

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.

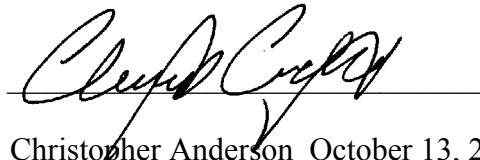
A TOWAIR determination (exhibit E-3) shows the tower does not require registration. A Nicom BKG77 single bay, non-directional antenna will be mounted at a COR AGL of 34 meters, 552.2 meters AMSL, 179 meters HAAT (exhibit E-4) and operate at 0.250 kW ERP.

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.

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

Christopher Anderson October 13, 2020
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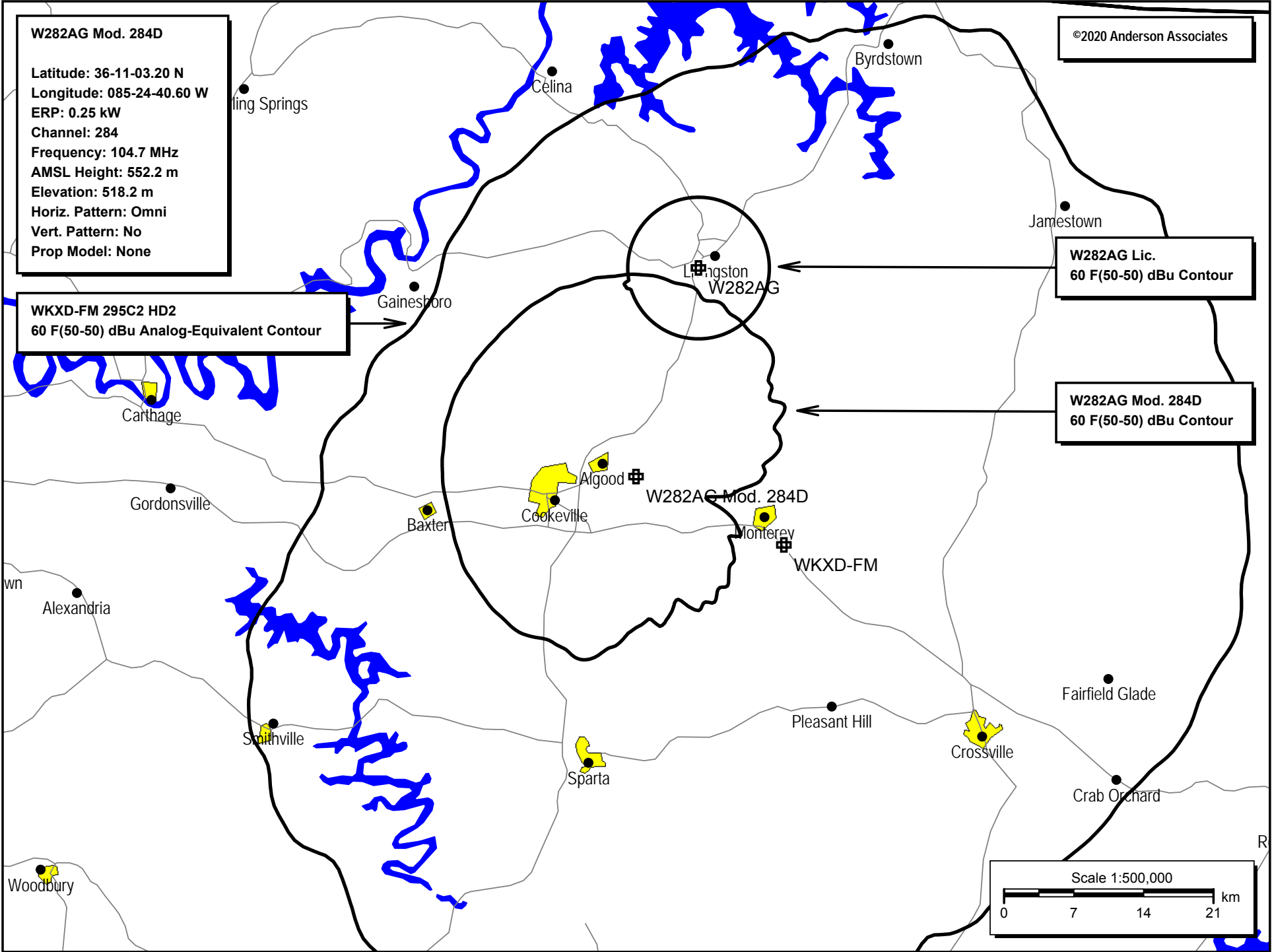
E-1 W282AG Mod. 284D Overlap Study

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

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

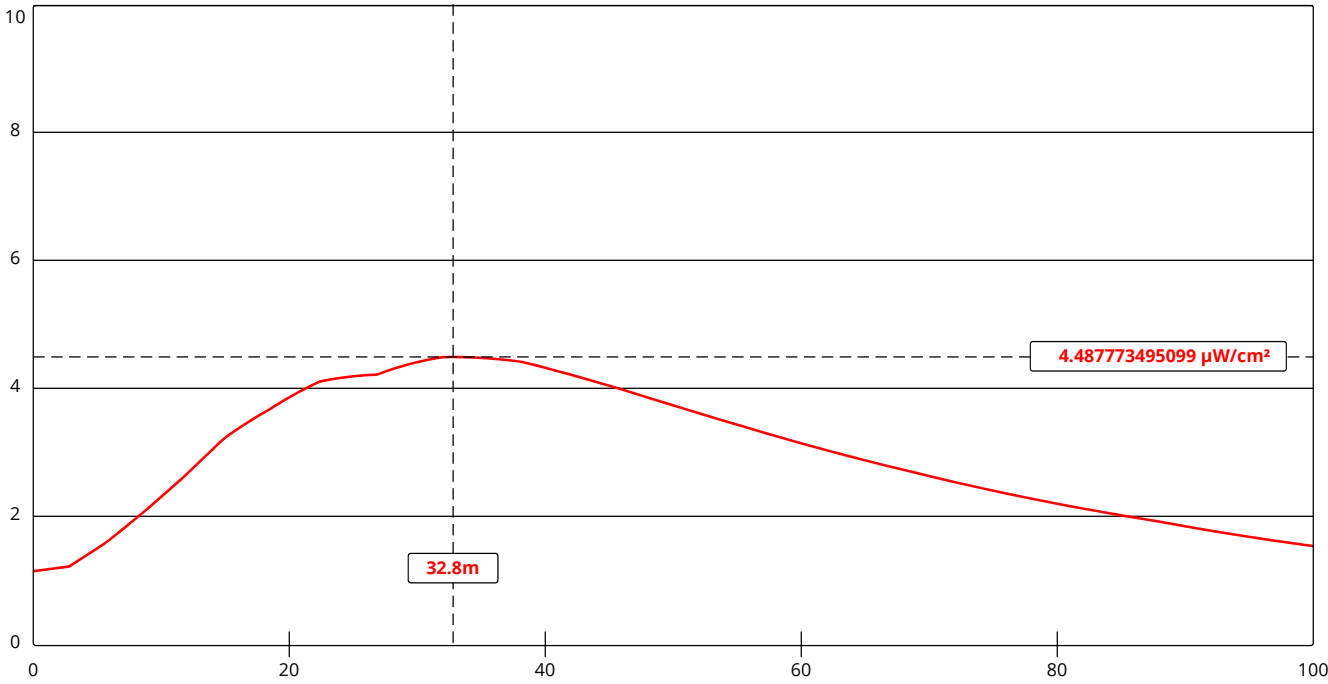
Calculated HAAT = **179 meters**

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)		
Antenna Type +	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		