

TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION FOR  
MODIFICATION OF CONSTRUCTION PERMIT  
STATION WJWB-DT (FACILITY ID 29712)  
JACKSONVILLE, FLORIDA

MARCH 2, 2006

CH 34    863 KW (MAX-DA)    282.5 M

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Technical Narrative

This Technical Exhibit supports a minor change application for modification of construction permit (CP) for digital television (DTV) station WJWB-DT at Jacksonville, Florida (Facility ID 29712).

Station WJWB was allotted DTV channel 34 at its current analog site. The FCC assigned the channel 34 DTV allotment a maximum effective radiated power (ERP) of 300.6 kilowatts (kW) and antenna height above average terrain (HAAT) of 304 meters.

Station WJWB-DT is currently authorized to operate on channel 34 (BPCDT-19991025AEM). Station WJWB-DT is authorized to use a Dielectric model TFU-18DSC-T180 directional antenna (DA) system with a “trilobe” shaped pattern. The major lobes of the antenna pattern are oriented at 30, 150 and 270 degrees True. The maximum ERP is 1000 kW and the antenna HAAT is 282.5 meters. The antenna center of radiation is 278 meters above ground level (AGL), and 288 meters above mean sea level (AMSL). The transmitter site coordinates are 30-16-36, 81-33-47 (NAD-27). The FCC antenna structure registration number is 1025608.

Proposed DTV Facilities

This minor change application to modify the CP proposes to slightly change the WJWB-DT directional antenna pattern and decrease the ERP. There is no proposed change in channel (34), site coordinates (30-16-36, 81-33-47), antenna height (HAAT=282.5 m & Rc=288 m AMSL), supporting structure (1025608), and city of assignment (Jacksonville, FL). It is proposed to employ a Dielectric model TFU-28GTH-R-6T170

directional antenna system. The antenna pattern is the same “trilobe” shape as the current CP. The pattern major lobes will be oriented toward 30, 150 and 270 degrees True, the same as the current CP. The antenna system incorporates an electrical beam tilt of 0.75 degree (same as CP). The antenna will be installed with the center of radiation 278 meters AGL, and 288 meters AMSL (same as CP). The antenna HAAT will remain 282.5 meters. The proposed maximum DTV ERP is 863 kW. The slight reduction in ERP is to accommodate the slight change in antenna pattern relative field so that there is no extension of the DTV coverage contour.

Figure 1 shows the proposed antenna’s azimuth and vertical radiation patterns.

Figure 2 is a map showing the predicted 41 dBu and 48 dBu contours for the proposed WJWB-DT operation. The city limits of Jacksonville, Florida are indicated. The predicted 48 dBu contour encompasses all of the land area within the Jacksonville city limits. The estimated population (2000 Census) and land area within the predicted 41 dBu contour are 1,302,200 people and 14,900 square kilometers, respectively.

The following shows a comparison of the relative field values for the present WJWB-DT CP antenna pattern and the proposed antenna pattern every 10 degrees in azimuth. The difference in the CP and proposed relative field values is given in terms of decibels (dB). By difference we mean the amount the CP relative field is below the proposed relative field.

<u>Azimuths</u>	<u>Pattern Relative Field</u>		
	<u>CP</u>	<u>Proposed</u>	<u>Difference</u>
0, 60, 120, 180, 240, 300 degrees	0.710	0.747	-0.44 dB
10, 50, 130, 170, 250, 290	0.852	0.873	-0.21
20, 40, 140, 160, 260, 280	0.960	0.966	-0.05
<u>Azimuth</u>	<u>Pattern Relative Field</u>		
	<u>CP</u>	<u>Proposed</u>	<u>Difference</u>
30, 150, 270 degrees	1.000	1.000	0.00 dB
70, 110, 190, 230, 310, 350	0.578	0.622	-0.64
80, 100, 200, 220, 320, 340	0.494	0.531	-0.63
90, 210, 330	0.467	0.498	-0.56

The maximum pattern difference (proposed over CP) is 0.64 dB. The ERP will be reduced 0.64 dB from 1000 kW (30 dBk) down to 863 kW (29.36 dBk) so that the ERP at any azimuth for the proposed operation will not exceed the ERP for the CP operation (as noted above there is no change in site or HAAT). Therefore the predicted 41 dBu contour for the proposed WJWB-DT operation will not extend beyond the 41 dBu contour for the WJWB-DT CP operation. The proposed WJWB-DT operation complies with the FCC's freeze exemption for a minor change application.

### Allocation Study

The proposed WJWB-DT facilities (863 kW-DA, 282.5 m) are less than the current CP facilities (1000 kW-DA, 282.5 m). The proposed WJWB-DT operation meets the FCC's interference standards to pertinent analog (NTSC) and DTV assignments using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometers grid. The proposed WJWB-DT operation complies with the FCC's "de minimis" interference policy with respect to pertinent Class A TV assignments. If necessary, a waiver of the FCC rules is requested with respect to use of the OET-69 interference procedures.

Station WJWB's analog (NTSC) operation on channel 17 and station WKTZ-FM on channel 215C2 (Jacksonville, FL) are co-located on the WJWB-DT tower. There is only 1 AM station within 3.2 kilometers (2 miles) of the WJWB-DT site. It is the license operation of station WIOJ(AM) on 1010 kHz at Jacksonville, FL (1.85 km to the northeast). It is noted that WIOJ(AM) has a construction permit to change facilities (BP-20040112AAJ) to a site 42 kilometers to the west of the WJWB-DT site. The WJWB-DT supporting structure exists and there is no proposed change in the overall height of the existing structure.

No adverse electromagnetic interaction is expected from WJWB-DT's proposed operation. The applicant recognizes its responsibility to correct prohibited interference problems that its proposed operation may create.

The WJWB-DT site is more than 1200 kilometers from the closest point of the Canadian border. The WJWB-DT site is more than 1100 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Vero Beach, Florida, 310 kilometers to the south-southeast. The closest point of the National Radio Quiet Zone

(VA/WVA) is more than 800 kilometers to the north. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2400 kilometers to the northwest. The closest radio astronomy site using channel 37 is at Green Bank, West Virginia, approximately 920 kilometers to the north. These separations are considered sufficient to avoid coordination problems.

Calculations have been made concerning interference that the proposed WJWB-DT operation would receive. The calculations are based on the OET-69 procedures using a 2 kilometer grid and the 2000 Census. The proposed WJWB-DT operation receives calculated interference to 1,535 people and serves 1,304,560 people. This service population represents 102.7% coverage with regard to the FCC's "use-it-or-lose-it" test.

#### Radiofrequency Electromagnetic Field Exposure

The proposed WJWB-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 278 meters above ground level. The maximum ERP of 863 kW is assumed. A relative field value of 0.15 was assumed for the antenna's downward radiation (see Figure 1). The calculated power density at a point 2 meters (6.6 feet) above ground level is  $0.008516 \text{ mW/cm}^2$ . This is 2% of the FCC's recommended limit of  $0.40 \text{ mW/cm}^2$  for channel 34 for an "uncontrolled" environment. The calculated power density is less than 1% of the FCC's recommended limit for a "controlled" environment.

Access to the transmitting equipment 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.

If there are questions concerning the technical portion of this application,  
please contact the office of the undersigned.

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March 2, 2006



Date	02 Mar 2006		
Call Letters	WJWB-DT	Channel	34
Location	Jacksonville, FL		
Customer	Media General		
Antenna Type	TFU-28GTH 6T170		

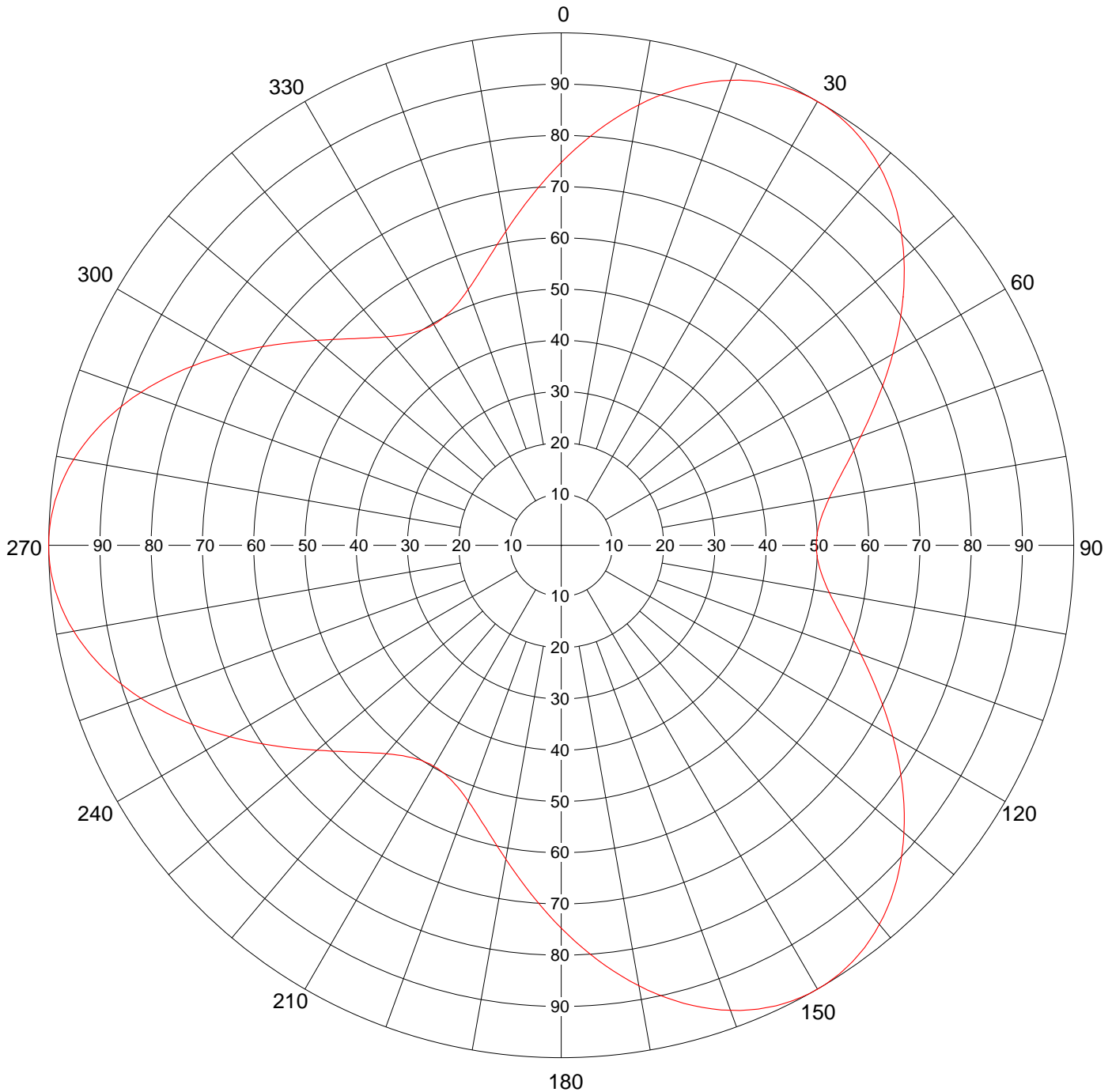
### AZIMUTH PATTERN

Gain  
Calculated / Measured

1.70 (2.30 dB)  
Calculated

Frequency  
Drawing #

593 MHz  
TFU-6T170



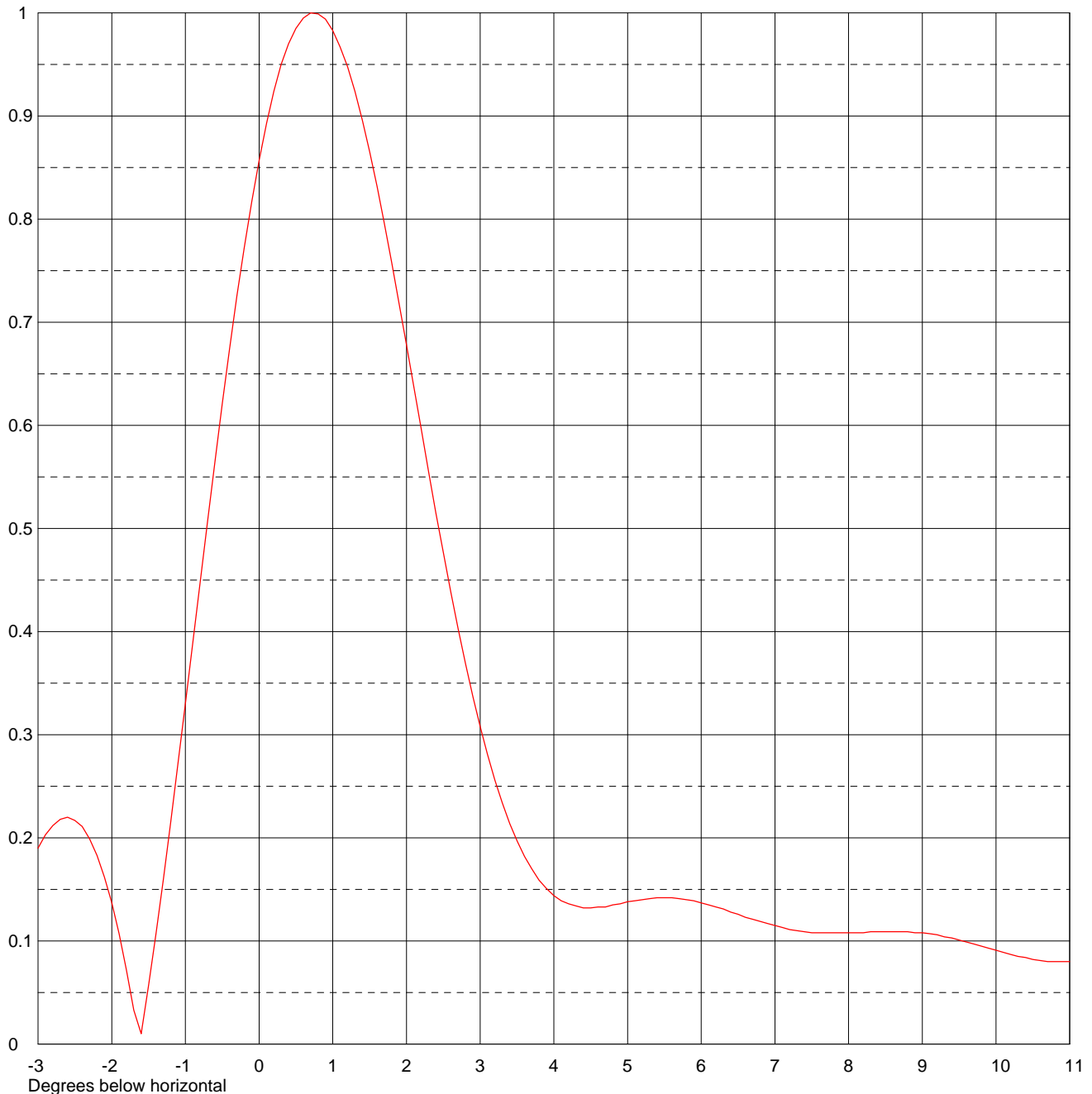
Remarks:



Date	02 Mar 2006
Call Letters	WJWB-DT Channel 34
Location	Jacksonville, FL
Customer	Media General
Antenna Type	TFU-28GTH 6T170

### ELEVATION PATTERN

RMS Gain at Main Lobe	24.5 (13.89 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	18.0 (12.55 dB)	Frequency	593.00 MHz
Calculated / Measured	Calculated	Drawing #	28G245075



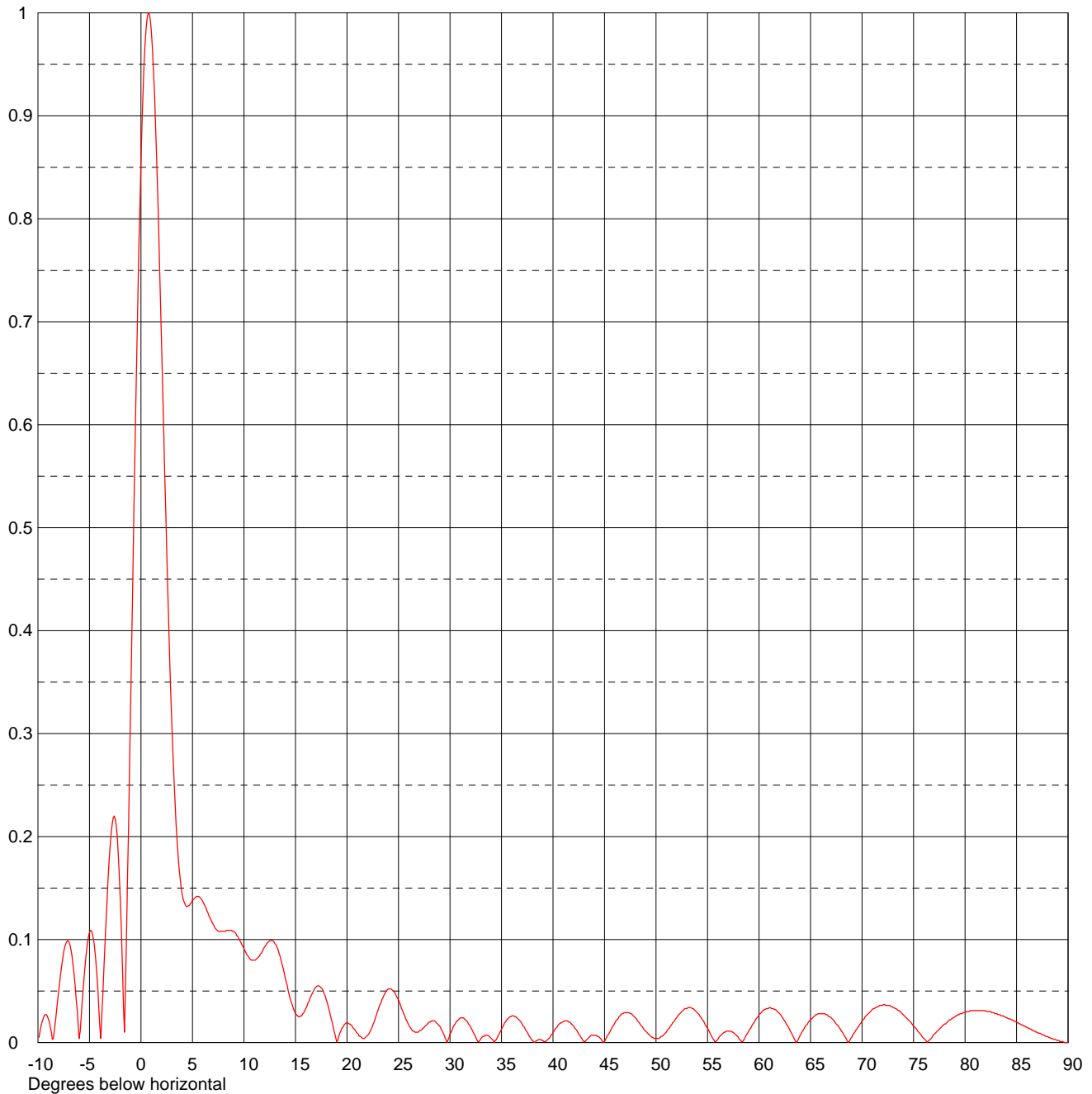
Remarks:



Date	02 Mar 2006
Call Letters	WJWB-DT Channel 34
Location	Jacksonville, FL
Customer	Media General
Antenna Type	TFU-28GTH 6T170

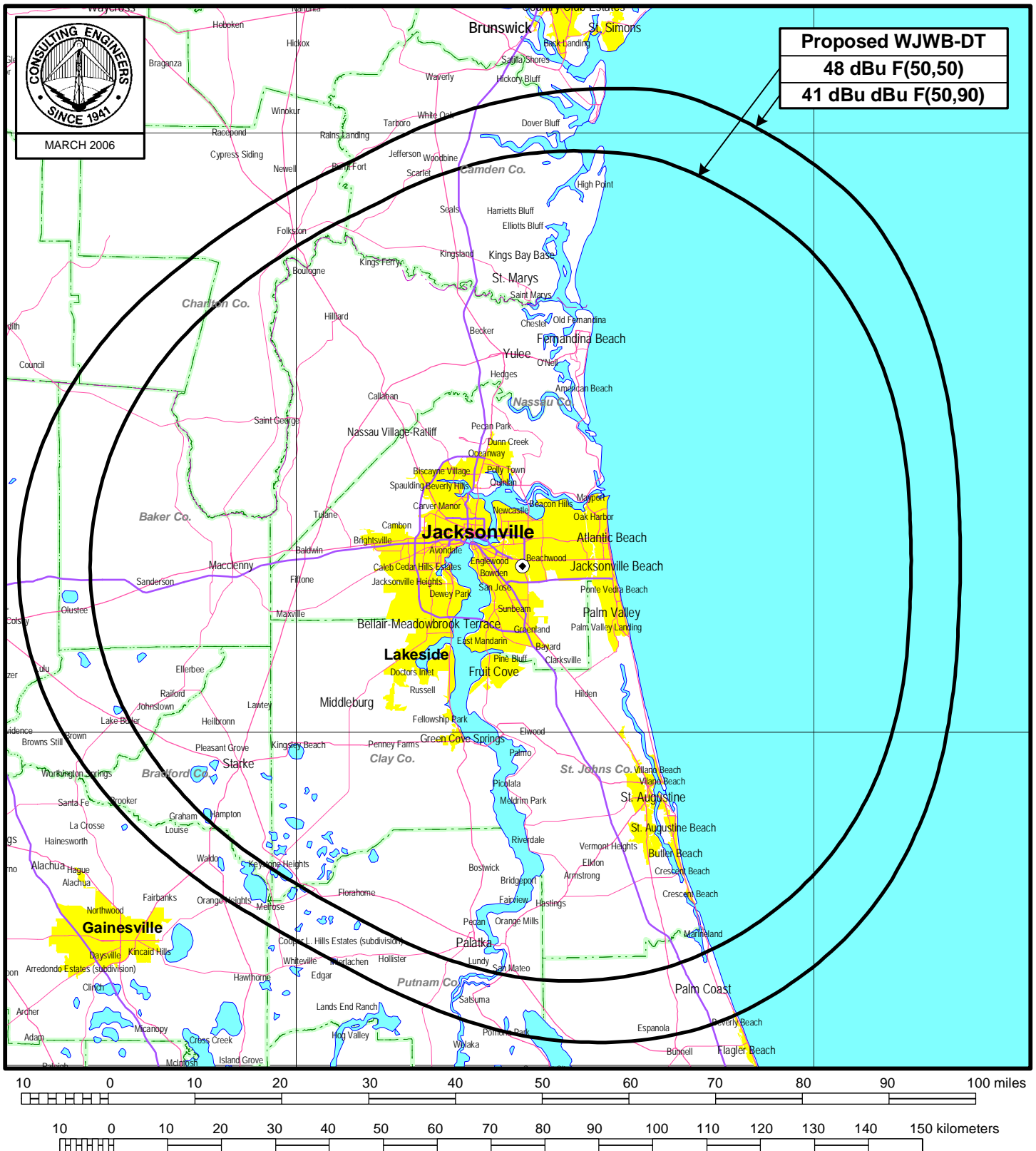
### ELEVATION PATTERN

RMS Gain at Main Lobe	24.5 (13.89 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	18.0 (12.55 dB)	Frequency	593.00 MHz
Calculated / Measured	Calculated	Drawing #	28G245075-90



Remarks:

Figure 2



## PREDICTED COVERAGE CONTOURS

STATION WJWB-DT

JACKSONVILLE, FLORIDA

CH 34 863 KW (MAX-DA) 282.5

du Treil, Lundin & Rackley, Inc Sarasota, Florida