

**ENGINEERING STATEMENT**

The engineering data contained herein have been prepared on behalf of NW COMMUNICATIONS OF TEXAS, INC., licensee of KDFI-DT, Channel 36 in Dallas, Texas, in support of its Application for Construction Permit to operate an auxiliary facility.

It is proposed to mount a Dielectric directional antenna at the 330-meter level of an existing 378-meter tower near the present KDFI-DT transmitter site. This antenna will be shared with KDFW-DT (Channel 35 in Dallas). Exhibit B provides antenna azimuth and elevation pattern data for the proposed antenna. Operating parameters for the proposed facility are tabulated in Exhibit C. Exhibit D is a map upon which the predicted service contours of licensed KDFI-DT and the proposed auxiliary facility are plotted. As shown, the auxiliary's proposed 41 dBu contour is completely contained within that authorized to KDFI-DT. As a result, and since this proposal is for an auxiliary facility, an interference study is not provided. A power density calculation follows as Exhibit E.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the proposed site. However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1011406 to this tower.

EXHIBIT A

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "K. T. Fisher", with a stylized, elongated final stroke.

KEVIN T. FISHER

June 14, 2013



Date

**14 Jun 2013**

Call Letters

Channel **35**

Location

**Dallas, Texas**

Customer

Antenna Type

**TFU-10DSC CT150****ELEVATION PATTERN**

RMS Gain at Main Lobe

**9.5 (9.78 dB)**

Beam Tilt

**1.00 Degrees**

RMS Gain at Horizontal

**8.4 (9.24 dB)**

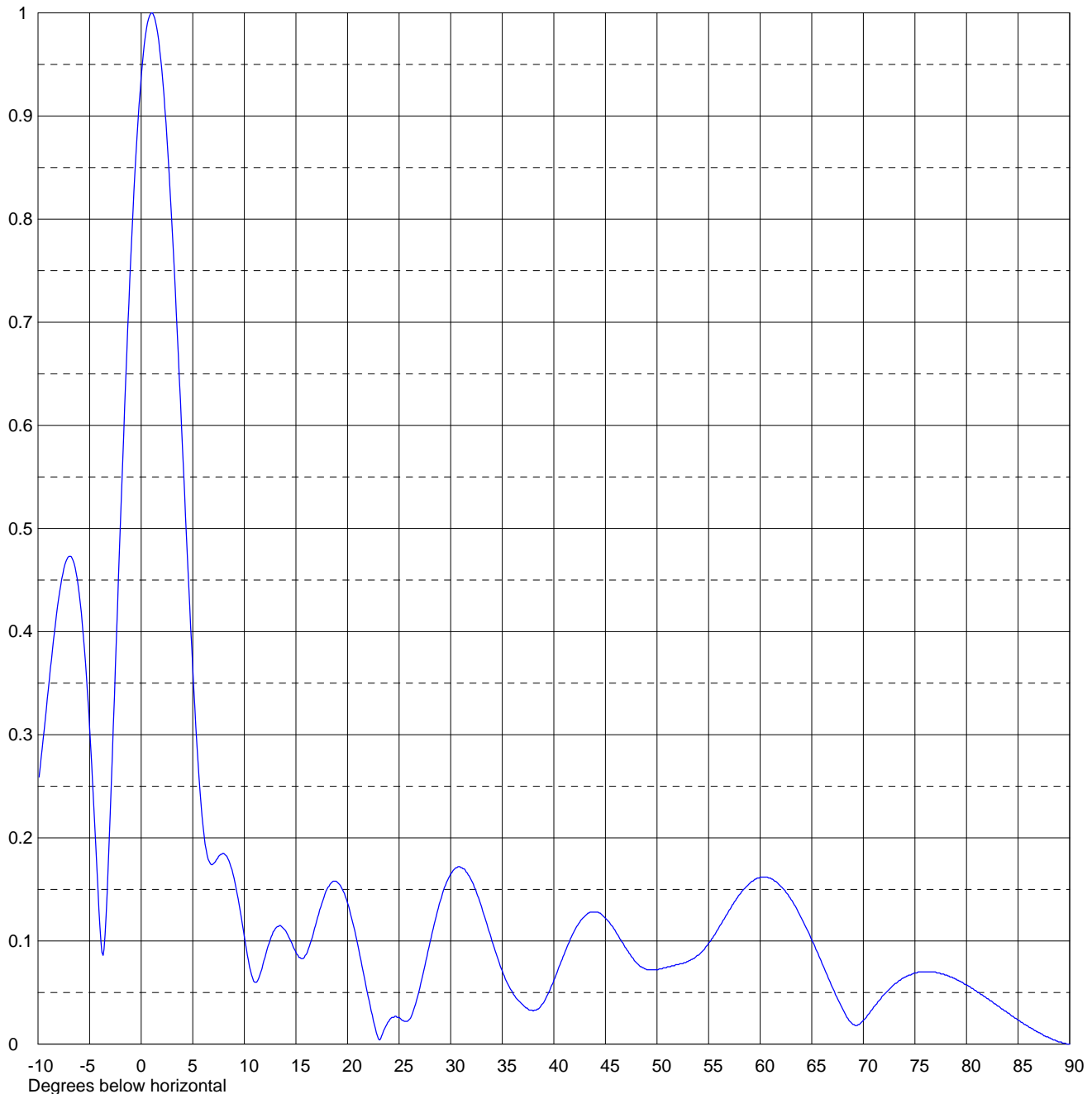
Frequency

**599.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**10Q095100-90**

Remarks:



Date

14 Jun 2013

Call Letters

Channel 35

Location

Dallas, Texas

Customer

Antenna Type

TFU-10DSC CT150

### AZIMUTH PATTERN

Gain

1.50 (1.76 dB)

Frequency

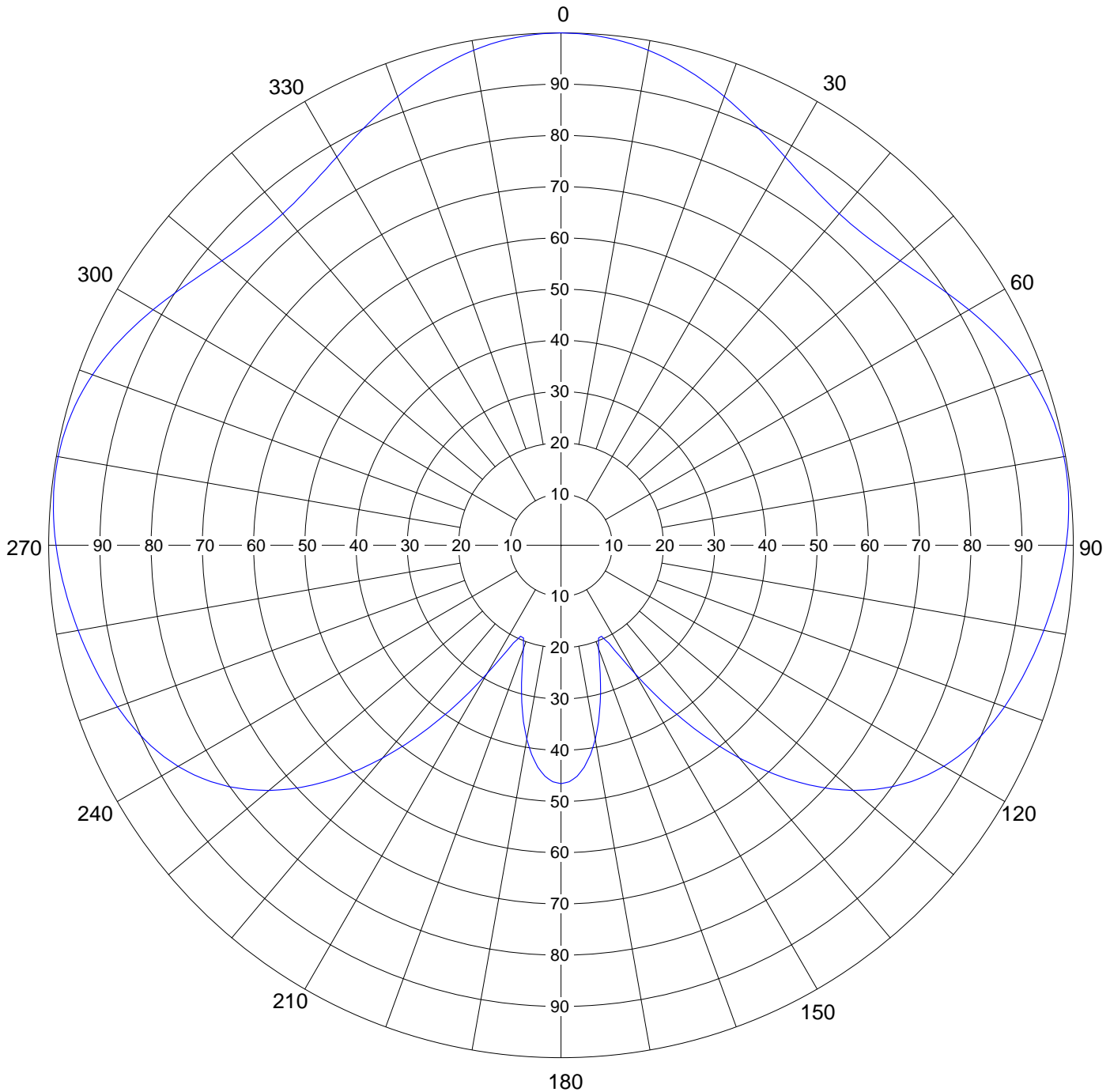
599 MHz

Calculated / Measured

Calculated

Drawing #

TFU-CT150



Remarks:



Date **14 Jun 2013**  
Call Letters  
Location **Dallas, Texas**  
Customer  
Antenna Type **TFU-10DSC CT150**  
Channel **35**

## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **TFU-CT150**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	715.0	28.54
10	0.981	688.1	28.38
20	0.932	621.1	27.93
30	0.875	547.4	27.38
40	0.845	510.5	27.08
50	0.864	533.7	27.27
60	0.919	603.9	27.81
70	0.973	676.9	28.31
80	0.997	710.7	28.52
90	0.986	695.1	28.42
100	0.957	654.8	28.16
110	0.921	606.5	27.83
120	0.863	532.5	27.26
130	0.744	395.8	25.97
140	0.542	210.0	23.22
150	0.289	59.7	17.76
160	0.214	32.7	15.15
170	0.384	105.4	20.23
180	0.465	154.6	21.89
190	0.384	105.4	20.23
200	0.214	32.7	15.15
210	0.289	59.7	17.76
220	0.542	210.0	23.22
230	0.744	395.8	25.97
240	0.863	532.5	27.26
250	0.921	606.5	27.83
260	0.957	654.8	28.16
270	0.986	695.1	28.42
280	0.997	710.7	28.52
290	0.973	676.9	28.31
300	0.919	603.9	27.81
310	0.864	533.7	27.27
320	0.845	510.5	27.08
330	0.875	547.4	27.38
340	0.932	621.1	27.93
350	0.981	688.1	28.38

### Maxima

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	715.0	28.54
82	0.997	710.7	28.52
180	0.465	154.6	21.89
278	0.997	710.7	28.52

### Minima

Angle	Field	ERP (kW)	ERP (dBk)
42	0.845	510.5	27.08
156	0.194	26.9	14.30
204	0.194	26.9	14.30
318	0.845	510.5	27.08

Remarks:

EXHIBIT C

PROPOSED OPERATING PARAMETERS

PROPOSED KDFI-DT AUXILIARY  
CHANNEL 36 – DALLAS, TEXAS

Transmitter Power Output:	13.5 kW
Transmission Line Efficiency:	64.2%
Antenna Power Gain – Main Lobe:	12.6 (H), 1.3 (V)
Eff. Radiated Power – Main Lobe:	109 kW (H), 11.3 kW (V)

Transmitter Make and Model:	Type-accepted
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Transmission Line Make/Model:	Dielectric EIA 50 Ohm
Size and Type:	6-1/8" rigid
Length:	1500 feet

Antenna Make/Model: Dielectric TFU-10DSC/VP-R 4C150 DC

Orientation	0 degrees true
Beam Tilt	1.0 degrees
Radiation Center Above Ground:	330 meters
Radiation Center Above Mean Sea Level:	582 meters

**CONTOUR POPULATION  
2010 U.S. CENSUS DATA  
MAIN 41 DBU : 6,604,446  
AUXILARY 41 DBU : 6,320,127**

**SMITHANDFISHER**

**MAIN 41 DBU  
FCC CONTOUR**

**PROPOSED AUX.  
41 DBU CONTOUR**

**EXHIBIT D  
CONTOUR COMPARISON  
PROPOSED KDFI-DT AUXILIARY  
CHANNEL 36 - DALLAS, TEXAS**

Scale 1:1,300,000

0 10 20 30 km

POWER DENSITY CALCULATION

PROPOSED KDFI-DT AUXILIARY  
CHANNEL 36 – DALLAS, TEXAS

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Dallas facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 109 kW (H) and 11.2 kW (V), an antenna radiation center 330 meters above ground, and the elevation pattern of the proposed Dielectric antenna, maximum power density two meters above ground of  $0.00079 \text{ mW/cm}^2$  is calculated to occur 178 meters north of the base of the tower. Since this is only 0.2 percent of the  $0.40 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 36 (602-608 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.