



## **Comprehensive Engineering Statement**

### **WXRБ-FM Educational Broadcasting, Inc.**

12/6/2020

The applicant proposes a minor change application to correct the transmitter site coordinates and increase power. File BLED-19821122AK, Facility ID No: 48827.

Licensed Geographic Coordinates: N. Lat. 42-02-40.3, W. Long. 71-55-50.2 (NAD 83)

Corrected Coordinates: N. Lat. 42-02-41.2, W. Long. 71-55-51.33 (NAD 83)

Channel number: 236, 95.1 MHz

Proposed Antenna COR, 220.0 m AMSL, HAAT: 38.0 m (8 cardinal radials, GLOBE terrain data)

Elevation at the site, 205 m

Antenna height C.O.R. above ground, 15 m

Tower height above ground, 15.5 m, (located at the existing tower site.)

Antenna Type, Jampro JLST-2, EPA type 1

ERP: 0.60 kW, circularly polarized

Page #2 of this statement is a coverage map showing the 60 dBu contour. As shown on the map, the principal city of Dudley, MA is fully covered by the principal city contour.

Page #3 is distance to contour and HAAT table for the eight cardinal radials.

Pages #4 through 15 is the channel study using our FMCommander program that is in wide use throughout the industry. This study shows that the proposed facilities will not cause contour overlap interference as per section 73.509 of the Commission's rules.

This antenna is excluded from R.F. emissions analysis due to its power being under 100 watts.

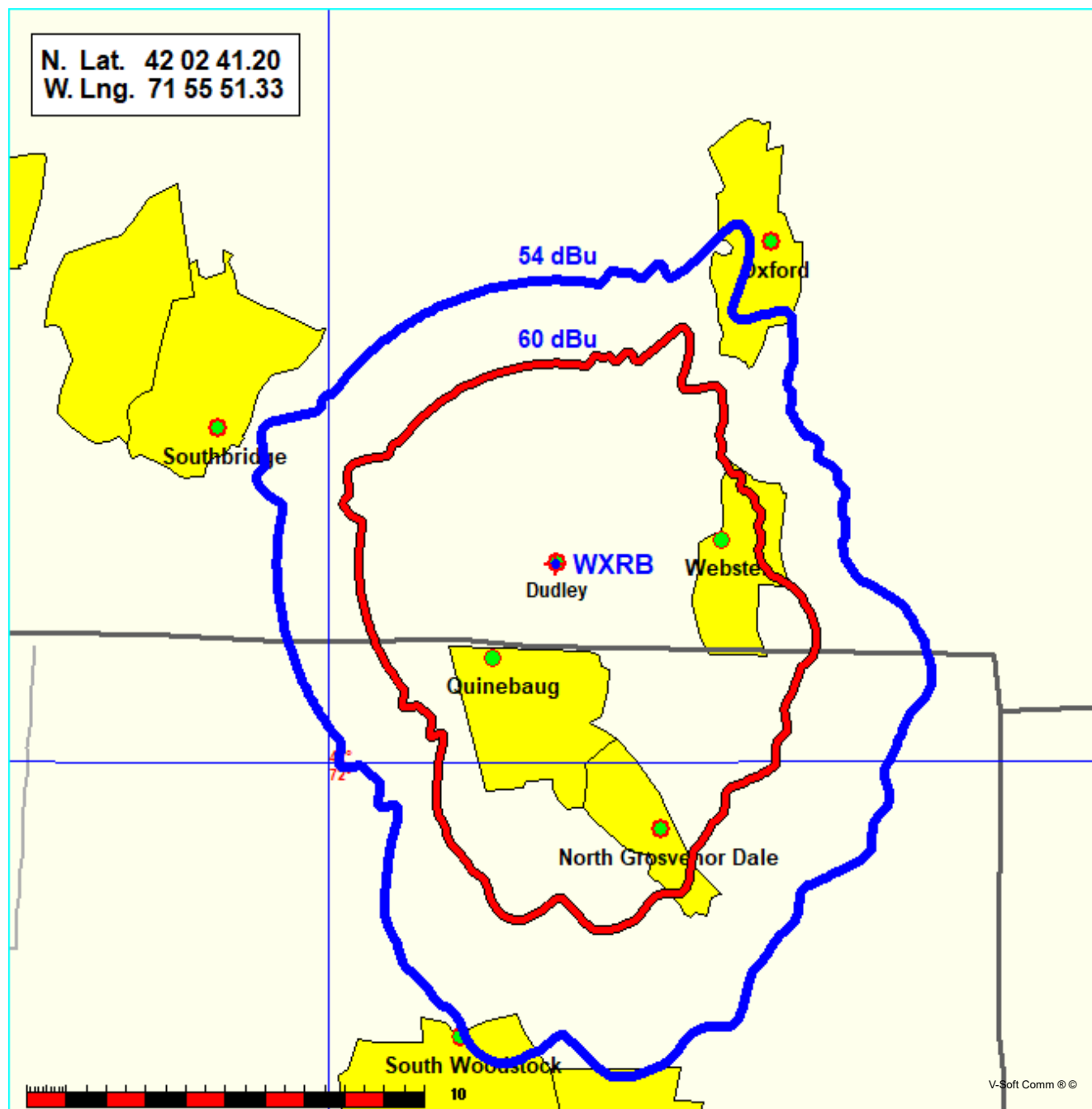
The applicant proposes to use the existing tower and antenna. There will be no change of tower height. The applicant will reduce power or terminate transmissions when necessary to protect the public or workers on the tower.

Page #16 is a description of how the contour-to-contour channel study should be read and the abbreviations used therein.

Page #17 is an exhibit stating the qualifications of the preparer.

54 dBu Population: 41,498, 60 dBu: 25,688  
WXRБ-FM Educational Broadcasting, Inc.

Coverage Study - GLOBE 30 Sec  
12-06-2020



N. Lat. = 42-02-41.2 W. Lng. = 71-55-51.3  
 HAAT and Distance to Contour,  
 FCC, FM 2-10 Mi, 51 pts Method - GLOBE 30 SEC

Distance and HAAT to 60 dBu Service Contour						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	216.1	3.9	0.0600	-12.22	1.000	4.94
045	176.7	43.3	0.0600	-12.22	1.000	5.93
090	186.7	33.3	0.0600	-12.22	1.000	5.20
135	152.8	67.2	0.0600	-12.22	1.000	7.37
180	134.9	85.1	0.0600	-12.22	1.000	8.35
225	188.8	31.2	0.0600	-12.22	1.000	5.04
270	196.2	23.8	0.0600	-12.22	1.000	4.94
315	203.7	16.3	0.0600	-12.22	1.000	4.94

Ave El= 181.99 M HAAT= 38.01 M AMSL= 220 M

Contout-to-Contour Channel Study WXRBB-FM Educational Broadcasting, Inc. CH# 236D - 95.1 MHz, Pwr= 0.06 kw, HAAT= 38.0 M, COR= 220 M Average Protected F(50-50)= 5.55 km Omni-directional										
REFERENCE									DISPLAY DATES	
42 02 41.20 N.									DATA 12-05-20	
71 55 51.33 W.									SEARCH 12-06-20	
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)
236D	WXRBB	LIC	_HN	137.0	0.03	42 02 40.30	0.014		---Reference---	
Dudley		MA		317.0	BLED19821122AK	71 55 50.20	38	223	Wxrb-Fm Educational Broadc	
235D	W235AV	LIC	DCN	4.4	29.52	42 18 34.30	0.230	12.7	7.3	7.6
Tatnuck		MA		184.5	BLFT20070725AAR	71 54 11.30	232	474	Amfm Radio Licenses, L.L.C	
233B	WJMN	LIC	_CN	63.1	65.18	42 18 27.30	9.200	5.0	51.2	13.5
Boston		MA		243.6	BLH20031201AWA	71 13 25.20	353	394	Amfm Radio Licenses, L.L.C	
238B	WLVO	LIC	_CN	117.2	52.38	41 49 40.30	18.500	3.9	37.9	13.9
Providence		RI		297.6	BMLH20171018AAB	71 22 07.10	139	170	Educational Media Foundati	
236L1	WWRI-LP	LIC	_CN	147.5	46.31	41 41 34.40	0.024			17.0
Coventry		RI		327.7	BLL20160216AAD	71 37 53.20	59	168	The Marconi Broadcasting F	
234B	WMAS-FM	LIC	_CN	277.5	56.54	42 06 33.30	50.000	3.3	32.1	23.9
Enfield		CT		97.1	BLH20111107ARY	72 36 38.30	55	117	Entercom License, LLC	
234B	WMAS-FM	CP	DCN	277.5	56.54	42 06 33.30	50.000	3.3	32.1	23.9
Enfield		CT		97.1	BPH20190213ABD	72 36 38.30	55	117	Entercom License, LLC	
235D	W235CN	LIC	DCN	117.2	52.39	41 49 40.00	0.250	17.5	11.9	30.5
Providence		RI		297.6	BLFT20171124AAA	71 22 07.00		148	Radio Sharon Foundation	
237D	W237EL	LIC	_CN	210.5	46.56	41 41 00.40	0.005	9.4	6.5	31.5
Willimantic		CT		30.3	BLFT20170524ABA	72 12 55.30		278	Hall Communications, Inc.	
236L1	WLPZ-LP	LIC	_CN	17.1	57.36	42 32 16.30	0.021			33.3
Leominster		MA		197.2	BLL20170125AHC	71 43 31.20	64	199	City Of Leominster	
239B	WKSS	LIC	DCN	234.9	92.78	41 33 41.40	16.500	5.8	54.5	37.7
Hartford-Meriden		CT		54.3	BMLH19980820KA	72 50 37.40	268	363	Capstar Tx, LLC	
237A	WHRB	LIC	NCN	64.3	79.73	42 21 08.40	1.450	37.3	24.7	47.8
Cambridge		MA		244.9	BLH20111115ABD	71 03 23.20	185	201	Harvard Radio Broadcasting	
235L1	WAEM-LP	LIC	_CN	39.6	61.29	42 28 06.30	0.021			48.0
Acton		MA		219.9	BLL20170222ABX	71 27 15.20	65	134	Town Of Acton, Massachuset	

Terrain database is GLOBE 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
 In & Out distances between contours are shown at closest points. Reference zone= - Zone 1, Co to 3rd adjacent.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 Incoming contour overlap is ignored.  
 "\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.

Contour-to-Contour Map - W235AV  
WXRБ-FM Educational Broadcasting, Inc.

FMCommander Single Allocation Study - 12-06-2020 - GLOBE 30 Sec  
WXRБ's Overlaps (Outgoing= 7.58 km, clear)

WXRБ CH 236 D

Lat= 42 02 41.20, Lng= 71 55 51.33

0.06 kW 38 m HAAT, 220 m COR

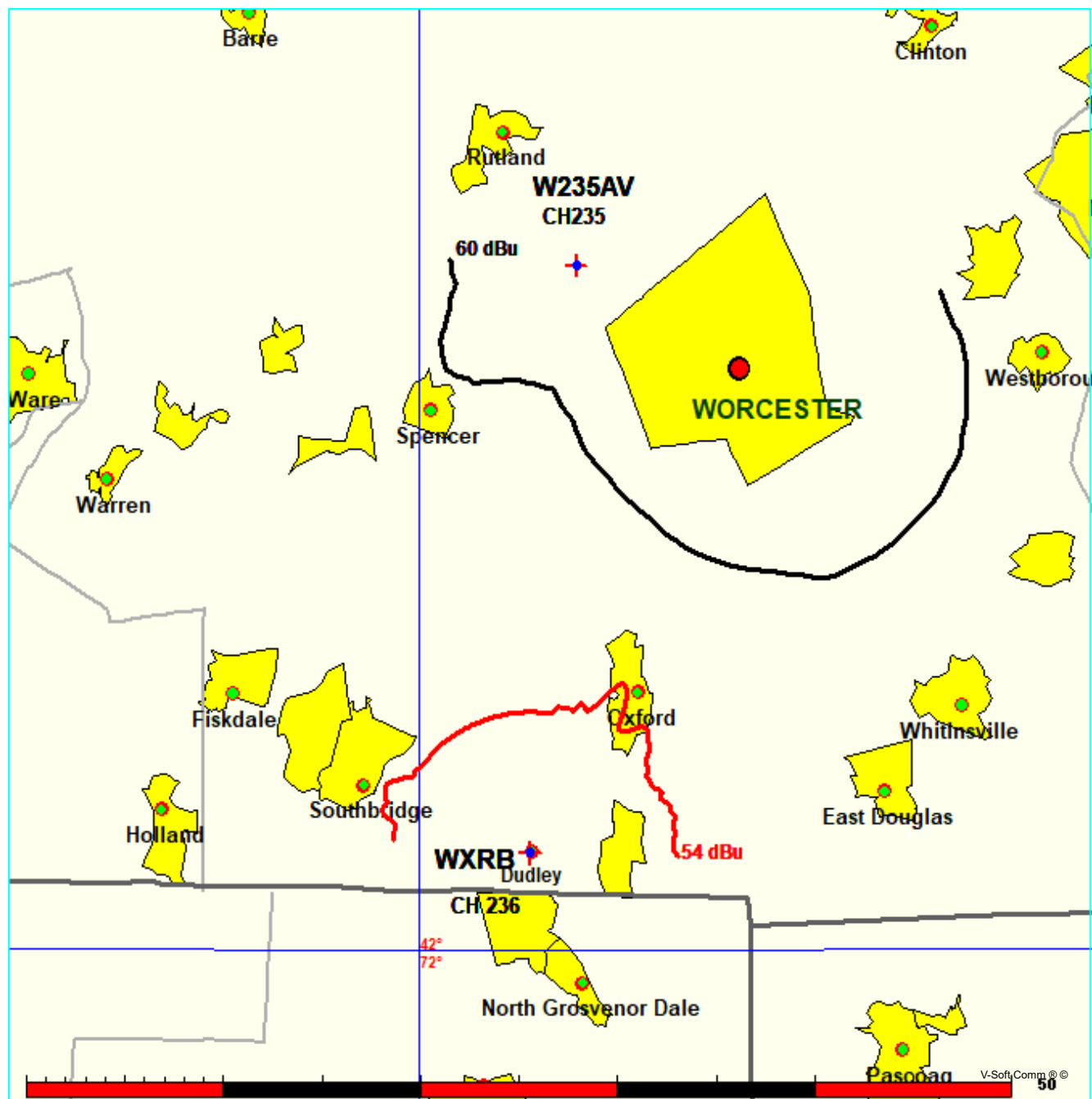
Prot.= 60 dBu, Intef.= 54 dBu

W235AV CH 235 D DA BLFT20070725AAR

Lat= 42 18 34.30, Lng= 71 54 11.30

0.23 kW 232.1 m HAAT, 474 m COR

Prot.= 60 dBu, Intef.= 54 dBu



12-06-2020

Terrain Data: GLOBE 30 Sec

FMOver Analysis

W235AV BLFT20070725AAR

WXRБ

Channel = 235D

Max ERP = 0.23 kW

RCAMSL = 474 m

N. Lat. 42 18 34.30

W. Lng. 71 54 11.30

Protected

60 dBu

Channel = 236D

Max ERP = 0.06 kW

RCAMSL = 219.99 m

N. Lat. 42 02 41.20

W. Lng. 71 55 51.33

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
124.0	000.2234	0291.7	021.7	049.4	000.0600	0038.6	026.6	33.87	
125.0	000.2213	0291.7	021.6	049.6	000.0600	0038.4	026.3	34.07	
126.0	000.2191	0291.4	021.5	049.6	000.0600	0038.4	025.9	34.30	
127.0	000.2169	0291.1	021.5	049.7	000.0600	0038.3	025.5	34.54	
128.0	000.2148	0291.5	021.5	049.8	000.0600	0038.1	025.1	34.75	
129.0	000.2127	0292.4	021.4	049.9	000.0600	0037.9	024.8	34.97	
130.0	000.2106	0292.8	021.4	050.0	000.0600	0037.8	024.4	35.20	
131.0	000.2084	0292.3	021.3	050.0	000.0600	0037.8	024.0	35.47	
132.0	000.2047	0291.8	021.2	049.8	000.0600	0038.0	023.6	35.80	
133.0	000.2010	0291.8	021.1	049.7	000.0600	0038.2	023.3	36.11	
134.0	000.1973	0291.9	021.0	049.6	000.0600	0038.4	022.9	36.43	
135.0	000.1937	0291.1	020.9	049.4	000.0600	0038.7	022.5	36.79	
136.0	000.1900	0289.8	020.8	049.1	000.0600	0039.1	022.1	37.16	
137.0	000.1865	0288.9	020.6	048.8	000.0600	0039.4	021.8	37.51	
138.0	000.1829	0289.6	020.6	048.6	000.0600	0039.6	021.4	37.83	
139.0	000.1794	0290.8	020.5	048.4	000.0600	0039.7	021.0	38.15	
140.0	000.1759	0290.4	020.4	048.1	000.0600	0040.0	020.7	38.48	
141.0	000.1725	0287.6	020.2	047.5	000.0600	0040.4	020.3	38.85	
142.0	000.1666	0283.0	019.9	046.5	000.0600	0041.4	020.0	39.33	
143.0	000.1609	0278.5	019.5	045.5	000.0600	0042.7	019.7	39.88	
144.0	000.1553	0275.0	019.3	044.5	000.0600	0043.9	019.4	40.37	
145.0	000.1497	0271.7	019.0	043.4	000.0600	0044.4	019.1	40.71	
146.0	000.1443	0268.0	018.7	042.3	000.0600	0043.7	018.9	40.76	
147.0	000.1389	0264.6	018.4	041.2	000.0600	0041.8	018.7	40.56	
148.0	000.1337	0262.3	018.1	040.1	000.0600	0039.8	018.4	40.29	
149.0	000.1285	0260.6	017.9	039.1	000.0600	0037.9	018.2	40.03	
150.0	000.1235	0259.4	017.6	038.0	000.0600	0036.4	018.0	39.83	
151.0	000.1186	0258.6	017.4	037.0	000.0600	0035.6	017.8	39.82	
152.0	000.1124	0258.1	017.1	035.8	000.0600	0036.0	017.6	40.04	
153.0	000.1064	0257.5	016.9	034.6	000.0600	0038.8	017.5	40.84	
154.0	000.1005	0257.0	016.6	033.3	000.0600	0044.9	017.4	42.30	
155.0	000.0948	0256.3	016.3	032.0	000.0600	0050.5	017.3	43.49	
156.0	000.0893	0255.1	016.0	030.7	000.0600	0053.2	017.2	44.03	
157.0	000.0839	0254.0	015.7	029.3	000.0600	0054.8	017.2	44.33	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
158.0	000.0787	0252.6	015.4	027.9	000.0600	0053.3	017.2	44.10
159.0	000.0737	0250.6	015.1	026.5	000.0600	0047.6	017.2	43.01
160.0	000.0688	0247.4	014.7	025.1	000.0600	0042.1	017.2	41.80
161.0	000.0641	0242.7	014.3	023.6	000.0600	0038.3	017.4	40.84
162.0	000.0594	0237.3	013.9	022.1	000.0600	0036.1	017.5	40.20
163.0	000.0548	0232.8	013.5	020.7	000.0600	0037.1	017.7	40.30
164.0	000.0504	0230.4	013.2	019.4	000.0600	0038.4	017.8	40.51
165.0	000.0462	0229.0	012.9	018.3	000.0600	0036.6	017.9	39.97
166.0	000.0422	0227.6	012.6	017.2	000.0600	0034.0	018.1	39.21
167.0	000.0384	0225.4	012.2	016.0	000.0600	0033.7	018.2	39.00
168.0	000.0348	0223.3	011.9	015.0	000.0600	0034.5	018.4	39.02
169.0	000.0313	0222.2	011.6	013.9	000.0600	0034.3	018.6	38.81
170.0	000.0280	0220.6	011.2	013.0	000.0600	0033.6	018.9	38.45
171.0	000.0249	0217.4	010.8	012.0	000.0600	0033.9	019.2	38.29
172.0	000.0228	0215.2	010.6	011.2	000.0600	0034.1	019.4	38.17
173.0	000.0209	0214.9	010.3	010.5	000.0600	0033.4	019.5	37.86
174.0	000.0190	0216.5	010.1	009.8	000.0600	0031.6	019.7	37.31
175.0	000.0172	0217.9	009.9	009.1	000.0600	0029.6	019.8	36.77
176.0	000.0155	0217.8	009.6	008.5	000.0600	0027.2	020.0	36.60
177.0	000.0139	0215.6	009.3	007.9	000.0600	0025.3	020.3	36.39
178.0	000.0123	0212.5	009.0	007.2	000.0600	0023.7	020.6	36.14
179.0	000.0109	0209.3	008.6	006.7	000.0600	0022.3	021.0	35.88
180.0	000.0096	0206.1	008.3	006.2	000.0600	0020.7	021.3	35.61
181.0	000.0083	0203.1	007.9	005.7	000.0600	0019.4	021.7	35.34
182.0	000.0078	0201.6	007.7	005.3	000.0600	0018.5	021.8	35.23
183.0	000.0074	0199.9	007.6	004.9	000.0600	0018.0	022.0	35.11
184.0	000.0069	0198.3	007.4	004.6	000.0600	0017.5	022.1	34.99
185.0	000.0065	0197.3	007.3	004.3	000.0600	0016.6	022.3	34.89
186.0	000.0060	0195.8	007.1	003.9	000.0600	0015.7	022.4	34.77
187.0	000.0056	0193.8	006.9	003.7	000.0600	0014.7	022.6	34.64
188.0	000.0052	0191.2	006.8	003.4	000.0600	0013.8	022.8	34.51
189.0	000.0048	0189.2	006.6	003.1	000.0600	0013.1	023.0	34.38
190.0	000.0045	0188.7	006.5	002.9	000.0600	0012.3	023.1	34.27
191.0	000.0041	0189.5	006.3	002.7	000.0600	0011.7	023.2	34.17
192.0	000.0042	0189.6	006.3	002.4	000.0600	0010.8	023.2	34.17
193.0	000.0042	0188.4	006.4	002.1	000.0600	0010.0	023.3	34.16
194.0	000.0043	0186.8	006.3	001.8	000.0600	0009.2	023.3	34.14
195.0	000.0043	0185.6	006.4	001.6	000.0600	0008.3	023.3	34.12
196.0	000.0044	0183.9	006.3	001.3	000.0600	0007.3	023.3	34.10
197.0	000.0044	0181.7	006.3	001.1	000.0600	0006.3	023.4	34.07
198.0	000.0045	0179.4	006.3	000.8	000.0600	0005.3	023.4	34.04
199.0	000.0045	0178.3	006.3	000.6	000.0600	0004.5	023.5	34.01
200.0	000.0046	0178.0	006.3	000.3	000.0600	0004.2	023.5	34.00
201.0	000.0046	0178.6	006.4	000.0	000.0600	0003.9	023.5	33.99
202.0	000.0047	0179.2	006.4	359.7	000.0600	0003.5	023.5	33.99
203.0	000.0048	0178.6	006.4	359.5	000.0600	0003.2	023.5	33.97
204.0	000.0049	0176.7	006.4	359.2	000.0600	0002.9	023.6	33.94
205.0	000.0050	0174.8	006.4	358.9	000.0600	0002.6	023.6	33.91
206.0	000.0051	0174.0	006.5	358.7	000.0600	0002.3	023.6	33.89
207.0	000.0052	0174.7	006.5	358.4	000.0600	0002.0	023.7	33.88
208.0	000.0053	0176.8	006.6	358.1	000.0600	0001.6	023.6	33.88

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
209.0	000.0055	0179.3	006.6	357.7	000.0600	0000.7	023.6	33.88
210.0	000.0056	0181.3	006.7	357.4	000.0600	-0000.4	023.6	33.88
211.0	000.0057	0183.0	006.8	357.1	000.0600	-0001.1	023.7	33.87
212.0	000.0058	0185.2	006.9	356.7	000.0600	-0001.8	023.7	33.88
213.0	000.0060	0188.0	007.0	356.4	000.0600	-0002.5	023.6	33.88
214.0	000.0062	0190.9	007.1	356.0	000.0600	-0003.4	023.6	33.89
215.0	000.0064	0193.1	007.2	355.6	000.0600	-0004.4	023.6	33.89
216.0	000.0066	0194.8	007.2	355.2	000.0600	-0005.2	023.7	33.87
217.0	000.0068	0196.4	007.3	354.9	000.0600	-0006.0	023.7	33.86
218.0	000.0069	0199.4	007.4	354.4	000.0600	-0006.9	023.7	33.85
219.0	000.0071	0203.9	007.6	354.0	000.0600	-0008.2	023.7	33.86
220.0	000.0073	0208.4	007.7	353.5	000.0600	-0009.5	023.7	33.86
221.0	000.0075	0211.0	007.8	353.1	000.0600	-0010.8	023.7	33.85
222.0	000.0076	0212.0	007.9	352.8	000.0600	-0011.7	023.8	33.79
223.0	000.0076	0212.4	007.9	352.6	000.0600	-0012.5	023.9	33.73
224.0	000.0077	0213.9	007.9	352.3	000.0600	-0013.5	023.9	33.67
225.0	000.0077	0216.9	008.0	351.9	000.0600	-0014.8	024.0	33.62
226.0	000.0078	0220.6	008.1	351.6	000.0600	-0016.5	024.1	33.58
227.0	000.0078	0224.2	008.2	351.2	000.0600	-0018.2	024.1	33.53
228.0	000.0079	0226.9	008.2	350.9	000.0600	-0019.8	024.2	33.48
229.0	000.0079	0229.0	008.3	350.6	000.0600	-0021.2	024.3	33.41
230.0	000.0080	0231.0	008.4	350.3	000.0600	-0022.5	024.4	33.35
231.0	000.0080	0233.0	008.4	350.0	000.0600	-0023.8	024.5	33.28
232.0	000.0079	0234.4	008.4	349.9	000.0600	-0024.5	024.6	33.18
233.0	000.0078	0235.0	008.4	349.8	000.0600	-0024.9	024.8	33.09
234.0	000.0076	0234.5	008.3	349.7	000.0600	-0025.1	024.9	32.98
235.0	000.0075	0233.2	008.3	349.7	000.0600	-0025.2	025.1	32.88
236.0	000.0074	0231.5	008.2	349.7	000.0600	-0025.1	025.3	32.77
237.0	000.0072	0230.2	008.1	349.8	000.0600	-0025.0	025.4	32.67
238.0	000.0071	0228.9	008.0	349.8	000.0600	-0025.0	025.6	32.57
239.0	000.0070	0227.8	008.0	349.8	000.0600	-0024.9	025.7	32.47
240.0	000.0069	0226.6	007.9	349.8	000.0600	-0024.8	025.9	32.37
241.0	000.0067	0225.0	007.9	349.9	000.0600	-0024.6	026.0	32.27
242.0	000.0065	0222.8	007.7	350.0	000.0600	-0023.9	026.2	32.17
243.0	000.0062	0220.5	007.6	350.2	000.0600	-0023.1	026.4	32.06

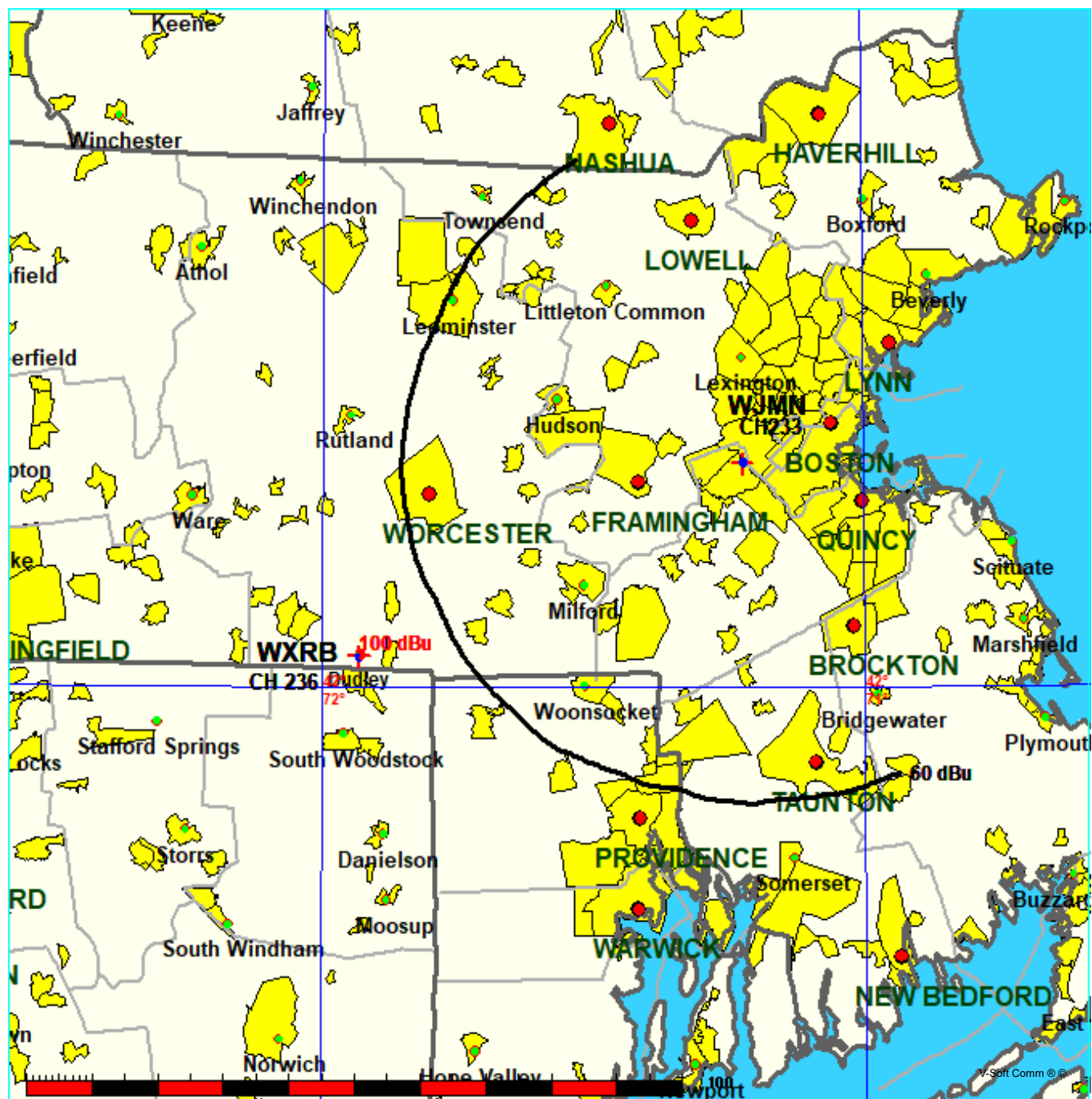


Contour-to-Contour Map - WJMN  
WXRБ-FM Educational Broadcasting, Inc.

FMCommander Single Allocation Study - 12-06-2020 - GLOBE 30 Sec  
WXRБ's Overlaps (Outgoing= 13.48 km, Clear)

WXRБ CH 236 D  
Lat= 42 02 41.20, Lng= 71 55 51.33  
0.06 kW 38 m HAAT, 220 m COR  
Prot.= 60 dBu, Intef.= 100 dBu

WJMN CH 233 B BLH20031201AWA  
Lat= 42 18 27.30, Lng= 71 13 25.20  
9.2 kW 353 m HAAT, 394 m COR  
Prot.= 60 dBu, Intef.= 100 dBu



12-06-2020

Terrain Data: GLOBE 30 Sec

FMOver Analysis

WJMN BLH20031201AWA

WXRБ

Channel = 233B

Max ERP = 9.2 kW

RCAMSL = 394 m

N. Lat. 42 18 27.30

W. Lng. 71 13 25.20

Protected

60 dBu

Channel = 236D

Max ERP = 0.06 kW

RCAMSL = 219.99 m

N. Lat. 42 02 41.20

W. Lng. 71 55 51.33

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
184.0	009.2000	0329.7	051.3	111.5	000.0600	0056.2	059.1	24.85	
185.0	009.2000	0329.6	051.3	111.8	000.0600	0056.0	058.3	25.08	
186.0	009.2000	0328.5	051.2	112.0	000.0600	0055.8	057.4	25.32	
187.0	009.2000	0326.7	051.1	112.1	000.0600	0055.7	056.5	25.57	
188.0	009.2000	0324.4	050.9	112.2	000.0600	0055.6	055.6	25.84	
189.0	009.2000	0321.7	050.7	112.3	000.0600	0055.6	054.7	26.11	
190.0	009.2000	0318.8	050.6	112.3	000.0600	0055.6	053.8	26.38	
191.0	009.2000	0316.4	050.4	112.3	000.0600	0055.5	052.9	26.65	
192.0	009.2000	0315.1	050.3	112.4	000.0600	0055.5	052.0	26.91	
193.0	009.2000	0316.6	050.4	112.7	000.0600	0055.3	051.2	27.15	
194.0	009.2000	0319.5	050.6	113.1	000.0600	0055.1	050.3	27.39	
195.0	009.2000	0322.0	050.8	113.4	000.0600	0055.0	049.5	27.64	
196.0	009.2000	0323.6	050.9	113.7	000.0600	0055.0	048.6	27.89	
197.0	009.2000	0324.4	050.9	113.9	000.0600	0054.9	047.8	28.15	
198.0	009.2000	0323.9	050.9	114.0	000.0600	0054.9	046.9	28.42	
199.0	009.2000	0322.2	050.8	114.0	000.0600	0054.9	046.0	28.71	
200.0	009.2000	0319.9	050.6	113.9	000.0600	0054.9	045.1	29.00	
201.0	009.2000	0318.7	050.6	113.9	000.0600	0054.9	044.2	29.30	
202.0	009.2000	0319.0	050.6	113.9	000.0600	0054.9	043.3	29.60	
203.0	009.2000	0320.4	050.7	114.1	000.0600	0054.9	042.4	29.90	
204.0	009.2000	0322.1	050.8	114.3	000.0600	0055.0	041.6	30.22	
205.0	009.2000	0323.6	050.9	114.4	000.0600	0055.0	040.7	30.55	
206.0	009.2000	0325.0	051.0	114.6	000.0600	0055.0	039.8	30.88	
207.0	009.2000	0326.6	051.1	114.7	000.0600	0055.0	038.9	31.22	
208.0	009.2000	0327.6	051.1	114.7	000.0600	0055.1	038.0	31.57	
209.0	009.2000	0328.2	051.2	114.7	000.0600	0055.1	037.1	31.92	
210.0	009.2000	0329.3	051.2	114.7	000.0600	0055.1	036.2	32.28	
211.0	009.2000	0331.6	051.4	114.8	000.0600	0055.1	035.3	32.65	
212.0	009.2000	0334.6	051.6	115.0	000.0600	0055.2	034.4	33.04	
213.0	009.2000	0336.7	051.7	115.0	000.0600	0055.2	033.5	33.42	
214.0	009.2000	0337.6	051.8	114.9	000.0600	0055.1	032.6	33.80	
215.0	009.2000	0337.5	051.8	114.6	000.0600	0055.0	031.7	34.18	
216.0	009.2000	0336.8	051.7	114.2	000.0600	0054.9	030.8	34.58	
217.0	009.2000	0335.8	051.7	113.7	000.0600	0055.0	029.9	35.03	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
218.0	009.2000	0334.6	051.6	113.2	000.0600	0055.1	029.1	35.52
219.0	009.2000	0333.4	051.5	112.6	000.0600	0055.4	028.2	36.06
220.0	009.2000	0332.0	051.4	111.9	000.0600	0055.9	027.4	36.66
221.0	009.2000	0330.7	051.3	111.1	000.0600	0056.6	026.6	37.30
222.0	009.2000	0329.8	051.3	110.3	000.0600	0057.3	025.8	37.95
223.0	009.2000	0329.7	051.3	109.5	000.0600	0057.7	024.9	38.59
224.0	009.2000	0330.5	051.3	108.8	000.0600	0057.9	024.1	39.23
225.0	009.2000	0331.6	051.4	108.0	000.0600	0058.0	023.3	39.87
226.0	009.2000	0332.8	051.5	107.1	000.0600	0057.8	022.4	40.49
227.0	009.2000	0333.7	051.5	106.1	000.0600	0057.3	021.6	41.04
228.0	009.2000	0334.4	051.6	104.9	000.0600	0056.4	020.8	41.54
229.0	009.2000	0334.5	051.6	103.5	000.0600	0054.6	020.1	41.88
230.0	009.2000	0334.4	051.6	102.0	000.0600	0053.5	019.3	42.29
231.0	009.2000	0334.7	051.6	100.3	000.0600	0051.0	018.6	42.45
232.0	009.2000	0335.2	051.6	098.5	000.0600	0048.6	017.9	42.59
233.0	009.2000	0335.5	051.6	096.5	000.0600	0046.0	017.3	42.62
234.0	009.2000	0335.6	051.7	094.3	000.0600	0039.6	016.7	41.74
235.0	009.2000	0335.6	051.7	091.8	000.0600	0035.0	016.1	41.12
236.0	009.2000	0335.5	051.6	089.2	000.0600	0032.6	015.6	40.95
237.0	009.2000	0335.2	051.6	086.3	000.0600	0032.1	015.1	41.22
238.0	009.2000	0334.5	051.6	083.1	000.0600	0033.7	014.7	41.98
239.0	009.2000	0333.1	051.5	079.7	000.0600	0033.1	014.5	42.16
240.0	009.2000	0331.1	051.4	076.2	000.0600	0035.2	014.3	42.87
241.0	009.2000	0329.6	051.3	072.6	000.0600	0034.1	014.2	42.75
242.0	009.2000	0328.6	051.2	069.0	000.0600	0031.1	014.1	42.16
243.0	009.2000	0328.3	051.2	065.4	000.0600	0032.8	014.0	42.63
244.0	009.2000	0327.9	051.2	061.7	000.0600	0023.7	014.0	41.93
245.0	009.2000	0327.4	051.1	058.1	000.0600	0026.2	014.1	41.81
246.0	009.2000	0327.4	051.1	054.5	000.0600	0032.8	014.3	42.31
247.0	009.2000	0328.5	051.2	051.0	000.0600	0035.7	014.4	42.84
248.0	009.2000	0330.7	051.3	047.5	000.0600	0040.5	014.5	43.77
249.0	009.2000	0332.9	051.5	044.0	000.0600	0044.2	014.8	44.34
250.0	009.2000	0334.7	051.6	040.7	000.0600	0041.0	015.1	43.45
251.0	009.2000	0335.9	051.7	037.7	000.0600	0036.0	015.5	41.93
252.0	009.2000	0336.7	051.7	034.8	000.0600	0038.0	015.9	42.01
253.0	009.2000	0337.6	051.8	032.2	000.0600	0049.9	016.4	44.13
254.0	009.2000	0338.3	051.8	029.8	000.0600	0054.3	017.0	44.42
255.0	009.2000	0338.3	051.8	027.7	000.0600	0052.5	017.7	43.54
256.0	009.2000	0337.8	051.8	025.9	000.0600	0044.6	018.3	41.41
257.0	009.2000	0337.2	051.8	024.2	000.0600	0039.7	019.1	39.72
258.0	009.2000	0336.7	051.7	022.7	000.0600	0036.7	019.8	38.42
259.0	009.2000	0336.5	051.7	021.3	000.0600	0036.3	020.6	37.72
260.0	009.2000	0336.5	051.7	020.0	000.0600	0038.1	021.3	37.53
261.0	009.2000	0336.7	051.7	018.8	000.0600	0037.8	022.1	36.87
262.0	009.2000	0337.0	051.7	017.7	000.0600	0035.2	022.9	35.67
263.0	009.2000	0337.5	051.8	016.7	000.0600	0033.6	023.7	34.69
264.0	009.2000	0338.3	051.8	015.7	000.0600	0033.9	024.5	34.20
265.0	009.2000	0338.9	051.9	014.9	000.0600	0034.6	025.4	33.79
266.0	009.2000	0339.3	051.9	014.2	000.0600	0034.5	026.2	33.23
267.0	009.2000	0339.5	051.9	013.6	000.0600	0033.9	027.1	32.56
268.0	009.2000	0339.4	051.9	013.0	000.0600	0033.6	027.9	31.97

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
269.0	009.2000	0339.0	051.9	012.6	000.0600	0033.7	028.8	31.49
270.0	009.2000	0338.7	051.8	012.3	000.0600	0033.9	029.7	31.06
271.0	009.2000	0338.4	051.8	011.9	000.0600	0034.0	030.6	30.65
272.0	009.2000	0338.2	051.8	011.6	000.0600	0034.1	031.5	30.27
273.0	009.2000	0337.3	051.8	011.5	000.0600	0034.1	032.4	29.90
274.0	009.2000	0336.2	051.7	011.4	000.0600	0034.1	033.3	29.55
275.0	009.2000	0335.2	051.6	011.3	000.0600	0034.1	034.2	29.21
276.0	009.2000	0334.3	051.6	011.2	000.0600	0034.1	035.1	28.87
277.0	009.2000	0333.6	051.5	011.2	000.0600	0034.1	036.0	28.53
278.0	009.2000	0333.4	051.5	011.1	000.0600	0034.1	036.9	28.20
279.0	009.2000	0332.7	051.5	011.1	000.0600	0034.1	037.8	27.89
280.0	009.2000	0331.7	051.4	011.1	000.0600	0034.1	038.7	27.58
281.0	009.2000	0330.2	051.3	011.2	000.0600	0034.1	039.6	27.28
282.0	009.2000	0328.7	051.2	011.4	000.0600	0034.1	040.5	26.99
283.0	009.2000	0327.8	051.1	011.5	000.0600	0034.1	041.4	26.71
284.0	009.2000	0327.6	051.1	011.5	000.0600	0034.1	042.3	26.43
285.0	009.2000	0327.8	051.1	011.5	000.0600	0034.1	043.2	26.16
286.0	009.2000	0328.0	051.2	011.6	000.0600	0034.1	044.1	25.91
287.0	009.2000	0328.2	051.2	011.7	000.0600	0034.0	044.9	25.66
288.0	009.2000	0328.4	051.2	011.8	000.0600	0034.0	045.8	25.41
289.0	009.2000	0328.3	051.2	011.9	000.0600	0034.0	046.7	25.18
290.0	009.2000	0327.1	051.1	012.1	000.0600	0033.9	047.6	24.95
291.0	009.2000	0325.0	051.0	012.4	000.0600	0033.8	048.5	24.73
292.0	009.2000	0322.9	050.8	012.7	000.0600	0033.7	049.3	24.51
293.0	009.2000	0322.0	050.8	013.0	000.0600	0033.6	050.2	24.30
294.0	009.2000	0322.6	050.8	013.1	000.0600	0033.6	051.1	24.10
295.0	009.2000	0323.8	050.9	013.2	000.0600	0033.7	052.0	23.90
296.0	009.2000	0325.3	051.0	013.3	000.0600	0033.7	052.8	23.70
297.0	009.2000	0326.9	051.1	013.4	000.0600	0033.8	053.7	23.51
298.0	009.2000	0328.1	051.2	013.5	000.0600	0033.9	054.6	23.32
299.0	009.2000	0328.6	051.2	013.7	000.0600	0034.1	055.5	23.14
300.0	009.2000	0328.9	051.2	014.0	000.0600	0034.3	056.4	22.97
301.0	009.2000	0329.3	051.2	014.2	000.0600	0034.5	057.2	22.80
302.0	009.2000	0329.9	051.3	014.4	000.0600	0034.6	058.1	22.62
303.0	009.2000	0330.6	051.3	014.6	000.0600	0034.7	059.0	22.42

Contour-to-Contour Map - WLVO  
WXRБ-FM Educational Broadcasting, Inc.

FMCommander Single Allocation Study - 12-06-2020 - GLOBE 30 Sec  
WXRБ's Overlaps (Outgoing= 13.87 km, clear)

WXRБ CH 236 D

Lat= 42 02 41.20, Lng= 71 55 51.33

0.06 kW 38 m HAAT, 220 m COR

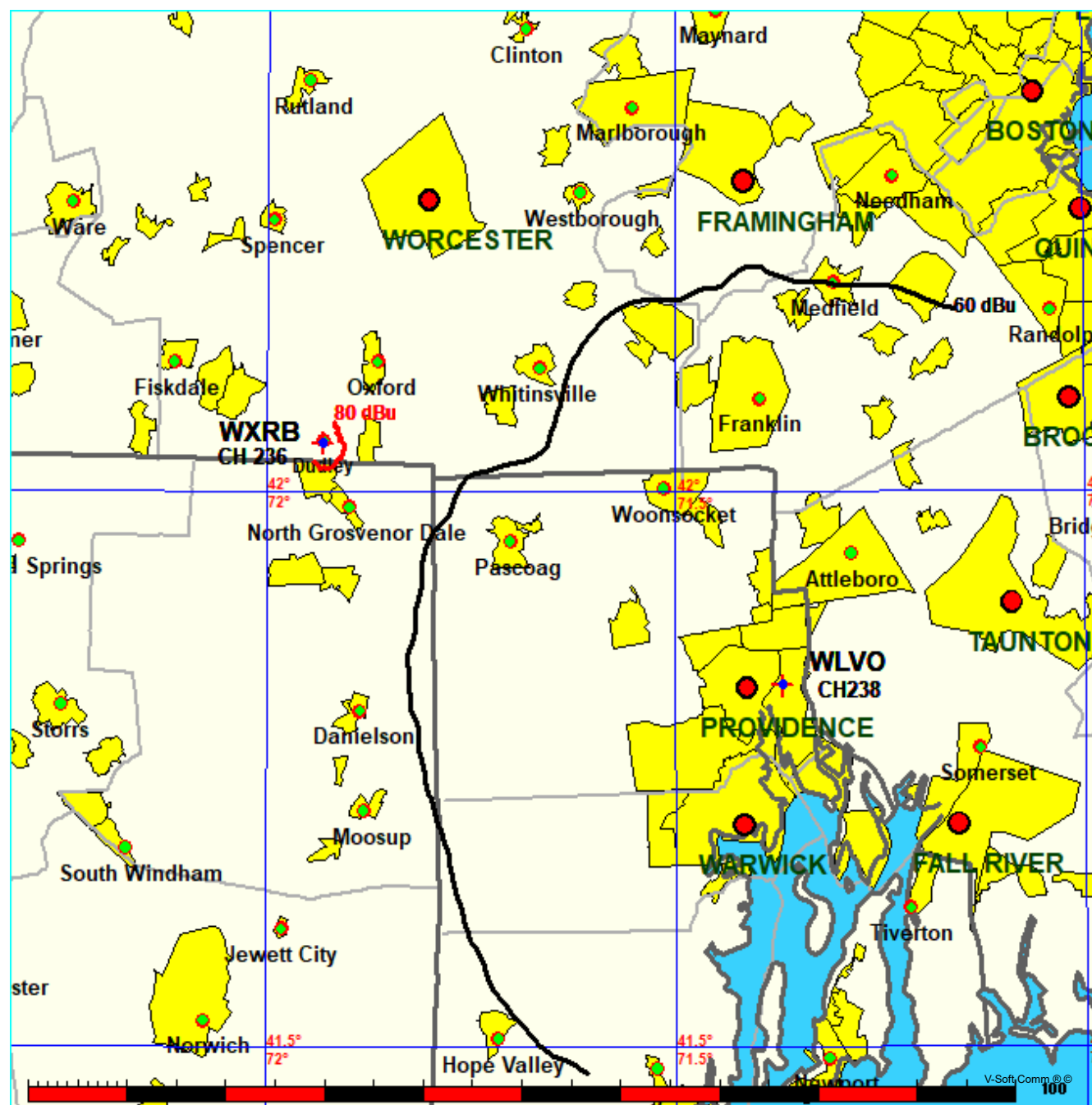
Prot.= 60 dBu, Intef.= 80 dBu

WLVO CH 238 B BMLH20171018AAB

Lat= 41 49 40.30, Lng= 71 22 07.10

18.5 kW 139 m HAAT, 170 m COR

Prot.= 60 dBu, Intef.= 100 dBu



12-06-2020

Terrain Data: GLOBE 30 Sec

FMOver Analysis

WLVO BMLH20171018AAB

WXRБ

Channel = 238B

Max ERP = 18.5 kW

RCAMSL = 170 m

N. Lat. 41 49 40.30

W. Lng. 71 22 07.10

Protected

60 dBu

Channel = 236D

Max ERP = 0.06 kW

RCAMSL = 219.99 m

N. Lat. 42 02 41.20

W. Lng. 71 55 51.33

Interfering

80 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
238.0	018.5000	0116.8	039.2	163.3	000.0600	0090.8	046.9	32.00	
239.0	018.5000	0115.1	038.9	163.2	000.0600	0090.8	046.2	32.26	
240.0	018.5000	0113.7	038.8	163.2	000.0600	0090.7	045.5	32.53	
241.0	018.5000	0112.0	038.5	163.1	000.0600	0090.7	044.8	32.79	
242.0	018.5000	0110.3	038.3	163.0	000.0600	0090.6	044.1	33.06	
243.0	018.5000	0108.7	038.1	162.9	000.0600	0090.5	043.4	33.33	
244.0	018.5000	0107.7	037.9	162.8	000.0600	0090.5	042.7	33.59	
245.0	018.5000	0107.3	037.8	162.9	000.0600	0090.5	042.0	33.86	
246.0	018.5000	0107.1	037.8	162.9	000.0600	0090.6	041.4	34.13	
247.0	018.5000	0106.7	037.7	163.0	000.0600	0090.6	040.7	34.40	
248.0	018.5000	0106.7	037.8	163.1	000.0600	0090.6	040.1	34.68	
249.0	018.5000	0106.7	037.8	163.1	000.0600	0090.7	039.4	34.96	
250.0	018.5000	0106.1	037.6	163.1	000.0600	0090.6	038.8	35.23	
251.0	018.5000	0105.6	037.6	163.0	000.0600	0090.6	038.1	35.51	
252.0	018.5000	0105.4	037.5	163.0	000.0600	0090.6	037.4	35.79	
253.0	018.5000	0105.4	037.5	163.0	000.0600	0090.6	036.8	36.08	
254.0	018.5000	0105.9	037.6	163.1	000.0600	0090.7	036.1	36.37	
255.0	018.5000	0105.6	037.6	163.0	000.0600	0090.6	035.5	36.66	
256.0	018.5000	0104.8	037.5	162.8	000.0600	0090.5	034.8	36.94	
257.0	018.5000	0104.2	037.4	162.6	000.0600	0090.4	034.2	37.23	
258.0	018.5000	0104.3	037.4	162.5	000.0600	0090.4	033.5	37.53	
259.0	018.5000	0104.8	037.5	162.5	000.0600	0090.4	032.9	37.83	
260.0	018.5000	0105.1	037.5	162.5	000.0600	0090.4	032.2	38.14	
261.0	018.5000	0104.3	037.4	162.1	000.0600	0090.3	031.6	38.44	
262.0	018.5000	0103.6	037.3	161.7	000.0600	0090.4	031.0	38.76	
263.0	018.5000	0103.4	037.2	161.4	000.0600	0090.6	030.3	39.11	
264.0	018.5000	0104.3	037.4	161.4	000.0600	0090.5	029.7	39.48	
265.0	018.5000	0105.6	037.6	161.6	000.0600	0090.5	029.0	39.87	
266.0	018.5000	0106.8	037.8	161.6	000.0600	0090.4	028.3	40.27	
267.0	018.5000	0107.1	037.8	161.4	000.0600	0090.6	027.6	40.69	
268.0	018.5000	0107.2	037.8	161.0	000.0600	0091.0	027.0	41.14	
269.0	018.5000	0107.3	037.8	160.6	000.0600	0091.5	026.4	41.61	
270.0	018.5000	0107.5	037.9	160.2	000.0600	0092.2	025.7	42.10	
271.0	018.5000	0107.7	037.9	159.7	000.0600	0092.8	025.1	42.61	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
272.0	018.5000	0108.1	038.0	159.3	000.0600	0093.3	024.5	43.11
273.0	018.5000	0108.7	038.0	158.9	000.0600	0093.5	023.8	43.59
274.0	018.5000	0109.3	038.1	158.4	000.0600	0093.1	023.2	44.02
275.0	018.5000	0108.5	038.0	157.4	000.0600	0090.5	022.6	44.17
276.0	018.5000	0107.2	037.8	156.2	000.0600	0085.5	022.1	44.02
277.0	018.5000	0106.0	037.6	154.9	000.0600	0080.2	021.7	43.80
278.0	018.5000	0105.7	037.6	153.8	000.0600	0077.3	021.1	43.89
279.0	018.5000	0106.2	037.7	153.0	000.0600	0076.4	020.6	44.25
280.0	018.5000	0107.4	037.8	152.3	000.0600	0075.9	019.9	44.71
281.0	018.5000	0107.9	037.9	151.3	000.0600	0074.7	019.4	45.04
282.0	018.5000	0107.8	037.9	150.0	000.0600	0072.5	018.9	45.19
283.0	018.5000	0108.0	037.9	148.6	000.0600	0070.9	018.4	45.43
284.0	018.5000	0107.8	037.9	147.1	000.0600	0070.4	017.9	45.75
285.0	018.5000	0107.9	037.9	145.5	000.0600	0069.1	017.5	45.98
286.0	018.5000	0108.7	038.0	144.1	000.0600	0065.4	016.9	45.99
287.0	018.5000	0110.0	038.2	142.6	000.0600	0062.0	016.4	46.05
288.0	018.5000	0111.1	038.4	141.0	000.0600	0062.4	015.9	46.55
289.0	018.5000	0111.9	038.5	139.1	000.0600	0064.2	015.4	47.16
290.0	018.5000	0112.6	038.6	137.1	000.0600	0065.4	015.0	47.67
291.0	018.5000	0112.6	038.6	134.8	000.0600	0067.3	014.7	48.01
292.0	018.5000	0112.4	038.6	132.3	000.0600	0068.9	014.5	48.46
293.0	018.5000	0111.3	038.4	129.6	000.0600	0063.8	014.4	47.95
294.0	018.5000	0109.8	038.2	126.8	000.0600	0063.2	014.5	47.82
295.0	018.5000	0108.1	038.0	124.0	000.0600	0060.2	014.6	47.31
296.0	018.5000	0107.0	037.8	121.4	000.0600	0055.7	014.6	46.57
297.0	018.5000	0107.0	037.8	118.8	000.0600	0055.8	014.6	46.64
298.0	018.5000	0107.7	037.9	116.2	000.0600	0055.4	014.5	46.69
299.0	018.5000	0108.1	038.0	113.5	000.0600	0055.0	014.5	46.67
300.0	018.5000	0108.5	038.0	110.9	000.0600	0056.8	014.5	46.92
301.0	018.5000	0109.0	038.1	108.3	000.0600	0058.0	014.5	47.04
302.0	018.5000	0109.3	038.1	105.7	000.0600	0057.0	014.7	46.75
303.0	018.5000	0107.9	037.9	103.5	000.0600	0054.6	015.1	46.17
304.0	018.5000	0104.9	037.5	101.8	000.0600	0053.3	015.7	45.37
305.0	018.5000	0101.3	036.9	100.5	000.0600	0051.2	016.5	44.33
306.0	018.5000	0098.2	036.4	099.2	000.0600	0049.5	017.2	43.38
307.0	018.5000	0095.8	036.0	098.0	000.0600	0048.1	017.9	42.54
308.0	018.5000	0093.1	035.5	097.0	000.0600	0047.0	018.6	41.70
309.0	018.5000	0090.4	035.0	096.2	000.0600	0045.3	019.3	40.74
310.0	018.5000	0087.6	034.5	095.6	000.0600	0043.5	020.1	39.72
311.0	018.5000	0085.4	034.1	094.9	000.0600	0041.3	020.8	38.71
312.0	018.5000	0083.7	033.8	094.1	000.0600	0039.2	021.4	37.73
313.0	018.5000	0082.9	033.6	093.2	000.0600	0036.5	021.9	36.72
314.0	018.5000	0082.8	033.6	092.1	000.0600	0035.2	022.3	36.12
315.0	018.5000	0083.4	033.7	090.7	000.0600	0034.0	022.6	35.61
316.0	018.5000	0084.7	034.0	089.2	000.0600	0032.6	022.8	35.09
317.0	018.5000	0086.5	034.3	087.6	000.0600	0032.3	023.0	34.88
318.0	018.5000	0088.5	034.7	085.9	000.0600	0032.1	023.3	34.66
319.0	018.5000	0090.5	035.1	084.3	000.0600	0033.5	023.5	34.80
320.0	018.5000	0092.4	035.4	082.8	000.0600	0033.6	023.8	34.61
321.0	018.5000	0094.5	035.8	081.2	000.0600	0033.2	024.2	34.29
322.0	018.5000	0097.4	036.3	079.5	000.0600	0033.2	024.5	34.07

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
323.0	018.5000	0100.5	036.8	077.8	000.0600	0034.1	024.8	34.05
324.0	018.5000	0103.9	037.3	076.0	000.0600	0035.2	025.2	34.05
325.0	018.5000	0107.4	037.9	074.4	000.0600	0034.0	025.6	33.50
326.0	018.5000	0110.5	038.3	072.9	000.0600	0034.0	026.1	33.18
327.0	018.5000	0113.2	038.7	071.8	000.0600	0034.2	026.6	32.88
328.0	018.5000	0115.7	039.0	070.7	000.0600	0033.5	027.2	32.36
329.0	018.5000	0118.3	039.4	069.7	000.0600	0032.1	027.8	31.69
330.0	018.5000	0120.6	039.7	068.9	000.0600	0031.0	028.4	31.08
331.0	018.5000	0122.8	039.9	068.1	000.0600	0030.8	029.1	30.69
332.0	018.5000	0124.8	040.2	067.5	000.0600	0031.1	029.8	30.41
333.0	018.5000	0127.0	040.4	066.9	000.0600	0031.7	030.4	30.22
334.0	018.5000	0128.8	040.7	066.4	000.0600	0032.2	031.1	30.02
335.0	018.5000	0130.0	040.8	066.1	000.0600	0032.5	031.8	29.78
336.0	018.5000	0130.7	040.9	065.9	000.0600	0032.6	032.5	29.53
337.0	018.5000	0131.1	041.0	065.8	000.0600	0032.7	033.3	29.26
338.0	018.5000	0130.8	040.9	065.9	000.0600	0032.6	034.0	28.97
339.0	018.5000	0130.2	040.8	066.1	000.0600	0032.5	034.7	28.68
340.0	018.5000	0129.2	040.7	066.3	000.0600	0032.3	035.4	28.37
341.0	018.5000	0127.6	040.5	066.7	000.0600	0031.9	036.1	28.03
342.0	018.5000	0125.6	040.3	067.2	000.0600	0031.4	036.8	27.69
343.0	018.5000	0123.5	040.0	067.7	000.0600	0031.0	037.4	27.37
344.0	018.5000	0121.8	039.8	068.1	000.0600	0030.9	038.1	27.11
345.0	018.5000	0121.1	039.7	068.3	000.0600	0030.8	038.8	26.87
346.0	018.5000	0121.6	039.8	068.3	000.0600	0030.8	039.5	26.64
347.0	018.5000	0123.1	040.0	068.2	000.0600	0030.8	040.2	26.41
348.0	018.5000	0124.5	040.1	068.1	000.0600	0030.8	040.9	26.19
349.0	018.5000	0124.4	040.1	068.3	000.0600	0030.8	041.6	25.98
350.0	018.5000	0123.9	040.1	068.6	000.0600	0030.8	042.3	25.79
351.0	018.5000	0124.5	040.1	068.7	000.0600	0030.9	043.0	25.59
352.0	018.5000	0127.9	040.6	068.3	000.0600	0030.8	043.8	25.36
353.0	018.5000	0131.8	041.0	067.9	000.0600	0030.9	044.6	25.16
354.0	018.5000	0135.4	041.5	067.6	000.0600	0031.0	045.4	24.97
355.0	018.5000	0137.0	041.7	067.6	000.0600	0031.0	046.2	24.78
356.0	018.5000	0137.3	041.8	067.8	000.0600	0030.9	046.9	24.59
357.0	018.5000	0135.8	041.6	068.3	000.0600	0030.8	047.5	24.42



## HOW TO READ THE FM COMPUTER PRINT-OUT

### Class D and Translator Station

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table. Contour distances are in kilometers and are predicted using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90. The column labeled "\* OUT \*" shows the greatest distance in kilometers of overlap (or smallest distance of clearance) between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap. Since translators or Class D stations are allowed to receive interference there is no "In" or incoming column in this report.

Listed antenna heights and power are the specific antenna heights and power from the FCC database or as proposed for the reference station by the applicant.

Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

The columns labeled "INT" and "PRO" contain the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships the minimum spacings the "OUT" columns change its significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column displays the **available clear space** separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.

**Declaration:**

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan, School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 40 years.

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464.

That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Life-time Certification received in 2010).

That, my qualifications are a matter of record with the Federal Communications Commission.

That, I have been retained by the WXRБ, Educational Broadcasting, Inc. to prepare the engineering showings appended hereto.

That, I have prepared these broadcast engineering showings, the technical information contained in same and the facts stated within are true of my knowledge.

That, under penalty of perjury, I declare that the foregoing is correct.

Douglas L. Vernier

A handwritten signature in blue ink, appearing to read "Doug Vernier", with a large, stylized loop at the end.

Executed of December 6, 2020