

SECOND-ADJACENT CHANNEL WAIVER REQUEST
KHDD-LP
CHANNEL 257
OKLAHOMA CITY, OK

The proposed facility is fully-spaced pursuant to 47 C.F.R. Section 73.807 to all other facilities other than second-adjacent station KYIS (FID #8798) and KNAH (FID #37123). As more fully discussed below, a waiver of 47 C.F.R. 73.807 is appropriate in this instance.

KYIS is authorized to broadcast with 100 kilowatts at 470 meters HAAT from a site that is 17.62 kilometers from the proposed LPFM site. The predicted strength of KYIS at the proposed LPFM site is 94.1 dBu. Therefore, 134.1 dBu is the lowest value predicted to cause interference to KYIS.

KNAH is authorized to broadcast with 47 kilowatts at 155 meters HAAT from a site that is 22.9 kilometers from the proposed LPFM site. The predicted strength of KNAH at the proposed LPFM site is 76.7 dBu. Therefore, 116.7 dBu is the lowest value predicted to cause interference to KNAH.

Consequently, 116.7 dBu is the lowest value predicted to cause interference to either KYIS or KNAH.

The applicant proposes to mount the antenna for the LPFM station on an existing monopole. The two-bay half-wave spaced Shively Versa2une will be placed so that the RCAGL is 36 meters.

It is anticipated that the LPFM station will be granted authorization to broadcast with 44 watts ERP. The proposed height of the antenna radiation center is 430 meters AMSL. The Commission's online Antenna Height Above Average Terrain Calculator indicates that the antenna for the proposed facility is 45 meters above the height of average terrain. Therefore, pursuant to 47 C.F.R. 73.811 the maximum effective radiated power of the LPFM station proposed herein is 44 watts.

The facility proposed herein will utilize a two-bay Shively DS-SLV antenna that employs half-wave spacing. The elevation pattern of this antenna configuration as provided by the manufacturer accompanies the instant application.

The image below is an aerial photo of the vicinity around the monopole. The applicant has visited the site confirmed that none of the nearby building exceed 11 meters in height.

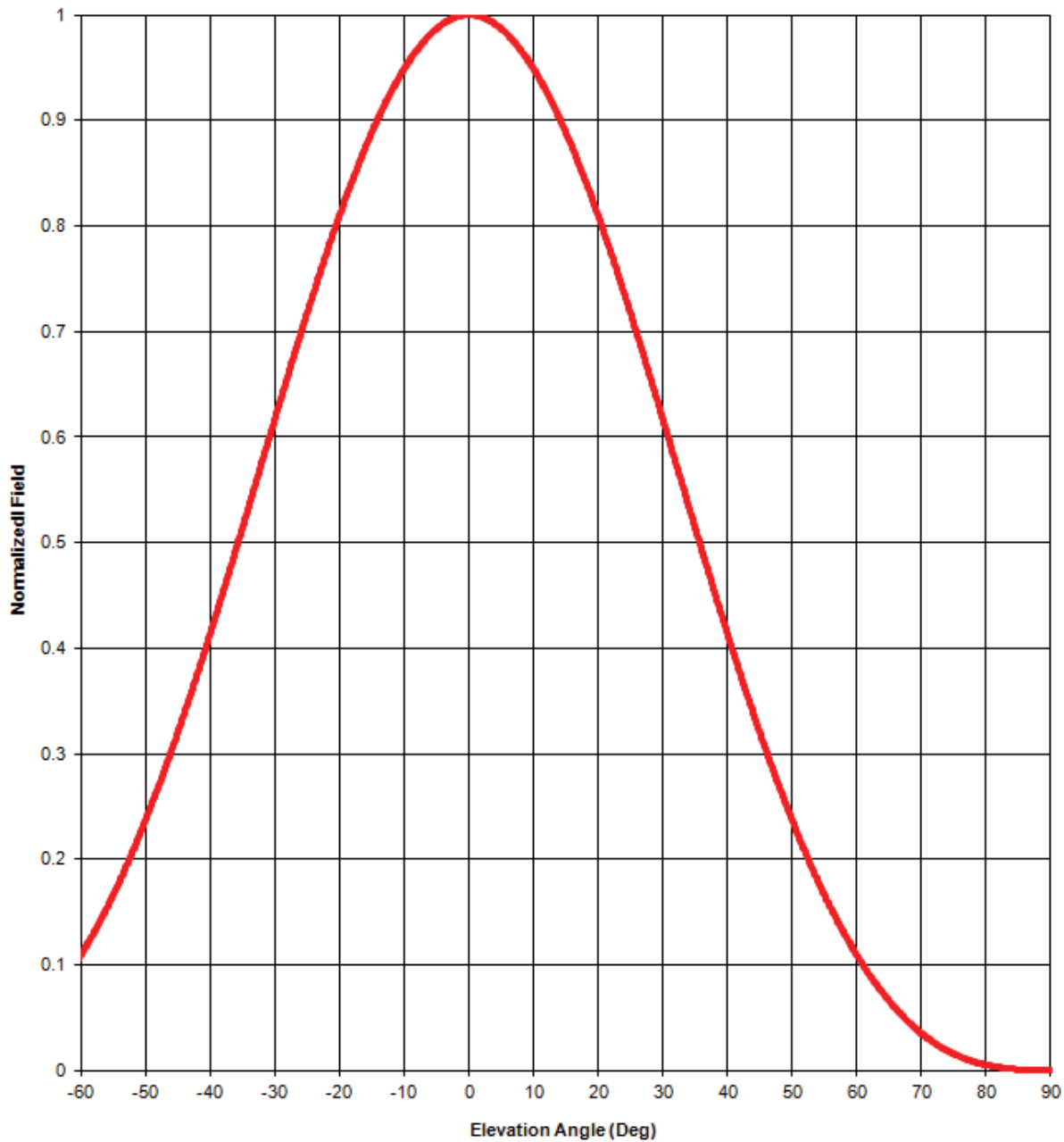


The table on the following page indicates the predicted signal strength from the proposed LPFM station both at ground level, and at receiving antenna locations up to 23 meters above ground level. The 23-meter “artificial plane” significantly exceeds the height of the buildings near the base of the monopole. Therefore, all potential listeners within the buildings are well below the artificial plane in the following table.

Proposed Antenna: Shively Versa@une 2-bay HW-Spaced Proposed Power: 0.044 kW Antenna Height AGL: 45 meters Interference Contour: 116.7 dBu Artificial Rcv Antenna Height: 23 meters Equation: $= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)}) * 1000$ Field Strength (dBu) Equation $= 106.92 - (20 * (\text{LOG10}[\text{DistMeters}]/1000)) + [\text{ERP in dBk}]$								
Depression				Distance				
Angle	Antenna			from Ant.	Distance	Field Strength	Distance	Field Strength
Below	Relative	ERP	ERP	to Interf	from Ant. to	in dBu @	from Ant.	in dBu @
Horizon	Field	in kW	in dBk	Contour	Plane	Plane	Level	Ground Level
0°	1.000	0.044	-13.57	68.03 m	infinite		infinite	
-5°	0.987	0.043	-13.68	67.15 m	252.42 m	105.20 dBu	516.32 m	98.98 dBu
-10°	0.949	0.040	-14.02	64.56 m	126.69 m	110.84 dBu	259.14 m	104.63 dBu
-15°	0.889	0.035	-14.59	60.48 m	85.00 m	113.74 dBu	173.87 m	107.53 dBu
-20°	0.810	0.029	-15.40	55.11 m	64.32 m	115.36 dBu	131.57 m	109.14 dBu
-25°	0.718	0.023	-16.44	48.85 m	52.06 m	116.15 dBu	106.48 m	109.93 dBu
-30°	0.617	0.017	-17.76	41.98 m	44.00 m	116.29 dBu	90.00 m	110.08 dBu
-35°	0.514	0.012	-19.35	34.97 m	38.36 m	115.90 dBu	78.46 m	109.68 dBu
-40°	0.414	0.008	-21.23	28.17 m	34.23 m	115.01 dBu	70.01 m	108.79 dBu
-45°	0.320	0.005	-23.46	21.77 m	31.11 m	113.60 dBu	63.64 m	107.38 dBu
-50°	0.237	0.002	-26.07	16.12 m	28.72 m	111.69 dBu	58.74 m	105.47 dBu
-55°	0.166	0.001	-29.16	11.29 m	26.86 m	109.18 dBu	54.93 m	102.96 dBu
-60°	0.109	0.001	-32.82	7.42 m	25.40 m	106.01 dBu	51.96 m	99.79 dBu
-65°	0.066	0.000	-37.17	4.49 m	24.27 m	102.04 dBu	49.65 m	95.83 dBu
-70°	0.035	0.000	-42.68	2.38 m	23.41 m	96.85 dBu	47.89 m	90.63 dBu
-75°	0.016	0.000	-49.48	1.09 m	22.78 m	90.29 dBu	46.59 m	84.07 dBu
-80°	0.005	0.000	-59.59	0.34 m	22.34 m	80.35 dBu	45.69 m	74.14 dBu
-85°	0.001	0.000	-73.57	0.07 m	22.08 m	66.47 dBu	45.17 m	60.26 dBu
-90°	0.001	0.000	-73.57	0.07 m	22.00 m	66.51 dBu	45.00 m	60.29 dBu

As can be determined by the columns colored green, at no location from ground level to 23 meters above the ground does the predicted signal of the proposed LPFM station operating with 44 watts exceed that of either KNAH or KYIS by 40 dBu or more. Consequentially, a waiver of 47 C.F.R. 73.807 is appropriate in this instance.

Elevation pattern



Antenna models: 6014, 6015, 6020, 6510, 6513, 6600, & 68xx except 6832, 2-bay half-wave-spaced

Test frequency: 98.1 MHz

Gain (maximum):

	Power	dB
6014, 6015, 68xx:	0.71	-1.51 dB
6510, 6513, 6600:	1.42	1.49 dB

Document No. 68xx 2-bay hw (130628)

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Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field	Degrees	Rel. Field
1	0.999	19	0.827	37	0.473	55	0.166	73	0.022
2	0.998	20	0.810	38	0.453	56	0.154	74	0.019
3	0.995	21	0.792	39	0.433	57	0.142	75	0.016
4	0.992	22	0.774	40	0.414	58	0.130	76	0.013
5	0.987	23	0.756	41	0.394	59	0.119	77	0.011
6	0.981	24	0.737	42	0.375	60	0.109	78	0.008
7	0.975	25	0.718	43	0.357	61	0.099	79	0.007
8	0.967	26	0.698	44	0.338	62	0.090	80	0.005
9	0.959	27	0.678	45	0.320	63	0.082	81	0.004
10	0.949	28	0.658	46	0.303	64	0.073	82	0.003
11	0.939	29	0.638	47	0.286	65	0.066	83	0.002
12	0.928	30	0.617	48	0.269	66	0.059	84	0.001
13	0.915	31	0.597	49	0.253	67	0.052	85	0.001
14	0.903	32	0.576	50	0.237	68	0.046	86	0.001
15	0.889	33	0.555	51	0.222	69	0.040	87	0.000
16	0.874	34	0.535	52	0.207	70	0.035	88	0.000
17	0.859	35	0.514	53	0.193	71	0.030	89	0.000
18	0.843	36	0.494	54	0.179	72	0.026	90	0.000

Elevation Pattern Tabulation

Antenna models: 6014, 6015, 6020, 6510, 6513, 6600, 68xx except 6832, & Versa2une, 2-bay half-wave-spaced.

Relative Field at 0° Depression = 1.000