

TECHNICAL EXHIBIT  
MINOR MODIFICATION OF CONSTRUCTION PERMIT  
STATION WTOC-DT (FACILITY ID 590)  
SAVANNAH, GEORGIA

MARCH 26, 2002

CH 15 422 KW (MAX-DA) 420 M

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Table of Contents

	Technical Narrative
Figure 1	Antenna and Supporting Structure
Figure 2	Antenna Patterns
Figure 3	Predicted F(50,90) Coverage Contours

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Technical Narrative

This Technical Exhibit was prepared on behalf of digital television station WTOC-DT at Savannah, Georgia, in support of an application for minor modification of construction permit. Station WTOC-DT is authorized to operate on channel 15 with a directional antenna maximum effective radiated power (ERP) of 53 kW and an antenna height above average terrain (HAAT) of 420 meters (BMPCDT-20020228ADR). This application proposes only to increase the authorized directional ERP.

This application is considered “checklist” as it meets the criteria specified in Section III-D, DTV Engineering of the FCC form 301. Therefore, no allocation studies considering NTSC, DTV or Class A stations are required. The proposed directional antenna pattern (dBk) does not exceed the allotment reference pattern for WTOC-DT, as shown in Figure 2D.

Proposed Facilities

There will be no change in antenna or antenna location on the tower. The transmitter site coordinates remain: 32-03-14 N, 81-21-01 W (NAD 27). The proposed maximum ERP is 422 kilowatts with an antenna HAAT of 420 meters. The FCC antenna structure registration number is 1018626.

There are no AM broadcast stations located within 3.2 kilometers of the WTOC-DT transmitter site. No adverse affect from this proposed checklist application is expected to any nearby broadcast station. However, the applicant recognizes its responsibility to correct problems that may result from its proposed operation.

The transmitter site is beyond the 400 km coordination zones with Canada and Mexico. The closest FCC monitoring station is at Powder Springs, Georgia, approximately 373 kilometers to the northwest. The closest point of the National Radio Quiet Zone (VA/WV) is more than 600 kilometers to the north. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2,300 kilometers to the west-northwest. The closest radio astronomy site operating on TV channel 37 is at Green Bank, West Virginia, more than 700 kilometers to the north. These separations are sufficient to not be a concern for coordination purposes.

#### Environmental Considerations

The proposed WTOC-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna is located 421.1 meters above ground level. The proposed maximum directional ERP is 422 kW. A conservative relative field value of 0.2 was assumed for the calculation (see Figure 2C). Therefore, the “worst-case” calculated power density at a point 2 meters above ground level will be  $0.0032 \text{ mW/cm}^2$ . This is 1% of the FCC's recommended limit of  $0.32 \text{ mW/cm}^2$  for channel 15 for an “uncontrolled” environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective

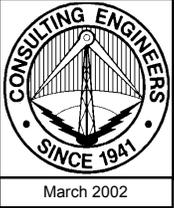
clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The proposed WTOC-DT operation appears to be otherwise categorically excluded from environmental processing.



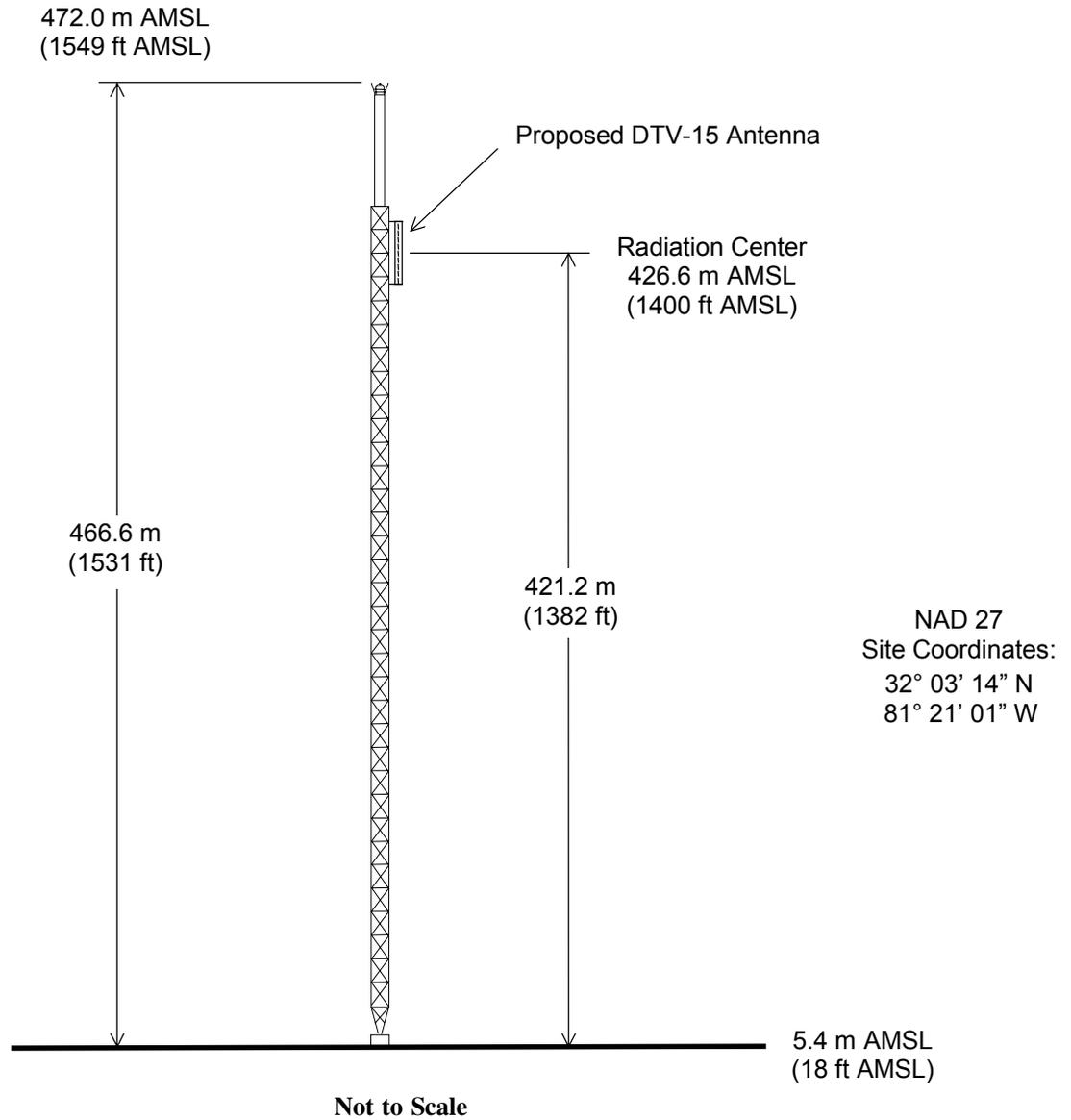
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Sarasota, Florida 34237  
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March 26, 2002



Registration No. 1018626



## ANTENNA AND SUPPORTING STRUCTURE

STATION WTOC-DT

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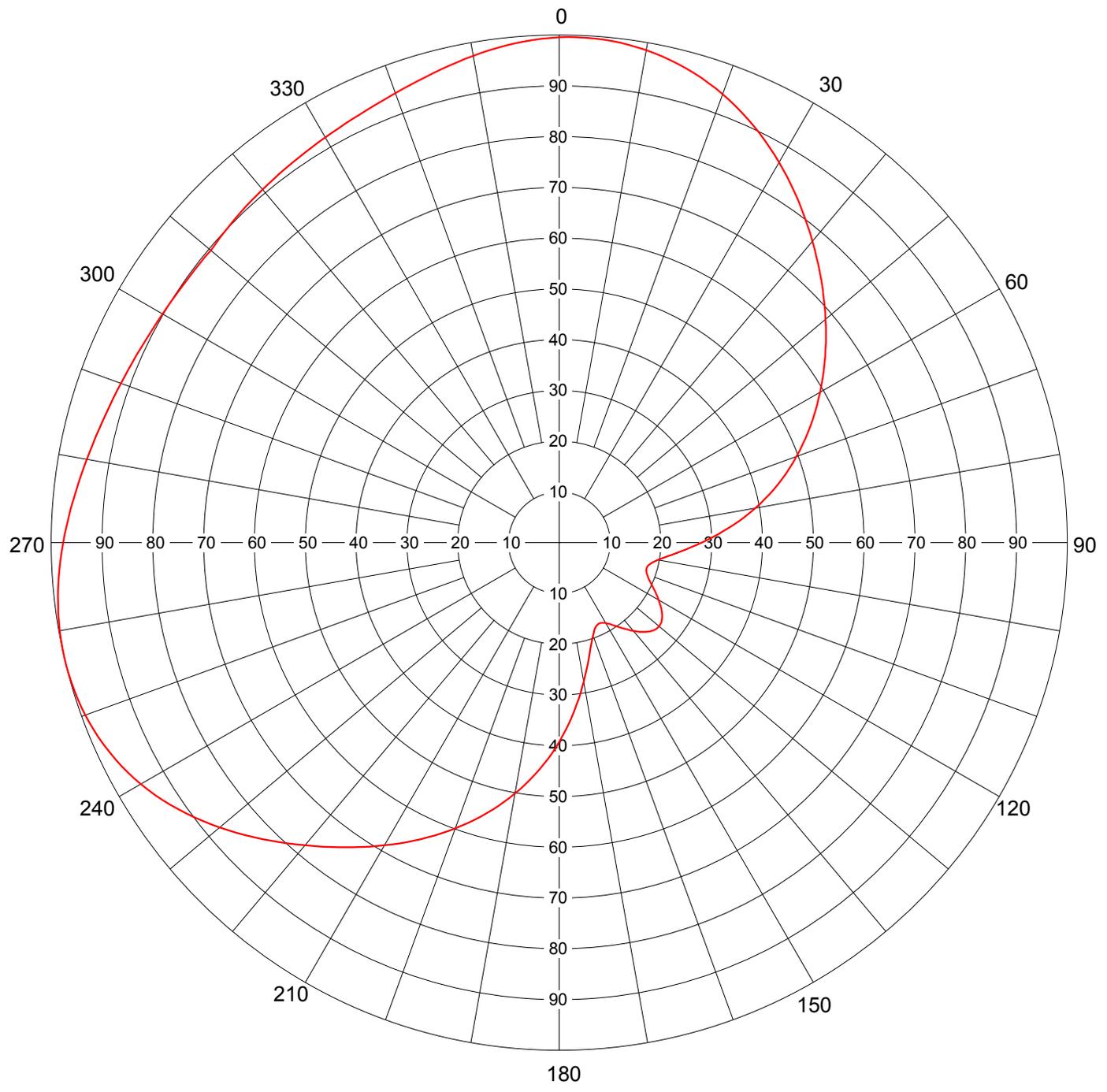
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



Date **26 Mar 2002**  
Call Letters **WTOC-DT** Channel **15**  
Location **Savannah, GA**  
Customer  
Antenna Type **TFU-24DSB-M (C)**

### AZIMUTH PATTERN

RMS Gain at Main Lobe **1.90** Frequency **479 MHz**  
Calculated / Measured **Calculated** Drawing # **DSB-M**



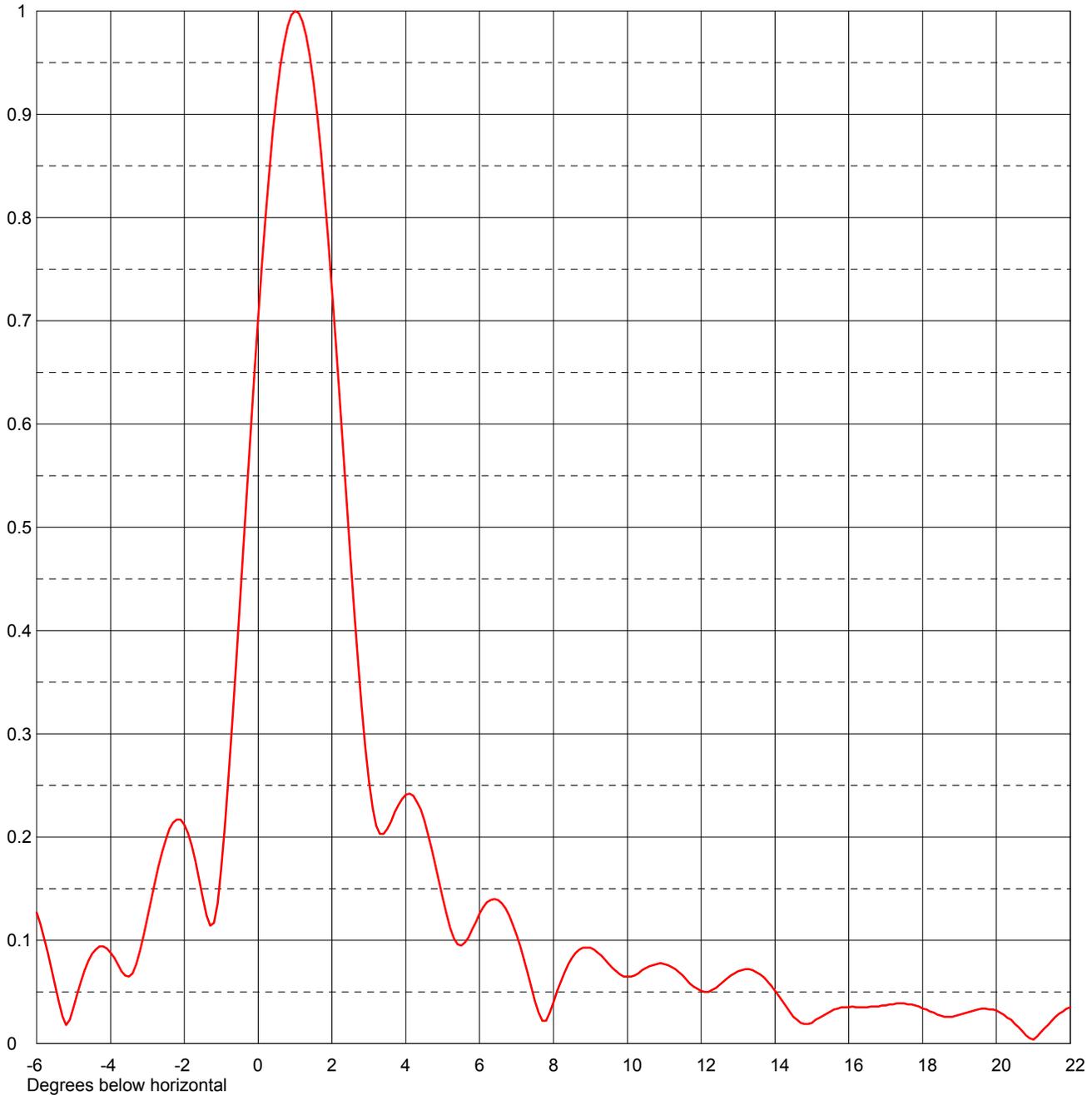
Remarks:



Date **26 Mar 2002**  
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### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>24.0 (13.80 dB)</b>	Beam Tilt	<b>1.00 Degrees</b>
RMS Gain at Horizontal	<b>11.9 (10.76 dB)</b>	Frequency	<b>479.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>24B240100</b>



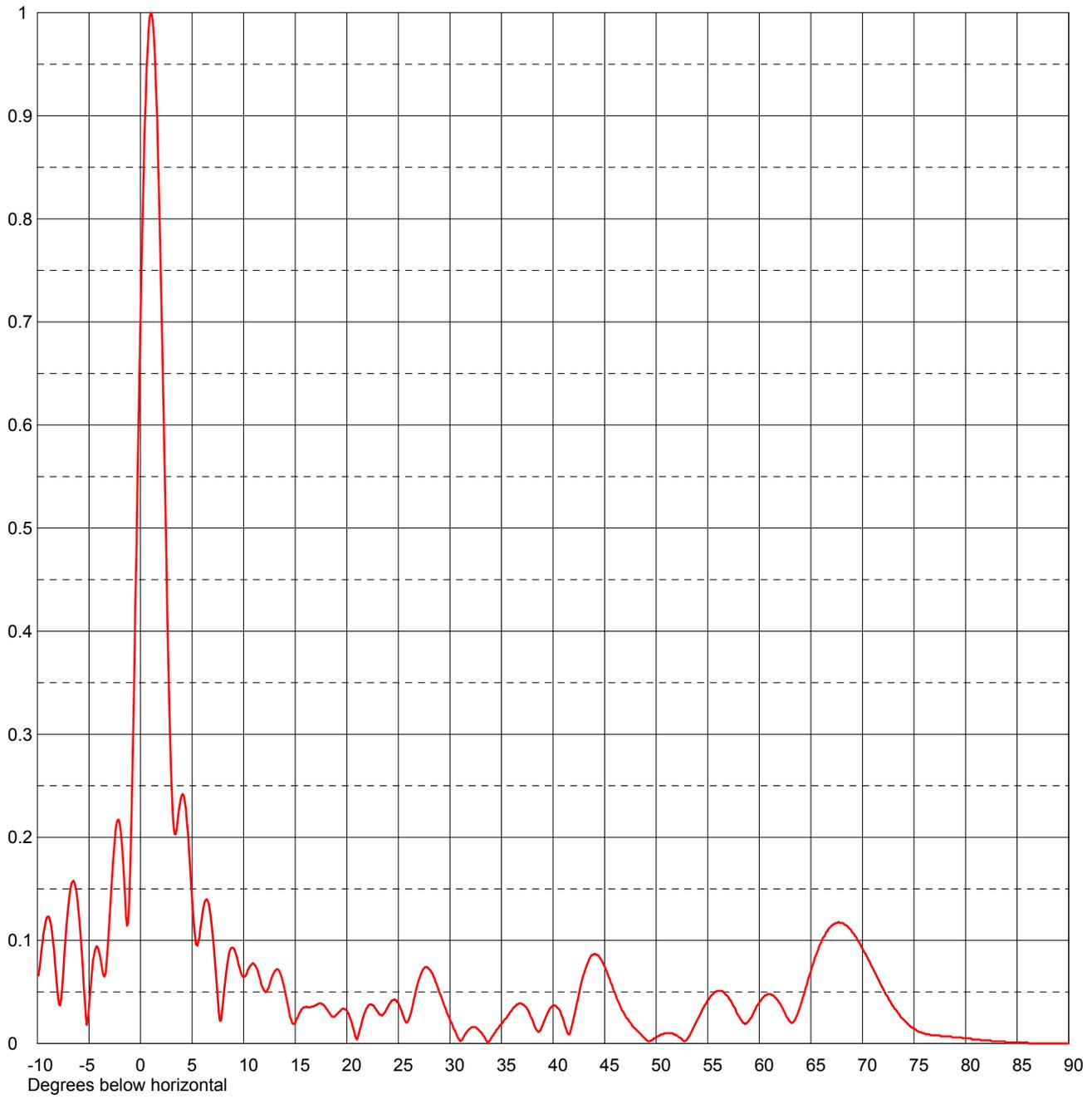
Remarks:



Date **26 Mar 2002**  
Call Letters **WTOC-DT** Channel **15**  
Location **Savannah, GA**  
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Antenna Type **TFU-24DSB-M (C)**

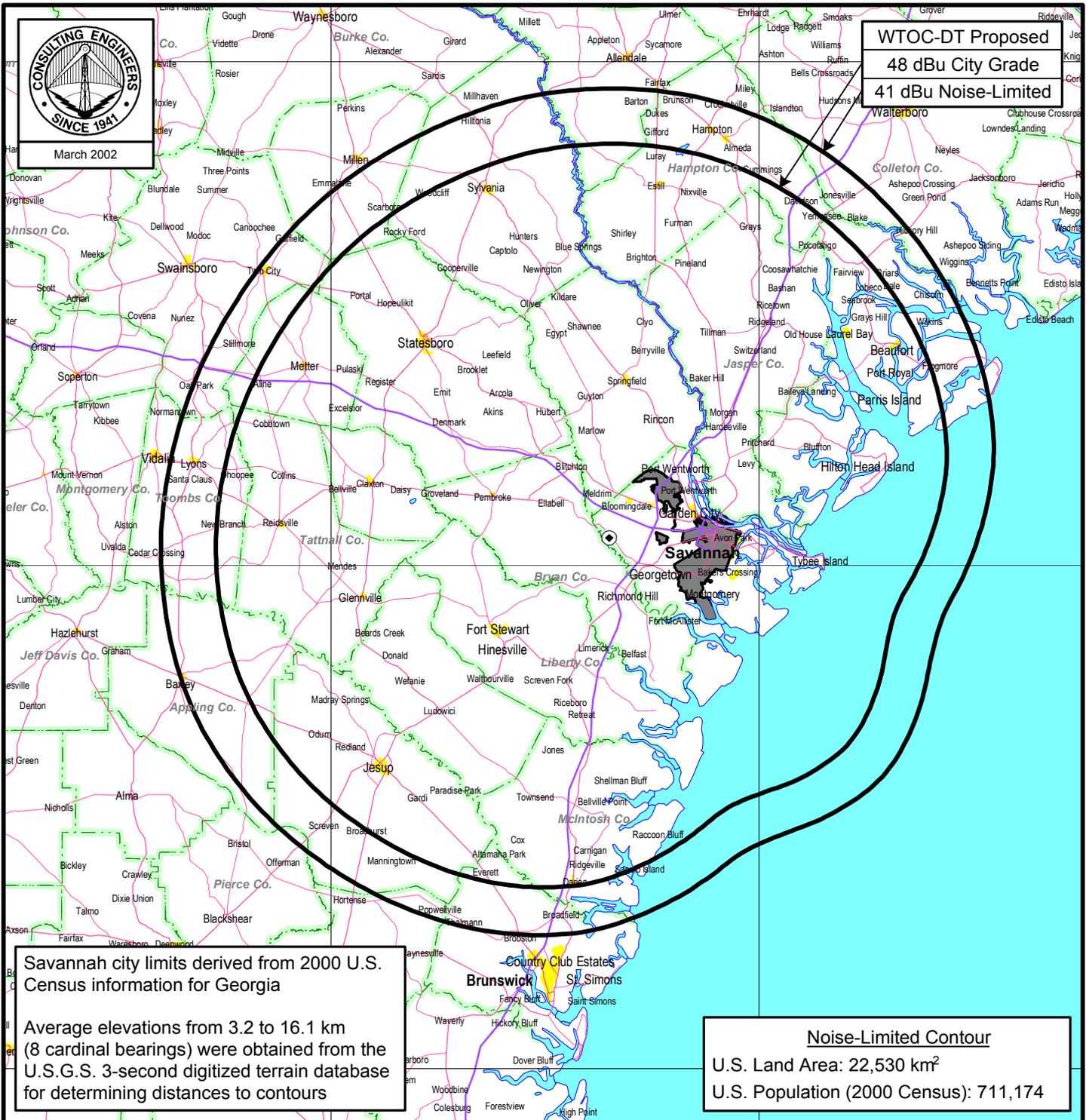
### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>24.0 (13.80 dB)</b>	Beam Tilt	<b>1.00 Degrees</b>
RMS Gain at Horizontal	<b>11.9 (10.76 dB)</b>	Frequency	<b>479.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>24B240100-90</b>



Remarks:

Figure 3



**PREDICTED F(50,90) COVERAGE CONTOURS**

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du Treil, Lundin & Rackley, Inc Sarasota, Florida