LPFM Station Request for Second-Adjacent Spacing Waiver

prepared for

Latino Heritage Organization, Inc.
WWZT-LP Tampa, FL
Facility ID 195121
Ch. 286L1 105.1 MHz

Latino Heritage Organization, Inc. ("LHOI") is the permittee of Low Power FM ("LPFM") station WWZT-LP, Facility ID 195121, Channel 286L1, Tampa, FL (BMPL-20150311ABP). *LHOI* seeks a minor modification of the WWZT-LP Construction Permit to change transmitting location. This statement supports *LHOI's* request for waiver of the second-adjacent channel minimum separation requirement §73.807. The proposed technical parameters relevant to the waiver request are summarized below.

Summary of Proposed WWZT-LP Technical Parameters

Channel	286L1 105.1 MHz
Antenna Structure Registration	1031072
Site Location (NAD-27)	27° 59′ 06″ N-Lat, 82° 30′ 32″ W-Lon
Site Ground Elevation	8.8 meters AMSL
Antenna Center of Radiation Height	39.6 meters above ground 48.4 meters AMSL

LPFM applicants are not required to specify antenna height above average terrain ("HAAT") or the corresponding effective radiated power ("ERP"), as those values are calculated by FCC Staff during processing of an LPFM CP application. The ERP value is necessary to develop the waiver request. The proposed LPFM antenna HAAT was determined to be 43.4 meters based on the method in §73.313(d), eight radials, and standard FCC 30-second digitized terrain data. The corresponding ERP is 0.048 kW (48 Watts) in order to achieve a 60 dBμ contour distance of 5.6 km pursuant to §73.811(a).

The proposed WWZT-LP site location does not meet the §73.807 minimum distance separation requirements with respect to WRBQ-FM (Ch. 284C1, Tampa, FL) and WDUV(FM) (Ch.

288C1, New Port Richey, FL). As permitted by §73.807(e)(1), *LHOI* seeks a waiver of the second-adjacent channel minimum separation requirements with respect to WRBQ-FM and WDUV.

As described in §73.807(e)(1) and FCC 12-144[1] the "ratio" undesired-to-desired signal method of interference determination may be used by an LPFM applicant to demonstrate that its proposed operations will not result in interference to a station on a second-adjacent channel. The WRBQ-FM signal level at the proposed WWZT-LP site is 92.1 dBµ based on standard FCC F(50,50) propagation curves. The corresponding undesired interfering signal level is 132.1 dBµ. The WDUV signal level at the proposed WWZT-LP site is 77.7 dBµ and the corresponding undesired interfering signal level is 117.7 dBµ.

For protection of second adjacent stations WRBQ-FM and WDUV, it is only necessary to evaluate the lowest of the potential interfering signal levels, 117.7 dBµ (to WDUV).[2] Calculated signal levels of 117.7 dBµ or more (the "117.7 dBµ contour") do not reach any potentially populated location.

The maximum distance to the proposed WWZT-LP 117.7 dBµ interfering signal at elevations horizontal to the antenna is 0.063 km (63 meters). An aerial view of the proposed WWZT-LP site and vicinity is provided in Figure 1 along with the 117.7 dBµ interfering contour. The surrounding terrain is flat and there are no nearby tall buildings.

Applying the proposed antenna's elevation pattern, calculated signal levels of 117.7 dBµ or more are well elevated above the ground such that the 117.7 dBµ contour does not reach any potentially populated location. The proposed antenna is a one element Nicom model BKG77. Figure 2 provides a plot of the antenna's elevation pattern, a profile plot of the 117.7 dBµ contour, and a graph of the maximum free-space signal level at an elevation of 10 meters above ground along

[1] *Creation of a Low Power Radio Service,* Fifth Order on Reconsideration and Sixth Report and Order, Released December 4, 2012, FCC 12-144, at para 78.

[2] The 132.1 dBµ interfering signal to WRBQ-FM distance is completely subsumed by the 117.7 dBµ (WDUV) signal distance.

a radial from the base of the tower (the height of any nearby buildings is less than 10 meters). The elevation pattern data and free-space calculations are supplied in Table 1.

Figure 2 and Table 1 show that the 117.7 dBμ contour never falls below an elevation of 11.7 meters above ground. The highest free-space signal level at any point elevated 10 meters above ground within 0.063 km of the site does not exceed 117.2 dBμ. These exhibits demonstrate that the high signal levels that would exceed the 40 dBμ undesired-to-desired ratio with respect to WDUV are at locations which are well-elevated, inaccessible, and unpopulated. Thus, the proposal complies with §73.807(e)(1) with respect to WDUV and WRBQ-FM.

List of Attachments

Table 1	U/D Interference Calculation to WDUV
Figure 1	Interference Protection to WDUV - Aerial View of 117.7 dBμ Contour
Figure 2	Interference Protection to WDUV - U/D Graphs

Chesapeake RF Consultants, LLC
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Table 1

U/D Interference Calculation to WDUV(FM)

Latino Heritage Organization, Inc.

WWZT-LP Tampa, FL

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Antenna:	**Niccom BKG77 1-Bay**	
C/R Elevation:	**39.6**	m AGL
Vertical Clearance:	**10.0**	m AGL to occupied elevation
ERP :	**0.048**	kW
Ix Signal Level:	**117.7**	dBµ

	Antenna		Distance to 117.7 dBµ Ix Contour					Observation Point at Occupied Elevation		
Depr Angle (degrees)	Elevation Relative Field	ERP at Angle (kW)	Slant From C/R (m)	Horizontal From Base (m)	Vertical From Base (m)	Occupied Elevation (m)	Margin (m)	Horiz Distance (m)	Slant Distance (m)	Ix Signal at Endpoint (dBµ)
90	0.105	0.0005	6.6	0.0	33.0	10.0	23.0	0.0	29.6	104.7
89	0.104	0.0005	6.5	0.1	33.1	10.0	23.1	0.5	29.6	104.6
88	0.102	0.0005	6.4	0.2	33.2	10.0	23.2	1.0	29.6	104.4
87	0.100	0.0005	6.3	0.3	33.3	10.0	23.3	1.6	29.6	104.2
86	0.102	0.0005	6.4	0.4	33.2	10.0	23.2	2.1	29.7	104.4
85	0.103	0.0005	6.5	0.6	33.2	10.0	23.2	2.6	29.7	104.5
84	0.105	0.0005	6.6	0.7	33.0	10.0	23.0	3.1	29.8	104.6
83	0.110	0.0006	6.9	0.8	32.7	10.0	22.7	3.6	29.8	105.0
82	0.115	0.0006	7.2	1.0	32.4	10.0	22.4	4.2	29.9	105.4
81	0.120	0.0007	7.5	1.2	32.2	10.0	22.2	4.7	30.0	105.7
80	0.129	0.0008	8.1	1.4	31.6	10.0	21.6	5.2	30.1	106.3
79	0.137	0.0009	8.6	1.6	31.2	10.0	21.2	5.8	30.2	106.8
78	0.145	0.0010	9.1	1.9	30.7	10.0	20.7	6.3	30.3	107.3
77	0.155	0.0012	9.7	2.2	30.1	10.0	20.1	6.8	30.4	107.8
76	0.166	0.0013	10.4	2.5	29.5	10.0	19.5	7.4	30.5	108.4
75	0.176	0.0015	11.1	2.9	28.9	10.0	18.9	7.9	30.6	108.8
74	0.188	0.0017	11.8	3.3	28.2	10.0	18.2	8.5	30.8	109.4
73	0.199	0.0019	12.5	3.7	27.6	10.0	17.6	9.0	31.0	109.8
72	0.211	0.0021	13.3	4.1	27.0	10.0	17.0	9.6	31.1	110.3
71	0.225	0.0024	14.1	4.6	26.2	10.0	16.2	10.2	31.3	110.8
70	0.239	0.0027	15.0	5.1	25.5	10.0	15.5	10.8	31.5	111.3
69	0.253	0.0031	15.9	5.7	24.8	10.0	14.8	11.4	31.7	111.7
68	0.268	0.0034	16.8	6.3	24.0	10.0	14.0	12.0	31.9	112.1
67	0.282	0.0038	17.7	6.9	23.3	10.0	13.3	12.6	32.2	112.5
66	0.297	0.0042	18.7	7.6	22.6	10.0	12.6	13.2	32.4	112.9
65	0.313	0.0047	19.7	8.3	21.8	10.0	11.8	13.8	32.7	113.3
64	0.329	0.0052	20.7	9.1	21.0	10.0	11.0	14.4	32.9	113.7
63	0.345	0.0057	21.7	9.8	20.3	10.0	10.3	15.1	33.2	114.0
62	0.361	0.0063	22.7	10.6	19.6	10.0	9.6	15.7	33.5	114.3
61	0.376	0.0068	23.6	11.5	18.9	10.0	8.9	16.4	33.8	114.6
60	0.391	0.0073	24.6	12.3	18.3	10.0	8.3	17.1	34.2	114.8
59	0.406	0.0079	25.5	13.1	17.7	10.0	7.7	17.8	34.5	115.1
58	0.421	0.0085	26.4	14.0	17.2	10.0	7.2	18.5	34.9	115.3
57	0.436	0.0091	27.4	14.9	16.6	10.0	6.6	19.2	35.3	115.5
56	0.450	0.0097	28.3	15.8	16.2	10.0	6.2	20.0	35.7	115.7
55	0.465	0.0104	29.2	16.8	15.7	10.0	5.7	20.7	36.1	115.9
54	0.479	0.0110	30.1	17.7	15.3	10.0	5.3	21.5	36.6	116.0
53	0.494	0.0117	31.0	18.7	14.8	10.0	4.8	22.3	37.1	116.2
52	0.508	0.0124	31.9	19.6	14.5	10.0	4.5	23.1	37.6	116.3
51	0.523	0.0131	32.9	20.7	14.1	10.0	4.1	24.0	38.1	116.4
50	0.538	0.0139	33.8	21.7	13.7	10.0	3.7	24.8	38.6	116.5
49	0.553	0.0147	34.7	22.8	13.4	10.0	3.4	25.7	39.2	116.6
48	0.568	0.0155	35.7	23.9	13.1	10.0	3.1	26.7	39.8	116.7
47	0.584	0.0164	36.7	25.0	12.8	10.0	2.8	27.6	40.5	116.8
46	0.600	0.0173	37.7	26.2	12.5	10.0	2.5	28.6	41.1	116.9
45	0.616	0.0182	38.7	27.4	12.2	10.0	2.2	29.6	41.9	117.0
44	0.631	0.0191	39.6	28.5	12.1	10.0	2.1	30.7	42.6	117.1
43	0.646	0.0200	40.6	29.7	11.9	10.0	1.9	31.7	43.4	117.1
42	0.661	0.0210	41.5	30.9	11.8	10.0	1.8	32.9	44.2	117.2
41	0.676	0.0219	42.5	32.1	11.7	10.0	1.7	34.1	45.1	117.2
40	0.691	0.0229	43.4	33.3	11.7	10.0	1.7	35.3	46.0	117.2

Table 1

U/D Interference Calculation to WDUV(FM)

Latino Heritage Organization, Inc.

WWZT-LP Tampa, FL

Chesapeake RF Consultants, LLC
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Depr Angle (degrees)	Antenna Elevation Relative Field	ERP at Angle (kW)	Distance to 117.7 dBµ Ix Contour: Slant From C/R (m)	Horizontal From Base (m)	Vertical From Base (m)	Occupied Elevation (m)	Margin (m)	Observation Point at Occupied Elevation: Horiz Distance (m)	Slant Distance (m)	Ix Signal at Endpoint (dBµ)
39	0.706	0.0239	44.4	34.5	11.7	10.0	1.7	36.6	47.0	117.2
38	0.719	0.0248	45.2	35.6	11.8	10.0	1.8	37.9	48.1	117.2
37	0.732	0.0257	46.0	36.7	11.9	10.0	1.9	39.3	49.2	117.1
36	0.745	0.0266	46.8	37.9	12.1	10.0	2.1	40.7	50.4	117.1
35	0.758	0.0276	47.6	39.0	12.3	10.0	2.3	42.3	51.6	117.0
34	0.771	0.0285	48.4	40.2	12.5	10.0	2.5	43.9	52.9	116.9
33	0.783	0.0294	49.2	41.3	12.8	10.0	2.8	45.6	54.3	116.8
32	0.795	0.0303	49.9	42.4	13.1	10.0	3.1	47.4	55.9	116.7
31	0.806	0.0312	50.6	43.4	13.5	10.0	3.5	49.3	57.5	116.6
30	0.818	0.0321	51.4	44.5	13.9	10.0	3.9	51.3	59.2	116.5
29	0.829	0.0330	52.1	45.6	14.4	10.0	4.4	53.4	61.1	116.3
28	0.840	0.0339	52.8	46.6	14.8	10.0	4.8	55.7	63.0	116.2
27	0.852	0.0348	53.5	47.7	15.3	10.0	5.3	58.1	65.2	116.0
26	0.862	0.0357	54.2	48.7	15.9	10.0	5.9	60.7	67.5	115.8
25	0.872	0.0365	54.8	49.6	16.4	10.0	6.4	63.5	70.0	115.6
24	0.881	0.0373	55.3	50.6	17.1	10.0	7.1	66.5	72.8	115.3
23	0.891	0.0381	56.0	51.5	17.7	10.0	7.7	69.7	75.8	115.1
22	0.900	0.0389	56.5	52.4	18.4	10.0	8.4	73.3	79.0	114.8
21	0.910	0.0397	57.2	53.4	19.1	10.0	9.1	77.1	82.6	114.5
20	0.918	0.0405	57.7	54.2	19.9	10.0	9.9	81.3	86.5	114.2
19	0.926	0.0412	58.2	55.0	20.7	10.0	10.7	86.0	90.9	113.8
18	0.934	0.0419	58.7	55.8	21.5	10.0	11.5	91.1	95.8	113.4
17	0.941	0.0425	59.1	56.5	22.3	10.0	12.3	96.8	101.2	113.0
16	0.947	0.0430	59.5	57.2	23.2	10.0	13.2	103.2	107.4	112.6
15	0.954	0.0437	59.9	57.9	24.1	10.0	14.1	110.5	114.4	112.1
14	0.960	0.0442	60.3	58.5	25.0	10.0	15.0	118.7	122.4	111.6
13	0.966	0.0448	60.7	59.1	25.9	10.0	15.9	128.2	131.6	111.0
12	0.972	0.0453	61.1	59.7	26.9	10.0	16.9	139.3	142.4	110.3
11	0.977	0.0458	61.4	60.3	27.9	10.0	17.9	152.3	155.1	109.6
10	0.982	0.0463	61.7	60.8	28.9	10.0	18.9	167.9	170.5	108.9
9	0.987	0.0468	62.0	61.2	29.9	10.0	19.9	186.9	189.2	108.0
8	0.991	0.0471	62.3	61.7	30.9	10.0	20.9	210.6	212.7	107.0
7	0.995	0.0475	62.5	62.0	32.0	10.0	22.0	241.1	242.9	105.9
6	0.999	0.0479	62.8	62.4	33.0	10.0	23.0	281.6	283.2	104.6
5	0.999	0.0479	62.8	62.5	34.1	10.0	24.1	338.3	339.6	103.0
4	0.999	0.0479	62.8	62.6	35.2	10.0	25.2	423.3	424.3	101.1
3	0.999	0.0479	62.8	62.7	36.3	10.0	26.3	564.8	565.6	98.6
2	1.000	0.0480	62.8	62.8	37.4	10.0	27.4	847.6	848.1	95.1
1	1.000	0.0480	62.8	62.8	38.5	10.0	28.5	1695.8	1696.0	89.1
0	1.000	0.0480	62.8	62.8	39.6	10.0	29.6	----	----	----
				Min:	11.7	Min:	1.7		Max:	117.2

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 1
Interference Protection to WDUV(FM)
Aerial View of 117.7 dBμ Contour
WWZT-LP Tampa, FL
Facility ID 195121
Ch. 286L1 105.1 MHz

prepared for
Latino Heritage Organization, Inc.

July, 2016

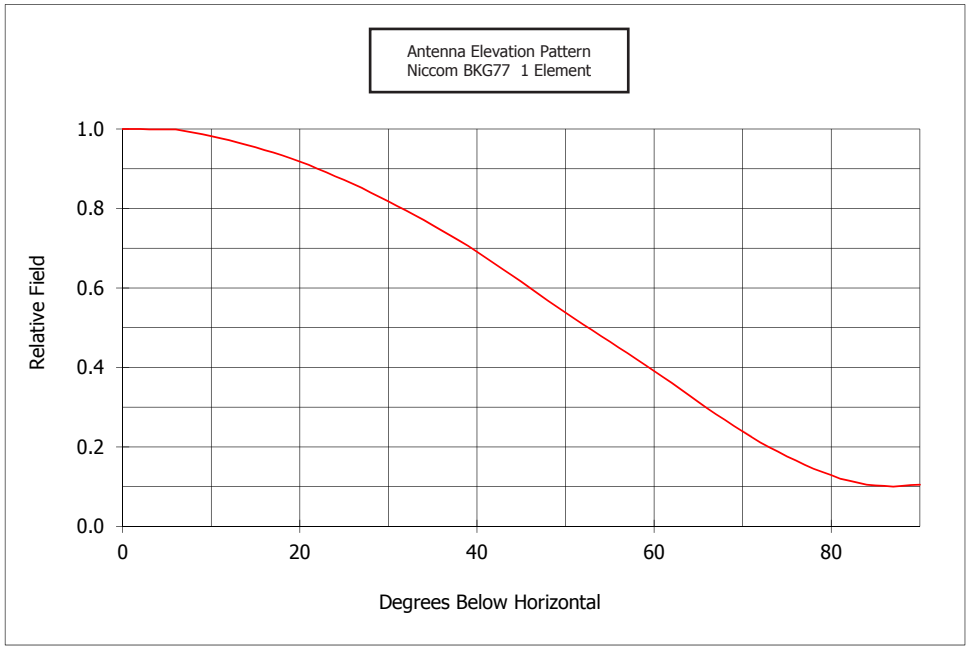

Figure 2
Interference Protection to WDUV(FM)
WWZT-LP Tampa, FL
Facility ID 195121
Ch. 286L1 105.1 MHz

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Protection of WDUV(FM) Ch. 288C1 105.5 MHz New Port Richey, FL
WDUV F(50,50) signal level at proposed WWZT-LP site: 77.7 dBµ
WWZT-LP interfering signal level = 77.7 dBµ + 40 dB = 117.7 dBµ
WWZT-LP Antenna C/R = 39.6 m AGL ERP = 0.048 kW