

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.

Consequentially, 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.



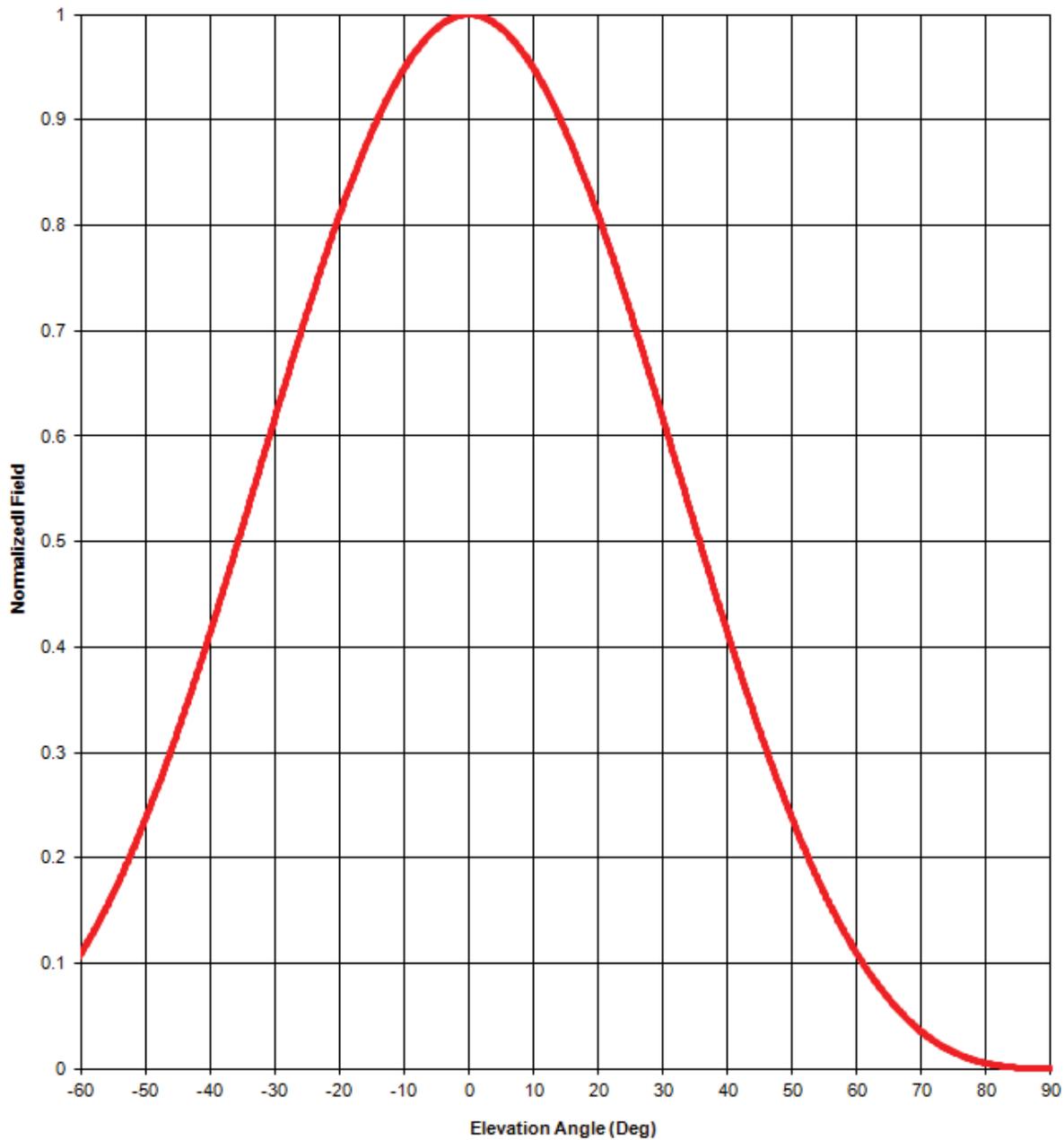
The table on the following page indicates the predicted signal strength from the proposed LPFM station both at ground level, and at receiving antenna locations up to 23 meters above ground level. The 23-meter “artificial plane” significantly exceeds the height of the buildings near the base of the monopole.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

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

(207) 647-3327

1-888-SHIVELY

Fax: (207)647-8273

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Degrees	Rel. Field
1	0.999
2	0.998
3	0.995
4	0.992
5	0.987
6	0.981
7	0.975
8	0.967
9	0.959
10	0.949
11	0.939
12	0.928
13	0.915
14	0.903
15	0.889
16	0.874
17	0.859
18	0.843

Degrees	Rel. Field
19	0.827
20	0.810
21	0.792
22	0.774
23	0.756
24	0.737
25	0.718
26	0.698
27	0.678
28	0.658
29	0.638
30	0.617
31	0.597
32	0.576
33	0.555
34	0.535
35	0.514
36	0.494

Degrees	Rel. Field
37	0.473
38	0.453
39	0.433
40	0.414
41	0.394
42	0.375
43	0.357
44	0.338
45	0.320
46	0.303
47	0.286
48	0.269
49	0.253
50	0.237
51	0.222
52	0.207
53	0.193
54	0.179

Degrees	Rel. Field
55	0.166
56	0.154
57	0.142
58	0.130
59	0.119
60	0.109
61	0.099
62	0.090
63	0.082
64	0.073
65	0.066
66	0.059
67	0.052
68	0.046
69	0.040
70	0.035
71	0.030
72	0.026

Degrees	Rel. Field
73	0.022
74	0.019
75	0.016
76	0.013
77	0.011
78	0.008
79	0.007
80	0.005
81	0.004
82	0.003
83	0.002
84	0.001
85	0.001
86	0.001
87	0.000
88	0.000
89	0.000
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