

**W236CR  
MATTOON WAIVER**

The proposed translator will rebroadcast WTLC(AM) (facility ID # 51433). This is a minor modification to change the height AGL and antenna pattern.

**Request for waiver of § 74.1233(a)(1):**

This application requests a move to ASR#1253064 to serve as a fill in translator for WTLC(AM) (facility ID #51433) in accordance with the waiver granted for W263AQ's move to Effingham, IL (DA-11-1495) and subsequent grants commonly referred to as the *Mattoon Waiver*.

In accordance with the waiver granted for the move of W263AQ (DA-11-1495), the proposed W236CR (formerly 290CT) facility is mutually exclusive with the constructed and license applied for W236CR facility on channel 236 because the proposed 40 dBu (50:10) interfering contour overlaps the licensed W236CR 60 dBu (50:50) contour and the original "long form CP" 60 dBu as demonstrated in exhibit E1AA.

It is also noted that the facility has not been "hopped". It has operated at the current site since construction. The recent changes in channel and antenna at site do not constitute a "hop" in accordance with Commission policy and precedent.

**Allocation discussion:**

All exhibits utilize the FCC 30 second terrain database.

- E1 Channel study
- E1A Interference analysis to WFBQ
- E1B Interference analysis to WFMS
- E1C Aerial photograph of interference area
- E1D DA pattern and vertical tabulation
- E2 60 dBu and 2 mV/m contours
- E3 ASR

A channel study is included as E1 demonstrating compliance with §74.1204 with the exception of 2nd adjacent channel stations. A plot of the proposed 60 dBu contour is provided as

E2 showing that it is entirely contained within primary station WTLC(AM)'s 2 mV/m and 40 km radius.

**WFBQ and WFMS analyses:**

The proposed facility will be located inside the protected contours of WFMQ on 234B and WFMS on 238B. Interference analyses have been conducted based on the U/D ratio of +40 dB at the proposed site and are included as E1A and E1B. The worst case interference contour to WFMS falls at least 159.5 meters AGL.

It is clear from E1C that the interference contour will not reach any populated area or major highways. Based on this showing, a waiver of Section 74.1204 is requested in accordance with *Living Way Ministries, Inc.* (FCC 08-242).

**RF Exposure Calculation:**

The proposed facility will utilize an ERI 100A single bay circularly polarized antenna with a center of radiation at 219 meters AGL on existing tower ASR#1253064. The RF contribution of the proposed translator was calculated using the formula included below to be 0.35  $\mu\text{Watts}/\text{cm}^2$  or 0.2% of the maximum permissible 200 microwatts/cm<sup>2</sup> exposure for general population/uncontrolled exposure, and well below the 5% of that limit which requires consideration. The proposed translator clearly complies with Commission RF radiation limits.

$$S \text{ (RF in } \mu\text{Watts}/\text{cm}^2) = \frac{33.4 (F^2 \text{ Vertical Factor}) \times (H \text{ ERP} + V \text{ ERP in Watts})}{R^2 \text{ (distance to radiation center in meters} - 2 \text{ m)}}$$

## E1 CHANNEL STUDY

REFERENCE  
39 53 39.0 N.  
86 12 21.0 W.

CH# 236D - 95.1 MHz, Pwr= 0.25 kW DA, HAAT= 223.2 M, COR= 474 M  
Average Protected F(50-50)= 19.56 km  
Standard Directional

DISPLAY DATES  
DATA 09-01-16  
SEARCH 09-01-16

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
234B Indianapolis	WFBQ	LIC _CN IN		72.9 252.9	0.42 BLH19980707KB	39 53 43.0 86 12 04.0	58.000 245	7.8 502	75.8 Capstar Tx, Llc	-27.5*	-77.3* (1)
236D Frankfort	<del>W236CR</del>	CP DC_ IN		0.0 0.0	0.00 BPFT20151015AEJ	39 53 39.0 86 12 21.0	0.250	56.5 460	18.0 Kaspar Broadcasting Co, In	-75.1*	-76.1*
238B Fishers	WFMS	LIC _CX IN		129.1 309.2	22.29 BLH20101203ABU	39 46 03.0 86 00 12.0	13.000 302	5.5 555	66.3 Radio License Holding Src	-3.2	-46.0* (2)
236A Nashville	WVNI	LIC NCN IN		191.4 11.3	75.17 BLH19970904KB	39 13 52.0 86 22 40.0	3.800 105	80.7 329	25.2 Brown County Broadcasters,	-14.9*	18.8
236D Frankfort	<del>W236CR</del>	LIC DV_ IN		329.1 148.9	53.09 BLFT20151014AEP	40 18 12.0 86 31 40.0	0.100	3.1 278	1.6 Kaspar Broadcasting Co, In	31.2	-8.0* (3)
236B Fort Wayne	WAJI	LIC _CN IN		32.2 212.9	159.49 BLH19900226KE	41 06 13.0 85 11 28.0	39.000 207	140.7 453	69.7 Sarkes Tarzian, Inc.	-0.3	12.9
289B Indianapolis	WYXB	LIC ZCX IN		129.1 309.2	22.32 BLH20030403AAC	39 46 03.0 86 00 12.0	50.000 150	0.0 398	0.0 Emmis Radio License, Llc	14.5R	7.8M
237A Brookston	WBPE	LIC NCN IN		323.2 142.8	90.83 BLH19920702KC	40 32 48.0 86 50 59.0	2.300 154	43.1 351	28.6 Artistic Media Partners, I	28.9	34.4
235A Danville	WRHK	LIC _CN IL		286.6 105.8	113.11 BLH19930415KA	40 10 40.0 87 28 55.0	6.000 100	46.0 295	29.8 Neuhoff Media Danville, LI	48.5	55.5
236D Terre Haute	W236AE	LIC _CN IN		245.8 65.1	112.84 BLFT19960930TJ	39 28 21.0 87 24 20.0	0.038 54	18.4 213	5.6 The Trustees Of Indiana Un	75.3	49.6

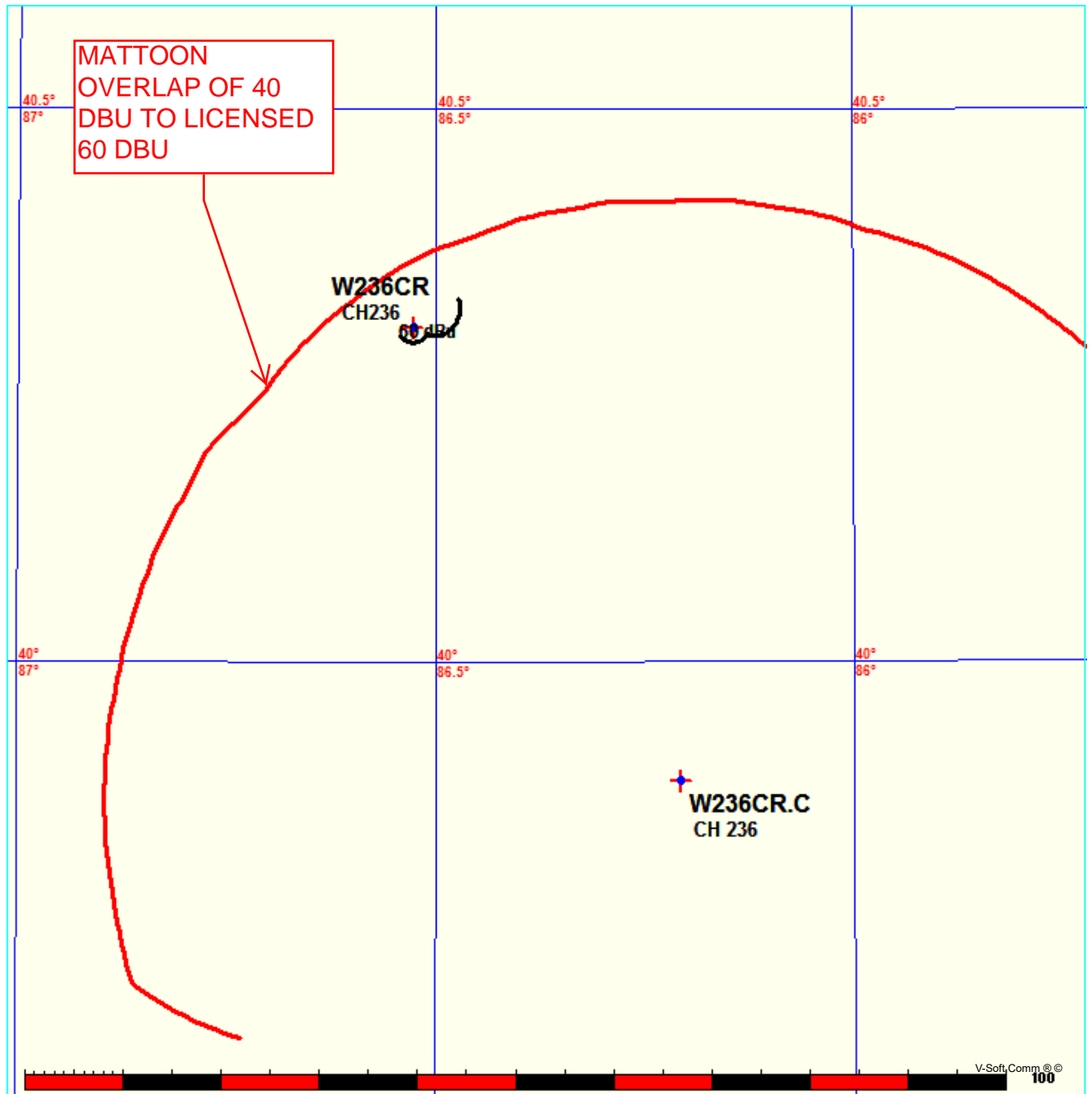
Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding. Call signs with strikeout need not be protected.  
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.

## E1AA MATTOON OVERLAP

FMCommander Single Allocation Study - 09-01-2016 - FCC NGDC 30 Sec  
W236CR.C's Overlaps (In= 31.16 km, Out= -8.04 km)

W236CR.C CH 236 D DA  
Lat= 39 53 39.0, Lng= 86 12 21.0  
0.25 kW 223.2 m HAAT, 474 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

W236CR CH 236 D DA BLFT20151014AEP  
Lat= 40 18 12.0, Lng= 86 31 40.0  
0.1 kW 0 m HAAT, 278 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



# E1A WFBQ INTERFERENCE DISPROVAL

W236CR INDIANAPOLIS, IN

74.1204(d) Showing

Translator or LPFM Maximum Licensed ERP = 0.25

Translator or LPFM Antenna Height AG = 219 Meters

W236CR Antenna Model = ERI 100A-1

Protected Station's Contour = 132.0595 dBu

Translator's or LPFM's full Interference contour 172.0595

Review Azimuth = 0 Degrees True

Relative Field on the horizon at Review Azimuth = 1.000

Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW

Distance between stations = 0.4 km

Protected Station= WFBQ, 58 kW, 502 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.00	1.0	0.2500	000.2767	000.2767	219.000
05.00	0.993	1.0	0.2465	000.2748	000.2737	218.976
10.00	0.974	1.0	0.2372	000.2695	000.2654	218.953
15.00	0.941	1.0	0.2214	000.2604	000.2515	218.933
20.00	0.897	1.0	0.2012	000.2482	000.2332	218.915
25.00	0.843	1.0	0.1777	000.2333	000.2114	218.901
30.00	0.78	1.0	0.1521	000.2158	000.1869	218.892
35.00	0.709	1.0	0.1257	000.1962	000.1607	218.887
40.00	0.633	1.0	0.1002	000.1751	000.1342	218.887
45.00	0.554	1.0	0.0767	000.1533	000.1084	218.892
50.00	0.473	1.0	0.0559	000.1309	000.0841	218.900
55.00	0.394	1.0	0.0388	000.1090	000.0625	218.911
60.00	0.317	1.0	0.0251	000.0877	000.0439	218.924
65.00	0.245	1.0	0.0150	000.0678	000.0286	218.939
70.00	0.181	1.0	0.0082	000.0501	000.0171	218.953
75.00	0.124	1.0	0.0038	000.0343	000.0089	218.967
80.00	0.077	1.0	0.0015	000.0213	000.0037	218.979
85.00	0.041	1.0	0.0004	000.0113	000.0010	218.989
90.00	0.016	1.0	0.0001	000.0044	000.0000	218.996

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# E1B WFMS INTERFERENCE DISPROVAL

W236CR INDIANAPOLIS, IN

74.1204(d) Showing

Translator or LPFM Maximum Licensed ERP = 0.25

Translator or LPFM Antenna Height AG = 219 Meters

W236CR Antenna Model = ERI 100A

Protected Station's Contour = 77.59359 dBu

Translator's or LPFM's full Interference contour 117.59359

Review Azimuth = 0 Degrees True

Relative Field on the horizon at Review Azimuth = 1.000

Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW

Distance between stations = 22.3 km

Protected Station= WFMS, 13 kW, 554.6 M Meters COR AMSL

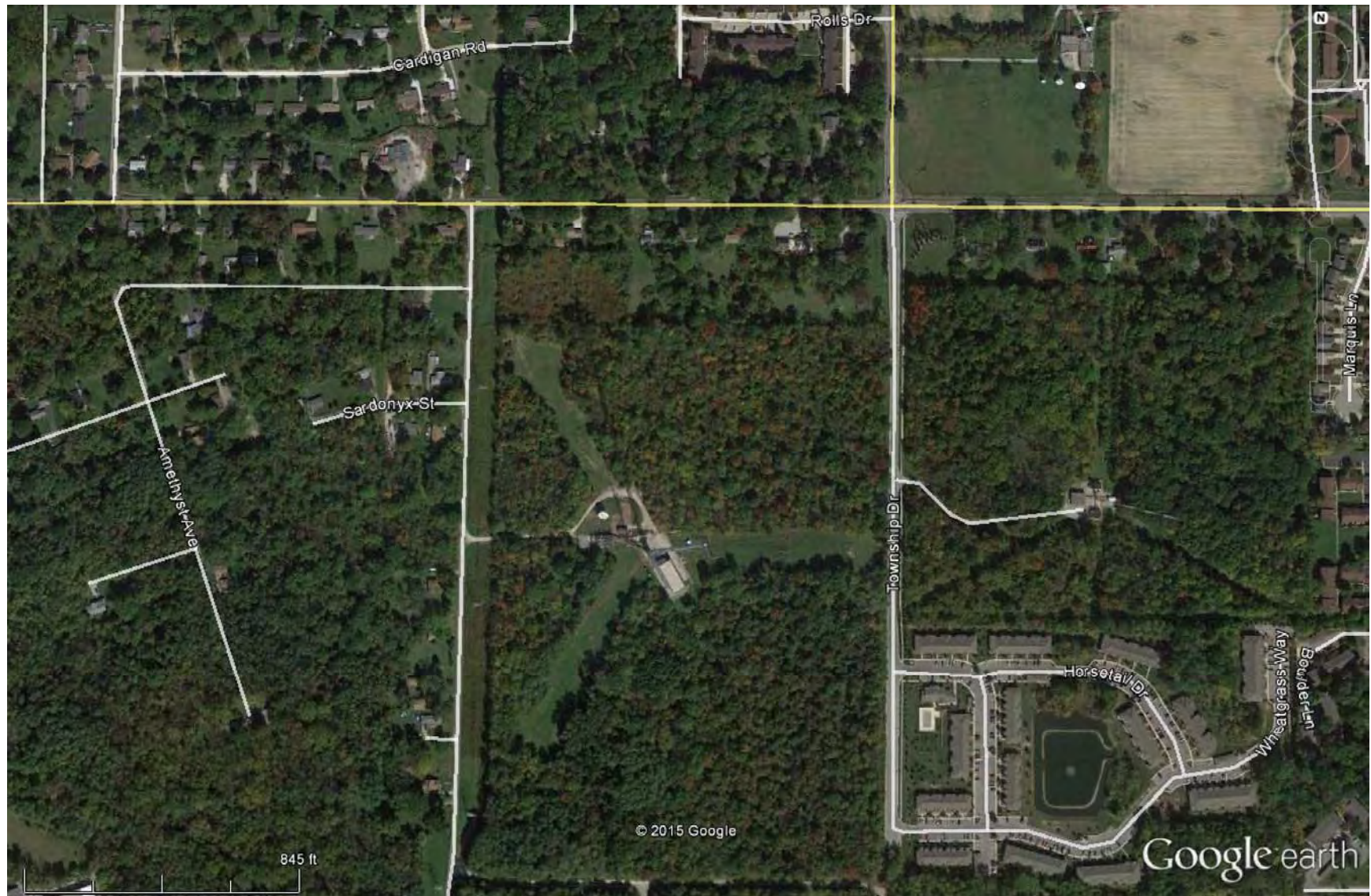
Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.00	1.0	0.2500	146.3156	146.3156	219.000
05.00	0.993	1.0	0.2465	145.2913	144.7385	206.337
10.00	0.974	1.0	0.2372	142.5113	140.3463	194.253
15.00	0.941	1.0	0.2214	137.6829	132.9915	183.365
20.00	0.897	1.0	0.2012	131.2451	123.3300	174.112
25.00	0.843	1.0	0.1777	123.3440	111.7876	166.873
30.00	0.78	1.0	0.1521	114.1261	098.8361	161.937
35.00	0.709	1.0	0.1257	103.7377	084.9770	159.498
40.00	0.633	1.0	0.1002	092.6177	070.9493	159.466
45.00	0.554	1.0	0.0767	081.0588	057.3172	161.683
50.00	0.473	1.0	0.0559	069.2073	044.4856	165.984
55.00	0.394	1.0	0.0388	057.6483	033.0657	171.777
60.00	0.317	1.0	0.0251	046.3820	023.1910	178.832
65.00	0.245	1.0	0.0150	035.8473	015.1497	186.511
70.00	0.181	1.0	0.0082	026.4831	009.0578	194.114
75.00	0.124	1.0	0.0038	018.1431	004.6958	201.475
80.00	0.077	1.0	0.0015	011.2663	001.9564	207.905
85.00	0.041	1.0	0.0004	005.9989	000.5228	213.024
90.00	0.016	1.0	0.0001	002.3410	000.0000	216.659

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## E1C AERIAL PHOTOGRAPH OF SITE AREA



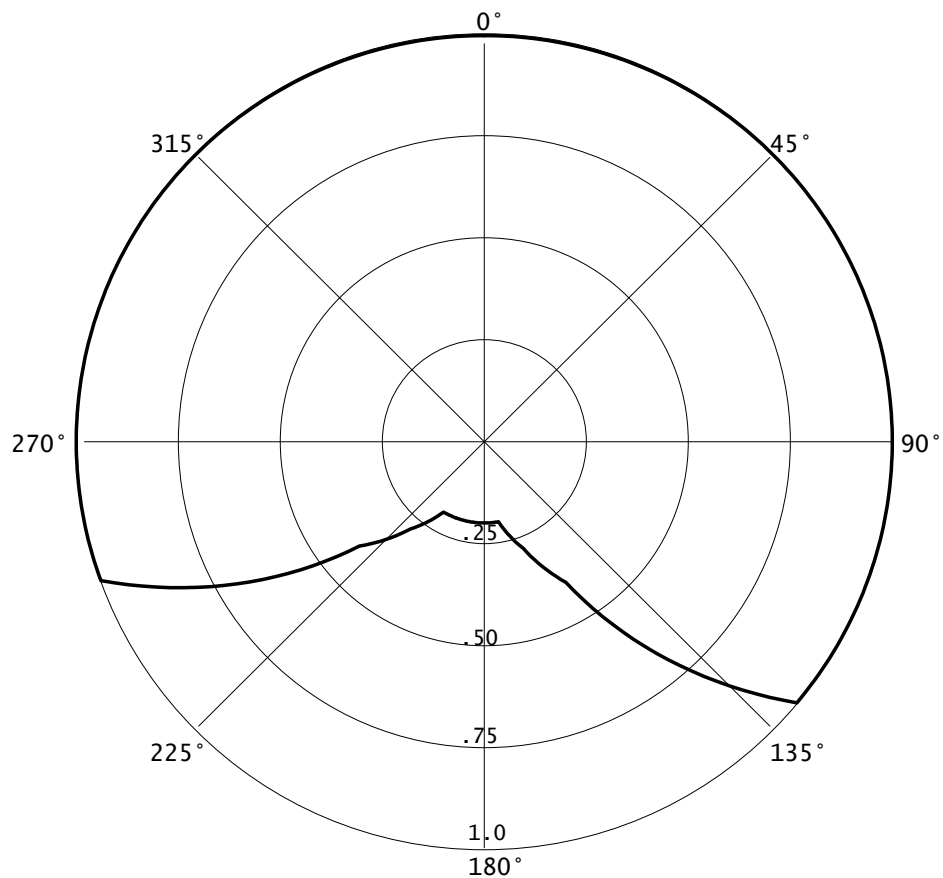
W236CR DA

09-01-2016

RMS(V)= .859

Graph is Relative Field

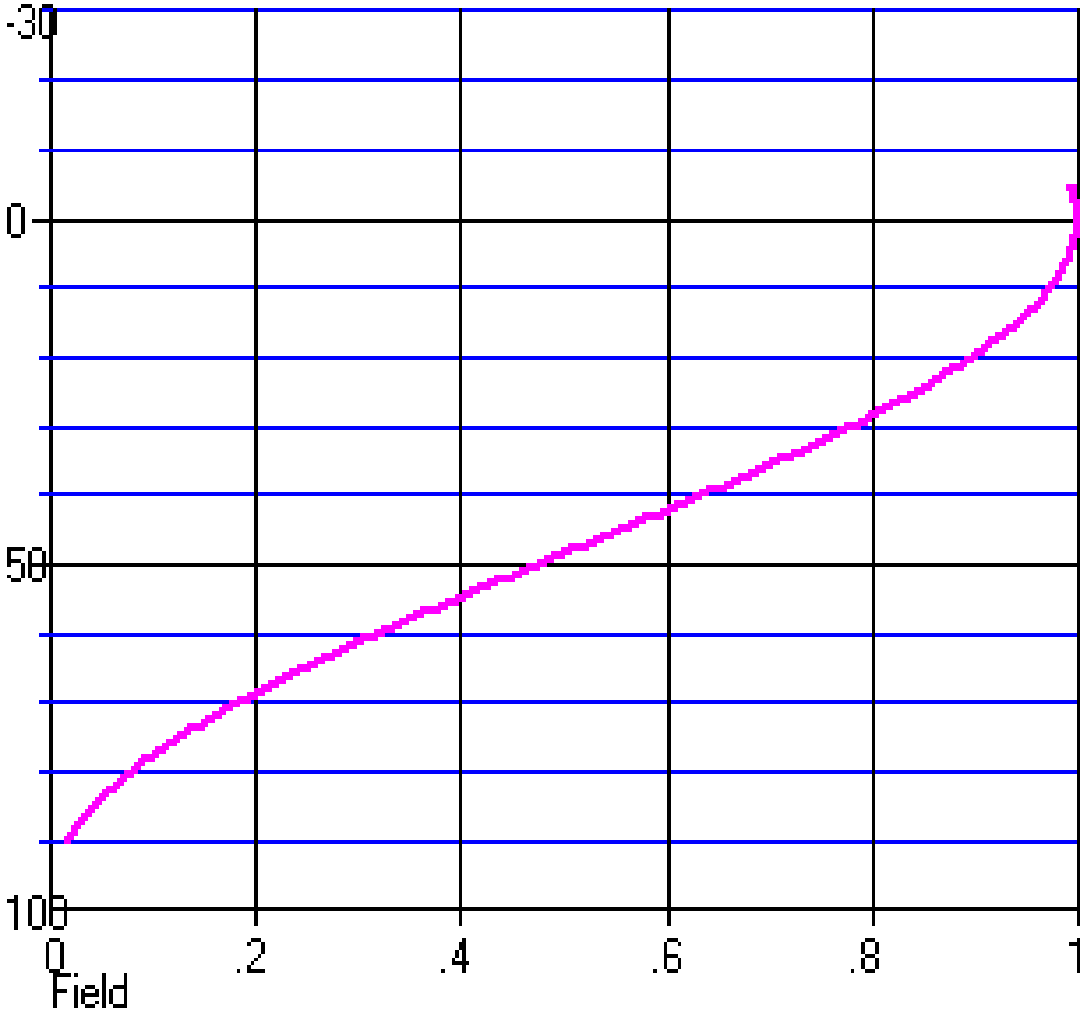
Azi	Field	dBk	kw
000	1.000	-06.021	0.250
010	1.000	-06.021	0.250
020	1.000	-06.021	0.250
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	1.000	-06.021	0.250
100	1.000	-06.021	0.250
110	1.000	-06.021	0.250
120	1.000	-06.021	0.250
130	1.000	-06.021	0.250
140	0.700	-09.119	0.122
150	0.400	-13.979	0.040
160	0.280	-17.077	0.020
170	0.200	-20.000	0.010
180	0.200	-20.000	0.010
190	0.200	-20.000	0.010
200	0.200	-20.000	0.010
210	0.200	-20.000	0.010
220	0.280	-17.077	0.020
230	0.400	-13.979	0.040
240	0.700	-09.119	0.122
250	1.000	-06.021	0.250
260	1.000	-06.021	0.250
270	1.000	-06.021	0.250
280	1.000	-06.021	0.250
290	1.000	-06.021	0.250
300	1.000	-06.021	0.250
310	1.000	-06.021	0.250
320	1.000	-06.021	0.250
330	1.000	-06.021	0.250
340	1.000	-06.021	0.250
350	1.000	-06.021	0.250





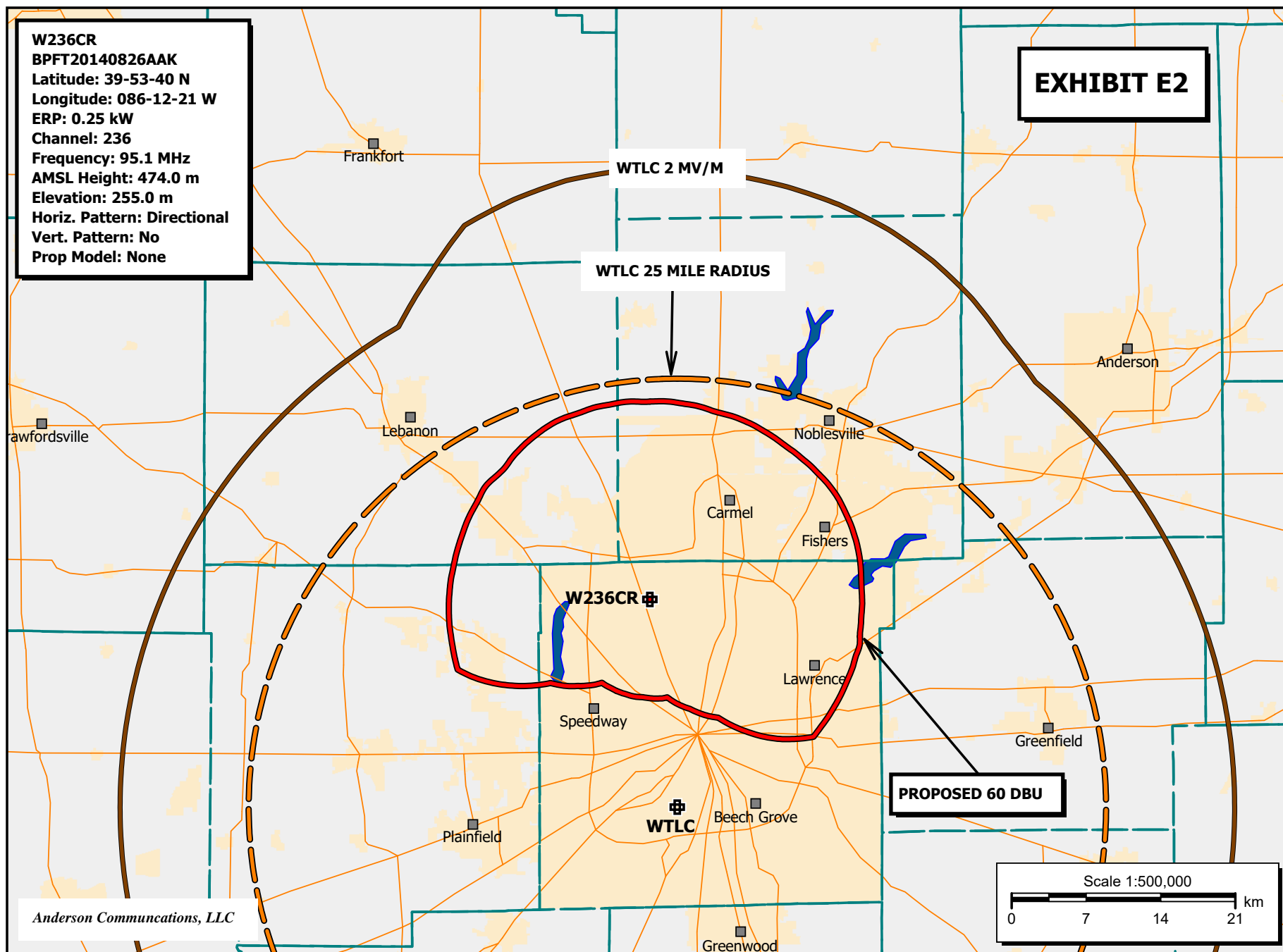
Antenna= ERI 100A-1

Depression Angle



## EXHIBIT E2

**W236CR**  
**BPFT20140826AAK**  
Latitude: 39-53-40 N  
Longitude: 086-12-21 W  
ERP: 0.25 kW  
Channel: 236  
Frequency: 95.1 MHz  
AMSL Height: 474.0 m  
Elevation: 255.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None



Registration Detail

Reg Number	1253064	Status	Constructed
File Number	A0898199	Constructed	07/24/2006
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

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

Location (in NAD83 Coordinates)

Lat/Long	39-53-40.0 N 086-12-21.0 W	Address	7701 Walnut Drive
City, State	Indianapolis , IN		
Zip	46268	County	MARION
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
254.5	307.8
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
562.3	259.0

Painting and Lighting Specifications

FAA Chapters 4, 9, 12  
Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2005-AGL-965-OE	FAA Issue Date	06/23/2005
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Owner & Contact Information

FRN	0011498342	Owner Entity Type	Limited Liability Company
Assignor FRN	0006154249	Assignor ID	L00167959

Owner

American Tower, LLC  
Attention To: FAA/FCC  
10 Presidential Way  
Woburn , MA 01801  
P: (781)926-4500  
F:  
E: FAA-FCC@americantower.com

Contact

Attention To: FAA/FCC  
10 Presidential Way  
Woburn , MA 01801  
P: (561)886-3925  
F:  
E: FAA-FCC@americantower.com

Last Action Status

Status	Constructed	Received	04/14/2014
Purpose	Change Owner	Entered	04/14/2014
Mode	Interactive		

Related Applications

04/14/2014	A0898199	- Change Owner (OC)
11/12/2009	A0656926	- Admin Update (AU)