

79°14'0"W

79°13'40"W

79°13'20"W

79°13'0"W

79°12'40"W

The Proposed 106.9 dBu F(50:10) Interference Contour has been plotted in relation to the corresponding WRRN(FM) 66.9 dBu F(50:50) contour. This represents the proposed interference contour which falls wholly within the 40:1 dBu ratio. As seen in the map, there is a lack of population and housing or major roads around the transmitter site and within this interference area.

Exhibit 13.1

**USGS Topographic Map of Proposed Site
& §74.1204(d) Second Adjacent Channel
Given Interference Waiver Request Toward
WRRN.L(FM) - CH222B - Warren PA**

42°8'12"N

42°8'0"N

42°7'48"N

42°7'36"N

42°7'24"N

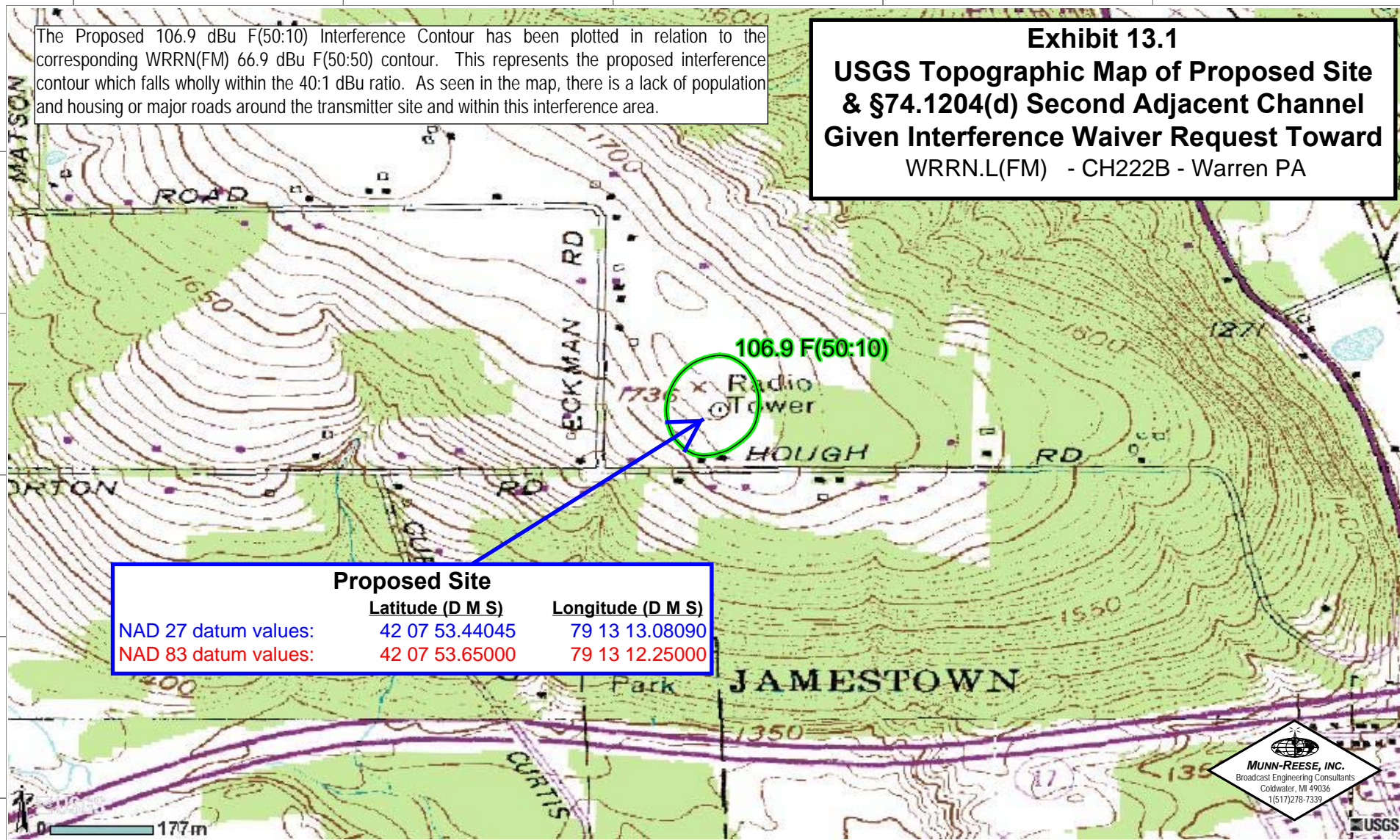
42°8'12"N

42°8'0"N

42°7'48"N

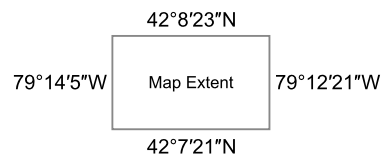
42°7'36"N

42°7'24"N



Proposed Site

| | <u>Latitude (D M S)</u> | <u>Longitude (D M S)</u> |
|----------------------|-------------------------|--------------------------|
| NAD 27 datum values: | 42 07 53.44045 | 79 13 13.08090 |
| NAD 83 datum values: | 42 07 53.65000 | 79 13 12.25000 |



<http://nationalmap.gov/>

Geographic Coordinate System (WGS84)

Exhibit 13.2

Vertical Plan of Antenna System

The site is located 0.2 km east of the "JL" intersection of Eckman Road and Hough Road; the city of Jamestown; Chautauqua County; New York.

Antenna Structure Registration No.

Not Required

NAD 27 datum values:

NAD 83 datum values:

Latitude (D M S)

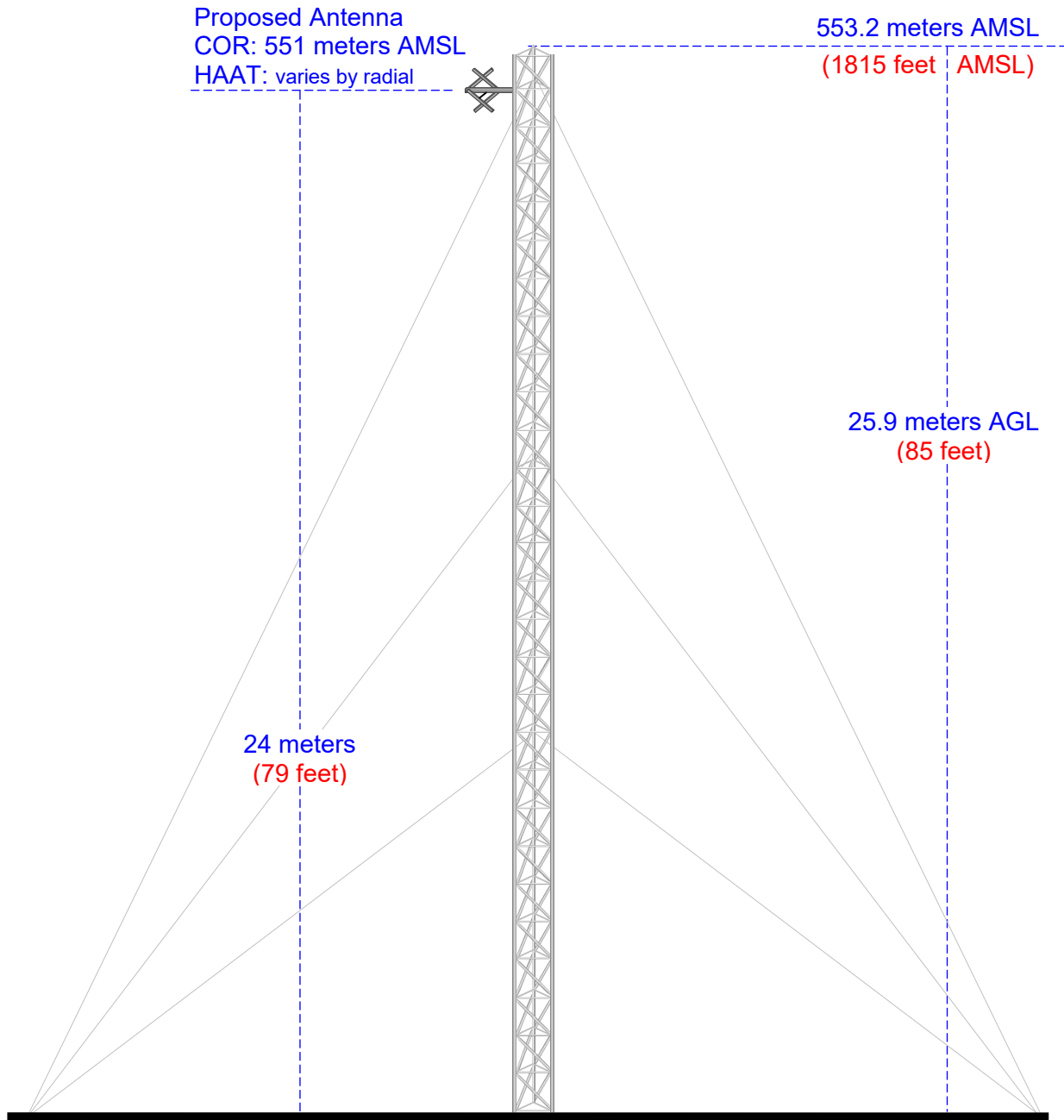
42 07 53.44045

42 07 53.65000

Longitude (D M S)

79 13 13.08090

79 13 12.25000



Ground Elevation = 527.3 m AMSL (1730 feet)

Drawing is not to Scale

MUNN-REESE, INC.

Broadcast Engineering Consultants

Coldwater, MI 49036

Proposed 60 dBu F(50:50)
Present 60 dBu F(50:50)

Terrain
372 667 m

USGS 03 SEC Terrain Database
U.S. Census 2010 PL Database

Exhibit 13.3 Present vs. Proposed Service Contour Study

CH220D.P
Jamestown, NY
Proposed Operation
Facility ID: 78174
Latitude: 42-07-53 N
Longitude: 079-13-13 W
ERP: 0.009 kW
Channel: 220D (91.9 MHz)
AMSL Height: 551.0 m
Horiz. Pattern: Directional

60 dBu F(50:50) Contour
Total Population: 31,536
Coverage Area: 84 sq. km

W203BV.L
Jamestown, NY
BLFT20100521ADW
Facility ID: 78174
Latitude: 42-07-53 N
Longitude: 079-13-13 W
ERP: 0.009 kW
Channel: 203D (88.5 MHz)
AMSL Height: 551.0 m
Horiz. Pattern: Directional

60 dBu F(50:50) Contour
Total Population: 31,536
Coverage Area: 84 sq. km

CH220D.P
W203BV.L +

Celoron

Falconer

Jamestown



MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339

Scale 1:75,000

0 1 2 3 km

Exhibit 13.4 Proposed vs. Primary Service Contour Study

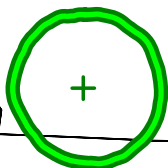
Proposed 60 dBu Contour

CH220D.P
+

CH220D.P
Jamestown, NY
Proposed Operation
Facility ID: 78174
Latitude: 42-07-53 N
Longitude: 079-13-13 W
ERP: 0.009 kW
Channel: 220D (91.9 MHz)
AMSL Height: 551.0 m
Horiz. Pattern: Directional

WYFQ-FM.L
Wadesboro, NC
BLED19951010KE
Facility ID: 73965
Latitude: 35-02-57 N
Longitude: 080-18-38 W
ERP: 8.70 kW
Channel: 228C3 (93.5 MHz)
AMSL Height: 310.0 m
Horiz. Pattern: Omni

Primary 60 dBu Contour



WYFQ-FM.L

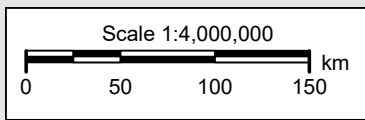


Exhibit 13.5

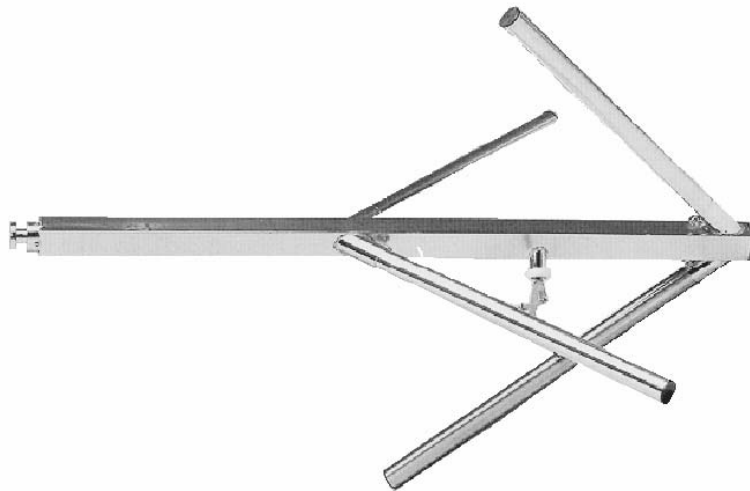
Tabulation of Proposed Allocation

| Bible Broadcasting Network, Inc. | | | | | | | | | | | |
|----------------------------------|---------|---------|------|---|------------------|-------------------------------------|---------|---------|----------------------------|-----------------|---------|
| REFERENCE | | CH# | 220D | - 91.9 MHz, Pwr= 0.009 kw DA, HAAT= 96.4 M, | | | | COR= | 551 M | DISPLAY DATES | |
| 42 07 53.0 N. | | | | | | Average Protected F(50-50)= 5.59 km | | | | DATA 12-14-15 | |
| 79 13 13.0 W. | | | | | | Standard Directional | | | | SEARCH 12-14-15 | |
| 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) |
| 222B | WRRN | LIC _CN | | 173.0 | 35.56 | 41 48 50.0 | 50.000 | 5.5 | 61.6 | 24.7 | -26.4*< |
| Warren | | PA | | 353.0 | BLH19820127AE | 79 10 04.0 | 125 | 628 | Radio Partners, LLC | | |
| 220A | WVME | LIC _CX | | 235.2 | 96.82 | 41 37 50.0 | 4.400 | 77.1 | 23.1 | 14.1 | 55.3 |
| Meadville | | PA | | 54.6 | BLED20020808AAO | 80 10 38.0 | 94 | 486 | The Moody Bible Institute | | |
| 219B | NEW | PRO _CN | | 2.2 | 97.27 | 43 00 24.0 | 50.000 | 77.4 | 64.4 | 16.3 | 25.7 |
| Welland | | ON | | 182.2 | 19980731CAN | 79 10 31.0 | 150 | 327 | | | |
| 219B | NEW | ___ | | 2.2 | 97.27 | 43 00 24.0 | 50.000 | 77.3 | 65.0 | 16.4 | 25.1 |
| Welland | | ON | | 182.2 | | 79 10 31.0 | 150 | 327 | | | |
| 217B | WQLN-FM | LIC _CN | | 262.2 | 70.47 | 42 02 31.0 | 35.000 | 4.1 | 39.5 | 60.0 | 30.8 |
| Erie | | PA | | 81.6 | BLED1061 | 80 03 57.0 | 152 | 494 | Public Broadcasting Of Nor | | |
| 221C1 | R43097 | ADD ___ | | 325.1 | 154.16 | 43 15 49.0 | 100.000 | 110.0 | 86.0 | 40.1 | 60.0 |
| Brantford | | ON | | 144.4 | | 80 18 32.0 | 299 | 557 | | | |
| 221C1 | CKPCFM | OPE _CN | | 325.1 | 154.16 | 43 15 49.0 | 80.000 | 99.4 | 82.0 | 50.6 | 64.0 |
| Brantford | | ON | | 144.4 | | 80 18 32.0 | 204 | 492 | | | |
| 217A | WOLN | LIC DCX | | 99.2 | 64.73 | 42 02 08.0 | 1.000 | 0.7 | 13.3 | 58.9 | 51.3 |
| Olean | | NY | | 279.7 | BLED20101007ACK | 78 26 47.0 | 200 | 750 | Western New York Public Br | | |
| 221D | W221DI | LIC DC_ | | 269.8 | 71.06 | 42 07 31.7 | 0.045 | 6.5 | 4.6 | 58.4 | 57.9 |
| Erie | | PA | | 89.2 | BLFT20150121ABO | 80 04 55.4 | | 262 | Holy Family Communications | | |
| 218D | W218AP | LIC _HN | | 211.7 | 69.23 | 41 36 03.0 | 0.013 | 0.3 | 6.8 | 63.4 | 62.2 |
| Titusville | | PA | | 31.4 | BLFT19960111TR | 79 39 29.0 | 96 | 549 | Public Broadcasting Of Nor | | |
| 220D | W220BA | LIC _HN | | 206.3 | 86.93 | 41 25 47.0 | 0.010 | 10.2 | 3.2 | 70.9 | 64.6 |
| Oil City | | PA | | 26.0 | BLFT19970528TB | 79 40 59.0 | 46 | 468 | Public Broadcasting Of Nor | | |
| 219A | WCUC-FM | LIC _CN | | 187.3 | 103.29 | 41 12 35.0 | 3.200 | 30.9 | 20.9 | 66.9 | 74.7 |
| Clarion | | PA | | 7.2 | BLED19960919KB | 79 22 39.0 | 97 | 525 | Clarion State College | | |
| 220B | R10667 | PRO ___ | | 9.8 | 242.34 | 44 16 47.0 | 50.000 | 171.3 | 65.0 | 67.1 | 159.4 |
| Lindsay | | ON | | 190.2 | | 78 41 57.0 | 150 | 415 | | | |
| 220B | R29855 | DEL ___ | | 16.6 | 251.81 | 44 18 00.0 | 50.000 | 175.4 | 65.0 | 72.4 | 168.1 |
| Peterborough | | ON | | 197.2 | | 78 19 00.0 | 150 | 380 | | | |
| 220B | AL9547 | AL ___ | | 16.6 | 251.81 | 44 18 00.0 | 50.000 | 175.4 | 65.0 | 72.4 | 168.1 |
| Peterborough | | ON | | 197.2 | | 78 19 00.0 | 150 | 380 | | | |
| 221A | NEW | CP DCX | | 20.9 | 103.84 | 43 00 12.0 | 1.050 | 25.5 | 17.3 | 75.1 | 82.1 |
| Amherst | | NY | | 201.2 | BNPED20100226AGW | 78 45 56.0 | 102 | 288 | Calvary Chapel of The Niag | | |
| 220D | W220BU | LIC _C_ | | 145.8 | 98.67 | 41 23 43.0 | 0.027 | 13.1 | 4.1 | 80.3 | 77.7 |
| Saint Mary's | | PA | | 326.3 | BLFT20001208ADQ | 78 33 20.0 | 38 | 592 | Family Life Ministries, In | | |
| 221A | WCKR | LIC NCX | | 79.3 | 133.28 | 42 20 38.0 | 2.550 | 48.5 | 32.3 | 79.5 | 93.5 |
| Hornell | | NY | | 260.3 | BLH20030225AAJ | 77 37 36.0 | 155 | 663 | Pmj Communications, Inc. | | |
| 220D | R29178 | ADD _C_ | | 6.2 | 106.50 | 43 05 05.0 | 0.099 | 18.5 | 8.0 | 84.2 | 81.2 |
| Niagara Falls | | ON | | 186.3 | | 79 04 46.0 | 33 | 201 | | | |

Terrain database is 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.
 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.
 < = Contour Overlap

Yellow highlighted text denotes a \$74.1204(d) Second Adjacent Channel Given Interference Waiver Request toward WRRN(FM) - Warren, PA (CH222B). Full protection has been afforded the facility as demonstrated in the **Exhibit 13.1** USGS Aerial Photograph Showing. The calculated interference area has been shown to be void of all population, housing, buildings or major roads as noted in the attached exhibit.

Exhibit 13.6 - Manufacturer's Directional Antenna Pattern Data (Actual Pattern Rotated to 300.0°T)



NICOM
BKG77

Medium Power

**Broadband
FM Circular
Polarization
Antenna
Antena de
FM Banda Ancha
Polarizacion Circular**

This antenna, constructed completely of stainless steel, offers circular polarization for better coverage especially in urban areas. In order to facilitate and decrease shipping costs, this model is simple to break down and reassemble when ready to be installed. It is insulated with Teflon, and with the appropriate connector has a maximum input of 2 kw.

Esta antena, fabricada completamente de acero inoxidable, le ofrece polarización circular para mejor alcance, especialmente en zonas urbanas. Para facilitar y disminuir los costos de transportación, este modelo es fácil de desarmar y volver a montar tan pronto que la quiera instalar. Está aislada con Teflon, y con el conector apropiado tiene una entrada máxima de 2 kw.



TECHNICAL SPECIFICATIONS

| | | | |
|-----------------|--|-----------------------|--|
| Antenna type | circular polarization dipole | Front-to-back ratio | 3 dB |
| Frequency range | 87.5 - 108 MHz | Lightening protection | all parts grounded |
| Bandwidth | 16 MHz | Max wind velocity | 119 mph (190 km/h) |
| Impedance | 50 ohms | Wind load | 53 Lbs (24 kg) |
| Connectors | N type (1 kw) - 7/8 type (2 kw) | Wind surface | 1.1 ft ² (0.10 m ²) |
| Power rating | 2000 Watts max | Materials (external) | stainless steel |
| VSWR | < 1.3 | Mounting | from 2" to 4" |
| Polarization | vertical and horizontal | Weight | 23.1 Lbs (10.5 kg) |
| Gain | - 3 dBd (referred to half-wave dipole) | Dimensions | 58"×32"×32" (1450×800×800mm) |
| H plane | omnidirectional ±1.5 dB (with a 4" mast) | Packing | 72"×6"×6" (1500×152×152mm) |
| V plane | omnidirectional ±3 dB (with a 4" mast) | | |

Exhibit 13.6 - Manufacturer's Directional Antenna Pattern Data (Actual Pattern Rotated to 300.0°T)



Tabulation of Horizontal Antenna Pattern

Manufacturer: NicomUSA, Inc. **Frequency:** 87.5 MHz - 108.0 MHz
Make/Model: BKG77/1L-DA **Weight:** 10.5 Kg
Polarization: Circular **Max Power:** 1.0 kW
Inter Bay Spacing: 1.0 λ (Wavelength) **Antenna Gain:** -3.0 dBd

| Horizontal Azimuth | Field (%) | dB | Horizontal Azimuth | Field (%) | dB | Horizontal Azimuth | Field (%) | dB |
|-----------------------|--------------|-------|-----------------------|--------------|-------|-----------------------|--------------|-------|
| 0.0° | 0.982 | -0.08 | 120.0° | 0.792 | -1.01 | 240.0° | 0.802 | -0.96 |
| 10.0° | 0.982 | -0.08 | 130.0° | 0.762 | -1.18 | 250.0° | 0.853 | -0.69 |
| 20.0° | 0.982 | -0.08 | 140.0° | 0.732 | -1.35 | 260.0° | 0.909 | -0.41 |
| 30.0° | 0.988 | -0.05 | 150.0° | 0.710 | -1.49 | 270.0° | 0.953 | -0.21 |
| 40.0° | 0.988 | -0.05 | 160.0° | 0.703 | -1.53 | 280.0° | 0.972 | -0.12 |
| 50.0° | 0.993 | -0.03 | 170.0° | 0.703 | -1.53 | 290.0° | 0.982 | -0.08 |
| 60.0° | 1.000 | 0.00 | 180.0° | 0.703 | -1.53 | 300.0° | 1.000 | 0.00 |
| 70.0° | 0.993 | -0.03 | 190.0° | 0.703 | -1.53 | 310.0° | 0.991 | -0.04 |
| 80.0° | 0.962 | -0.17 | 200.0° | 0.703 | -1.53 | 320.0° | 0.988 | -0.05 |
| 90.0° | 0.923 | -0.35 | 210.0° | 0.711 | -1.48 | 330.0° | 0.988 | -0.05 |
| 100.0° | 0.873 | -0.59 | 220.0° | 0.732 | -1.35 | 340.0° | 0.982 | -0.08 |
| 110.0° | 0.832 | -0.80 | 230.0° | 0.772 | -1.12 | 350.0° | 0.982 | -0.08 |

Exhibit 13.6 - Manufacturer's Directional Antenna Pattern Data (Actual Pattern Rotated to 300.0°T)



Plot of Horizontal Antenna Pattern

Manufacturer: NicomUSA, Inc.
Make/Model: BKG77/1L-DA
Polarization: Circular
Inter Bay Spacing: 1.0λ (Wavelength)

Frequency: 87.5 MHz - 108.0 MHz
Weight: 10.5 kg
Max Power: 1.0 kW
Antenna Gain: -3.0 dBd

