

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 |

Print Results?

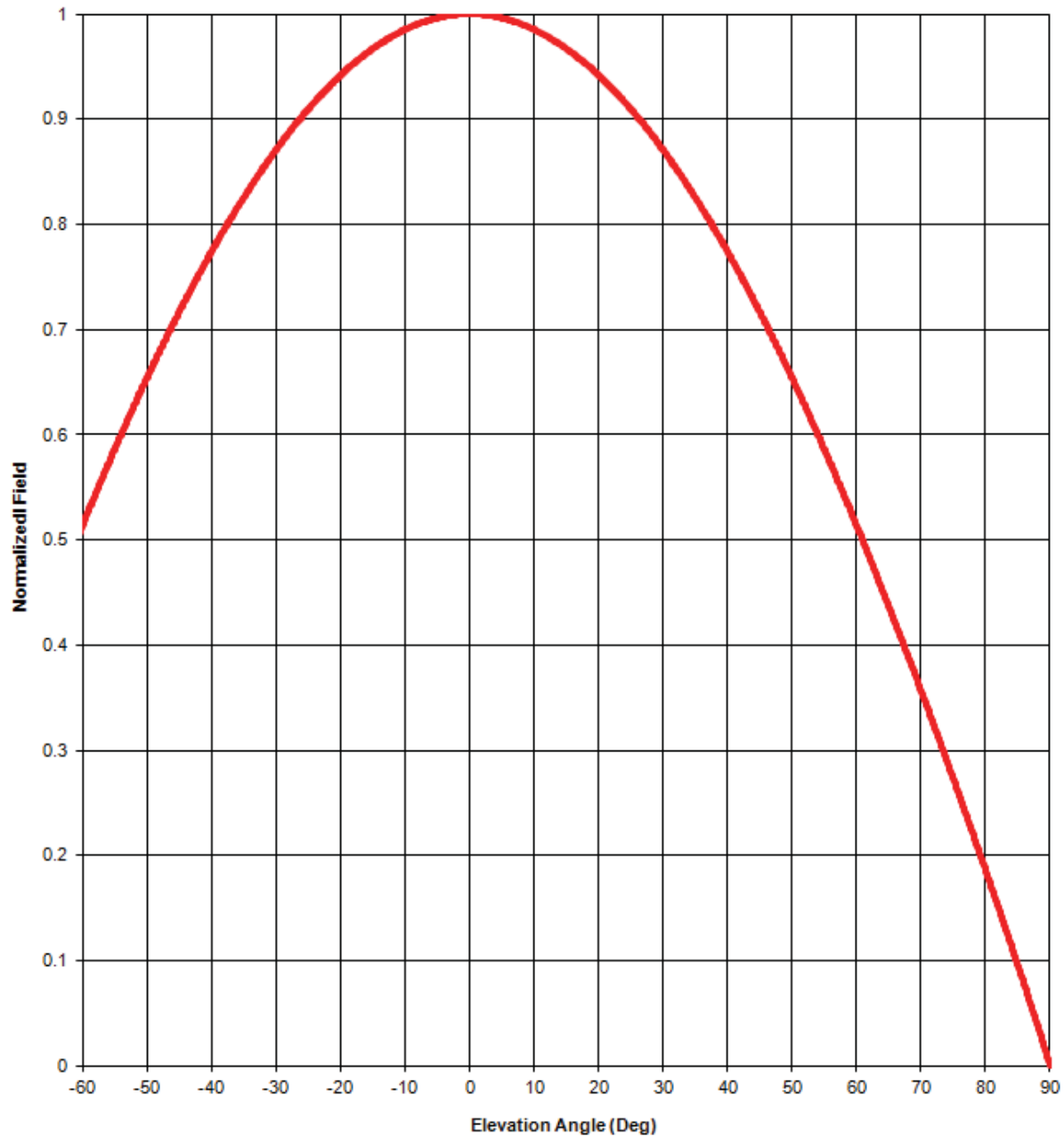
New Calculation?

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 | 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)

A Division of Howell Laboratories, Inc., P. O. Box 389, Bridgton, Maine 04009 USA

(207) 647-3327

1-888-SHIVELY

Fax: (207)647-8273

An Employee-Owned Company

www.shively.com

sales@shively.com

Certified to ISO-9001

| 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

