

## **TECHNICAL REPORT**

This technical report has been developed in support of a minor modification application to WAUE(FM) 262A at Waverly, AL, FCC file no. BPH-20180912ABG.

Changes in the antenna COR AGL and ERP are submitted.

The following exhibits are provided for the form 301 minor modification:

- E-1 WAUE(FM).CP Mod. Spacing Study
- E-2 WAUE(FM).CP Mod. Overlap Study
- E-3 Interference Contour Plot to WHTY(FM) 261A Max. Class
- E-4 FMOver Tabulation to WHTY(FM) 261A Max. Class
- E-5 Interference Contour Plot to WSMX-FM 262A Max. Class
- E-6 FMOver Tabulation to WSMX-FM 262A Max. Class
- E-7 70 dBu Contour Coverage of Waverly, AL
- E-8 HAAT Calculation
- E-9 RF Calculation
- E-10 Tower ASR 1307550

### **WAUE(FM) Allocation Study:**

A spacing study in exhibit E-1 show the WAUE(FM) modification is short-spaced to WHTY(FM) 261A at Phenix City, AL and WSMX-FM 262A at Goshen, AL. As a result, WAUE(FM) will remain a 73.215(c) short-spaced facility. An overlap study, interference plots and FMOver tabulations to WHTY(FM) and WSMX-FM at maximum class are included in exhibits E-2 to E-6 and show the WAUE(FM) modification will not produce any interference overlaps.

### **WAUE(FM) 70 dBu coverage of Waverly, AL:**

WAUE(FM) will place a 70 dBu over 83.1% of the Waverly, AL community of license city boundary area (exhibit E-7).

# Anderson Associates

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Broadcast Consultants  
1519 Euclid Avenue  
Bowling Green, KY 42103

## **WAUE(FM) Antenna System:**

The facility is to be located on the existing tower, ASR 1307550, at coordinates:

**32-40-04.0N 85-33-00.8W NAD83.**

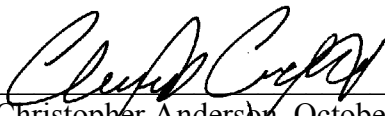
An ERI LPX-1E single bay, non-directional antenna will be mounted at a COR AGL of 96 meters, 319 meters AMSL, 118 meter HAAT (exhibit E-8) and operate at an ERP of 0.380 kW.

## **RF Exposure Calculation:**

The RF production of the 0.380 kW facility was calculated using the Commission's FMMODEL program (exhibit E-9). The maximum RF at a height of 2 meters above ground was calculated to be  $0.639 \mu\text{Watts/cm}^2$  at a distance of 94 meters from the tower, which is below 5% of the  $200 \mu\text{Watts/cm}^2$  permissible for general public/uncontrolled exposure, allowing exclusion from consideration.

## **Conclusion:**

It is concluded that the minor modification of WAUE(FM) is in full compliance with the Commission rules and policies.

  
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Christopher Anderson October 24, 2019  
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# E-1 WAUE(FM) 262A.CP Mod. Spacing Study

REFERENCE		CLASS = A	DISPLAY DATES
32 40 04.00 N.			DATA 10-24-19
85 33 00.80 W.	Current Spacings to 3rd Adj.		SEARCH 10-24-19
----- Channel 262 - 100.3 MHz -----			

Call	Channel	Location		Azi	Dist	FCC	Margin
WAUE	CP -N 262A	Waverly	AL	0.0	0.01	114.5	-114.5
WAUE	LIC-N 262A	Waverly	AL	339.2	6.93	114.5	-107.6
WHTY	LIC 261A	Phenix City	AL	108.8	53.47	71.5	-18.0
WSMX-FM	LIC 262A	Goshen	AL	205.1	104.98	114.5	-9.5 (1)
WQNR	LIC 260A	Tallassee	AL	222.1	33.71	30.5	3.2
WOBB	LIC 262C0	Tifton	GA	128.6	218.23	214.5	3.7
WCJM-FM	LIC 265A	West Point	GA	61.7	44.02	30.5	13.5
WRHP	LIC-Z 261C3	Anniston	AL	347.7	115.12	88.5	26.6
WDXX	LIC-N 261C2	Selma	AL	256.7	134.69	105.5	29.2
WJQX	LIC-N 263C1	Helena	AL	287.1	166.37	132.5	33.9
WYFK	LIC 208C2	Columbus	GA	89.5	55.94	14.5	41.4
WCKF	LIC-N 264A	Ashland	AL	338.3	78.00	30.5	47.5

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All separation margins include rounding

(1) WAUE(FM) will remain a 72.215(c) short-spaced facility with respect to WHTY(FM) 261A and WSMX-FM 262A.

# E-2 WAUE(FM) 262A.CP Mod. Overlap Study

REFERENCE 32 40 04.00 N. 85 33 00.80 W.		CH# 262A - 100.3 MHz, Pwr= 0.38 kW, HAAT= 118.0 M, COR= 319 M Average Protected F(50-50)= 15.6 km 73.215 Omni-directional							DISPLAY DATES DATA 10-24-19 SEARCH 10-24-19		
CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT* (in km)
262A WAUE Waverly	CP N__ AL	0.0 180.0	0.01 BPH20180912ABG	32 40 04.50 85 33 00.80	0.320 129	330	---Reference--- Marble City Media, LLC				
262A WAUE Waverly	LIC N__ AL	339.2 159.2	6.93 BLH20180912ABF	32 43 34.40 85 34 35.80	0.130 30	231	---Reference--- Marble City Media, LLC				
261A WHTY^ Phenix City	LIC ____ AL	108.8 289.1	53.37 BMLH19900403KA	32 30 42.50 85 00 40.70	6.000 100	40.4 225	23.0 Cc Licenses, LLC	0.5	5.3		
262A WSMX-FM^ Goshen	LIC ____ AL	205.1 24.9	105.16 BLH20160914ABK	31 48 37.60 86 01 21.80	6.000 100	86.8 218	28.3 J&w Communications LLC	0.7	20.6		
260A WQNR< Tallassee	LIC ____ AL	222.1 41.9	33.71 BLH20080624AAG	32 26 32.50 85 47 27.80	2.850 146	2.5 235	27.6 Tiger Communications, Inc.	30.5R	3.2M		
262C0 WOBB< Tifton	LIC ____ GA	128.6 309.5	218.23 BMLH20060308ACZ	31 25 51.70 83 45 09.60	100.000 304	171.6 412	72.0 Cc Licenses, LLC	214.5R	3.7M		
265A WCJM-FM< West Point	LIC ____ GA	61.7 242.0	44.02 BLH20140723ACN	32 51 15.50 85 08 07.80	6.000 96	2.9 304	29.8 Amfm Radio Licenses, L.L.C	30.5R	13.5M		
261C3 WRHP< Anniston	LIC Z__ AL	347.7 167.6	115.12 BLED20180508ACQ	33 40 53.40 85 48 56.90	5.400 216	58.8 473	39.5 Anniston Seventh-Day Adven	88.5R	26.6M		
261C2 WDX< Selma	LIC N__ AL	256.7 75.9	134.69 BLH20130301AGT	32 22 54.50 86 56 37.00	50.000 150	78.9 199	52.6 Broadsouth Communications,	105.5R	29.2M		
263C1 WJQX< Helena	LIC N__ AL	287.1 106.2	166.37 BLH20071210ADE	33 05 42.40 87 15 16.00	69.000 309	99.0 430	67.9 Radio License Holding Cbc,	132.5R	33.9M		
208C2 WYFK Columbus	LIC ____ GA	89.5 269.9	55.94 BLED20140723ACV	32 40 13.50 84 57 13.80	50.000 120	81.5 306	27.5 Bible Broadcasting Network	14.5R	41.4M		
264A WCKF< Ashland	LIC N__ AL	338.3 158.2	78.00 BLH20090630ABP	33 19 14.40 85 51 38.90	1.700 190	2.4 529	29.5 Wckf, L.L.C.	30.5R	47.5M		

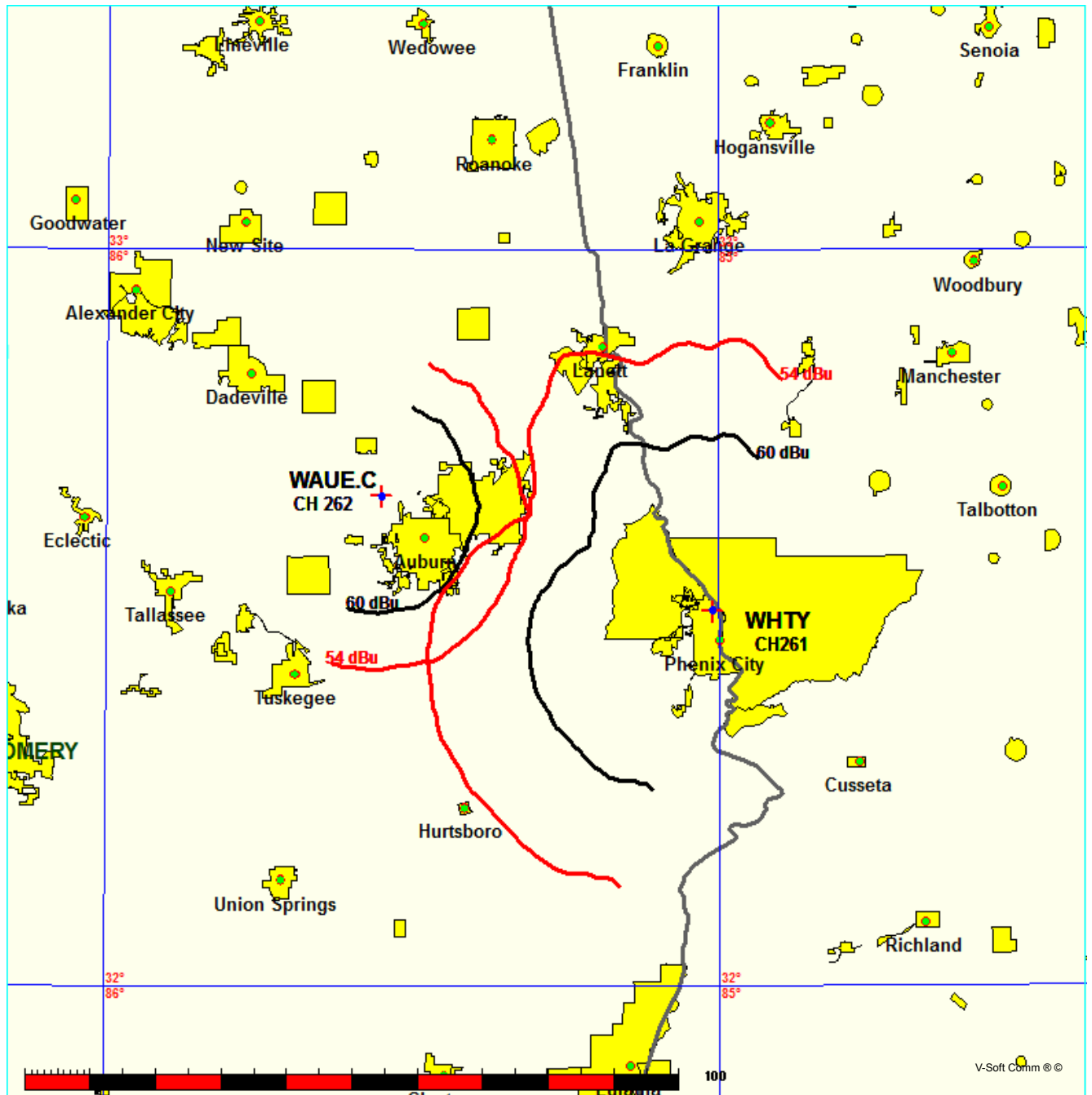
Terrain database is GLOBE 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= - Zone 2, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, 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.  
^ = Power and antenna height 'Max classed' as per Sec 73.215 protection requirements

E-3 WAUE(FM) 262A.CP Mod. Interference Plot to WHTY(FM) 261A Max. Class

FMCommander Single Allocation Study - 10-24-2019 - GLOBE 30 Sec  
WAUE.C's Overlaps (In= 0.48 km, Out= 5.3 km)

WAUE.C CH 262 A 73.215 N  
Lat= 32 40 04.00, Lng= 85 33 00.80  
0.38 kW 118 m HAAT, 319 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

WHTY^ CH 261 A BMLH19900403KA  
Lat= 32 30 42.50, Lng= 85 00 40.70  
Max CIs: 6.0 kW 100 m HAAT, 225 m COR  
Prot.= 60 dBu, Intef.= 54 dBu



# E-4 WAUE(FM).CP Mod. FMOVer Analysis to WHTY(FM) 261A Max. Class

WAUE.CP Mod.

Channel = 262A

Max ERP = 0.38 kW

RCAMSL = 319 m

N. Lat. 32 40 04.00

W. Lng. 85 33 00.80

Protected

60 dBu Terrain Data: GLOBE 30 Sec

WHTY BMLH19900403KA

(^ Max Class Parameters)

Channel = 261A

Max ERP = 6 kW

RCAMSL = 225 m

N. Lat. 32 30 42.50

W. Lng. 85 00 40.70

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
049.0	000.3800	0091.5	013.6	303.3	006.0000	0056.2	048.0	48.24	
050.0	000.3800	0091.6	013.6	303.2	006.0000	0056.2	047.8	48.31	
051.0	000.3800	0091.6	013.6	303.2	006.0000	0056.1	047.5	48.37	
052.0	000.3800	0091.5	013.6	303.1	006.0000	0056.1	047.3	48.44	
053.0	000.3800	0091.3	013.6	302.9	006.0000	0056.1	047.1	48.50	
054.0	000.3800	0091.0	013.6	302.8	006.0000	0056.0	046.9	48.56	
055.0	000.3800	0090.6	013.6	302.7	006.0000	0056.0	046.7	48.63	
056.0	000.3800	0090.1	013.5	302.5	006.0000	0055.9	046.5	48.69	
057.0	000.3800	0089.7	013.5	302.4	006.0000	0055.9	046.3	48.75	
058.0	000.3800	0089.6	013.5	302.2	006.0000	0055.9	046.1	48.82	
059.0	000.3800	0089.4	013.5	302.1	006.0000	0055.9	045.8	48.88	
060.0	000.3800	0089.0	013.5	301.9	006.0000	0055.9	045.7	48.94	
061.0	000.3800	0088.3	013.4	301.7	006.0000	0055.9	045.5	49.00	
062.0	000.3800	0087.3	013.3	301.5	006.0000	0055.9	045.3	49.06	
063.0	000.3800	0086.1	013.2	301.2	006.0000	0055.9	045.2	49.10	
064.0	000.3800	0084.7	013.1	301.0	006.0000	0055.9	045.0	49.15	
065.0	000.3800	0083.5	013.0	300.7	006.0000	0055.8	044.9	49.18	
066.0	000.3800	0083.0	013.0	300.5	006.0000	0055.7	044.7	49.23	
067.0	000.3800	0083.2	013.0	300.3	006.0000	0055.6	044.5	49.28	
068.0	000.3800	0083.9	013.1	300.2	006.0000	0055.6	044.3	49.34	
069.0	000.3800	0085.0	013.2	300.1	006.0000	0055.5	044.1	49.41	
070.0	000.3800	0086.2	013.2	300.0	006.0000	0055.4	043.8	49.49	
071.0	000.3800	0088.0	013.4	299.9	006.0000	0055.4	043.6	49.57	
072.0	000.3800	0089.9	013.5	299.9	006.0000	0055.3	043.3	49.65	
073.0	000.3800	0091.7	013.7	299.8	006.0000	0055.2	043.1	49.73	
074.0	000.3800	0093.0	013.8	299.7	006.0000	0055.1	042.8	49.80	
075.0	000.3800	0093.7	013.8	299.5	006.0000	0054.9	042.6	49.85	
076.0	000.3800	0094.0	013.8	299.3	006.0000	0054.7	042.4	49.88	
077.0	000.3800	0094.0	013.8	299.0	006.0000	0054.5	042.3	49.90	
078.0	000.3800	0094.0	013.8	298.8	006.0000	0054.2	042.1	49.92	
079.0	000.3800	0094.2	013.8	298.5	006.0000	0053.9	041.9	49.94	
080.0	000.3800	0094.6	013.9	298.3	006.0000	0053.6	041.8	49.96	
081.0	000.3800	0095.1	013.9	298.1	006.0000	0053.4	041.6	49.99	
082.0	000.3800	0096.0	014.0	297.9	006.0000	0053.2	041.4	50.04	
083.0	000.3800	0096.3	014.0	297.6	006.0000	0053.1	041.2	50.07	
084.0	000.3800	0096.5	014.0	297.3	006.0000	0053.0	041.1	50.11	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
085.0	000.3800	0096.5	014.0	297.0	006.0000	0053.0	041.0	50.16
086.0	000.3800	0096.4	014.0	296.7	006.0000	0053.1	040.8	50.22
087.0	000.3800	0096.6	014.0	296.5	006.0000	0053.3	040.7	50.29
088.0	000.3800	0096.8	014.0	296.2	006.0000	0053.5	040.6	50.38
089.0	000.3800	0097.6	014.1	295.9	006.0000	0053.9	040.4	50.49
090.0	000.3800	0099.0	014.2	295.6	006.0000	0054.3	040.2	50.62
091.0	000.3800	0100.4	014.3	295.4	006.0000	0054.7	040.0	50.76
092.0	000.3800	0101.8	014.4	295.1	006.0000	0055.2	039.8	50.90
093.0	000.3800	0103.0	014.5	294.8	006.0000	0055.8	039.6	51.05
094.0	000.3800	0104.8	014.6	294.6	006.0000	0056.4	039.4	51.21
095.0	000.3800	0106.7	014.8	294.3	006.0000	0056.9	039.2	51.37
096.0	000.3800	0108.4	014.9	294.0	006.0000	0057.5	039.0	51.53
097.0	000.3800	0109.2	015.0	293.6	006.0000	0058.2	038.9	51.67
098.0	000.3800	0108.3	014.9	293.2	006.0000	0058.9	038.8	51.76
099.0	000.3800	0107.3	014.8	292.8	006.0000	0059.5	038.9	51.83
100.0	000.3800	0106.4	014.8	292.4	006.0000	0060.0	038.9	51.90
101.0	000.3800	0106.3	014.7	292.1	006.0000	0060.5	038.8	51.97
102.0	000.3800	0107.0	014.8	291.7	006.0000	0060.9	038.7	52.05
103.0	000.3800	0107.7	014.9	291.3	006.0000	0061.2	038.6	52.13
104.0	000.3800	0108.4	014.9	291.0	006.0000	0061.6	038.5	52.21
105.0	000.3800	0109.4	015.0	290.6	006.0000	0061.9	038.5	52.28
106.0	000.3800	0110.2	015.0	290.2	006.0000	0062.2	038.4	52.35
107.0	000.3800	0110.5	015.1	289.8	006.0000	0062.6	038.3	52.40
108.0	000.3800	0110.3	015.0	289.4	006.0000	0062.9	038.3	52.44
109.0	000.3800	0109.6	015.0	289.0	006.0000	0063.4	038.4	52.48
110.0	000.3800	0108.8	014.9	288.6	006.0000	0063.9	038.5	52.51
111.0	000.3800	0108.1	014.9	288.3	006.0000	0064.6	038.5	52.57
112.0	000.3800	0107.7	014.9	287.9	006.0000	0065.3	038.6	52.63
113.0	000.3800	0107.4	014.8	287.5	006.0000	0066.1	038.6	52.71
114.0	000.3800	0107.1	014.8	287.1	006.0000	0066.9	038.7	52.78
115.0	000.3800	0106.9	014.8	286.7	006.0000	0067.7	038.7	52.86
116.0	000.3800	0106.8	014.8	286.4	006.0000	0068.6	038.7	52.93
117.0	000.3800	0107.1	014.8	286.0	006.0000	0069.4	038.8	53.01
118.0	000.3800	0107.6	014.8	285.6	006.0000	0070.3	038.8	53.10
119.0	000.3800	0108.1	014.9	285.2	006.0000	0071.0	038.8	53.18
120.0	000.3800	0108.7	014.9	284.8	006.0000	0071.7	038.8	53.24
121.0	000.3800	0109.9	015.0	284.4	006.0000	0072.4	038.8	53.32
122.0	000.3800	0111.6	015.1	284.0	006.0000	0073.0	038.8	53.41
123.0	000.3800	0113.5	015.3	283.6	006.0000	0073.6	038.7	53.49
124.0	000.3800	0115.0	015.4	283.1	006.0000	0074.3	038.7	53.57
125.0	000.3800	0115.7	015.4	282.7	006.0000	0074.9	038.8	53.61
126.0	000.3800	0115.8	015.4	282.4	006.0000	0075.4	038.9	53.62
127.0	000.3800	0115.8	015.4	282.0	006.0000	0075.8	039.0	53.62
128.0	000.3800	0116.2	015.5	281.6	006.0000	0076.1	039.1	53.62
129.0	000.3800	0117.2	015.5	281.2	006.0000	0076.4	039.2	53.63
130.0	000.3800	0118.4	015.6	280.8	006.0000	0076.8	039.2	53.65
131.0	000.3800	0119.5	015.7	280.4	006.0000	0077.2	039.3	53.66
132.0	000.3800	0120.4	015.8	280.0	006.0000	0077.6	039.4	53.66
133.0	000.3800	0121.3	015.8	279.6	006.0000	0077.9	039.5	53.66
134.0	000.3800	0122.1	015.9	279.3	006.0000	0078.3	039.6	53.65
135.0	000.3800	0122.7	015.9	278.9	006.0000	0078.7	039.7	53.64

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
136.0	000.3800	0123.2	016.0	278.6	006.0000	0079.1	039.8	53.62
137.0	000.3800	0123.7	016.0	278.2	006.0000	0079.6	040.0	53.61
138.0	000.3800	0124.7	016.1	277.8	006.0000	0080.2	040.1	53.63
139.0	000.3800	0126.2	016.2	277.4	006.0000	0080.9	040.2	53.66
140.0	000.3800	0127.9	016.3	277.0	006.0000	0081.7	040.3	53.70
141.0	000.3800	0129.5	016.4	276.6	006.0000	0082.5	040.4	53.74
142.0	000.3800	0130.8	016.5	276.2	006.0000	0083.4	040.6	53.77
143.0	000.3800	0131.9	016.6	275.9	006.0000	0084.3	040.7	53.80
144.0	000.3800	0132.6	016.6	275.6	006.0000	0085.2	040.9	53.81
145.0	000.3800	0133.2	016.7	275.2	006.0000	0086.0	041.1	53.80
146.0	000.3800	0133.7	016.7	274.9	006.0000	0086.7	041.3	53.80
147.0	000.3800	0134.4	016.8	274.6	006.0000	0087.5	041.5	53.79
148.0	000.3800	0135.2	016.8	274.3	006.0000	0088.2	041.7	53.77
149.0	000.3800	0136.1	016.9	274.0	006.0000	0088.8	041.9	53.74
150.0	000.3800	0136.6	016.9	273.8	006.0000	0089.3	042.1	53.71
151.0	000.3800	0137.1	017.0	273.5	006.0000	0089.7	042.4	53.65
152.0	000.3800	0137.8	017.0	273.2	006.0000	0090.1	042.6	53.60
153.0	000.3800	0138.7	017.1	273.0	006.0000	0090.5	042.8	53.54
154.0	000.3800	0139.5	017.1	272.7	006.0000	0090.8	043.1	53.48
155.0	000.3800	0140.3	017.2	272.5	006.0000	0091.2	043.3	53.42
156.0	000.3800	0141.5	017.3	272.2	006.0000	0091.6	043.5	53.36
157.0	000.3800	0143.1	017.4	271.9	006.0000	0092.0	043.8	53.31
158.0	000.3800	0144.7	017.5	271.6	006.0000	0092.4	044.0	53.26
159.0	000.3800	0145.9	017.6	271.3	006.0000	0092.7	044.2	53.19
160.0	000.3800	0146.9	017.6	271.1	006.0000	0093.0	044.5	53.11
161.0	000.3800	0147.7	017.7	270.9	006.0000	0093.3	044.8	53.03
162.0	000.3800	0148.2	017.7	270.7	006.0000	0093.5	045.1	52.94
163.0	000.3800	0148.2	017.7	270.6	006.0000	0093.7	045.3	52.84
164.0	000.3800	0147.8	017.7	270.5	006.0000	0093.8	045.6	52.73
165.0	000.3800	0146.7	017.6	270.5	006.0000	0093.8	046.0	52.62
166.0	000.3800	0145.7	017.6	270.5	006.0000	0093.8	046.3	52.50
167.0	000.3800	0145.2	017.5	270.5	006.0000	0093.9	046.6	52.39
168.0	000.3800	0145.1	017.5	270.4	006.0000	0093.9	046.9	52.28

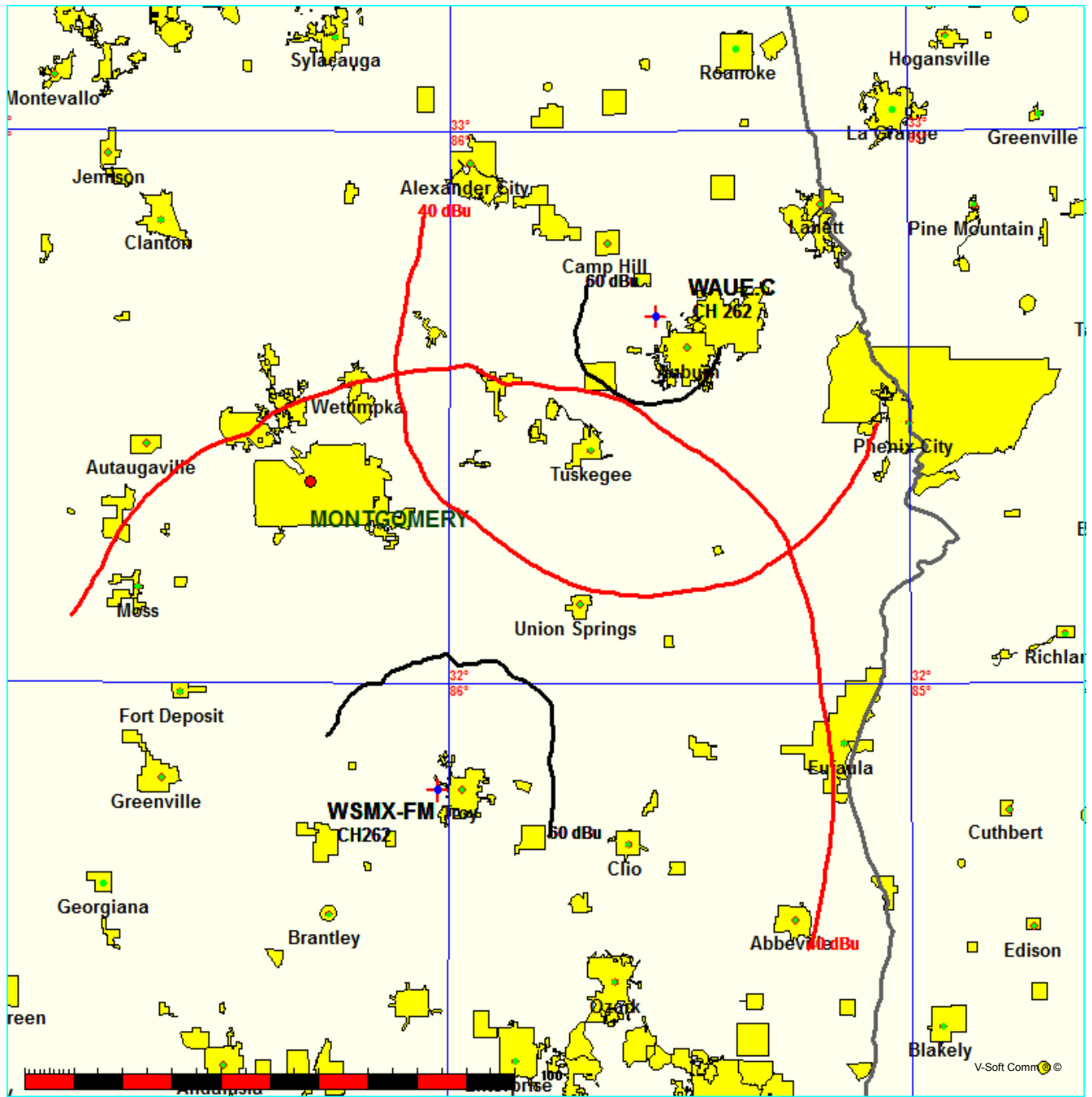


# E-5 WAUE(FM) 262A.CP Mod. Interference Plot to WSMX(FM) 262A Max. Class

FMCommander Single Allocation Study - 10-24-2019 - GLOBE 30 Sec  
WAUE.C's Overlaps (In= 0.66 km, Out= 20.57 km)

WAUE.C CH 262 A 73.215 N  
Lat= 32 40 04.00, Lng= 85 33 00.80  
0.38 kW 118 m HAAT, 319 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

WSMX-FM^ CH 262 A BLH20160914ABK  
Lat= 31 48 37.60, Lng= 86 01 21.80  
Max Cls: 6.0 kW 100 m HAAT, 218 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



# E-6 WAUE(FM).CP Mod. FMOver Analysis to WSMX-FM 262A Max. Class

WAUE.CP Mod.

Channel = 262A

Max ERP = 0.38 kW

RCAMSL = 319 m

N. Lat. 32 40 04.00

W. Lng. 85 33 00.80

Protected

60 dBu

Terrain Data: GLOBE 30 Sec

WSMX-FM BLH20160914ABK

(^ Max Class Parameters)

Channel = 262A

Max ERP = 6 kW

RCAMSL = 218 m

N. Lat. 31 48 37.60

W. Lng. 86 01 21.80

Interfering

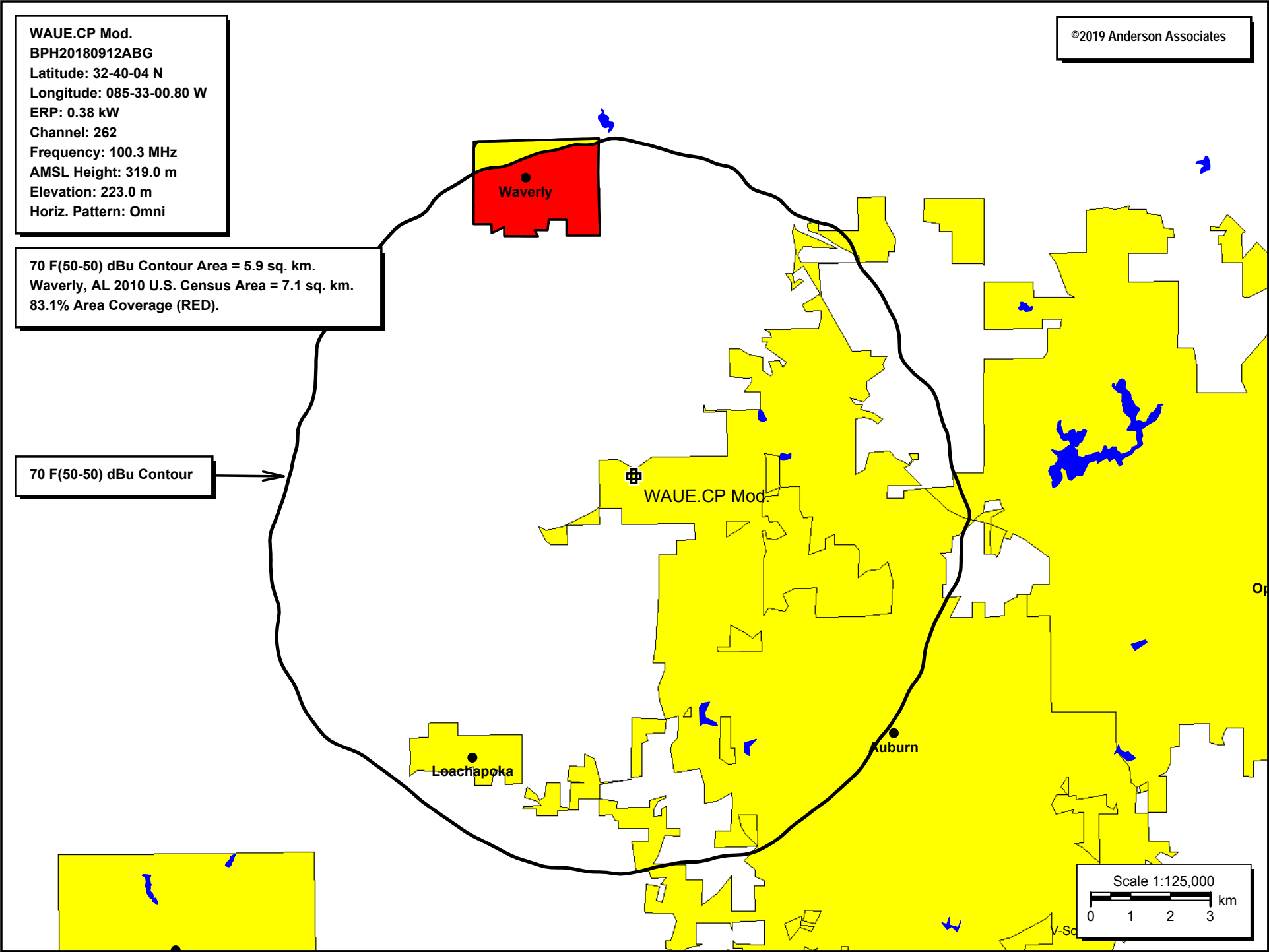
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
145.0	000.3800	0133.2	016.7	033.4	006.0000	0093.5	097.9	36.81	
146.0	000.3800	0133.7	016.7	033.3	006.0000	0093.5	097.6	36.88	
147.0	000.3800	0134.4	016.8	033.3	006.0000	0093.5	097.4	36.94	
148.0	000.3800	0135.2	016.8	033.2	006.0000	0093.5	097.1	37.01	
149.0	000.3800	0136.1	016.9	033.2	006.0000	0093.5	096.8	37.08	
150.0	000.3800	0136.6	016.9	033.1	006.0000	0093.5	096.5	37.15	
151.0	000.3800	0137.1	017.0	033.1	006.0000	0093.5	096.2	37.22	
152.0	000.3800	0137.8	017.0	033.0	006.0000	0093.5	095.9	37.29	
153.0	000.3800	0138.7	017.1	033.0	006.0000	0093.5	095.6	37.36	
154.0	000.3800	0139.5	017.1	032.9	006.0000	0093.5	095.4	37.43	
155.0	000.3800	0140.3	017.2	032.8	006.0000	0093.5	095.1	37.50	
156.0	000.3800	0141.5	017.3	032.8	006.0000	0093.5	094.8	37.57	
157.0	000.3800	0143.1	017.4	032.7	006.0000	0093.5	094.5	37.65	
158.0	000.3800	0144.7	017.5	032.7	006.0000	0093.5	094.1	37.73	
159.0	000.3800	0145.9	017.6	032.6	006.0000	0093.5	093.8	37.80	
160.0	000.3800	0146.9	017.6	032.5	006.0000	0093.6	093.6	37.88	
161.0	000.3800	0147.7	017.7	032.5	006.0000	0093.6	093.3	37.95	
162.0	000.3800	0148.2	017.7	032.4	006.0000	0093.6	093.0	38.02	
163.0	000.3800	0148.2	017.7	032.2	006.0000	0093.7	092.8	38.08	
164.0	000.3800	0147.8	017.7	032.1	006.0000	0093.7	092.6	38.14	
165.0	000.3800	0146.7	017.6	031.9	006.0000	0093.8	092.4	38.19	
166.0	000.3800	0145.7	017.6	031.8	006.0000	0093.9	092.2	38.24	
167.0	000.3800	0145.2	017.5	031.6	006.0000	0094.1	092.0	38.29	
168.0	000.3800	0145.1	017.5	031.5	006.0000	0094.2	091.8	38.36	
169.0	000.3800	0145.6	017.5	031.4	006.0000	0094.4	091.6	38.42	
170.0	000.3800	0145.7	017.6	031.2	006.0000	0094.5	091.4	38.48	
171.0	000.3800	0145.6	017.5	031.1	006.0000	0094.7	091.2	38.54	
172.0	000.3800	0144.8	017.5	030.9	006.0000	0095.0	091.0	38.60	
173.0	000.3800	0144.5	017.5	030.7	006.0000	0095.3	090.8	38.65	
174.0	000.3800	0144.7	017.5	030.6	006.0000	0095.5	090.6	38.72	
175.0	000.3800	0145.1	017.5	030.4	006.0000	0095.8	090.4	38.78	
176.0	000.3800	0145.6	017.6	030.3	006.0000	0096.1	090.2	38.85	
177.0	000.3800	0146.3	017.6	030.2	006.0000	0096.4	090.0	38.92	
178.0	000.3800	0147.4	017.7	030.0	006.0000	0096.6	089.8	38.99	
179.0	000.3800	0148.5	017.7	029.9	006.0000	0096.9	089.6	39.06	
180.0	000.3800	0149.3	017.8	029.7	006.0000	0097.2	089.4	39.13	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
181.0	000.3800	0150.2	017.9	029.6	006.0000	0097.5	089.2	39.20
182.0	000.3800	0150.7	017.9	029.4	006.0000	0097.8	089.0	39.26
183.0	000.3800	0150.4	017.9	029.2	006.0000	0098.1	088.9	39.31
184.0	000.3800	0150.0	017.8	029.0	006.0000	0098.4	088.8	39.35
185.0	000.3800	0150.2	017.9	028.8	006.0000	0098.7	088.6	39.41
186.0	000.3800	0150.5	017.9	028.7	006.0000	0098.9	088.5	39.46
187.0	000.3800	0150.6	017.9	028.5	006.0000	0099.1	088.3	39.50
188.0	000.3800	0150.3	017.9	028.3	006.0000	0099.4	088.3	39.53
189.0	000.3800	0150.1	017.9	028.1	006.0000	0099.6	088.2	39.57
190.0	000.3800	0150.3	017.9	027.9	006.0000	0099.8	088.0	39.61
191.0	000.3800	0151.1	017.9	027.7	006.0000	0099.9	087.9	39.66
192.0	000.3800	0152.0	018.0	027.5	006.0000	0100.1	087.8	39.70
193.0	000.3800	0152.4	018.0	027.3	006.0000	0100.2	087.7	39.74
194.0	000.3800	0152.1	018.0	027.1	006.0000	0100.3	087.6	39.76
195.0	000.3800	0151.8	018.0	026.9	006.0000	0100.4	087.5	39.78
196.0	000.3800	0151.7	018.0	026.7	006.0000	0100.5	087.5	39.80
197.0	000.3800	0151.5	017.9	026.5	006.0000	0100.5	087.4	39.81
198.0	000.3800	0151.1	017.9	026.3	006.0000	0100.5	087.4	39.82
199.0	000.3800	0150.4	017.9	026.1	006.0000	0100.5	087.4	39.82
200.0	000.3800	0149.6	017.8	025.9	006.0000	0100.5	087.4	39.81
201.0	000.3800	0149.0	017.8	025.7	006.0000	0100.4	087.4	39.80
202.0	000.3800	0148.5	017.7	025.5	006.0000	0100.3	087.5	39.80
203.0	000.3800	0148.3	017.7	025.3	006.0000	0100.2	087.5	39.79
204.0	000.3800	0148.0	017.7	025.1	006.0000	0100.0	087.5	39.78
205.0	000.3800	0147.6	017.7	024.9	006.0000	0099.8	087.5	39.77
206.0	000.3800	0146.9	017.6	024.7	006.0000	0099.6	087.5	39.74
207.0	000.3800	0146.2	017.6	024.5	006.0000	0099.4	087.6	39.72
208.0	000.3800	0145.6	017.6	024.3	006.0000	0099.1	087.6	39.69
209.0	000.3800	0145.2	017.5	024.1	006.0000	0098.9	087.7	39.66
210.0	000.3800	0144.8	017.5	023.9	006.0000	0098.6	087.7	39.64
211.0	000.3800	0144.4	017.5	023.7	006.0000	0098.3	087.8	39.61
212.0	000.3800	0144.1	017.4	023.5	006.0000	0098.0	087.9	39.58
213.0	000.3800	0143.8	017.4	023.3	006.0000	0097.7	087.9	39.54
214.0	000.3800	0143.3	017.4	023.1	006.0000	0097.4	088.0	39.51
215.0	000.3800	0142.7	017.3	022.9	006.0000	0097.1	088.1	39.47
216.0	000.3800	0142.3	017.3	022.7	006.0000	0096.8	088.2	39.43
217.0	000.3800	0142.2	017.3	022.6	006.0000	0096.6	088.3	39.40
218.0	000.3800	0142.3	017.3	022.4	006.0000	0096.3	088.4	39.36
219.0	000.3800	0142.4	017.3	022.2	006.0000	0096.0	088.4	39.33
220.0	000.3800	0142.5	017.3	022.0	006.0000	0095.8	088.5	39.30
221.0	000.3800	0142.9	017.4	021.8	006.0000	0095.5	088.6	39.27
222.0	000.3800	0143.4	017.4	021.6	006.0000	0095.3	088.7	39.24
223.0	000.3800	0143.9	017.4	021.4	006.0000	0095.1	088.7	39.21
224.0	000.3800	0144.5	017.5	021.2	006.0000	0094.8	088.8	39.18
225.0	000.3800	0145.8	017.6	021.0	006.0000	0094.6	088.9	39.16
226.0	000.3800	0147.8	017.7	020.8	006.0000	0094.4	088.9	39.14
227.0	000.3800	0150.2	017.9	020.6	006.0000	0094.1	088.8	39.13
228.0	000.3800	0152.4	018.0	020.4	006.0000	0093.9	088.9	39.12
229.0	000.3800	0154.1	018.1	020.1	006.0000	0093.6	088.9	39.09
230.0	000.3800	0154.9	018.2	019.9	006.0000	0093.3	089.0	39.05
231.0	000.3800	0155.1	018.2	019.8	006.0000	0093.1	089.2	39.00

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
232.0	000.3800	0154.9	018.2	019.6	006.0000	0092.8	089.3	38.94
233.0	000.3800	0154.8	018.2	019.4	006.0000	0092.5	089.5	38.88
234.0	000.3800	0154.8	018.2	019.3	006.0000	0092.2	089.7	38.82
235.0	000.3800	0154.3	018.1	019.1	006.0000	0091.8	089.9	38.75
236.0	000.3800	0153.3	018.1	019.0	006.0000	0091.5	090.1	38.67
237.0	000.3800	0152.1	018.0	018.8	006.0000	0091.2	090.4	38.59
238.0	000.3800	0151.2	017.9	018.7	006.0000	0090.9	090.6	38.51
239.0	000.3800	0150.9	017.9	018.6	006.0000	0090.5	090.9	38.44
240.0	000.3800	0151.2	017.9	018.4	006.0000	0090.1	091.0	38.37
241.0	000.3800	0151.6	017.9	018.2	006.0000	0089.7	091.2	38.30
242.0	000.3800	0151.5	017.9	018.1	006.0000	0089.3	091.5	38.23
243.0	000.3800	0150.7	017.9	018.0	006.0000	0089.0	091.7	38.15
244.0	000.3800	0149.4	017.8	017.9	006.0000	0088.7	092.0	38.06
245.0	000.3800	0147.8	017.7	017.8	006.0000	0088.5	092.3	37.98
246.0	000.3800	0145.9	017.6	017.7	006.0000	0088.3	092.6	37.89
247.0	000.3800	0143.4	017.4	017.7	006.0000	0088.2	092.9	37.80
248.0	000.3800	0140.5	017.2	017.7	006.0000	0088.1	093.3	37.71
249.0	000.3800	0138.2	017.0	017.6	006.0000	0088.0	093.6	37.62
250.0	000.3800	0136.8	016.9	017.6	006.0000	0087.8	093.9	37.54
251.0	000.3800	0136.7	016.9	017.4	006.0000	0087.6	094.2	37.47
252.0	000.3800	0136.8	016.9	017.3	006.0000	0087.3	094.4	37.40
253.0	000.3800	0136.6	016.9	017.2	006.0000	0087.1	094.7	37.33
254.0	000.3800	0136.1	016.9	017.2	006.0000	0086.9	094.9	37.26
255.0	000.3800	0135.2	016.8	017.1	006.0000	0086.8	095.2	37.18
256.0	000.3800	0134.4	016.8	017.0	006.0000	0086.6	095.5	37.11
257.0	000.3800	0133.2	016.7	017.0	006.0000	0086.6	095.8	37.03
258.0	000.3800	0132.3	016.6	016.9	006.0000	0086.5	096.1	36.96
259.0	000.3800	0131.7	016.6	016.9	006.0000	0086.3	096.3	36.89
260.0	000.3800	0131.0	016.5	016.8	006.0000	0086.3	096.6	36.82
261.0	000.3800	0129.8	016.4	016.8	006.0000	0086.2	096.9	36.75
262.0	000.3800	0127.5	016.3	016.8	006.0000	0086.2	097.2	36.68
263.0	000.3800	0124.9	016.1	016.8	006.0000	0086.3	097.6	36.60
264.0	000.3800	0122.7	015.9	016.9	006.0000	0086.3	097.9	36.53

E-7 WAUE(FM).CP Mod. 70 dBu Contour Plot



## Antenna Height Above Average Terrain Calculations -- Results

### Input Data

Latitude **32° 40' 4" North**

Longitude **85° 33' 0.8" West** (NAD 83)

Height of antenna radiation center above mean sea level: **319 meters AMSL**

Number of Evenly Spaced Radials = **8**      0° is referenced to True North

### Results

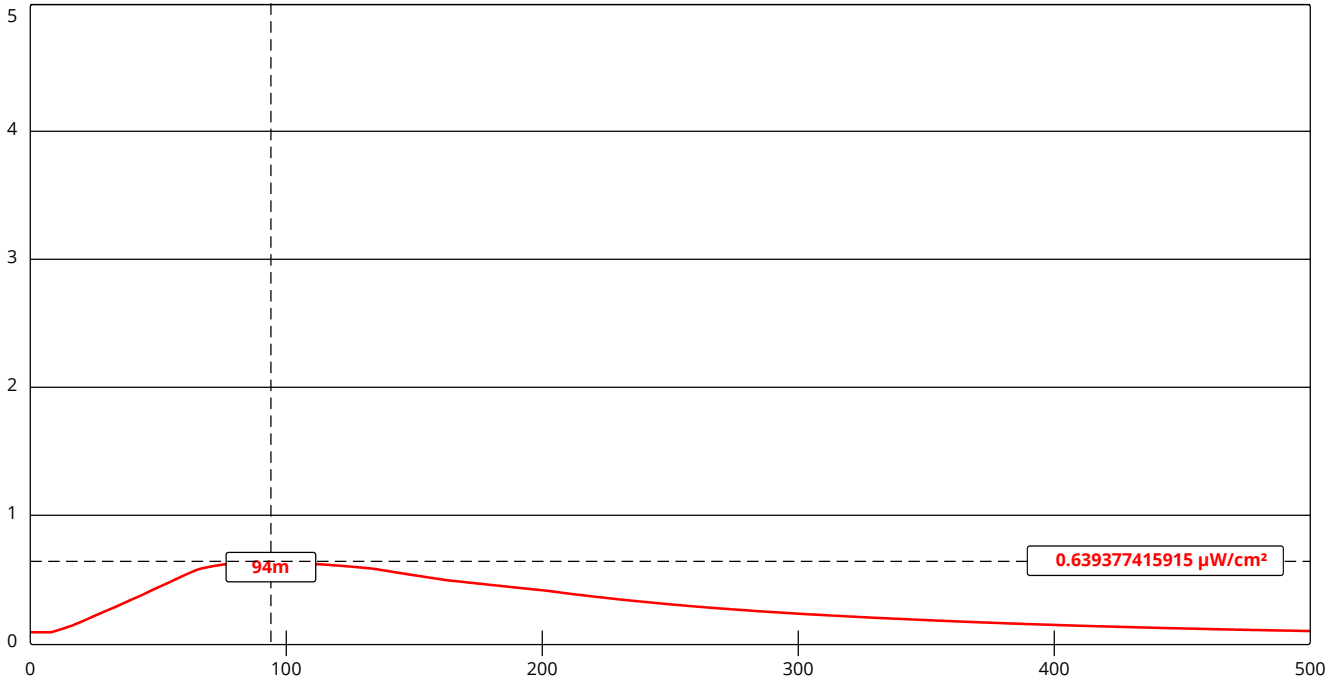
Calculated HAAT = **118 meters**

Antenna Height Above Average Terrain calculated  
using 1 km [GLOBE terrain data](#)

### Individual "Radial HAAT" Values, in meters

0°	107.4 m
45°	94.8 m
90°	99.2 m
135°	122.4 m
180°	148.6 m
225°	145.6 m
270°	113.6 m
315°	112.8 m

FM Model



Channel Selection	Channel 262 (100.3 MHz)		
Antenna Type +	EPA Type 3: Opposed U Dipole		
Height (m)	96	Distance (m)	500
ERP-H (W)	380	ERP-V (W)	380
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500		

## E-10 WAUE(FM).CP Mod. Tower ASR

### ASR Registration 1307550

#### Registration Detail

Reg Number	1307550	Status	Granted
File Number	A1107632	Constructed	
EMI	No	Dismantled	
NEPA			

#### Antenna Structure

Structure Type GTOWER - Guyed Structure Used for Communication Purposes

#### Location (in NAD83 Coordinates)

Lat/Long	32-40-04.0 N 085-33-00.8 W	Address	Farmville Road
City, State	Auburn , AL		
Zip	36879	County	LEE
Center of AM Array		Position of Tower in Array	

#### Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
223.1	152.1
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
375.2	151.0

#### Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1L

#### FAA Notification

FAA Study	2017-ASO-12172-OE	FAA Issue Date	07/17/2017
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#### Owner & Contact Information

FRN	0004993457	Owner Entity	Corporation
		Type	

#### Owner

Auburn Network, Inc.  
Attention To: Mike Hubbard  
724 North Dean Road  
Suite 300  
P.O. Box 950  
Auburn , AL 36831-0950

P: (334)826-2929  
F:  
E: hubbard@aunetwork.com

#### Contact

Hubbard , Mike  
Attention To: Mike Hubbard  
724 North Dean Road  
Suite 300  
P.O. Box 950  
Auburn , AL 36831-0950

P: (334)826-2929  
F:  
E: hubbard@aunetwork.com