

ENGINEERING STATEMENT  
RE DTV BROADCAST ENGINEERING DATA  
AMENDMENT OF CONSTRUCTION PERMIT APPLICATION  
FCC FILE NO. BPCDT-20080317AFI  
KQCW-DT, MUSKOGEE, OKLAHOMA  
CHANNEL 20 550 KW ERP 252 METERS HAAT

APRIL 2008

COHEN, DIPPELL AND EVERIST, P.C.  
CONSULTING ENGINEERS  
RADIO AND TELEVISION  
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington            )  
                                          ) ss  
District of Columbia         )

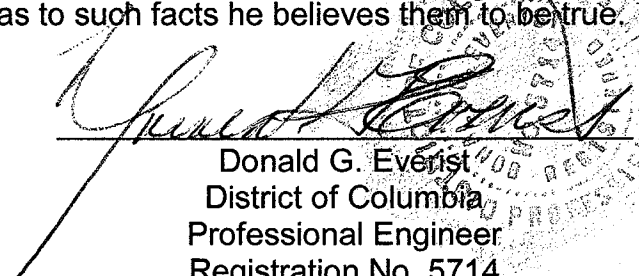
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

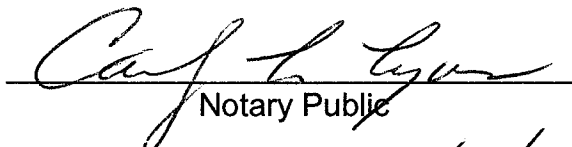
That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

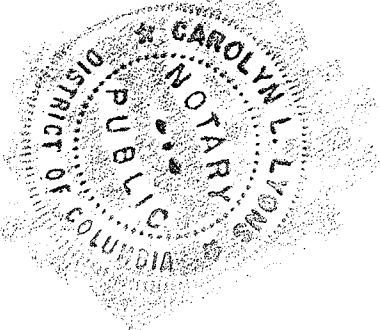
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

  
Donald G. Everist  
District of Columbia  
Professional Engineer  
Registration No. 5714

Subscribed and sworn to before me this 30<sup>th</sup> day of April, 2008.

  
Notary Public

My Commission Expires: 2/28/2013



This engineering statement has been prepared in support of an application to amend the pending application construction permit (FCC File No. BPCDT-20080317AFI) on behalf of Griffin Tulsa II Licensing, L.L.C., licensee of KQCW(TV), Muskogee, Oklahoma. The purpose of the application is to regularize the radiation pattern of the allotted Appendix B<sup>1</sup> facilities and to sufficiently replicate the currently licensed Grade B service with the KQCW-DT post-transition facilities using 550 kW effective radiated power (“ERP”) non-directional in accordance with the provisions of Paragraph 151 of the Third Periodic Review Report and Order.<sup>2</sup> The only change from the application on file is a slight reduction in ERP from 580 kW to 550 kW. No other changes are requested.

KQCW(TV) is licensed to operate on NTSC television Channel 19 with a maximum visual ERP of 5000 kW (horizontal polarization) and an antenna height above average terrain (“HAAT”) of 252 meters (827 feet). KQCW-DT has been allocated DTV Channel 20 with facilities of 245 kW ERP (directional) and HAAT of 252 meters in the revised DTV Table of Allotments.<sup>3</sup> KQCW proposes to construct DTV facilities of 550 kW (non-directional horizontal polarization, directional vertical polarization with an elliptically polarized antenna) at the existing height above average terrain of 252 meters. Since there is no change in overall height, FAA airspace approval is not

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<sup>1</sup>“In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service”, MM Docket 87-268, Memorandum Opinion and Order on Reconsideration of the Seventh Report and Order and Eighth Report and Order (FCC 08-72) Released March 6, 2008.

<sup>2</sup>“In the Matter of Third Periodic Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television”, MB Docket No. 07-91, Report & Order (FCC 07-228), Released December 31, 2007.

<sup>3</sup>Ibid.

required. Exhibit E-1 is a vertical sketch of the existing tower and the proposed transmitting antenna.

Filing Freeze Waiver Request

An allocation study from the proposed site has been performed as the predicted F(50,90) dipole adjusted 39.4 dBu noise-limited contour of the proposed DTV facilities at the currently authorized site do not fall within the predicted F(50,90) dipole adjusted 39.4 dBu noise-limited contour of the KQCW-DT facility in Appendix B. However, since KQCW-DT intends to use its currently licensed non-directional analog antenna after the transition, the proposed operation requests a sufficient non-directional ERP to replicate its current analog service area and to fill-in the greater terrain losses within the DTV F(50,90) service contour. To ensure compliance with Paragraph 151 of the Third Periodic Review Report and Order, the attached map has been computed and plotted every one degree in azimuth. The proposed operation does not extend more than 5 miles at any azimuth beyond the allotted KQCW-DT facility in Appendix B (see Exhibit E-2) and does not exceed the 0.5% additional interference standard to any other station in Appendix B potentially affected by the proposed operation (see Table II). Therefore, KQCW-DT requests a waiver of the DTV filing freeze<sup>4</sup> for rapid approval of minor expansion applications in accordance with Paragraph 151 of the Third Periodic Review Report and Order.<sup>5</sup>

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<sup>4</sup>Public Notice entitled, "Freeze on the Filing of Certain TV and DTV Requests for Allotment or Service Area Changes", released August 3, 2004.

<sup>5</sup>Ibid.

The DTV antenna will be the existing analog antenna and will be located on the same tower as KQCW NTSC Ch. 19 currently operates.

There are no AM stations located within 3.2 km of the existing KQCW tower site. There are no FM stations and there will be no NTSC stations or other full-service DTV facilities within 100 meters.

The TV antenna is top-mounted on the existing tower with total overall structure height above ground of 240.5 meters (789 feet). The existing transmitter site is located approximately 3.2 km east-northeast of Bald Hill, Oklahoma. The registration number for the tower is 1062616.

The geographic coordinates of the proposed site are as follows:

North Latitude: 35° 45' 08"

West Longitude: 95° 48' 15"

NAD-27

Equipment Data

Antenna: Dielectric, Model TFU-31 ETT/DP-R O6 (or equivalent) antenna with 0.5° electrical beam tilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included as Exhibit E-3.

Transmission Line: 236 meters (775 ft) of Dielectric, Doubly Truncated Waveguide (DTW), Size 1750 or equivalent

Power Data

Transmitter output	30.4 kW	14.83 dBk
Combiner/Transmission line efficiency/loss	90.7%	-0.424 dB
Input power to the antenna	27.6 kW	14.41 dBk

Polarization

		<u>Horizontal</u>		<u>Vertical</u>
Antenna power gain, Main Lobe	19.9	12.99 dB	13.4	11.27 dB
Effective Radiated Power, Maximum	550 kW	27.40 dBk	370 kW	25.7 dBk

Elevation Data

(unchanged from NTSC Ch. 19 License)

Vertical dimension for Channel 20 antenna	20.1 meters 66 feet
Overall height above ground of the existing antenna structure (including beacon and lightning rod)	240.5 meters 789 feet
Center of radiation of Channel 20 antenna above ground	229.3 meters 752.3 feet
Elevation of site above mean sea level	231.6 meters 759.8 feet
Center of radiation of Channel 20 antenna above mean sea level	460.9 meters 1512.1 feet

Overall height above mean sea level of existing tower and stacked antenna (including beacon)	472.1 meters 1548.9 feet
Antenna height above average terrain	252.0 meters

Note: Slight height differences may result due to conversion to metric.

#### Allocation

An allocation study from the proposed site has been performed since the proposed DTV facilities exceed that listed in Appendix B.

#### Interference Analysis

A study of predicted interference caused by the proposed Ch. 20 DTV service has been performed using a version of the Longley-Rice program as described in OET Bulletin No. 69 (February 6, 2004) and the Public Notice, "Additional Application Processing Guidelines for Digital Television (DTV)" (August 1998). The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Windows XP platform. Comparison of service/interference areas and populations indicates that this model closely matches the FCC's evaluation program. Best efforts have been made to use data and calculations identical to the FCC's program. Any slight differences are attributable to compiler, operating system and/or processor characteristics. The effect of any variance in calculated population values versus the FCC's program is minimized when differencing a given model's results, such as calculating new interference as total interference less baseline interference. Any variance effect is further reduced when using ratios of calculated population values such as measuring the incremental population

affected as a percent of the total population served. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 4 km<sup>2</sup> using 3-second terrain data sampled approximately every 1.0 km at one degree azimuth intervals with 2000 census centroids.

The above considers all allotments in the final Table B released March 6, 2008.<sup>6</sup>

#### Coverage

The average elevation data for 3.2 to 16.1 km along each radial are based upon the 3-second NGDC terrain data.

The F(50,90) DTV coverage contour has been computed from reference to the propagation data for Channels 14-69, as published by the FCC in Figure 10b and Figure 10c, Section 73.699 of the FCC Rules and Regulations.

Utilizing the formula in Section 73.625(b)(2) of the Rules for the effective heights, it is found that the depression angle,  $A_h$ , varies from 0.42 to 0.46 degrees. Since the relative vertical field is greater than 90% of the maximum at these depression angles, the maximum power was used in determining the distance to the DTV contour.

Table I includes the distances to the dipole adjusted 39.4 dBu F(50,90) service contour, the 48 dBu F(50,90) community coverage contour, the average elevation 3.2 to 16.1 km, and the antenna height above average terrain for the eight radials. Exhibit E-2 shows the F(50,90) 39.4 dBu dipole adjusted noise-limited contour and the F(50,90) 48 dBu City Grade contour computed every one

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<sup>6</sup>Ibid.



degree in azimuth on a map and demonstrates that the community of license is covered by the F(50,90) 48 dBu contour.

Total Radiofrequency Field Levels at KQCW-DT Tower Site

The total percentage of radiofrequency field levels (“RFF”) can be calculated by combining the percentage contribution of each station, which in this case will be only KQCW-DT.

The total “worst-case” post-transition RFF contribution of all stations (only KQCW-DT) two meters above the ground at the base of the KQCW-DT tower is no more than 0.5% of the FCC guidelines for an uncontrolled environment which is no more than 0.1% of the proposed FCC guidelines for a controlled environment. KQCW-DT will likely not operate its post-transition facilities until 2009, thereby potentially reducing the RFF at the site after analog operations are removed from the tower and the vicinity.

Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

Environmental Assessment

An environmental assessment (“EA”) is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the licensee indicates:

- (a)(1) The existing tower is not located in an officially designated wilderness area.
- (a)(2) The existing tower is not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities located on a tower which was built prior to the adoption of WT Docket No. 03-128 and is grandfathered and has not affected any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The existing tower is not located near any known Indian religious sites.
- (a)(6) The existing tower is not located in a flood plain.
- (a)(7) Reuse by DTV of the facilities on an existing guyed tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines contained in OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.

ABOVE MEAN SEA LEVEL

ABOVE GROUND

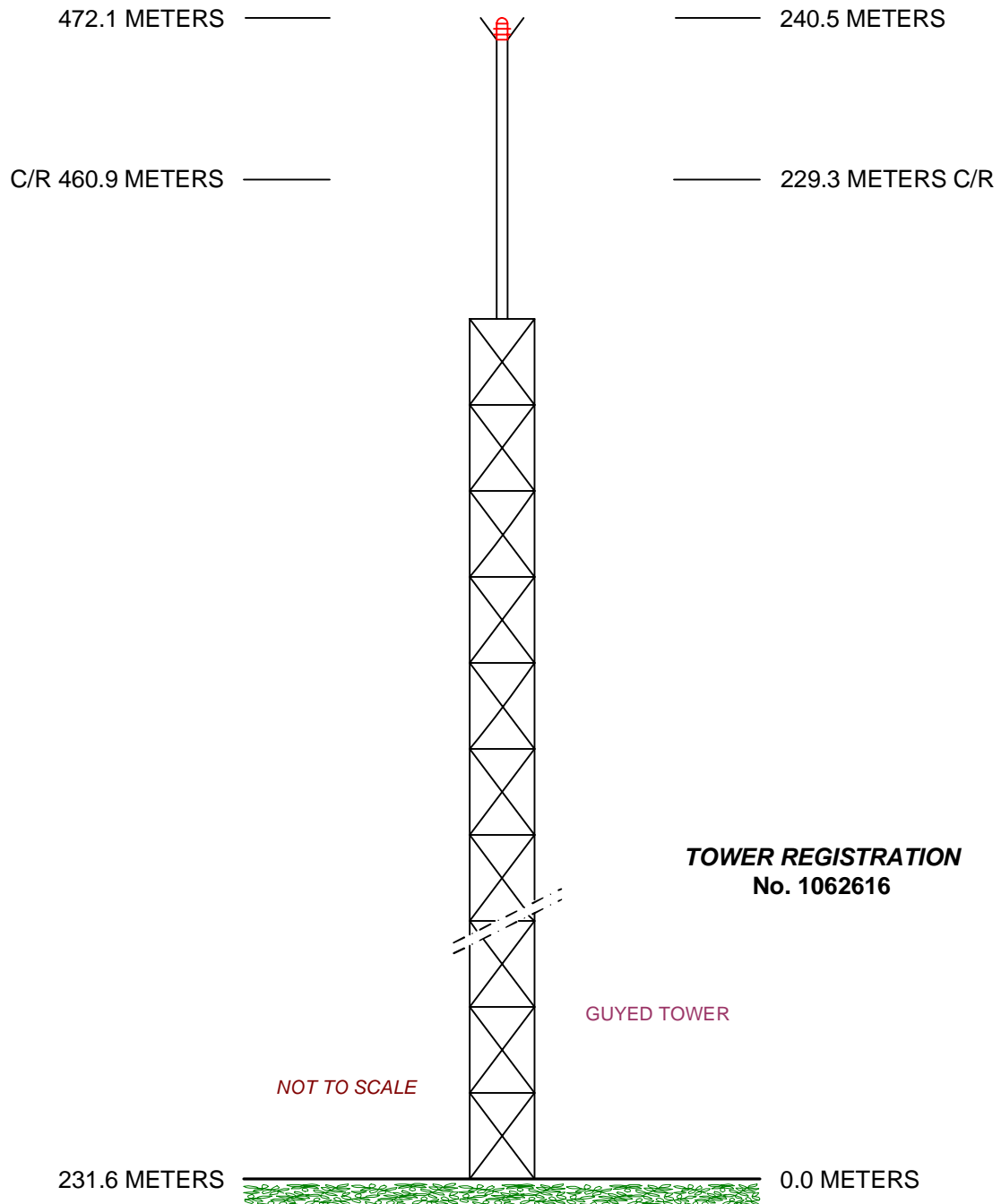


EXHIBIT E-1  
VERTICAL SKETCH  
FOR THE PROPOSED DTV OPERATION OF  
**KQCW-DT, MUSKOGEE, OKLAHOMA**  
APRIL 2008

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TABLE I  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
KQCW-DT, MUSKOGEE, OKLAHOMA  
CHANNEL 20, 550 KW ERP, 252 METERS HAAT  
APRIL 2008

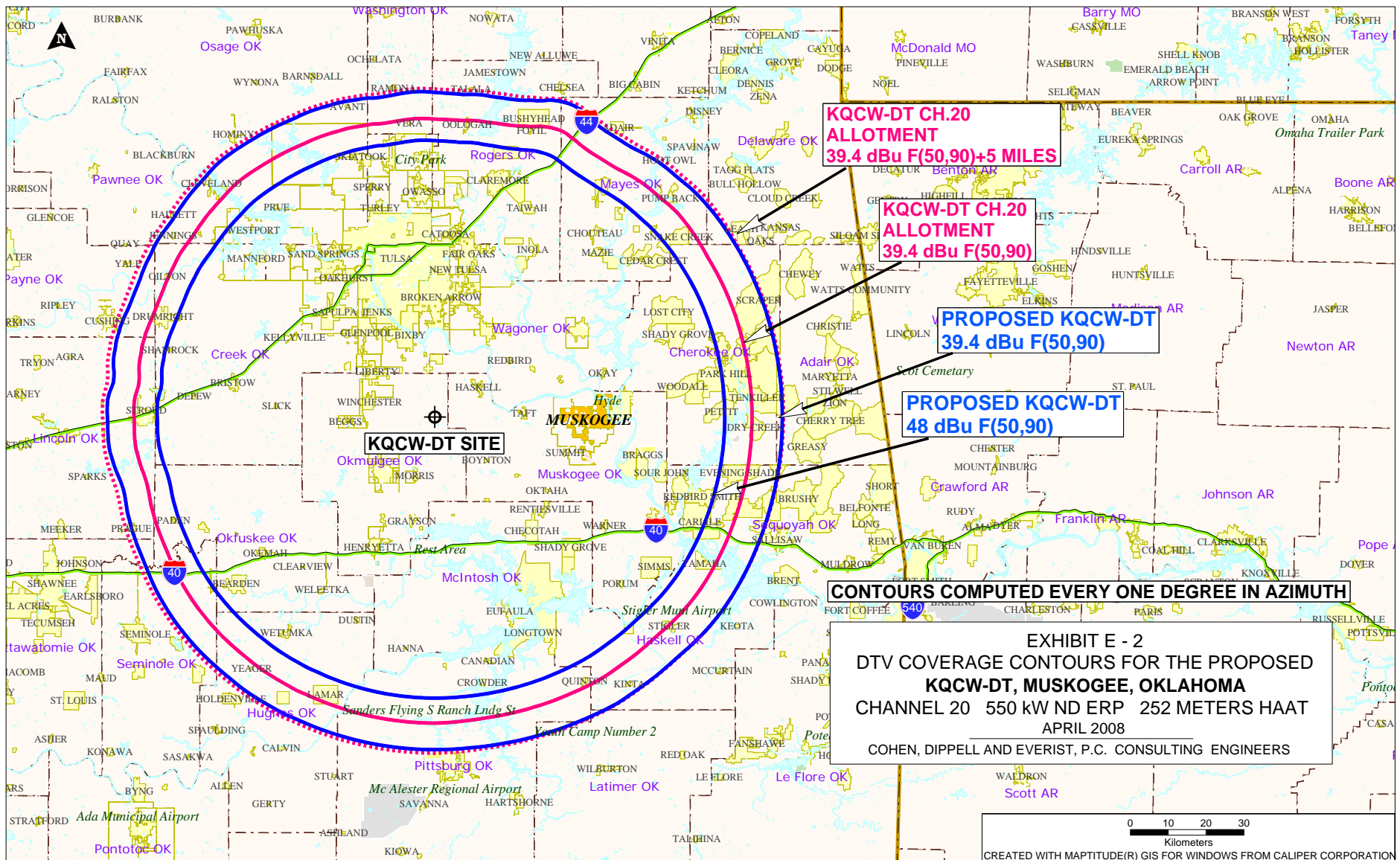
<u>Radial</u> <u>Bearing</u> N °E, T	Average* Elevation <u>3.2 to 16.1 km</u> meters	Effective <u>Height</u> meters	Depression <u>Angle</u>	ERP At Radio <u>Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
					48 dBu <u>City Grade</u> km	39.4 dBu Dipole-Adjusted <u>Noise-Limited</u> km
0	229.9	231.0	0.421	550	72.7	85.4
45	196.8	264.1	0.450	550	75.3	89.8
90	183.9	277.0	0.461	550	76.5	91.7
135	196.1	264.8	0.451	550	75.3	90.0
180	213.0	247.9	0.436	550	73.9	87.5
225	213.0	247.9	0.436	550	73.9	87.5
270	220.6	240.3	0.429	550	73.4	86.5
315	213.4	247.5	0.436	550	73.9	87.4
Average	208.3	252.0				

\*Based on data from FCC 3-second data base

Note: Exhibit E-2 contours based on computation  
at every one degree in azimuth.

DTV Channel 20 (506-512 MHz)  
Average Elevation 3.2 to 16.1 km 208.3 Meters AMSL  
Center of Radiation 460.9 Meters AMSL  
Antenna Height Above Average Terrain 252.0 Meters  
Effective Radiated Power 550 kW (27.4 dBk) Max

North Latitude: 35° 45' 08"  
West Longitude: 95° 48' 15"  
(NAD-27)



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TABLE II  
INTERFERENCE STUDY FOR THE PROPOSED  
KQCW-DT, CHANNEL 20 550 KW 252 M HAAT  
APRIL 2008

<u>Affected Station</u>	<u>Existing<sup>1</sup></u> <u>Interference</u>	<u>New</u> <u>Interference</u>
KQCW-DT Ch. 21 Fort Smith, AR 325 kW ERP 602 M HAAT	0.11%	<0.25%

<sup>1</sup> Interference from KQCW-DT facility in final DTV Table of Allotments.

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EXHIBIT E-3

ANTENNA MANUFACTURER DATA

KQCW-DT, MUSKOGEE, OKLAHOMA

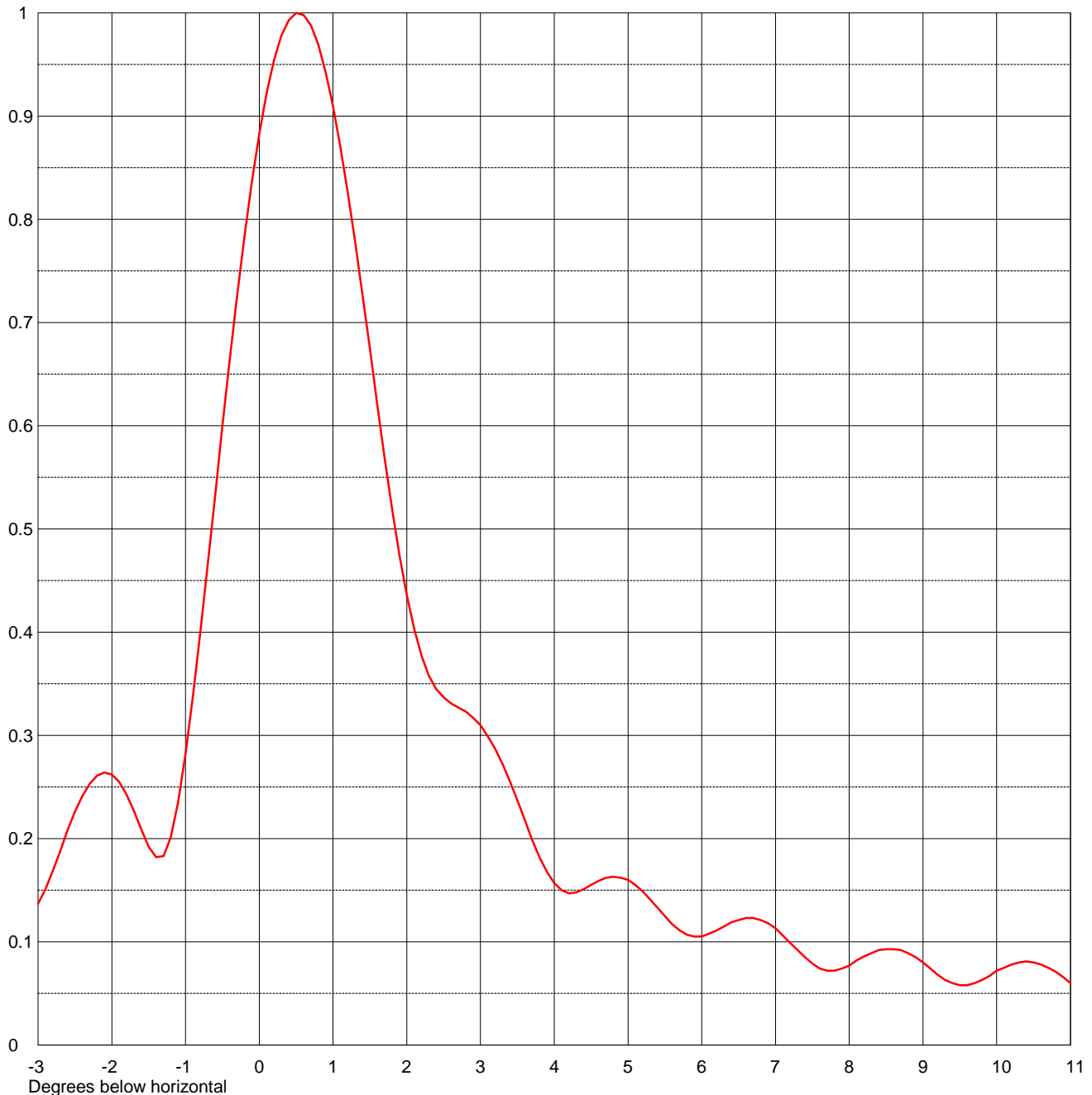


Date  
Call Letters  
Location  
Customer  
Antenna Type

**11 Mar 2008**  
**KQCW-DT** Channel **20**  
**Muskogee, OK**  
**Griffin**  
**TFU-31ETT 06SP**

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>28.0 (14.47 dB)</b>	Beam Tilt	<b>0.50 Degrees</b>
RMS Gain at Horizontal	<b>21.8 (13.38 dB)</b>	Frequency	<b>509.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>31E280050</b>



Remarks:

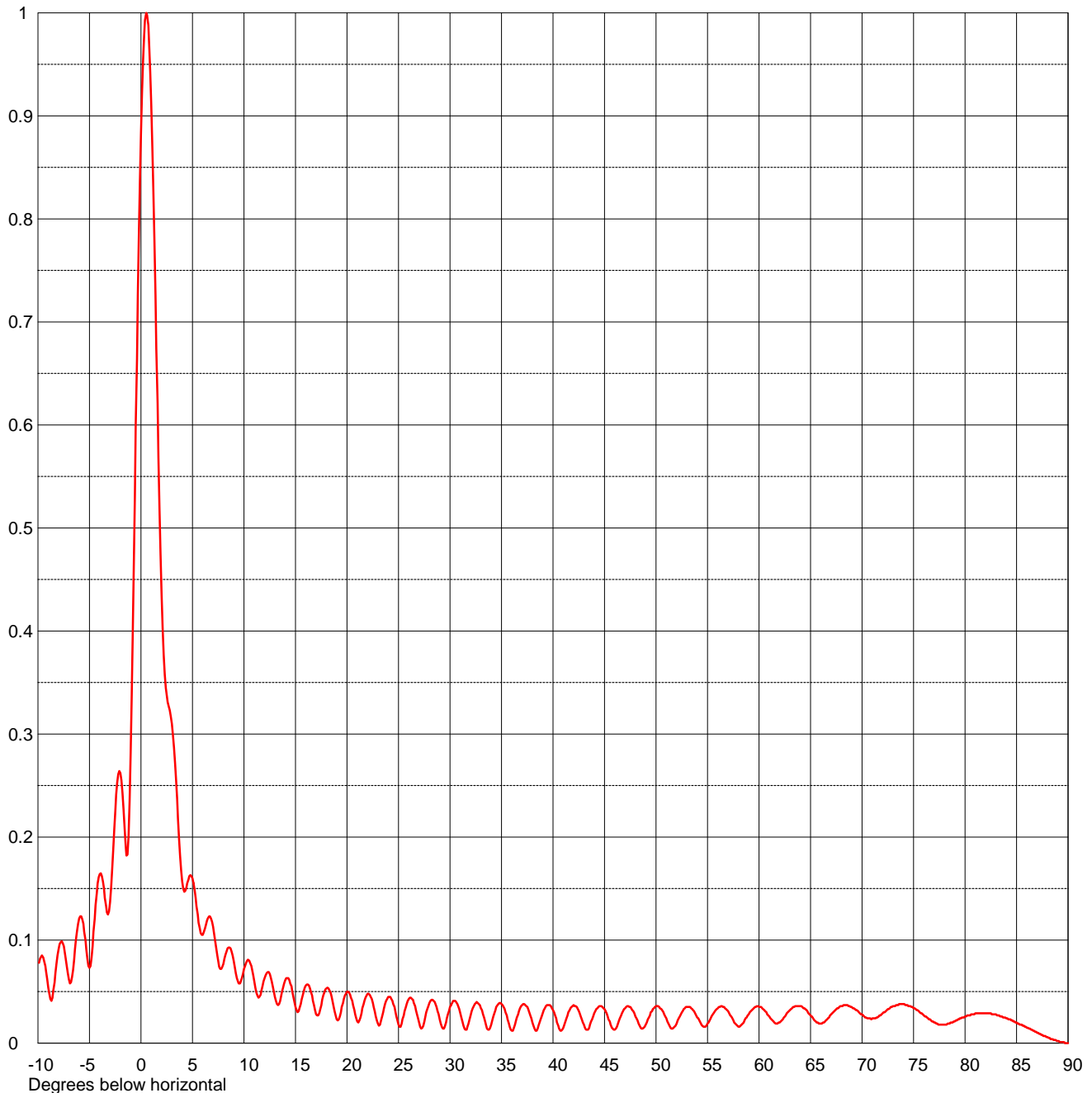




Date	11 Mar 2008	
Call Letters	KQCW-DT	Channel 20
Location	Muskogee, OK	
Customer	Griffin	
Antenna Type	TFU-31ETT O6SP	

### ELEVATION PATTERN

RMS Gain at Main Lobe	28.0 (14.47 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	21.8 (13.38 dB)	Frequency	509.00 MHz
Calculated / Measured	Calculated	Drawing #	31E280050-90



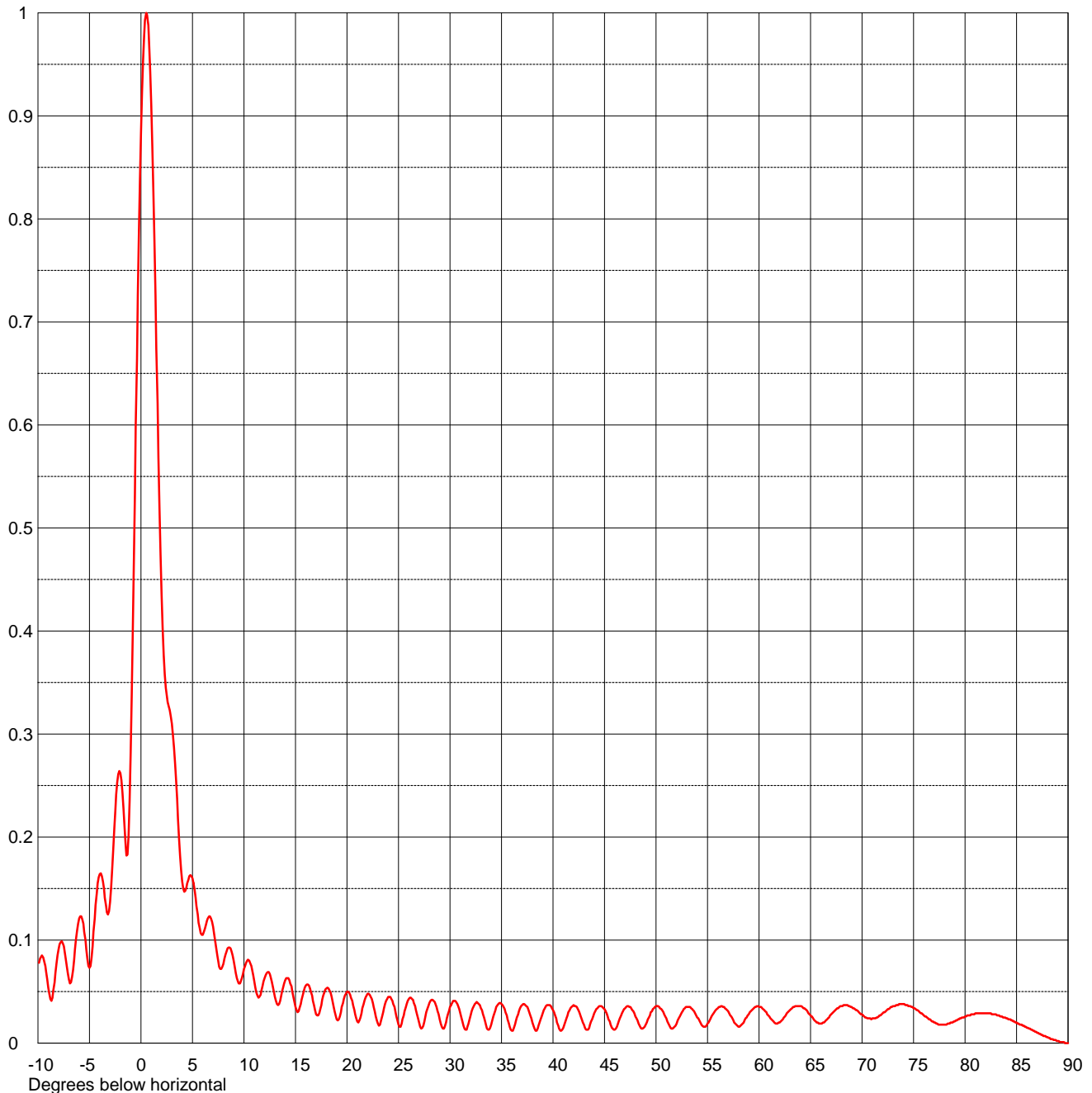
Remarks:



Date	11 Mar 2008	
Call Letters	KQCW-DT	Channel 20
Location	Muskogee, OK	
Customer	Griffin	
Antenna Type	TFU-31ETT O6SP	

### ELEVATION PATTERN

RMS Gain at Main Lobe	28.0 (14.47 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	21.8 (13.38 dB)	Frequency	509.00 MHz
Calculated / Measured	Calculated	Drawing #	31E280050-90



Remarks:



Date **11 Mar 2008**  
 Call Letters **KQCW-DT** Channel **20**  
 Location **Muskogee, OK**  
 Customer **Griffin**  
 Antenna Type **TFU-31ETT O6SP**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **31E280050-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.072	2.4	0.345	10.6	0.078	30.5	0.041	51.0	0.024	71.5	0.025
-9.5	0.083	2.6	0.331	10.8	0.071	31.0	0.029	51.5	0.014	72.0	0.029
-9.0	0.054	2.8	0.323	11.0	0.060	31.5	0.013	52.0	0.019	72.5	0.033
-8.5	0.051	3.0	0.310	11.5	0.045	32.0	0.027	52.5	0.030	73.0	0.036
-8.0	0.091	3.2	0.287	12.0	0.063	32.5	0.039	53.0	0.035	73.5	0.037
-7.5	0.094	3.4	0.255	12.5	0.067	33.0	0.034	53.5	0.033	74.0	0.038
-7.0	0.062	3.6	0.218	13.0	0.045	33.5	0.017	54.0	0.025	74.5	0.036
-6.5	0.081	3.8	0.182	13.5	0.041	34.0	0.018	54.5	0.017	75.0	0.034
-6.0	0.121	4.0	0.157	14.0	0.061	34.5	0.035	55.0	0.019	75.5	0.031
-5.5	0.108	4.2	0.147	14.5	0.058	35.0	0.038	55.5	0.028	76.0	0.027
-5.0	0.073	4.4	0.151	15.0	0.035	35.5	0.027	56.0	0.034	76.5	0.023
-4.5	0.121	4.6	0.159	15.5	0.038	36.0	0.012	56.5	0.035	77.0	0.020
-4.0	0.164	4.8	0.163	16.0	0.056	36.5	0.025	57.0	0.031	77.5	0.018
-3.5	0.141	5.0	0.160	16.5	0.050	37.0	0.037	57.5	0.022	78.0	0.018
-3.0	0.137	5.2	0.149	17.0	0.028	37.5	0.035	58.0	0.016	78.5	0.019
-2.8	0.169	5.4	0.133	17.5	0.037	38.0	0.020	58.5	0.020	79.0	0.021
-2.6	0.208	5.6	0.117	18.0	0.053	38.5	0.014	59.0	0.028	79.5	0.024
-2.4	0.241	5.8	0.107	18.5	0.045	39.0	0.029	59.5	0.034	80.0	0.026
-2.2	0.261	6.0	0.105	19.0	0.023	39.5	0.037	60.0	0.035	80.5	0.027
-2.0	0.262	6.2	0.111	19.5	0.035	40.0	0.032	60.5	0.032	81.0	0.029
-1.8	0.243	6.4	0.119	20.0	0.050	40.5	0.017	61.0	0.026	81.5	0.029
-1.6	0.209	6.6	0.123	20.5	0.041	41.0	0.015	61.5	0.020	82.0	0.029
-1.4	0.182	6.8	0.121	21.0	0.021	41.5	0.030	62.0	0.020	82.5	0.029
-1.2	0.201	7.0	0.113	21.5	0.034	42.0	0.037	62.5	0.026	83.0	0.028
-1.0	0.282	7.2	0.099	22.0	0.048	42.5	0.031	63.0	0.032	83.5	0.026
-0.8	0.400	7.4	0.085	22.5	0.039	43.0	0.018	63.5	0.036	84.0	0.024
-0.6	0.532	7.6	0.074	23.0	0.019	43.5	0.015	64.0	0.036	84.5	0.022
-0.4	0.664	7.8	0.072	23.5	0.030	44.0	0.029	64.5	0.033	85.0	0.020
-0.2	0.784	8.0	0.077	24.0	0.045	44.5	0.036	65.0	0.027	85.5	0.018
0.0	0.883	8.2	0.086	24.5	0.038	45.0	0.033	65.5	0.021	86.0	0.015
0.2	0.954	8.4	0.092	25.0	0.018	45.5	0.021	66.0	0.019	86.5	0.013
0.4	0.993	8.6	0.093	25.5	0.027	46.0	0.013	66.5	0.022	87.0	0.010
0.6	0.998	8.8	0.089	26.0	0.043	46.5	0.024	67.0	0.028	87.5	0.008
0.8	0.969	9.0	0.080	26.5	0.039	47.0	0.034	67.5	0.033	88.0	0.006
1.0	0.910	9.2	0.068	27.0	0.020	47.5	0.035	68.0	0.036	88.5	0.004
1.2	0.826	9.4	0.060	27.5	0.021	48.0	0.026	68.5	0.037	89.0	0.002
1.4	0.726	9.6	0.058	28.0	0.039	48.5	0.015	69.0	0.035	89.5	0.001
1.6	0.621	9.8	0.063	28.5	0.040	49.0	0.018	69.5	0.032	90.0	0.000
1.8	0.520	10.0	0.072	29.0	0.023	49.5	0.030	70.0	0.028		
2.0	0.436	10.2	0.078	29.5	0.016	50.0	0.036	70.5	0.024		
2.2	0.377	10.4	0.081	30.0	0.035	50.5	0.033	71.0	0.024		

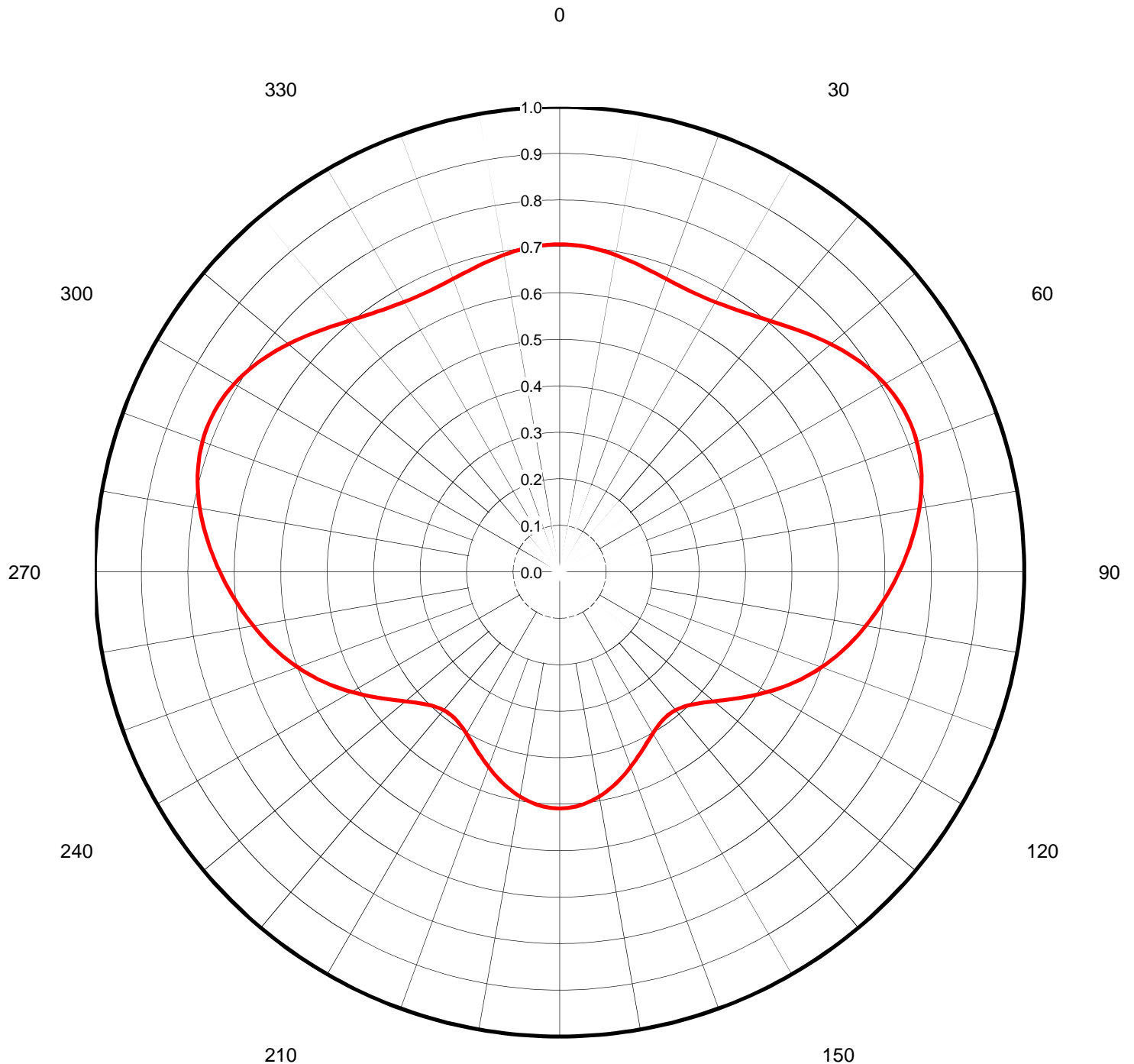
Remarks:

Proposal Number	<b>DCA-8198</b>	
Date	<b>24-Mar-99</b>	
Call Letters	<b>KWBT</b>	Channel <b>19</b>
Location	<b>Muskogee, OK</b>	
Customer		
Antenna Type	<b>TFU-31ETT/DP-R O6</b>	

## AZIMUTH PATTERN/VERTICAL POLARIZATION

Gain	<b>1.65</b>	<b>( 2.17 dB)</b>
Calculated / Measured		<b>Calculated</b>

Frequency	<b>503.00 MHz</b>
Drawing #	<b>TFU-DP165-19</b>





Date **11 Mar 2008**  
 Call Letters **KQCW-DT** Channel **20**  
 Location **Muskogee, OK**  
 Customer **Griffin**  
 Antenna Type **TFU-31ETT O6SP**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **31E280050-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.072	2.4	0.345	10.6	0.078	30.5	0.041	51.0	0.024	71.5	0.025
-9.5	0.083	2.6	0.331	10.8	0.071	31.0	0.029	51.5	0.014	72.0	0.029
-9.0	0.054	2.8	0.323	11.0	0.060	31.5	0.013	52.0	0.019	72.5	0.033
-8.5	0.051	3.0	0.310	11.5	0.045	32.0	0.027	52.5	0.030	73.0	0.036
-8.0	0.091	3.2	0.287	12.0	0.063	32.5	0.039	53.0	0.035	73.5	0.037
-7.5	0.094	3.4	0.255	12.5	0.067	33.0	0.034	53.5	0.033	74.0	0.038
-7.0	0.062	3.6	0.218	13.0	0.045	33.5	0.017	54.0	0.025	74.5	0.036
-6.5	0.081	3.8	0.182	13.5	0.041	34.0	0.018	54.5	0.017	75.0	0.034
-6.0	0.121	4.0	0.157	14.0	0.061	34.5	0.035	55.0	0.019	75.5	0.031
-5.5	0.108	4.2	0.147	14.5	0.058	35.0	0.038	55.5	0.028	76.0	0.027
-5.0	0.073	4.4	0.151	15.0	0.035	35.5	0.027	56.0	0.034	76.5	0.023
-4.5	0.121	4.6	0.159	15.5	0.038	36.0	0.012	56.5	0.035	77.0	0.020
-4.0	0.164	4.8	0.163	16.0	0.056	36.5	0.025	57.0	0.031	77.5	0.018
-3.5	0.141	5.0	0.160	16.5	0.050	37.0	0.037	57.5	0.022	78.0	0.018
-3.0	0.137	5.2	0.149	17.0	0.028	37.5	0.035	58.0	0.016	78.5	0.019
-2.8	0.169	5.4	0.133	17.5	0.037	38.0	0.020	58.5	0.020	79.0	0.021
-2.6	0.208	5.6	0.117	18.0	0.053	38.5	0.014	59.0	0.028	79.5	0.024
-2.4	0.241	5.8	0.107	18.5	0.045	39.0	0.029	59.5	0.034	80.0	0.026
-2.2	0.261	6.0	0.105	19.0	0.023	39.5	0.037	60.0	0.035	80.5	0.027
-2.0	0.262	6.2	0.111	19.5	0.035	40.0	0.032	60.5	0.032	81.0	0.029
-1.8	0.243	6.4	0.119	20.0	0.050	40.5	0.017	61.0	0.026	81.5	0.029
-1.6	0.209	6.6	0.123	20.5	0.041	41.0	0.015	61.5	0.020	82.0	0.029
-1.4	0.182	6.8	0.121	21.0	0.021	41.5	0.030	62.0	0.020	82.5	0.029
-1.2	0.201	7.0	0.113	21.5	0.034	42.0	0.037	62.5	0.026	83.0	0.028
-1.0	0.282	7.2	0.099	22.0	0.048	42.5	0.031	63.0	0.032	83.5	0.026
-0.8	0.400	7.4	0.085	22.5	0.039	43.0	0.018	63.5	0.036	84.0	0.024
-0.6	0.532	7.6	0.074	23.0	0.019	43.5	0.015	64.0	0.036	84.5	0.022
-0.4	0.664	7.8	0.072	23.5	0.030	44.0	0.029	64.5	0.033	85.0	0.020
-0.2	0.784	8.0	0.077	24.0	0.045	44.5	0.036	65.0	0.027	85.5	0.018
0.0	0.883	8.2	0.086	24.5	0.038	45.0	0.033	65.5	0.021	86.0	0.015
0.2	0.954	8.4	0.092	25.0	0.018	45.5	0.021	66.0	0.019	86.5	0.013
0.4	0.993	8.6	0.093	25.5	0.027	46.0	0.013	66.5	0.022	87.0	0.010
0.6	0.998	8.8	0.089	26.0	0.043	46.5	0.024	67.0	0.028	87.5	0.008
0.8	0.969	9.0	0.080	26.5	0.039	47.0	0.034	67.5	0.033	88.0	0.006
1.0	0.910	9.2	0.068	27.0	0.020	47.5	0.035	68.0	0.036	88.5	0.004
1.2	0.826	9.4	0.060	27.5	0.021	48.0	0.026	68.5	0.037	89.0	0.002
1.4	0.726	9.6	0.058	28.0	0.039	48.5	0.015	69.0	0.035	89.5	0.001
1.6	0.621	9.8	0.063	28.5	0.040	49.0	0.018	69.5	0.032	90.0	0.000
1.8	0.520	10.0	0.072	29.0	0.023	49.5	0.030	70.0	0.028		
2.0	0.436	10.2	0.078	29.5	0.016	50.0	0.036	70.5	0.024		
2.2	0.377	10.4	0.081	30.0	0.035	50.5	0.033	71.0	0.024		

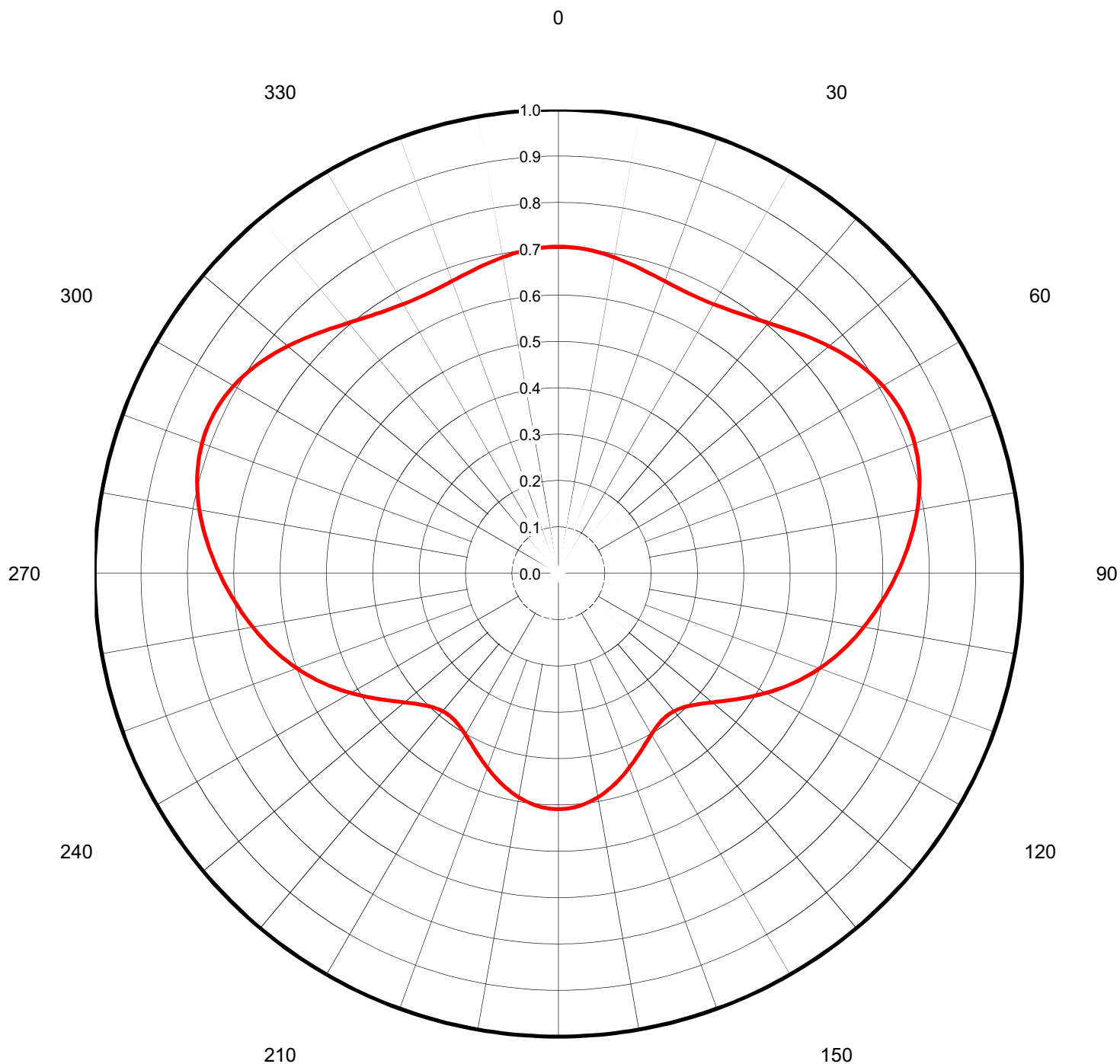
Remarks:

Proposal Number	<b>DCA-8198</b>	
Date	<b>24-Mar-99</b>	
Call Letters	<b>KWBT</b>	Channel <b>19</b>
Location	<b>Muskogee, OK</b>	
Customer		
Antenna Type	<b>TFU-31ETT/DP-R O6</b>	

## AZIMUTH PATTERN/VERTICAL POLARIZATION

Gain **1.65** **( 2.17 dB)**  
Calculated / Measured **Calculated**

Frequency **503.00 MHz**  
Drawing # **TFU-DP165-19**



### SECTION III - D - DTV Engineering

**Complete Questions 1-5, and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.**

**Pre-Transition Certification Checklist:** An application concerning a pre-transition channel must complete questions 1(a)-(c), and 2-5. A correct answer of "Yes" to all of the questions will ensure an expeditious grant of a construction pen-nit application to modify pre-transition facilities. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

**Post-Transition Expedited Processing.** An application concerning a post-transition channel must complete questions 1(a), (d)-(e), and 2-5. A station applying for a construction permit to build its post-transition channel will receive expedited processing if its application (1) does not seek to expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"); (2) specifies facilities that match or closely approximate those defined in the new DTV Table Appendix B facilities; and (3) is filed within 45 days of the effective date of Section 73.616 of the rules adopted in the Report and Order in the Third DTV Periodic Review proceeding, MB Docket No. 07-91.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:
  - (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (b) It will operate a pre-transition facility from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (c) It will operate a pre-transition facility with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (d) It will operate at post-transition facilities that do not expand the noise-limited service contour in any direction beyond that established by Appendix B of the Seventh Report and Order in MB Docket No. 87-268 establishing the new DTV Table of Allotments in 47 C.F.R. § 73.622(i) ("new DTV Table Appendix B"). ☐ Yes ☐ No  
☐ N/A
  - (e) It will operate at post-transition facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the new DTV Table Appendix B. ☐ Yes ☐ No  
☐ N/A
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RIF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. ☐ Yes ☐ No

Applicant must **submit the Exhibit** called for in Item 13.

3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. ☐ Yes ☐ No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. ☐ Yes ☐ No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. ☐ Yes ☐ No

### SECTION III - D DTV Engineering

**TECHNICAL SPECIFICATIONS** Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

#### TECH BOX

1. Channel Number: DTV \_\_\_\_\_ Analog TV, if any \_\_\_\_\_
2. Zone: ☐ I ☐ II ☐ III
3. Antenna Location Coordinates: (NAD 27)
- \_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ N ☐ S Latitude  
\_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ E ☐ W Longitude
4. Antenna Structure Registration Number: \_\_\_\_\_
- ☐ Not applicable ☐ FAA Notification Filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level: \_\_\_\_\_ meters
6. Overall Tower Height Above Ground Level: \_\_\_\_\_ meters
7. Height of Radiation Center Above Ground Level: \_\_\_\_\_ meters
8. Height of Radiation Center Above Average Terrain: \_\_\_\_\_ meters
9. Maximum Effective Radiated Power (average power): \_\_\_\_\_ kW
10. Antenna Specifications:
- a. 

Manufacturer	Model
--------------	-------
- b. Electrical Beam Tilt: \_\_\_\_\_ degrees ☐ Not Applicable
- c. Mechanical Beam Tilt: \_\_\_\_\_ degrees toward azimuth \_\_\_\_\_ degrees True ☐ Not Applicable
- Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). Exhibit No.
- d. Polarization: ☐ Horizontal ☐ Circular ☐ Elliptical



## TECH BOX

e. Directional Antenna Relative Field Values:

☐

Not applicable (Nondirectional)

Rotation: \_\_\_\_\_

☐

No rotation

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.

11. Does the proposed facility satisfy the pre-transition interference protection provisions of 47 C.F.R. Section 73.623(a) (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") and/or the post-transition interference protection provisions of 47 C.F.R. Section 73.616?

☐

Yes

☐

No

If "No," attach as an Exhibit justification therefore, including a summary of any related previously granted waivers.

Exhibit No.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefore. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.

- a. If **Certification Checklist Item 2** is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist Item 2**, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radio frequency electromagnetic exposure in excess of FCC guidelines.

If **Certification Checklist Item 2** is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

**PREPARER'S CERTIFICATION IN SECTION III MUST BE COMPLETED AND SIGNED.**

13. **Petition for Rulemaking/Counterproposal to Add New FM Channel to FM Table of Allotments.** If the application is being submitted concurrently with a Petition for Rulemaking or Counterproposal to Amend the FM Table of Allotments (47 C.F.R. Section 73.202) to add a new FM channel allotment, petitioner/counter-proponent certifies that, if the FM channel allotment requested is allotted, petitioner/counter-proponent will apply to participate in the auction of the channel allotment requested and specified in this application.

☐ Yes ☐ No ☐ N/A

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in 'good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

### SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name <i>Don G. Everett</i>	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature <i>Don G. Everett</i>	Date <i>April 30, 2008</i>	
Mailing Address Cohen, Dippell and Everist, P.C, 1300 L Street, NW Suite 1100		
City <i>Washington</i>	State or Country (if foreign address) DC	ZIP Code 20005
Telephone Number (include area code) (202) 898-0111	E-Mail Address (if available) cde@attglobal.net	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).