

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
STATION WXTX-DT (FACILITY ID 12472)
COLUMBUS, GEORGIA

OCTOBER 21, 2004

CH 49 500 KW (MAX-DA) 312 M

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
STATION WXTX-DT (FACILITY ID 12472)
COLUMBUS, GEORGIA
CH 49 500 KW (MAX-DA) 312 M

Table of Contents

Technical Narrative

Figure 1	Antenna and Supporting Structure
Figure 2	Antenna Patterns
Figure 3	Coverage Map

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
STATION WXTX-DT (FACILITY ID 12472)
COLUMBUS, GEORGIA
CH 49 500 KW (MAX-DA) 312 M

Technical Narrative

This Technical Exhibit was prepared on behalf of digital television broadcast station WXTX-DT at Columbus, Georgia. Station WXTX-DT is authorized for operation on channel 49 with a directional antenna maximum effective radiated power (ERP) of 1000 kW and an antenna height above average terrain (HAAT) of 319 meters (BPCDT-19991027ACY).

The proposed facility will not result in any extension of the authorized noise-limited contour as shown in Figure 3. Therefore, the proposal meets the terms of the FCC Filing Freeze for digital television stations.¹

Proposed Facilities

This application proposes to decrease ERP and antenna HAAT and correct the coordinates (latitude by 1 second). There is no proposed change in site, channel (49) or city of license (Columbus). The corrected site coordinates are (NAD27): 32-27-39 N, 84-52-43 W. A directional antenna maximum ERP of 500 kW and antenna HAAT of 312 meters are proposed. The FCC antenna structure registration number is 1019105.

Figure 3 is a map showing the predicted noise-limited (41 dBu) and city-grade (48 dBu) contours for the proposed operation, along with the noise-limited contour for the authorized WXTX-DT operation. The Columbus city limits were derived from information contained in the 2000 U.S. Census for Georgia. The proposal complies with the city coverage requirements of Section 73.625(a).

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

Nearby Broadcast Facilities

There are no known authorized full service AM stations within 3.2 kilometers of the proposed transmitter site. The following is a list of known authorized full service FM and TV stations within 16 kilometers (10 miles) of the proposed site.

<u>Station</u>	<u>Channel</u>	<u>Bearing(°True)</u>	<u>Distance(km)</u>
WFRC, Columbus, GA	213C3	270	12.2
WFXE, Columbus, GA	285A	270	12.2
WGSY, Phenix City, AL	261A	294	13.7
WTJB, Columbus, GA	219A	253	14.9
WXTX, Columbus, GA	54	0	0.0
WLTZ-DT(CP), Columbus, GA	35	242	0.7
WLTZ, Columbus, GA	38	242	0.7

Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems that may result from its proposed operation.

Allocation Considerations

Interference calculations have been made using the procedures outlined in the FCC's OET-69 bulletin, using a 2 kilometer grid spacing. The proposed WXTX-DT operation does not cause excessive (greater than 2%, up to 10% total) calculated interference to any analog or DTV assignment. Below is the list of stations considered in the OET-69 analysis.

Stations Potentially Affected by Proposed WXTX-DT							
Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.	
34	WFRZ-CA	MONTGOMERY AL	123.8	CP	BPTTL	-20030226ABN	
35	970331SY	WARNER ROBINS GA	136.7	APP	BPCT	-19970331SY	
35	960920YR	WARNER ROBINS GA	120.2	APP	BPCT	-19960920YR	
41	WMGT-TV	MACON GA	127.4	LIC	BLCT	-1857	
45	WMCN-TV	MONTGOMERY AL	123.8	LIC	BLCT	-19930302KF	
48	WRJM-TV	TROY AL	110.2	CP	BPCDT	-19991101AKR	
48	WRJM-DT	TROY AL	132.3	PLN	DTVPLN	-DTVP1380	
48	WFXU	LIVE OAK FL	215.7	CP	BPCDT	-19981028KF	
48	WUVG-TV	ATHENS GA	157.8	CP MOD	BMPCDT	-20020118AAD	
48	WNGM-DT	ATHENS GA	207.9	PLN	DTVPLN	-DTVP1388	
49	W49AY	BIRMINGHAM AL	213.0	LIC	BLTTL	-19920218JN	
49	WAFF-DT	HUNTSVILLE AL	293.4	PLN	DTVPLN	-DTVP1408	

49	WAWD-DT	FORT WALTON BEACH FL	276.5	PLN	DTVPLN	-DTVP1414
49	WBPI-CA	AUGUSTA GA	298.0	APP	BPTTA	-20031030AAG
49	WTLH	BAINBRIDGE GA	215.7	LIC	BLCT	-20011102ABB
49	WDNN-CA	DALTON GA	252.9	LIC	BLTTL	-20020319ABG
49	WTOK-DT	MERIDIAN MS	358.1	PLN	DTVPLN	-DTVP1422
49	960920LX	TUPELO MS	379.2	APP	BPCT	-19960920LX
49	NEW	TUPELO MS	379.2	LIC	BPRM	-20000717AER
49	WRET-TV	SPARTANBURG SC	390.7	LIC	BLET	-19810706KG
50	WBRC-DT	BIRMINGHAM AL	212.4	PLN	DTVPLN	-DTVP1437
50	WTLH-DT	BAINBRIDGE GA	211.2	PLN	DTVPLN	-DTVP1443
50	WTLH	BAINBRIDGE GA	215.7	CP	BPCDT	-19980928KH
50	WGNM-DT	MACON GA	127.6	PLN	DTVPLN	-DTVP1444

From the above list of stations considered, the table below shows the calculated interference caused to each station. Only stations that are predicted to receive interference from the proposed WXTX-DT operation are shown in the interference table.

Study Station	Baseline	Net Population Change/Interference
48 WRJM-DT TROY AL (CP)	429,742	0 (0.0%) New Interference
49 WAFF-DT HUNTSVILLE AL (PLN)	816,493	112 (0.0%) New Interference
49 WTLH AUGUSTA GA (LIC)	741,197	3,560 (0.5%) New Interference

The proposed WXTX-DT operation does not cause calculated interference to any other analog or DTV station. Therefore, it is believed the proposal complies with the FCC's "de minimis" interference policy.

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.613 of the FCC Rules. The analysis reveals no potential impact to any Class A station.

Radiofrequency Electromagnetic Field Exposure

The proposed WXTX-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 309 meters above ground level with a maximum ERP of 500 kW. A conservative relative field value of 0.1 was assumed for the antenna's downward radiation (see Figure 2C). The calculated power density at a point 2

meters (6.6 feet) above ground level is 0.0018 mW/cm^2 . This is less than 1.0 % of the FCC's recommended limit of 0.46 mW/cm^2 for channel 49 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.

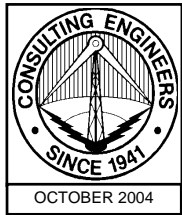
It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process.



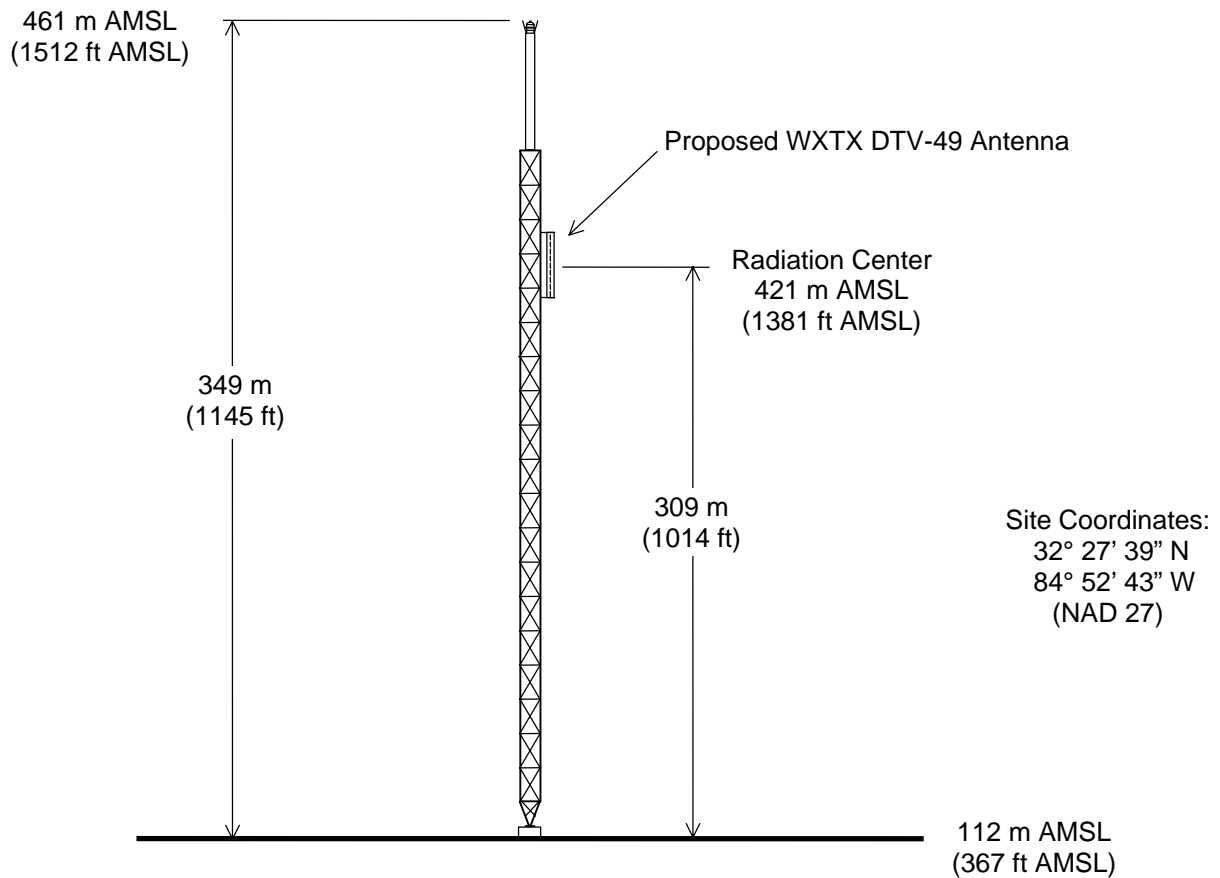
Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941) 329-6000

October 21, 2004



Tower Reg. No. 1019105



Not to Scale

ANTENNA AND SUPPORTING STRUCTURE

STATION WXTX-DT

COLUMBUS, GEORGIA

CH 49 500 KW (MAX-DA) 312 M

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

Figure 2A

Dielectric

Proposal Number

Revision

Date

21 Oct 2004

Call Letters

WXTX-DT

Channel

49

Location

Columbus, GA

Customer

Antenna Type

TFU-24ETT/DP-R P230**Horizontal Polarization**
Peak Gain: 44.3**AZIMUTH PATTERN**

Gain

2.30 (3.62 dB)

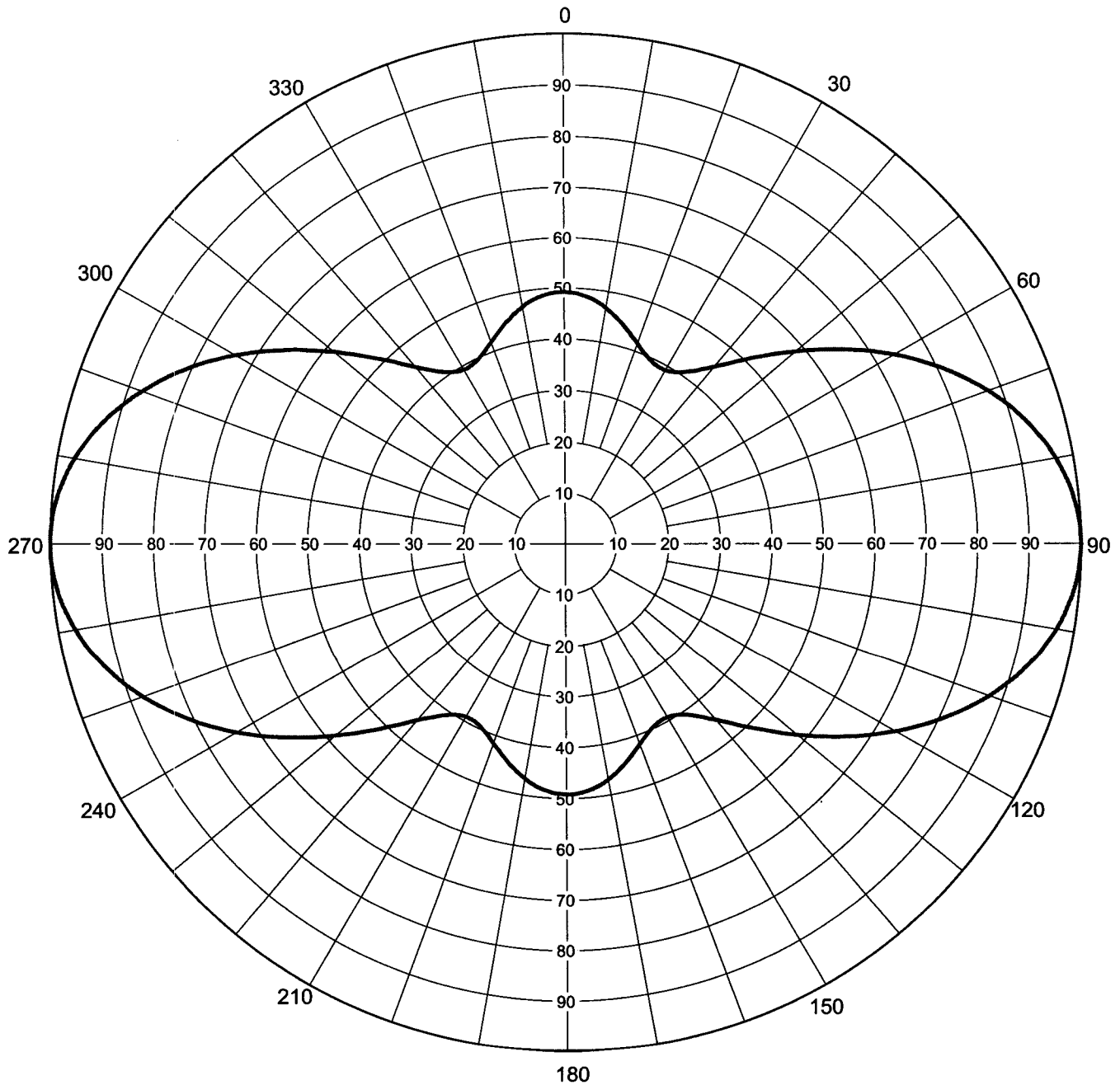
Frequency

683 MHz

Calculated / Measured

Calculated

Drawing #

TFU-P230-49

Remarks: HPOL

Figure 2B

Dielectric

Proposal Number

Revision

Date

21 Oct 2004

Call Letters

WXTX-DT

Channel

49

Location

Columbus, GA

Customer

Antenna Type

TFU-24ETT/DP-R P230

Vertical Polarization
Peak Gain: 11.1

AZIMUTH PATTERN

Gain

3.40 (5.31 dB)

Frequency

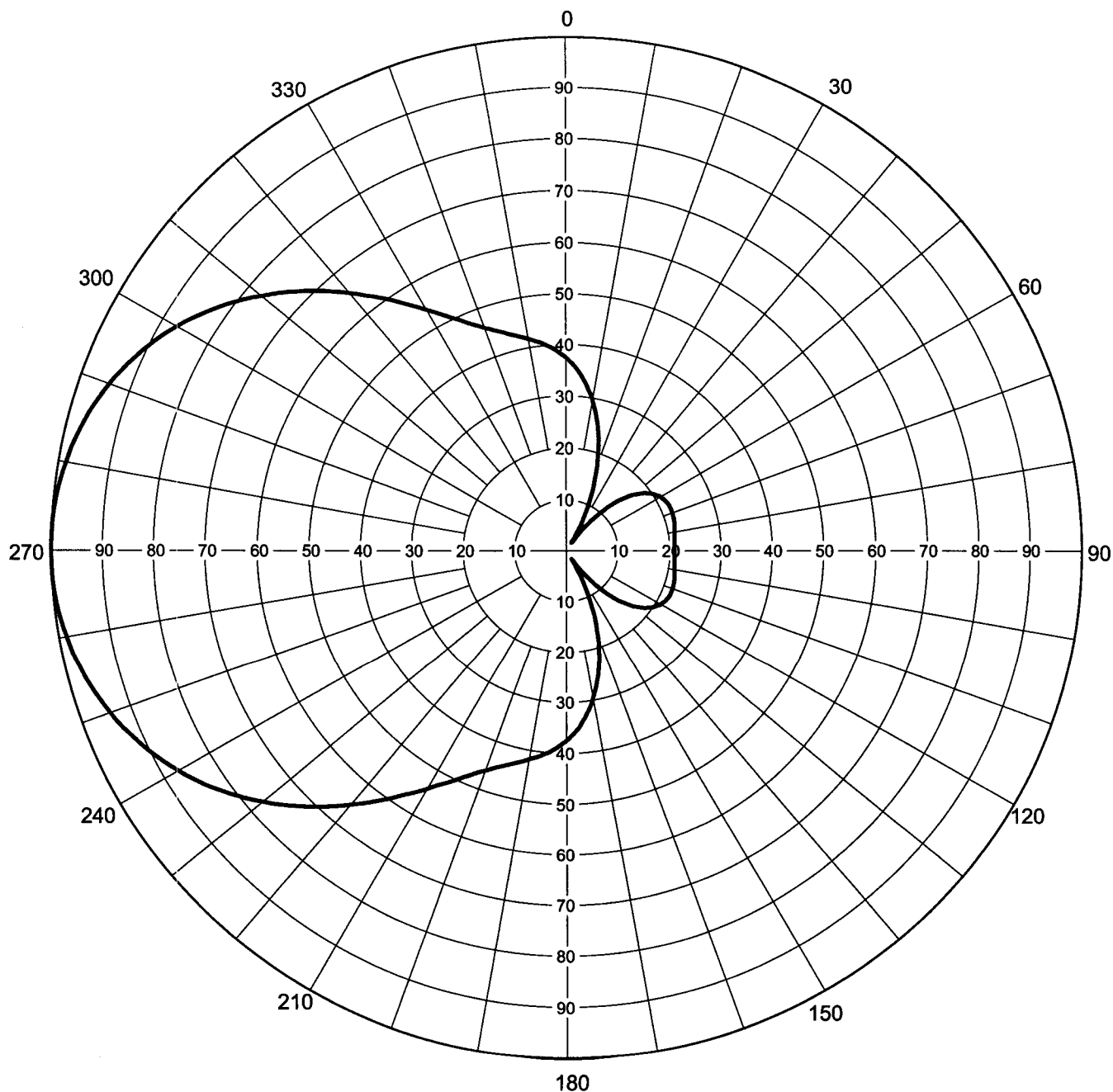
683 MHz

Calculated / Measured

Calculated

Drawing #

TFU-P340-49



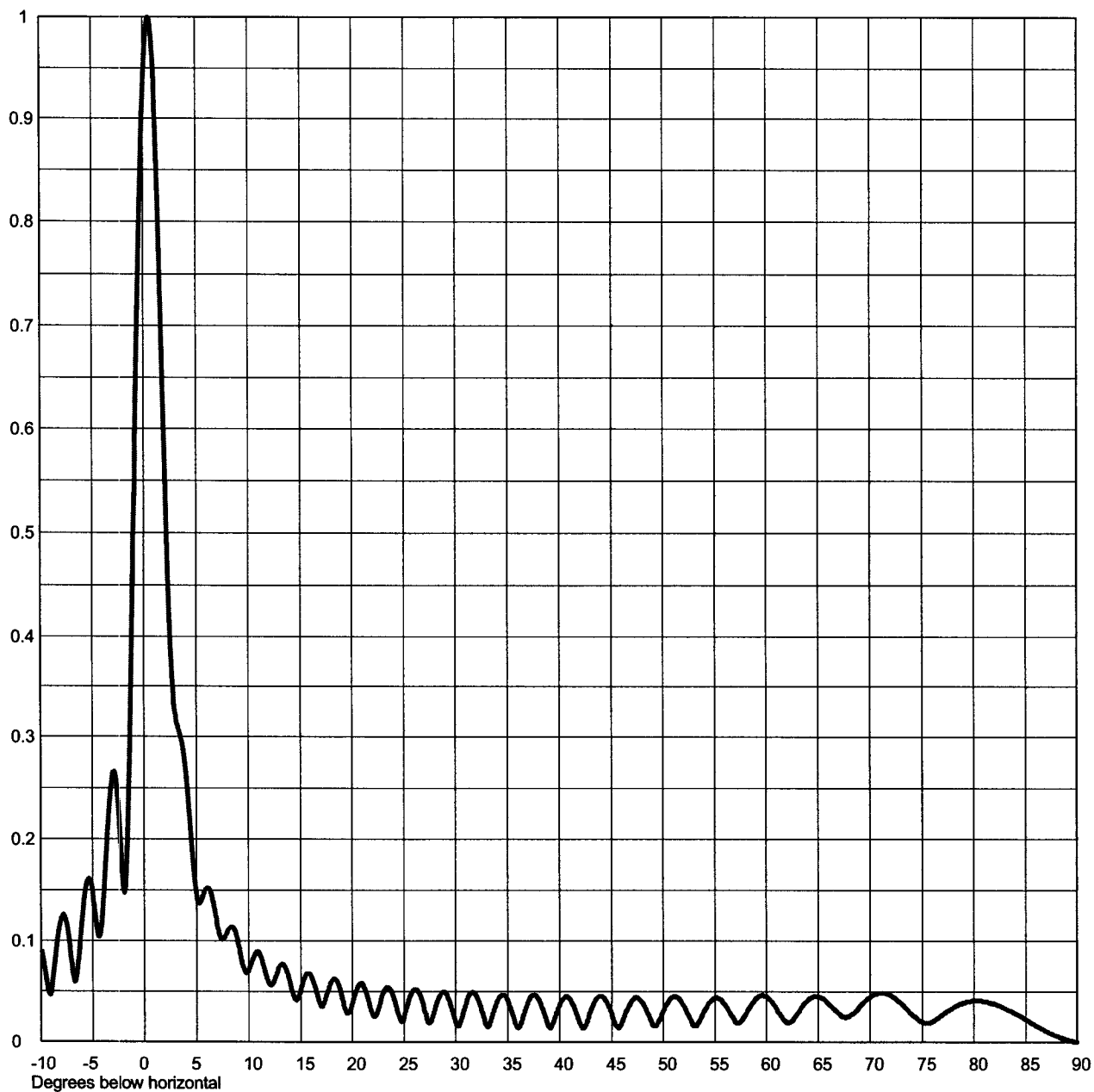
Remarks: VPOL



Proposal Number			
Date	21 Oct 2004	Revision	
Call Letters	WXTX-DT	Channel	49
Location	Columbus, GA		
Customer			
Antenna Type	TFU-24ETT/DP-R P230		

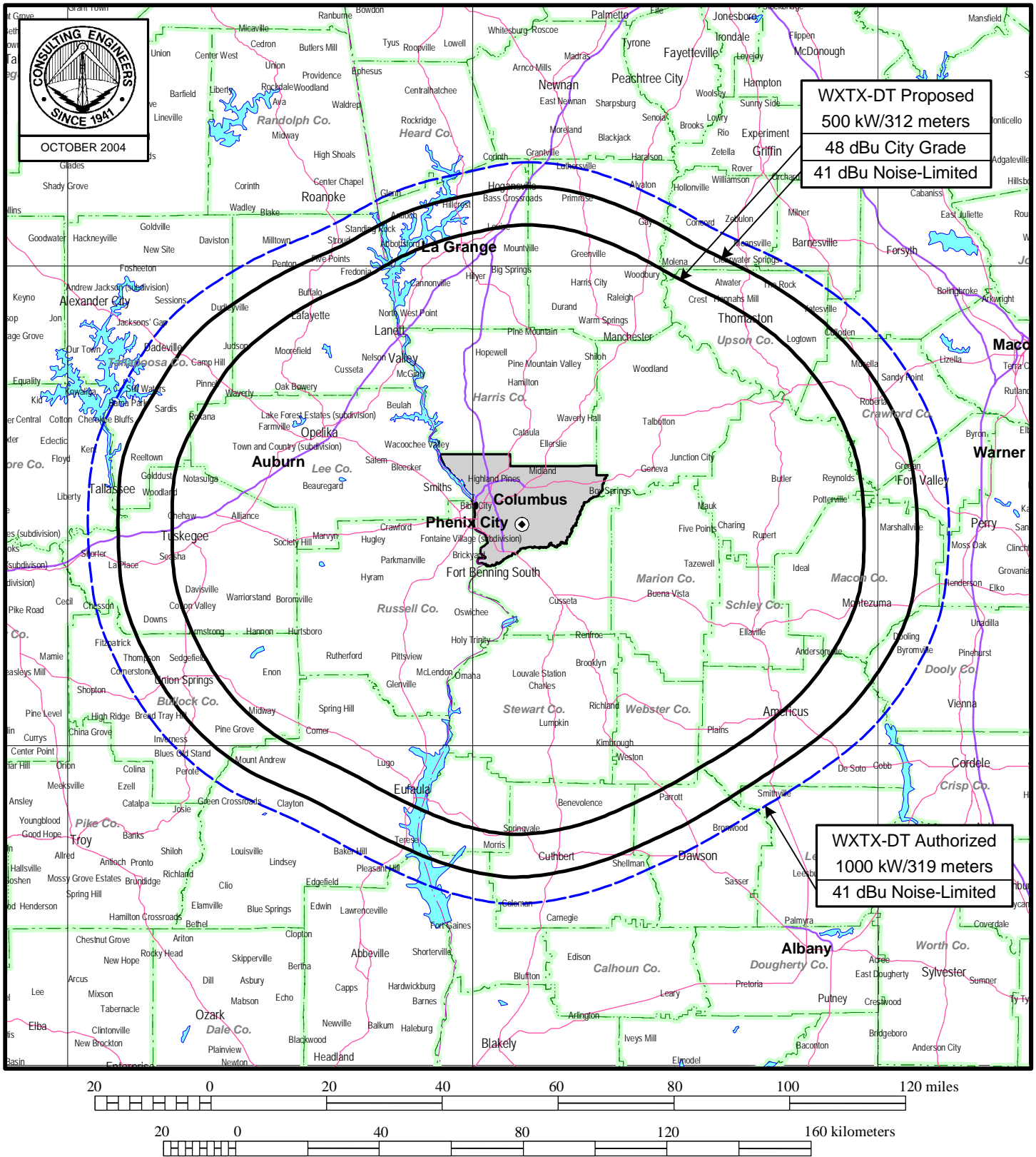
ELEVATION PATTERN

RMS Gain at Main Lobe	22.5 (13.52 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	19.6 (12.92 dB)	Frequency	683.00 MHz
Calculated / Measured	Calculated	Drawing #	24e22505-90



Remarks:

Figure 3



PREDICTED F(50,90) COVERAGE CONTOURS

STATION WXTX-DT

COLUMBUS, GEORGIA

CH 49 500 KW (MAX-DA) 312 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida