

TECHNICAL EXHIBIT  
MINOR MODIFICATION APPLICATION  
STATION WMGT-DT (FACILITY ID 43847)  
MACON, GEORGIA  
CH 40 110 KW 189 M

Technical Narrative

This Technical Exhibit supports a minor modification application for digital television station WMGT-DT on channel 40 at Macon, Georgia. Station WMGT-DT is authorized to operate with a non-directional antenna average effective radiated power (ERP) of 48 kW and an antenna height above average terrain (HAAT) of 237 meters (BPCDT-19991028AFQ).

This application proposes an equivalent facility compared to its construction permit. The site coordinates remain (NAD27): 32-45-12 N, 083-33-46 W. A non-directional antenna effective radiated power of 110 kW and antenna HAAT of 189 meters is proposed. The antenna structure registration number (ASRN) is 1060959.

The proposed facility will not result in any significant extension of the allotted noise-limited contour as shown in Figure 2. Therefore, the proposal meets the terms of the FCC Filing Freeze for digital television stations.<sup>1</sup>

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<sup>1</sup> See August 2004 Filing Freeze PN, DA 04-2446 (MB released Aug. 3, 2004).

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Allocation Considerations

An interference analysis using the provisions of the FCC's OET-69 program was conducted. The OET-69 results indicate that no new interference will be caused to any station.

Radiofrequency Electromagnetic Field Exposure

The proposed WMGT-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 antenna is located 210 meters above ground level with an effective radiated power of 110 kW. A conservative relative field value of 0.2 was assumed for the calculation. The calculated power density at a point 2 meters above ground level will be 0.003 mW/cm<sup>2</sup>. This is less than 5 percent of the FCC's recommended limit of 0.42 mW/cm<sup>2</sup> for channel 40 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. It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental

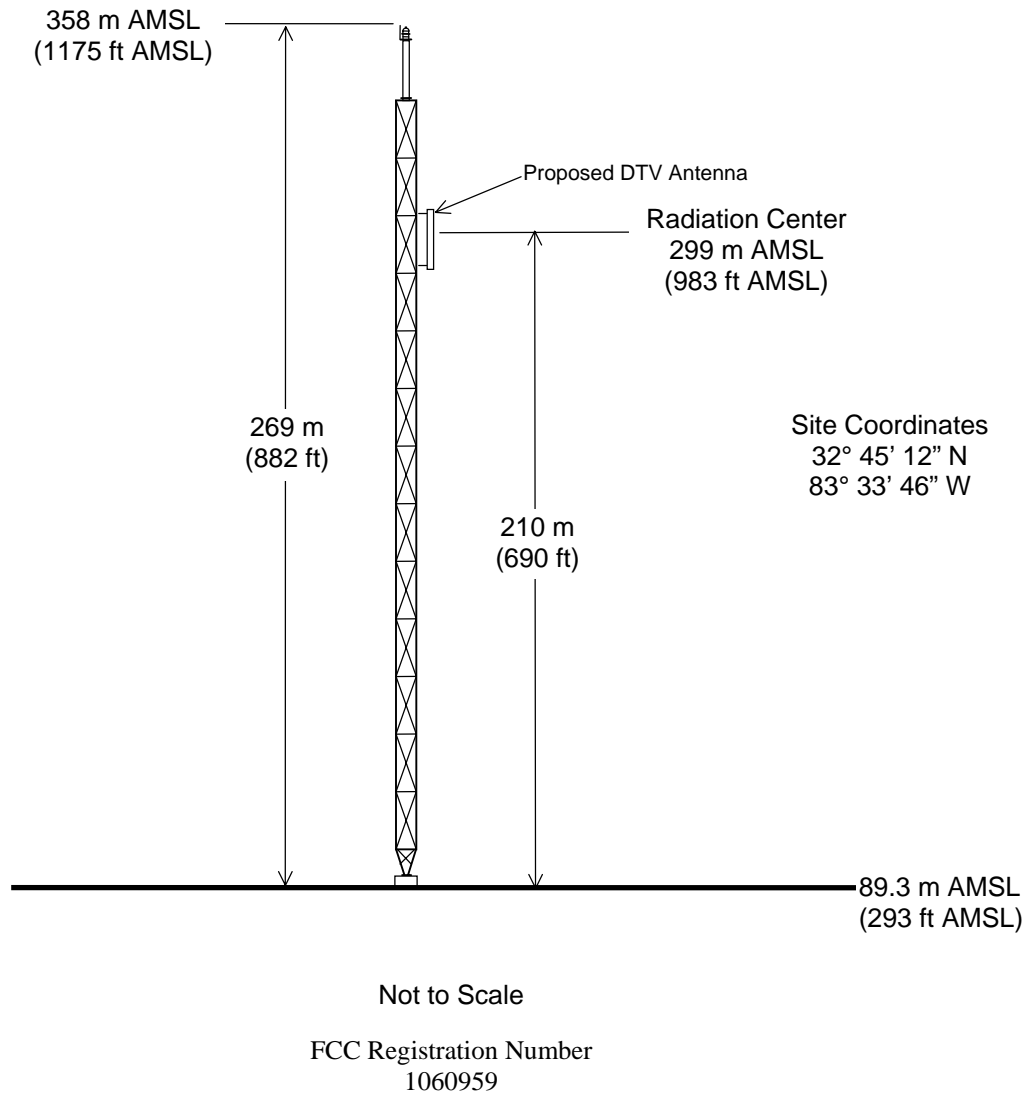
processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process.

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June 26, 2006

Figure 1

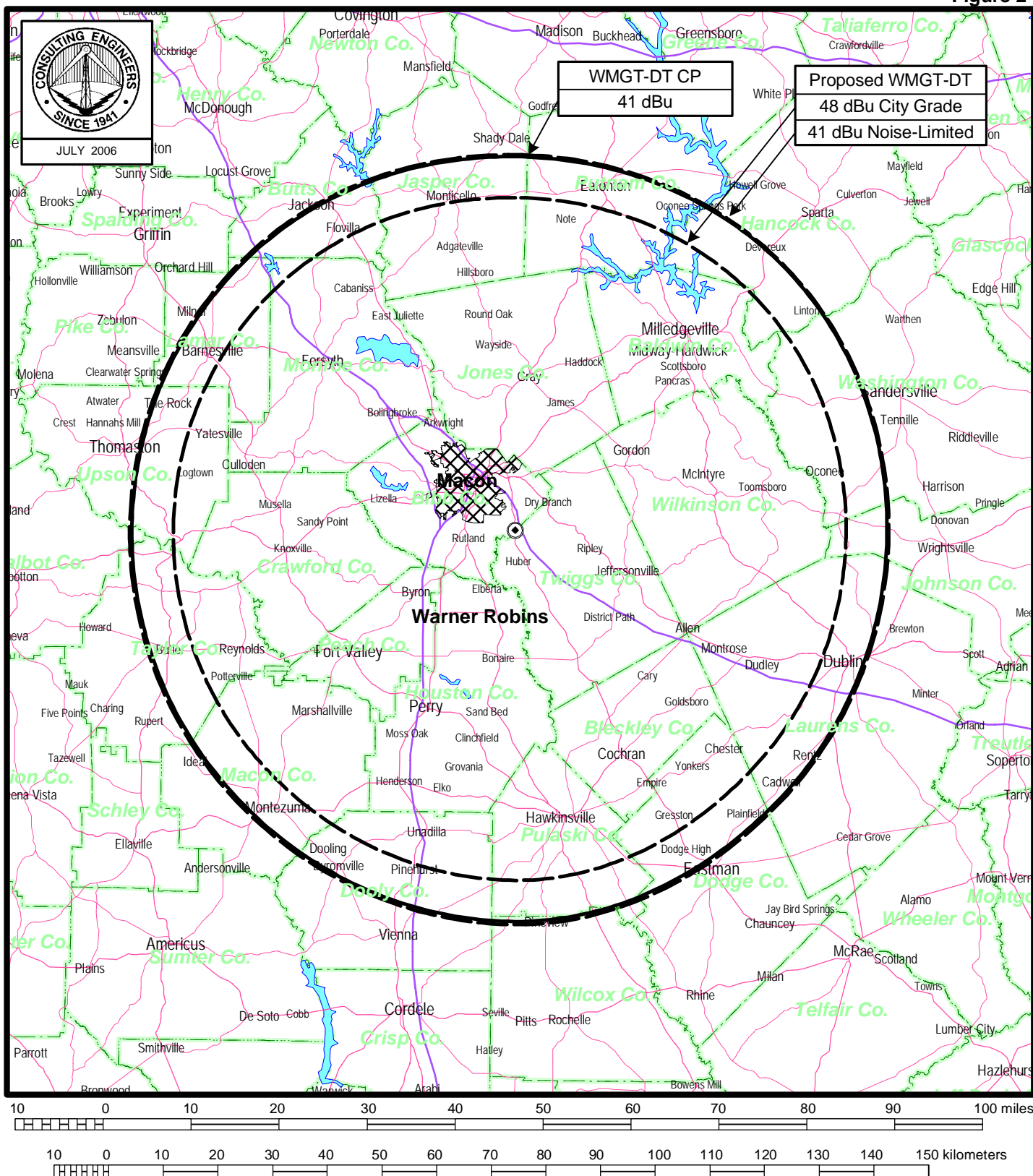


## **PROPOSED ANTENNA AND SUPPORTING STRUCTURE**

TELEVISION STATION WMGT-TV  
MACON, GEORGIA  
CH 40 110 KW 189 M

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

Figure 2



## PREDICTED COVERAGE CONTOURS

TELEVISION STATION WMGT-DT

MACON, GEORGIA

CH 40 110 KW 189 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida

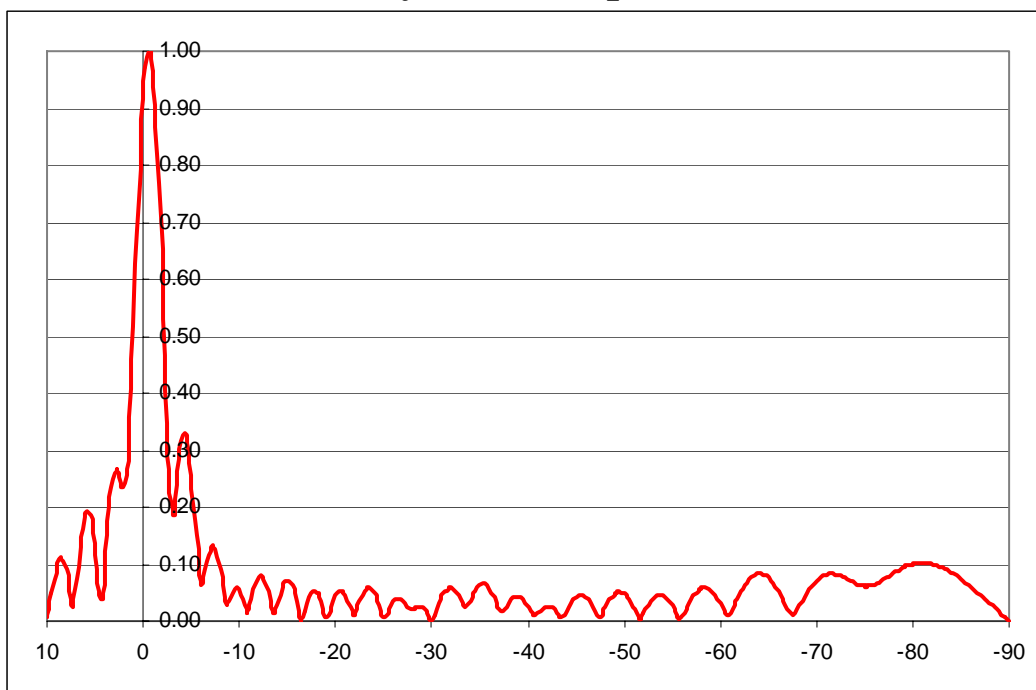
## APPENDIX

### TRANSMITTING ANTENNA SPECIFICATIONS

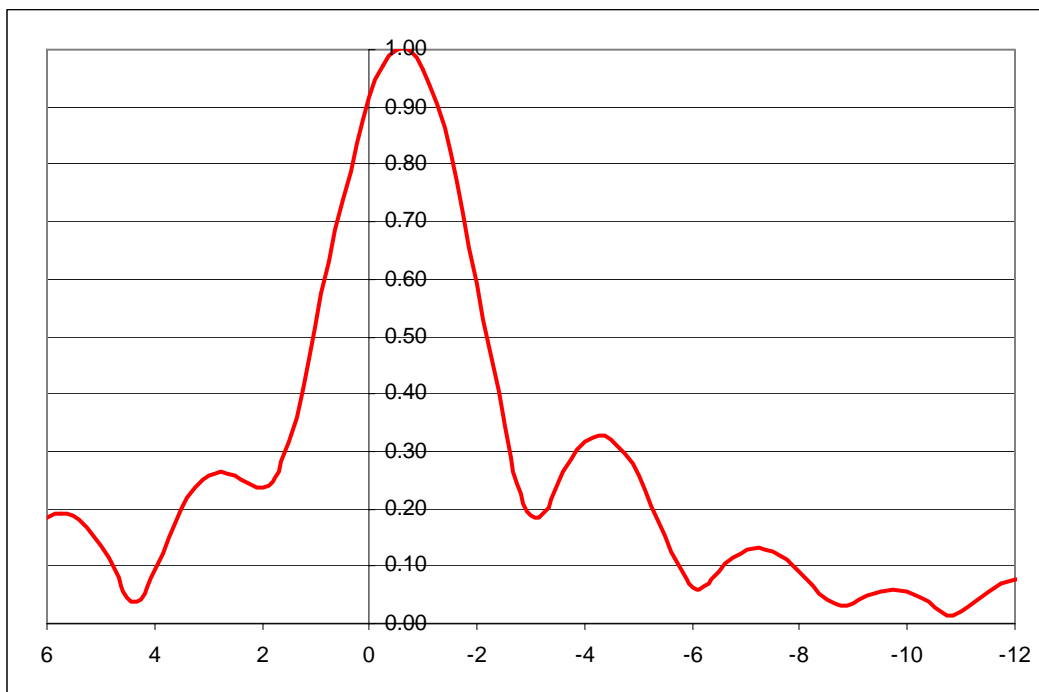
## **Technical Description**

<b>Antenna Model:</b>	<b>CS-2050-A-22</b>
<b>Number of Bays:</b>	<b>22</b>
<b>Channel:</b>	<b>US – Channel 40</b>
<b>Polarization:</b>	<b>Horizontal</b>
<b>Azimuth Pattern:</b>	<b>Omni-directional– RFT “A” Pattern</b>
<b>Azimuth Gain:</b>	<b>1.0 (0.0 dB)</b>
<b>Elevation Gain:</b>	<b>22.5 (13.52 dB)</b>
<b>Total Gain:</b>	<b>22.5 (13.52 dB)</b>
<b>Null Fill:</b>	<b>18.8% First Null @ -3 dgs.</b>
<b>Beam Tilt:</b>	<b>0.6 degrees electrical</b>
<b>Input Power Rating:</b>	<b>25 kW Average</b>
<b>Feed Point:</b>	<b>Center Fed - Horizontal</b>
<b>RF Input Connection:</b>	<b>4” EIA Flange</b>
<b>Gas Stop:</b>	<b>After input divider tee</b>
<b>Antenna Length:</b>	<b>40 Feet</b>
<b>Weight:</b>	<b>450 lbs.</b>
<b>Wind Load per 222 F:</b>	<b>40 Square Feet</b>
<b>Wind Zone Rating:</b>	<b>110 M.P.H.</b>
<b>Brackets:</b>	<b>Included – mounts to 4” OD With special cantilever bracket</b>
<b>Radomes:</b>	<b>Included – White or International Orange</b>

## 22 Bay elevation patterns



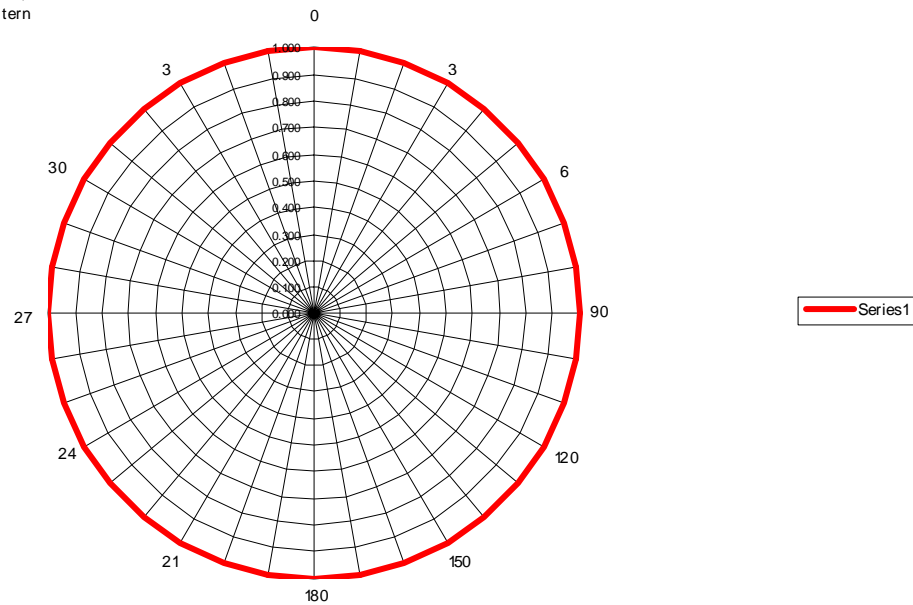
**10 to -90 degrees**



**6 to -12 degrees**



RF Technologies LLC  
Azimuth Gain = 1.00 (0.0 dB)  
Omni-Directional "A" Pattern



## RFT “A” Azimuth Pattern Plot – Omnidirectional

### System Performance Calculations

Antenna Power Gain:	22.5
ERP:	100 kW
Antenna Input:	4.44 kW
Line Loss:	3.18 dB
Eff. (%):	48.1%
TPO Needed:	9.23 kW