

Technical Report W297BE.CP Minor Modification

This technical report is submitted for a minor modification to W297BE.CP, FCC file no. BMPFT-20110228ABL. The W297BE.CP facility at channel 243 has been built, and a form 350 license application has been filed. Changes in tower site and antenna are requested. The translator will continue to serve as a fill-in to rebroadcast the primary WSON(AM) 860 kHz facility at Henderson, KY, FCC facility I.D. 26946.

The following exhibits are provided for the FCC form 349 application:

- E-1 W297BE.CP Mod. Overlap Study
- E-2 W297BE.CP Mod. Interference Plot within WSTO(FM) 241C
- E-3 Interference Contour Aerial Photo
- E-4 60 dBu Plot within WSON(AM) and Overlap to W297BE.CP
- E-5 ASR 1030890

W297BE.CP Modification Analysis:

An overlap study (exhibit E-1) shows the W297BE.CP modification has two interference issues:

1.) The W297BE.CP Mod. will be located within the second adjacent protected contour of WSTO(FM) 241C at Owensboro, KY. As a result, the interference ratio is utilized to determine the interference contour, in accordance with FCC-02-244, paragraph 12.

WSTO(FM) places a 87.457 dBu F(50-50) contour to the W297BE.CP Mod. tower site. Adding +40 dBu to the 2nd adjacent facility results in a 127.457 dBu F(50-10) interfering contour (exhibits E-2 and E-3). The distance to the interfering contour is

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calculated to be 47 meters using the CONTOUR program. At a COR AGL of 237 meters, the interfering signal will not reach any population, roads or buildings.

2.) The interference overlap to the 243D application at Carmi, IL, FCC file no. BNPFT-20030317FFC, is to be dismissed, and may be ignored.

Antenna System:

The W297BE.CP modification will be relocated to an existing tower (ASR 1030890) at coordinates:

37-53-17N 87-32-37W NAD27.

The translator will operate at 0.250 kW ERP at a COR AGL of 237 meters, 248 meter HAAT, using a RVR ACP-1 three bay, half wavelength-spaced, nondirectional antenna. The 60 dBu F(50-50) contour is completely contained within both the primary WSON(AM) 2.0 mV/m daytime contour, the maximum 25 mile/40 km radius contour, and overlaps the current W297BE.CP facility (Exhibit E-4).

RF Exposure Calculation:

The RF contribution was calculated using the formula from the OET Bulletin 65:

$$S \text{ (RF in microwatts/cm}^2\text{)} = \frac{33.4 \times F^2 \times (H \text{ ERP} + V \text{ ERP in watts})}{R^2 \text{ (distance to radiation center in meters}^2\text{)}}$$

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Using a worst-case vertical (F) factor of 1.0, the resulting RF value is $0.302 \mu\text{W}/\text{cm}^2$ to the ground, which is well below the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general public exposure.

Conclusion:

It is concluded that the modification of W297BE.CP complies with all Commission rules and policies.



Christopher Anderson May 19, 2011
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E-1 W297BE.CP Mod. Overlap Study

REFERENCE

CH# 243D - 96.5 MHz, Pwr= 0.25 kW, HAAT= 248.0 M, COR= 363 M

DISPLAY DATES

37 53 17.0 N. Average Protected F(50-50)= 20.6 km

DATA 05-19-11

87 32 37.0 W. Omni-directional

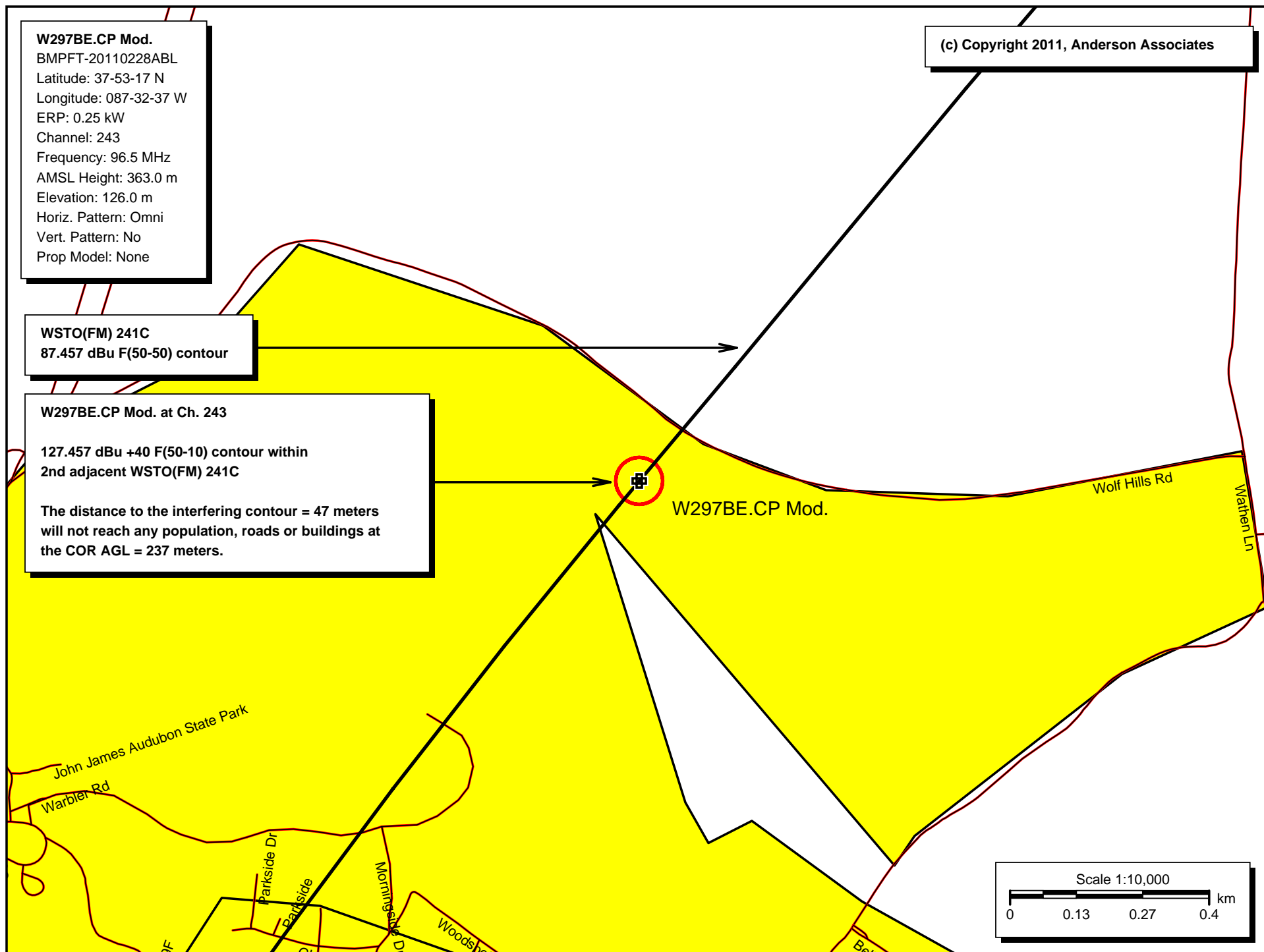
SEARCH 05-19-11

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)
243D	W297BE	CP	C	174.4	21.7	37 41 37.0	0.250	23.8	7.1	-22.2*	-47.4
Madisonville			KY	354.4	BMPFT20110228ABL	87 31 10.0		145	Henson Media	Of Henderson	
297D	W297BE«	LIC	C	163.0	42.3	37 31 26.0	0.250	14.4	14.4	9.5R	32.8M
Madisonville			KY	343.1	BLFT20110216ABJ	87 24 11.0		253	Henson Media	Of Henderson	
241C	WSTO	LIC	CN	128.2	20.8	37 46 20.0	100.000	10.1	72.4	-9.3<	-52.7*< (1)
Owensboro			KY	308.3	BLH19820601AO	87 21 27.0	305	427	South Central Communicatio		
243D	639425	APP	C	290.7	61.6	38 04 53.8	0.010	34.7	10.4	6.0	-12.5< (2)
Carmi			IL	110.3	BNPFT20030317FFC	88 12 03.9	307	427	Radio Assist Ministry, Inc		
243D	W243AU	LIC	C	37.8	75.3	38 25 19.5	0.250	23.8	7.1	30.9	5.1
Ireland			IN	218.1	BLFT20090914AAI	87 00 52.7	21	167	The Original Company, Inc.		
296A	WEJK«	LIC	ZC	65.3	26.5	37 59 13.0	1.600	31.2	28.9	9.5R	17.0M
Boonville			IN	245.5	BLH20010329AAS	87 16 11.0	195	318	Boonville Broadcasting Co.		
246A	WXCM	LIC	ZC	113.4	53.1	37 41 50.0	4.000	2.7	29.5	30.1	22.3
Whitesville			KY	293.8	BLH19991112ABS	86 59 28.0	123	260	Wlme, Inc.		
244A	WFML	LIC	CX	3.9	85.0	38 39 06.0	2.150	37.3	24.7	27.1	29.6
Vincennes			IN	183.9	BLH20020724AAN	87 28 37.0	118	259	The Vincennes University F		
243A	AL9800	RSV-A		74.3	138.8	38 12 52.0	6.000	89.6	30.5	28.0	44.2
Lanesville			IN	255.3	RM11069	86 01 00.0	100	314			
243C2	WKIB	LIC	ZCY	252.4	184.6	37 22 16.0	22.500	132.0	54.0	31.1	66.0
Anna			IL	71.2	BLH19940223KB	89 31 52.0	227	359	W. Russell Withers, Jr.		
243D	W243CH	LIC	C	177.0	114.2	36 51 38.0	0.250	24.6	7.3	69.5	44.9
Hopkinsville			KY	357.1	BLFT20080321ACN	87 28 36.0	55	230	Ham Broadcasting Company,		
243A	WGZB-FM	LIC	CX	77.0	146.6	38 10 25.0	1.600	76.9	26.0	48.5	56.5
Lanesville			IN	258.0	BLH20050927ACD	85 54 50.0	194	378	Mlb-louisville Iv, Llc		
246D	W243AU	CP	C	27.3	74.3	38 28 53.0	0.250	1.1	7.1	52.6	66.1
Algiers			IN	207.5	BPFT20110307AAC	87 09 06.7	18	162	The Original Company, Inc.		
245C1	WDDJ	LIC	CN	225.7	132.8	37 02 56.0	100.000	9.1	67.7	102.8	64.0
Paducah			KY	45.0	BLH19980325KF	88 36 52.0	237	346	Bristol Broadcasting Compa		
244C2	WBVR-FM	LIC	NCX	135.3	162.5	36 50 35.0	45.000	75.1	49.9	67.4	83.0
Auburn			KY	316.0	BLH20030325AAH	86 15 30.0	129	317	Forever Communications, In		
240D	W240CE	LIC	C	19.9	89.7	38 38 49.0	0.099	0.7	11.3	68.4	77.4
Washington			IN	200.1	BLFT20090609ABH	87 11 30.0	115	256	Dlc Media, Inc.		
245A	WKLO	LIC	CX	56.4	118.6	38 28 21.0	3.500	2.8	30.9	94.7	86.4
Hardinsburg			IN	237.1	BLH20020605AAB	86 24 39.0	132	352	Hembree Communications, In		

- (1) The W297BE.CP modification within the second adjacent WSTO(FM) 241C protected contour will not cause any interference issue, which is detailed in the technical report.
- (2) The 243D application at Carmi, IL, FCC file no. BNPFT-20030317FFC is to be dismissed, and may be ignored.

Terrain database is FCC NGDC 30 Sec, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference Zone= East Zone, Co to 3rd adjacent.
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 protected contour.
< = Station meets FCC minimum distance spacing for its class.
< = Contour Overlap

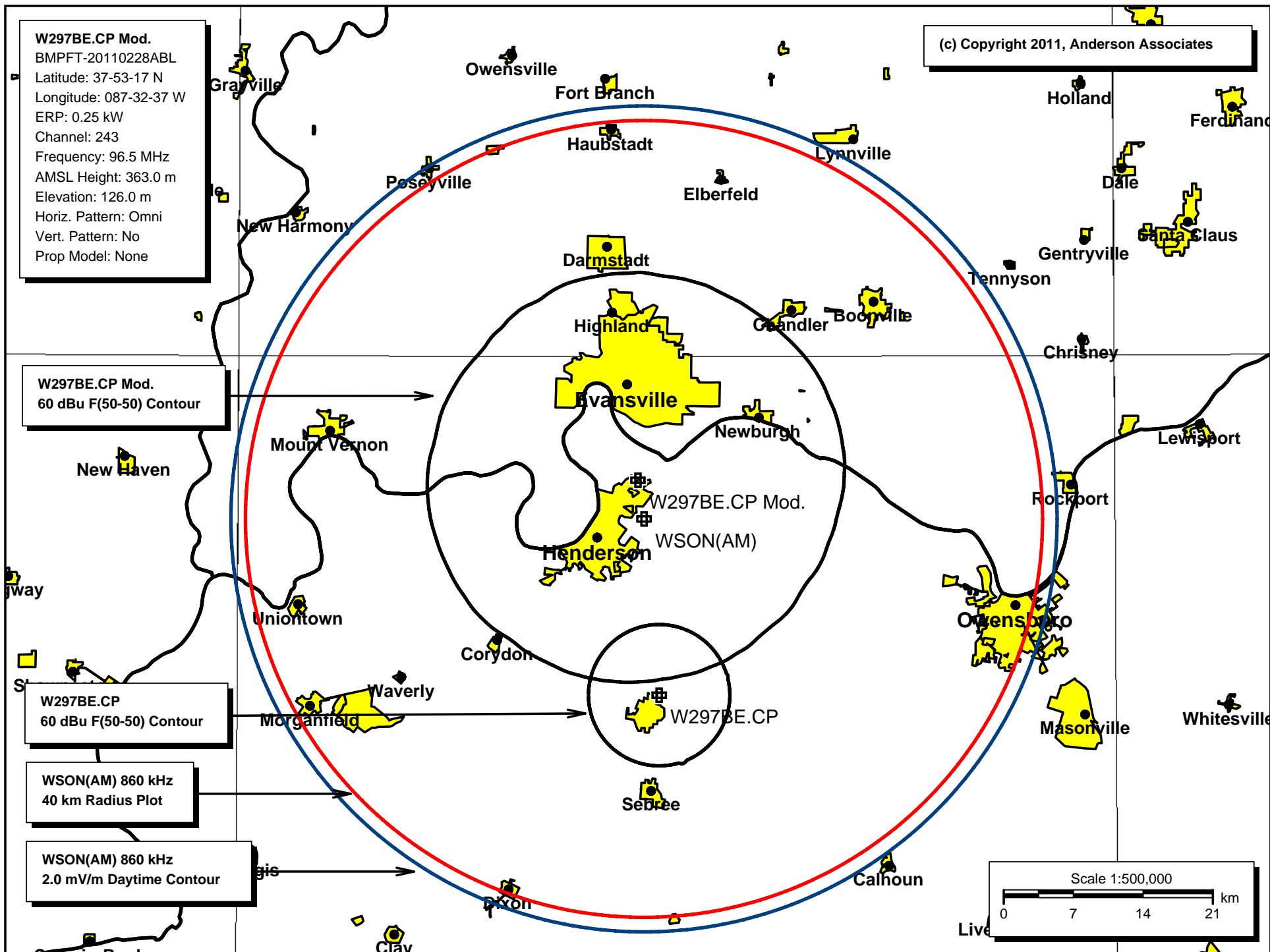
E-2 W297BE.CP Mod. at Ch. 243 Interference Plot



E-3 W297BE.CP Mod. Aerial Photo Interference Plot



E-4 W297BE.CP Mod 60 dBu Contour Plot



E-5 W297BE.CP Mod. ASR

ASR Registration Search

Registration 1030890

 [Map Registration](#)

Registration Detail

Reg Number	1030890	Status	Constructed
File Number	A0617767	Constructed	11/08/1993
FAA Study	2008-ASO-1595-OE	EMI	No
FAA Issue Date	10/10/2008	NEPA	No

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Communications Purposes

Location (in NAD83 Coordinates)

Lat/Long 37-53-17.2 N 087-32-37.0 W SR 414 E OF US 41
City, State HENDERSON , KY
Center of
AM Array

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
125.9	309.7
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
435.6	295.0

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 12

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

Owner & Contact Information

FRN	0006156111	Licensee ID	L00132131
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Owner

Pinnacle Towers LLC
Attention To: Regulatory Department
2000 Corporate Drive
Canonsburg , PA 15317

P: (724)416-2000
E: Regulatory.Department@CrownCastle.com

Contact

Verre , Christine A
2000 Corporate Drive
Canonsburg , PA 15317

P: (336)643-2524
E: Christine.Verre@CrownCastle.com

Last Action Status

Status	Constructed	Received	01/07/2009
Purpose	Notification	Entered	01/07/2009
Mode	Interactive		

Related Applications