

**W288BI APPLICATION (BPFT-20140523AAN)
MINOR AMENDMENT REQUESTING
CONTINGENT PROCESSING WITH W235CI MINOR CHANGE
APPLICATION TO CHANGE CHANNEL TO 288**

This application seeks a minor amendment to the existing W288BI application BPFT-20140523AAN which had originally requested a non-adjacent channel change. This amendment changes the application to an IF channel change ($288-53 = 235$) and to a contingent application with W235CI which is simultaneously requesting a minor change in channel to IF channel 288 ($235+53 = 288$). It is noted that the existing W288BI facility has been constructed and a form 350 filed. Therefore, this minor change at site to an IF channel is consistent with Commission policy regarding the processing further changes of *Mattoon* waiver grants. It will continue to serve as a fill in translator for station WTLN(AM) (facility #48731) at Orlando, FL.

No AM condition requested:

Since the proposed facility will replace an existing antenna on the tower with an identical make and model and will use the existing transmission line, it is requested that the AM condition not be imposed on this "detuned" tower. There will, in fact, be no physical change on the tower.

Allocation discussion:

All exhibits utilize the V-Soft provided USGS three second terrain database.

- E1 Channel study
- E1A WWRM interference plot and FMOVER
- E1B WCFB analysis
- E1C WPYO analysis
- E1D Aerial photograph of interference contour area
- E1E Antenna azimuth and vertical elevation patterns
- E2 60 dBu and 2 mV/m contours plot
- E3 ASR and NADCON calculation

A channel study is included as E1 and an interference plots as E1B and E1C (clearance to second adjacent channels) demonstrating compliance with §74.1204. A plot of the proposed 60 dBu is provided as E2 showing that it is entirely contained within the WTLN(AM) 2 mV/m and 40 km circle. The proposed 60 dBu overlaps the existing 60 dBu since there is no site change.

Disproval of interference to 2nd adjacent channel stations:

The W288BI channel 235 facility will be located inside the protected contours of second adjacent channel stations WCFB on 233C and WPYO on 237C3. Therefore, an interference analysis has been conducted based on the U/D ratio of +40 dB at the proposed site. The WCFB contour at the proposed site is 78.06 dBu resulting in an interference contour of 118.06 dBu. This contour's minimum clearance to the ground is 92 meters (see E1B).

The WPYO (50,50) contour at the proposed site is 94.97 dBu and the resulting interference contour is 134.97 dBu or 19.8 meters. Exhibit E1C demonstrates that this contour clears the ground by at least 125.4 meters.

Clearly, these interference contours will not reach any populated area or major highways as is evident from the aerial photograph of the site included as E1D. 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 be located at an existing tower (ASR#1244200) using a two bay half wave spaced ERI model 100A-2F directional, circularly polarized antenna. The RF contribution of the proposed translator was calculated to be 1.0 μ Watts/cm² using the formula included below and a worst case vertical factor of 1.0. This is 0.5% of the maximum permissible 200 microwatts/cm² exposure for general population/uncontrolled exposure, and well below 5% of that limit which requires consideration.

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

The proposed translator facility complies with Commission RF radiation limits.



Charles M. Anderson 10-08-2014
1519 Euclid Avenue
Bowling Green, KY 42103

E1 CHANNEL STUDY

REFERENCE
28 36 20.2 N.
81 25 05.0 W.

CH# 235D - 94.9 MHz, Pwr= 0.25 kW DA, HAAT= 130.9 M, COR= 160 M
Average Protected F(50-50)= 7.09 km
Standard Directional

DISPLAY DATES
DATA 10-07-14
SEARCH 10-07-14

CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
235C Tampa	WWRM	LIC _C_ FL	223.6 43.2	120.23 BMLH20110307ABP	27 49 10.0 82 15 39.0	100.000 470	188.7 491	84.9 Cox Radio, Inc.	-79.1*	1.4
233C Daytona Beach	WCFB	LIC _E_ FL	355.0 175.0	41.75 BLH20081117ACD	28 58 47.0 81 27 20.0	100.000 451	12.1 460	83.1 Cox Radio, Inc.	14.1	-42.4* (1)
235D Oviedo	W235CI	CP _C_ FL	75.8 255.9	21.80 BMPFT20131017AIN	28 39 13.0 81 12 05.0	0.030 79	21.4 90	6.4 Pennsylvania Media Associa	-14.8	-34.9 (2)
237C3 Maitland	WPYO	LIC ZCX FL	231.3 51.3	5.59 BLH20040325AHN	28 34 27.0 81 27 46.0	12.000 144	4.0 173	39.4 Cox Radio, Inc.	-8.4*	-34.3* (1)
288D Orlando	W288BI	CP _C_ FL	0.0 0.0	0.00 BMPFT20140213ABG	28 36 20.0 81 25 05.0	0.250	0.2 160	3.0 Pennsylvania Media Associa	9.5R	-9.5M (3)
236A Melbourne	WFKS	LIC ZCX FL	126.6 306.9	87.19 BMLH20070126AFP	28 08 12.0 80 42 13.0	4.300 118	38.6 123	25.2 Capstar Tx LLC	34.3	39.3
238D Titusville	W238AM	LIC _C_ FL	88.5 268.8	59.28 BLFT20140131AQW	28 37 04.0 80 48 39.0	0.100 30	0.7 32	5.6 Mims Community Radio, Inc.	43.5	52.5
236L1 Summerfield	NEW	CP _ FL	309.6 129.3	73.31 BNPL20131023ADZ	29 01 28.5 81 59 57.2	0.087 32	56	51.0 Spruce Creek Golf & Countr		46.1
234D Cocoa	W234BI	LIC DC_ FL	117.3 297.6	78.99 BMLFT20120717ACF	28 16 42.0 80 42 03.0	0.125 79	13.3 81	9.5 Black Media Works, Inc.	51.1	47.4

Terrain database is USGS 03 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 protected contour.
Reference station has protected zone issue:

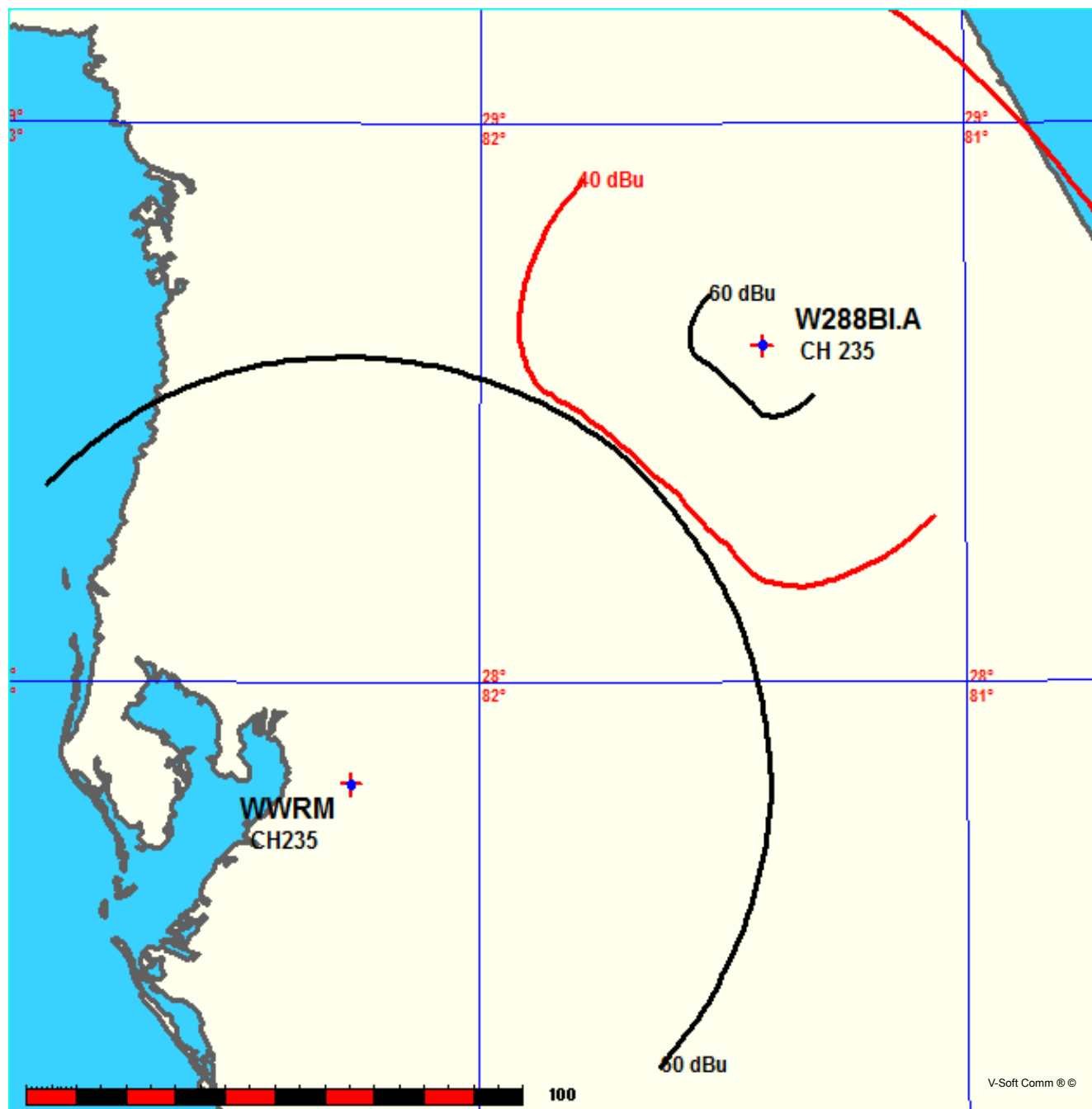
- (1) See E1B, E1C and E1D for disproval of interference to WCFB and WPYO.
- (2) Contingent application filed to change channels to 288.
- (3) Facility channel change to 235 proposed herein.

E1A WWRM INTERFERENCE PLOT

FMCommander Single Allocation Study - 10-08-2014 - USGS 03 SEC
W288BI.A's Overlaps (In= -79.09 km, Out= 1.38 km)

W288BI.A CH 235 D DA
Lat= 28 36 20.2, Lng= 81 25 05.0
0.25 kW 130.9 M HAAT, 160 M COR
Prot.= 60 dBu, Intef.= 40 dBu

WWRM CH 235 C BMLH20110307ABP
Lat= 27 49 10.0, Lng= 82 15 39.0
100.0 kW 470 M HAAT, 490.5 M COR
Prot.= 60 dBu, Intef.= 40 dBu



E1A1 WWRM FMOVER - Terrain Data: USGS 03 SEC

WWRM BMLH20110307ABP

Channel = 235C
Max ERP = 100 kW
RCAMSL = 490.5 M
N. Lat. 27 49 10.0
W. Lng. 82 15 39.0
Protected
60 dBu

W288BI.A

Channel = 235D
Max ERP = 0.25 kW
RCAMSL = 160 M
N. Lat. 28 36 20.2
W. Lng. 81 25 05.0
Interfering
40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
020.0	100.0000	0467.0	084.6	261.7	000.2102	0125.2	053.9	37.09	
021.0	100.0000	0467.3	084.7	260.9	000.2067	0124.9	052.6	37.51	
022.0	100.0000	0467.3	084.7	260.1	000.2029	0124.6	051.4	37.91	
023.0	100.0000	0467.5	084.7	259.2	000.1934	0124.2	050.1	38.16	
024.0	100.0000	0467.7	084.7	258.2	000.1828	0123.0	048.9	38.33	
025.0	100.0000	0468.1	084.7	257.2	000.1719	0121.8	047.7	38.46	
026.0	100.0000	0468.4	084.7	256.1	000.1606	0121.2	046.6	38.59	
027.0	100.0000	0468.7	084.7	254.9	000.1488	0121.0	045.5	38.70	
028.0	100.0000	0469.1	084.8	253.6	000.1367	0120.4	044.4	38.74	
029.0	100.0000	0469.5	084.8	252.2	000.1243	0119.9	043.3	38.73	
030.0	100.0000	0469.8	084.8	250.7	000.1118	0120.0	042.3	38.70	
031.0	100.0000	0470.0	084.8	249.2	000.1030	0120.1	041.4	38.76	
032.0	100.0000	0470.1	084.8	247.5	000.0977	0120.1	040.5	38.91	
033.0	100.0000	0470.3	084.9	245.8	000.0923	0120.1	039.7	39.03	
034.0	100.0000	0470.6	084.9	243.9	000.0868	0119.5	038.9	39.07	
035.0	100.0000	0471.1	084.9	242.0	000.0813	0119.0	038.2	39.08	
036.0	100.0000	0471.7	085.0	240.0	000.0756	0118.8	037.5	39.07	
037.0	100.0000	0472.1	085.0	237.9	000.0728	0119.2	036.9	39.18	
038.0	100.0000	0472.4	085.0	235.7	000.0699	0119.5	036.4	39.26	
039.0	100.0000	0472.4	085.0	233.5	000.0669	0120.0	036.0	39.29	
040.0	100.0000	0472.5	085.0	231.1	000.0639	0119.6	035.7	39.22	
041.0	100.0000	0472.4	085.0	228.8	000.0625	0119.8	035.5	39.24	
042.0	100.0000	0471.8	085.0	226.4	000.0625	0120.5	035.3	39.34	
043.0	100.0000	0470.9	084.9	224.0	000.0625	0120.4	035.3	39.33	
044.0	100.0000	0470.0	084.8	221.6	000.0625	0120.3	035.4	39.28	
045.0	100.0000	0468.8	084.8	219.2	000.0625	0121.2	035.6	39.25	
046.0	100.0000	0467.7	084.7	216.9	000.0625	0120.2	035.9	39.06	
047.0	100.0000	0466.5	084.6	214.6	000.0625	0120.2	036.3	38.89	
048.0	100.0000	0465.3	084.5	212.4	000.0625	0121.4	036.7	38.76	
049.0	100.0000	0464.1	084.4	210.3	000.0625	0122.3	037.2	38.56	
050.0	100.0000	0463.2	084.4	208.2	000.0648	0123.8	037.8	38.55	
051.0	100.0000	0462.7	084.3	206.2	000.0674	0125.2	038.4	38.52	
052.0	100.0000	0462.2	084.3	204.3	000.0699	0127.2	039.1	38.48	
053.0	100.0000	0461.8	084.3	202.4	000.0723	0129.1	039.9	38.39	
054.0	100.0000	0461.6	084.3	200.7	000.0747	0129.8	040.7	38.22	
055.0	100.0000	0461.6	084.3	199.0	000.0784	0130.7	041.5	38.11	
056.0	100.0000	0461.5	084.3	197.4	000.0829	0131.5	042.4	38.00	
057.0	100.0000	0461.8	084.3	195.9	000.0873	0132.1	043.4	37.86	
058.0	100.0000	0461.9	084.3	194.5	000.0916	0132.3	044.4	37.66	
059.0	100.0000	0462.0	084.3	193.1	000.0957	0132.4	045.4	37.42	
060.0	100.0000	0462.0	084.3	191.9	000.0995	0132.6	046.5	37.17	
061.0	100.0000	0462.2	084.3	190.7	000.1033	0132.8	047.6	36.89	
062.0	100.0000	0462.3	084.3	189.6	000.1086	0133.0	048.7	36.67	
063.0	100.0000	0462.5	084.3	188.6	000.1172	0133.1	049.9	36.55	

E1B WCFB INTERFERENCE ANALYSIS

W288BI Orlando , FL
 74.1204(d) Showing
 Translator or LPFM Maximum Licensed ERP = 0.25
 Translator or LPFM Antenna Height AG = 131 Meters
 W288BI Antenna Model = SHPX2H

Protected Station's Contour = 78.0545 dBu
 Translator's or LPFM's full Interference contour 118.0545

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 = 41.8 km
 Protected Station= WCFB, 100 kW, 460 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	1.0	1.0	0.2500	138.7538	138.7538	131.000
05.00	0.984	1.0	0.2421	136.5338	136.0142	119.100
10.00	0.938	1.0	0.2200	130.1511	128.1738	108.399
15.00	0.865	1.0	0.1871	120.0221	115.9324	099.936
20.00	0.772	1.0	0.1490	107.1180	100.6580	094.363
25.00	0.665	1.0	0.1106	092.2713	083.6262	092.004
30.00	0.553	1.0	0.0765	076.7309	066.4509	092.635
35.00	0.442	1.0	0.0488	061.3292	050.2379	095.823
40.00	0.339	1.0	0.0287	047.0375	036.0329	100.765
45.00	0.248	1.0	0.0154	034.4110	024.3322	106.668
50.00	0.172	1.0	0.0074	023.8657	015.3406	112.718
55.00	0.112	1.0	0.0031	015.5404	008.9136	118.270
60.00	0.068	1.0	0.0012	009.4353	004.7176	122.829
65.00	0.037	1.0	0.0003	005.1339	002.1697	126.347
70.00	0.018	1.0	0.0001	002.4976	000.8542	128.653
75.00	0.007	1.0	0.0000	000.9713	000.2514	130.062
80.00	0.002	1.0	0.0000	000.2775	000.0482	130.727
85.00	0.001	1.0	0.0000	000.1388	000.0121	130.862
90.00	0.0	1.0	0.0000	000.0139	000.0000	130.986

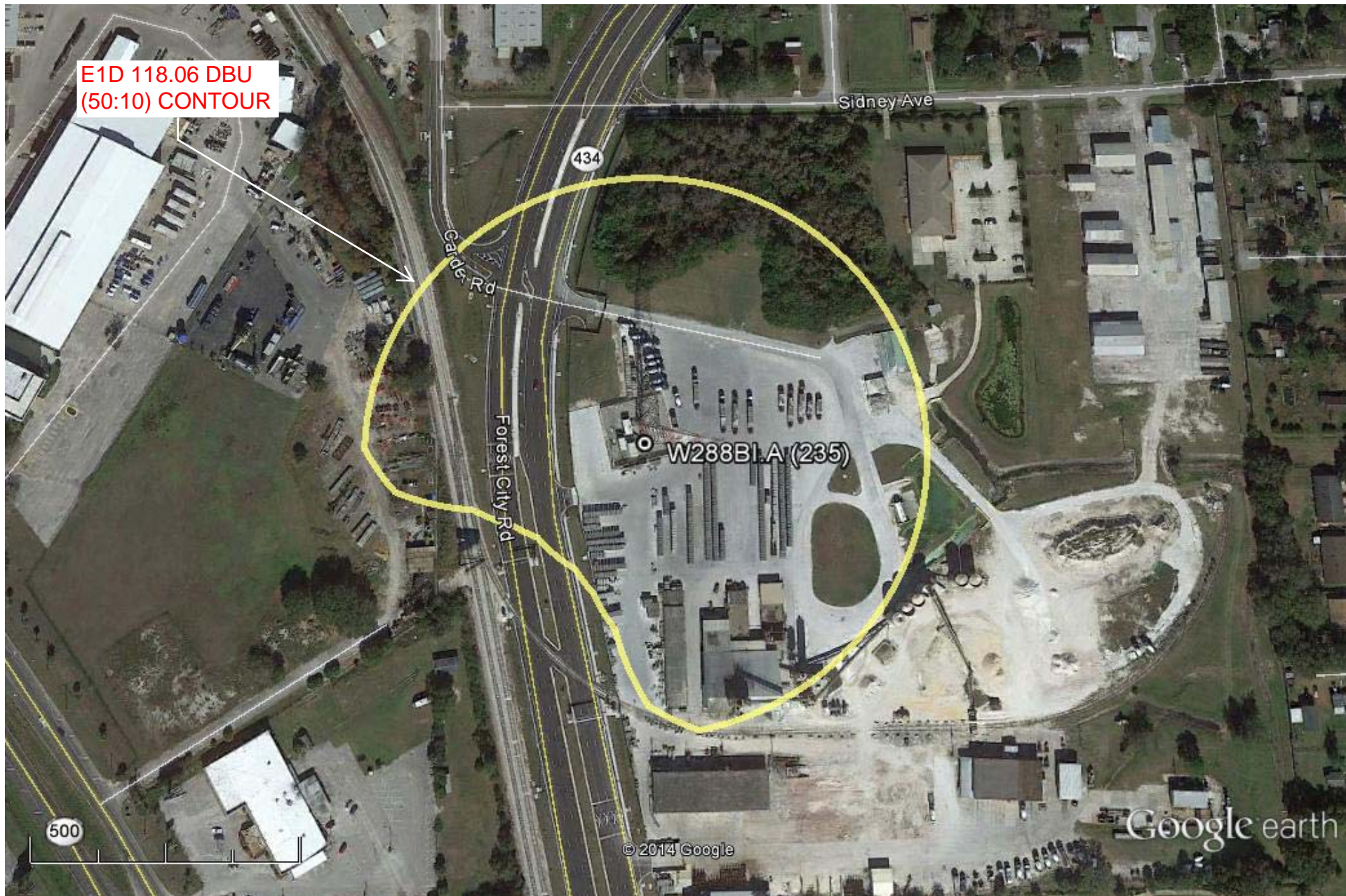
E1C WPYO INTERFERENCE ANALYSIS

W288BI Orlando , FL
 74.1204(d) Showing
 Translator or LPFM Maximum Licensed ERP = 0.25
 Translator or LPFM Antenna Height AG = 131 Meters
 W288BI Antenna Model = SHPX2H

Protected Station's Contour = 94.96962 dBu
 Translator's or LPFM's full Interference contour 134.96962

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 = 5.6 km
 Protected Station= WPYO, 12 kW, 173 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	1.0	1.0	0.2500	019.7920	019.7920	131.000
05.00	0.984	1.0	0.2421	019.4753	019.4012	129.303
10.00	0.938	1.0	0.2200	018.5649	018.2828	127.776
15.00	0.865	1.0	0.1871	017.1201	016.5367	126.569
20.00	0.772	1.0	0.1490	015.2794	014.3579	125.774
25.00	0.665	1.0	0.1106	013.1617	011.9285	125.438
30.00	0.553	1.0	0.0765	010.9450	009.4786	125.528
35.00	0.442	1.0	0.0488	008.7481	007.1660	125.982
40.00	0.339	1.0	0.0287	006.7095	005.1398	126.687
45.00	0.248	1.0	0.0154	004.9084	003.4708	127.529
50.00	0.172	1.0	0.0074	003.4042	002.1882	128.392
55.00	0.112	1.0	0.0031	002.2167	001.2714	129.184
60.00	0.068	1.0	0.0012	001.3459	000.6729	129.834
65.00	0.037	1.0	0.0003	000.7323	000.3095	130.336
70.00	0.018	1.0	0.0001	000.3563	000.1218	130.665
75.00	0.007	1.0	0.0000	000.1385	000.0359	130.866
80.00	0.002	1.0	0.0000	000.0396	000.0069	130.961
85.00	0.001	1.0	0.0000	000.0198	000.0017	130.980
90.00	0.0	1.0	0.0000	000.0020	000.0000	130.998



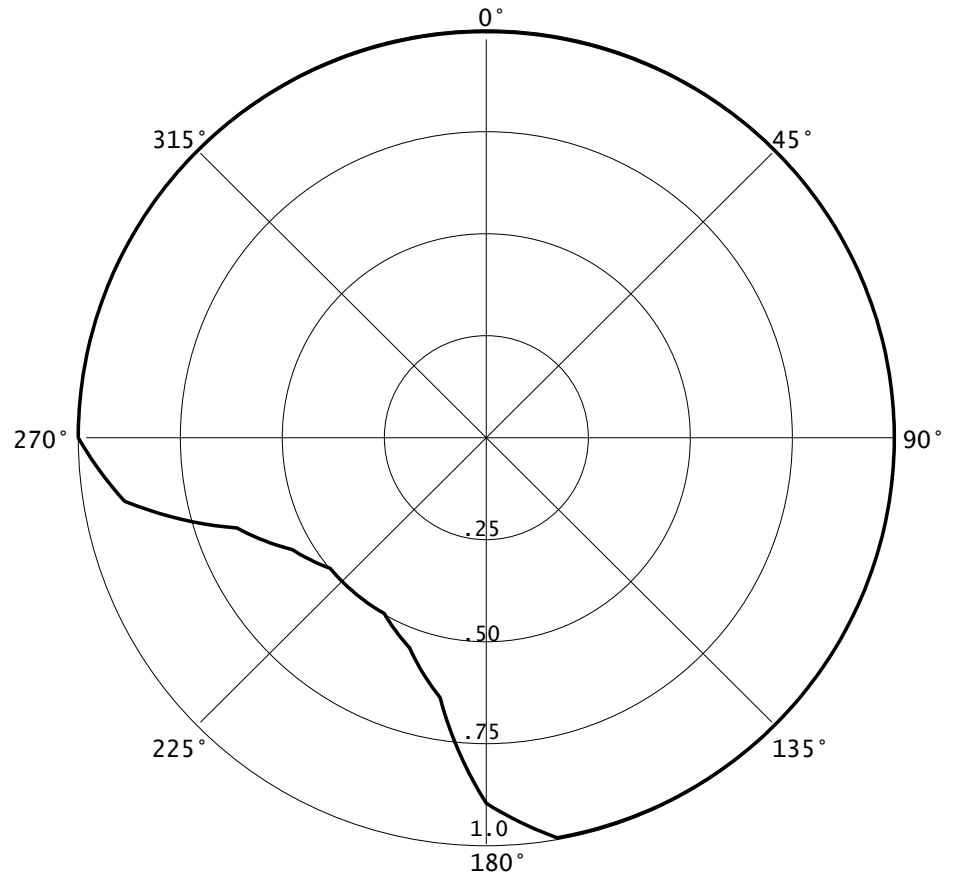
Google earth

feet
meters



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	1.000	-06.021	0.250
150	1.000	-06.021	0.250
160	1.000	-06.021	0.250
170	1.000	-06.021	0.250
180	0.900	-06.936	0.202
190	0.650	-09.762	0.106
200	0.550	-11.213	0.076
210	0.500	-12.041	0.063
220	0.500	-12.041	0.063
230	0.500	-12.041	0.063
240	0.550	-11.213	0.076
250	0.650	-09.762	0.106
260	0.900	-06.936	0.202
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



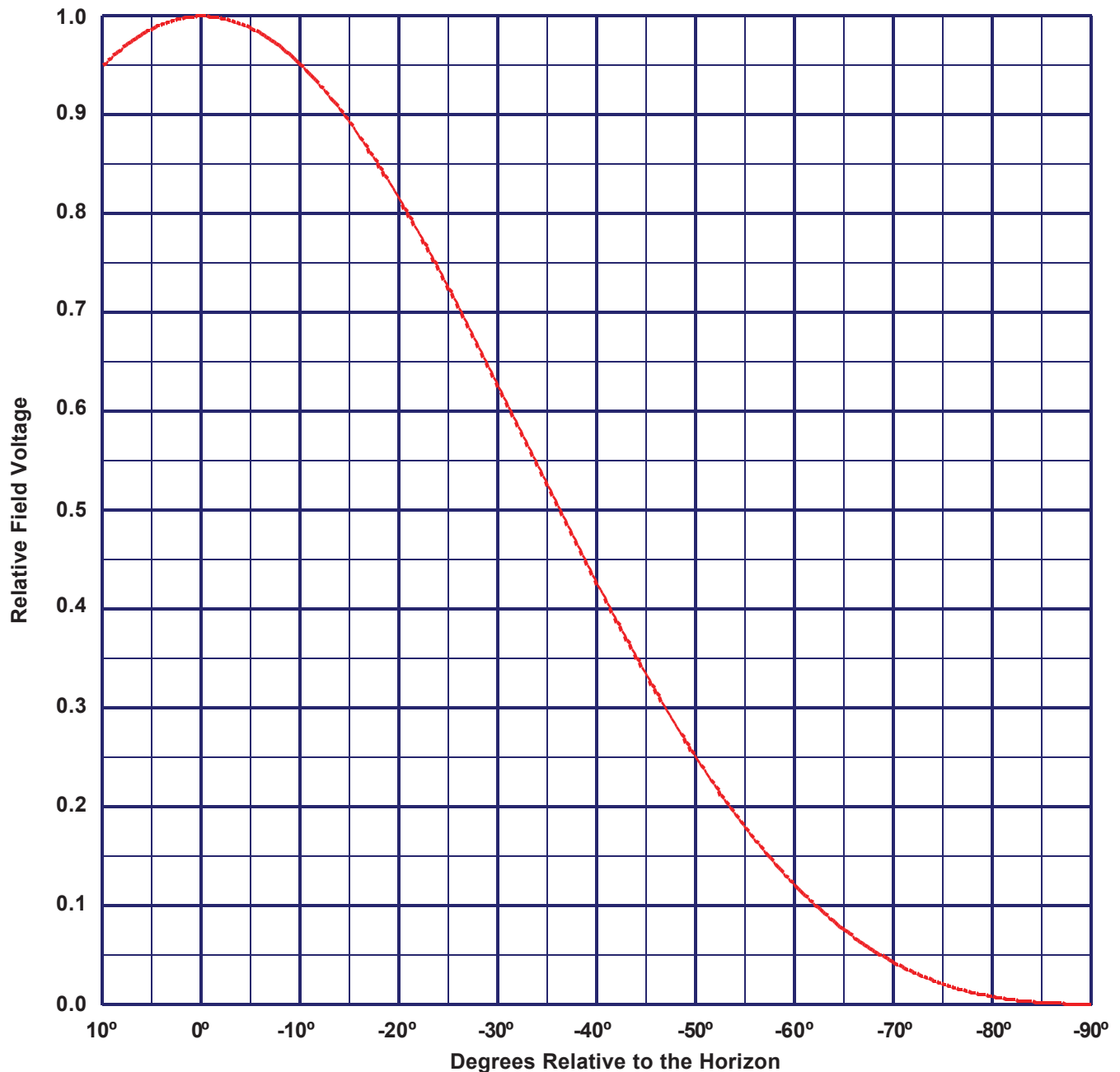


Vertical Plane Relative Field Pattern

ERI TYPE SHP, SHPX, MP, MPX, LP OR LPX ELEMENTS

A 2 level, .5 wave-length spaced non directional antenna

with 0° beam tilt, 0% null fill and a H/V maximum power ratio of 1.000



Vertical Polarization Gain:

Maximum: 0.702 (-1.535 dB)

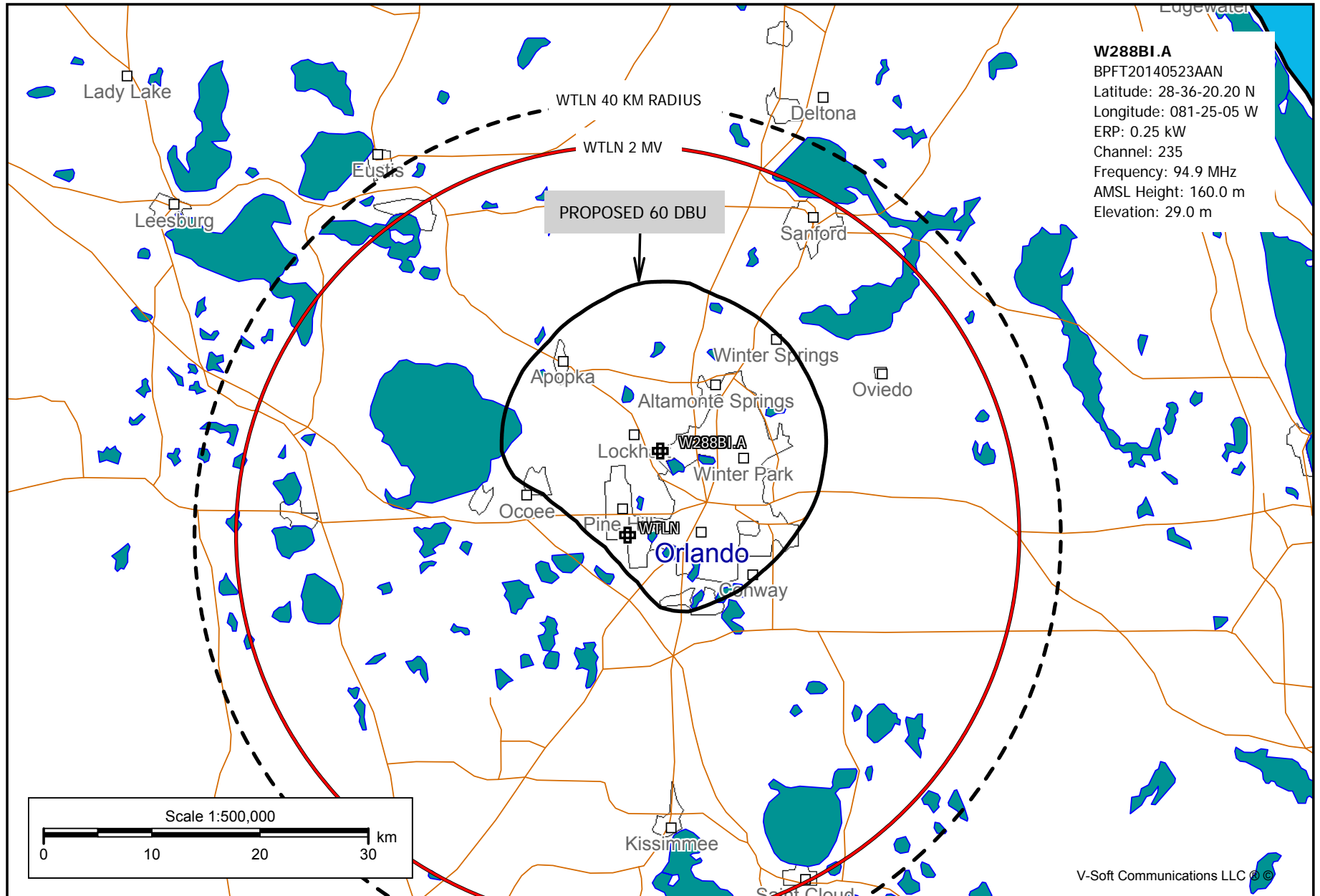
Horizontal Plane: 0.702 (-1.535 dB)

Horizontal Polarization Gain:

Maximum: 0.702 (-1.535 dB)

Horizontal Plane: 0.702 (-1.535 dB)

E2 60 DBU - AM 2 MV/M



E3 Registration 1244200

 [Map Registration](#)

Registration Detail			
Reg Number	1244200	Status	Constructed
File Number	A0679067	Constructed	07/20/2004
EMI	No	Dismantled	
NEPA	No		
Antenna Structure			
Structure Type	TOWER - Free standing or Guyed Structure used for Commu		
Location (in NAD83 Coordinates)			
Lat/Long	28-36-21.2 N 081-25-04.3 W	Address	5109 Carder Rd.
City, State	Orlando , FL		
Zip	32810	County	ORANGE
Center of AM Array		Position of Tower in Array	
Heights (meters)			
Elevation of Site Above Mean Sea Level		Overall Height Above Ground (AGL)	
28.9		152.4	
Overall Height Above Mean Sea Level		Overall Height Above Ground w/o Appurtenances	
181.3		146.3	
Painting and Lighting Specifications			
FAA Chapters 3, 4, 5, 12 Paint and Light in Accordance with FAA Circular Number 70/7460-1K			
FAA Notification			
FAA Study	2010-ASO-218-OE	FAA Issue Date	03/09/2010
Owner & Contact Information			
FRN	0006156111	Owner Entity Type	
Owner			
Pinnacle Towers LLC Attention To: Regulatory Department 2000 Corporate Drive Canonsburg , PA 15317		P: (724)416-2000 F: E: Regulatory.Department@Crowncastle.com	
Contact			
Verre , Christine A 2000 Corporate Drive Canonsburg , PA 15317		P: (336)643-2524 F: E: Christine.Verre@Crowncastle.com	
Last Action Status			
Status	Constructed	Received	03/15/2010
Purpose	Notification	Entered	03/15/2010
Mode	Interactive		

Output from NADCON for W288BI

North American Datum Conversion

NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1 Region: Conus

	Latitude	Longitude
NAD 27 datum values:	28 36 20.20058	81 25 5.04698
NAD 83 datum values:	28 36 21.20000	81 25 4.30000
NAD 27 - NAD 83 shift values:	-0.99942	0.74698(secs.)
	-30.768	20.294 (meters)
Magnitude of total shift:		36.858(meters)



[NGS HOME PAGE](#)