

Technical Report  
In Support of a  
C.F.R. 47 Section 73.3555  
Based  
Interim Contour Method  
Multiple Ownership Study  
*for*

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*Saga Communications of New England, LLC*

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*WPVQ(FM) - Greenfield, MA  
(Facility ID: 54780)  
CH237A - 95.3 MHz*

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**EXPLANATION OF REPORT:** This Technical Report has been prepared to determine the number of commercial and non-commercial principal community contours associated with this proposed Form 301-FM Application for WPVQ(FM) - Greenfield, MA (Facility ID: 45780). As WPVQ(FM) is not listed within any BIA Market, this multiple ownership analysis has been prepared solely under the Interim Contour-Overlap Methodology.

Saga Communications of New England, LLC, presently holds a broadcast interest in nine (9) total aural services relevant to this WPVQ(FM) modification. Saga holdings not overlapping WPVQ(FM) need not be discussed herein. Concerning these nine (9) relevant holdings affecting this WPVQ(FM) modification, there will be two (2) unique and distinct markets which will result within this affected ownership group. "Market A" is comprised of five (5) station. "Market B" will also be comprised of five (5) stations. Each market is defined as follows:

**"Market A"**

<b>CALL SIGN</b>	<b>CH/FREQ</b>	<b>CITY</b>	<b>STATE</b>	<b>FILE NUMBER</b>
WPVQ(FM).P	237A	Greenfield	MA	Proposed Operation
WKNE(FM)	279B	Keene	NH	BMLH20070212AAW
WKVT-FM	224A	Brattleboro	VT	BMLH19900627KB
WRSY(FM)	268A	Marlboro	VT	BLH19960830KA
WKVT(AM)	1490	BRATTLEBORO	VT	BL-

**"Market B"**

<b>CALL SIGN</b>	<b>CH/FREQ</b>	<b>CITY</b>	<b>STATE</b>	<b>FILE NUMBER</b>
WPVQ(FM).P	237A	Greenfield	MA	Proposed Operation
WLZX-FM	257A	Northampton	MA	BLH20000112ABC
WHAI(FM)	252A	Greenfield	MA	BLH19910312KB
WRSI(FM)	230A	Turners Falls	MA	BLH19951018KB
WHMQ(AM)	1240	GREENFIELD	MA	BML20031112AJB

**EXPLANATION OF METHODOLOGY:** The facilities and results reported herein were taken from current copies of AM and FM computer databases as prepared by the FCC and supplied by V-Soft Communications, LLC. The facilities listed above serve as the basis for the respective principal community contours studied. The accuracy of the results of this study is understood to be limited to the accuracy of these databases. The FCC databases give no indication of licensed facilities that may be inoperative, construction permit facilities that may now be operating under program test authority (but have not yet been issued a license) or facilities which may have been licensed since the last update. Therefore, some stations may have been included or excluded erroneously. However, unless otherwise indicated, all licensed facilities known to be inoperative and all known applications and construction permit facilities, have been eliminated from consideration in this study.

For AM stations, Map M3 soil conductivity values and the authorized licensed transmitting facilities served as the basis for the computation of the predicted 5.0 mV/m groundwave contour in accordance with C.F.R. 47 Section 73.183 of the FCC Rules. The distance to the contour was computed for seventy-two (72) equally spaced azimuths beginning with 0° True. For FM stations, the authorized Center of Radiation and ERP values were utilized to compute the predicted 3.16 mV/m (70 dBμ) contour as provided in C.F.R. 47 Section 73.313 of the Rules. The predicted FM contours shown in this report are based on seventy-two (72) equally spaced terrain radials beginning with 0° True and assume NED 03 Second Terrain data.

As stated before, there will be two (2) unique and distinct markets associated with this proposal. The markets have been defined, in accordance with C.F.R. 47 Section 73.3555 of the FCC Rules, as the area within the total perimeter formed by the combined principal community contours of each relevant market as noted above.

**EXPLANATION OF RESULTS:** The nine (9) stations, under common control and relevant for this ownership group, have been noted in ***Exhibit 1.0***. As stated before, no other Saga Communications of New England, LLC. holdings or any other holdings of parent company Saga Communications, Inc. are affected by this WPVQ(FM) modification. To aid in identifying the respective contours, currently controlled AM contours have been shown with solid light red lines. Currently controlled FM contours have been shown with solid light blue lines. Facilities to be modified or acquired have been shown in darker dashed lines. The “Market A” and “Market B” common overlap area has been designated as well.

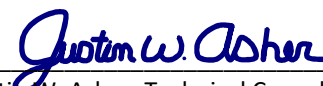
For “Market A”, the market defining contours have been shown in ***Exhibit 2.0*** of this report along with a minimum number of principal community contours entering the market. The defining contours have been shown with yellow lines on this map. AM contours entering the market have been denoted in red lines. FM contour entering the market have been shown in purple lines. As stated before, the contours shown represent enough stations to satisfy the minimum requirement of the Rules. Co-owned stations entering the market, but not defining the market have been omitted.

Under the current rules, the market falls within the minimum limitations set forth in §73.3555 (a)(1)(iii): *In a radio market with between 15 and 29 (inclusive) full-power, commercial and noncommercial radio stations, not more than 6 commercial radio stations in total and not more than 4 commercial stations in the same service (AM or FM).* The principal community contours of at least twenty (20) other stations entering the market are shown in **Exhibit 2.0**. Including the four (4) FM station(s) and one (1) AM station which define the market, there are at least twenty-five (25) aural services in this market. **Exhibit 2.1** lists the facilities of the individual stations used in this report.

For “Market B”, the market defining contours have been shown in **Exhibit 3.0** of this report along with a minimum number of principal community contours entering the market. The defining contours have been shown with green lines on this map. AM contours entering the market have been denoted in red lines. FM contour entering the market have been shown in purple lines. As stated before, the contours shown represent enough stations to satisfy the minimum requirement of the Rules. Co-owned stations entering the market, but not defining the market have been omitted.

Under the current rules, the market falls within the minimum limitations set forth in §73.3555 (a)(1)(iii): *In a radio market with between 15 and 29 (inclusive) full-power, commercial and noncommercial radio stations, not more than 6 commercial radio stations in total and not more than 4 commercial stations in the same service (AM or FM).* The principal community contours of at least twenty (20) other stations entering the market are shown in **Exhibit 3.0**. Including the four (4) FM station(s) and one (1) AM station which define the market, there are at least twenty-five (25) aural services in this market. **Exhibit 3.1** lists the facilities of the individual stations used in this report.

**CERTIFICATION OF TECHNICAL CONSULTANT:** *I declare, under penalty of perjury, that the contents of this report are true and accurate to the best of my knowledge and belief. I further certify I have over eighteen years of experience as a broadcast technical consultant before the Federal Communications Commission (“the FCC”); and am familiar with the Code of Federal Regulations Title 47 (“the Rules”) as pertaining to this report and its contents herein. The underlying data utilized in this report was taken directly from FCC databases or indirectly through third party software vendors securing data directly from FCC databases. This firm cannot be held liable for errors or omissions resulting from the underlying data. The information contained herein is believed accurate to the date reported below.*



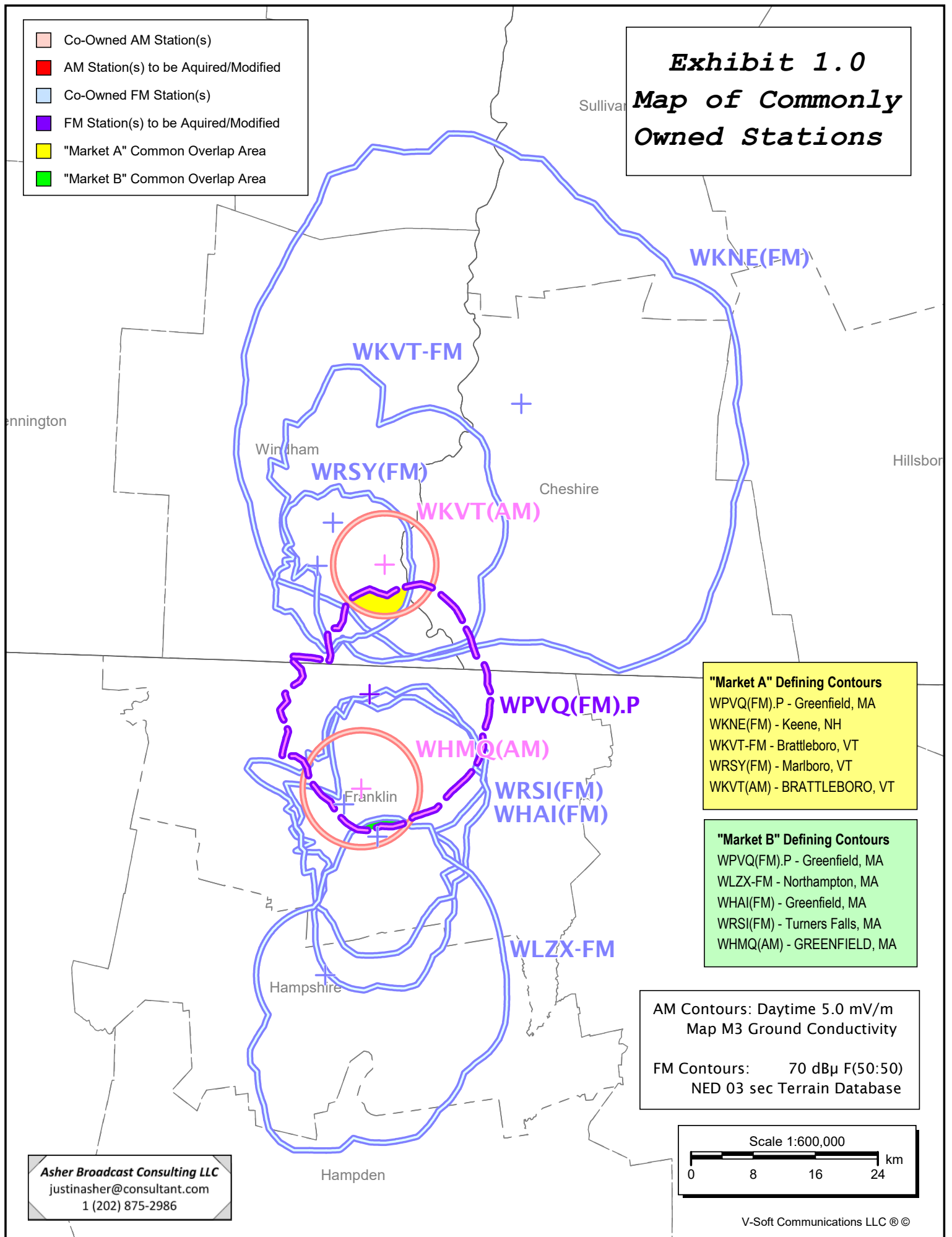
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Justin W. Asher, Technical Consultant

October 27, 2017

# Exhibit 1.0 Map of Commonly Owned Stations

- Co-Owned AM Station(s)
- AM Station(s) to be Aquired/Modified
- Co-Owned FM Station(s)
- FM Station(s) to be Aquired/Modified
- "Market A" Common Overlap Area
- "Market B" Common Overlap Area



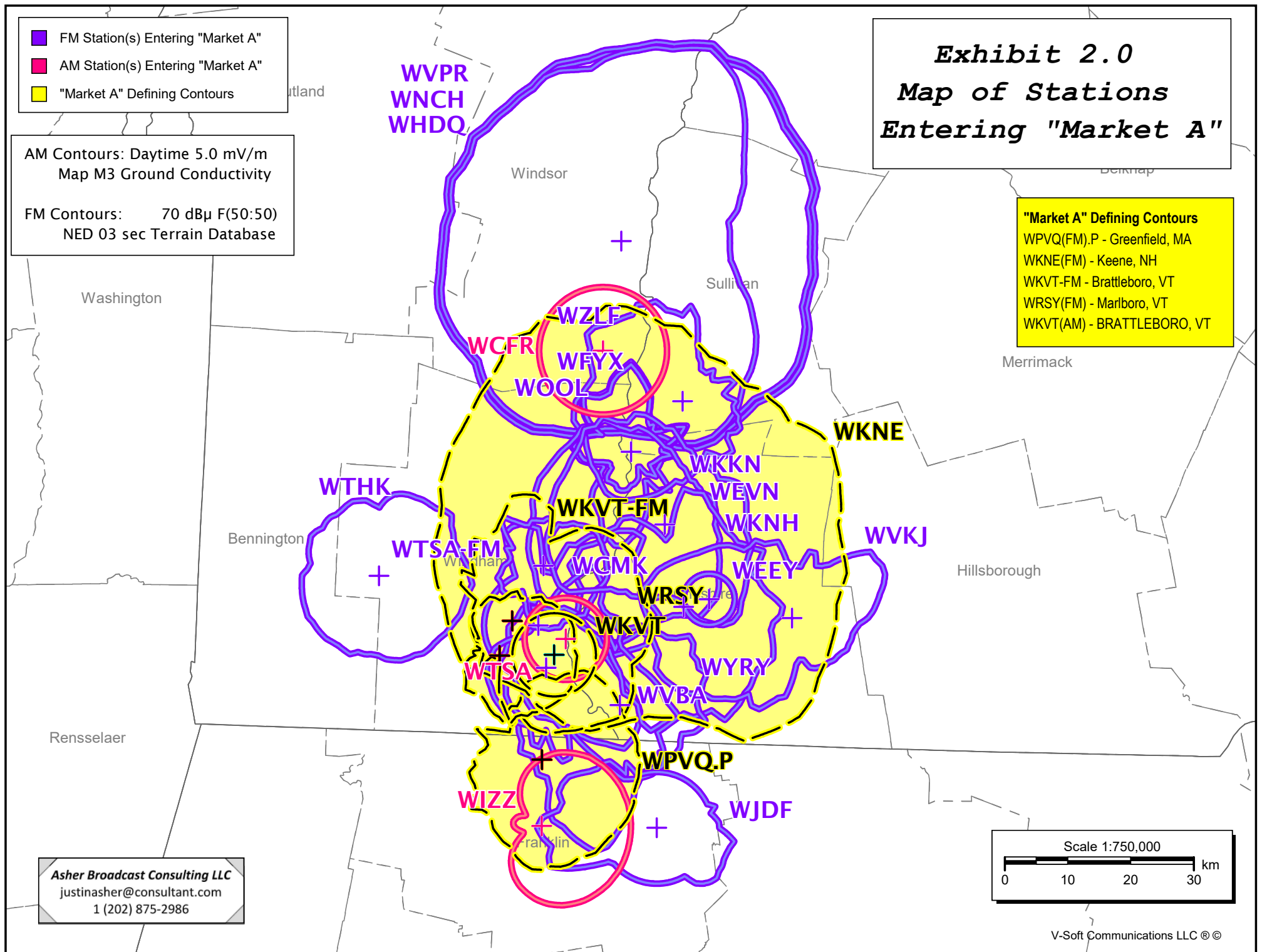
- FM Station(s) Entering "Market A"
- AM Station(s) Entering "Market A"
- "Market A" Defining Contours

AM Contours: Daytime 5.0 mV/m  
Map M3 Ground Conductivity

FM Contours: 70 dBμ F(50:50)  
NED 03 sec Terrain Database

## Exhibit 2.0 Map of Stations Entering "Market A"

**"Market A" Defining Contours**  
WPVQ(FM).P - Greenfield, MA  
WKNE(FM) - Keene, NH  
WKVT-FM - Brattleboro, VT  
WRSY(FM) - Marlboro, VT  
WKVT(AM) - BRATTLEBORO, VT



# ***Exhibit 2.1***

## ***Tabulation of Select Stations Entering “Market A”***

Total number of overlapping contours: 25

Reference:

Callsign	Type	Chan City	St	File Number	Dist (km)	Azi (deg)
WPVQ.P	FM	237A Greenfield	MA	Proposed Operation	0.0	0.0
WKNE	FM	279B Keene	NH	BMLH20070212AAW	42.0	27.5
WKVT-FM	FM	224A Brattleboro	VT	BMLH19900627KB	22.5	347.8
WRSY	FM	268A Marlboro	VT	BLH19960830KA	17.8	337.8
WKVT	AM	1490 BRATTLEBORO	VT	BL	16.7	6.6

Overlapping Contours:

Callsign	Type	Chan City	St	File Number	Dist (km)	Azi (deg)
WCFR	AM	1480 SPRINGFIELD	VT	BL20170131AEV	65.5	8.4
WIZZ	AM	1520 GREENFIELD	MA	BL19800819AB	10.5	180.1
WTSA	AM	1450 BRATTLEBORO	VT	BL	19.5	11.1
WKNH	FM	217A Keene	NH	BLED19960202KB	36.7	46.1
WVKJ	FM	210A Dublin	NH	BLED20111207AES	45.5	60.4
WJDF	FM	247A Orange	MA	BLH19950814KC	21.2	120.6
WKKN	FM	270A Westminster	VT	BLH20080409AAH	42.0	27.5
WCMK	FM	220A Putney	VT	BMLD20061115ABH	30.7	0.3
WVBA	FM	205B1 Brattleboro	VT	BLED20121011ACE	14.5	2.5
WYRY	FM	285A Hinsdale	NH	BLH20010402AAV	15.1	55.0
WEEY	FM	228A Swanzey	NH	BLH20080912AAG	33.0	42.8
WTSA-FM	FM	244A Brattleboro	VT	BLH19910821KF	21.2	358.3
WEVN	FM	214B1 Keene	NH	BMLD20030815ADI	42.0	27.5
WZLF	FM	296A Bellows Falls	VT	BMLH19920522KC	61.0	21.3
WOOL	FM	218A Bellows Falls	VT	BLED20140212ACZ	50.8	16.0
WFYX	FM	242A Walpole	NH	BLH20131115BFI	50.8	16.0
WNCH	FM	201B Norwich	VT	BMLD20120821ABW	83.1	8.6
WVPR	FM	208B Windsor	VT	BMLD20120821ABT	83.1	8.6
WTHK	FM	264A Wilmington	VT	BLH19991215ABK	38.9	318.3
WHDQ	FM	291B Claremont	NH	BMLH20120912AAU	83.1	8.6

Distance and bearing calculations from coordinates: 42-41-53 N, 072-36-20 W

Duopoly Options:

TV: Not Included

FM: 3.16 mV/m (70 dBu); Include NCE

AM: 5.0 mV/m

**\* Only a minimum number of stations necessary to meet the relevant provisions of C.F.R. 47 Section 73.3555 have been included. Stations in excess of these provisions have been excluded.**

**\* Co-owned stations entering, but not defining the market, have been excluded.**

**\* Stations more than 92 km from the common area have been excluded.**

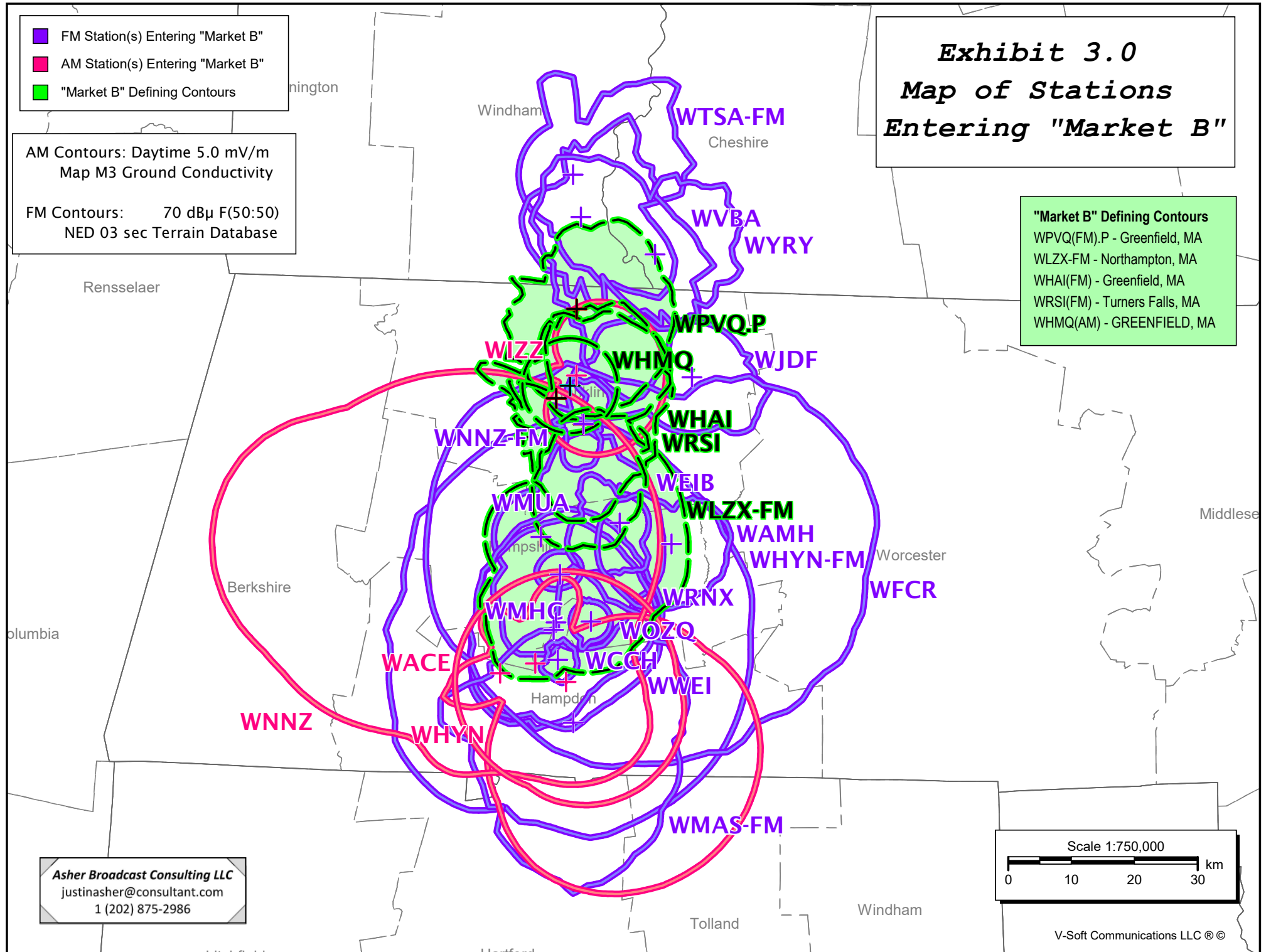
# **Exhibit 3.0** **Map of Stations** **Entering "Market B"**

- FM Station(s) Entering "Market B"
- AM Station(s) Entering "Market B"
- "Market B" Defining Contours

AM Contours: Daytime 5.0 mV/m  
 Map M3 Ground Conductivity

FM Contours: 70 dBμ F(50:50)  
 NED 03 sec Terrain Database

**"Market B" Defining Contours**  
 WPVQ(FM).P - Greenfield, MA  
 WLZX-FM - Northampton, MA  
 WHAI(FM) - Greenfield, MA  
 WRSI(FM) - Turners Falls, MA  
 WHMQ(AM) - GREENFIELD, MA



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Scale 1:750,000  
 0 10 20 30 km

V-Soft Communications LLC ©



# ***Exhibit 3.1***

## ***Tabulation of Select Stations Entering “Market B”***

Total number of overlapping contours: 25

Reference:

Callsign	Type	Chan City	St	File Number	Dist (km)	Azi (deg)
WPVQ.P	FM	237A Greenfield	MA	Proposed Operation	0.0	0.0
WLZX-FM	FM	257A Northampton	MA	BLH20000112ABC	36.5	188.9
WHAI	FM	252A Greenfield	MA	BLH19910312KB	14.5	192.9
WRSI	FM	230A Turners Falls	MA	BLH19951018KB	18.3	176.7
WHMQ	AM	1240 GREENFIELD	MA	BML20031112AJB	12.2	184.9

Overlapping Contours:

Callsign	Type	Chan City	St	File Number	Dist (km)	Azi (deg)
WACE	AM	730 CHICOPEE	MA	BL	59.0	181.6
WNNZ	AM	640 WESTFIELD	MA	BML20100820ABW	58.8	191.8
WHYN	AM	560 SPRINGFIELD	MA	BML20080521AEH	56.4	186.6
WIZZ	AM	1520 GREENFIELD	MA	BL19800819AB	10.5	180.1
WMAS-FM	FM	234B Enfield	CT	BLH20111107ARY	65.4	180.4
WFCR	FM	203B Amherst	MA	BLED19970605KB	40.1	158.0
WAMH	FM	207A Amherst	MA	BLED20121019ACF	40.1	158.0
WMUA	FM	216A Amherst	MA	BLED20031110ACU	34.5	168.6
WMHC	FM	218A South Hadley	MA	BMLD19880804LI	49.5	177.3
WNNZ-FM	FM	219A Deerfield	MA	BMLD20100908ACV	18.2	176.6
WOZQ	FM	220A Northampton	MA	BLED19820924AH	42.0	183.6
WHYN-FM	FM	226B Springfield	MA	BMLH19990121KA	50.9	184.0
WRNX	FM	265A Amherst	MA	BLH20120110ADN	49.7	183.7
WCCH	FM	278D Holyoke	MA	BLED19811130AS	55.6	183.0
WWEI	FM	288A Easthampton	MA	BMLH20141103AER	50.9	184.1
WEIB	FM	292A Northampton	MA	BLH19980318KB	36.5	188.9
WYRY	FM	285A Hinsdale	NH	BLH20010402AAV	15.1	55.0
WVBA	FM	205B1 Brattleboro	VT	BLED20121011ACE	14.5	2.5
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