

**ENGINEERING STATEMENT****In support of a request for****Minor Modification of a Licensed Facility for DTV Application****KWTV-DT CH25****Oklahoma City, Oklahoma****Facility ID: 25382****PURPOSE**

MARSAND, INC. has been retained by Griffin Licensing, L.L.C., the “applicant”, to prepare this engineering statement in support of a request for a Minor Modification of a Licensed Facility for DTV Application pursuant to the Commission’s directive in *Procedures for the Post-Incentive Auction Broadcast Transition*, DA 17-106, released January 27, 2017 and the *Incentive Auction Closing and Channel Reassignment Public Notice*, DA 17-314, released April 13, 2017. The applicant proposes to remove their top mount antenna and transmission line and install a non-directional elliptically polarized top mount antenna, transmission line and transmitter on its reassigned channel 25 to be able to meet the construction deadline for its transition phase 2.

The proposed DTV facility will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice. It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice and that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration.

**DISCUSSION**

The applicant currently is licensed and operating on channel 39 with Digital TV service with 1,000 kW ERP at 478 m HAAT (BMLCDT-20121205ADH). The station has been reassigned

channel 25 with 748 kW ERP at 478 m HAAT . The current tower is leased by the applicant and will not support a second side mounted antenna with additional transmission line. In order to minimize tower modifications, an STA will be filed to provide post-auction channel service on a side mount antenna to be shared with KSBI (Facility ID: 38214). The current KSBI antenna would be replaced by a two channel antenna to support both KSBI channel 23 and KWTB's post-auction channel 25. The existing KSBI transmission line would be replaced with broadband line. Due to multiple facilities transmitting from the candelabra, and after coordination to cease radiation at the candelabra level, the top mount channel 39 antenna will be replaced with the reassigned single channel, elliptically polarized top mount channel 25 antenna, and new transmission line will be installed with correct "stick" lengths for channel 25. The proposed facility would establish service on the reassigned channel at an ERP of 748 kW but with the additional vertical ERP of 249 kW. The proposed service area will remain within the FCC baseline +1% and still maintain a service area population of more than 95% of baseline. The study results of this proposal utilizing the FCC TVStudy v2.2.2 software are included as **Exhibit 1**.

FCC OET Bulletin No. 65 "Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, and has been found to comply with the limits set forth in Section 1.1310 of the Rules as shown in **Exhibit 2**. The total exposure as defined by the ANSI standard computations for occupational/controlled area is 0.15 % of the maximum. The total exposure as defined by the ANSI standard computations for general population/uncontrolled area is 0.73 % of the maximum.

Proposed coverage contour shown in **Exhibit 3**.

Proposed antenna technical information is shown in **Exhibit 4**.

## **CONCLUSION**

It is respectfully requested that the Commission grant this request for minor modification for these facilities as specified herein.

---

**DECLARATION**

Matthew A. Sanderford, Jr., P.E., declares and states that he is a graduate Electrical Engineer with a Bachelor of Science Degree in Electrical Engineering from the University of Texas at El Paso, a Licensed Professional Engineer in the State of Texas, and his qualifications are known to the Federal Communications Commission, and that he is President of MARSAND, INC., a Registered Professional Engineering firm in the State of Texas, and that firm has been retained by Griffin Licensing, L.L.C., to perform the engineering support as contained in this report.

All facts contained herein are true of his own knowledge except where stated to be on information or belief provided by others, and as to those facts, he believes them to be true.

\_\_\_\_\_

I declare under penalty of perjury that the foregoing is true and correct.



\_\_\_\_\_  
Matthew A. Sanderford, Jr., P.E.  
President - MARSAND, INC.

Executed this 5<sup>th</sup> day of July, 2017  
State of Texas

**EXHIBIT 1**

tvstudy v2.2.2  
Database: localhost, Study: KWTB\_PROPOSED01, Model: Longley-Rice  
Start: 2017.07.04 20:34:15

Study created: 2017.07.04 20:33:53

Study build station data: LMS TV 2017-07-01 (9)

Proposal: KWTB-DT D25 DT BL OKLAHOMA CITY, OK  
File number: KWTB\_PROPOSED01  
Facility ID: 25382  
Station data: User record  
Record ID: 101  
Country: U.S.

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
KOKH-TV	D24	DT	LIC	OKLAHOMA CITY, OK	BLCDT20041207ACV	5.4 km
KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	330.6
KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	283.1
KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	283.1
KMCI-TV	D25	DT	BL	LAWRENCE, KS	DTVBL42636	457.7
KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	206.5
KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	343.0
KTTZ-TV	D25	DT	BL	LUBBOCK, TX	DTVBL65355	460.8
KSAS-TV	D26	DT	LIC	WICHITA, KS	BLCDT20021120AAN	242.3
KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	170.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D25  
Latitude: 35 35 52.10 N (NAD83)  
Longitude: 97 29 23.20 W  
Height AMSL: 827.0 m  
HAAT: 478.0 m  
Peak ERP: 748 kW  
Antenna: TFU-22GTH/VP-R 06 0.0 deg

39.9 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	581 kW	475.4 m	109.9 km
45.0	548	496.7	111.0
90.0	675	489.8	112.5
135.0	555	474.5	109.4
180.0	748	470.2	112.0
225.0	555	449.7	107.3
270.0	675	477.1	111.6
315.0	548	492.4	110.7

ERP exceeds maximum

ERP: 748 kW ERP maximum: 575 kW

Proposal service area is within baseline plus 1.0%  
Proposal service area population is more than 95.0% of baseline

Distance to Canadian border: 1428.5 km

Distance to Mexican border: 743.7 km

Conditions at FCC monitoring station: Grand Island NE  
Bearing: 352.4 degrees Distance: 597.5 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Matthew A. Sanderford, Jr., P.E.

Bearing: 308.8 degrees Distance: 844.0 km

Study cell size: 2.00 km  
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%  
Maximum new IX to LPTV: 2.00%

## Interference to BLCDT20041207ACV LIC, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KOKH-TV	D24	DT	LIC	OKLAHOMA CITY, OK	BLCDT20041207ACV	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	5.4 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	5.4
	KSBI	D23	DT	LIC	OKLAHOMA CITY, OK	BLCDT20140530AFS	5.4
	KKAF-CD	D24	DC	BL	SILAM SPRINGS, AR	DTVBL52432	276.1
	KGPT-CD	D24	DC	LIC	WICHITA, KS	BLDTA20130404ABI	250.2
	KXAS-TV	D24	DT	BL	FORT WORTH, TX	DTVBL49330	332.9
	K24HH-D	D24	DC	LIC	WICHITA FALLS, TX	BLDTL20101026ABY	208.8

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
37495.3 1,627,116	37283.1 1,625,246	36763.4 1,617,871	36771.4 1,617,889	-0.02 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KWTV-DT D25 DT BL 317.1	4,301	280.9	4,215
KWTV-DT D25 DT BL 309.1	4,283		272.9 4,197
KSBI D23 DT LIC 36.2	86	0.0	0
KGPT-CD D24 DC LIC 12.0	28	12.0	28
KXAS-TV D24 DT BL 123.1	2,168	75.4	828
K24HH-D D24 DC LIC 115.2	2,218	67.5	878

## Interference to BLCDT20041207ACV LIC, scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KOKH-TV	D24	DT	LIC	OKLAHOMA CITY, OK	BLCDT20041207ACV	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	5.4 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	5.4
	KSBI	D23	DT	LIC	OKLAHOMA CITY, OK	BLCDT20140530AFS	5.4
	KKAF-CD	D24	DC	BL	SILAM SPRINGS, AR	DTVBL52432	276.1
	KGPT-CD	D24	DC	CP	WICHITA, KS	BDCCDTL20111228ACD	250.2
	KXAS-TV	D24	DT	BL	FORT WORTH, TX	DTVBL49330	332.9
	K24HH-D	D24	DC	LIC	WICHITA FALLS, TX	BLDTL20101026ABY	208.8

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
37495.3 1,627,116	37283.1 1,625,246	36763.4 1,617,871	36771.4 1,617,889	-0.02 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KWTV-DT D25 DT BL 317.1	4,301	280.9	4,215
KWTV-DT D25 DT BL 309.1	4,283		272.9 4,197
KSBI D23 DT LIC 36.2	86	0.0	0
KGPT-CD D24 DC CP 12.0	28	12.0	28
KXAS-TV D24 DT BL 123.1	2,168	75.4	828
K24HH-D D24 DC LIC 115.2	2,218	67.5	878

## Interference to DTVBL81593 BL, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	330.6 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	330.6
	KKAF-CD	D24	DC	BL	SILAM SPRINGS, AR	DTVBL52432	58.0
	KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	113.4
	KMCI-TV	D25	DT	BL	LAWRENCE, KS	DTVBL42636	289.8
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	154.0

Matthew A. Sanderford, Jr., P.E.

KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	160.4
Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
13716.1	570,199	13263.9	564,890	12567.8	528,213	0.00 0.00

Undesired	Total IX		Unique IX, before		Unique IX, after	
KWTV-DT D25 DT BL	36.0	393	12.0	217	12.0	217
KWTV-DT D25 DT BL	40.0	421				
KKAF-CD D24 DC BL	608.3	31,558	584.2	31,382	580.2	31,354
KFDF-CD D25 DC CP	36.0	203	32.0	203	32.0	203
KMCI-TV D25 DT BL	43.9	4,699	43.9	4,699	43.9	4,699

Interference to DTVBL81593 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	330.6 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	330.6
	KKAF-CD	D24	DC	BL	SILLOAM SPRINGS, AR	DTVBL52432	58.0
	KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	113.4
	KMCI-TV	D25	DT	BL	LAWRENCE, KS	DTVBL42636	289.8
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	154.0
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	160.4

Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
13716.1	570,199	13263.9	564,890	12551.8	528,164	0.00 0.00

Undesired	Total IX		Unique IX, before		Unique IX, after	
KWTV-DT D25 DT BL	36.0	393	12.0	217	12.0	217
KWTV-DT D25 DT BL	40.0	421				
KKAF-CD D24 DC BL	608.3	31,558	584.2	31,382	580.2	31,354
KFDF-CD D25 DC BL	60.0	313	48.0	252	48.0	252
KMCI-TV D25 DT BL	43.9	4,699	39.9	4,697	39.9	4,697

Interference to BLANK0000025217 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	283.1 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	283.1
	KKAF-CD	D24	DC	BL	SILLOAM SPRINGS, AR	DTVBL52432	79.5
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	113.4
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	180.5
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	134.3

Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
5521.1	245,533	5132.3	240,426	5075.9	239,620	0.08 0.04

Undesired	Total IX		Unique IX, before		Unique IX, after	
KWTV-DT D25 DT BL	40.4	747	40.4	747	44.4	853
KWTV-DT D25 DT BL	44.4	853			0.0	0
KKAF-CD D24 DC BL	4.0	0	0.0	0	0.0	0
KXNW D25 DT BL	16.0	59	12.0	59	12.0	59

Interference to DTVBL168154 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	283.1 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	283.1
	KKAF-CD	D24	DC	BL	SILLOAM SPRINGS, AR	DTVBL52432	79.5
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	113.4
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	180.5
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	134.3

Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
--------------	-----------------	--	-----------------	--	----------------	----------------

Matthew A. Sanderford, Jr., P.E.

5429.7	241,845	5036.1	237,384	4980.1	236,806	4980.1	236,806	0.00	0.00
--------	---------	--------	---------	--------	---------	--------	---------	------	------

Undesired		Total IX	Unique IX, before	Unique IX, after
KWTV-DT D25 DT BL	20.1	291	12.1	240
KWTV-DT D25 DT BL	20.1	291		12.1 240
KXNW D25 DT BL	43.8	338	35.9	287
KOTV-DT D26 DT BL	4.0	35	0.0	0

Interference to DTVBL42636 BL, scenario 1  
Proposal causes no interference.

Interference to DTVBL42636 BL, scenario 2  
Proposal causes no interference.

Interference to BLDTA20091222AAA LIC, scenario 1  
Proposal causes no interference.

Interference to BLDTA20091222AAA LIC, scenario 2  
Proposal causes no interference.

Interference to DTVBL68834 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	343.0 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	343.0
	KXAS-TV	D24	DT	BL	FORT WORTH, TX	DTVBL49330	4.7
	K24HH-D	D24	DC	LIC	WICHITA FALLS, TX	BLDTL20101026ABY	211.0
	KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	401.6
	KYAZ	D25	DT	BL	KATY, TX	DTVBL31870	358.9
	KHPZ-CD	D25	DC	BL	ROUND ROCK, TX	DTVBL35910	225.8
	K27LF-D	D25	DC	CP	SAN ANTONIO, TX	BLANK0000024497	384.0
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	138.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
34121.1 6,603,904	33964.3 6,602,316	33350.6 6,587,926	33350.6 6,587,926	0.00 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
KWTV-DT D25 DT BL	51.9	290	51.9	290
KWTV-DT D25 DT BL	51.9	290		51.9 290
KXAS-TV D24 DT BL	225.5	6,772	217.4	6,719
KXXV D26 DT LIC	344.4	7,381	336.3	7,328

Interference to DTVBL68834 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	343.0 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	343.0
	KXAS-TV	D24	DT	BL	FORT WORTH, TX	DTVBL49330	4.7
	K24HH-D	D24	DC	LIC	WICHITA FALLS, TX	BLDTL20101026ABY	211.0
	KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	401.6
	KYAZ	D25	DT	BL	KATY, TX	DTVBL31870	358.9
	KHPZ-CD	D25	DC	BL	ROUND ROCK, TX	DTVBL35910	225.8
	K27LF-D	D25	DC	CP	SAN ANTONIO, TX	BLANK0000024497	384.0
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	138.0

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
34121.1 6,603,904	33964.3 6,602,316	33350.6 6,587,926	33350.6 6,587,926	0.00 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
KWTV-DT D25 DT BL	51.9	290	51.9	290
KWTV-DT D25 DT BL	51.9	290		51.9 290
KXAS-TV D24 DT BL	225.5	6,772	217.4	6,719

Matthew A. Sanderford, Jr., P.E.

KXXV D26 DT LIC 344.4 7,381 336.3 7,328 336.3 7,328

Interference to DTVBL68834 BL, scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	343.0 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	343.0
	KXAS-TV	D24	DT	BL	FORT WORTH, TX	DTVBL49330	4.7
	K24HH-D	D24	DC	LIC	WICHITA FALLS, TX	BLDTL20101026ABY	211.0
	KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	401.6
	KYAZ	D25	DT	BL	KATY, TX	DTVBL31870	358.9
	KHPZ-CD	D25	DC	BL	ROUND ROCK, TX	DTVBL35910	225.8
	K27LF-D	D25	DC	BL	SAN ANTONIO, TX	DTVBL24570	384.0
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	138.0
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
34121.1 6,603,904		33964.3 6,602,316		33350.6 6,587,926		33350.6 6,587,926	0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
KWTV-DT D25 DT BL		51.9 290		51.9 290			
KWTV-DT D25 DT BL		51.9 290				51.9 290	
KXAS-TV D24 DT BL		225.5 6,772		217.4 6,719		217.4 6,719	
KXXV D26 DT LIC		344.4 7,381		336.3 7,328		336.3 7,328	

Interference to DTVBL68834 BL, scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	343.0 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	343.0
	KXAS-TV	D24	DT	BL	FORT WORTH, TX	DTVBL49330	4.7
	K24HH-D	D24	DC	LIC	WICHITA FALLS, TX	BLDTL20101026ABY	211.0
	KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	401.6
	KYAZ	D25	DT	BL	KATY, TX	DTVBL31870	358.9
	KHPZ-CD	D25	DC	BL	ROUND ROCK, TX	DTVBL35910	225.8
	K27LF-D	D25	DC	BL	SAN ANTONIO, TX	DTVBL24570	384.0
	KXXV	D26	DT	LIC	WACO, TX	BLCDT20050630AFE	138.0
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
34121.1 6,603,904		33964.3 6,602,316		33350.6 6,587,926		33350.6 6,587,926	0.00 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
KWTV-DT D25 DT BL		51.9 290		51.9 290			
KWTV-DT D25 DT BL		51.9 290				51.9 290	
KXAS-TV D24 DT BL		225.5 6,772		217.4 6,719		217.4 6,719	
KXXV D26 DT LIC		344.4 7,381		336.3 7,328		336.3 7,328	

Interference to DTVBL65355 BL, scenario 1

Proposal causes no interference.

Interference to BLCDT20021120AAN LIC, scenario 1

Proposal causes no interference.

Interference to DTVBL35434 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	170.1 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	170.1
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	160.4
	KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	134.3
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	75.9
	KSAS-TV	D26	DT	LIC	WICHITA, KS	BLCDT20021120AAN	254.4



Matthew A. Sanderford, Jr., P.E.

KTAL-TV	D26	DT	BL	TEXARKANA, TX	DTVBL35648	378.8
KFTA-TV	D27	DT	LIC	FORT SMITH, AR	BLCDDT20090331AEC	142.8
KFOR-TV	D27	DT	LIC	OKLAHOMA CITY, OK	BLCDDT20050701ABR	170.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
41630.3 1,417,565	40714.5 1,403,688	39834.7 1,390,629	39834.7 1,390,629	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KWTV-DT D25 DT BL 309.7	6,065	0.0	0
KWTV-DT D25 DT BL 309.7	6,065		0.0 0
KFDF-CD D25 DC CP 88.8	802	52.5	673
KGCT-CD D25 DC LIC 7.9	70	7.9	70
KSAS-TV D26 DT LIC 240.0	1,005	240.0	1,005
KTAL-TV D26 DT BL 56.1	406	35.9	240
KFTA-TV D27 DT LIC 137.2	4,177	96.8	3,944
KFOR-TV D27 DT LIC 398.2	6,863	88.5	798

Interference to DTVBL35434 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	
Undesireds:	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	DTVBL25382	170.1 km
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	170.1
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	160.4
	KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	134.3
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	75.9
	KSAS-TV	D26	DT	LIC	WICHITA, KS	BLCDDT20021120AAN	254.4
	KTAL-TV	D26	DT	BL	TEXARKANA, TX	DTVBL35648	378.8
	KFTA-TV	D27	DT	LIC	FORT SMITH, AR	BLCDDT20090331AEC	142.8
	KFOR-TV	D27	DT	LIC	OKLAHOMA CITY, OK	BLCDDT20050701ABR	170.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
41630.3 1,417,565	40714.5 1,403,688	39846.8 1,390,914	39846.8 1,390,914	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KWTV-DT D25 DT BL 309.7	6,065	0.0	0
KWTV-DT D25 DT BL 309.7	6,065		0.0 0
KFDF-CD D25 DC BL 88.8	624	40.3	388
KGCT-CD D25 DC LIC 7.9	70	7.9	70
KSAS-TV D26 DT LIC 240.0	1,005	240.0	1,005
KTAL-TV D26 DT BL 56.1	406	35.9	240
KFTA-TV D27 DT LIC 137.2	4,177	84.8	3,837
KFOR-TV D27 DT LIC 398.2	6,863	88.5	798

Interference to proposal, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	
Undesireds:	KOKH-TV	D24	DT	LIC	OKLAHOMA CITY, OK	BLCDDT20041207ACV	5.4 km
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	330.6
	KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	283.1
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	206.5
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	343.0
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	170.1

Service area	Terrain-limited	IX-free	Percent IX
38480.2 1,628,106	38195.9 1,627,185	37587.4 1,622,068	1.59 0.31

Undesired	Total IX	Unique IX	Pront Unique IX
KOKH-TV D24 DT LIC 184.1	1,492	172.1	1,428
KPXD-TV D25 DT BL 127.1	654	119.1	609
KOTV-DT D26 DT BL 309.3	3,035	305.3	3,016

Interference to proposal, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	

Matthew A. Sanderford, Jr., P.E.

Undesireds:	KOKH-TV	D24	DT	LIC	OKLAHOMA CITY, OK	BLCDDT20041207ACV	5.4 km
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	330.6
	KFDF-CD	D25	DC	CP	FORT SMITH, AR	BLANK0000025217	283.1
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	206.5
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	343.0
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	170.1

Service area	Terrain-limited	IX-free	Percent IX
38480.2 1,628,106	38195.9 1,627,185	37587.4 1,622,068	1.59 0.31

Undesired	Total IX	Unique IX	Prct Unique IX
KOKH-TV D24 DT LIC	184.1 1,492	172.1 1,428	0.45 0.09
KPXD-TV D25 DT BL	127.1 654	119.1 609	0.31 0.04
KOTV-DT D26 DT BL	309.3 3,035	305.3 3,016	0.80 0.19

Interference to proposal, scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	
Undesireds:	KOKH-TV	D24	DT	LIC	OKLAHOMA CITY, OK	BLCDDT20041207ACV	5.4 km
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	330.6
	KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	283.1
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	206.5
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	343.0
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	170.1

Service area	Terrain-limited	IX-free	Percent IX
38480.2 1,628,106	38195.9 1,627,185	37587.4 1,622,068	1.59 0.31

Undesired	Total IX	Unique IX	Prct Unique IX
KOKH-TV D24 DT LIC	184.1 1,492	172.1 1,428	0.45 0.09
KPXD-TV D25 DT BL	127.1 654	119.1 609	0.31 0.04
KOTV-DT D26 DT BL	309.3 3,035	305.3 3,016	0.80 0.19

Interference to proposal, scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KWTV-DT	D25	DT	BL	OKLAHOMA CITY, OK	KWTV_PROPOSED01	
Undesireds:	KOKH-TV	D24	DT	LIC	OKLAHOMA CITY, OK	BLCDDT20041207ACV	5.4 km
	KXNW	D25	DT	BL	EUREKA SPRINGS, AR	DTVBL81593	330.6
	KFDF-CD	D25	DC	BL	FORT SMITH, AR	DTVBL168154	283.1
	KGCT-CD	D25	DC	LIC	NOWATA, OK	BLDTA20091222AAA	206.5
	KPXD-TV	D25	DT	BL	ARLINGTON, TX	DTVBL68834	343.0
	KOTV-DT	D26	DT	BL	TULSA, OK	DTVBL35434	170.1

Service area	Terrain-limited	IX-free	Percent IX
38480.2 1,628,106	38195.9 1,627,185	37587.4 1,622,068	1.59 0.31

Undesired	Total IX	Unique IX	Prct Unique IX
KOKH-TV D24 DT LIC	184.1 1,492	172.1 1,428	0.45 0.09
KPXD-TV D25 DT BL	127.1 654	119.1 609	0.31 0.04
KOTV-DT D26 DT BL	309.3 3,035	305.3 3,016	0.80 0.19

## EXHIBIT 2

### ENVIRONMENTAL STATEMENT

The proposed facility complies in full with the requirements of 47 C.F.R. Section 1.1306 and will have no significant environmental impact. Population is very scattered and sparse near the immediate location of the proposed site, which is in a rural area. The proposed site does not involve any of the conditions specified in Section 1.1307(a)(1) - (6) of the Rules.

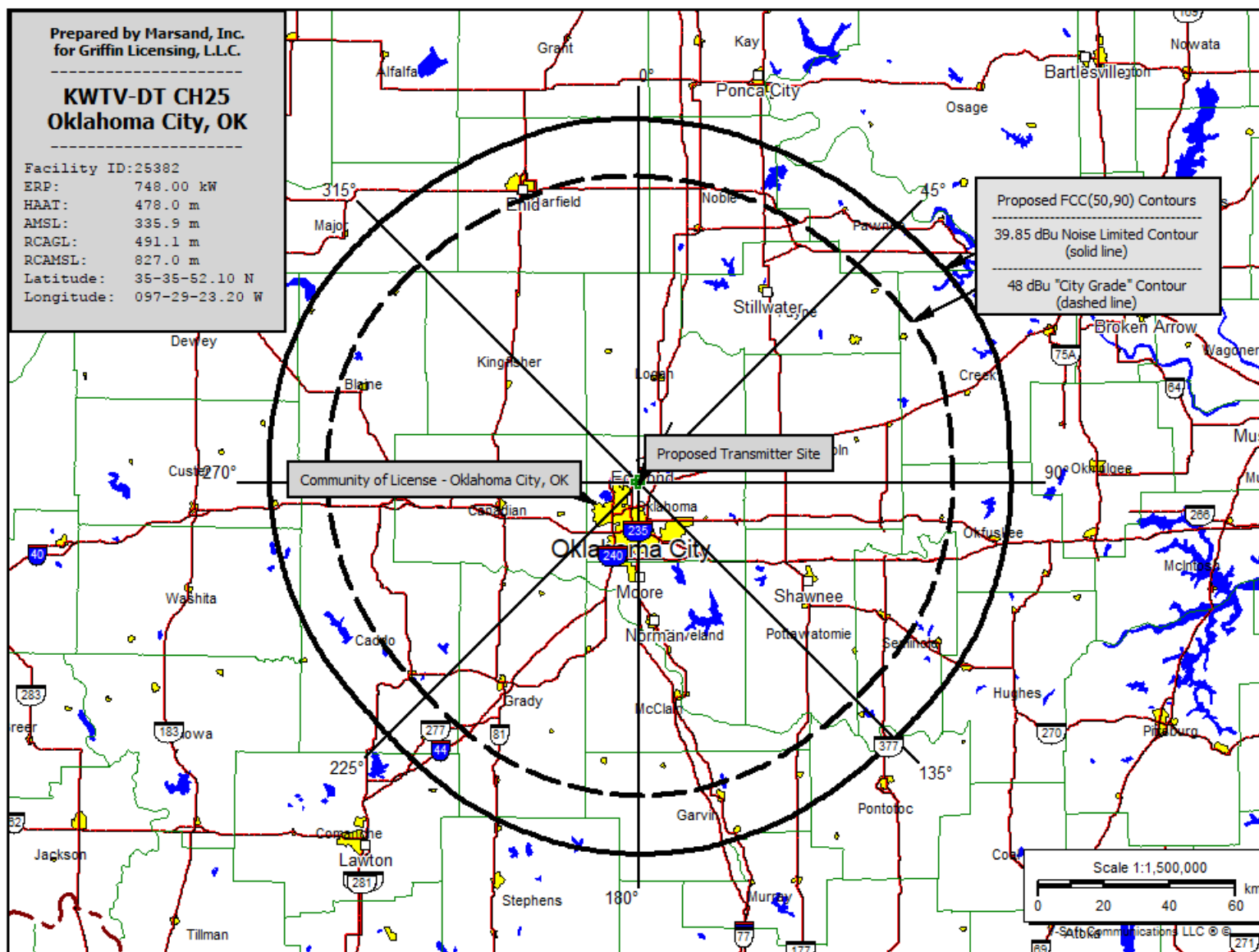
The facility **KWTV-TV** has been studied in accordance with the procedures set forth in the FCC OET Bulletin No. 65 "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, and has been found to comply with the limits set forth in Section 1.1310 of the Rules. This determination has been based upon calculations with the total radiated power from all TV & FM co-located broadcast emitters. The total exposure as defined by the ANSI standard computations for occupational/controlled area is **5.93 %** of the maximum. The total exposure as defined by the ANSI standard computations for general population/uncontrolled area is **29.88 %** of the maximum. The proposed facility is in compliance with the Commission's guidelines.

Multiple Use FM/TV Tower						
Location:		<b>KWTV-DT - Oklahoma City, OK</b>				7/5/2017
Channel Frequency Type	Call Letters	Service	ERP (W) H+V	Ant Center of Radiation AG (m)	% of ANSI/FCC Limit (6min)	% of ANSI/FCC Limit (30 min)
<b>25</b>	<b>KWTV-TV</b>	TV UHF#1	997,000	491.10	0.08	0.39
<b>23</b>	<b>KSBI(DT)</b>	TV UHF#2	1,000,000	342.90	0.16	0.82
<b>27</b>	<b>KFOR-TV</b>	TV UHF#3	790,000	490.00	0.06	0.30
<b>19</b>	<b>KAUT-TV</b>	TV UHF#4	639,000	470.00	0.06	0.29
<b>42</b>	<b>KBZC-LD</b>	TV UHF#5	7,200	100.00	0.01	0.06
<b>18</b>	<b>KOPX-TV</b>	TV UHF#6	104,000	493.00	0.01	0.04
<b>13</b>	<b>KETA-TV</b>	TV VHF#1	50,000	475.20	0.03	0.15
<b>94.7</b>	<b>KBRU(FM)</b>	FM #1	200,000	381.00	1.38	6.96
<b>96.1</b>	<b>KXXY-FM</b>	FM #2	200,000	381.00	1.38	6.96
<b>101.9</b>	<b>KTST(FM)</b>	FM #3	200,000	381.00	1.38	6.96
<b>102.7</b>	<b>KJYO(FM)</b>	FM #4	200,000	381.00	1.38	6.96
<b>Total %</b>					<b>5.93</b>	<b>29.88</b>
<b>IN COMPLIANCE</b>						

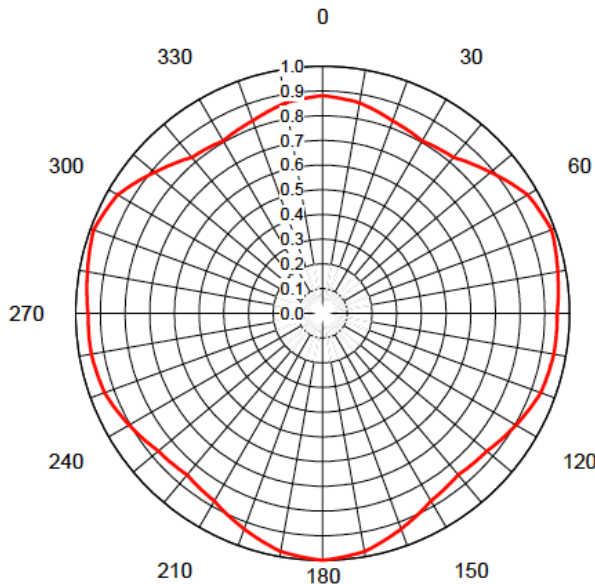
The Applicant agrees to maintain full compliance with the safety precautions to workers on the tower (controlled) and the general public (uncontrolled) by reducing or removing radiated power during the time of construction or maintenance on or near the antenna. The Applicant also certifies that it, in 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 Radiofrequency Electromagnetic exposure in excess of FCC guidelines

The Applicant is believed to be in full compliance with the Environmental Impact and Commission Rules.

**EXHIBIT 3**



## EXHIBIT 4



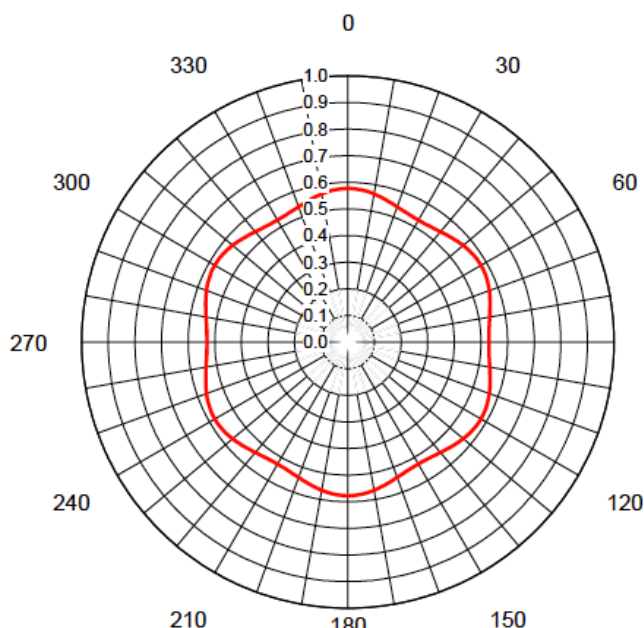
### AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70852-2**  
 Date **28-Jun-17**  
 Call Letters **KWTV**  
 Channel **25**  
 Frequency **539 MHz**  
 Antenna Type **TFU-22GTH/VP-R 06**  
 Gain **1.21 (0.84dB)**  
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.881	36	0.817	72	0.983	108	0.942	144	0.863	180	1.000	216	0.863	252	0.942	288	0.983
1	0.879	37	0.819	73	0.981	109	0.941	145	0.865	181	0.998	217	0.861	253	0.943	289	0.985
2	0.878	38	0.820	74	0.979	110	0.940	146	0.868	182	0.996	218	0.859	254	0.944	290	0.987
3	0.876	39	0.822	75	0.977	111	0.937	147	0.870	183	0.994	219	0.856	255	0.946	291	0.984
4	0.875	40	0.824	76	0.975	112	0.933	148	0.872	184	0.992	220	0.854	256	0.947	292	0.981
5	0.873	41	0.830	77	0.973	113	0.929	149	0.875	185	0.989	221	0.855	257	0.948	293	0.979
6	0.871	42	0.837	78	0.971	114	0.926	150	0.877	186	0.987	222	0.857	258	0.949	294	0.976
7	0.870	43	0.843	79	0.969	115	0.923	151	0.882	187	0.985	223	0.858	259	0.950	295	0.973
8	0.868	44	0.850	80	0.967	116	0.919	152	0.887	188	0.983	224	0.860	260	0.951	296	0.970
9	0.867	45	0.856	81	0.965	117	0.915	153	0.893	189	0.981	225	0.861	261	0.951	297	0.967
10	0.865	46	0.862	82	0.964	118	0.912	154	0.898	190	0.979	226	0.862	262	0.951	298	0.965
11	0.861	47	0.869	83	0.962	119	0.909	155	0.903	191	0.974	227	0.864	263	0.951	299	0.962
12	0.858	48	0.875	84	0.960	120	0.905	156	0.908	192	0.969	228	0.865	264	0.951	300	0.959
13	0.854	49	0.882	85	0.959	121	0.901	157	0.913	193	0.964	229	0.867	265	0.951	301	0.952
14	0.851	50	0.888	86	0.957	122	0.898	158	0.919	194	0.959	230	0.868	266	0.950	302	0.945
15	0.847	51	0.895	87	0.955	123	0.894	159	0.924	195	0.954	231	0.872	267	0.950	303	0.938
16	0.843	52	0.902	88	0.953	124	0.890	160	0.929	196	0.949	232	0.875	268	0.950	304	0.931
17	0.840	53	0.909	89	0.952	125	0.887	161	0.934	197	0.944	233	0.879	269	0.950	305	0.924
18	0.836	54	0.916	90	0.950	126	0.883	162	0.939	198	0.939	234	0.883	270	0.950	306	0.916
19	0.833	55	0.924	91	0.950	127	0.879	163	0.944	199	0.934	235	0.887	271	0.952	307	0.909
20	0.829	56	0.931	92	0.950	128	0.875	164	0.949	200	0.929	236	0.890	272	0.953	308	0.902
21	0.827	57	0.938	93	0.950	129	0.872	165	0.954	201	0.924	237	0.894	273	0.955	309	0.895
22	0.824	58	0.945	94	0.950	130	0.868	166	0.959	202	0.919	238	0.898	274	0.957	310	0.888
23	0.822	59	0.952	95	0.951	131	0.867	167	0.964	203	0.913	239	0.901	275	0.959	311	0.882
24	0.820	60	0.959	96	0.951	132	0.865	168	0.969	204	0.908	240	0.905	276	0.960	312	0.875
25	0.817	61	0.962	97	0.951	133	0.864	169	0.974	205	0.903	241	0.909	277	0.962	313	0.869
26	0.815	62	0.965	98	0.951	134	0.862	170	0.979	206	0.898	242	0.912	278	0.964	314	0.862
27	0.813	63	0.967	99	0.951	135	0.861	171	0.981	207	0.893	243	0.915	279	0.965	315	0.856
28	0.811	64	0.970	100	0.951	136	0.860	172	0.983	208	0.887	244	0.919	280	0.967	316	0.850
29	0.808	65	0.973	101	0.950	137	0.858	173	0.985	209	0.882	245	0.923	281	0.969	317	0.843
30	0.806	66	0.976	102	0.949	138	0.857	174	0.987	210	0.877	246	0.926	282	0.971	318	0.837
31	0.808	67	0.979	103	0.948	139	0.855	175	0.989	211	0.875	247	0.929	283	0.973	319	0.830
32	0.810	68	0.981	104	0.947	140	0.854	176	0.992	212	0.872	248	0.933	284	0.975	320	0.824
33	0.811	69	0.984	105	0.946	141	0.856	177	0.994	213	0.870	249	0.937	285	0.977	321	0.822
34	0.813	70	0.987	106	0.944	142	0.859	178	0.996	214	0.868	250	0.940	286	0.979	322	0.820
35	0.815	71	0.985	107	0.943	143	0.861	179	0.998	215	0.865	251	0.941	287	0.981	323	0.819

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

Trusted for Decades. Ready for Tomorrow.



### AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70852-2**  
 Date **28-Jun-17**  
 Call Letters **KWTV**  
 Channel **25**  
 Frequency **539 MHz**  
 Antenna Type **TFU-22GTH/VP-R 06**  
 Gain **1.09 (0.37dB)**  
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.577	36	0.534	72	0.561	108	0.561	144	0.534	180	0.577	216	0.534	252	0.561	288	0.561
1	0.577	37	0.535	73	0.558	109	0.563	145	0.532	181	0.577	217	0.535	253	0.558	289	0.563
2	0.577	38	0.537	74	0.556	110	0.565	146	0.531	182	0.577	218	0.537	254	0.556	290	0.565
3	0.576	39	0.539	75	0.553	111	0.567	147	0.530	183	0.576	219	0.539	255	0.553	291	0.567
4	0.575	40	0.541	76	0.551	112	0.569	148	0.530	184	0.575	220	0.541	256	0.551	292	0.569
5	0.574	41	0.543	77	0.548	113	0.571	149	0.529	185	0.574	221	0.543	257	0.548	293	0.571
6	0.573	42	0.546	78	0.546	114	0.573	150	0.529	186	0.573	222	0.546	258	0.546	294	0.573
7	0.571	43	0.548	79	0.543	115	0.574	151	0.529	187	0.571	223	0.548	259	0.543	295	0.574
8	0.569	44	0.551	80	0.541	116	0.575	152	0.530	188	0.569	224	0.551	260	0.541	296	0.575
9	0.567	45	0.553	81	0.539	117	0.576	153	0.530	189	0.567	225	0.553	261	0.539	297	0.576
10	0.565	46	0.556	82	0.537	118	0.577	154	0.531	190	0.565	226	0.556	262	0.537	298	0.577
11	0.563	47	0.558	83	0.535	119	0.577	155	0.532	191	0.563	227	0.558	263	0.535	299	0.577
12	0.561	48	0.561	84	0.534	120	0.577	156	0.534	192	0.561	228	0.561	264	0.534	300	0.577
13	0.558	49	0.563	85	0.532	121	0.577	157	0.535	193	0.558	229	0.563	265	0.532	301	0.577
14	0.556	50	0.565	86	0.531	122	0.577	158	0.537	194	0.556	230	0.565	266	0.531	302	0.577
15	0.553	51	0.567	87	0.530	123	0.576	159	0.539	195	0.553	231	0.567	267	0.530	303	0.576
16	0.551	52	0.569	88	0.530	124	0.575	160	0.541	196	0.551	232	0.569	268	0.530	304	0.575
17	0.548	53	0.571	89	0.529	125	0.574	161	0.543	197	0.548	233	0.571	269	0.529	305	0.574
18	0.546	54	0.573	90	0.529	126	0.573	162	0.546	198	0.546	234	0.573	270	0.529	306	0.573
19	0.543	55	0.574	91	0.529	127	0.571	163	0.548	199	0.543	235	0.574	271	0.529	307	0.571
20	0.541	56	0.575	92	0.530	128	0.569	164	0.551	200	0.541	236	0.575	272	0.530	308	0.569
21	0.539	57	0.576	93	0.530	129	0.567	165	0.553	201	0.539	237	0.576	273	0.530	309	0.567
22	0.537	58	0.577	94	0.531	130	0.565	166	0.556	202	0.537	238	0.577	274	0.531	310	0.565
23	0.535	59	0.577	95	0.532	131	0.563	167	0.558	203	0.535	239	0.577	275	0.532	311	0.563
24	0.534	60	0.577	96	0.534	132	0.561	168	0.561	204	0.534	240	0.577	276	0.534	312	0.561
25	0.532	61	0.577	97	0.535	133	0.558	169	0.563	205	0.532	241	0.577	277	0.535	313	0.558
26	0.531	62	0.577	98	0.537	134	0.556	170	0.565	206	0.531	242	0.577	278	0.537	314	0.556
27	0.530	63	0.576	99	0.539	135	0.553	171	0.567	207	0.530	243	0.576	279	0.539	315	0.553
28	0.530	64	0.575	100	0.541	136	0.551	172	0.569	208	0.530	244	0.575	280	0.541	316	0.551
29	0.529	65	0.574	101	0.543	137	0.548	173	0.571	209	0.529	245	0.574	281	0.543	317	0.548
30	0.529	66	0.573	102	0.546	138	0.546	174	0.573	210	0.529	246	0.573	282	0.546	318	0.546
31	0.529	67	0.571	103	0.548	139	0.543	175	0.574	211	0.529	247	0.571	283	0.548	319	0.543
32	0.530	68	0.569	104	0.551	140	0.541	176	0.575	212	0.530	248	0.569	284	0.551	320	0.541
33	0.530	69	0.567	105	0.553	141	0.539	177	0.576	213	0.530	249	0.567	285	0.553	321	0.539
34	0.531	70	0.565	106	0.556	142	0.537	178	0.577	214	0.531	250	0.565	286	0.556	322	0.537
35	0.532	71	0.563	107	0.558	143	0.535	179	0.577	215	0.532	251	0.563	287	0.558	323	0.535

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

Trusted for Decades. Ready for Tomorrow.



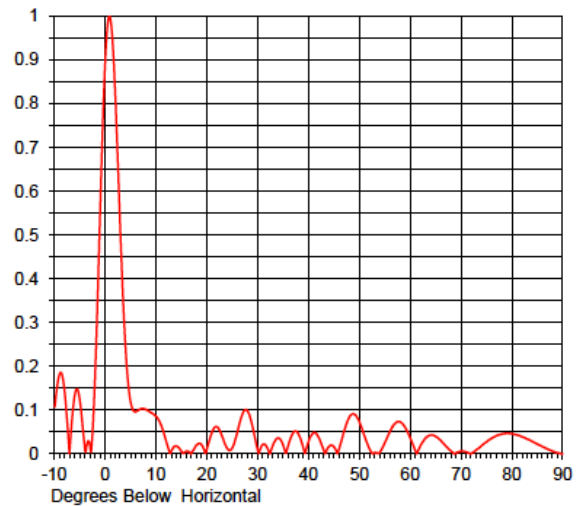
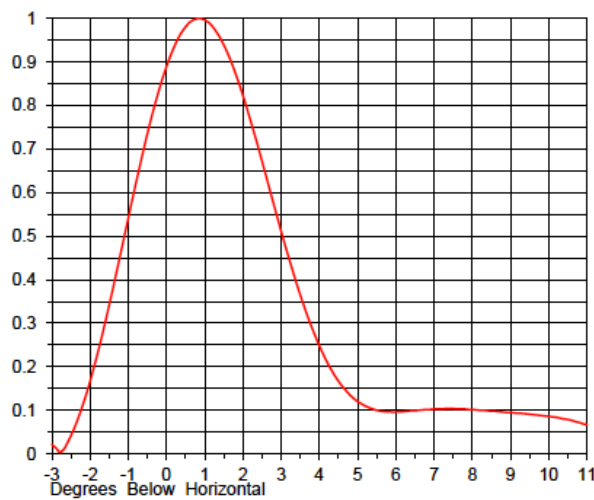


## ELEVATION PATTERN

Proposal No. **C-70852-2**  
 Date **28-Jun-17**  
 Call Letters **KWTV**  
 Channel **25**  
 Frequency **539 MHz**  
 Antenna Type **TFU-22GTH/VP-R 06**

RMS Directivity at Main Lobe **19.0 ( 12.79 dB )**  
 RMS Directivity at Horizontal **15.9 ( 12.01 dB )**  
**Calculated**

Beam Tilt **0.75 deg**  
 Pattern Number **22G190075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.107	10.0	0.085	30.0	0.005	50.0	0.071	70.0	0.006
-9.0	0.184	11.0	0.064	31.0	0.022	51.0	0.039	71.0	0.004
-8.0	0.136	12.0	0.026	32.0	0.009	52.0	0.010	72.0	0.001
-7.0	0.017	13.0	0.008	33.0	0.022	53.0	0.003	73.0	0.010
-6.0	0.138	14.0	0.018	34.0	0.036	54.0	0.005	74.0	0.019
-5.0	0.117	15.0	0.005	35.0	0.017	55.0	0.027	75.0	0.028
-4.0	0.005	16.0	0.006	36.0	0.022	56.0	0.053	76.0	0.036
-3.0	0.014	17.0	0.004	37.0	0.050	57.0	0.070	77.0	0.042
-2.0	0.199	18.0	0.021	38.0	0.044	58.0	0.073	78.0	0.046
-1.0	0.583	19.0	0.019	39.0	0.009	59.0	0.059	79.0	0.047
0.0	0.914	20.0	0.014	40.0	0.031	60.0	0.034	80.0	0.046
1.0	0.991	21.0	0.051	41.0	0.049	61.0	0.006	81.0	0.043
2.0	0.795	22.0	0.061	42.0	0.036	62.0	0.020	82.0	0.039
3.0	0.480	23.0	0.038	43.0	0.006	63.0	0.037	83.0	0.034
4.0	0.229	24.0	0.011	44.0	0.017	64.0	0.043	84.0	0.028
5.0	0.115	25.0	0.015	45.0	0.015	65.0	0.039	85.0	0.022
6.0	0.097	26.0	0.053	46.0	0.014	66.0	0.030	86.0	0.016
7.0	0.103	27.0	0.093	47.0	0.055	67.0	0.017	87.0	0.011
8.0	0.101	28.0	0.097	48.0	0.085	68.0	0.006	88.0	0.006
9.0	0.094	29.0	0.057	49.0	0.090	69.0	0.003	89.0	0.002
						90.0	0.000		

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

**Trusted for Decades. Ready for Tomorrow.**