

## **Iglesia Cristo Salva Second-Adjacent Waiver Request Chattanooga, TN**

The proposed LPFM station will broadcast on channel 220, which is within the 84 kilometers, second-adjacent minimum distance separation of station WDEF-FM on channel 222 and within the 40 kilometers, second-adjacent minimum distance separation of station WJBP on channel 218. The WDEF-FM interfering contour at the LPFM tower site is 97.0 dBμ F(50,50) and the WJBP interfering contour at the LPFM tower site is 91.1 dBμ F(50,50). Using the ratio of 100:1 (LPFM to WDEF-FM and WJBP) on the second-adjacent channel, the population within the proposed LPFM 137.0 dBμ and 131.1 dBμ contours 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 Norwalk Dominator NWE-34. It was determined from the manufacturer's vertical plan that from 25 degrees to 55 degrees below horizontal the interference area would reach down within 2 meters of the ground and extend 15.4 meters horizontally. We have proposed the antenna radiation center will be 9 meters above ground with an Effective Radiated Power of 100 watts therefore interference will not reach the ground. 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.*

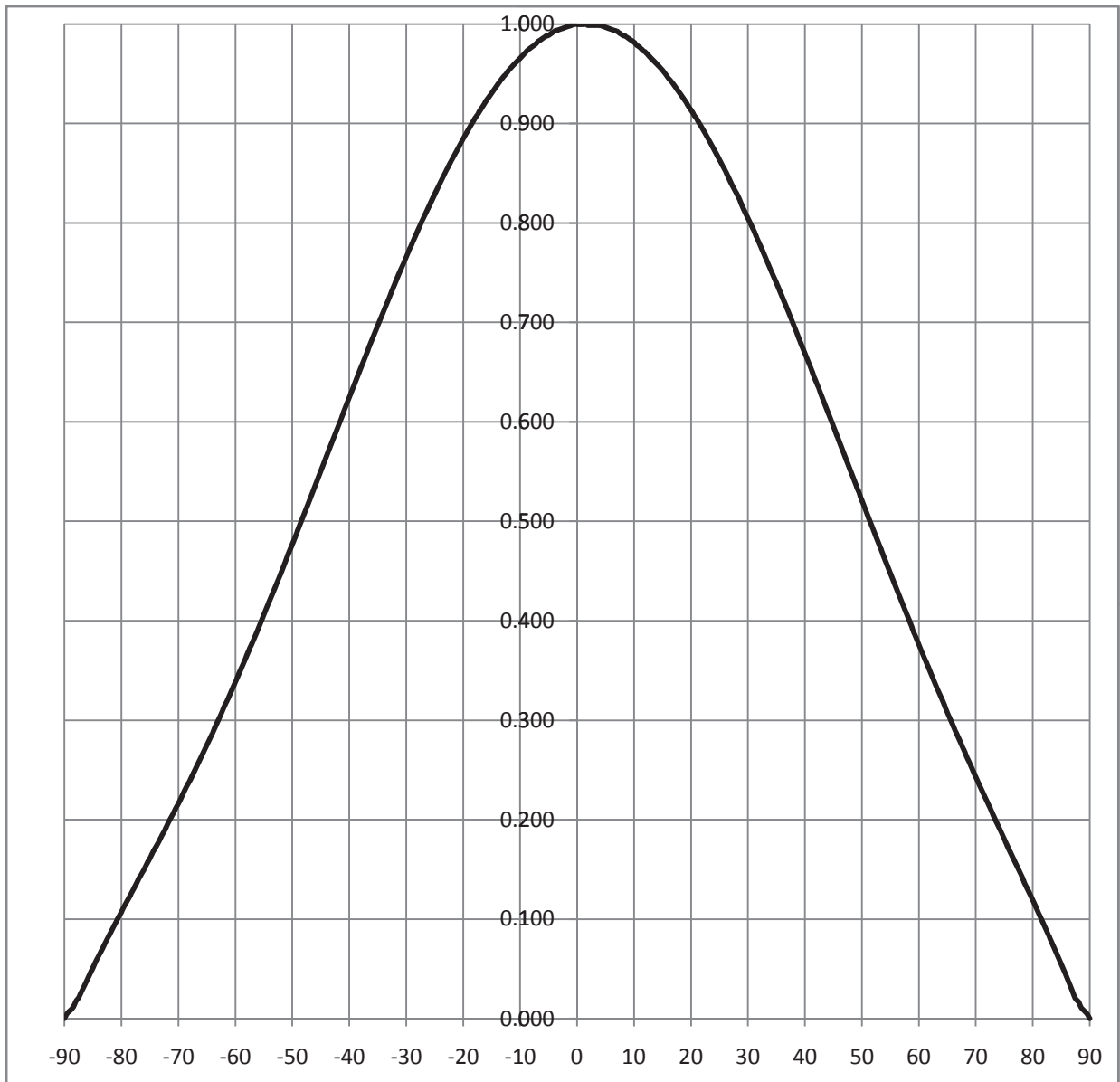
**Figure 1**  
**Minimum Ground Clearance**

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	0.997	99.4	19	18.9	7.3
10	0.982	96.4	19	18.7	5.7
15	0.954	91.0	19	18.4	4.1
20	0.914	83.5	18	16.9	2.8
25	0.864	74.6	17	15.4	1.8
30	0.805	64.8	16	13.9	1.0
35	0.740	54.8	14	11.5	1.0
40	0.669	44.8	13	10.0	0.6
45	0.596	35.5	12	8.5	0.5
50	0.521	27.1	10	6.4	1.3
55	0.448	20.1	9	5.2	1.6
60	0.376	14.1	7	3.5	2.9
65	0.308	9.5	6	2.5	3.6
70	0.243	5.9	5	1.9	4.3
75	0.181	3.3	4	1.3	4.2
80	0.119	1.4	2	0.3	7.0
85	0.055	0.3	1	0.1	8.0
90	0.000	0.0	0	0.0	9.0
Minimum Clearance above TGL:					0.5 m

**Figure 2 Page 1**  
**Norwalk Dominator NWE-34**

deg	field	22	0.895	45	0.596	68	0.269
0	1.000	23	0.885	46	0.581	69	0.256
1	1.000	24	0.875	47	0.566	70	0.243
2	0.999	25	0.864	48	0.551	71	0.230
3	0.999	26	0.853	49	0.536	72	0.218
4	0.999	27	0.841	50	0.521	73	0.205
5	0.997	28	0.830	51	0.506	74	0.193
6	0.995	29	0.817	52	0.492	75	0.181
7	0.993	30	0.805	53	0.477	76	0.168
8	0.989	31	0.793	54	0.462	77	0.156
9	0.986	32	0.780	55	0.448	78	0.144
10	0.982	33	0.766	56	0.433	79	0.131
11	0.977	34	0.753	57	0.419	80	0.119
12	0.972	35	0.740	58	0.405	81	0.106
13	0.966	36	0.726	59	0.390	82	0.094
14	0.960	37	0.712	60	0.376	83	0.081
15	0.954	38	0.698	61	0.362	84	0.068
16	0.946	39	0.683	62	0.349	85	0.055
17	0.939	40	0.669	63	0.335	86	0.041
18	0.931	41	0.655	64	0.322	87	0.027
19	0.923	42	0.640	65	0.308	88	0.017
20	0.914	43	0.625	66	0.295	89	0.008
21	0.905	44	0.610	67	0.282	90	0.000

**Figure 2 Page 2**  
**Norwalk Dominator NWE-34**



Aerial Map of the 15.4 Meter Area of Interference



Figure 3 Page 2  
Quadrangle Map of the 15.4 Meter Area of Interference

