

Technical Report W279DT.CP Minor Modification

This technical report is submitted for a minor modification to W279DT.CP, FCC file no. BMPFT-20190328AAM. Changes in the antenna and COR AGL 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 21.8N 084 55 03.2W NAD 83.

A TOWAIR determination is included in exhibit E-3 and shows the tower does not require registration. A Nicom BKG77 two bay, 0.85 wavelength-spaced, nondirectional antenna is mounted at a COR AGL of 48.5 meters, 377.7 meters AMSL, 71 meters HAAT (exhibit E-4) and operate at 0.250 kW ERP.

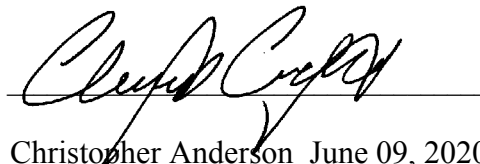
RF Exposure Calculation:

The RF contribution was calculated using FM Model (exhibit E-5) . The resulting RF is $0.859 \mu\text{W}/\text{cm}^2$ at a distance of 21.6 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.

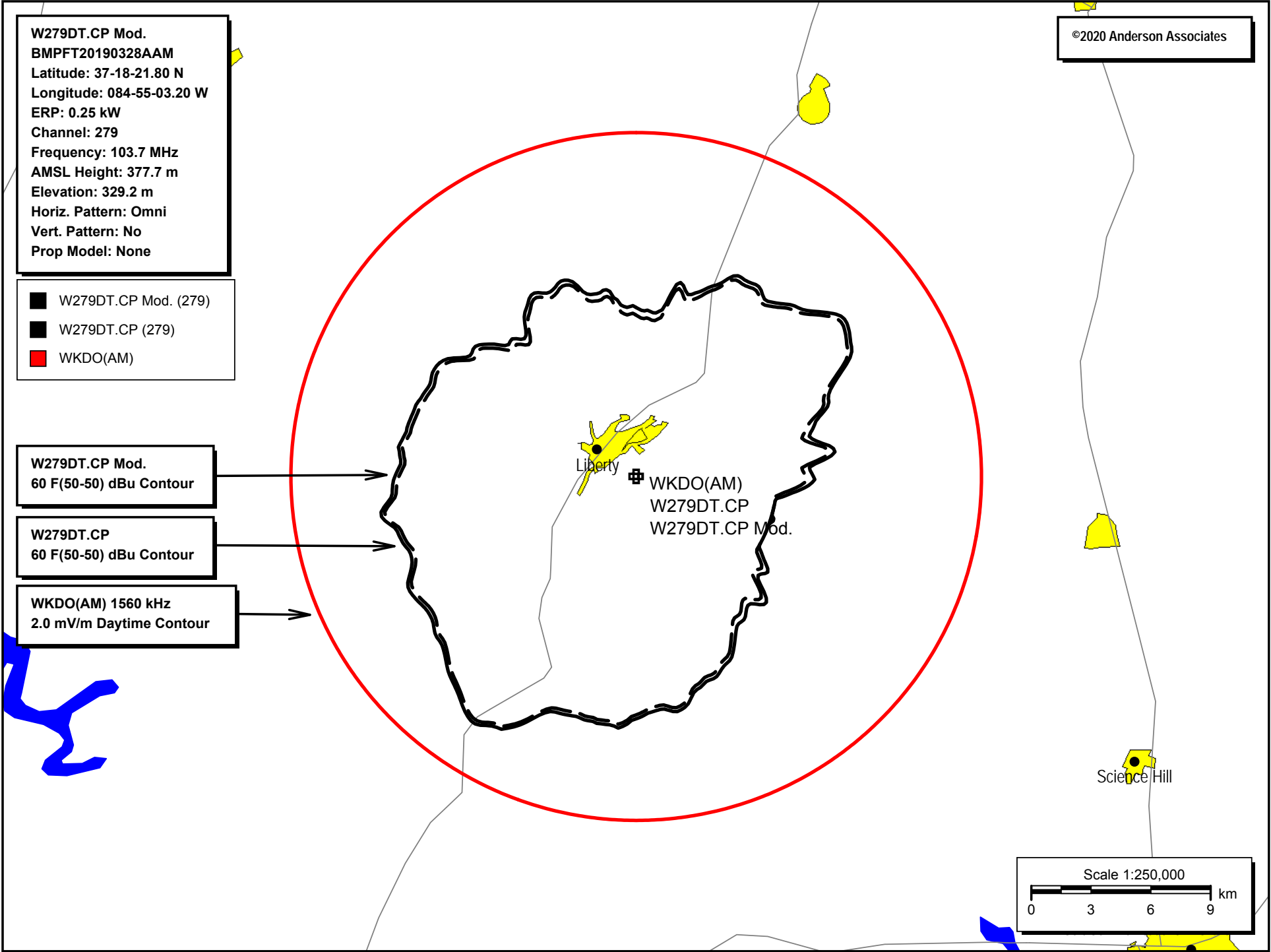
A handwritten signature in black ink, appearing to read 'Christopher Anderson', is written over a horizontal line.

Christopher Anderson June 09, 2020
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REFERENCE	CH#	279D	-	103.7	MHz	Pwr=	0.25	kW	HAAT=	70.5	M	COR=	377.7	M	DISPLAY	DATES
37 18 21.80 N.						Average	Protected	F(50-50)=	10.93	km					DATA	06-09-20
84 55 03.20 W.						Omni -di	recti onal								SEARCH	06-09-20
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)					
279D	W279DT	LIC	___	0.0	0.00	37 18 22.30	0.250		---	Reference---						
Liberty		KY		212.5	BMPFT20190328AAM	84 55 02.80		381		Shoreline Communications,						
279C3	WHHT	LIC	___	248.5	103.57	36 57 34.10	13.500	103.7	37.1	-12.5*	24.7					
Cave City		KY		67.8	BLH19930308KC	86 00 07.90	137	346		Newberry Broadcasting, Inc						
281C3	WCKQ	LIC	Z__	274.7	40.64	37 20 07.20	17.000	3.4	36.6	25.0	2.2					
Campbellsville		KY		94.5	BLH19950404KA	85 22 32.80	120	356		Tri-County Radio Broadcast						
279A	WFRT-FM	LIC	___	0.2	101.77	38 13 17.30	2.500	71.6	22.3	20.6	51.7					
Frankfort		KY		180.2	BLH19910422KA	84 54 51.80	109	336		Southern Belle, LLC						
277D	W277AA	LIC	D__	127.6	34.24	37 07 03.30	0.250	1.1	10.5	24.4	21.7					
Somerset		KY		307.8	BLFT19931123TF	84 36 41.80	89	388		Western Kentucky Universit						
280A	WWEL	LIC	___	103.6	76.44	37 08 30.30	5.400	43.4	28.5	24.0	37.4					
London		KY		284.1	BLH20090417AJL	84 04 44.80	106	466		F.T.G. Broadcasting, Inc.						
280D	W280FM	CP	D__	10.8	48.47	37 44 03.30	0.250	11.7	8.3	26.2	26.4					
Danville		KY		190.9	BNPFT20171207ABN	84 48 49.80		352		Hometown Broadcasting Of D						
278D	W278CC	LIC	D__	69.9	65.89	37 30 28.30	0.250	25.8	17.4	27.8	33.8					
Berea		KY		250.3	BLFT20161108AAK	84 12 57.70		527		Kentucky River Broadcastin						
278C	WIMZ-FM	LIC	___	140.4	168.07	36 08 06.30	100.000	129.7	86.9	28.2	69.2					
Knoxville		TN		321.1	BMLH19890601KB	83 43 28.60	525	875		Midwest Communications, In						
278C3	WAKY-FM	LIC	N__	312.4	95.00	37 52 45.20	3.500	55.7	37.3	28.4	43.4					
Radcliff		KY		131.9	BLH20100311ABC	85 43 02.90	239	415		W & B Broadcasting Co., In						
279A	WCBJ	LIC	___	73.2	135.96	37 39 03.30	4.100	89.2	31.5	34.7	72.3					
Campton		KY		254.1	BLH19990621KE	83 26 20.60	121	430		Morgan County Industries,						
280A	WDEB-FM	LIC	___	181.3	97.94	36 25 31.20	3.400	45.9	30.5	39.7	49.1					
Jamestown		TN		1.3	BLH20101215AI0	84 56 31.80	135	565		Baz Broadcasting, Inc.						
226A	WMKZ	LIC	___	173.4	55.62	36 48 29.30	1.450	63.7	36.6	9.5R	46.1M					
Monticello		KY		353.5	BLH19991027ACI	84 50 45.80	206	522		Monticello-Wayne County Me						
282C3	WEZJ-FM	LIC	Z__	133.8	89.76	36 44 43.20	6.200	3.8	40.5	76.4	48.0					
Williamsburg		KY		314.2	BLH20040212ADG	84 11 23.70	200	556		Whitley Broadcasting Co.,						

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 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	37-18-21.8 north
Longitude	084-55-03.2 west

Measurements (Meters)

Overall Structure Height (AGL)	50
Support Structure Height (AGL)	0
Site Elevation (AMSL)	329.2

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' 21.8"** North

Longitude **84° 55' 3.2"** West (NAD 83)

Height of antenna radiation center above mean sea level: **377.7** meters AMSL

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

Results

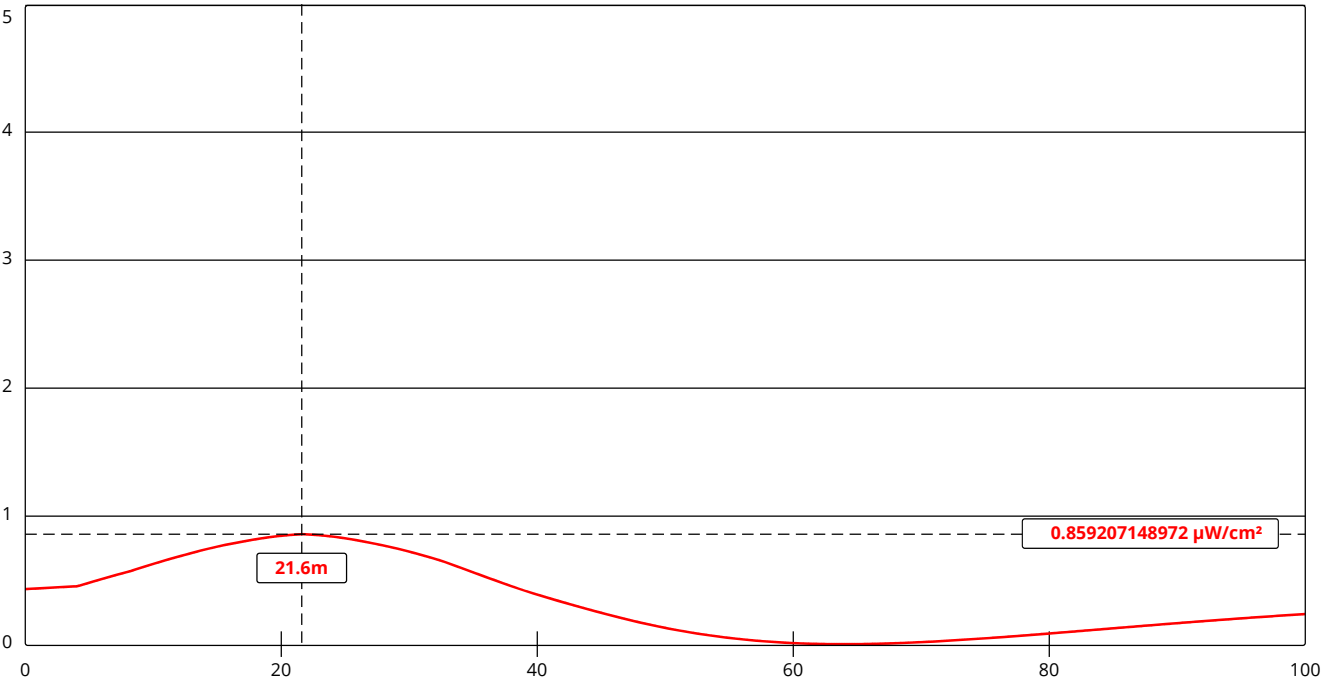
Calculated HAAT = **71 meters**

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

Individual "Radial HAAT" Values, in meters

0°	39.8 m
30°	73.0 m
60°	90.8 m
90°	44.1 m
120°	27.5 m
150°	53.0 m
180°	85.5 m
210°	123.4 m
240°	92.5 m
270°	84.9 m
300°	73.8 m
330°	60.6 m

E-5 W279DT.CP Mod. RF Calculation



Channel Selection	Channel 279 (103.7 MHz)		
Antenna Type +	EPA Type 2: Opposed V Dipole		
Height (m)	48.5	Distance (m)	100
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	2	Element Spacing (λ)	0.85
Num of Points	500		