

# **R. M. SMITH ASSOCIATES**

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KSE Radio Ventures, LLC  
Application for Minor Change of Licensed FM Facility  
KWOE(FM) - 223C1 - Broomfield, CO

## **Exhibit 35**

### **Non-Ionizing Radiation Levels**

The proposed operation of KWOE(FM) will utilize a Dielectric CBR-C1-4FMB/4H-1 antenna mounted with the center of radiation at 275 meters above ground on an existing communications tower. The antenna consists of four cavity backed radiators mounted with 0.8 wavelengths separation between bays. No modifications to the tower, lighting or ground support buildings are proposed.

The attached Table 1 shows the calculated RF field strength at various distances from the tower at 2 meters above ground (approximate adult head height). The RF field was calculated using the slant distance from the antenna, the relative field of the antenna at the shown angle below horizontal and an ERP of 188.4 kW (the sum of the horizontal and vertical ERP). The formula used in the field calculation is Equation 9 in Section 2 of the F.C.C. OET Bulletin 65.

The calculations show the highest RF field from the proposed operation will occur at a distance of 130 meters from the base of the tower. At that distance, two meters above ground, the RF field will be  $2.70\mu\text{W}/\text{cm}^2$ . This level is less than 1.4% of the maximum permissible exposure level for the general population. Thus the proposed operation is not considered a major contributor to the RF field at the site.

KWOF(FM) MINOR MODIFICATION OF LICENSED FACILITY

EXHIBIT 35

TABLE 1

<b>Antenna Make</b>	Dielectric	
<b>Antenna Model</b>	CBR-C1-4FMB/4H-1	
<b>ERP (W)</b>	188,400	94.2 kW Horiz + Vert
<b>Antenna C/R AGL (m)</b>	275	
<b>Height over Head (m)</b>	273	

<b><u>Horizontal Distance from Antenna (m)</u></b>	<b><u>Downward Angle (o)</u></b>	<b><u>Distance from C/R (m)</u></b>	<b><u>Field</u></b>	<b><u>Power Density uW/cm2</u></b>
0	90.0	273.0	0.000	0.00
5	89.0	273.0	0.002	0.00
10	87.9	273.2	0.007	0.00
15	86.9	273.4	0.013	0.01
20	85.8	273.7	0.019	0.03
30	83.7	274.6	0.036	0.11
40	81.7	275.9	0.054	0.24
50	79.6	277.5	0.075	0.46
60	77.6	279.5	0.096	0.74
70	75.6	281.8	0.117	1.08
80	73.7	284.5	0.130	1.31
90	71.8	287.5	0.155	1.83
100	69.9	290.7	0.172	2.20
110	68.1	294.3	0.185	2.49
120	66.3	298.2	0.194	2.66
125	65.4	300.3	0.196	2.68
130	64.5	302.4	0.198	2.70
135	63.7	304.6	0.198	2.66
140	62.9	306.8	0.198	2.62
150	61.2	311.5	0.192	2.39
160	59.6	316.4	0.180	2.04
170	58.1	321.6	0.166	1.68
180	56.6	327.0	0.145	1.24
190	55.2	332.6	0.126	0.90
200	53.8	338.4	0.104	0.59
225	50.5	353.8	0.071	0.25
250	47.5	370.2	0.100	0.46
275	44.8	387.5	0.145	0.88
300	42.3	405.6	0.175	1.17
325	40.0	424.4	0.182	1.16
350	38.0	443.9	0.167	0.89
375	36.1	463.8	0.133	0.52
400	34.3	484.3	0.085	0.19
450	31.2	526.3	0.037	0.03
500	28.6	569.7	0.135	0.35
550	26.4	614.0	0.215	0.77
600	24.5	659.2	0.264	1.01
650	22.8	705.0	0.287	1.04
700	21.3	751.4	0.285	0.91
750	20.0	798.1	0.267	0.70