

Technical Report W279DT.CP Minor Modification

This technical report is submitted for a minor modification to W279DT.CP, FCC file no. BNPFT-20180419AAH. A change in the antenna COR AGL and correction of the tower coordinates are submitted. The translator will continue to serve as a fill-in facility to rebroadcast WKDO(AM) 1560 kHz at Liberty, KY, FCC facility I.D. no. 8993.

W279DT.CP Modification Analysis:

An overlap study in exhibit E-1 shows the W279DT.CP modification does not produce any outgoing interference overlaps to any current facilities. The 60 dBu F(50-50) contour overlaps the current CP 60 dBu contour and is contained within the primary WKDO(AM) 2.0 mV/m daytime contour (exhibit E-2).

Antenna System:

The W279DT.CP modification is located on the existing 50 meter tower at coordinates:

37 18 22N 84 55 03W NAD 27.

A TOWAIR determination is included in exhibit E-3 and shows the tower does not require registration. A Nicom BKG77 single bay, nondirectional antenna is mounted at a COR AGL of 50 meters, 381 meters AMSL, 74 meters HAAT (exhibit E-4) and operate at 0.250 kW ERP.

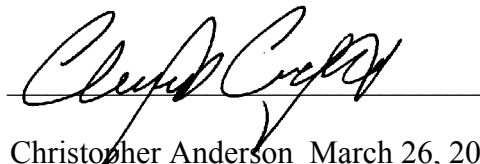
RF Exposure Calculation:

The RF contribution was calculated using FM Model (exhibit E-5) . The resulting RF is $1.99 \mu\text{W}/\text{cm}^2$ at a distance of 49.0 meters from the base of the tower, which is

below 5% of the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general public exposure allowing exclusion from consideration.

Conclusion:

It is concluded that the W279DT.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 March 26, 2019
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E-1 W279DT.CP Mod. Overlap Study

REFERENCE
37 18 22.0 N.
84 55 03.0 W.

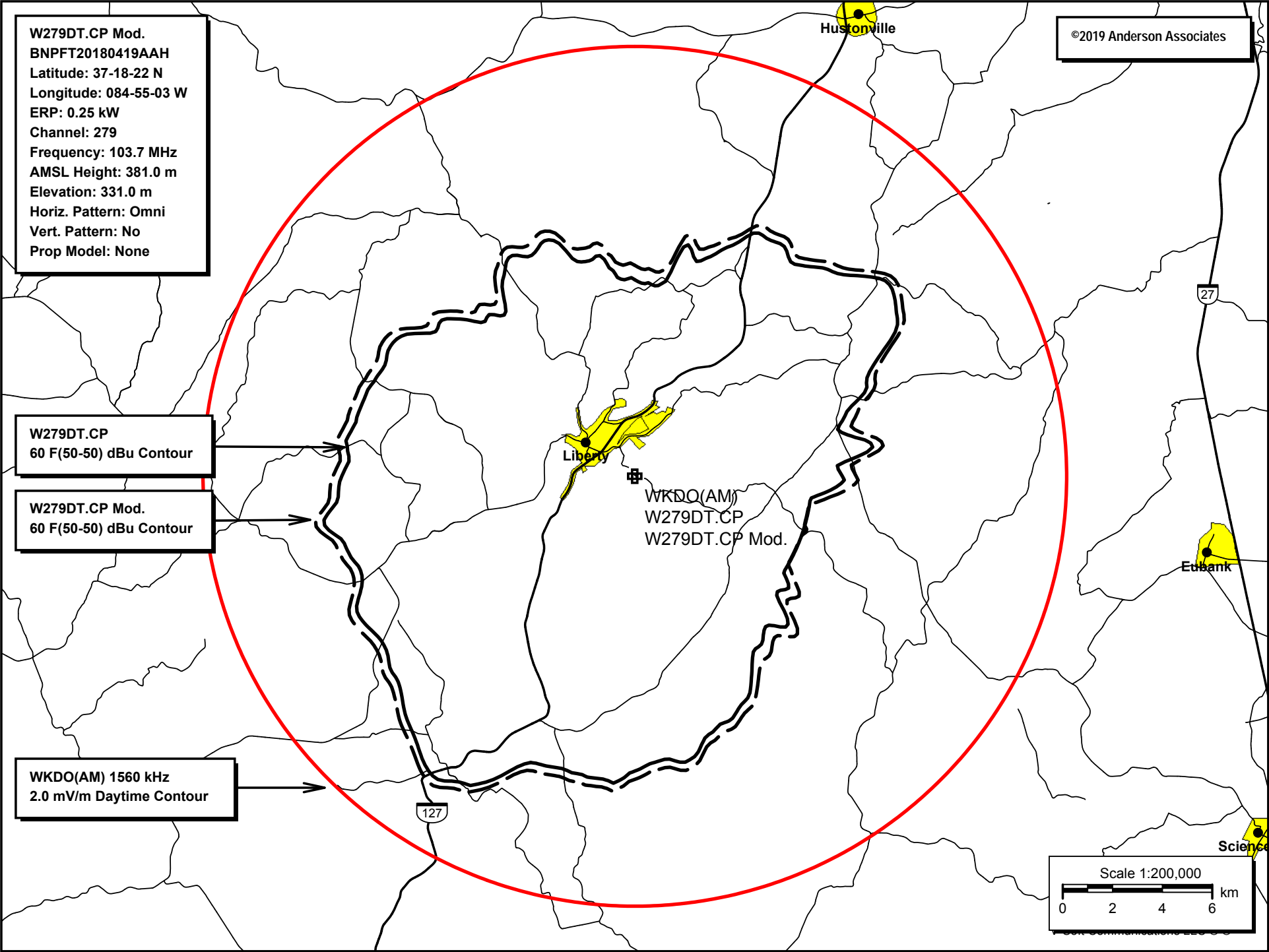
CH# 279D - 103.7 MHz, Pwr= 0.25 kW, HAAT= 74.0 M, COR= 381 M
Average Protected F(50-50)= 11.17 km
Omni-directional

DISPLAY DATES
DATA 03-26-19
SEARCH 03-26-19

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*
279D Liberty	W279DT	CP _C_ KY	90.0 270.0	0.02 BNPFT20180419AAH	37 18 22.0 84 55 02.0	0.250	376	---Reference---		
279C3 Cave City	WHHT	LIC _CN KY	248.5 67.8	103.58 BLH19930308KC	36 57 34.0 86 00 08.0	13.500 137	103.7 346	37.1 Newberry Broadcasting, Inc	-12.7*	24.0
281C3 Campbellsville	WCKQ	LIC ZCN KY	274.7 94.4	40.65 BLH19950404KA	37 20 07.0 85 22 33.0	17.000 120	3.4 356	36.6 Tri-county Radio Broadcast	24.8	2.2
279A Frankfort	WSTV-FM	LIC _CN KY	0.2 180.2	101.76 BLH19910422KA	38 13 17.0 84 54 52.0	2.500 109	71.6 336	22.3 Southern Belle, LIc	20.4	50.6
277D Somerset	W277AA	LIC DCN KY	127.7 307.8	34.25 BLFT19931123TF	37 07 03.0 84 36 42.0	0.250 89	1.1 388	10.5 Western Kentucky Universi t	24.1	21.7
280A London	WWEL	LIC _CX KY	103.6 284.1	76.43 BLH20090417AJL	37 08 30.0 84 04 45.0	5.400 106	43.4 466	28.5 F.t.g. Broadcasting, Inc.	23.7	37.0
280D Danville	W280FM	CP DC_ KY	10.8 190.9	48.46 BNPFT20171207ABN	37 44 03.0 84 48 50.0	0.250	11.8 352	8.3 Hometown Broadcasting Of D	26.0	26.0
278D Berea	W278CC	LIC DC_ KY	69.9 250.3	65.87 BLFT20161108AAK	37 30 28.0 84 12 58.0	0.250	25.8 527	17.4 Kentucky River Broadcastin	27.6	33.3
278C Knoxville	WIMZ-FM	LIC _CY TN	140.4 321.1	168.08 BMLH19890601KB	36 08 06.0 83 43 29.0	100.000 525	129.7 875	86.9 Midwest Communications, In	28.0	68.8
278C3 Radcliff	WAKY-FM	LIC NCX KY	312.4 131.9	95.00 BLH20100311ABC	37 52 45.0 85 43 03.0	3.500 239	55.7 415	37.3 W & B Broadcasting Co., In	28.2	43.1
279A Campton	WCBJ	LIC _CN KY	73.2 254.1	135.94 BLH19990621KE	37 39 03.0 83 26 21.0	4.100 121	89.2 430	31.5 Morgan County Industries,	34.5	71.2
280A Jamestown	WDEB-FM	LIC _CX TN	181.3 1.3	97.95 BLH20101215AI O	36 25 31.0 84 56 32.0	3.400 135	45.9 565	30.5 Baz Broadcasting, Inc.	39.5	48.7
226A Monticello	WMKZ	LIC _C_ KY	173.5 353.5	55.63 BLH19991027ACI	36 48 29.0 84 50 46.0	1.450 206	81.5 522	27.5 Monticello-wayne County Me	9.5R	46.1M
282C3 Williamsburg	WEZJ-FM	LIC ZCX KY	133.8 314.2	89.76 BLH20040212ADG	36 44 43.0 84 11 24.0	6.200 200	3.8 556	40.5 Whitley Broadcasting Co.,	76.2	48.0

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.
Reference station has protected zone issue: AM tower

E-2 W279DT.CP Mod. 60 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	37-18-22.0 north
Longitude	084-55-03.0 west

Measurements (Meters)

Overall Structure Height (AGL)	50
Support Structure Height (AGL)	0
Site Elevation (AMSL)	331

Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

E-4 W279DT.CP Mod. HAAT Calculation

Antenna Height Above Average Terrain Calculations -- Results

Input Data

Latitude **37° 18' 22" North**
Longitude **84° 55' 3" West** (NAD 27)

These coordinates convert to NAD 83 coordinates of
37° 18' 22.26", North, 84° 55' 02.83" West (NAD 83).

Height of antenna radiation center above mean sea level: **381 meters AMSL**

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

Results

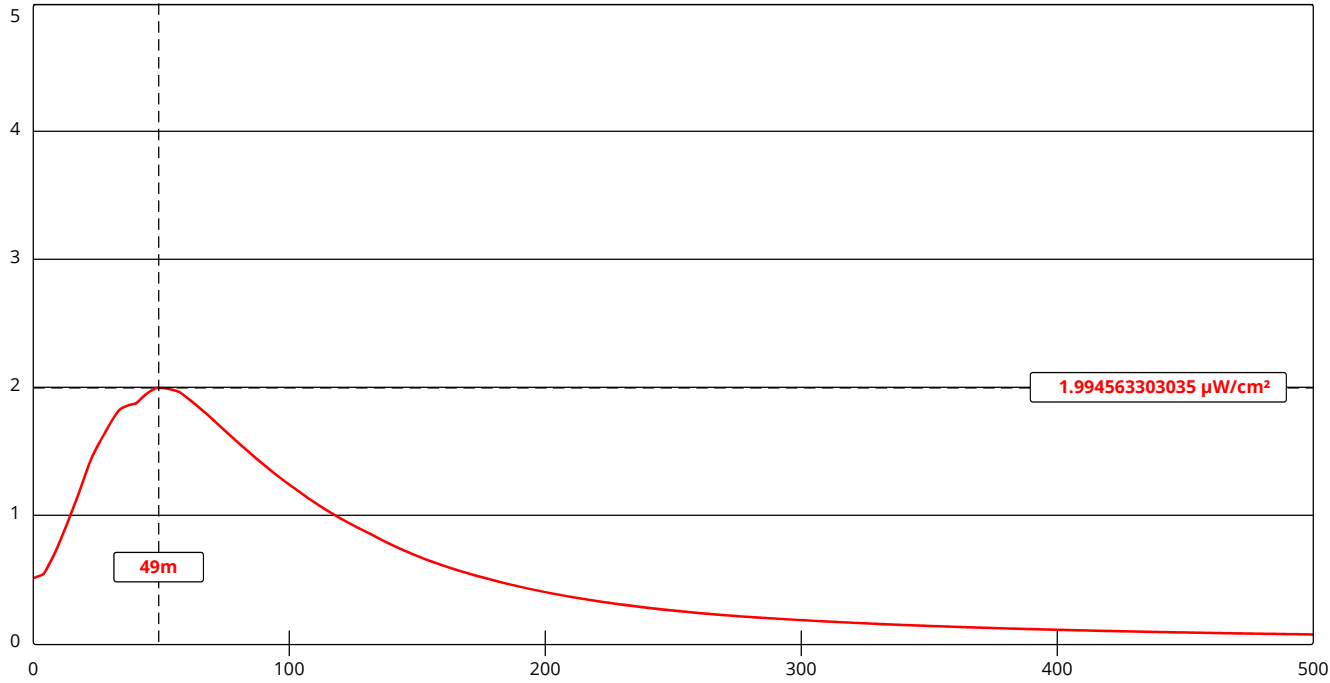
Calculated HAAT = **74 meters**

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

Individual "Radial HAAT" Values, in meters

0°	43.0 m
30°	76.2 m
60°	94.1 m
90°	47.3 m
120°	30.6 m
150°	56.1 m
180°	88.7 m
210°	126.7 m
240°	96.0 m
270°	88.0 m
300°	77.0 m
330°	64.0 m

E-5 RF Calculation



Channel Selection	Channel 279 (103.7 MHz)		
Antenna Type +	EPA Type 2: Opposed V Dipole		
Height (m)	50	Distance (m)	500
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	1	Element Spacing (λ)	1
Num of Points	500		