

Technical Report W247DH.CP Minor Modification

This technical report is submitted for a minor modification to W247DH.CP at Brevard, NC, FCC file no. BNPFT-20180501AAA. Changes in tower site, COR AGL, antenna and ERP are submitted. The translator will continue to serve as a fill-in facility to rebroadcast WSQL(AM) 1240 kHz at Brevard, NC, FCC facility I.D. no. 54616.

W247DH.CP Modification Analysis:

An overlap study in exhibit E-1 shows the W247DH.CP modification has no outgoing interference overlaps to current facilities. The 60 dBu F(50-50) contour overlaps the current 60 dBu contour and is contained within the primary WSQL(AM) 2.0 mV/m daytime contour (exhibit E-2). The 60 dBu contour has less than 50% overlap to W271CL, which also serves as a fill-in facility for WSQL(AM) (exhibit E-3).

Antenna System:

The W247DH.CP modification will be located on the existing 10.0 meter tower, at coordinates:

35 14 03.4N 082 44 06.4W NAD 83.

A TOWAIR determination (exhibit E-4) shows it does not require registration. A Scala FMV vertically-polarized, directional antenna (exhibit E-5) will be mounted at a COR AGL of 10.0 meters, 680.6 meters AMSL and operate at 0.250 kW ERP.

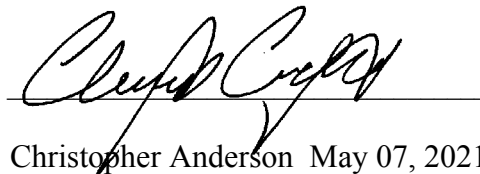
RF Exposure Calculation:

The RF contribution was calculated using FM Model (exhibit E-6). The RF is calculated to be $124.4 \mu\text{W}/\text{cm}^2$ at a distance of 1.8 meters from the base of the tower,

which is below the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general public, uncontrolled access.

Conclusion:

It is concluded that the W247DH.CP modification complies with all Commission rules and policies.

A handwritten signature in black ink, appearing to read 'Christopher Anderson', is written over a horizontal line.

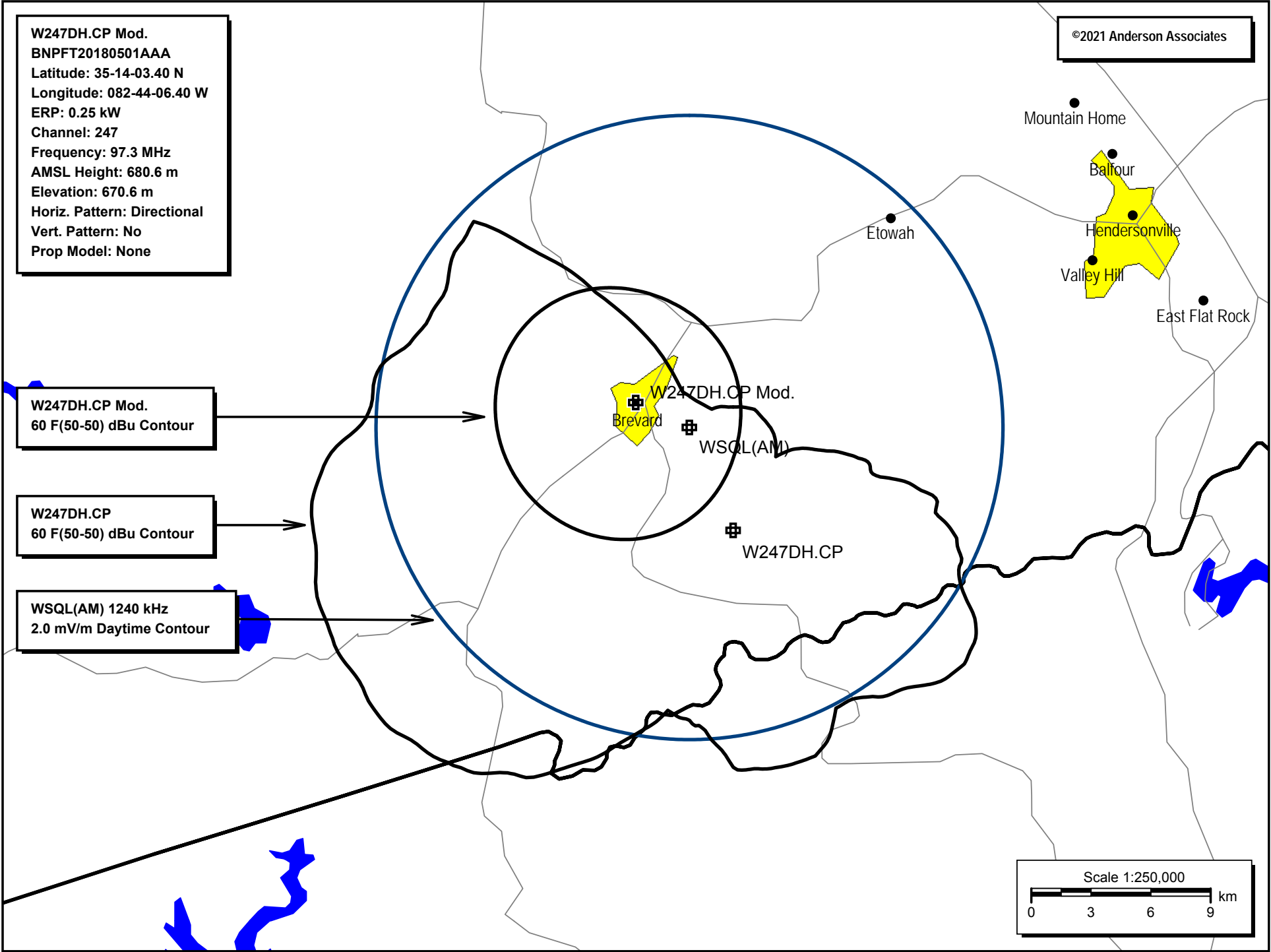
Christopher Anderson May 07, 2021
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E-1 W247DH.CP Mod. Overlap Study

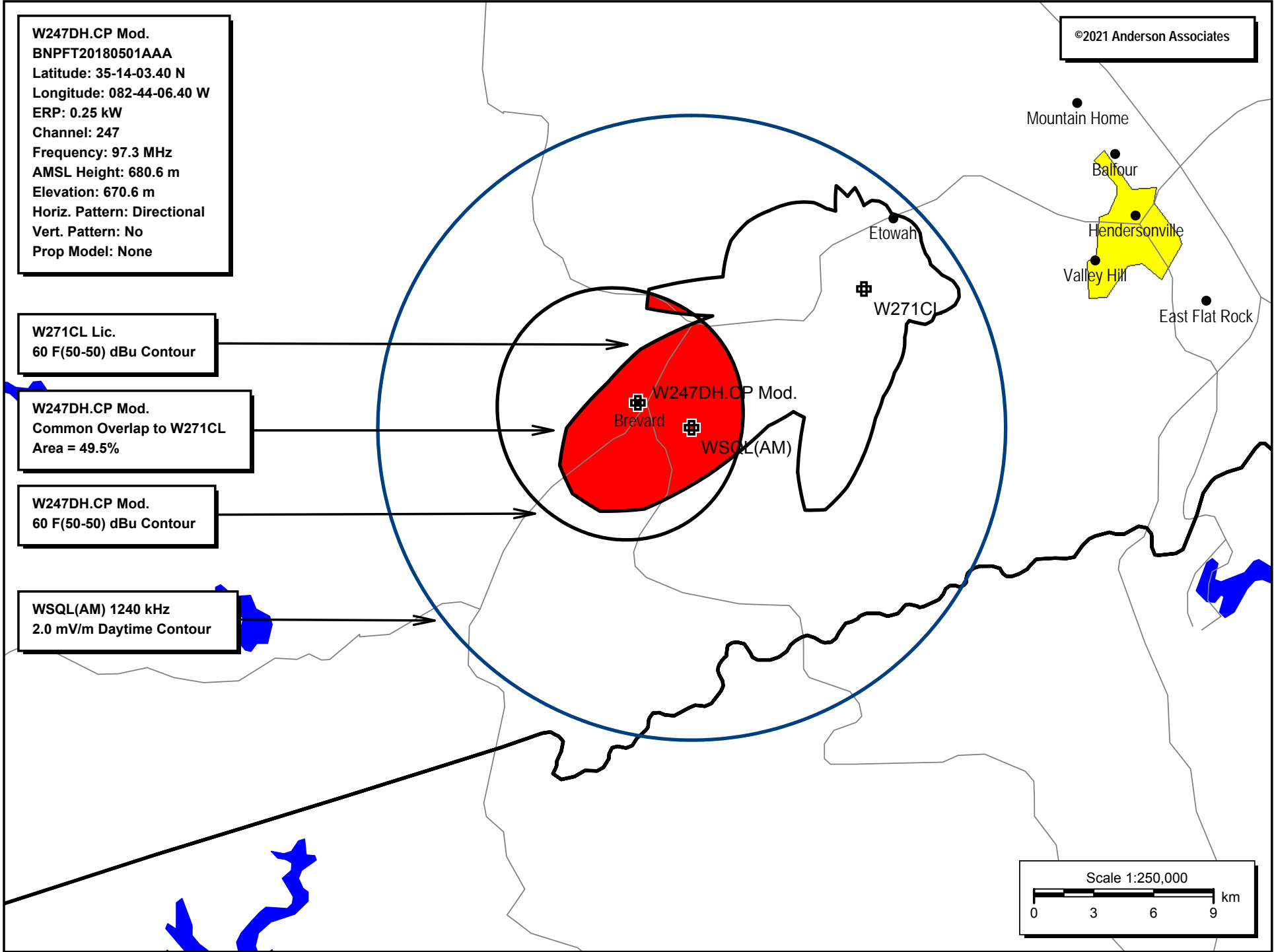
REFERENCE		CH# 247D - 97.3 MHz, Pwr= 0.25 kW DA, HAAT= -174.9 M, COR= 680.6 M					DISPLAY DATES			
35 14 03.40 N.		Average Protected F(50-50)= 7.09 km					DATA 05-07-21			
82 44 06.40 W.		Standard Directional					SEARCH 05-07-21			
CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
247D Brevard	W247DH	CP DCN NC	142.8 322.8	8.06 BNPFT20180501AAA	35 10 35.40 82 40 53.40	0.100	1160	---Reference--- Gonuts Media		
247D Asheville	W247BV	LIC DVN NC	10.5 190.5	41.52 BMLFT20180430ADJ	35 36 05.30 82 39 05.40	0.250	66.1 1023	21.8 Saga Communications	-30.0*	0.8 Of Nor
247C North Wilkesboro	WKBC-FM	LIC DEN NC	56.7 237.7	172.71 BLH19970711KA	36 04 34.50 81 07 42.30	100.000 403	167.2 803	69.0 Wilkes Broadcasting	0.6	82.9 Compan
248C Knoxville	WJXB-FM	LIC _CN TN	308.9 128.2	138.37 BLH19890928KC	36 00 36.20 83 55 56.60	100.000 395	120.9 706	81.4 Midwest Communications,	10.7	47.2 In
247L1 Six Mile	WZVZ-LP	LIC _CN SC	187.9 7.9	45.05 BMLL20150724AIF	34 49 58.30 82 48 11.50	0.002 215	494	24.5 Battle Of Central Sc Comit		17.2
245D Travelers Rest	W245CH	LIC DCN SC	137.8 317.9	43.90 BLFT20141219ABG	34 56 29.40 82 24 40.40	0.250	1.1 725	25.6 Salem Communications	36.6	17.5 Hol di
246L1 Hendersonville	WICE-LP	LIC _CN NC	81.2 261.4	30.87 BLL20090805ACL	35 16 35.40 82 23 56.40	0.100 30	689	17.7 Ebenezer Pentecostal		17.9 Radio
249D Lake Toxaway	W249CY	LIC DHN NC	243.3 63.2	25.24 BLFT20160802ACE	35 07 55.30 82 58 59.50	0.009 539	0.0 1465	0.9 Charisma Radio Corp.	18.1	20.3
248D Waynesville	W248CM	LIC DVN NC	321.1 140.9	36.50 BLFT20160303ABP	35 29 22.30 82 59 18.40	0.250	10.1 849	7.1 Saga Communications	19.8	20.1 Of Nor
249D Asheville	W249AR	LIC _CN NC	8.0 188.0	39.91 BLFT20000811AAU	35 35 23.30 82 40 25.40	0.100 358	0.7 1089	17.8 Entercom License, LLC	33.6	20.4
246C Gainesville	WSRV	LIC _CN GA	220.1 39.5	160.45 BLH19980825KB	34 07 32.40 83 51 31.60	100.000 483	128.1 797	85.9 Cox Radio, LLC	25.3	64.4
247D Greenville	W247AB	LIC _CN SC	144.2 324.4	52.31 BLFT19930907TD	34 51 07.40 82 23 59.40	0.019 78	15.7 367	4.8 Isothermal Community Colle	30.8	26.4
249D Greenville	W249DL	LIC DCN SC	137.8 318.0	44.88 BLFT20170123AAC	34 56 05.40 82 24 15.40	0.250	0.4 627	13.8 Ted A Mccall	38.3	29.9
244C3 Westminster	WJNA	LIC DCN SC	200.8 20.7	64.98 0000092104	34 41 15.40 82 59 15.50	25.000 86	3.0 350	29.6 Augusta Radio Fellowship I	55.0	33.7
244C3 Westminster	WJNA	CP ZCN SC	200.8 20.7	64.98 BPH20190528AAY	34 41 15.40 82 59 15.50	25.000 86	3.0 350	29.6 Augusta Radio Fellowship I	55.0	33.7
244C3 Westminster	WJNA	CP _CN SC	192.2 12.1	80.36 0000093407	34 31 39.80 82 55 15.10	17.000 121	3.9 351	38.2 Augusta Radio Fellowship I	69.5	40.4

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= 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.

E-2 W247DH.CP Mod. 60 F(50-50) dBu Contour Plot



E-3 W247DH.CP Mod. W271CL 60 dBu Contour Overlap Plot



E-3A W247DH.CP Mod. Overlap to W271CL Overlap Report

W247DH.CP Mod. (247) / W271CL (271)

Overlap Area Type: Intersection

Areas Included:

W247DH.CP Mod. (247): FCC F(50-50) 60.00 dBu (FCC HAAT)

W271CL (271): FCC F(50-50) 60.00 dBu (FCC HAAT)

Population Database: 2018 US Census Estimate

Total Population: 13,315

Housing Units: 6,753

Overlap Area: 60.59 sq. km (Area determined using 0.03 km cells)

Area Description	Total Population	Total Area [sq. km]	Percent Area
W247DH.CP Mod.	15,062	122.51	49.5 %
W271CL (271)	23,805	178.64	33.9 %

TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	35-14-03.4 north
Longitude	082-44-06.4 west

Measurements (Meters)

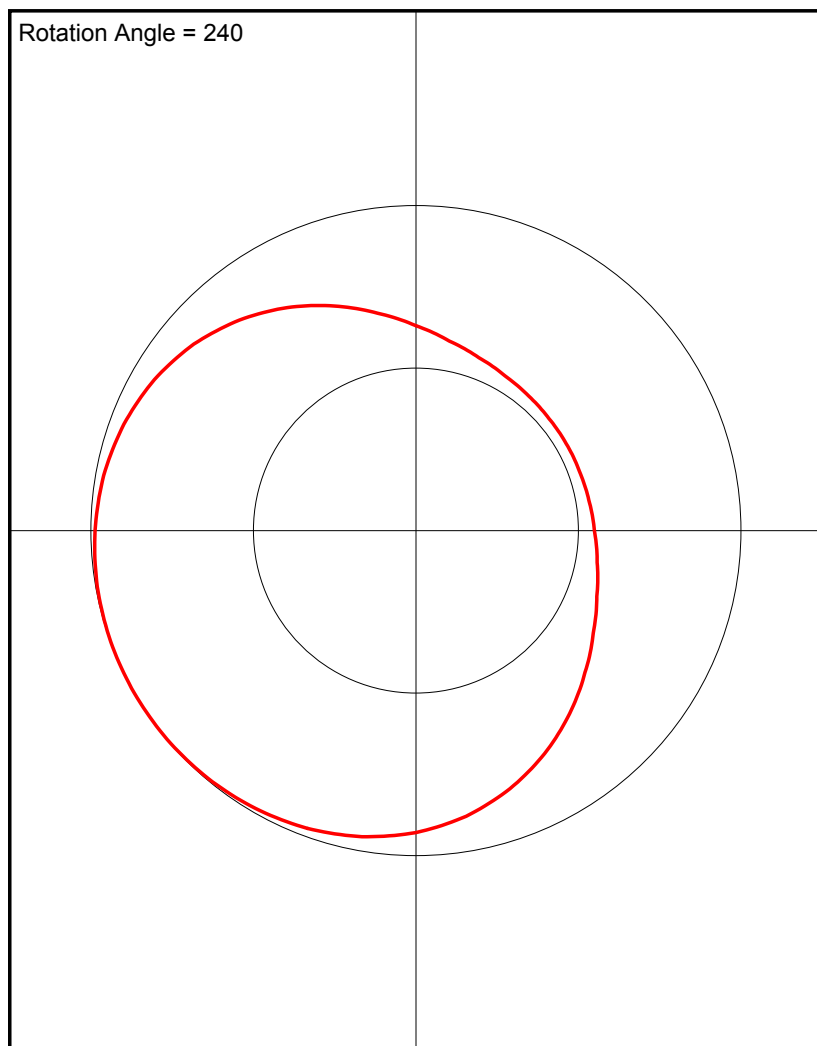
Overall Structure Height (AGL)	10
Support Structure Height (AGL)	0
Site Elevation (AMSL)	670.6

Structure Type

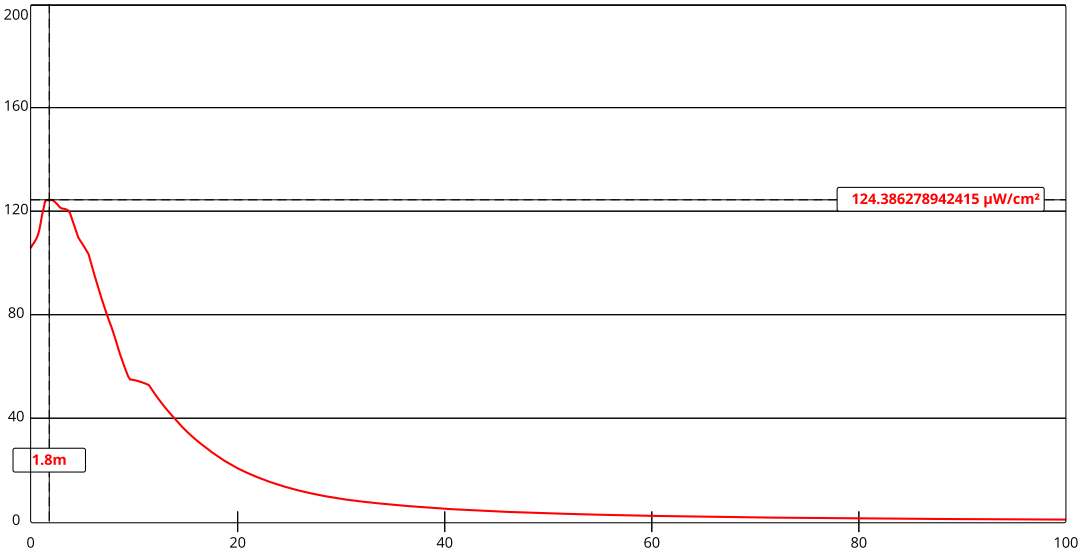
BANT - Building with Antenna on top

E-5 W247DH.CP Mod. Antenna Pattern

Azimuth (deg)	Relative Field
0.0	0.63
10.0	0.592
20.0	0.566
30.0	0.549
40.0	0.54
50.0	0.535
60.0	0.534
70.0	0.535
80.0	0.54
90.0	0.549
100.0	0.566
110.0	0.592
120.0	0.63
130.0	0.679
140.0	0.735
150.0	0.792
160.0	0.845
170.0	0.892
180.0	0.929
190.0	0.956
200.0	0.975
210.0	0.987
220.0	0.995
230.0	0.999
240.0	1.0
250.0	0.999
260.0	0.995
270.0	0.987
280.0	0.975
290.0	0.956
300.0	0.929
310.0	0.892
320.0	0.845
330.0	0.792
340.0	0.735
350.0	0.679



E-6 W247DH.CP Mod. RF Calculation



Channel Selection	Channel 247 (97.3 MHz) ▼		
Antenna Type +	EPA Type 1: Ring-and-Stub or "Other" ▼		
Height (m)	<input type="text" value="10"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="0"/>	ERP-V (W)	<input type="text" value="250"/>
Num of Elements	<input type="text" value="1"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	Apply	