RADIO SHARON FOUNDATION

25 Woodman St. Providence, RI. 02907. Tel 401-338-2642

Wednesday, September 1, 2021

This report is prepared to support an amend in pending Application File Number: 0000129434 (supersede) to FM Translator W235CN antenna's patterns. This modification is only to reduce its power from 250 to 90 watts

No other changes are applying to W235CN just ERP to 90watts, its being the same structure site, height, etc. This Narrative is followed by:

Antenna's Patterns Plot
Allocation Channels & Proposed Overlap Req.
Fill-In Eligibility
Contour to contour maps (no prohibited overlap)
Co-First-Second & Third Adjacencies
Environmental.

there is no overlap of protected contours of other stations' and applications' protected contours and the interference contours specified in § 74.1204 of the FCC rules. There is a figure showing the second and third adjacent channel allocations. There is no overlap with any stations except WJMN and WLVO.

The WJMN 58 dbu contour encompasses the proposed 98 dbu contour. WLVO provides much greater than 100 dbu as it is located in the immediate vicinity of the proposed translator.

WLVO also has an auxiliary facility located 15.9 km west of the proposed site. To show that the proposed facilities are compliant with this potential change, a figure shows that the WLVO Auxiliary F(50,50) 84 dbu encompasses the proposed 124 dbu (nuisance) contour.

The protection to WJMN is therefore dominant. figure is a showing with respect to both Second Adjacent channel stations. A figure shows that there is no potential for interference between the proposed facilities and WJMN and WLVO as the potentially interfering signal does not reach the ground.

A figure is a satellite photo showing that there are no multi-story buildings within the area where the potentially interfering contour approaches the ground, and no highways or structures except the transmitter building within 75 meters of the tower base.

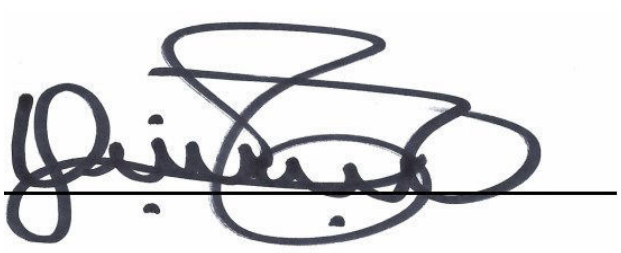
The 54 dbu F(50,50) contour of WJMN and WLVO Auxiliary (dark blue) is shown extending well beyond the proposed facility, the WJMN 58 dbu F(50,50) contour is shown in blue, extending beyond the proposed transmitter site.

The second and third adjacent channel protection ratio is 40 db, so it is required that the 58 dbuV contour is protected from the proposed 98 dbu contour of the translator. Protection to WJMN is the limiting restriction for second or third adjacent channels.
In conclusion, the proposed translator meets all the overlap requirements of § 74.1204 of the FCC rules and regulations.

Environment :

There is a study showing that the proposed translator is excluded from environmental processing according to § 1.1306 of the FCC rules. The RF exposure worksheet is included to show that there is no location where the radiation from the translator exceeds exposure standards for general public.

I certify that this report has been prepared by the undersigned. It is correct and accurate to my knowledge, except where stated otherwise, and where that is so, the information is correct to the best of my knowledge and belief. I further certify that I hace successfully completed several webinars of V-Soft, regarding FM Allocations rules, FM Commander, Pattern design, Electronic tech, contour overlapping, Probe 5, RadioSoft: Comstudy, RF Investigator, together with advance study of technology and digital era matters.
I further have explored Digital Radio and TV transition and currently enrolled in a Broadcast Engineering Distance Education Course at SBE University.
https://www.sbe.org/sections/FMTransmissionSystems.php



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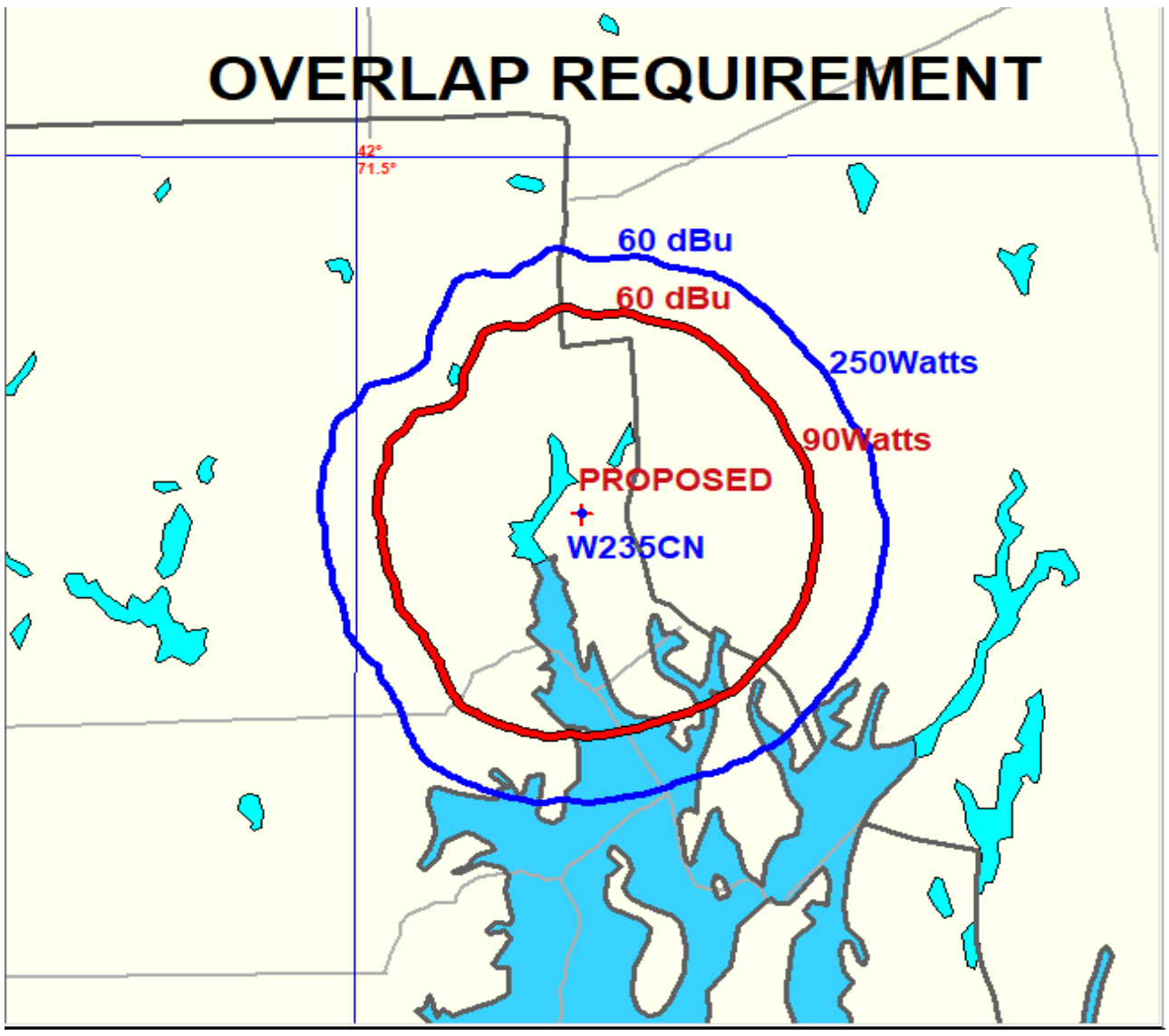
Allocation
Radio Sharon Foundation

REFERENCE CH# 235D - 94.9 MHz, Pwr= 0.09 kW DA, HAAT= 0.0 M, COR= 148.3 M DISPLAY DATES
41 49 38.90 N. Average Protected F(50-50)= 5.49 km DATA 08-27-21
71 22 07.20 W. Standard Directional SEARCH 09-09-21

CH CALL / CITY	TYPE ANT / STATE	AZI <--	DIST / FILE #	LAT / LNG	PWR(kW) / HAAT(M)	INT(km) / COR(M)	PRO(km) / LICENSEE	*IN* (Overlap)	*OUT* in km
238B WLVO Providence	LIC _CN RI	3.0 183.0	0.04 BMLH20171018AAB	41 49 40.30 71 22 07.10	18.500 139	4.8 170	57.6 Educational Media Foundati	-15.4*	-58.9*
233B WJMN Boston	LIC _CN MA	12.6 192.7	54.70 BLH20031201AWA	42 18 27.30 71 13 25.20	9.200 353	5.0 394	64.6 Ihm Licenses, LLC	38.8	-11.2*
235D W235AV Tatnuck	LIC DCN MA	320.7 140.4	69.41 BLFT20070725AAR	42 18 34.30 71 54 11.30	0.230 232	64.3 474	20.6 Ihm Licenses, LLC	-5.4	14.6
235A WJJF Montauk	LIC _CN NY	210.0 29.6	101.83 BLH20120302AAX	41 01 56.30 71 58 30.20	5.600 104	86.1 105	28.3 Red Wolf Broadcasting Corp	3.8	33.7
236L1 WWRI-LP Coventry	LIC _CN RI	235.6 55.4	26.43 BLL20160216AAD	41 41 34.40 71 37 53.20	0.024 59	 168	 The Marconi Broadcasting F	5.5	4.8
235D W235CS Dedham	LIC DVN MA	29.5 209.7	53.64 BLFT20190521AAS	42 14 49.40 71 02 52.20	0.040 	32.3 208	9.7 Gois Broadcasting Boston L	10.2	6.2
236B WXTK West Yarmouth	LIC ZCN MA	102.4 283.2	96.47 BMLH20160511AAJ	41 38 07.40 70 14 05.10	50.000 80	64.6 84	51.1 Ihm Licenses, LLC	21.0	19.8
235L1 WZMR-LP East Boston	LIC _CN MA	24.0 204.2	67.39 BLL20160929AGC	42 22 51.30 71 02 05.40	0.071 36	 49	 Zumix, Inc.	23.5R	43.9M
235L1 WZMW-LP East Boston	LIC _CN MA	24.0 204.2	67.41 BLL20160929ALJ	42 22 51.30 71 02 05.40	0.069 36	 49	 Winthrop Art Association	38.7	24.1
235L1 WAEM-LP Acton	LIC _CN MA	354.4 174.3	71.60 BLL20170222ABX	42 28 06.30 71 27 15.20	0.021 65	 134	 Town Of Acton, Massachuset	40.2	27.5
236D WXRB Dudley	LIC _CN MA	297.6 117.3	52.40 0000131566	42 02 41.20 71 55 51.30	0.060 35	9.8 220	6.7 Wxrb-Fm Educational Broadc	32.7	31.6
237A WHRB Cambridge	LIC NCN MA	23.7 203.9	63.78 BLH20111115ABD	42 21 08.40 71 03 23.20	1.450 185	2.2 201	26.8 Harvard Radio Broadcasting	50.5	36.3
234D W234DP Hyannis	LIC DCN MA	114.7 295.2	70.80 0000093869	41 33 32.40 70 35 43.10	0.160 	17.4 141	11.9 Codcomm, Inc.	41.8	41.9
234B WMAS-FM Enfield	CP DCN CT	287.4 106.6	107.33 BPH20190213ABD	42 06 33.30 72 36 38.30	50.000 55	53.0 117	40.3 Audacy License, LLC	45.1	44.6
234B WMAS-FM Enfield	LIC _CN CT	287.4 106.6	107.33 BLH20111107ARY	42 06 33.30 72 36 38.30	50.000 55	53.0 117	40.3 Audacy License, LLC	45.1	44.6

Terrain database is FCC NGDC 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= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
« = Station meets FCC minimum distance spacing for its class.
Reference station has protected zone issue: AM tower



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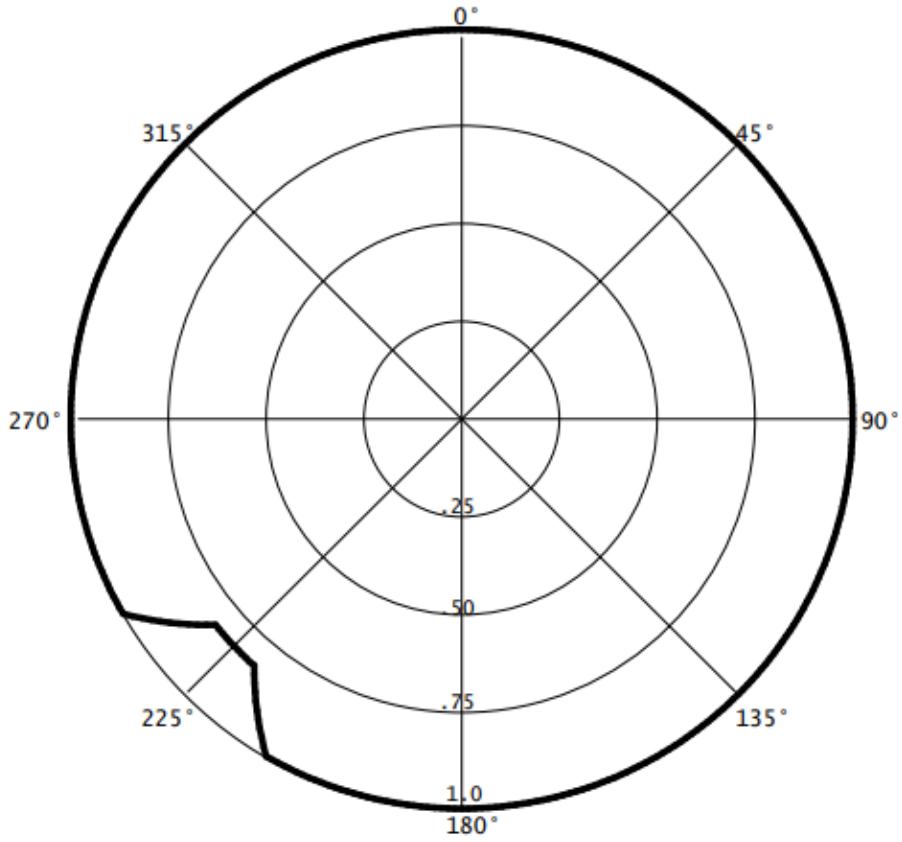
PATTERNS: W235CN CONSTRUCTION PERMIT, W235CN PROPOSED & W235CN FILL-IN ELIGIBILITY

W235CN CP

Azi	Field	dBk	kW
000	1.000	-06.021	0.250
010	1.000	-06.021	0.250
020	1.000	-06.021	0.250
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	1.000	-06.021	0.250
100	1.000	-06.021	0.250
110	1.000	-06.021	0.250
120	1.000	-06.021	0.250
130	1.000	-06.021	0.250
140	1.000	-06.021	0.250
150	1.000	-06.021	0.250
160	1.000	-06.021	0.250
170	1.000	-06.021	0.250
180	1.000	-06.021	0.250
190	1.000	-06.021	0.250
200	1.000	-06.021	0.250
210	1.000	-06.021	0.250
220	0.826	-07.681	0.171
230	0.822	-07.723	0.169
240	1.000	-06.021	0.250
250	1.000	-06.021	0.250
260	1.000	-06.021	0.250
270	1.000	-06.021	0.250
280	1.000	-06.021	0.250
290	1.000	-06.021	0.250
300	1.000	-06.021	0.250
310	1.000	-06.021	0.250
320	1.000	-06.021	0.250
330	1.000	-06.021	0.250
340	1.000	-06.021	0.250
350	1.000	-06.021	0.250

09-02-2021 RMS(V)= .991

Graph is Relative Field

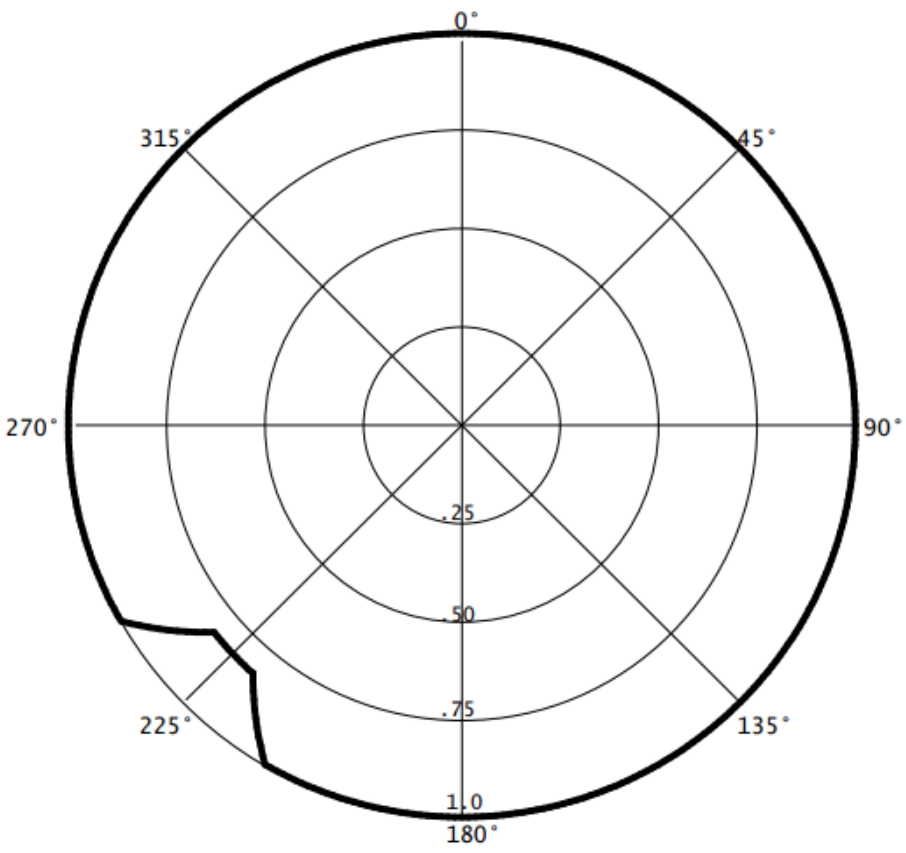


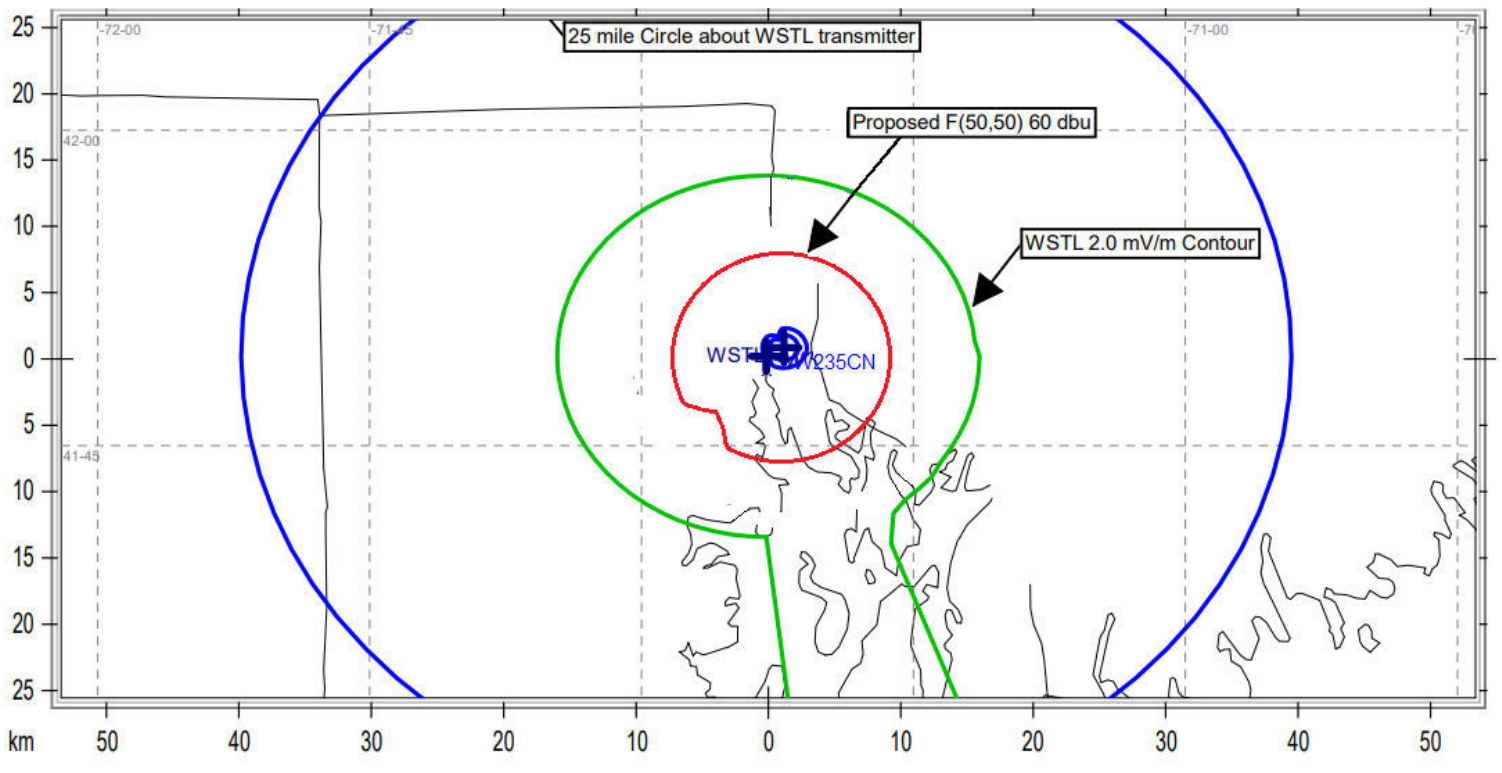
W235CN PROPOSED

Azi	Field	dBk	kW
000	1.000	-10.458	0.090
010	1.000	-10.458	0.090
020	1.000	-10.458	0.090
030	1.000	-10.458	0.090
040	1.000	-10.458	0.090
050	1.000	-10.458	0.090
060	1.000	-10.458	0.090
070	1.000	-10.458	0.090
080	1.000	-10.458	0.090
090	1.000	-10.458	0.090
100	1.000	-10.458	0.090
110	1.000	-10.458	0.090
120	1.000	-10.458	0.090
130	1.000	-10.458	0.090
140	1.000	-10.458	0.090
150	1.000	-10.458	0.090
160	1.000	-10.458	0.090
170	1.000	-10.458	0.090
180	1.000	-10.458	0.090
190	1.000	-10.458	0.090
200	1.000	-10.458	0.090
210	1.000	-10.458	0.090
220	0.826	-12.118	0.061
230	0.822	-12.160	0.061
240	1.000	-10.458	0.090
250	1.000	-10.458	0.090
260	1.000	-10.458	0.090
270	1.000	-10.458	0.090
280	1.000	-10.458	0.090
290	1.000	-10.458	0.090
300	1.000	-10.458	0.090
310	1.000	-10.458	0.090
320	1.000	-10.458	0.090
330	1.000	-10.458	0.090
340	1.000	-10.458	0.090
350	1.000	-10.458	0.090

09-09-2021 RMS(V)= .991

Graph is Relative Field





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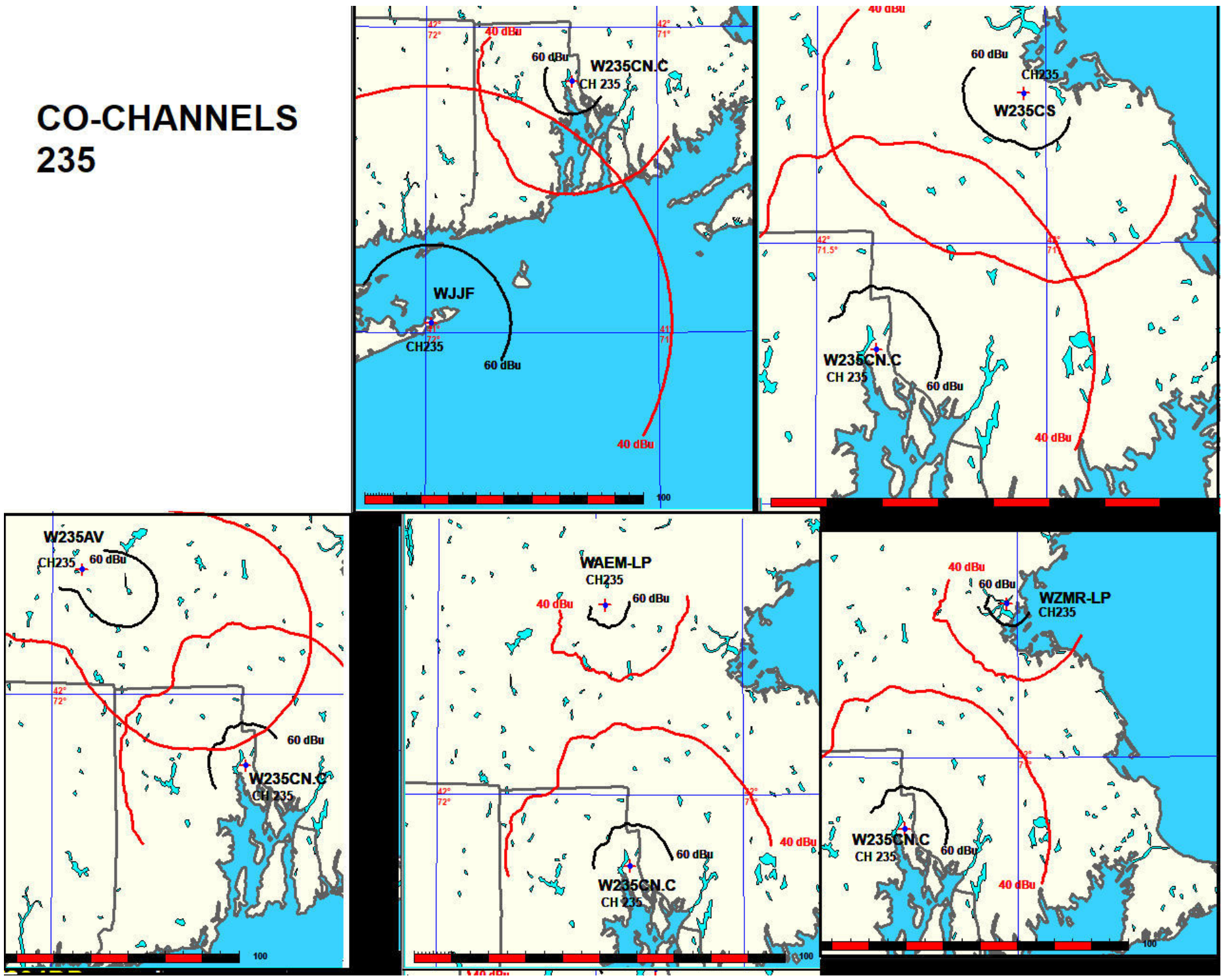
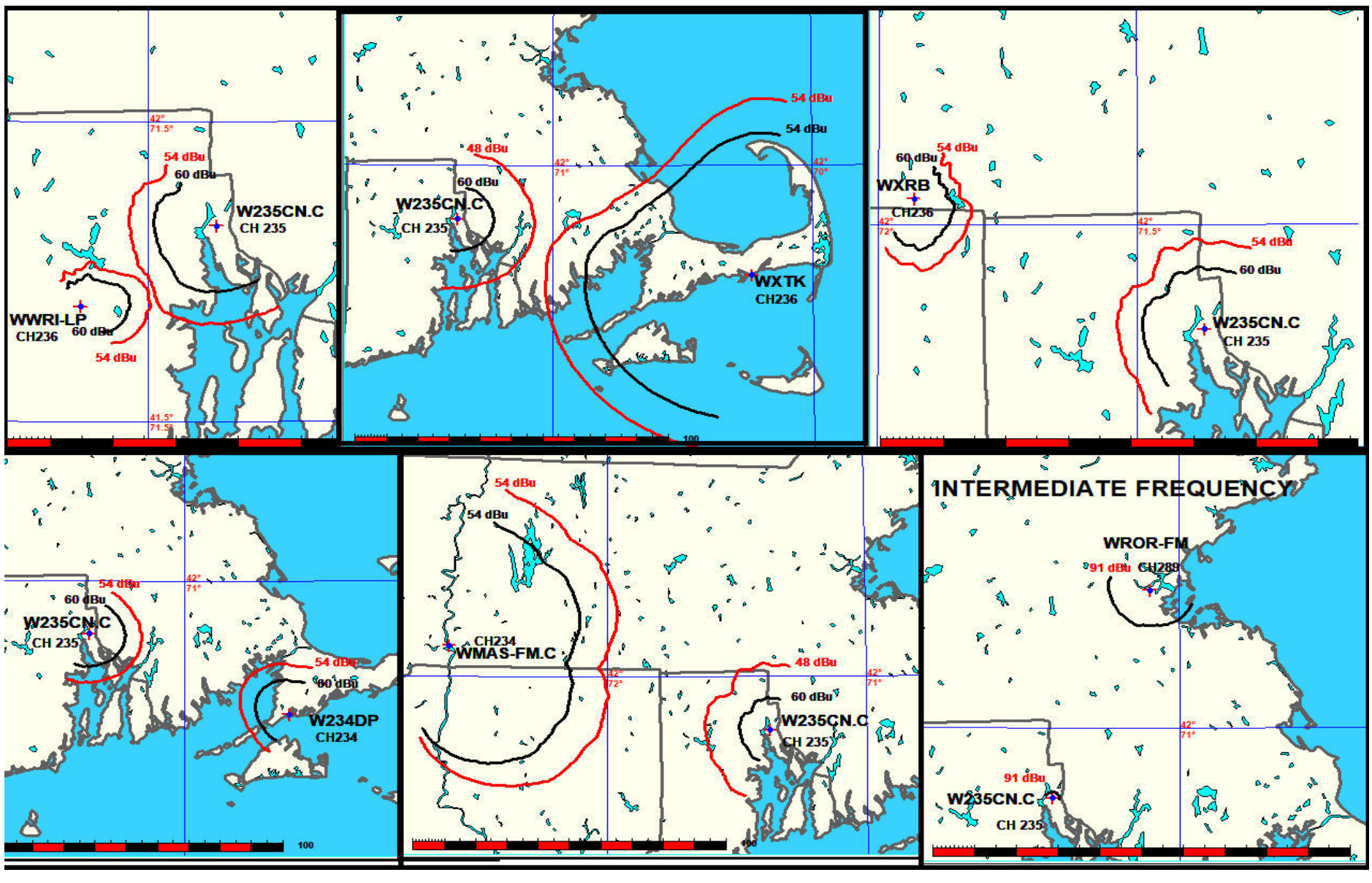
CO-CHANNELS 235



FIRST ADJACENTS & I.F.



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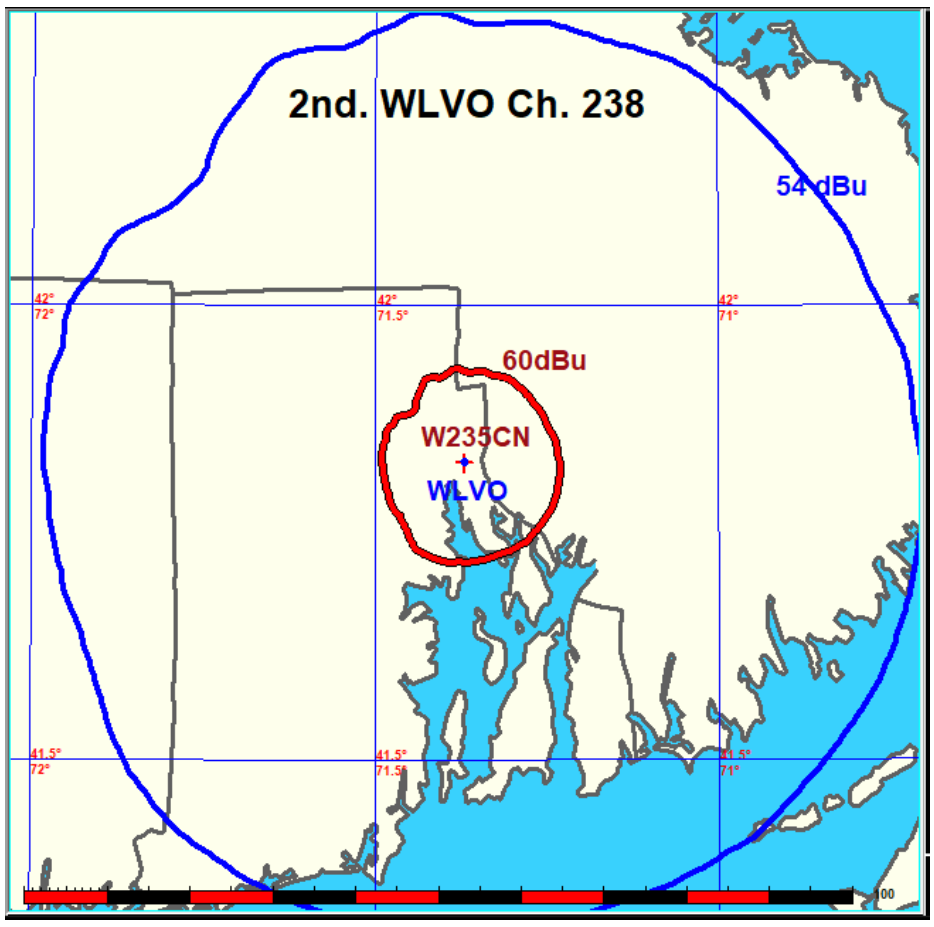
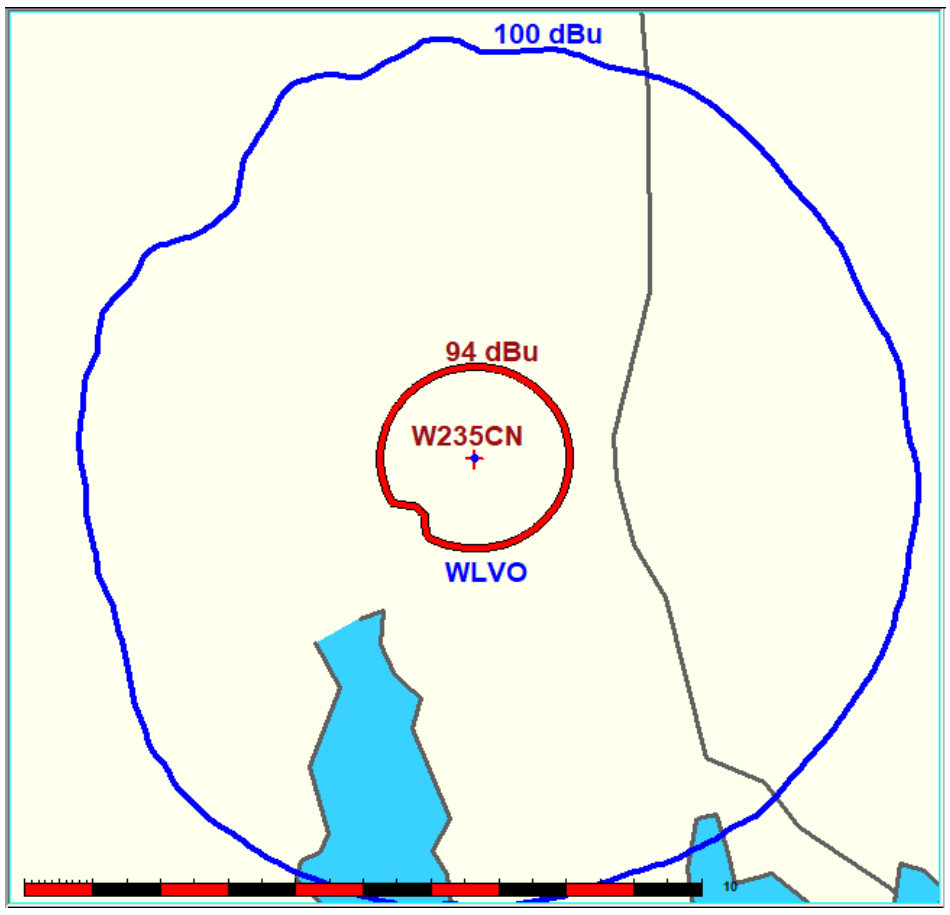
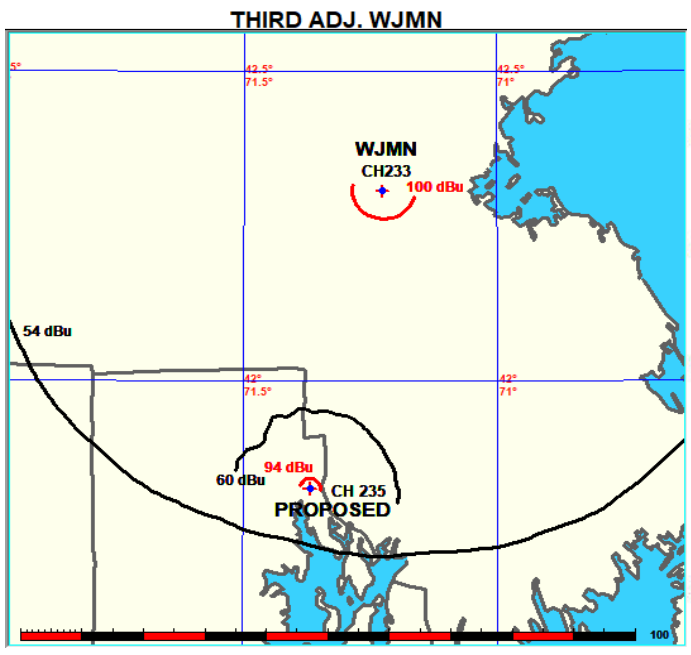
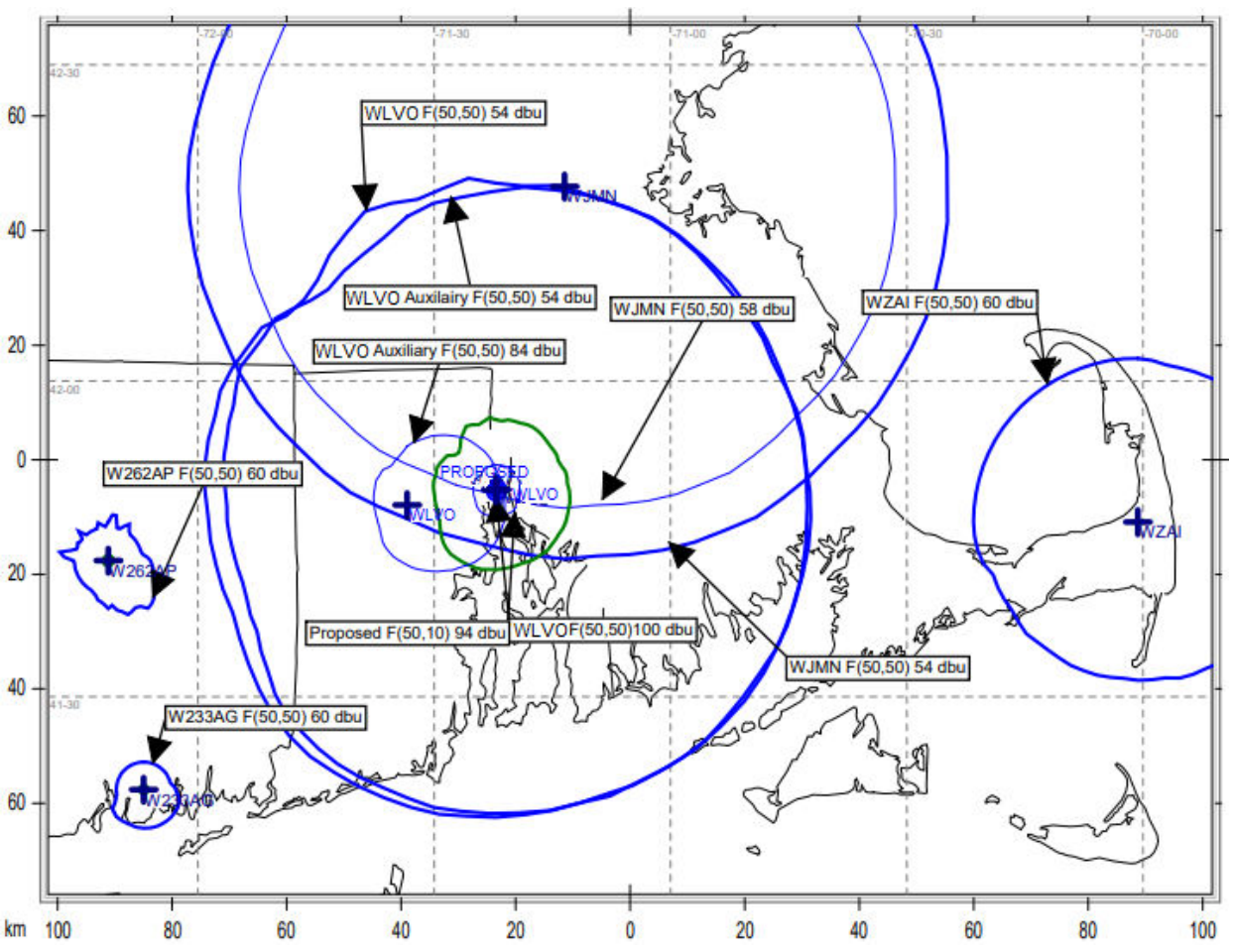


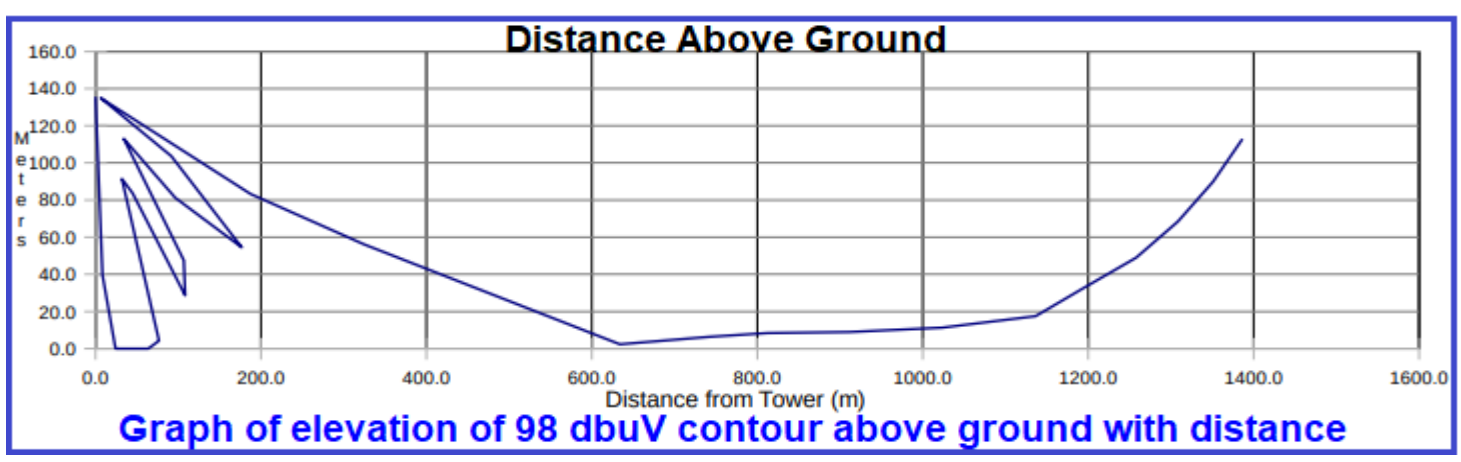






In a letter granting Jersey Shore Broadcasting Corporation's application BPFT-950830TD (September 26, 1996 1800B3-JDB) the FCC stated that the Ratio method is suitable for translator applicants to demonstrate lack of interference for application purposes.

The 54 dbμV F(50,50) and the 67.5 dbμV F(50,50) contour of second adjacent Class B stations WJMN, Boston, MA and WLVO, Providence, MA encompasses the 58 dbμV F(50,10) proposed contour. For a protection ratio of 40 db the interfering contour would be 98 dbuV. Since the distance to this contour is below the minimum distances for the F(50,10) and F(50,50) curves the signal level existing on the ground in the vicinity of the translator was calculated using inverse distance, with an adjustment for ground reflections, as has been accepted by the FCC in recent applications. Below is a graph and tabulation of these calculations showing the location above ground at which the proposed translator will produce an interfering contour. This table and chart shows that the potentially interfering signal is more than 17 meters from the ground at its closest approach.



Graph of elevation of 98 dbuV contour above ground with distance

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The proposed 98 dbµV potentially interfering signal does not reach the ground except in the immediate vicinity of the tower. It's a satellite photo showing that there are no multistory occupied buildings in the area.

Study for center of Radiation 137 m AGL ERP 250 Watts

	Element	Bays	Spacing	
Antenna	SpecPSI	4	0.9	Wavelength

Distance above Ground Level of Interfering Contour

Depression Angle (Degrees)	Slant Distance To 98 dbµV (meters)	Horiz Distance To 98 dbµV (meters)	Relative Field	ERP Watts	98 dbµV Above Gnd (meters)	
1	1386.66	1386.5	0.995	247.506	112.8	
2	1351.82	1351.0	0.970	235.225	89.8	
3	1310.01	1308.2	0.940	220.900	68.4	
4	1261.23	1258.2	0.905	204.756	49.0	
5	1198.52	1194.0	0.860	184.900	32.5	
6	1142.78	1136.5	0.820	168.100	17.5	
7	1031.29	1023.6	0.740	136.900	11.3	
8	919.80	910.8	0.660	108.900	9.0	
9	822.24	812.1	0.590	87.025	8.4	
10	752.56	741.1	0.540	72.900	6.3	
12	648.04	633.9	0.465	54.056	2.3	Min Height above Gnd
14	334.47	324.5	0.240	14.400	56.1	
16	195.11	187.5	0.140	4.900	83.2	
18	6.97	6.6	0.005	0.006	134.8	
20	97.55	91.7	0.070	1.225	103.6	
25	195.11	176.8	0.140	4.900	54.5	
30	111.49	96.6	0.080	1.600	81.3	
35	41.81	34.2	0.030	0.225	113.0	
40	139.36	106.8	0.100	2.500	47.4	
45	153.30	108.4	0.110	3.025	28.6	
50	69.68	44.8	0.050	0.625	83.6	
55	55.75	32.0	0.040	0.400	91.3	
60	153.30	76.6	0.110	3.025	4.2	
65	250.85	63.9	0.180	8.100	0.0	
70	264.79	49.9	0.190	9.025	0.0	
75	250.85	36.7	0.180	8.100	0.0	
80	167.24	24.2	0.120	3.600	0.0	
85	97.55	8.5	0.070	1.225	39.8	
90	1.39	0.0	0.001	0.000	135.6	

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ENVIROMENTAL STATEMENT

Section 106 Review

The proposed translator antenna will be mounted on an existing structure. The existing tower was built prior to March 16, 2001. The antenna collocation programmatic agreement generally permits collocation without consultation or review under Section 106 Subpart B of 36CFR Part 800. No further review is necessary as:

- The mounting of the antenna will not result in a substantial increase in the size of the antenna or tower structure.
- Prior to the collocation, the tower or structure has not been determined by the FCC to have an effect on one or more historic properties,
- The tower or structure is not the subject of a pending environmental review,
- The collocation licensee has not received a written or electronic notification that the FCC is in receipt of a complaint that the collocation has an adverse effect on one or more historic properties.

FCC Part 1.1306

- The site is not within an officially designated wilderness area or wildlife preserve.
- The mounting of the antenna will not effect endangered species.
- The site is not in a floodplain.
- The mounting of the antenna will not involve a significant change in surface features.
- The tower will not use high intensity white lights.
- The mounting of the antenna does not exceed human exposure limits. See below.
- Compliance with RF safety requirements in accordance with FCC part 1.1306(8)b) as demonstrated below. The operation does not exceed human exposure limits.

RF Worksheet #1 - FM (Including translators and boosters)

Effective Radiation Center Height

Enter the proposed "Height of radiation center above ground"	137	m
or as listed in Line 1 of Worksheet 1A	137	m
Is the Antenna supporting structure located on the roof of a building	NO	YES/NO
if Line 2 is "YES" enter the building height measured at the base of the antenna supporting structure in line 3		
If line 2 is "NO" enter "0" in Line 3	0	m
Subtract Line (3) from Line (1)	137	m
Subtract the value 2.0 from Line (4)	135	m

Total Effective Radiated Power

lif "beam tilt" is utilized, list maximum values)

List Effective Radiated Power in the Horizontal Plane	0.25	kW
LIst Effective Radiated in the Vertical Plane	0.25	kW
Add lines 6 and 7 OR listed value from line 2 in Worksheet 1A	0.5	kW

PERCENTAGE OF FCC RF LIMIT(S) FOR MAXIMUM PERMISSIBLE EXPOSURE

Muliply line 8 by 3341	1670.5	
Multiply the value listed in line 5 by itself	18225.0	
Divide line 9 by line 10	0.092	
Multiply line 11 by .5	0.046	%

DETERMINATION OF COMPLIANCE WITH CONTROLLED/OCCUPATIONAL LIMIT

Does Line 12 exceed 100%	NO	YES/NO