

**DELAWDER COMMUNICATIONS, INC.**

P.O. Box 1095  
Ashburn, Virginia 20146-1095  
(703) 299-9222

**ENGINEERING REPORT**

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**W207BG, Grand Island, NY, Channel 206D FM Application**

**ENGINEERING STATEMENT**

Priority Radio, Inc. ("Applicant") proposes a channel change for its FM translator at Grand Island, NY (W207BG) from channel 207 to channel 206. This is a minor change proposal for a first-adjacent channel. (This channel change will alleviate received interference from co-channel station WCOM-FM, Silver Creek, NY, 207B1.)

**CHANNEL STUDY**

Attached as Table EE1 is a channel study for the proposed channel 206D facility. Note that along with certain technical changes that are being proposed, the transmitter site coordinates are also being corrected by this minor modification. (W207DG is collocated with WNED-TV on existing tower ASRN No. 1033433.) All required protections are met by contour non-contour overlap pursuant to Section 74.1204 (or by Section 73.207 separation requirements for channels above 220, when applicable), with the exception of protection to WBFO, Buffalo, NY, 204B. WBFO is protected, as discussed below. (Also, a detailed non-overlap showing is provided to W214BB's pending application for service on channel 206D.)

**PROTECTION TO WBFO**

WBFO, Buffalo, NY, 204B, is a second-adjacent channel facility to the proposed channel 206D facility and is located only 13.0 kilometers (at 103 degrees True) from the W207BG transmitter site. The 60 dBu F50,50 service contour extends well beyond the W207BG transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to WBFO.

The F50,50 signal strength from WBFO at the proposed 206D transmitter site is 82.5 dBu (the "desired" signal). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired ("U/D") dB signal strength ratio of 40:1. Therefore, predicted interference to WBFO from the proposed 206D facility is a signal of greater than or equal to 122.5 dBu.

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Figure EE2 is the vertical plane relative field pattern for the proposed antenna. By adjusting for the vertical plane downward relative field values of the proposed antenna, it is herein demonstrated that the 122.5 dBu interfering signal (using a free space field determination) does not exist at any point at ground level. (Actually, the study is made to 2 meters above ground level to account for a person's height.)

Attached as Figure EE3 is a tabulation of various points (at 2 meters above ground level) from the proposed translator tower base. (Column B is the different distances from the tower base to each studied point.) The actual distance from the antenna to each point is listed in Column C, the hypotenuse of the vertical height (Column A) and the horizontal distance (Column B). Because the calculated distance to the free space interfering signal (Column J) is less than the hypotenuse distance (Column C) for each studied point, the interfering signal does not reach any studied point. (In other words, the interfering signal does not make it to 2 meters above ground level to any point.) Therefore, pursuant to Section 74.1204(d) of the FCC Rules, WBFO is adequately protected by the proposed facility.

The above study results of Figure EE3 assume uniform terrain elevation near the proposed tower. Because the clearance shown (Column K) is at least 10 meters, this assumption is acceptable for showing non-interference—no actual elevation within 100 meters of the proposed translator tower is at an elevation that is more than 5 meters above that of the tower base elevation.

**CONTOUR OVERLAP SHOWING**

Figure EE4, attached, show non-overlap between the service contour of W214BB's proposed channel 206D facility from the interference contour of the herein proposed channel 206D facility. All contours were determined pursuant to Section 73.313 of the FCC Rules using a USGS 30 arc-second terrain database at one-degree radial intervals.

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Besides W214BB and WBFO, no detailed study is required due to contour non-overlap clearance as listed in Figure EE1 for each protected facility. The service and interference contour distances that are listed on Figure EE1 use the worst-case (greatest) distance along any bearing for each facility. No contour overlap using this worst-case test means no possible contour overlap when applying Section 73.313 methodology.

**SECTION 74.1204 CHANNEL STUDY****PROJECT: GRAND ISLAND, NY, 206D FROM PROPOSED SITE****STUDY COORDINATES: N 43-01-48.0; W 78-55-15.0(N D-M-S; W D-M-S)**

Call Docket	Channel FacilityID	Class Service	Frequency ERP	Status DA?	City HAAT	State RCAMSL	Country RCAGL	File Number
Latitude	Longitude			ASRN	Dist(km)	Dist(mi)	Azimuth	
Licensee/Permittee								
WBFO	204 B	FM	88.7 MHz	LIC	BUFFALO	NY	US	BLD-20080424ACE
-	63113		50. kW	DA	117. m	305. m	127. m	
N 43 0	12.00	W	78 45	56.00	1244714	13.00 km	8.08 mi	103.17°
WESTERN NEW YORK PUBLIC BROADCASTING ASSOCIATION								
<b>Protected Contour Dist: 48.7 km Prop 206D Interf Contour Dist: &lt;1.0 km</b>								
<b>Result: -41.6 km SHORT</b>								
<b>NOTE: DETAILED STUDY SHOWING PROTECTION IS INCLUDED WITH THIS APPLICATION.</b>								
-	205 B	FA	88.9 MHz	VAC	TORONTO	ON	CA	---
-	94615		- kW		- m	- m	- m	
N 43 38	56.00	W	79 22	55.00	-	78.27 km	48.63 mi	331.71°
-								
<b>Protected Contour Dist: 65.0 km Prop 206D Interf Contour Dist: 13.3 km</b>								
<b>Result: 0.0 km CLEAR</b>								
NEW	205 B	FM	88.9 MHz	PROP	TORONTO	ON	CA	---
-	158640		4.18 kW	DA	315. m	433. m	0. m	
N 43 38	56.00	W	79 22	55.00	-	78.27 km	48.63 mi	331.71°
-								
<b>Protected Contour Dist: 65.0 km Prop 206D Interf Contour Dist: 13.3 km</b>								
<b>Result: 0.0 km CLEAR</b>								
WBSU	206 B1	FM	89.1 MHz	LIC	BROCKPORT	NY	US	BLD-19890526KA
86-463	63118		7.3 kW	DA	53. m	209. m	46. m	
N 43 12	45.00	W	77 57	17.00	-	81.20 km	50.45 mi	75.16°
STATE UNIVERSITY OF NEW YORK								
<b>Protected Contour Dist: 29.0 km Prop 206D Interf Contour Dist: 22.2 km</b>								
<b>Result: 30.0 km CLEAR</b>								
W214BB	206 D	FX	89.1 MHz	APP	LOCKPORT	NY	US	BPFT-20120308AAA
-	90134		0.027 kW		0. m	207. m	15. m	
N 43 9	4.00	W	78 40	21.00	1233085	24.29 km	15.09 mi	56.18°
PRIORITY RADIO, INC.								
<b>Protected Contour Dist: 7.2 km Prop 206D Interf Contour Dist: 22.2 km</b>								
<b>Result: -5.1 km SHORT</b>								
<b>NOTE: DETAILED STUDY SHOWING PROTECTION IS INCLUDED WITH THIS APPLICATION.</b>								
W207BB	207 D	FX	89.3 MHz	LIC	BUFFALO	NY	US	BLFT-19990831AAJ
-	86427		0.019 kW	DA	34. m	229. m	38. m	
N 42 53	20.00	W	78 47	41.00	-	18.75 km	11.65 mi	146.77°
PRIORITY RADIO, INC.								
<b>Protected Contour Dist: 4.8 km Prop 206D Interf Contour Dist: 9.5 km</b>								
<b>Result: 4.4 km CLEAR</b>								

MAY 23, 2012

**SECTION 74.1204 CHANNEL STUDY****PROJECT: GRAND ISLAND, NY, 206D FROM PROPOSED SITE****STUDY COORDINATES: N 43-01-48.0; W 78-55-15.0(N D-M-S; W D-M-S)**

Call	Channel	Class	Frequency	Status	City	State	Country	File Number
Docket	FacilityID	Service	ERP	DA?	HAAT	RCAMSL	RCAGL	
Latitude	Longitude			ASRN	Dist(km)	Dist(mi)	Azimuth	
Licensee/Permittee								
-----								
W207BG	207 D	FX	89.3 MHz	LIC	GRAND ISLAND	NY	US	BLFT-20060103ABS
-	92807		0.04 kW		42.3 m	221. m	38. m	
N 43	1	0.00 W	78 56	28.00 -		2.22 km	1.38 mi	228.04°
PRIORITY RADIO, INC.								

**Protected Contour Dist: 6.1 km Prop 206D Interf Contour Dist: 9.5 km****Result: -13.4 km SHORT****NOTE: THIS IS THE FACILITY BEING MODIFIED BY THIS APPLICATION.**

WCOM-FM	207 B1	FM	89.3 MHz	CP MOD	SILVER CREEK	NY	US	BMPED-20110113AAI
-	174382		8. kW	DA	83. m	346. m	87. m	
N 42	34	41.00 W	78 57	47.00	1277789	50.32 km	31.27 mi	183.94°
FAMILY LIFE MINISTRIES, INC.								

**Protected Contour Dist: 36.9 km Prop 206D Interf Contour Dist: 9.5 km****Result: 3.9 km CLEAR**

CIUT-FM	208 B	FM	89.5 MHz	USE	TORONTO	ON	CA	---
-	180704		15. kW		269.7 m	387.1 m	0. m	
N 43	38	56.00 W	79 22	55.00 -		78.27 km	48.63 mi	331.71°
-								

**Protected Contour Dist: 65.0 km Prop 206D Interf Contour Dist: 13.3 km****Result: 0.0 km CLEAR**

Study Complete

FIGURE EE2, PAGE 1 OF 2

Antenna Mfg.: Shively Labs

Antenna Type: 6812-1

Station: none

Frequency:

Channel #:

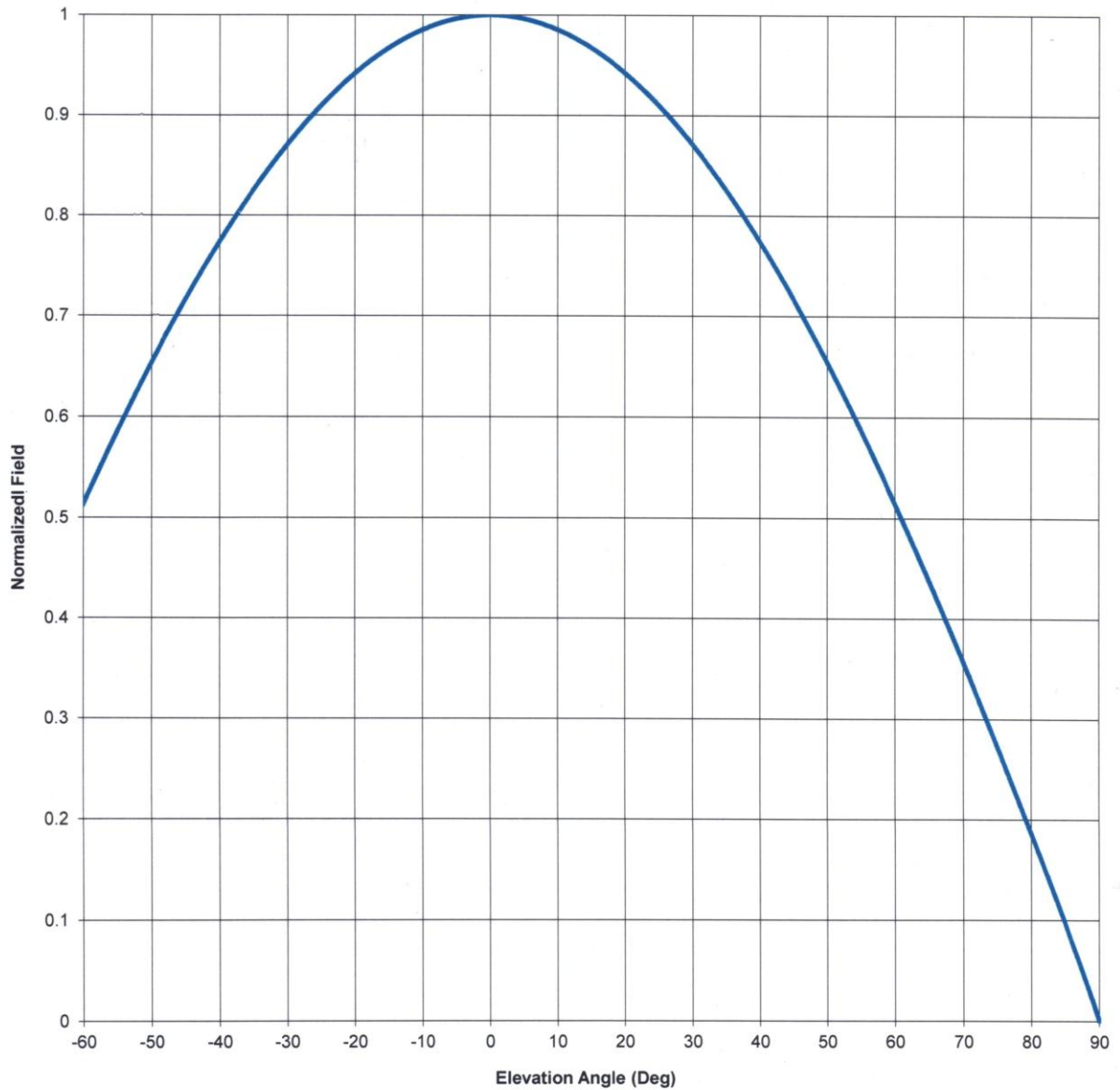
Figure:

Date: 11/23/2011

Beam Tilt 0

Gain (Max) 0.460 -3.369 dB

Gain (Horizon) 0.460 -3.369 dB



Antenna Mfg.: Shively Labs  
Antenna Type: 6812-1

Date: 11/23/2011

Station: none

Beam Tilt 0

Frequency:

Gain (Max) 0.460

-3.369 dB

Channel #:

Gain (Horizon) 0.460

-3.369 dB

Figure:

Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field	Angle of Depression (Deg)	Relative Field
-90	0.000	-44	0.729	0	1.000	46	0.705
-89	0.021	-43	0.741	1	1.000	47	0.693
-88	0.040	-42	0.752	2	0.999	48	0.680
-87	0.059	-41	0.763	3	0.999	49	0.667
-86	0.078	-40	0.774	4	0.998	50	0.654
-85	0.096	-39	0.785	5	0.996	51	0.641
-84	0.114	-38	0.796	6	0.995	52	0.628
-83	0.133	-37	0.806	7	0.993	53	0.614
-82	0.151	-36	0.816	8	0.991	54	0.600
-81	0.168	-35	0.826	9	0.988	55	0.586
-80	0.186	-34	0.835	10	0.985	56	0.572
-79	0.204	-33	0.845	11	0.982	57	0.558
-78	0.221	-32	0.854	12	0.979	58	0.544
-77	0.239	-31	0.862	13	0.975	59	0.529
-76	0.256	-30	0.871	14	0.971	60	0.514
-75	0.273	-29	0.879	15	0.967	61	0.499
-74	0.290	-28	0.887	16	0.963	62	0.484
-73	0.307	-27	0.895	17	0.958	63	0.469
-72	0.324	-26	0.903	18	0.953	64	0.453
-71	0.341	-25	0.910	19	0.948	65	0.437
-70	0.357	-24	0.917	20	0.942	66	0.422
-69	0.373	-23	0.924	21	0.936	67	0.406
-68	0.390	-22	0.930	22	0.930	68	0.390
-67	0.406	-21	0.936	23	0.924	69	0.373
-66	0.422	-20	0.942	24	0.917	70	0.357
-65	0.437	-19	0.948	25	0.910	71	0.341
-64	0.453	-18	0.953	26	0.903	72	0.324
-63	0.469	-17	0.958	27	0.895	73	0.307
-62	0.484	-16	0.963	28	0.887	74	0.290
-61	0.499	-15	0.967	29	0.879	75	0.273
-60	0.514	-14	0.971	30	0.871	76	0.256
-59	0.529	-13	0.975	31	0.862	77	0.239
-58	0.544	-12	0.979	32	0.854	78	0.221
-57	0.558	-11	0.982	33	0.845	79	0.204
-56	0.572	-10	0.985	34	0.835	80	0.186
-55	0.586	-9	0.988	35	0.826	81	0.168
-54	0.600	-8	0.991	36	0.816	82	0.151
-53	0.614	-7	0.993	37	0.806	83	0.133
-52	0.628	-6	0.995	38	0.796	84	0.114
-51	0.641	-5	0.996	39	0.785	85	0.096
-50	0.654	-4	0.998	40	0.774	86	0.078
-49	0.667	-3	0.999	41	0.763	87	0.059
-48	0.680	-2	0.999	42	0.752	88	0.040
-47	0.693	-1	1.000	43	0.741	89	0.021
-46	0.705	0	1.000	44	0.729	90	0.000
-45	0.717			45	0.717		

# FIGURE EE3--PROTECTION SHOWING TO WBFO, BUFFALO, NY, 204B FREE SPACE FIELD STRENGTH AT A DISTANCE STUDY RESULTS

PROJECT: GRAND ISLAND, NY, CHANNEL 206D

24-May-12

	Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J	Column K
	Down-ward Vert. Distance From Antenna Bottom Pt	Horiz. Distance From Tower Base	Hypo- tenuse Distance From Antenna Bottom (meters)	Down-ward Angle From Antenna to Point (degrees)	Max ERP (watts)	Max ERP (dBmW)	Pattern Relative Field at Down-ward Angle	Target Free Space Inter-fering Signal (dBu)	Adj- usted ERP in Down-ward Angle (dBmW)	Distance to Interfering Signal Along Hypo- tenuse (meters)	Column C Minus Column J Clearance (meters)
1	32	0.1	32.0	89.8	80	49.03	0.021	122.5	15.48	1.0	31.0
2	32	10	33.5	72.6	80	49.03	0.324	122.5	39.24	15.3	18.2
3	32	20	37.7	58.0	80	49.03	0.544	122.5	43.74	25.7	12.1
4	32	30	43.9	46.8	80	49.03	0.705	122.5	45.99	33.3	10.6
5	32	40	51.2	38.7	80	49.03	0.796	122.5	47.05	37.6	13.6
6	32	50	59.4	32.6	80	49.03	0.854	122.5	47.66	40.3	19.0
7	32	60	68.0	28.1	80	49.03	0.887	122.5	47.99	41.9	26.1
8	32	70	77.0	24.6	80	49.03	0.917	122.5	48.28	43.3	33.7
9	32	80	86.2	21.8	80	49.03	0.936	122.5	48.46	44.2	42.0
10	32	90	95.5	19.6	80	49.03	1.000	122.5	49.03	47.2	48.3

NOTE: Study point at 2 meters above ground level.

Worst-case relative field of 1.000 used for last examined point.

WBFO operates with circular (equal H and V ERP) polarization. This study is applicable to both polarities

**RESULTS: COLUMN J DISTANCES ARE LESS THAN COLUMN D DISTANCES IN ALL INSTANCES; THEREFORE, INTERFERING SIGNAL DOES NOT EXIST AT ANY LOCATION (TWO METERS OR LESS ABOVE GROUND LEVEL)**



**FIGURE EE4—GRAND ISLAND, NY, 206D  
PROTECTION TO LOCKPORT, NY, 206D APPLICATION FACILITY**

