	2.6%
1	80.5	0.124	6.923	3.5%
2	71.6	0.217	19.676	9.8%
3	63.4	0.338	42.407	21.2%
4	56.3	0.446	63.851	31.9%
5	50.2	0.535	78.384	39.2%
6	45.0	0.616	88.013	44.0%
7	40.6	0.682	91.378	45.7%
8	36.9	0.734	89.897	44.9%
9	33.7	0.774	85.566	42.8%
10	31.0	0.807	79.921	40.0%
11	28.6	0.834	73.941	37.0%
12	26.6	0.856	68.014	34.0%
13	24.8	0.874	62.158	31.1%
14	23.2	0.889	56.857	28.4%
15	21.8	0.902	52.087	26.0%
16	20.6	0.914	47.731	23.9%
17	19.4	0.922	43.727	21.9%
18	18.4	0.931	40.167	20.1%
19	17.5	0.937	36.945	18.5%
20	16.7	0.943	34.037	17.0%
21	15.9	0.948	31.444	15.7%
22	15.3	0.952	29.125	14.6%
23	14.6	0.956	27.029	13.5%
24	14.0	0.960	25.137	12.6%
25	13.5	0.963	23.431	11.7%
26	13.0	0.966	21.889	10.9%
27	12.5	0.969	20.490	10.2%
28	12.1	0.971	19.219	9.6%
29	11.7	0.974	18.048	9.0%
30	11.3	0.975	16.977	8.5%
31	11.0	0.977	15.996	8.0%
32	10.6	0.979	15.097	7.5%

Horizontal Distance (m)	Depression Angle (°)	Interpolated Relative Field Value	Power Density ( $\mu\text{W}/\text{cm}^2$ )	% of Limit
33	10.3	0.980	14.270	7.1%
34	10.0	0.982	13.509	6.8%
35	9.7	0.983	12.806	6.4%
36	9.5	0.985	12.157	6.1%
37	9.2	0.986	11.554	5.8%
38	9.0	0.987	10.995	5.5%
39	8.7	0.988	10.470	5.2%
40	8.5	0.989	9.982	5.0%
41	8.3	0.990	9.527	4.8%
42	8.1	0.990	9.102	4.6%
43	7.9	0.991	8.705	4.4%
44	7.8	0.992	8.333	4.2%
45	7.6	0.993	7.984	4.0%
46	7.4	0.993	7.656	3.8%
47	7.3	0.994	7.348	3.7%
48	7.1	0.994	7.058	3.5%
49	7.0	0.995	6.785	3.4%
50	6.8	0.996	6.528	3.3%
51	6.7	0.996	6.284	3.1%
52	6.6	0.997	6.054	3.0%
53	6.5	0.997	5.837	2.9%
54	6.3	0.998	5.631	2.8%
55	6.2	0.998	5.435	2.7%
56	6.1	0.999	5.249	2.6%
57	6.0	0.999	5.073	2.5%
58	5.9	0.999	4.902	2.5%
59	5.8	0.999	4.739	2.4%
60	5.7	0.999	4.584	2.3%
61	5.6	0.999	4.436	2.2%
62	5.5	0.999	4.296	2.1%
63	5.4	0.999	4.161	2.1%
64	5.4	0.999	4.034	2.0%
65	5.3	0.999	3.911	2.0%
66	5.2	0.999	3.795	1.9%
67	5.1	0.999	3.683	1.8%
68	5.0	0.999	3.577	1.8%
69	5.0	0.999	3.474	1.7%
70	4.9	0.999	3.377	1.7%
71	4.8	0.999	3.283	1.6%
72	4.8	0.999	3.193	1.6%
73	4.7	0.999	3.107	1.6%
74	4.6	0.999	3.024	1.5%
75	4.6	0.999	2.944	1.5%
76	4.5	0.999	2.868	1.4%

Horizontal Distance (m)	Depression Angle (°)	Interpolated Relative Field Value	Power Density ( $\mu\text{W}/\text{cm}^2$ )	% of Limit
77	4.5	0.999	2.794	1.4%
78	4.4	0.999	2.723	1.4%
79	4.3	0.999	2.655	1.3%
80	4.3	0.999	2.590	1.3%
81	4.2	0.999	2.526	1.3%
82	4.2	0.999	2.465	1.2%
83	4.1	0.999	2.407	1.2%
84	4.1	0.999	2.350	1.2%
85	4.0	0.999	2.295	1.1%
86	4.0	0.999	2.243	1.1%
87	3.9	0.999	2.192	1.1%
88	3.9	0.999	2.142	1.1%
89	3.9	0.999	2.095	1.0%
90	3.8	0.999	2.049	1.0%
91	3.8	0.999	2.004	1.0%
92	3.7	0.999	1.961	1.0%
93	3.7	0.999	1.919	1.0%
94	3.7	0.999	1.879	0.9%
95	3.6	0.999	1.839	0.9%
96	3.6	0.999	1.801	0.9%
97	3.5	0.999	1.765	0.9%
98	3.5	0.999	1.729	0.9%
99	3.5	0.999	1.694	0.8%
100	3.4	0.999	1.661	0.8%





**NOTICE**



Radio frequency fields beyond this point may exceed the FCC general public exposure limit.  
They all possess signs and site guidelines for working in radio frequency environments.

