

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 dB μ F(50,50) and the KLRX interfering contour at the LPFM tower site is 103.7 dB μ 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 dB μ and 143.7 dB μ 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 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 1.0 meter horizontally. We have proposed the antenna radiation center will be 13 meters above ground (5 meter tower on an 8 meter building) 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: **309** meters AMSL

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

Results

Calculated HAAT = **42 meters**

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

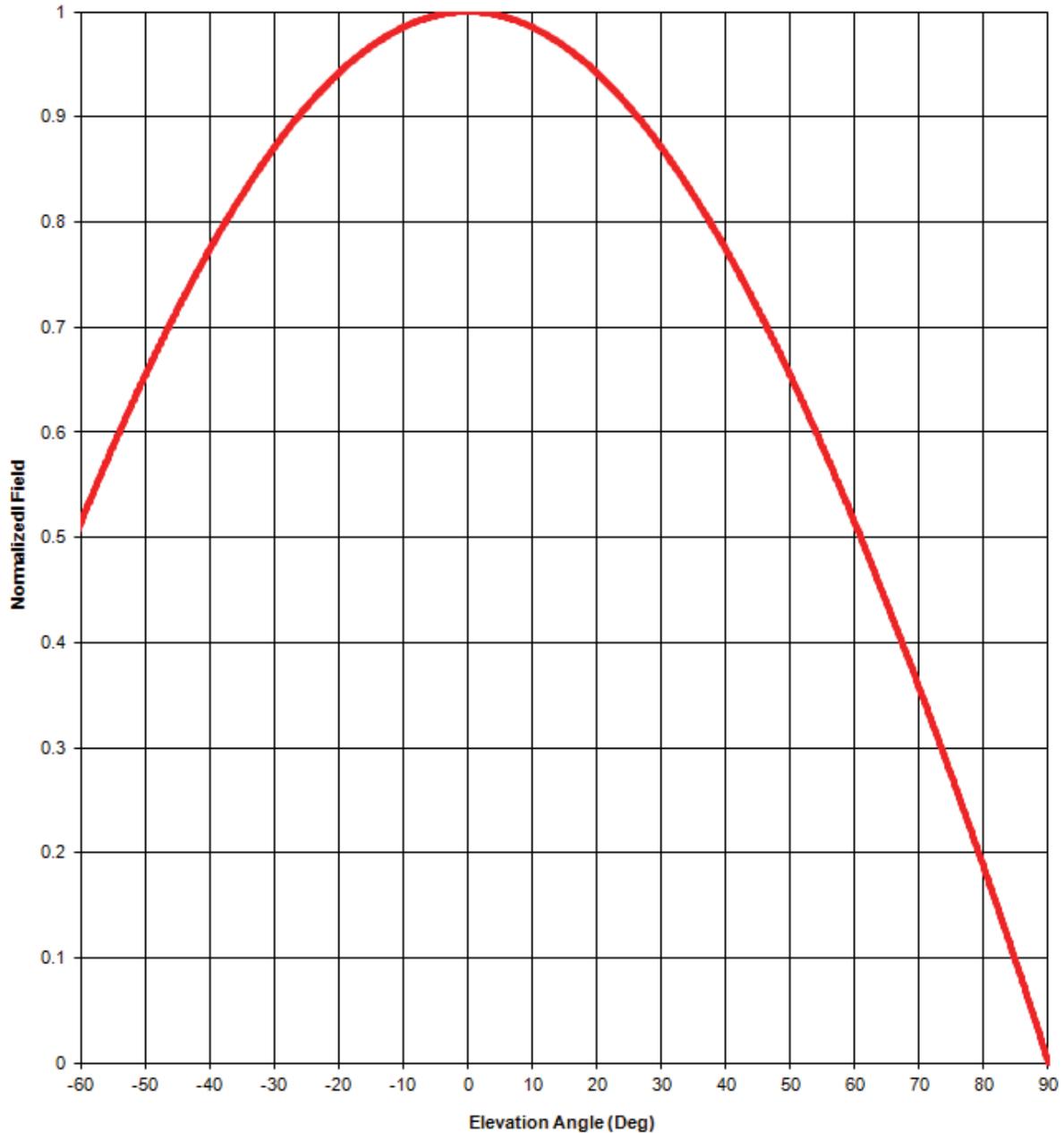
Individual "Radial HAAT" Values, in meters

0°	45.7 m
45°	49.0 m
90°	43.0 m
135°	40.0 m
180°	38.6 m
225°	20.4 m
270°	37.2 m
315°	65.1 m

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	12.7
10	0.985	25.2	3	3.0	12.5
15	0.967	24.3	3	2.9	12.2
20	0.942	23.1	3	2.8	12.0
25	0.910	21.5	3	2.7	11.7
30	0.871	19.7	3	2.6	11.5
35	0.826	17.7	2	1.6	11.9
40	0.774	15.6	2	1.5	11.7
45	0.717	13.4	2	1.4	11.6
50	0.654	11.1	2	1.3	11.5
55	0.586	8.9	2	1.1	11.4
60	0.514	6.9	2	1.0	11.3
65	0.437	5.0	1	0.4	12.1
70	0.357	3.3	1	0.3	12.1
75	0.273	1.9	1	0.3	12.0
80	0.186	0.9	1	0.2	12.0
85	0.096	0.2	0	0.0	13.0
90	0.000	0.0	0	0.0	13.0
Minimum Clearance above TGL:					11.3 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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Degrees	Rel. Field
1	1.000
2	0.999
3	0.999
4	0.998
5	0.996
6	0.995
7	0.993
8	0.991
9	0.988
10	0.985
11	0.982
12	0.979
13	0.975
14	0.971
15	0.967
16	0.963
17	0.958
18	0.953

Degrees	Rel. Field
19	0.948
20	0.942
21	0.936
22	0.930
23	0.924
24	0.917
25	0.910
26	0.903
27	0.895
28	0.887
29	0.879
30	0.871
31	0.862
32	0.854
33	0.845
34	0.835
35	0.826
36	0.816

Degrees	Rel. Field
37	0.806
38	0.796
39	0.785
40	0.774
41	0.763
42	0.752
43	0.741
44	0.729
45	0.717
46	0.705
47	0.693
48	0.680
49	0.667
50	0.654
51	0.641
52	0.628
53	0.614
54	0.600

Degrees	Rel. Field
55	0.586
56	0.572
57	0.558
58	0.544
59	0.529
60	0.514
61	0.499
62	0.484
63	0.469
64	0.453
65	0.437
66	0.422
67	0.406
68	0.390
69	0.373
70	0.357
71	0.341
72	0.324

Degrees	Rel. Field
73	0.307
74	0.290
75	0.273
76	0.256
77	0.239
78	0.221
79	0.204
80	0.186
81	0.168
82	0.151
83	0.133
84	0.114
85	0.096
86	0.078
87	0.059
88	0.040
89	0.021
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

