

**Exhibit 11 Page 1**  
**Concrete Truth Community Network**  
**Second-Adjacent Waiver Request**  
**Kansas City, MO**

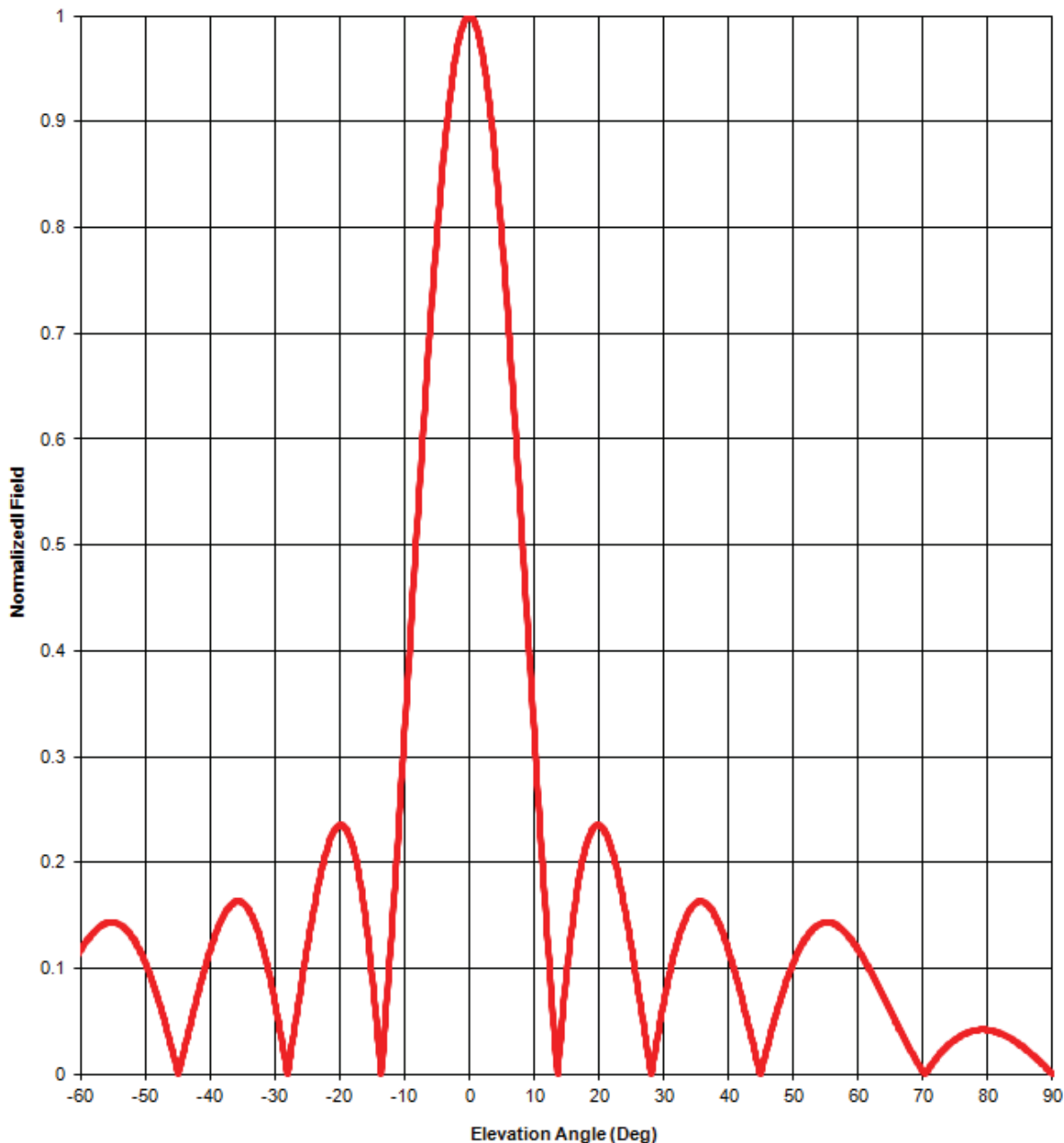
The LPFM station is proposing to broadcast on channel 237, which is within the 84 kilometers, second-adjacent minimum distance separation of station KCMO-FM on channel 235 and 73 kilometers, second-adjacent minimum distance separation of KCHZ on channel 239. The KCMO-FM interfering contour at the LPFM tower site is 101.0 dBμ F(50,50). The KCHZ interfering contour at the LPFM tower site is 75.0 dBμ F(50,50). Using the ratio of 100:1 (LPFM to KCMO-FM and KCHZ) on the second-adjacent channel, the population within the proposed LPFM 141.0 dBμ and 115.0 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 five bay full-wave spaced Shively 6812b. It was determined from the manufacturer's vertical plan that at 55 degrees below horizontal the interference area would extend 14.7 meters toward the ground and radiate 10.3 meters horizontally. The antenna radiation center 18 meters above ground, thus the interference area will never reach the ground. There are no occupied structures or elevated roadways within the interference area of the LPFM. Therefore, the application is in compliance with §73.807(e)(1) *Waiver of the second-adjacent channel separations.*

# Exhibit 11 Figure 1

## 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	0.793	62.9	99	98.6	9.4
10	0.323	10.4	40	39.4	11.1
15	0.094	0.9	12	11.6	14.9
20	0.236	5.6	30	28.2	7.7
25	0.120	1.4	15	13.6	11.7
30	0.068	0.5	9	7.8	13.5
35	0.162	2.6	20	16.4	6.5
40	0.117	1.4	15	11.5	8.4
45	0.002	0.0	0	0.0	18.0
50	0.106	1.1	13	8.4	8.0
55	0.144	2.1	18	10.3	3.3
60	0.118	1.4	15	7.5	5.0
65	0.060	0.4	8	3.4	10.7
70	0.003	0.0	0	0.0	18.0
75	0.033	0.1	4	1.0	14.1
80	0.042	0.2	6	1.0	12.1
85	0.028	0.1	4	0.3	14.0
90	0.000	0.0	0	0.0	18.0
Minimum Clearance above TGL:					3.3

## Elevation pattern



Antenna model: 6812b, 5-bay full-wave-spaced

Test frequency: 98.1 MHz

Gain (maximum):

Power	dB
2.61	4.17 dB

Document No. 6812b 5-bay fw (130701)

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Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field
1	0.991	19	0.232	37	0.159	55	0.144	73	0.022
2	0.965	20	0.236	38	0.149	56	0.143	74	0.028
3	0.922	21	0.228	39	0.135	57	0.139	75	0.033
4	0.865	22	0.212	40	0.117	58	0.134	76	0.037
5	0.793	23	0.187	41	0.096	59	0.127	77	0.040
6	0.711	24	0.156	42	0.073	60	0.118	78	0.041
7	0.620	25	0.120	43	0.048	61	0.107	79	0.042
8	0.523	26	0.082	44	0.023	62	0.096	80	0.042
9	0.423	27	0.042	45	0.002	63	0.084	81	0.041
10	0.323	28	0.003	46	0.027	64	0.072	82	0.038
11	0.225	29	0.034	47	0.050	65	0.060	83	0.036
12	0.133	30	0.068	48	0.071	66	0.047	84	0.032
13	0.048	31	0.098	49	0.090	67	0.035	85	0.028
14	0.028	32	0.123	50	0.106	68	0.024	86	0.023
15	0.094	33	0.142	51	0.119	69	0.013	87	0.018
16	0.147	34	0.155	52	0.130	70	0.003	88	0.012
17	0.188	35	0.162	53	0.137	71	0.007	89	0.006
18	0.216	36	0.163	54	0.142	72	0.015	90	0.000

### Elevation Pattern Tabulation

Antenna model: 6812b, 5-bay full-wave-spaced

Relative Field at 0° Depression = 1.000

## Exhibit 11 Figure 2 Page 2 Manufacturer Elevation Pattern



**Exhibit 11 Figure 3**  
**Aerial Photo of the Vicinity Surrounding the Proposed Tower Site**

