

## **WOVO(FM) 292C2 Minor Modification Contingent With WGRK-FM Modification Application**

This technical report is submitted for a minor modification to WOVO(FM) 292C2 at Horse Cave, KY, FCC facility I.D. 48702. Changes in tower site, COR AGL, antenna and ERP are submitted.

### **WOVO(FM) Modification Analysis:**

A spacing study in exhibit E-1 shows the WOVO(FM) modification is fully spaced at its new site, ASR no. 1042215 at coordinates:

**37 06 40.0N 085 58 43.0W NAD83.**

A contingent application to move WGRK-FM 289A at Greensburg, KY, FCC facility I.D. 69852 to ASR # 1046182 (**N 37-20-07.0 W 85-22-33.0**), will eliminate the short spacing (exhibit E-2). An ERI SHPX-4AC-HW 0.5 wavelength spaced, nondirectional antenna will be mounted at a COR AGL of 46.6 meters, 368.5 meters AMSL, 152.0 meters HAAT (exhibit E-3) and will operate at 48.0 kW ERP. The distance to the 60 dBu contour = 52.1 Km.

### **70 dBu Community Coverage:**

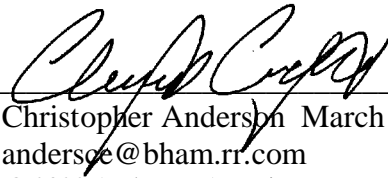
The WOVO(FM) modification will place a 70 dBu entirely over the Horse Cave, KY community of license city boundary (exhibit E-4).

### **RF Exposure Calculation:**

The RF contribution of the WOVO(FM) modification was calculated using the FMModel program (exhibit E-5). The resulting value is  $26.6 \mu\text{W}/\text{cm}^2$  at a distance of 42 meters from the base of the tower, which is below the  $200 \mu\text{W}/\text{cm}^2$  maximum permissible for controlled exposure.

**Conclusion:**

It is submitted the minor modification application for WOVO(FM) is in full compliance with the Commission rules and policies.



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# E-1 WOVO(FM) 292C2 Mod. Spacing Study

REFERENCE		CLASS = C2	DISPLAY DATES
37 06 40.00 N.			DATA 03-22-22
85 58 43.00 W.	Current Spacings to 3rd Adj.		SEARCH 03-22-22
----- Channel 292 - 106.3 MHz -----			

Call	Channel	Location		Azi	Dist	FCC	Margin
WOVO	LIC 292C2	Horse Cave	KY	247.8	19.65	189.5	-169.9
WGRK-FM %	LIC-Z 289A	Greensburg	KY	67.9	44.27	54.5	-10.2 (1)
WCDA	LIC 292A	Versailles	KY	50.9	166.98	165.5	1.5
WYKY	LIC 291A	Science Hill	KY	88.6	127.95	105.5	22.5
WWBL	LIC 293B	Washington	IN	329.1	200.29	168.5	31.8
WKDZ-FM	LIC-N 293C3	Cadiz	KY	257.6	151.37	116.5	34.9
WNRQ	LIC 290C	Nashville	TN	213.3	142.51	104.5	38.0
WRIL	LIC 292A	Pineville	KY	100.4	206.54	165.5	41.0
WSKZ	LIC 293C0	Chattanooga	TN	164.5	224.29	175.5	48.8
WWVY	LIC 291B	North Vernon	IN	6.2	218.46	168.5	50.0

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 % = Station Fails minimum 73.215 spacings  
 All separation margins include rounding

(1) A contingent application for WGRK-FM 289A move to ASR #1046182 at N 37-20-07.0  
 W 85-22-33.0 eliminates this short spacing (see exhibit E-2).

# E-2 WOVO(FM) 292C2 Mod. Spacing Study

REFERENCE			
37 06 40.00 N.		CLASS = C2	DISPLAY DATES
85 58 43.00 W.		Current Spacings to 3rd Adj.	DATA 03-22-22
		Channel 292 - 106.3 MHz	SEARCH 03-22-22

Call	Channel	Location	Azi	Dist	FCC	Margin
WOVO	LIC 292C2	Horse Cave	KY 247.8	19.65	189.5	-169.9
WCDA	LIC 292A	Versailles	KY 50.9	166.98	165.5	1.5
WGRK-FM	LIC-Z 289A	Greensburg	KY 64.8	58.99	54.5	4.5 (1)
WYKY	LIC 291A	Science Hill	KY 88.6	127.95	105.5	22.5
WWBL	LIC 293B	Washington	IN 329.1	200.29	168.5	31.8
WKDZ-FM	LIC-N 293C3	Cadiz	KY 257.6	151.37	116.5	34.9
WNRQ	LIC 290C	Nashville	TN 213.3	142.51	104.5	38.0
WRIL	LIC 292A	Pineville	KY 100.4	206.54	165.5	41.0
WSKZ	LIC 293C0	Chattanooga	TN 164.5	224.29	175.5	48.8
WWVY	LIC 291B	North Vernon	IN 6.2	218.46	168.5	50.0

All separation margins include rounding

(1) A contingent application for WGRK-FM 289A is being filed to move to ASR #1046182 at :

N 37-20-07.0 W 85-22-33.0 (NAD 83) and is reflected in this channel study.

## Antenna Height Above Average Terrain Calculations -- Results

### Input Data

Latitude **37° 6' 40"** North  
Longitude **85° 58' 43"** West (NAD 83)

These coordinates convert to NAD 27 coordinates of  
37° 06' 39.82", North, 85° 58' 43.09" West (NAD 27).

Height of antenna radiation center above mean sea level: **368.5** meters AMSL

Number of Evenly Spaced Radials = **8** 0° is referenced to True North

### Results

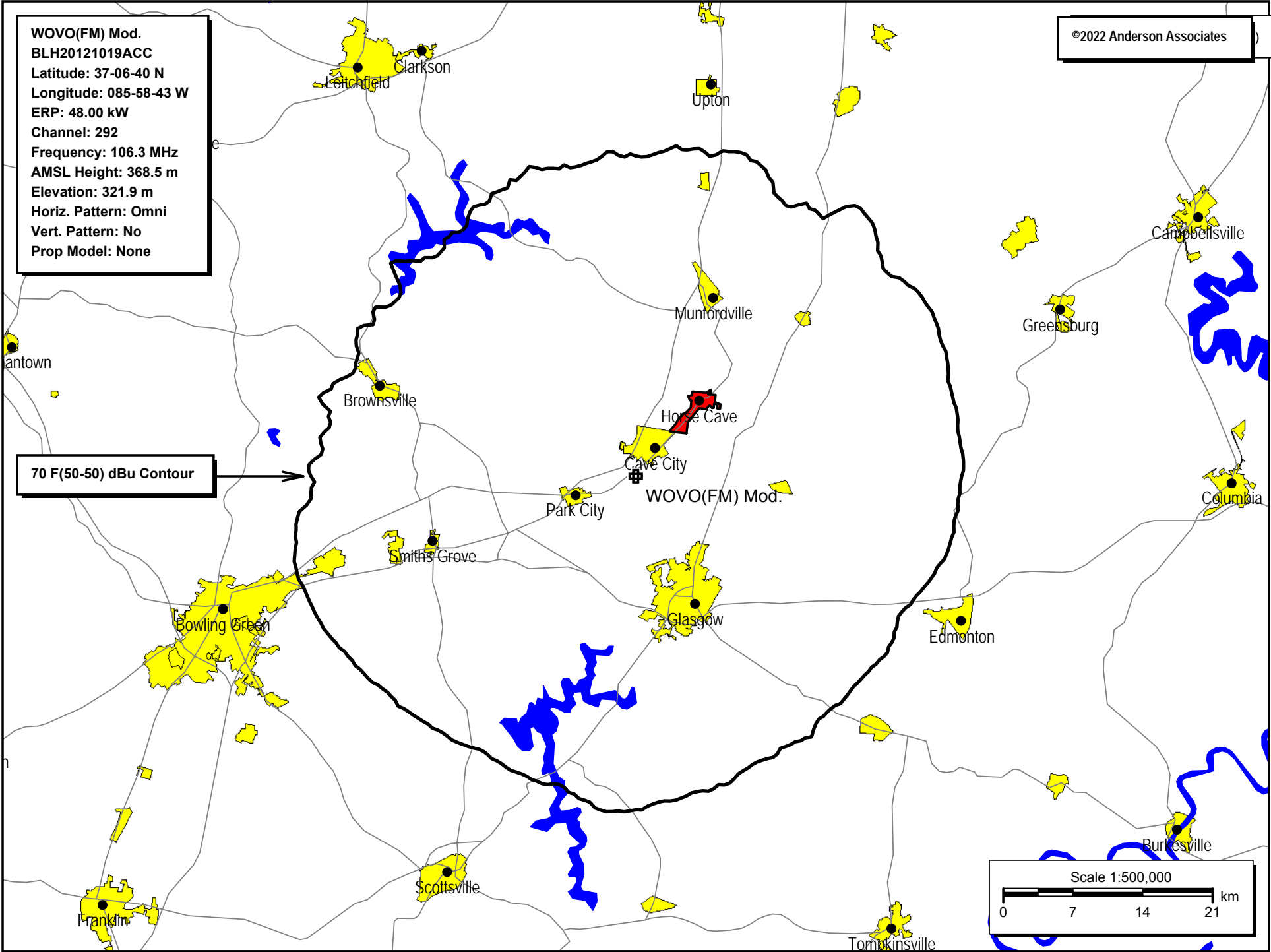
Calculated HAAT = **152 meters**

Antenna Height Above Average Terrain calculated  
using FCC 30 second terrain database (continental USA only)

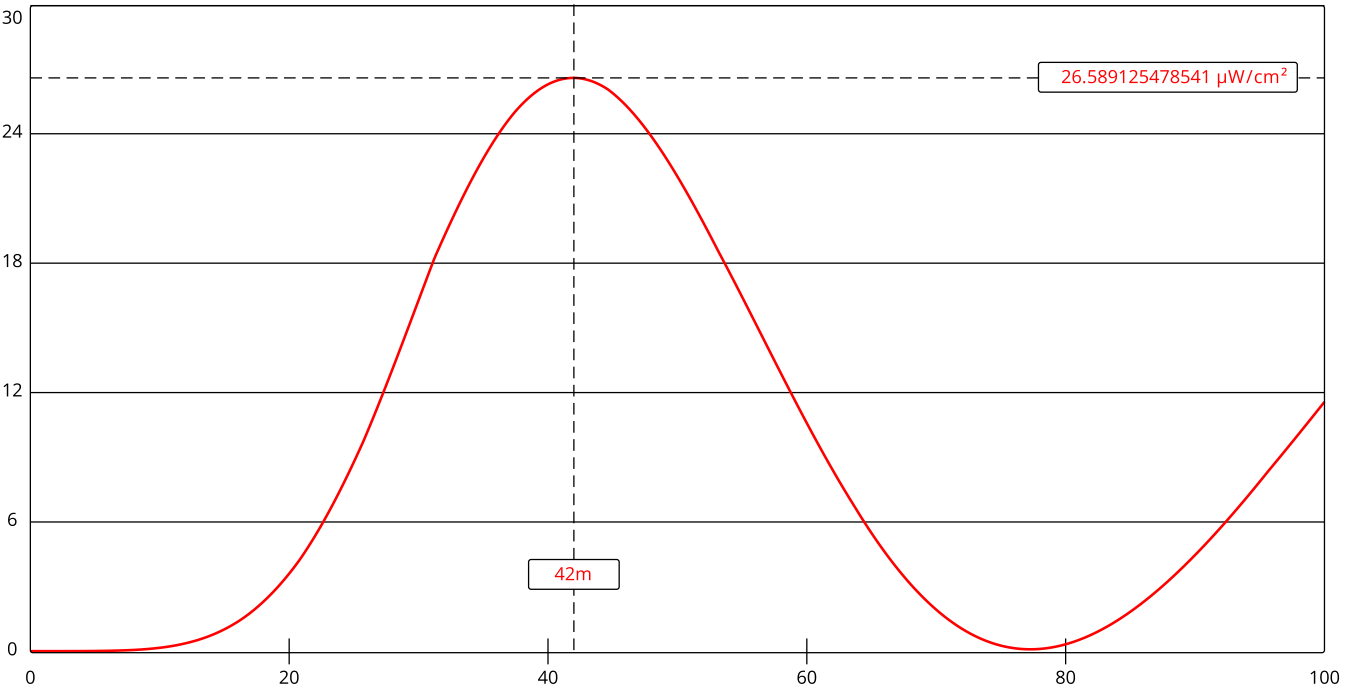
### Individual "Radial HAAT" Values, in meters

0°	152.4 m
45°	165.5 m
90°	155.5 m
135°	132.8 m
180°	163.8 m
225°	157.9 m
270°	151.5 m
315°	139.7 m

E-4 WOVO(FM) 292C2 Mod. 70 dBu Contour Plot



E-5 WOVO(FM) 292C2 Mod. RF Calculation



Channel Selection	Channel 292 (106.3 MHz) ▾		
<a href="#">Antenna Type +</a>	EPA Type 3: Opposed U Dipole ▾		
Height (m)	<input type="text" value="46.6"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="48000"/>	ERP-V (W)	<input type="text" value="48000"/>
Num of Elements	<input type="text" value="4"/>	Element Spacing (?)	<input type="text" value="0.5"/>
Num of Points	<input type="text" value="500"/>		

## ASR Registration 1042215

### Registration Detail

Reg Number	1042215	Status	Constructed
File Number	A0920139	Constructed	09/20/2001
EMI	No	Dismantled	
NEPA	No		

### Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

#### Location (in NAD83 Coordinates)

Lat/Long	37-06-40.0 N 085-58-43.0 W	Address	1.4 MI SSW OF US 31
City, State	CAVE CITY , KY		
Zip	42127	County	BARREN
Center of AM Array		Position of Tower in Array	

#### Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
321.9	78.9
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
400.8	76.2

#### Painting and Lighting Specifications

FAA Chapters 4, 8, 13

Paint and Light in Accordance with FAA Circular Number 70/7460-1J

#### FAA Notification

FAA Study	2002-ASO-6283-OE	FAA Issue Date	12/03/2002
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#### Owner & Contact Information

FRN	0011498342	Owner Entity Type	Limited Liability Company
Assignor FRN	0009764150	Assignor ID	L00759842

#### Owner

Global Tower, LLC. through American Towers, LLC  
Attention To: FAA/FCC Regulatory  
10 Presidential Way  
Woburn , MA 01801

P: (678)564-3236  
F:  
E: faa-fcc@americantower.com

#### Contact

Attention To: FAA/FCC Regulatory  
10 Presidential Way  
Woburn , MA 01801

P: (678)564-3236  
F:  
E: faa-fcc@americantower.com

#### Last Action Status

Status	Constructed	Received	08/29/2014
Purpose	Change Owner	Entered	08/29/2014
Mode	Interactive		

#### Related Applications