

**Modify FM Translator W278AM Sedalia, NC
Channel 278D – 103.5 MHz – 0.010 kW**

**Proposed Channel 278D – 103.5 MHz – 0.250 kW
Sedalia, NC
February 13, 2022
Amended May 28, 2022**

TECHNICAL NARRATIVE

This amended Technical Narrative and attached exhibits were prepared on behalf of Triad Family Network, Inc., ("Triad"), licensee of FM translator W278AM, Channel 278D, Facility ID No. 87023, Sedalia, NC. Triad proposes to modify W278AM to operate on channel 278D (103.5 MHz) from a different transmit site. The proposed site is an existing tower registered with FCC Antenna Structure Registration number 1235239. W278AM will broadcast from a shared antenna with FM translator W242CD, Greensboro, NC. The proposed W278AM facility will be used as fill-in translator simulcasting primary station WKEW(AM), 1400 kHz, Facility ID No. 73156, Greensboro, NC. Triad has obtained written consent to rebroadcast WKEW(AM) from Truth Broadcasting Corporation, licensee of WKEW(AM). The proposed W278AM facility would operate on Channel 278D (103.5 MHz) with 250 watts ERP directional with the transmit antenna located at 79 meters height above ground level and 86.45 meters HAAT. An exhibit showing the FCC F(50,50) 60 dBu contours of the proposed modification and licensed facility overlap. Therefore, it is believed this proposed modification is in compliance with FCC Section 74.1233(a) "Common Overlap".

A channel study is included as an exhibit that assumes a Class A 6 kW facility operating on channel 278. This study is provided to FCC staff as a convenience to help identify potential

contour overlap issues. Section 74.1204 contour protection exhibits shows protections to first adjacent full power FM station WAKG, Channel 277C1, Danville, VA, co-channel FM translator W278BM, Winston-Salem, NC, third adjacent full power FM station WQTR, Channel 281C, Winston-Salem, NC and second adjacent Class D FM station WUAG, Channel 276D, Greensboro, NC.

Studies have been undertaken to show the proposed facility is in compliance with the FCC's radio frequency emission limits and are attached as exhibits.

WKEW

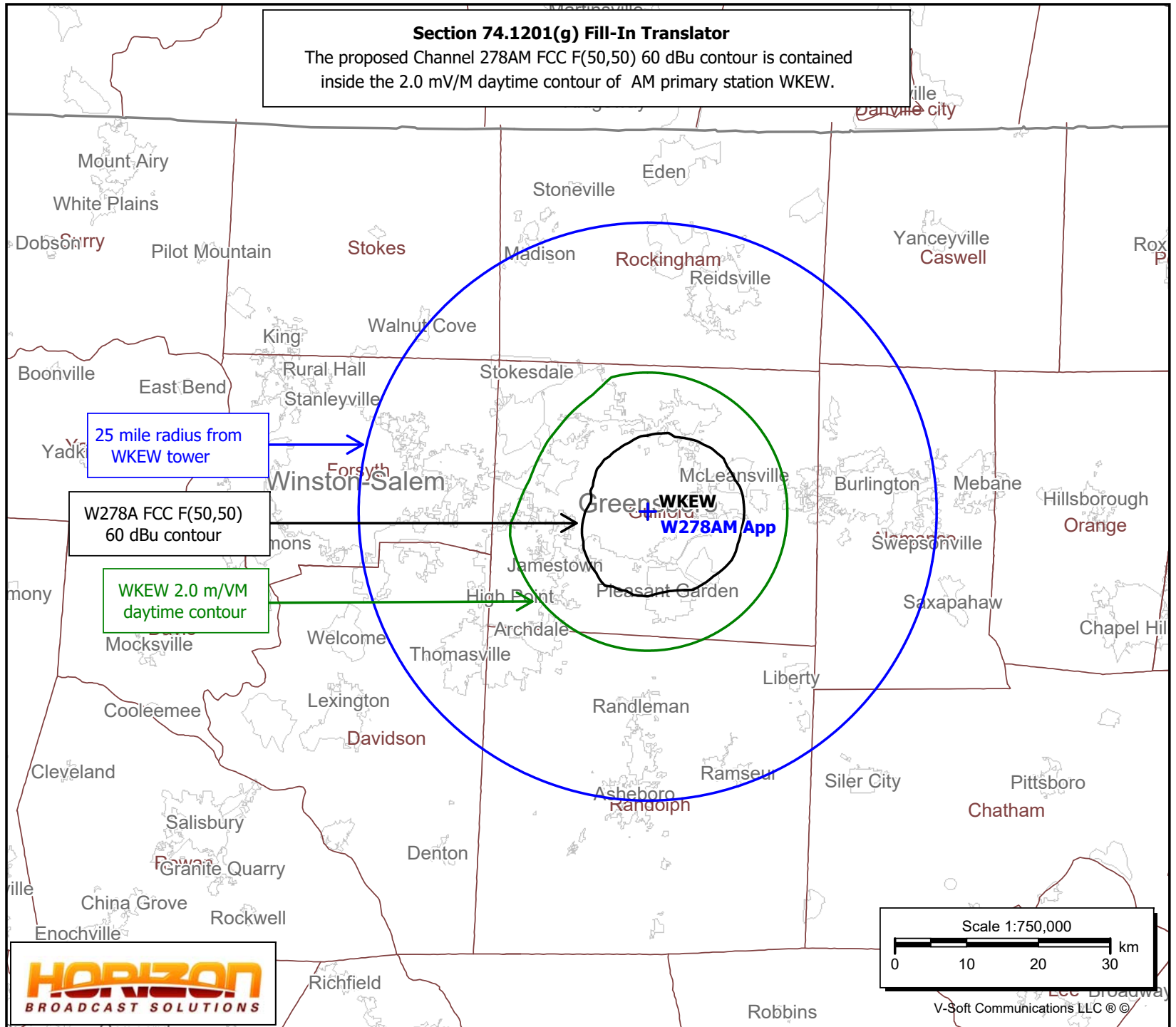
Type: AM
Channel: 1400
Latitude: 36-03-42 N
Longitude: 079-47-35 W
Power: 0.760 kW Daytime

W278AM App

Sedalia, NC
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

Section 74.1201(g) Fill-In Translator

The proposed Channel 278AM FCC F(50,50) 60 dBu contour is contained inside the 2.0 mV/M daytime contour of AM primary station WKEW.



W278AM Class A FM Channel Study

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REFERENCE                                     DISPLAY DATES
36 03 42.0 N.                                CLASS = A   Int = AA      DATA 02-13-22
79 47 34.0 W.                                Current Spacings to 3rd Adj.  SEARCH 02-13-22
----- Channel 278 - 103.5 MHz -----
Call      Channel  Location  Azi      Dist    FCC    Margin
      Lat.      Lng.      Ant      Power    HAAT
-----
W278AM    LIC    278D    Sedalia      NC  195.5    10.6    84.5    -73.9
35 58 09.5  79 49 28.1  CN      0.010 kW    168 M
      Triad Family Network, Inc.      BLFT19980127TC

WAKG      LIC    277C1   Danville      VA  25.7    83.8    132.5    -48.7
36 44 28.4  79 23 04.0  CN      100.000 kW    199 M
      Piedmont Broadcasting Corp      BLH19900904KB
Note: See Section 74.1204 Contour Protection: WAKG

W278BM    LIC-D 278D    Winston-Salem  NC  272.0    41.6    84.5    -42.9
36 04 26.5  80 15 17.2  DCN      0.250 kW    0 M
      Truth Broadcasting Corpora      BLFT20180801AAR
Note: See Section 74.1204 Contour Protection: w278BM

WTQR      LIC-N 281C    Winston-Salem  NC  304.3    62.5    94.5    -32.0
36 22 36.9  80 22 07.8  NCN      100.000 kW    528 M
      Ihm Licenses, LLC      BLH20110809ABB
Note: See Section 74.1204 Contour Protection: WQTR & WUAG

WSOC-FM   LIC    279C0   Charlotte      NC  222.1    120.9    151.5    -30.6
35 15 06.5  80 41 11.2  CN      100.000 kW    411 M
      Beasley Media Group Licens      BMLH20140821ABX

WUAG      LIC    276D    Greensboro      NC  280.6     1.6    25.5    -23.9
36 03 51.4  79 48 36.1  CN      0.018 kW     79 M
      U. Of North Carolina At Gr      BLED19880819KC
Note: See Section 74.1204 Contour Protection: WQTR & WUAG

WRCQ      LIC    278C2   Dunn      NC  137.0    152.7    165.5    -12.8
35 03 09.5  78 38 53.0  CN      48.000 kW    153 M
      Cumulus Licensing LLC      BLH19900207KB

W224CO    CP -D 224D    Greensboro      NC   0.0     0.0     9.5     -9.5
36 03 42.0  79 47 34.0  DVN      0.250 kW    0 M
      Educational Media Foundati      0000153497

W224CO    LIC-D 224D    Greensboro      NC  328.2     4.4     9.5     -5.1
36 05 43.1  79 49 07.1  DVN      0.160 kW    0 M
      Educational Media Foundati      BLFT20160804AAT

W275AP    LIC    275D    Burlington      NC   90.4    24.3    25.5    -1.2
36 03 35.5  79 31 23.1  CN      0.055 kW     47 M
      Positive Alternative Radio      BLFT20061207ABM

WCOM-LP   LIC    278L1   Chapel Hill      NC  107.3    68.4    66.5     1.9
35 52 38.5  79 04 08.0  CN      0.100 kW     28 M
      Public Gallery Of Carrboro      BLL20040629ACS

WEOM-LP   LIC    276L1   Thomasville      NC  245.5    31.8    28.5     3.3
35 56 34.4  80 06 50.1  CN      0.100 kW     7 M
      World Evangelistic Outreac      BLL20040722ABL

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Call	Channel	Location	Azi	Dist	FCC	Margin
Lat.	Lng.	Ant	Power	HAAT		
W276DS	LIC 276D	Winston-Salem	NC 298.9	41.0	25.5	15.5
36 14 19.5	80 11 33.2	CN	0.250 kW 0 M			
	Crescent Media Group LLC		0000177622			
W278CZ	LIC 278D	Elkin	NC 282.0	105.0	84.5	20.5
36 15 07.5	80 56 07.3	CN	0.250 kW 0 M			
	Foothills Media, Inc.		BLFT20190710AAB			
WXTZ-LP	LIC 277L1	Yadkinville	NC 274.5	84.5	55.5	29.0
36 07 01.3	80 43 43.8	CN	0.033 kW 51 M			
	Yadkinville Media Inc		BLL20150727AAO			
W275AW	LIC 275D	Danville	VA 34.1	64.8	25.5	39.3
36 32 38.5	79 23 10.1	CN	0.038 kW 61 M			
	Educational Information Co		BLFT20070830ACP			
WSHP-LP	LIC 277L1	Cary	NC 108.5	95.3	55.5	39.8
35 47 09.3	78 47 32.6	CN	0.037 kW 49 M			
	Diocese Of Raleigh		BLL20171128ABD			
W277DD	LIC 277D	Salisbury	NC 236.7	77.2	33.5	43.7
35 40 45.5	80 30 24.2	CN	0.250 kW 0 M			
	2b Productions, LLC		BLFT20161202AAL			
WLHC	LIC 276A	Robbins	NC 155.3	75.6	30.5	45.1
35 26 33.5	79 26 36.1	CN	6.000 kW 100 M			
	Woolstone Corporation		BLH20030609AAG			
W279BW	LIC 279D	Roxboro	NC 63.3	80.2	33.5	46.7
36 22 57.5	78 59 37.0	CN	0.010 kW 187 M			
	Eastern Airwaves, LLC		BLFT20070831AAB			
WFNE-LP	LIC 278L1	Wake Forest	NC 94.5	115.9	66.5	49.4
35 58 26.2	78 30 42.1	CN	0.061 kW 39 M			
	Epic Radio, Inc.		BLL20151016ABG			
W277DK	LIC 277D	Albemarle	NC 205.8	83.1	33.5	49.6
35 23 13.5	80 11 31.2	CN	0.250 kW 0 M			
	Stanly Communications, Inc		BLFT20180503AAU			
W279BW	APP 279D	Roxboro	NC 71.6	85.4	33.5	51.9
36 17 58.5	78 53 25.0	VN	0.250 kW 0 M			
	Eastern Airwaves, LLC		BPFT20181105AAW			
W278AJ	LIC 278D	Blacksburg	VA 334.0	139.2	84.5	54.7
37 11 12.1	80 28 53.0	CN	0.200 kW 0 M			
	Monticello Media LLC		BLFT20160805ABM			
W277DZ/W2	CP -D 277D	Durham	NC 95.8	88.6	33.5	55.1
35 58 39.6	78 48 57.1	DHN	0.155 kW 0 M			
	Delmarva Educational Assoc		0000157554			
WZVA	LIC 278A	Marion	VA 303.8	170.3	114.5	55.8
36 54 10.4	81 22 55.4	CN	3.700 kW 129 M			
	Bristol Broadcasting Compa		BLH20030930BCX			

W278AM App

Sedalia, NC
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

WAKG

Danville, VA
BLH19900904KB
Latitude: 36-44-28.40 N
Longitude: 079-23-04 W
ERP: 100.00 kW
HAAT: 199.0
Channel: 277
Frequency: 103.3 MHz
AMSL Height: 410.0 m
Elevation: 331.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Section 74.1204 Contour Protection

WAKG Channel 277C1 Danville, VA

**WAKG F(50,50)
60 dBu contour**

Rockingham

Reidsville

Caswell

Kernersville

Greensboro

W278AM App

Burlington

Graham

Alamance

High Point

Archdale

Thomasville

FCC Contours Legend

F(50,50) 60 dBu = Black

F(50,10) 54 dBu = Red

HORIZON
BROADCAST SOLUTIONS

Scale 1:416,667

0 5 10 15 km

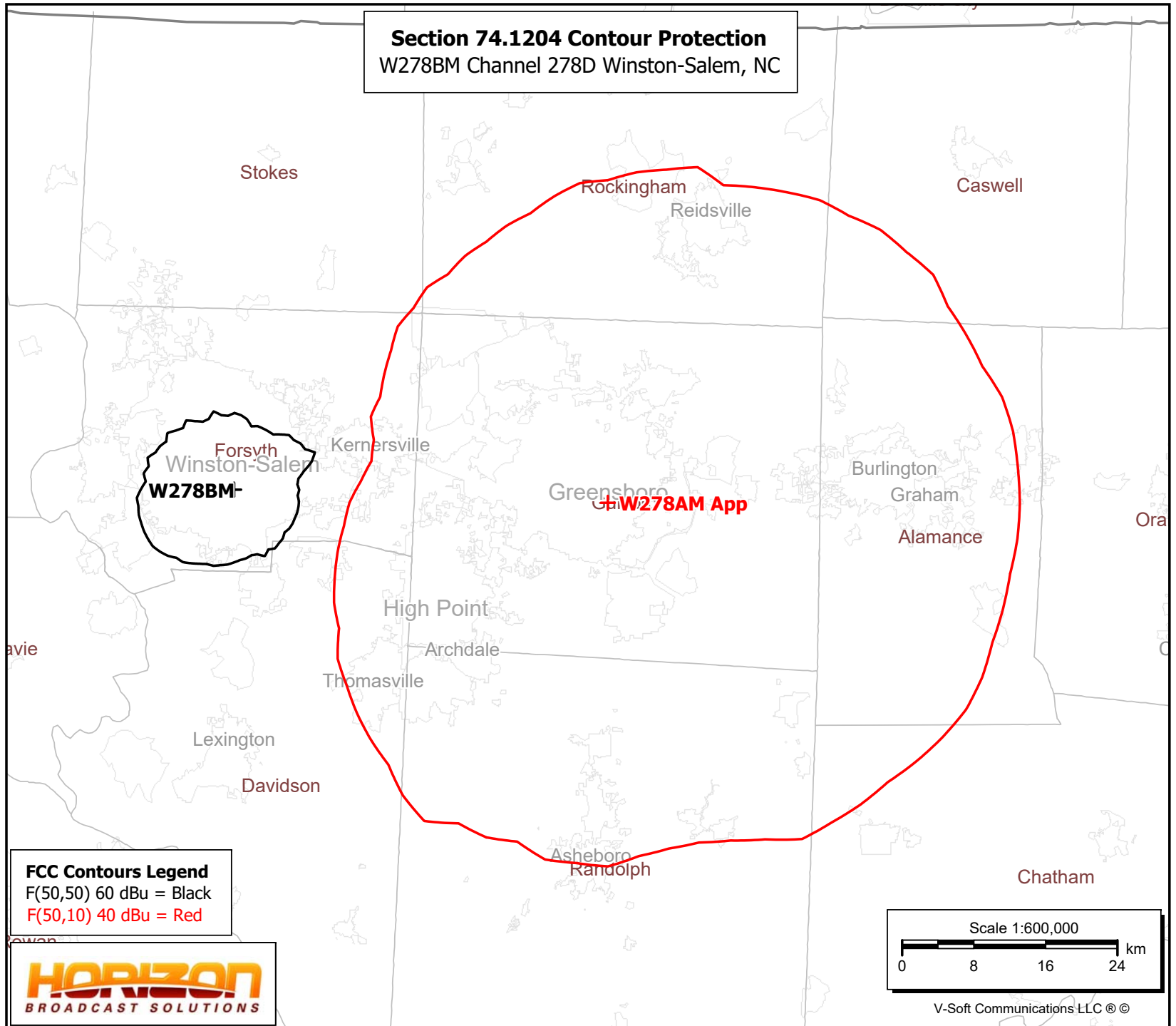
V-Soft Communications LLC ©

W278AM App

Sedalia, NC
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

W278BM

Winston-Salem, NC
BLFT20180801AAR
Latitude: 36-04-26.50 N
Longitude: 080-15-17.20 W
ERP: 0.25 kW
HAAT: 57 m
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 321.0 m
Elevation: 219.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

Section 74.1204 Contour Protection
W278BM Channel 278D Winston-Salem, NC

Section 74.1204
Contour Protection to WTQR & WUAD

This comprehensive exhibit has been prepared to demonstrate that the proposed modification of W278AM will not cause prohibited interference to WTQR, Channel 281C, Winston-Salem, NC and WUAD, Channel 276D, Greensboro, NC. This statement demonstrates that a lack of population and/or other factors allow this proposal to be compliant with Section 74.1204. The process commonly called “Living Way,” allows for the use of U/D Analysis, also known as “signal strength ratio methodology.” In this instant case the facilities to be protected are third adjacent and second adjacent and are to be afforded protection from signals 40 dB stronger than they present in the location of the proposed antenna location.

The WTQR F(50,50) contour at the proposed W278AM application site is 71.3 dBu. Therefore, the proposed W278AM F(50,10) interfering contour with respect to WTQR is the 111.3 dBu contour. The WUAD F(50,50) contour at the W278AM application site is 85 dBu. Therefore, the proposed W278AM F(50,10) interfering contour with respect to WQAD is the 125 dBu. The interfering contour to WTQR will cause the greatest interference and will be used to determine Section 74.1204 contour protection compliance. Using the FCC's FM propagation curves program (see attached), the 111.3 dBu contour was calculated to extend 83 meters from the antenna.

The proposed W278AM transmit antenna will be located 79 meters above ground level. As shown on the accompanying spreadsheet and chart, using the vertical elevation pattern data (see attached) for the Nicom BKG77 two bay 0.85 wavelength antenna the ERP and contour distances have been calculated every 10 degrees from 0 degrees to 90 degrees. The contour distance ranges from a maximum distance of 302 meters at 0 degrees to a minimum of 34 meters at 30 degrees. That data was calculated in the attached charts to plot the distance the interfering contour extends into free space. The contour reaches to within two meters of the ground in a small donut shaped area around the tower. This small area is from 35 meters to 65 meters from the tower base. There are no buildings or population in this area. The predicted interference area is clearly depicted in the attached Google Earth Screenshot. Therefore, it is believed that the proposed W278AM modification will not cause prohibited interference to WTQR or WUAD as the interfering contour does not reach the ground where there are occupied buildings or population.

W278AM App

Sedalia, NC
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.019 kW
HAAT: 86.45 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

WTQR

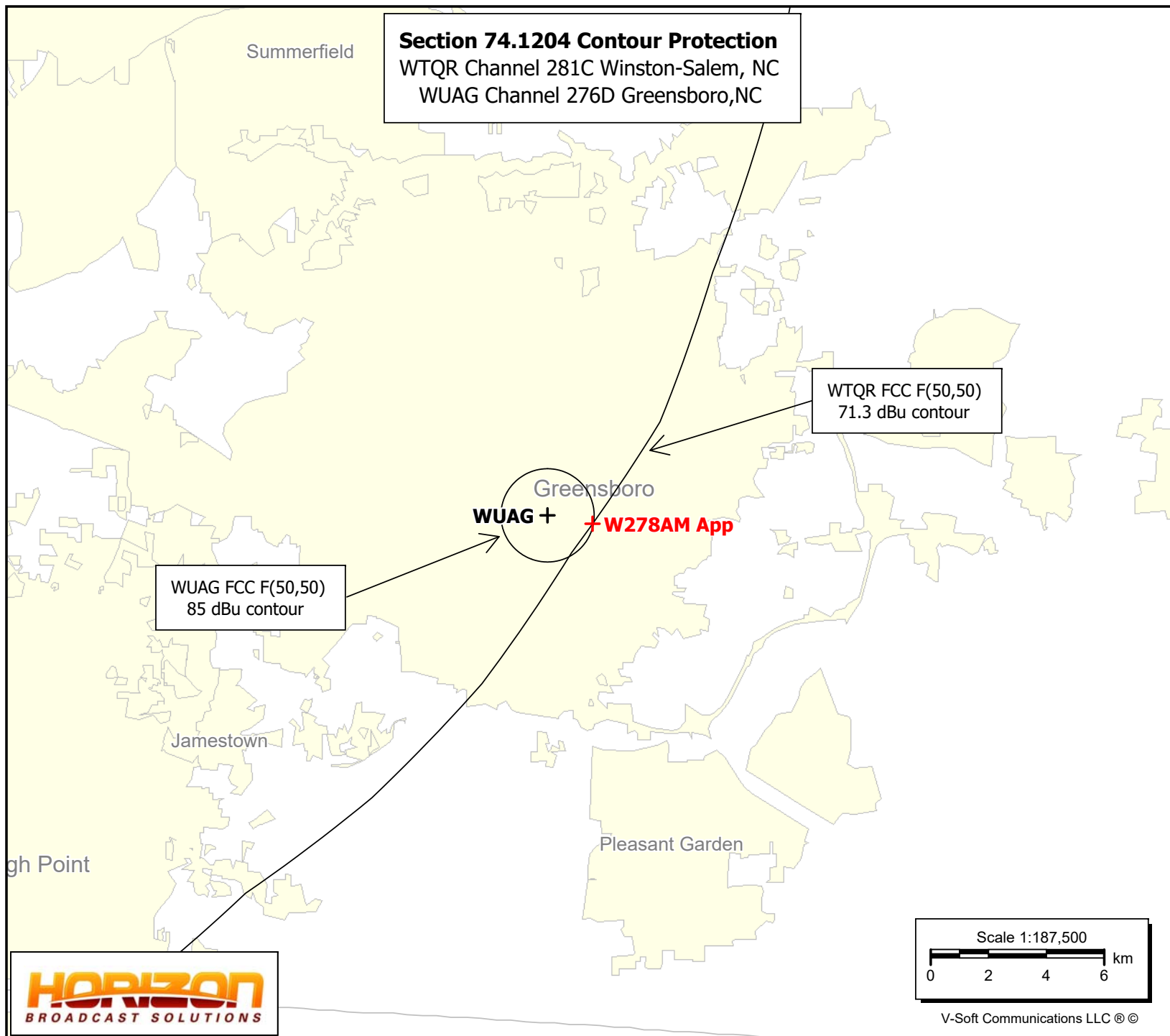
Winston-Salem, NC
BLH20110809ABB
Latitude: 36-22-36.90 N
Longitude: 080-22-07.80 W
ERP: 100.00 kW
HAAT: 528 m
Channel: 281
Frequency: 104.1 MHz
AMSL Height: 850.0 m
Elevation: 707.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

WUAG

Greensboro, NC
BLED19880819KC
Latitude: 36-03-51.40 N
Longitude: 079-48-36.10 W
ERP: 0.018 kW
HAAT: 79 m
Channel: 276
Frequency: 103.1 MHz
AMSL Height: 323.0 m
Elevation: 257.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Section 74.1204 Contour Protection

WTQR Channel 281C Winston-Salem, NC
WUAG Channel 276D Greensboro, NC



FM and TV Propagation Curves

Databases & Searches

[AM Query](#)[Antenna Height Above Average Terrain \(HAAT\) Calculator](#)[Antenna Structure Registration \(ASRN\) Records Within A Radius](#)[Broadcast Station Mailing Address Search](#)[Call Sign Reservation and Authorization System \(CSRS\)](#)[CDBS Database Public Files](#)[Children's Educational Television Reporting - Form 2100, Schedule H](#)[Children's Programming Query](#)[COLORIT HTML Color Generator](#)[Degrees Minutes Seconds to/from Decimal Degrees](#)[Distance and Azimuths Between Two Sets of Coordinates](#)[Electioneering Communications Database](#)[EEO Filing Search](#)

This Javascript calculator uses the FM or TV propagation curves to find the distance to a service or interfering contour, or the corresponding field strength at a given contour distance. [More after the form.](#)

Select Contour Type:

F(50,50) Service Contour -- FM and NTSC (analog) TV
F(50,10) Interfering Contour
F(50,90) Digital TV Service Contour

Select Channel Range:
(not TV Virtual Channel)

FM Radio or TV Transmit Channels 2-6
TV Transmit Channels 7-13
TV Transmit Channels 14-69

Find This:

Field Strength, given a Distance (in km)
Distance, Given a Field Strength (in dBu)
FM ERP, given Distance and Field Strength [F(50,50) Service Contour]

ERP (kW)

Distance (km)

HAAT (meters)

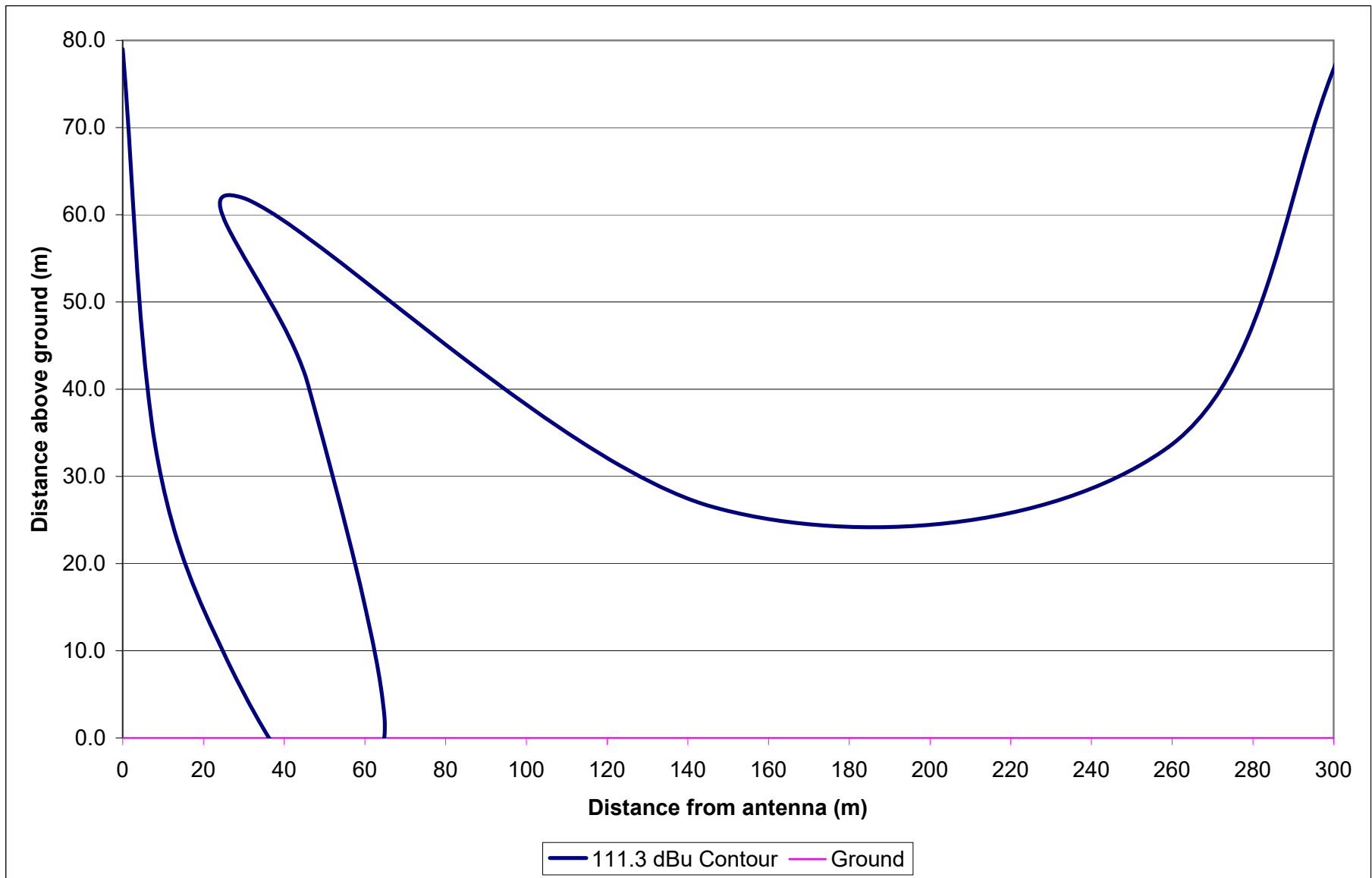
Field (dBu)

Results:

Calculated Distance = 0.302 km

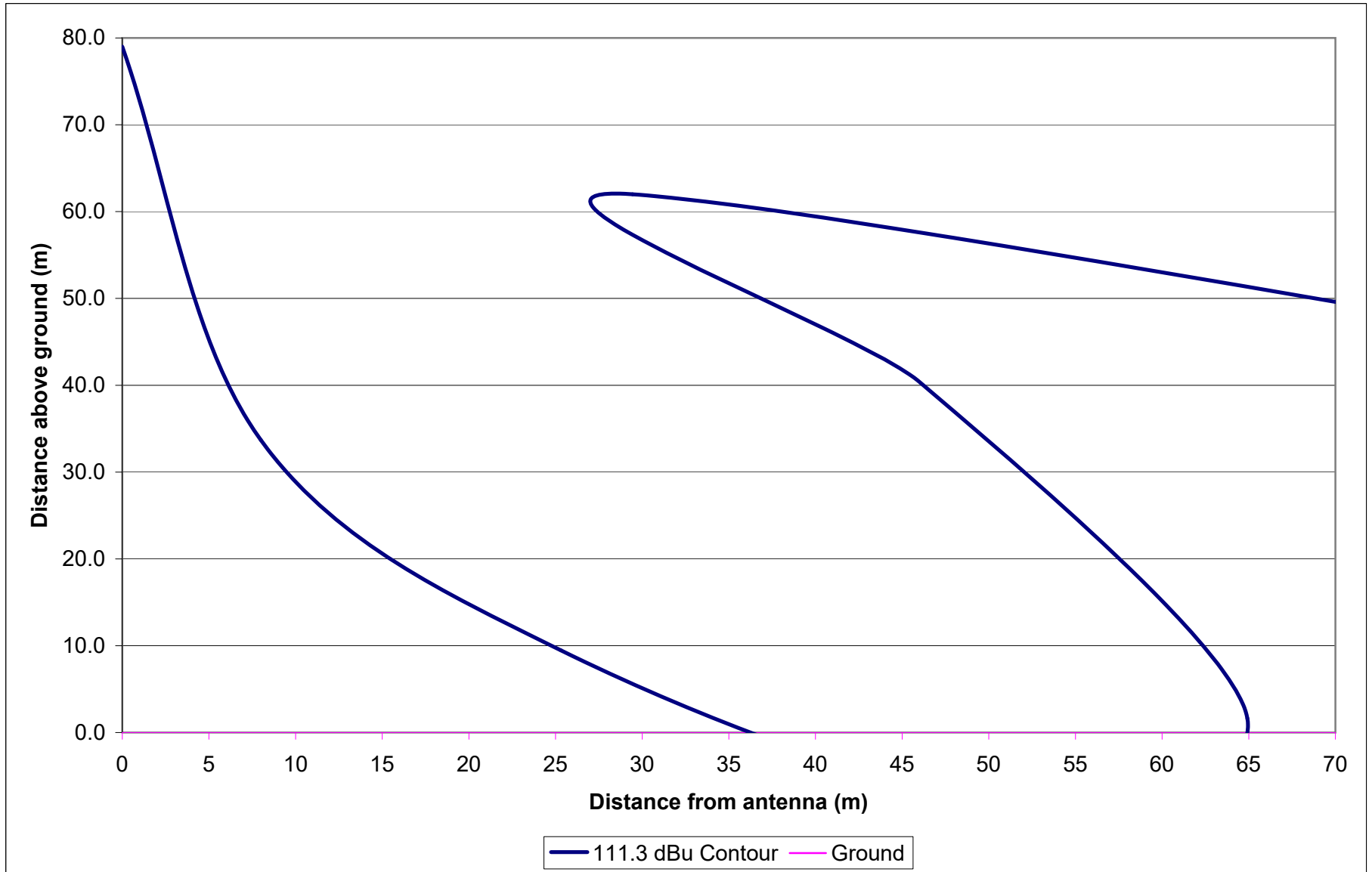
Free Space equation used to compute distance.

**Section 74.1204 Contour Protection to
WTQR Channel 281C (104.1 MHz) Winston-Salem, NC
(F(50,10) 111.3 dBu contour shown)**



The proposed 111.3 dBu interfering contour with respect to WTQR does not reach the ground where there are occupied structures or population.

**Section 74.1204 Contour Protection to
WTQR Channel 281C (104.1 MHz) Winston-Salem, NC
(F(50,10) 111.3 dBu contour shown)**



The proposed 111.3 dBu interfering contour with respect to WTQR does not reach the ground where there are occupied structures or population.

Angle of Elevation (Degrees)	Relative Field	ERP (dBk)	111.3 dBu Contour (Meters)
0	1.000	-6.021	302
10	0.871	-7.220	263
20	0.518	-11.734	156
30	0.112	-25.036	34
40	0.198	-20.087	60
50	0.336	-15.494	101
60	0.331	-15.624	100
70	0.246	-18.202	74
80	0.151	-22.441	46
90	0.117	-24.657	35

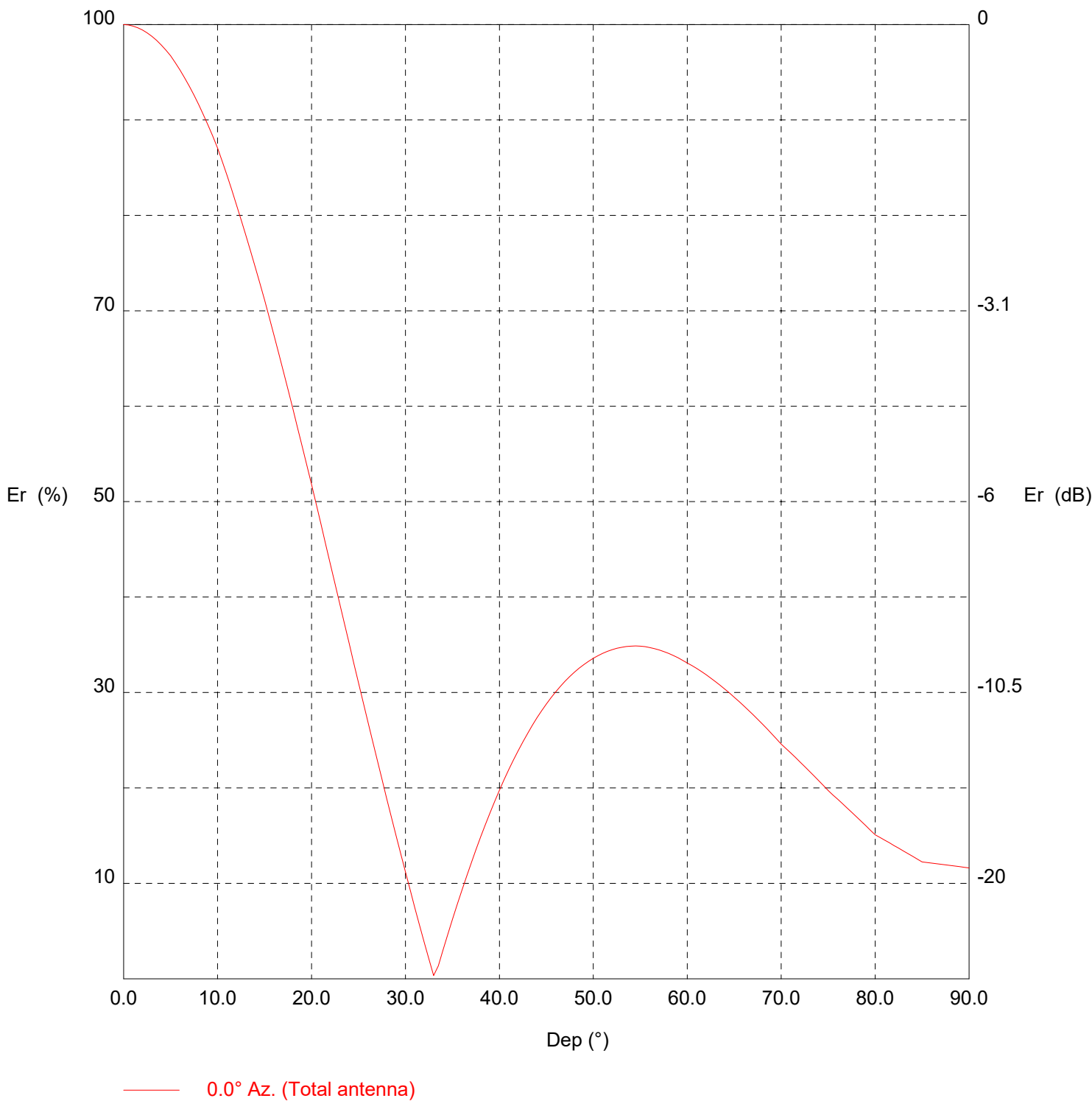
Θ (°)	Θ (radians)	R (m)	x'	y'	y = 79 - y'	Gnd
0	0	302	302	0	79.0	0
10	0.175	263	259.0	45.7	33.3	0
20	0.349	156	146.6	53.4	26.4	0
30	0.524	34	29.4	17	62	0
40	0.698	60	46.0	38.6	40.4	0
50	0.873	101	64.9	77.4	1.6	0
60	1.047	100	50.0	86.6	-7.6	0
70	1.222	74	25.3	69.5	9.5	0
80	1.396	46	8.0	45.3	33.7	0
90	1.571	35	0.0	35	79	0

Angle of Elevation (degrees)	Relative Field Value	ERP (dBk)	ERP (watts)	111.3 dBu contour (meters)
-----	-----	-----	-----	-----
0	1.000	-6.021	250.0	302
-10	0.871	-7.220	189.7	263
-20	0.518	-11.734	67.1	156
-30	0.112	-25.036	3.1	34
-40	0.198	-20.087	9.8	60
-50	0.336	-15.494	28.2	101
-60	0.331	-15.624	27.4	100
-70	0.246	-18.202	15.1	74
-80	0.151	-22.441	5.7	46
-90	0.117	-24.657	3.4	35

TX station: BKG77/2 GENERIC
Frequency: 103.5 MHz

Site name: 3/4 WAVE SEPARATION

Vertical diagram



TX station: BKG77/2 GENERIC

Site name: 3/4 WAVE SEPARATION

Frequency: 98.10 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	914.2	30.0	11.2	11.5	60.0	33.1	100.1
0.5	100.0	913.3	30.5	9.3	7.9	60.5	32.8	98.4
1.0	99.8	911.3	31.0	7.5	5.1	61.0	32.5	96.7
1.5	99.7	908.1	31.5	5.6	2.9	61.5	32.2	94.8
2.0	99.4	903.9	32.0	3.8	1.3	62.0	31.9	92.8
2.5	99.1	898.4	32.5	2.1	0.4	62.5	31.5	90.8
3.0	98.8	891.9	33.0	0.3	0.0	63.0	31.1	88.7
3.5	98.4	884.3	33.5	1.4	0.2	63.5	30.8	86.5
4.0	97.9	875.7	34.0	3.0	0.8	64.0	30.4	84.2
4.5	97.3	865.9	34.5	4.6	2.0	64.5	29.9	81.9
5.0	96.7	855.2	35.0	6.2	3.5	65.0	29.5	79.5
5.5	96.0	842.7	35.5	7.8	5.5	65.5	29.1	77.2
6.0	95.2	829.2	36.0	9.3	7.9	66.0	28.6	74.8
6.5	94.4	814.9	36.5	10.7	10.5	66.5	28.2	72.5
7.0	93.5	799.7	37.0	12.1	13.5	67.0	27.7	70.0
7.5	92.6	783.6	37.5	13.5	16.7	67.5	27.2	67.6
8.0	91.6	766.9	38.0	14.9	20.2	68.0	26.7	65.1
8.5	90.5	749.4	38.5	16.1	23.8	68.5	26.2	62.7
9.0	89.4	731.2	39.0	17.4	27.7	69.0	25.7	60.2
9.5	88.3	712.5	39.5	18.6	31.6	69.5	25.1	57.8
10.0	87.1	693.1	40.0	19.8	35.7	70.0	24.6	55.3
10.5	85.7	670.8	40.5	20.9	39.8	70.5	24.1	53.3
11.0	84.2	648.2	41.0	21.9	43.9	71.0	23.7	51.2
11.5	82.7	625.3	41.5	22.9	48.1	71.5	23.2	49.2
12.0	81.2	602.3	42.0	23.9	52.2	72.0	22.7	47.2
12.5	79.6	579.0	42.5	24.8	56.4	72.5	22.2	45.2
13.0	78.0	555.7	43.0	25.7	60.4	73.0	21.7	43.2
13.5	76.3	532.4	43.5	26.5	64.4	73.5	21.2	41.3
14.0	74.6	509.1	44.0	27.3	68.3	74.0	20.7	39.3
14.5	72.9	485.8	44.5	28.1	72.1	74.5	20.2	37.4
15.0	71.1	462.7	45.0	28.8	75.8	75.0	19.7	35.5
15.5	69.3	439.1	45.5	29.5	79.3	75.5	19.3	33.9
16.0	67.4	415.8	46.0	30.1	82.7	76.0	18.8	32.4
16.5	65.6	392.9	46.5	30.7	85.9	76.5	18.4	30.8
17.0	63.6	370.3	47.0	31.2	88.9	77.0	17.9	29.3
17.5	61.7	348.1	47.5	31.7	91.8	77.5	17.4	27.8
18.0	59.8	326.5	48.0	32.1	94.4	78.0	17.0	26.4
18.5	57.8	305.3	48.5	32.6	96.9	78.5	16.5	24.9
19.0	55.8	284.7	49.0	32.9	99.2	79.0	16.0	23.5
19.5	53.8	264.7	49.5	33.3	101.2	79.5	15.6	22.1
20.0	51.8	245.3	50.0	33.6	103.1	80.0	15.1	20.8
20.5	49.7	226.1	50.5	33.9	104.8	80.5	14.8	20.0
21.0	47.6	207.5	51.0	34.1	106.3	81.0	14.5	19.3
21.5	45.6	189.8	51.5	34.3	107.6	81.5	14.3	18.6
22.0	43.5	172.8	52.0	34.5	108.7	82.0	14.0	17.8
22.5	41.4	156.7	52.5	34.6	109.6	82.5	13.7	17.1
23.0	39.3	141.3	53.0	34.7	110.3	83.0	13.4	16.4
23.5	37.2	126.8	53.5	34.8	110.8	83.5	13.1	15.7
24.0	35.2	113.0	54.0	34.9	111.1	84.0	12.8	15.0
24.5	33.1	100.1	54.5	34.9	111.2	84.5	12.5	14.4
25.0	31.0	88.1	55.0	34.9	111.1	85.0	12.2	13.7
25.5	29.0	76.8	55.5	34.8	110.7	85.5	12.2	13.6
26.0	26.9	66.3	56.0	34.7	110.2	86.0	12.1	13.4
26.5	24.9	56.7	56.5	34.6	109.4	86.5	12.1	13.3
27.0	22.9	47.9	57.0	34.5	108.5	87.0	12.0	13.2
27.5	20.9	39.9	57.5	34.3	107.5	87.5	11.9	13.0
28.0	18.9	32.7	58.0	34.1	106.3	88.0	11.9	12.9
28.5	17.0	26.3	58.5	33.9	104.9	88.5	11.8	12.8
29.0	15.0	20.6	59.0	33.6	103.5	89.0	11.7	12.6
29.5	13.1	15.7	59.5	33.4	101.8	89.5	11.7	12.5

WKEW

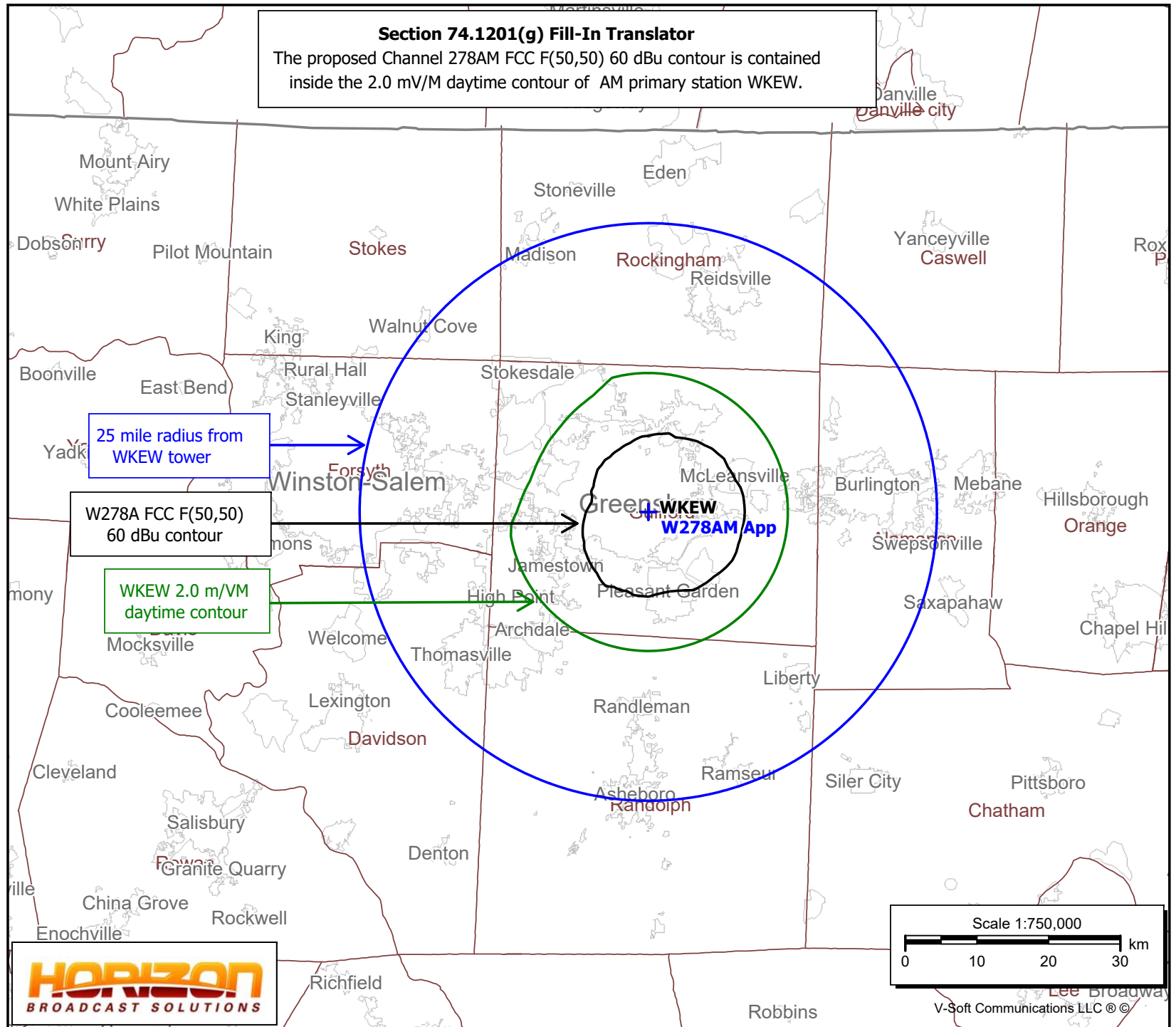
Type: AM
Channel: 1400
Latitude: 36-03-42 N
Longitude: 079-47-35 W
Power: 0.760 kW Daytime

W278AM App

Sedalia, NC
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 278
Frequency: 103.5 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

Section 74.1201(g) Fill-In Translator

The proposed Channel 278AM FCC F(50,50) 60 dBu contour is contained inside the 2.0 mV/M daytime contour of AM primary station WKEW.



Human Exposure to Radiofrequency Electromagnetic Field & Section 106 Compliance (Environmental)

A study has been made to determine whether this proposal is in compliance with 47 C.F.R. 1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. Triad Family Network, Inc., ("Triad"), is the licensee of FM translator W278AM, Channel 278D, Facility ID No. 87023, Sedalia, NC. Triad seeks to modify W278AM. The transmit site is an existing tower 81.4 meters in overall height and is registered with FCC Antenna Structure Registration (ASR) number 1235239. The site is located at 36° 03' 42" N ~ 79° 47' 34" W (NAD 83). The proposed transmit antenna is a side mounted Nicom BKG77 two bay 0.85 wave spaced circularly polarized directional antenna. The proposed W278AM facility would operate with 250 watts ERP directional at 79 meters above ground level and 86.45 meters HAAT. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of § 1.1306 of the FCC Rules. This modification is believed to be exempt from a Section 106 review by the SHPO/THPO.

The proposed W278AM facility will utilized a combined antenna shared with W242CD, Greensboro, NC. Triad will conduct a spurious emissions study and include the study as an exhibit with the license application.

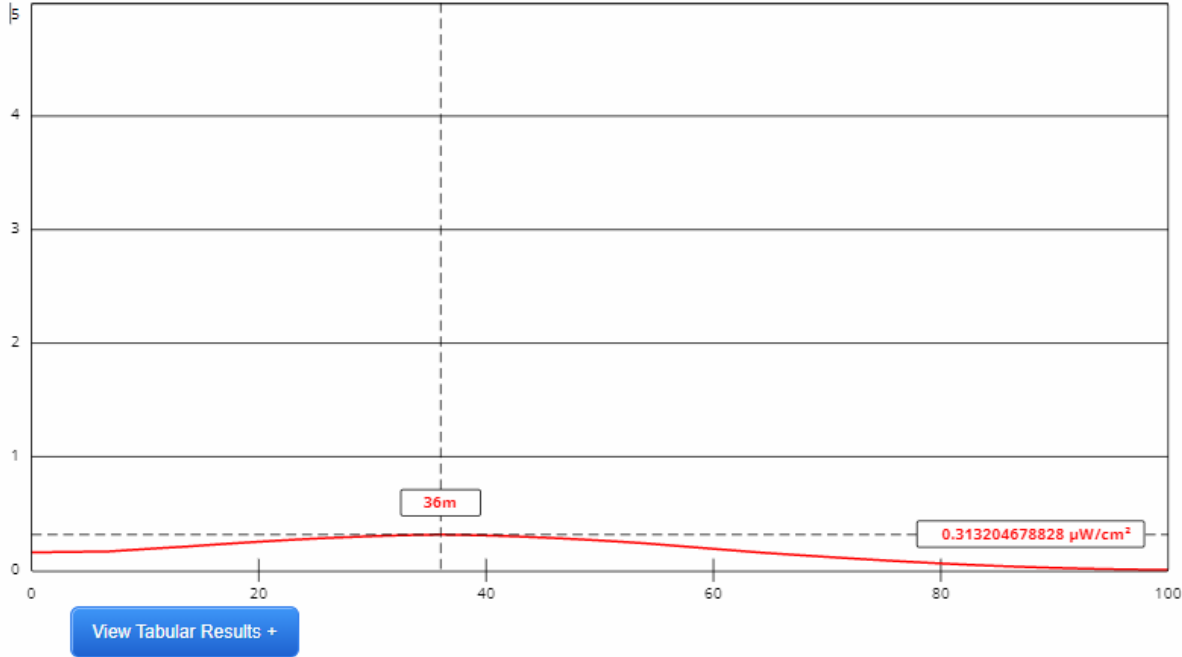
The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. The recently revised FM Model Program includes the Nicom BKG77 antenna under Type 2, Opposed "V" dipole. Using this antenna type, the maximum calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $0.313 \mu\text{W}/\text{cm}^2$ at 36 meters, which is 0.157 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in 1.1307(b) regarding sites with multiple emitters, which excludes applicant from responsibility for taking any corrective action in areas where the proposal's contribution is less than five percent.

The applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

FM Model

- Radio Frequency Safety
- FCC Policy on Human Exposure
- RF Safety FAQ
- Body Tissue Dielectric Parameters
- RF Safety Highlighted Releases
- FM Model

The FM Model calculator determines the potential exposure from radiofrequency (RF) electromagnetic fields produced by FM broadcast station antennas at ground level. The FM Model software was originally developed by the FCC in 1997 as a standalone executable program and this improved version provides more precise predictions and runs via a JavaScript enabled web browser. The FM Model is originally based on measured data published in 1985 by the EPA. [Show More....](#)



Channel Selection	Channel 278 (103.5 MHz) ▼		
Antenna Type +	EPA Type 2: Opposed V Dipole ▼		
Height (m)	<input type="text" value="79"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="250"/>	ERP-V (W)	<input type="text" value="250"/>
Num of Elements	<input type="text" value="2"/>	Element Spacing (?)	<input type="text" value="0.85"/>
Num of Points	<input type="text" value="500"/>	<input type="button" value="Apply"/>	

Bureau/Office:
Engineering & Technology