

TECHNICAL REPORT

W266BJ (#152415) Modification Requesting Non-adjacent Channel Change from 266 (101.1 mHz) to 283 (104.5 mHz)

This technical report is submitted in support of minor modifications of W266BJ to a new site at ASR #1307550 where it will rebroadcast the HD2 signal of WAUE(FM) at Waverly, AL (FCC # 198812). A non-adjacent move to channel 283D (104.5 mHz) is requested, in accordance with CFR §74.1233(a)(1) since operation on the current channel 266 would receive interference to 47.3% of its 60 dBu population at the new site and would cause substantial interference to adjacent channel station WAGH on channel 267C3 (101.3).

Non-adjacent channel move per §74.1233(a)(1) analysis and justification:

Rather than waste Commission staff time and the applicant's resources in a two stage move to the new site on channel 266 and then to channel 283 which could be accomplished, but would result in interference received to 47.3% of its 60 dBu population and interference to a population of 118,269 within station WAGH's 45 dBu based on §73.1203, a one step non-adjacent channel move to 283 (104.5) is requested.

A non-adjacent channel change to 283D (104.5 MHz) is requested in accordance with CFR §74.1233(a)(1) as modified in *FCC 19-40, May 9, 2019*. In that Report and Order, the Commission explained that:

6. *For these reasons, we modify section 74.1233(a)(1) of the Commission's rules (Rules) to define an FM translator's change to any available same-band FM channel as a minor change, upon a showing of actual or predicted interference to or from any other broadcast station (emphasis added).*

Interference received if channel 266 were to be used:

Exhibit E1B demonstrates that the use of channel 266 at the proposed sites would receive interference to 47.3% of its 60 dBu population (2020) while exhibit E1A shows that the use of channel 283 at the proposed site receives interference to only 6.5% of its 60 dBu population resulting in an interference free population of 87,067.

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Interference to 1st adjacent WAGH on channel 267C3 if channel 266 were to be used:

Additional justification for the non-adjacent channel move to 283 is the interference that would be caused to 1st adjacent channel WAGH on 267C3 by a channel 266 operation.

Exhibit E1C1 depicts the Longley-Rice predicted coverage area WAGH enjoys in the Auburn and Opelika, AL area. Exhibit E1C2 shows the Longley-Rice interference to a population of 89,674 in an area of 726.5 sq km within the WAGH FCC 54 dBu (50:50) contour from a W266BJ facility on ASR# 1307550 serving as a fill-in for WAUE's HD2.

Furthermore, E1C3 shows that under the new §73.1203 interference rules such a W266BJ facility would almost certainly receive interference complaints from the 118,269 population in an area of 1,992 sq km that would receive predicted U/D interference within the WAGH 45 dBu. Actual reception observations in the predicted interference area confirm that this disruption to WAGH will occur.

Therefore, it is requested that the non-adjacent move to channel 283 be granted rather than waste Commission and licensee resources in the grant, build and licensing of a channel 266 facility at the proposed site, the disruption to WAGH that facility would represent and the subsequent application, build and licensing of the final channel 283 facility.

A channel study and directional antenna that would be utilized for W266BJ on channel 266 at the proposed site are provided as E1D and E1E. Interference calculations were performed using the V-Soft Probe 4 FM interference feature, 1 second (30 meter) FCC terrain, the U.S. Census 2020 data and Longley-Rice or the FCC Method and U/D ratios.

Allocation Analysis:

An overlap study in exhibit E2 shows the proposed channel 283 facility complies with §74.1204 with the exception of a second adjacent channel 286 translator application at the same site. Exhibit E2A demonstrates that the interference to that facility were it to be granted extends no more than 2.25 meters which will not reach any population, buildings or roads from a height of 122 meters AGL. Therefore, a waiver of Section 74.1204, if required, is requested in accordance with Living Way Ministries, Inc. (FCC 08-242).

The proposed W266BJ 60 F(50-50) dBu contour overlaps the licensed facility and is contained

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within the WAUE 60 dBu as verified by exhibit E3.

Antenna System:

The proposed W266BJ facility will be located on the existing 152.1 meter tower, ASR #1307550 at coordinates:

32-40-04 N 085-33-00.8 W NAD 83

A Nicom BKG77 one bay antenna will be mounted at a COR AGL of 122 meters, 345.1 meters AMSL and operate at 0.250 kW ERP and oriented at 150°.

RF compliance:

The RF contribution of the proposed translator was calculated using a worst case F factor of 1.0 for the Nicom BKG-77 antenna mounted 122 meters AGL and the formula provided below to be 1.16 μ Watts/cm² or 0.6% of the maximum permissible 200 μ Watts/cm² exposure for general population/uncontrolled exposure and less than the 5% requiring consideration.

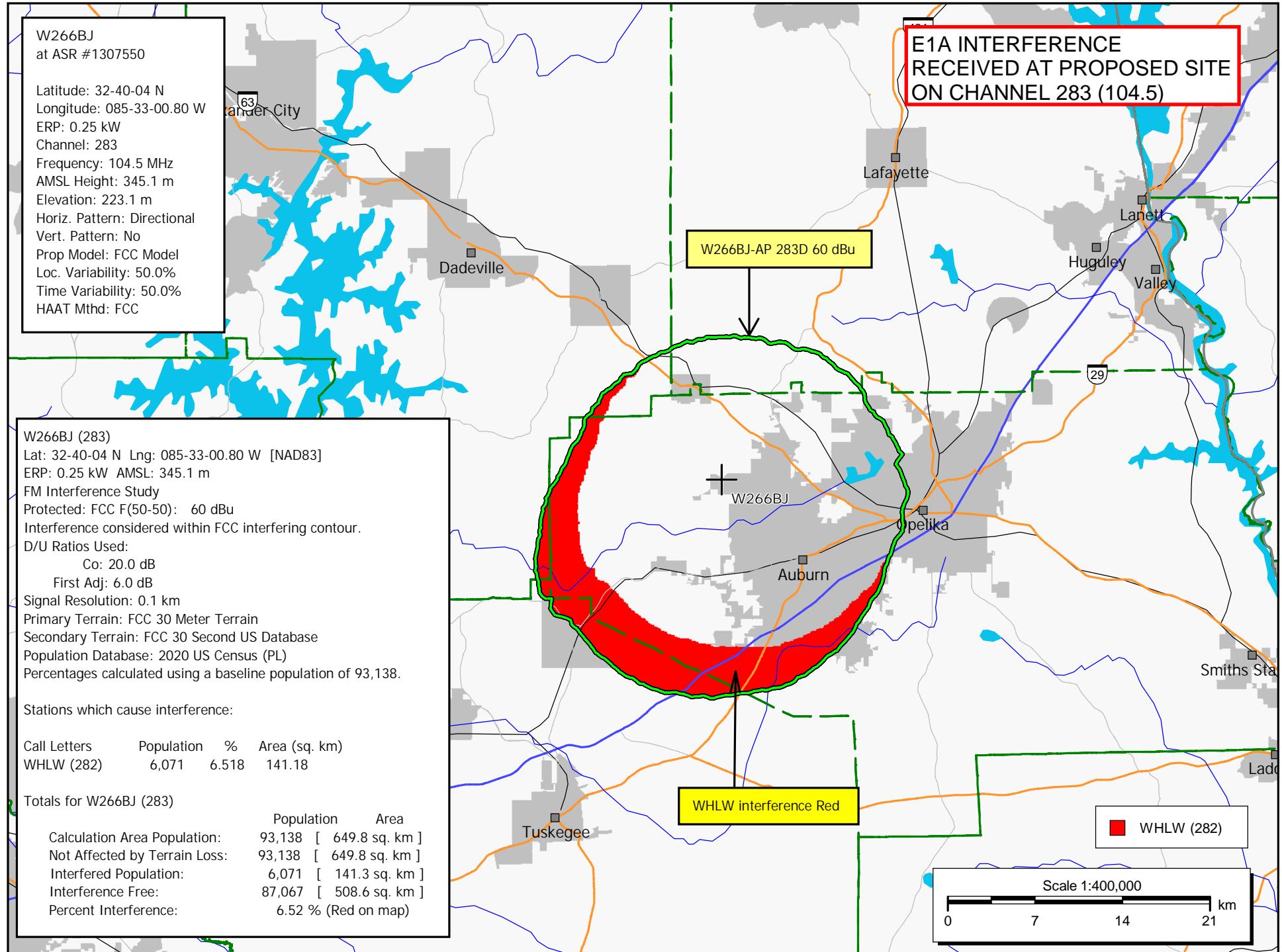
$$S \text{ (RF in } \mu\text{Watts/cm}^2) = \frac{33.4 \text{ (F}^2 - \text{Vert Factor)} X (\text{H ERP} + \text{V ERP in Watts})}{R^2 \text{ (distance to radiation center in meters - 2 m)}}$$

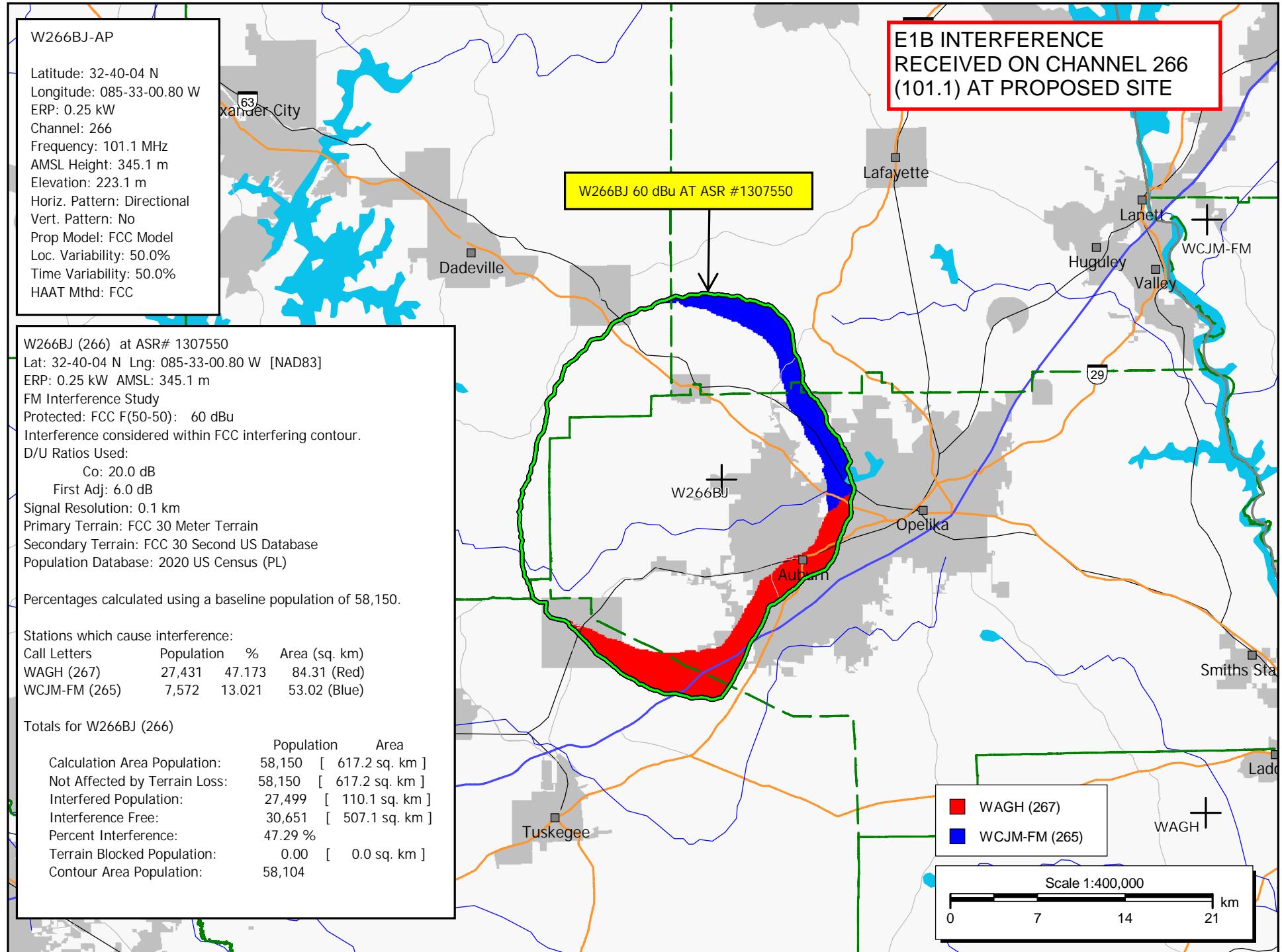
Conclusion:

It is concluded that the W266BJ modification complies with all Commission rules and policies.



Charles M. Anderson 12-06-2021





**E1C1 WAGH LONGLEY-RICE
60 TO 54 dBu COVERAGE**

W266BJ 48 dBu (50:10) using
possible facility at proposed site
ASR#1307550.

WAGH FCC 54 dBu (50:50)

WAGH
BLH20110405AAO
Latitude: 32-25-35.50 N
Longitude: 085-08-19.80 W
ERP: 18.00 kW
Channel: 267
Frequency: 101.3 MHz
AMSL Height: 221.0 m
Elevation: 116.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: Longley-Rice
Climate: Cont temperate
Conductivity: 0.0050
Dielec Const: 15.0
Refractivity: 311.0
Receiver Ht AG: 9.1 m
Receiver Gain: 0 dB
Time Variability: 50.0%
Sit. Variability: 50.0%
ITM Mode: Broadcast
FCC 1 Second Terrain
0.5 km Cells

Talladega

Dadeville

Lafayette

Lan-

Valley

185

W266BJ

Opelika

Auburn

Smiths Station

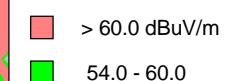
Ladonia Phenix City

WAGH

Tuskegee

Tuskegee

It is evident that locating W266BJ on its current channel at the proposed site to rebroadcast the WAUE HD2 signal would result in major interference to the WAGH usable 60 and 54 dBu service to the Auburn and Opelika, AL area. Since none of the adjacent channels are viable, the instant non-adjacent 283 (104.5) proposal is submitted.



Scale 1:500,000

0 15 30 45 km

E1C2 WAGH (267) Smiths, AL - BLH20110405AAO
Lat: 32-25-35.50 N Lng: 085-08-19.80 W [NAD83]

E1C3

WAGH ERP: 18.00 kW AMSL: 221.0 m

FM Interference Study

Protected: FCC F(50-50): 54 dBu

Interference considered within 100 km.

D/U Ratios Used:

Co: 20.0 dB

First Adj: 6.0 dB

Signal Resolution: 0.25 km

Primary Terrain: FCC 30 Meter Terrain

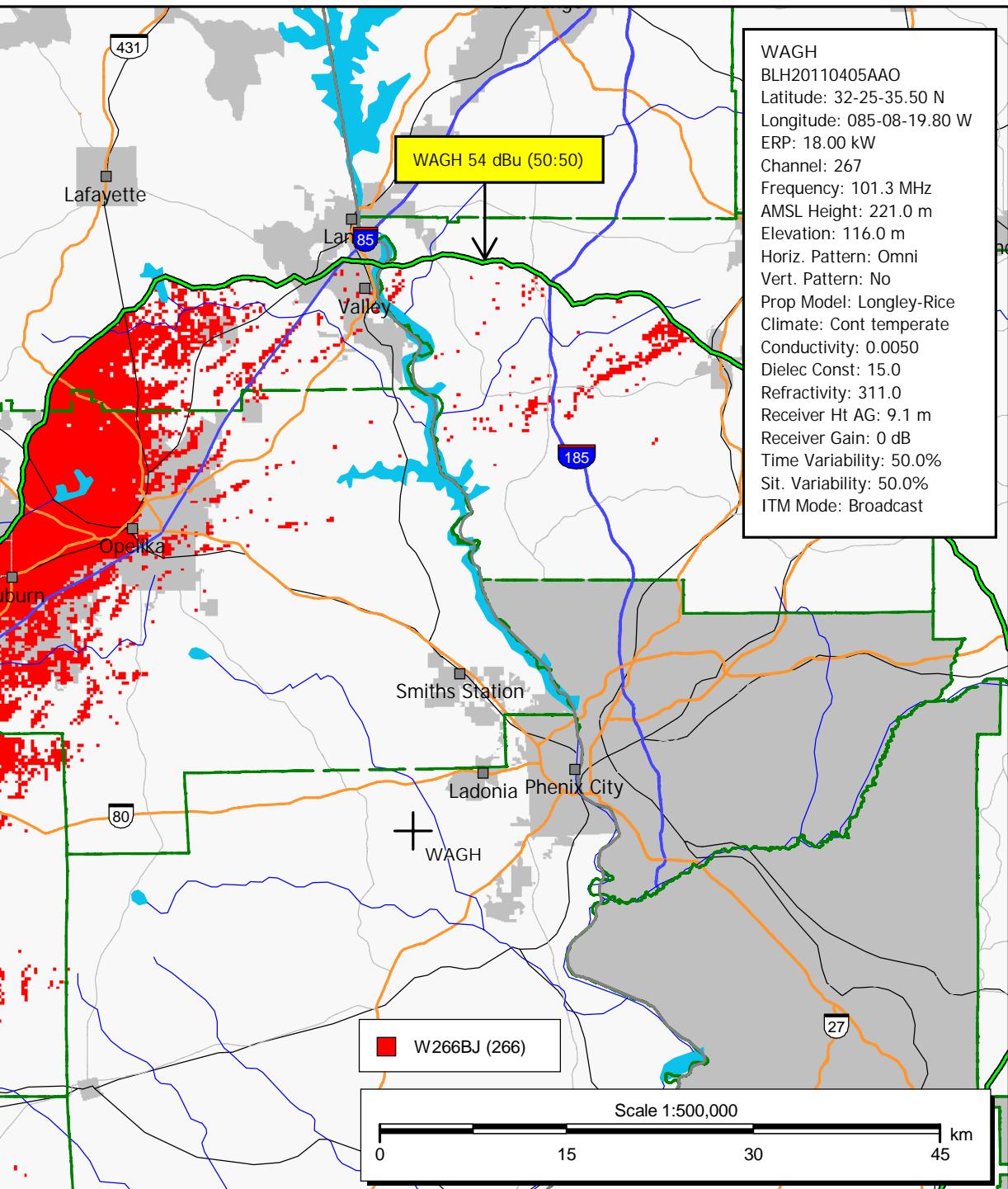
Secondary Terrain: FCC 30 Second US Database

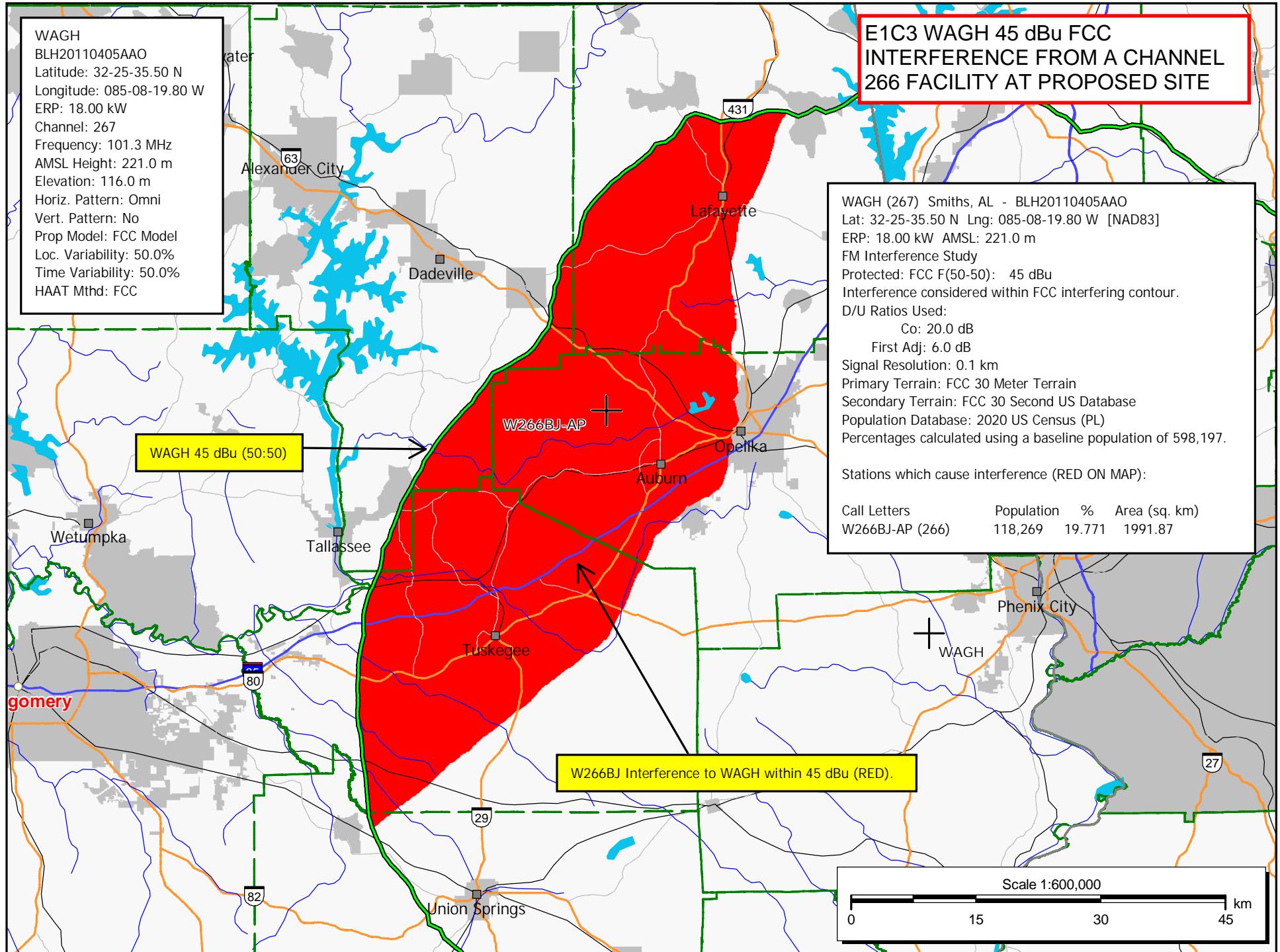
Population Database: 2020 US Census (PL)

Percentages calculated using a baseline population of 482,652.

Stations which cause interference:

Call Letters	Population	%	Area (sq. km)
W266BJ (266)	89,674	18.579	726.50





E1D W266BJ 263-269 CHANNEL STUDY

REFERENCE 32 40 04.00 N. 85 33 00.80 W.		Class= D , Pwr=0.25 kW DA, HAAT= 144.8 M, COR= 345.1 M Average Protected F(50-50)= 15.56 km Standard Directive										DISPLAY DATA SEARCH	DATES 12-03-21 12-04-21
CH CI TY	CALL	TYPE	ANT STATE	AZI . <--	DI ST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LI CENSEE	*IN* (Overlap in km)	*OUT*		
---	Channel 263	100.5 MHz.	---										
262A	AU9812857	USE AL	—	319.0 139.0	20.07 RM11520	32 48 85 41	14.47 27.83	6.000 100	41.7 299	27.0	-37.8*		-29.4*
262A	WAUE	LIC CN	AL	0.0 0.0	0.00 0000088709	32 40 85 33	04.00 00.80	0.320 129	330	---Reference--- Marble City Media, LLC			
264L1	WUBZ-LP	LIC CN	AL	205.3 25.3	31.03 BLL20150714ADG	32 24 85 41	55.50 30.10	0.027 56	153	City Of Tuskegee			-0.5
---	Channel 264	100.7 MHz.	---										
264A	AU6229997	USE AL	—	337.3 157.2	66.67 RM9268	33 13 85 49	15.42 34.85	6.000 100	89.9 396	30.5	-38.3*		-15.0
264L1	WUBZ-LP	LIC CN	AL	205.3 25.3	31.03 BLL20150714ADG	32 24 85 41	55.50 30.10	0.027 56	153	City Of Tuskegee			-29.9*
264A	WCKF	LIC NCN	AL	338.3 158.2	78.15 BLH20090630ABP	33 19 85 51	14.40 38.90	1.700 190	84.5 529	29.8 Wckf, L. L. C.	-21.3*		-2.0
262A	AU9812857	USE —		319.0 85 41	20.07 27.83	32 48 100	14.47	6.000	2.6	27.0	2.2	-8.0*	Waverly AL
---	Channel 265	100.9 MHz.	---										
265A	WCJM-FM	LIC CN	GA	61.7 242.0	43.97 BLH20140723ACN	32 51 85 08	15.50 07.80	6.000 96	89.0 304	29.8 I hm Li censes,	-54.7*		-21.0*
262A	WAUE	LIC CN	AL	0.0 0.0	0.00 0000088709	32 40 85 33	04.00 00.80	0.320 129	330	---Reference--- Marble City Media, LLC			
266D	W266BJ	LIC DCN	AL	203.4 23.4	21.35 BLFT20180806ACG	32 29 85 38	29.50 26.80	0.250	14.5 225	10.0 Hughey Communi	-10.4		-15.0*
262A	AU9812857	USE —		319.0 139.0	20.07 RM11520	32 48 85 41	14.47 27.83	6.000 100	2.6 299	27.0	2.2		-8.0*
264L1	WUBZ-LP	LIC CN	AL	205.3 25.3	31.03 BLL20150714ADG	32 24 85 41	55.50 30.10	0.027 56	153	City Of Tuskegee			-0.5
---	Channel 266	101.1 MHz.	---										
266D	W266BJ	LIC DCN	AL	203.4 23.4	21.35 BLFT20180806ACG	32 29 85 38	29.50 26.80	0.250	35.1 225	10.0 Hughey Communi	31.1*		-44.4*
---	Channel 267	101.3 MHz.	---										
267C3	WAGH	LIC NCN	AL	124.7 304.9	46.96 BLH20110405AA0	32 25 85 08	35.50 19.80	18.000 108	104.2 221	29.7 I hm Li censes,	-65.1*		-25.4*
266D	W266BJ	LIC DCN	AL	203.4 23.4	21.35 BLFT20180806ACG	32 29 85 38	29.50 26.80	0.250	14.5 225	10.0 Hughey Communi	-10.4		-15.0*
270CO	WHHY-FM	LIC CN	AL	244.3 64.0	67.30 BMLH20070402ADP	32 24 86 11	13.50 46.90	100.000 334	10.6 397	74.5 Cumulus	39.1		-8.3*
270CO	WHHY-FM	LIC CN	AL	244.3 64.0	67.30 BMLH20070402ADP	32 24 86 11	13.50 46.90	100.000 334	10.6 397	74.5 Cumulus	39.1		-8.3*
---	Channel 269	101.7 MHz.	---										
270CO	WHHY-FM	LIC CN	AL	244.3 64.0	67.30 BMLH20070402ADP	32 24 86 11	13.50 46.90	100.000 334	108.3 397	74.5 Cumulus	-58.6*		-33.2*

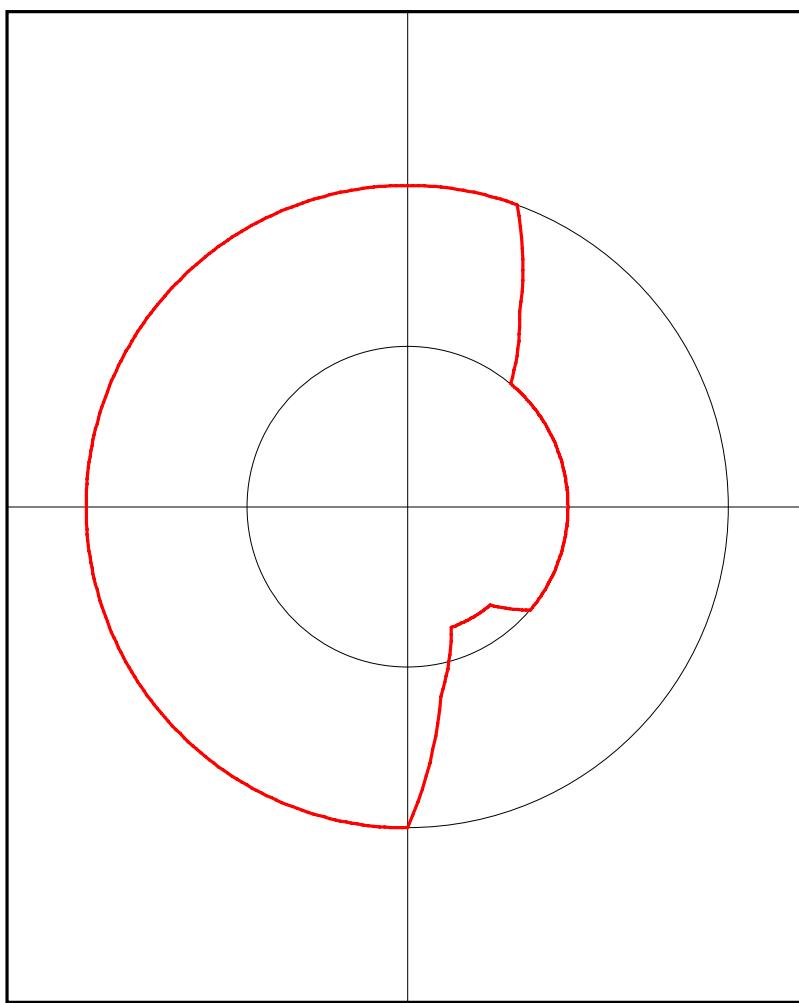
Note that none of the adjacent channels are viable alternatives.

Terrain database is FCC 30 meter, R= 73.215 equal spacing spacings or FCC minimum spacings in KM, M= Margin KM
 In & Out distances between contours are shown at closest points. Reference Zone= East Zone
 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.

All separation margins include rounding

E1E 266D Antenna Pattern

Azimuth (deg)	Relative Field
0.0	1.0
10.0	1.0
20.0	1.0
30.0	0.7
40.0	0.5
50.0	0.5
60.0	0.5
70.0	0.5
80.0	0.5
90.0	0.5
100.0	0.5
110.0	0.5
120.0	0.5
130.0	0.5
140.0	0.4
150.0	0.4
160.0	0.4
170.0	0.6
180.0	1.0
190.0	1.0
200.0	1.0
210.0	1.0
220.0	1.0
230.0	1.0
240.0	1.0
250.0	1.0
260.0	1.0
270.0	1.0
280.0	1.0
290.0	1.0
300.0	1.0
310.0	1.0
320.0	1.0
330.0	1.0
340.0	1.0
350.0	1.0



E2 W266BJ ON 283 (104.5) AT ASR#1307550

REFERENCE 32 40 04.00 N. 85 33 00.80 W.		CH# 283D - 104.5 MHz, Pwr= 0.25 KW DA, HAAT= 144.8 M, COR= 345.1 M Average Protected F(50-50)= 15.56 km Standard Directional										DISPLAY DATES DATA 12-03-21 SEARCH 12-04-21	
CH CITY	CALL CITY	TYPE STATE	ANT -->	AZI FILE #	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT* (Overlap in km)		
282C1	WHLW Luverne	LIC	NCN AL	216.9 36.6	96.15 BLH19970731KB	31 58 28.50 86 09 43.80	13.500 558	101.0 684	68.4 1 hm	-21.7* Licenses, LLC	2.2		
286D	NEW Auburn	APP	DCN AL	0.0 0.0	0.00 BNPFT20180327ABZ	32 40 03.50 85 33 00.80	0.005	0.1 358	5.7 Auburn Network, Inc.	-14.9* -6.8*		(1)	
286D	NEW Auburn	APP	DCN AL	0.0 0.0	0.00 BNPFT20170728ACA	32 40 03.40 85 33 00.80	0.005	0.1 358	5.7 Auburn Network, Inc.	-14.9* -6.8*			
283C1	WKAK Albany	LIC	CN GA	130.1 310.9	191.39 BLH19900424KC	31 32 57.60 84 00 18.70	100.000 299	173.0 373	73.1 First Media Services, LLC	2.3	67.0		
283D	W283DF Columbus	LIC	CN GA	113.8 294.1	59.12 0000087341	32 27 07.50 84 58 24.70	0.250	23.8 117	7.1 Davis Broadcasting, Inc.	20.3	2.4		
284C0	WZZK-FM Birmingham	LIC	CN AL	308.1 127.5	148.16 BLH20030130AHE	33 29 04.40 86 48 25.00	100.000 404	118.0 597	79.5 Sm-Wzzk, LLC	14.8	45.3		
285C3	WFXE Columbus	CP	NCN GA	115.7 295.9	51.42 BPH20180329AAD	32 27 59.50 85 03 21.80	7.300 149	3.4 274	34.6 Davis Broadcasting, Inc.	32.8	15.1		
285C3	WFXE Columbus	LIC	NCN GA	115.7 295.9	51.42 0000126360	32 27 59.50 85 03 21.80	7.300 149	3.4 274	34.6 Davis Broadcasting, Inc.	32.8	15.1		
286A	AU9397667 Rockford	USE	— AL	293.8 113.5	56.23 RM11172	32 52 15.45 86 06 03.89	6.000 100	2.9 302	30.0 Ti ger Communications, Inc.	38.0	24.3		
230C3	WQSI Union Springs	LIC	CN AL	196.3 16.2	40.42 BLH20060306BHJ	32 19 04.50 85 40 15.80	12.500 143	18.9 236	5.5 Tiger Communications, Inc.	11.5R	28.9M		

Terrain database is FCC 30 meter, 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.

(1) See E2A disapproval of interference per *Living Way*.

E2A 286D Analysis

W266BJ Waverly, AL, Showing Protection to NEW. A, Channel: 286
 Geographic Coordinates: N. 32 40 04.00 W. 85 33 00.80
 74.1204(d) Study - Using FCC 30 meter Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 262
 Translator or LPFM Antenna Height AG = 122 meters
 WAUE Antenna Azimuth Model = Vertical Model Name = NI COM BKG77-1

Protected Station's Contour = 113.8379 dBu
 Translator's or LPFM's full Interference contour 153.8379

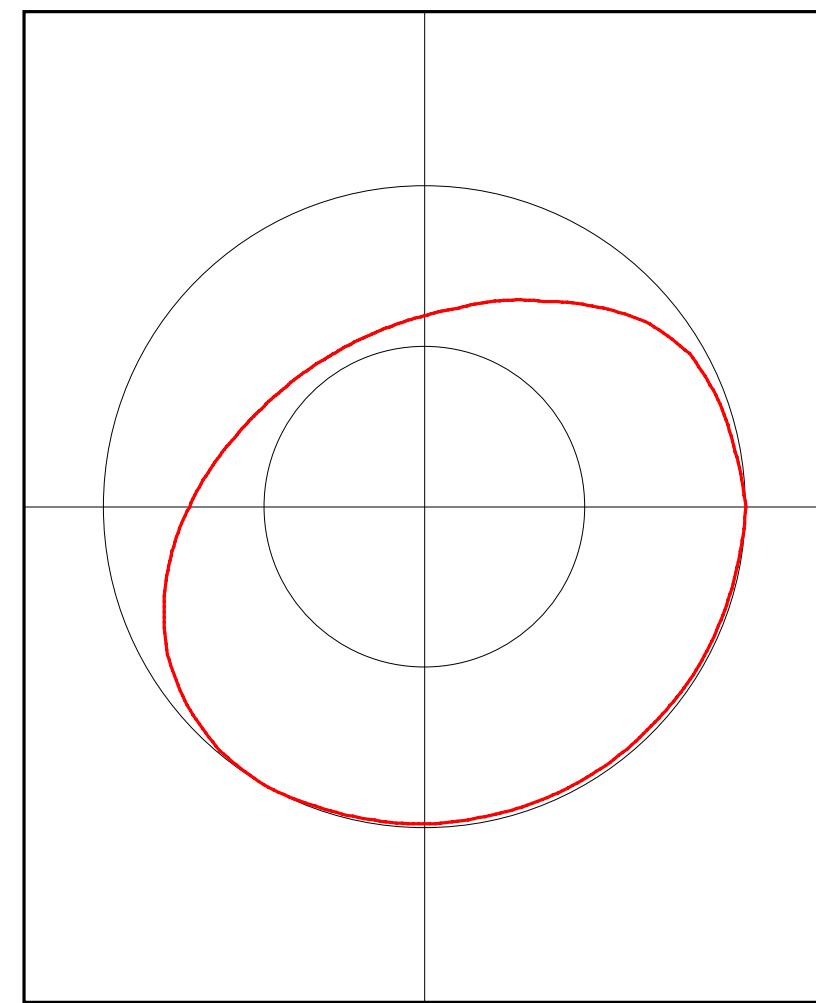
Review Azimuth = 0 Degrees True
 Horizontal Relative Field at Review Azimuth = 1.000
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW
 Distance between stations = 0.0 km
 Protected Station= NEW. A, .005 kW, 358 M meters COR AMSL

Depression Angle From Degree(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	002.2546	002.2546	122.000
05.00	0.999	1.0	0.2495	002.2524	002.2438	121.804
10.00	0.982	1.0	0.2411	002.2140	002.1804	121.616
15.00	0.954	1.0	0.2275	002.1509	002.0776	121.443
20.00	0.918	1.0	0.2107	002.0697	001.9449	121.292
25.00	0.872	1.0	0.1901	001.9660	001.7818	121.169
30.00	0.818	1.0	0.1673	001.8443	001.5972	121.078
35.00	0.758	1.0	0.1436	001.7090	001.3999	121.020
40.00	0.691	1.0	0.1194	001.5579	001.1935	120.999
45.00	0.616	1.0	0.0949	001.3889	000.9821	121.018
50.00	0.538	1.0	0.0724	001.2130	000.7797	121.071
55.00	0.465	1.0	0.0541	001.0484	000.6013	121.141
60.00	0.391	1.0	0.0382	000.8816	000.4408	121.237
65.00	0.313	1.0	0.0245	000.7057	000.2982	121.360
70.00	0.239	1.0	0.0143	000.5389	000.1843	121.494
75.00	0.176	1.0	0.0077	000.3968	000.1027	121.617
80.00	0.129	1.0	0.0042	000.2908	000.0505	121.714
85.00	0.103	1.0	0.0027	000.2322	000.0202	121.769
90.00	0.004	1.0	0.0000	000.0090	000.0000	121.991

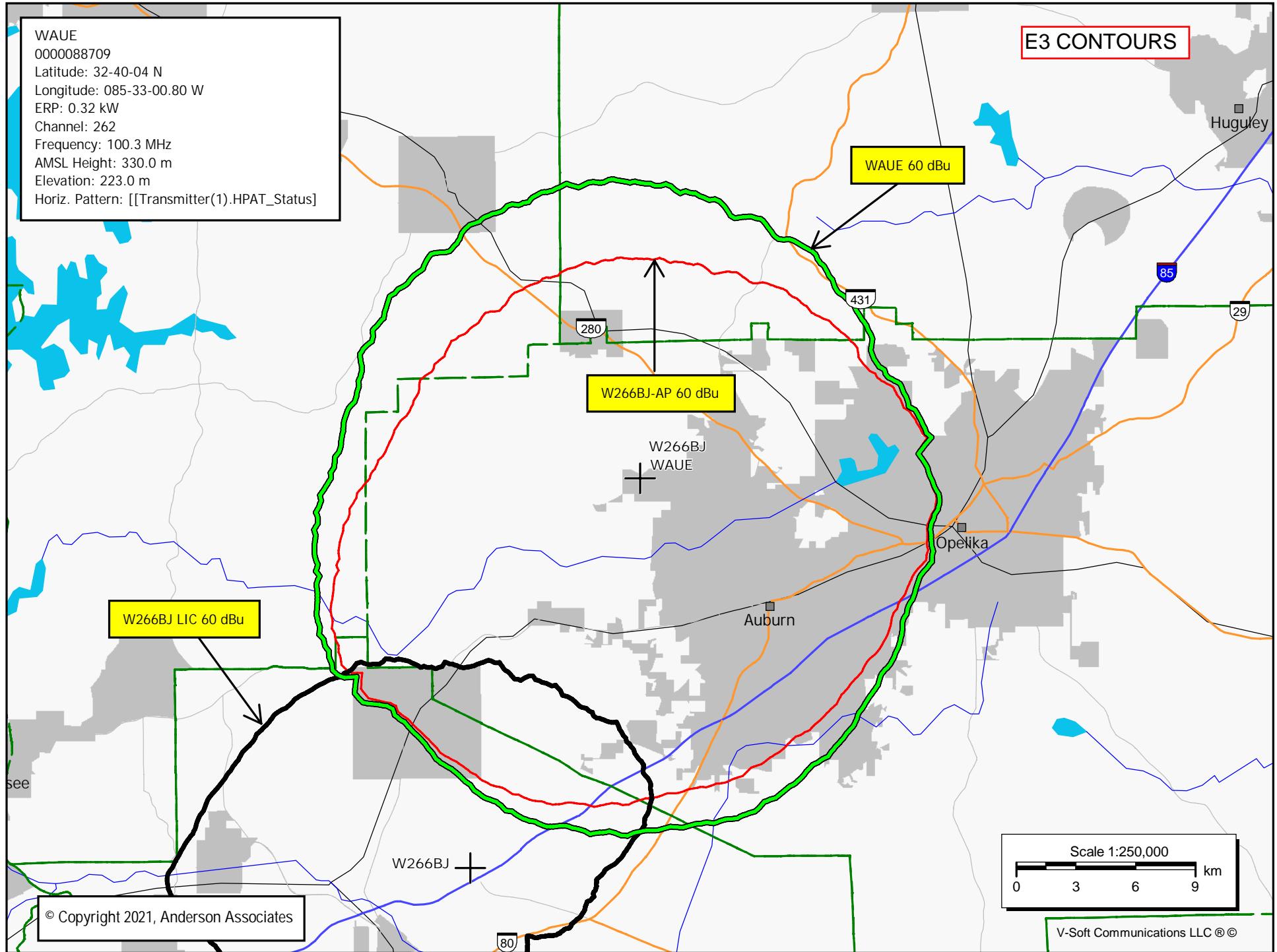
Interference to 286D 2nd adjacent application extend no more than 2.25 meters which does not reach any population or major highway from 122 meters AGL.

E2B 283D Antenna Pattern

Azimuth (deg)	Relative Field
0.0	0.594
10.0	0.628
20.0	0.682
30.0	0.738
40.0	0.815
50.0	0.897
60.0	0.953
70.0	0.973
80.0	0.983
90.0	1.0
100.0	0.992
110.0	0.988
120.0	0.988
130.0	0.983
140.0	0.983
150.0	0.983
160.0	0.983
170.0	0.983
180.0	0.988
190.0	0.988
200.0	0.992
210.0	1.0
220.0	0.991
230.0	0.963
240.0	0.923
250.0	0.862
260.0	0.797
270.0	0.731
280.0	0.676
290.0	0.628
300.0	0.594
310.0	0.571
320.0	0.558
330.0	0.553
340.0	0.558
350.0	0.571



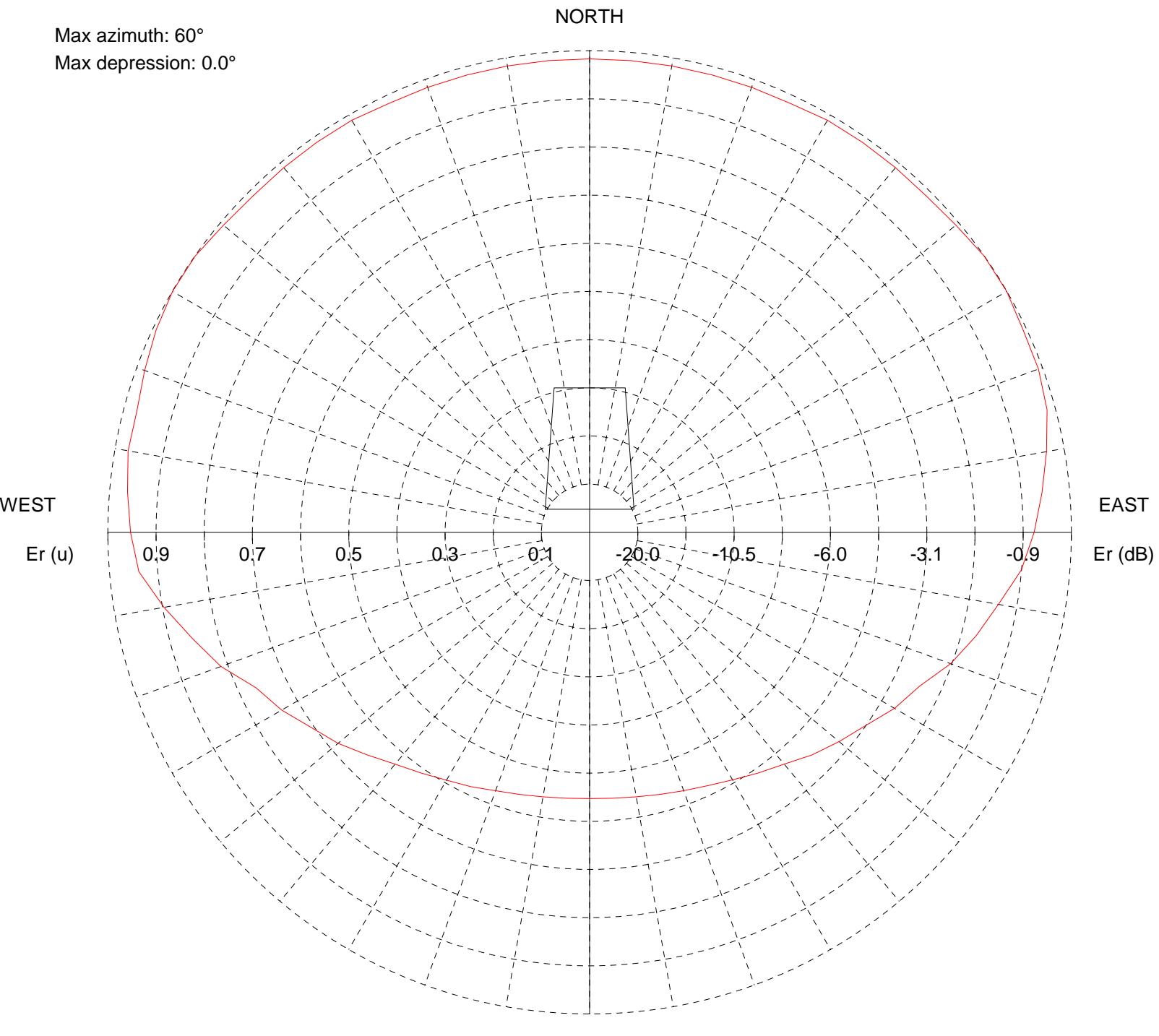
BKG-77 single bay oriented at 150 degrees.



TX station:

Site name:

Frequency: 100.00 MHz

Horizontal diagram of Maxima

— 0.0° depres. (Total antenna), Gain (dBd): -3.03 ERP T.max (KW): 0.498

ERP E.max (KW): 0.387

TX station:

Site name:

Frequency: 100.00 MHz

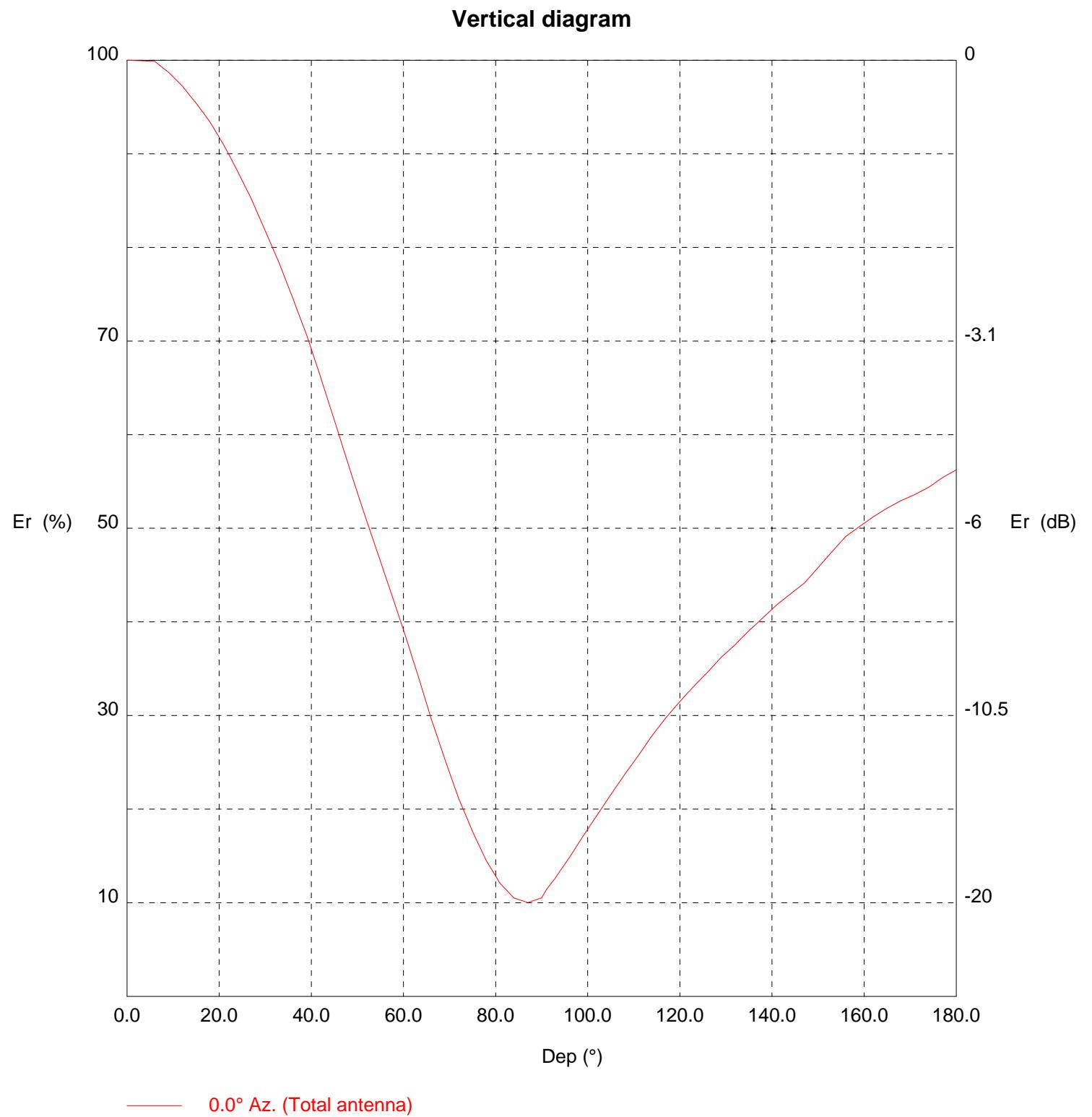
Horizontal diagram of Maxima

Az (°)	Dep (°)	Er (%)	ERP (W)	Az (°)	Dep (°)	Er (%)	ERP (W)	Az (°)	Dep (°)	Er (%)	ERP (W)
0.0	0.0	98.3	373.6	120.0	0.0	73.1	206.6	240.0	0.0	73.8	210.7
5.0	0.0	98.3	373.6	125.0	0.0	69.9	189.2	245.0	0.0	76.4	225.7
10.0	0.0	98.3	373.6	130.0	0.0	67.6	176.7	250.0	0.0	81.5	256.6
15.0	0.0	98.3	373.6	135.0	0.0	65.3	165.1	255.0	0.0	85.3	281.6
20.0	0.0	98.3	373.6	140.0	0.0	62.8	152.7	260.0	0.0	89.7	311.1
25.0	0.0	98.3	373.6	145.0	0.0	61.0	144.0	265.0	0.0	93.9	341.1
30.0	0.0	98.8	377.5	150.0	0.0	59.4	136.3	270.0	0.0	95.3	351.1
35.0	0.0	98.8	377.5	155.0	0.0	58.0	130.3	275.0	0.0	96.3	358.5
40.0	0.0	98.8	377.5	160.0	0.0	57.1	126.1	280.0	0.0	97.3	366.1
45.0	0.0	98.8	377.5	165.0	0.0	56.3	122.8	285.0	0.0	97.3	366.1
50.0	0.0	99.2	380.8	170.0	0.0	55.8	120.3	290.0	0.0	98.3	373.6
55.0	0.0	100.0	386.5	175.0	0.0	55.4	118.7	295.0	0.0	99.3	381.4
60.0	0.0	100.0	386.7	180.0	0.0	55.3	118.2	300.0	0.0	100.0	386.7
65.0	0.0	99.3	381.4	185.0	0.0	55.4	118.7	305.0	0.0	100.0	386.5
70.0	0.0	99.1	380.0	190.0	0.0	55.8	120.3	310.0	0.0	99.2	380.8
75.0	0.0	98.3	373.6	195.0	0.0	56.3	122.8	315.0	0.0	98.8	377.5
80.0	0.0	96.3	358.5	200.0	0.0	57.1	126.1	320.0	0.0	98.8	377.5
85.0	0.0	94.3	343.8	205.0	0.0	58.3	131.4	325.0	0.0	98.8	377.5
90.0	0.0	92.3	329.3	210.0	0.0	59.4	136.5	330.0	0.0	98.8	377.5
95.0	0.0	90.0	312.9	215.0	0.0	61.0	144.0	335.0	0.0	98.3	373.6
100.0	0.0	86.2	287.1	220.0	0.0	62.8	152.7	340.0	0.0	98.3	373.6
105.0	0.0	83.0	266.7	225.0	0.0	65.3	165.1	345.0	0.0	98.3	373.6
110.0	0.0	79.7	245.9	230.0	0.0	68.2	179.6	350.0	0.0	98.3	373.6
115.0	0.0	75.6	221.0	235.0	0.0	70.6	192.7	355.0	0.0	98.3	373.6

TX station:

Site name:

Frequency: 100.00 MHz



TX station:

Site name:

Frequency: 100.00 MHz

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	373.6	60.0	39.1	57.2	120.0	31.5	37.0
1.0	100.0	373.5	61.0	37.6	52.8	121.0	32.0	38.3
2.0	100.0	373.4	62.0	36.1	48.6	122.0	32.6	39.6
3.0	99.9	373.3	63.0	34.5	44.6	123.0	33.1	41.0
4.0	99.9	373.1	64.0	32.9	40.5	124.0	33.6	42.2
5.0	99.9	372.9	65.0	31.3	36.6	125.0	34.1	43.5
6.0	99.9	372.8	66.0	29.7	33.0	126.0	34.6	44.7
7.0	99.5	369.9	67.0	28.2	29.8	127.0	35.2	46.2
8.0	99.1	367.0	68.0	26.8	26.8	128.0	35.7	47.6
9.0	98.7	364.1	69.0	25.3	23.9	129.0	36.2	49.1
10.0	98.2	360.5	70.0	23.9	21.3	130.0	36.7	50.3
11.0	97.7	356.9	71.0	22.5	18.9	131.0	37.1	51.5
12.0	97.2	353.3	72.0	21.1	16.6	132.0	37.6	52.7
13.0	96.6	348.9	73.0	19.9	14.8	133.0	38.1	54.1
14.0	96.0	344.5	74.0	18.8	13.2	134.0	38.6	55.6
15.0	95.4	340.1	75.0	17.6	11.6	135.0	39.1	57.0
16.0	94.7	335.4	76.0	16.6	10.2	136.0	39.5	58.4
17.0	94.1	330.8	77.0	15.5	9.0	137.0	40.0	59.7
18.0	93.4	326.1	78.0	14.5	7.8	138.0	40.4	61.1
19.0	92.6	320.4	79.0	13.7	7.0	139.0	40.9	62.5
20.0	91.8	314.7	80.0	12.9	6.2	140.0	41.4	63.9
21.0	91.0	309.1	81.0	12.0	5.4	141.0	41.8	65.3
22.0	90.0	302.7	82.0	11.5	5.0	142.0	42.2	66.5
23.0	89.1	296.5	83.0	11.0	4.5	143.0	42.6	67.8
24.0	88.1	290.3	84.0	10.5	4.1	144.0	43.0	69.0
25.0	87.2	283.8	85.0	10.3	4.0	145.0	43.4	70.3
26.0	86.2	277.4	86.0	10.2	3.9	146.0	43.8	71.6
27.0	85.2	271.1	87.0	10.0	3.7	147.0	44.1	72.8
28.0	84.0	263.9	88.0	10.2	3.9	148.0	44.7	74.7
29.0	82.9	256.8	89.0	10.4	4.0	149.0	45.3	76.5
30.0	81.8	249.8	90.0	10.5	4.1	150.0	45.8	78.4
31.0	80.6	242.9	91.0	11.4	4.8	151.0	46.4	80.3
32.0	79.5	236.1	92.0	12.0	5.4	152.0	46.9	82.3
33.0	78.3	229.3	93.0	12.7	6.0	153.0	47.5	84.3
34.0	77.1	222.0	94.0	13.4	6.7	154.0	48.0	86.2
35.0	75.8	214.7	95.0	14.1	7.4	155.0	48.6	88.2
36.0	74.5	207.6	96.0	14.8	8.2	156.0	49.1	90.2
37.0	73.2	200.4	97.0	15.6	9.1	157.0	49.5	91.5
38.0	71.9	193.3	98.0	16.4	10.0	158.0	49.8	92.8
39.0	70.6	186.3	99.0	17.1	11.0	159.0	50.2	94.1
40.0	69.1	178.6	100.0	17.9	11.9	160.0	50.5	95.4
41.0	67.6	170.9	101.0	18.6	12.9	161.0	50.9	96.8
42.0	66.1	163.5	102.0	19.3	13.9	162.0	51.2	98.1
43.0	64.6	156.0	103.0	20.1	15.0	163.0	51.5	99.2
44.0	63.1	148.7	104.0	20.8	16.2	164.0	51.8	100.4
45.0	61.6	141.6	105.0	21.5	17.3	165.0	52.1	101.6
46.0	60.0	134.4	106.0	22.3	18.5	166.0	52.4	102.7
47.0	58.4	127.5	107.0	23.0	19.7	167.0	52.7	103.7
48.0	56.8	120.7	108.0	23.7	21.0	168.0	53.0	104.8
49.0	55.3	114.4	109.0	24.4	22.2	169.0	53.2	105.7
50.0	53.8	108.2	110.0	25.1	23.5	170.0	53.4	106.5
51.0	52.3	102.2	111.0	25.7	24.8	171.0	53.6	107.4
52.0	50.8	96.6	112.0	26.5	26.2	172.0	53.9	108.4
53.0	49.4	91.1	113.0	27.2	27.6	173.0	54.1	109.4
54.0	47.9	85.8	114.0	27.9	29.0	174.0	54.4	110.5
55.0	46.5	80.7	115.0	28.5	30.4	175.0	54.7	111.9
56.0	45.0	75.7	116.0	29.2	31.8	176.0	55.1	113.3
57.0	43.6	71.0	117.0	29.8	33.1	177.0	55.4	114.7
58.0	42.1	66.2	118.0	30.4	34.4	178.0	55.7	115.9
59.0	40.6	61.6	119.0	30.9	35.7	179.0	56.0	117.0