

Primera Iglesia Bautista Hispana Interference Area Garden City, KS

The proposed LPFM station will broadcast on channel 267, which is within the 73 kilometers, second-adjacent minimum distance separation of station KGBL on channel 265. The KGBL interfering contour at the LPFM tower site is 95.8 dBμ F(50,50). Using the ratio of 100:1 (LPFM to KGBL) on the second-adjacent channel, the population within the proposed LPFM 135.8 dBμ contour respectively 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 single bay Nicom BKG77. It was determined from the manufacturer's vertical plan that at 35 degrees below horizontal the interference area would reach down 5.2 meters and extend 7.4 meters horizontally. We have proposed the antenna radiation center will be 29 meters above ground with an Effective Radiated Power of 100 watts. There are no occupied structures or roadways within the interference area of the station. Therefore, the application is in compliance with §73.807(e)(1) *Waiver of the second-adjacent channel separations.*

Figure 1

Minimum Ground Clearance

ERP: 100
AGL 29

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	0.999	99.8	11	11.0	28.0
10	0.982	96.4	11	10.8	27.1
15	0.954	91.0	11	10.6	26.2
20	0.918	84.3	10	9.4	25.6
25	0.872	76.0	10	91.0	24.8
30	0.818	66.9	9	7.8	24.5
35	0.758	57.5	9	7.4	23.8
40	0.691	47.7	8	6.1	23.9
45	0.616	37.9	7	4.9	24.1
50	0.538	28.9	6	3.9	24.4
55	0.465	21.6	5	2.9	24.9
60	0.391	15.3	4	2.0	25.5
65	0.313	9.8	4	1.7	25.4
70	0.239	5.7	3	1.0	26.2
75	0.176	3.1	2	0.5	27.1
80	0.129	1.7	1	0.2	28.0
85	0.103	1.1	1	0.1	28.0
90	0.104	1.1	1	0.0	28.0
Minimum Clearance above TGL:					23.8 m

Primera Iglesia Bautista Hispana

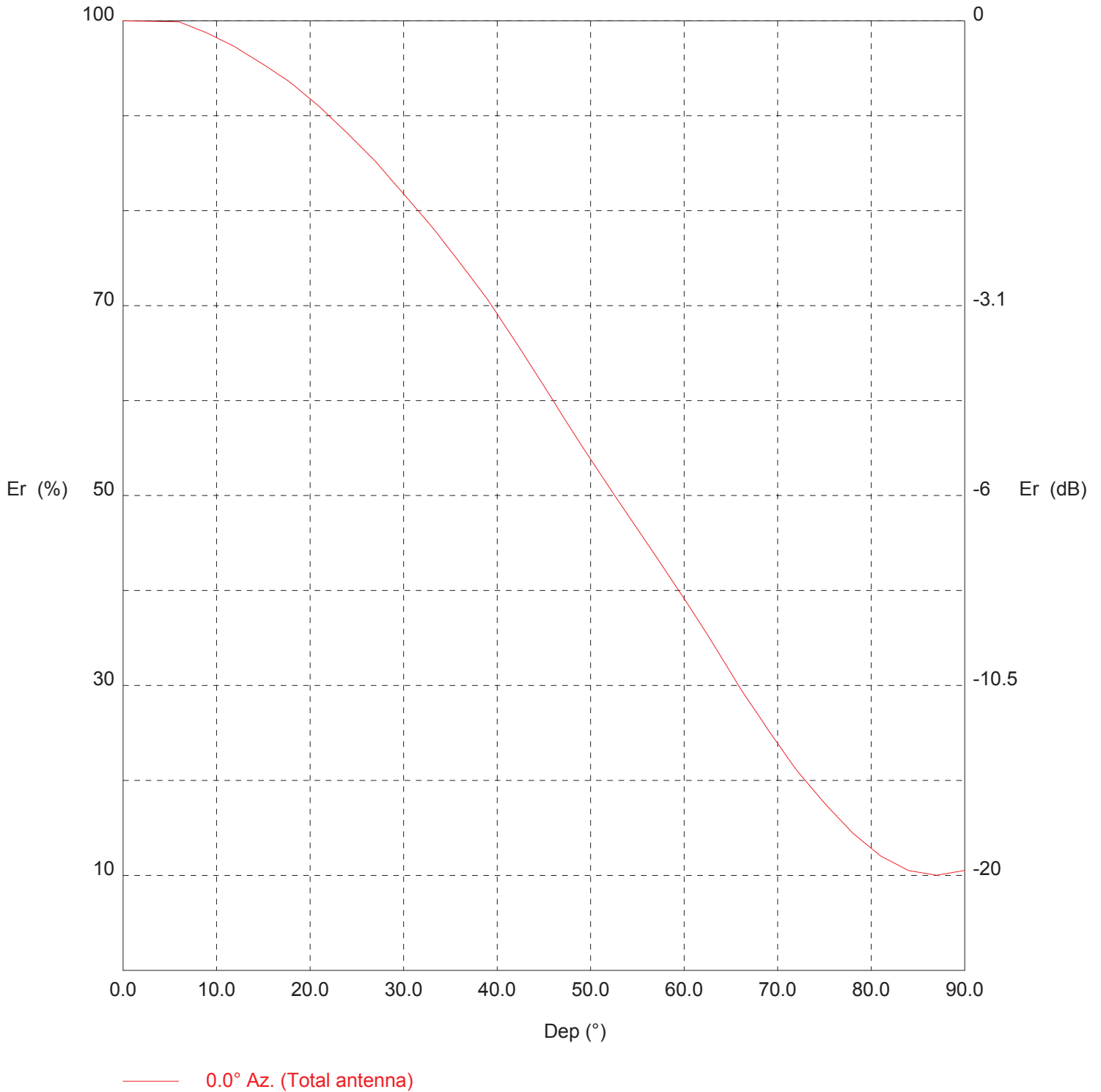
Figure 3 Page 1

TX station:

Site name: 1 BAY ANTENNA

Frequency: 104.10 MHz

Vertical diagram



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Figure 3 Page 2

TX station:

Site name: 1 BAY ANTENNA

Frequency: 104.10 MHz

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	373.6	30.0	81.8	249.8	60.0	39.1	57.2
0.5	100.0	373.6	30.5	81.2	246.3	60.5	38.4	55.0
1.0	100.0	373.5	31.0	80.6	242.9	61.0	37.6	52.8
1.5	100.0	373.4	31.5	80.1	239.5	61.5	36.8	50.7
2.0	100.0	373.4	32.0	79.5	236.1	62.0	36.1	48.6
2.5	100.0	373.3	32.5	78.9	232.7	62.5	35.3	46.6
3.0	99.9	373.3	33.0	78.3	229.3	63.0	34.5	44.6
3.5	99.9	373.2	33.5	77.7	225.6	63.5	33.7	42.5
4.0	99.9	373.1	34.0	77.1	222.0	64.0	32.9	40.5
4.5	99.9	373.0	34.5	76.4	218.3	64.5	32.1	38.6
5.0	99.9	372.9	35.0	75.8	214.7	65.0	31.3	36.6
5.5	99.9	372.8	35.5	75.2	211.1	65.5	30.5	34.8
6.0	99.9	372.8	36.0	74.5	207.6	66.0	29.7	33.0
6.5	99.7	371.3	36.5	73.9	204.0	66.5	29.0	31.4
7.0	99.5	369.9	37.0	73.2	200.4	67.0	28.2	29.8
7.5	99.3	368.4	37.5	72.6	196.8	67.5	27.5	28.3
8.0	99.1	367.0	38.0	71.9	193.3	68.0	26.8	26.8
8.5	98.9	365.5	38.5	71.3	189.8	68.5	26.0	25.3
9.0	98.7	364.1	39.0	70.6	186.3	69.0	25.3	23.9
9.5	98.5	362.3	39.5	69.9	182.4	69.5	24.6	22.6
10.0	98.2	360.5	40.0	69.1	178.6	70.0	23.9	21.3
10.5	98.0	358.7	40.5	68.4	174.7	70.5	23.2	20.1
11.0	97.7	356.9	41.0	67.6	170.9	71.0	22.5	18.9
11.5	97.5	355.1	41.5	66.9	167.2	71.5	21.8	17.7
12.0	97.2	353.3	42.0	66.1	163.5	72.0	21.1	16.6
12.5	96.9	351.1	42.5	65.4	159.7	72.5	20.5	15.7
13.0	96.6	348.9	43.0	64.6	156.0	73.0	19.9	14.8
13.5	96.3	346.7	43.5	63.9	152.3	73.5	19.3	14.0
14.0	96.0	344.5	44.0	63.1	148.7	74.0	18.8	13.2
14.5	95.7	342.3	44.5	62.3	145.1	74.5	18.2	12.4
15.0	95.4	340.1	45.0	61.6	141.6	75.0	17.6	11.6
15.5	95.1	337.8	45.5	60.8	138.0	75.5	17.1	10.9
16.0	94.7	335.4	46.0	60.0	134.4	76.0	16.6	10.2
16.5	94.4	333.1	46.5	59.2	130.9	76.5	16.0	9.6
17.0	94.1	330.8	47.0	58.4	127.5	77.0	15.5	9.0
17.5	93.8	328.4	47.5	57.6	124.1	77.5	15.0	8.4
18.0	93.4	326.1	48.0	56.8	120.7	78.0	14.5	7.8
18.5	93.0	323.3	48.5	56.1	117.5	78.5	14.1	7.4
19.0	92.6	320.4	49.0	55.3	114.4	79.0	13.7	7.0
19.5	92.2	317.5	49.5	54.6	111.3	79.5	13.3	6.6
20.0	91.8	314.7	50.0	53.8	108.2	80.0	12.9	6.2
20.5	91.4	311.9	50.5	53.1	105.2	80.5	12.5	5.8
21.0	91.0	309.1	51.0	52.3	102.2	81.0	12.0	5.4
21.5	90.5	305.9	51.5	51.6	99.4	81.5	11.8	5.2
22.0	90.0	302.7	52.0	50.8	96.6	82.0	11.5	5.0
22.5	89.5	299.6	52.5	50.1	93.8	82.5	11.3	4.8
23.0	89.1	296.5	53.0	49.4	91.1	83.0	11.0	4.5
23.5	88.6	293.4	53.5	48.6	88.4	83.5	10.8	4.3
24.0	88.1	290.3	54.0	47.9	85.8	84.0	10.5	4.1
24.5	87.6	287.0	54.5	47.2	83.2	84.5	10.4	4.1
25.0	87.2	283.8	55.0	46.5	80.7	85.0	10.3	4.0
25.5	86.7	280.6	55.5	45.7	78.2	85.5	10.3	3.9
26.0	86.2	277.4	56.0	45.0	75.7	86.0	10.2	3.9
26.5	85.7	274.2	56.5	44.3	73.3	86.5	10.1	3.8
27.0	85.2	271.1	57.0	43.6	71.0	87.0	10.0	3.7
27.5	84.6	267.5	57.5	42.8	68.6	87.5	10.1	3.8
28.0	84.0	263.9	58.0	42.1	66.2	88.0	10.2	3.9
28.5	83.5	260.3	58.5	41.4	63.9	88.5	10.3	3.9
29.0	82.9	256.8	59.0	40.6	61.6	89.0	10.4	4.0
29.5	82.3	253.3	59.5	39.9	59.4	89.5	10.4	4.1

Figure 3
Aerial Photo of the 7.4 meter Vicinity Surrounding the Proposed Tower Site

