

Exhibit 11 Page 1
Multicultural Professional Counseling Services
Second-Adjacent Waiver Request
Kansas City, MO

The proposed LPFM station will broadcast on channel 245, which is within the 84 kilometers second-adjacent minimum distance separation of station KRBZ on channel 243 and the 73 kilometers second-adjacent minimum distance separation of station KLRX on channel 247. The KRBZ interfering contour at the LPFM tower site is 101.7 dBμ F(50,50). The KLRX interfering contour at the LPFM tower site is 103.7 dBμ F(50,50). Using the ratio of 100:1 (LPFM to KRBZ and KLRX) on the second-adjacent channel, the population within the proposed LPFM 141.7 dBμ contour and 143.7 dBμ contour is zero. Applying the antenna manufacturer's vertical radiation pattern the area of interference can be more accurately calculated geometrically, rather than just by using the free space equation alone. This particular antenna is a one bay full-wave spaced Shively 6812b antenna. It was determined from the manufacturer's vertical plan that at 60 degrees below horizontal the interference area would extend 1.7 meters toward the ground and 1 meter horizontally. We have proposed the antenna radiation center will be 28 meters above ground with an Effective Radiated Power of 26 watts, thus the interference area will not reach the ground. Further, there are no occupied structures or elevated roadways within the interference area. Therefore, the application is in compliance with §73.807(e)(1) *Waiver of the second-adjacent channel separations*.

Antenna Height Above Average Terrain Calculations -- Results

Input Data

Latitude **39° 3' 2" North**

Longitude **94° 24' 34" West** (NAD 27)

These coordinates convert to NAD 83 coordinates of
39° 03' 02.02", North, 94° 24' 34.82" West (NAD 83).

Height of antenna radiation center above mean sea level: **324 meters AMSL**

Number of Evenly Spaced Radials = **8** 0° is referenced to True North

Results

Calculated HAAT = **57 meters**

Antenna Height Above Average Terrain calculated
using 1 km [GLOBE terrain data](#)

Individual "Radial HAAT" Values, in meters

0°	60.7 m
45°	64.0 m
90°	58.0 m
135°	55.0 m
180°	53.6 m
225°	35.4 m
270°	52.2 m
315°	80.1 m

Print Results?

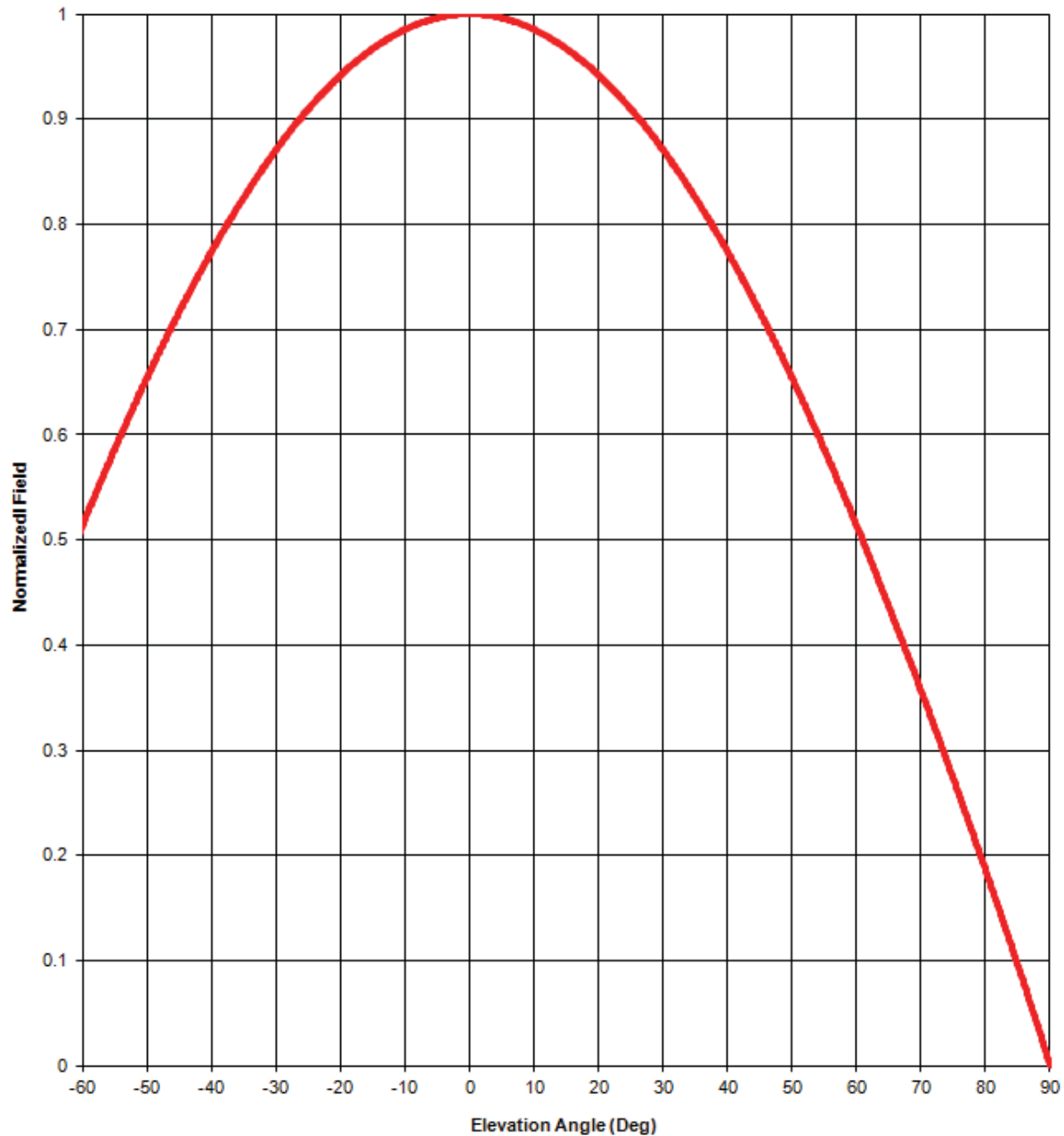
New Calculation?

Exhibit 11 Figure 2

Minimum Ground Clearance

Depression Angle Below Horizontal	Antenna Relative Field	ERP (Watts)	Distance to interfering Contour from Antenna (m)	Horizontal Distance of Interfering contour from tower (m)	Vertical Clearance of Interfering contour above TGL (m)
5	0.996	25.8	3	3.0	27.7
10	0.985	25.2	3	3.0	27.5
15	0.967	24.3	3	2.9	27.2
20	0.942	23.1	3	2.8	27.0
25	0.910	21.5	3	2.7	26.7
30	0.871	19.7	3	2.6	26.5
35	0.826	17.7	2	1.6	26.9
40	0.774	15.6	2	1.5	26.7
45	0.717	13.4	2	1.4	26.6
50	0.654	11.1	2	1.3	26.5
55	0.586	8.9	2	1.1	26.4
60	0.514	6.9	2	1.0	26.3
65	0.437	5.0	1	0.4	27.1
70	0.357	3.3	1	0.3	27.1
75	0.273	1.9	1	0.3	27.0
80	0.186	0.9	1	0.2	27.0
85	0.096	0.2	0	0.0	28.0
90	0.000	0.0	0	0.0	28.0
Minimum Clearance above TGL:					26.3 m

Elevation pattern



Antenna model: 6812b, single bay

Test frequency: 98.1 MHz

Gain (maximum):

Power	dB
0.46	-3.39 dB

Document No. 6812b 1-bay fw (130701)

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(207) 647-3327

1-888-SHIVELY

Fax: (207)647-8273

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Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field
1	1.000	19	0.948	37	0.806	55	0.586	73	0.307
2	0.999	20	0.942	38	0.796	56	0.572	74	0.290
3	0.999	21	0.936	39	0.785	57	0.558	75	0.273
4	0.998	22	0.930	40	0.774	58	0.544	76	0.256
5	0.996	23	0.924	41	0.763	59	0.529	77	0.239
6	0.995	24	0.917	42	0.752	60	0.514	78	0.221
7	0.993	25	0.910	43	0.741	61	0.499	79	0.204
8	0.991	26	0.903	44	0.729	62	0.484	80	0.186
9	0.988	27	0.895	45	0.717	63	0.469	81	0.168
10	0.985	28	0.887	46	0.705	64	0.453	82	0.151
11	0.982	29	0.879	47	0.693	65	0.437	83	0.133
12	0.979	30	0.871	48	0.680	66	0.422	84	0.114
13	0.975	31	0.862	49	0.667	67	0.406	85	0.096
14	0.971	32	0.854	50	0.654	68	0.390	86	0.078
15	0.967	33	0.845	51	0.641	69	0.373	87	0.059
16	0.963	34	0.835	52	0.628	70	0.357	88	0.040
17	0.958	35	0.826	53	0.614	71	0.341	89	0.021
18	0.953	36	0.816	54	0.600	72	0.324	90	0.000

Elevation Pattern Tabulation

Antenna model: 6812b, single bay

Relative Field at 0° Depression = 1.000

Exhibit 11 Figure 4
Aerial Photo of the 1.0 meter Vicinity Surrounding the Proposed Tower site

