

## **Technical Report W282AG Minor Modification**

This technical report is submitted for a minor modification to W282AG at Livingston, TN, FCC file no. BLFT-19971201TF. A move to the second-adjacent channel 284D with corresponding changes in tower site, COR AGL and antenna are submitted. The translator will serve as a fill-in facility for WKXD-FM 295C2 HD2 at Monterey, TN, FCC facility I.D. 31387.

### **W282AG Modification Analysis:**

An overlap study (exhibit E-1) shows the W282AG modification to channel 284 has no interference overlaps. The WLIV-FM 284A facility at Monterey, TN has a construction permit on channel 245A, FCC file no. 0000102158, and does not require protection from the W282AG modification to 284D. If necessary, a grant conditioned on WLIV-FM program test on channel 245A is requested. The modified 60 dBu contour overlaps the licensed 60 dBu contour and is contained within the primary WKXD-FM 295C2 HD2 60 dBu analog equivalent contour (exhibit E-2).

### **Antenna System:**

The W282AG modification is located on the existing 61 meter tower at coordinates:

**36 11 03.2N 085 24 40.6W NAD 83.**

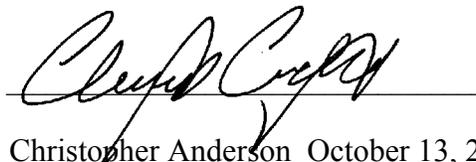
A TOWAIR determination (exhibit E-3) shows the tower does not require registration. A Nicom BKG77 single bay, non-directional antenna will be mounted at a COR AGL of 34 meters, 552.2 meters AMSL, 179 meters HAAT (exhibit E-4) and operate at 0.250 kW ERP.

**RF Exposure Calculation:**

The RF contribution was calculated using FM Model (exhibit E-5). The RF is calculated to be  $4.49 \mu\text{W}/\text{cm}^2$  at a distance of 32.8 meters from the base of the tower, which is below 5% of the  $200 \mu\text{W}/\text{cm}^2$  maximum permissible for uncontrolled public exposure, allowing exclusion from consideration.

**Conclusion:**

It is concluded that the W282AG modification complies with all Commission rules and policies.



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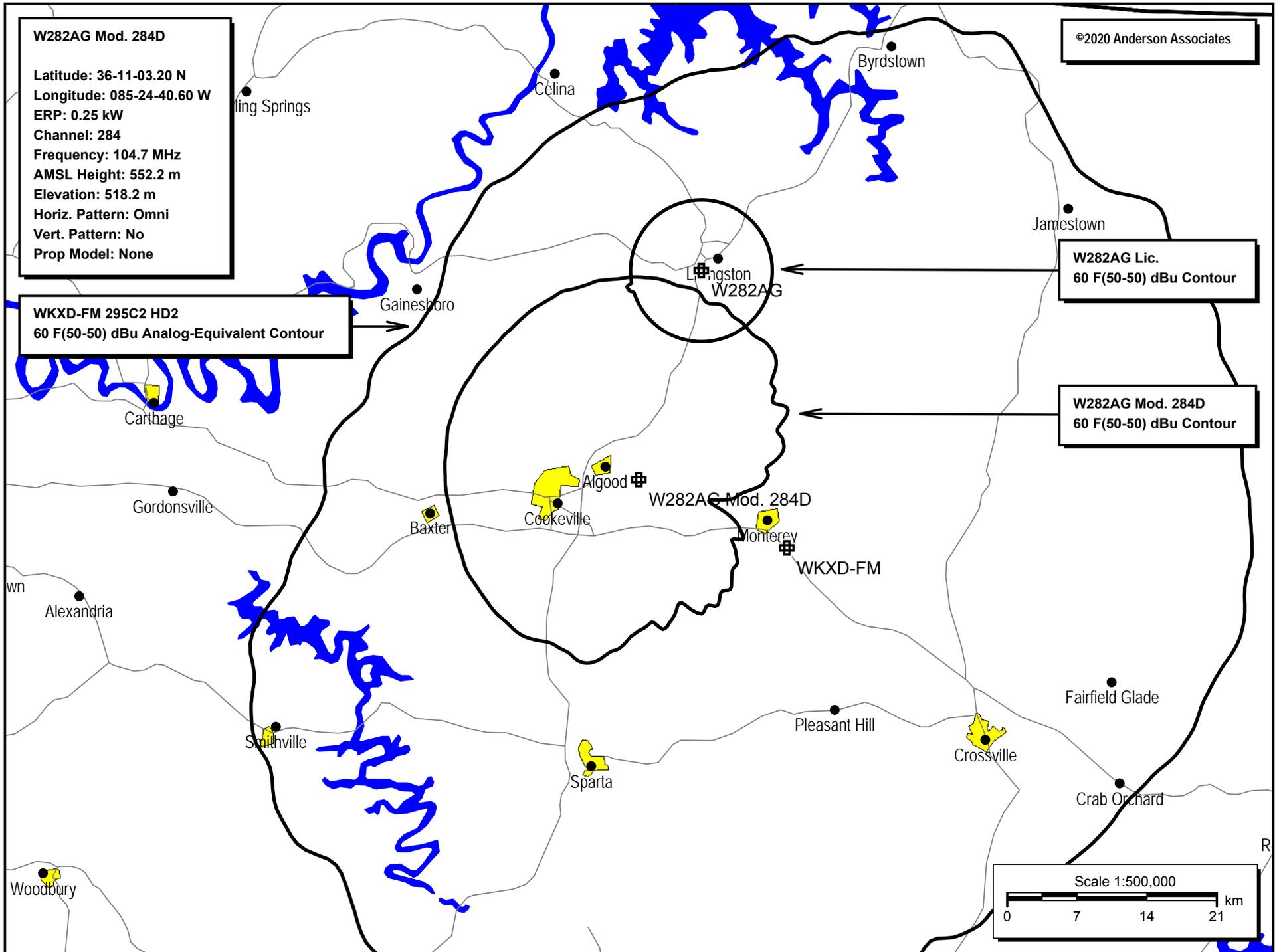
# E-1 W282AG Mod. 284D Overlap Study

REFERENCE	CH#	284D - 104.7 MHz, Pwr= 0.25 kW, HAAT= 179.0 M, COR= 552.2 M							DISPLAY DATES		
36 11 03.20 N.		Average Protected F(50-50)= 17.58 km							DATA 10-13-20		
85 24 40.60 W.		Omni-directional							SEARCH 10-13-20		
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
284A Monterey	WLIV-FM	LIC TN	___	54.5 234.6	14.85 BLH19970121KE	36 15 42.20 85 16 34.80	1.250 217	81.8 610	28.8 Stonecom	-83.3*	-66.7* <b>(1)</b>
283C1 Gallatin	WGFX	LIC TN	Z__	274.7 93.9	124.52 BLH20020909ABA	36 16 05.20 86 47 45.00	58.000 368	108.6 552	73.7 Radio License	-3.6	21.8 Holding Cbc,
282D Livingston	W282AG	LIC TN	___	16.6 196.6	21.81 BLFT19971201TF	36 22 21.20 85 20 29.80	0.250 68	311	---Reference---		Stonecom Cookeville, LLC
286A Jamestown	WCLC-FM	LIC TN	___	71.3 251.6	44.86 BLH20030106ABA	36 18 45.30 84 56 12.80	6.000 100	2.8 576	26.4 New Life Studios, Inc.	26.1	14.0
281A Carthage	WUCZ	LIC TN	___	286.5 106.2	50.53 BMLH19920817KD	36 18 43.10 85 57 07.90	4.900 110	3.1 340	32.9 Wood Broadcasting, Inc.	27.7	16.3
284D Glasgow	W284DH	LIC KY	___	328.7 148.4	101.06 BLFT20190920ABN	36 57 34.20 86 00 07.90	0.250	45.9 323	13.2 Newberry Broadcasting, Inc	35.4	25.6
285A Woodbury	WBOZ	LIC TN	N__	239.5 59.1	78.07 BLH19970214KB	35 49 33.20 86 09 28.00	6.000 100	29.7 352	18.1 Reach Satellite Network	29.6	26.5
284A Coal mont	WSGM	LIC TN	D__	196.2 16.0	104.77 BLH19931201KA	35 16 44.20 85 44 01.90	1.000 167	60.1 677	17.9 Cumberland Communication C	26.6	26.7
285A Jamestown	WJRS	LIC KY	D__	17.8 198.0	98.26 0000106919	37 01 31.20 85 04 22.80	5.000 110	45.6 387	29.4 Lake Cumberland Broadcaste	32.9	39.1
285A Jamestown	WJRS	LIC KY	___	17.8 198.0	98.26 BMLH20190418AAM	37 01 31.20 85 04 22.80	5.000 110	45.6 387	29.4 Lake Cumberland Broadcaste	32.9	39.1
283D Pikeville	W283DC	CP TN	___	162.5 342.7	67.48 BNPFT20171213AAW	35 36 18.20 85 11 13.80	0.250	10.1 302	7.1 Wuat, LLC	42.2	40.0
287A Morrison	WOWC	LIC TN	___	215.0 34.8	75.91 BLH20080514AAP	35 37 27.30 85 53 36.90	6.000 74	2.6 402	26.8 Peg Broadcasting, LLC	53.8	47.4

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.  
 « = Station meets FCC minimum distance spacing for its class.

(1) The WLIV-FM 284A facility has a CP on channel 245A, file no. 0000102158. The table of allotments have been changed. Therefore, the 284A facility does not require protection and may be ignored.

E-2 W282AG Mod. 284D 60 F(50-50) dBu Contour Plot



## 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	36-11-03.2 north
Longitude	085-24-40.6 west

##### Measurements (Meters)

Overall Structure Height (AGL)	61
Support Structure Height (AGL)	0
Site Elevation (AMSL)	518.2

##### Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

## E-4 W282AG Mod. 284D HAAT Calculation

### Antenna Height Above Average Terrain Calculations -- Results

#### Input Data

Latitude **36° 11' 3.2"** North  
Longitude **85° 24' 40.6"** West (NAD 83)

Height of antenna radiation center above mean sea level: **552.2** meters AMSL

Number of Evenly Spaced Radials = **12**      0° is referenced to True North

#### Results

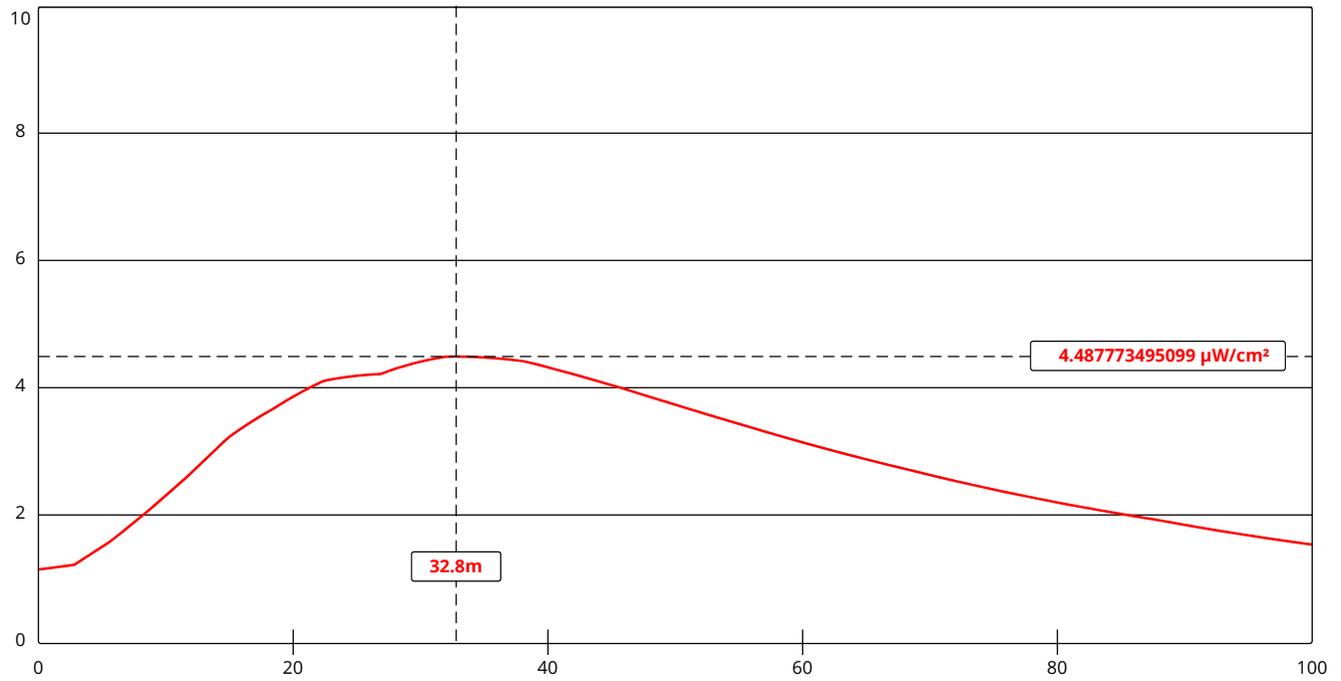
Calculated HAAT = **179 meters**

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

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

0°	239.7 m
30°	205.1 m
60°	144.4 m
90°	98.4 m
120°	87.1 m
150°	128.2 m
180°	139.7 m
210°	202.6 m
240°	221.8 m
270°	219.4 m
300°	228.5 m
330°	235.1 m

# E-5 W282AG Mod. 284D RF Calculation



Channel Selection	Channel 284 (104.7 MHz)		
<a href="#">Antenna Type +</a>	EPA Type 2: Opposed V Dipole		
Height (m)	34	Distance (m)	100
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500		