

ENGINEERING STATEMENT
MODIFICATION OF CONSTRUCTION PERMIT
FCC FILE NO. BPCDT-19991015ABJ
RE DTV BROADCAST ENGINEERING DATA
ON BEHALF OF
MISSION BROADCASTING, INC.
KSAN-DT, SAN ANGELO, TEXAS
CHANNEL 16 1000 KW ERP 185.6 METERS HAAT

JULY 2004

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)

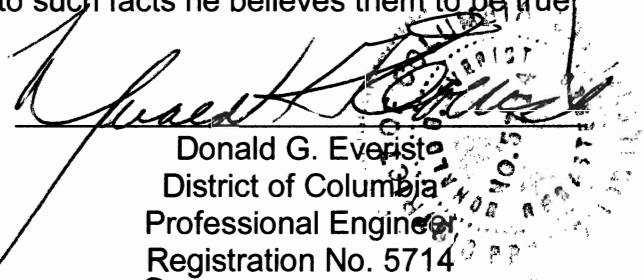
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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;

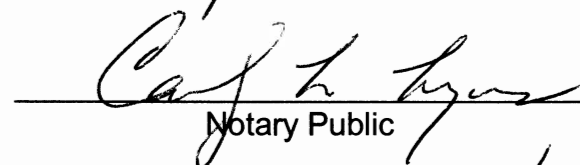
That his qualifications are a matter of record in the Federal Communications Commission;

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

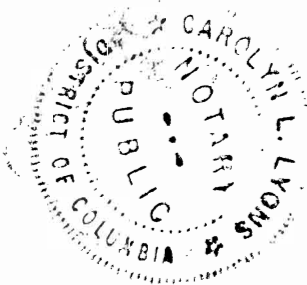
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true


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

Subscribed and sworn to before me this 28th day of July, 2004.


Notary Public

My Commission Expires: 2/28/2008



COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Martin R. Doczkat being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer of the Pennsylvania State University, and is a staff engineer at Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

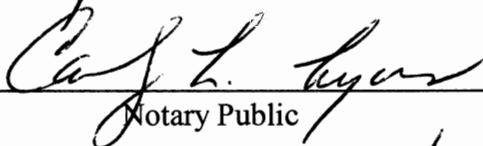
That the attached engineering report was prepared by him or under his supervision and direction and

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.



Martin R. Doczkat

Subscribed and sworn to before me this 28th day of July, 2004.



Notary Public

My Commission Expires: 2/28/2008



This engineering statement has been prepared on behalf of Mission Broadcasting, Inc., permittee of KSAN-DT, San Angelo, Texas. The purpose of this engineering statement is to accompany its request to modify its outstanding construction permit (FCC File No. BPCDT-19991015ABJ) for digital television ("DTV") facilities and to supplement those data required in FCC Form 301, Section III-D.

KSAN-TV operates on NTSC Television Channel 3 with a maximum visual horizontal effective radiated power (ERP) of 17.8 kW non-directional and a height above average terrain (HAAT) of 183 meters (600.4 feet). KSAN-TV has been allocated DTV Channel 16 with facilities of 204.5 kW and HAAT of 183 meters in the revised DTV Table of Allotments.¹ KSAN-TV proposes to construct DTV facilities of 1000 kW non-directional (horizontal polarization) at a HAAT of 185.6 meters on its existing antenna structure.

There are no AM stations located within 3.22 km of the existing KSAN-TV tower site. There are no FM stations, and with the exception of KSAN-TV, no other full-service NTSC stations located and transmitting from this site.

The DTV antenna will be top-mounted on the existing tower having a total overall structure height above ground of 142.9 meters (468.8 feet). The existing transmitter site is located at 7.7 miles north, 0.4 miles west of Highway 208.

¹In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service", MM Docket No. 87-286, Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order (FCC 98-24), 2/12/98, DTV Table of Allotments, Appendix B.

Since there is no change in overall height, FAA airspace approval is not required. The tower registration number of the existing tower is 1054170. Exhibit E-1 is a diagram of the tower and transmitting antenna.

North Latitude: 31° 37' 22"

West Longitude: 100° 26' 14"

NAD-27

Equipment Data

Antenna: ERI, Type ATW28H3-HTO-16H (or equivalent) top-mounted horizontally polarized antenna with 0.75° electrical beam tilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included (see Exhibit E-2)

Power Data

Transmitter output MACX675B, 6-1/8", 75 ohm or equivalent—length 146.3 meters (480 ft)	39.88 kW 89.56%	16.01 dBk 0.48
Input power to the antenna	35.71 kW	15.53 dBk
Antenna power gain, Main Lobe	28.0	14.47 dB
Effective Radiated Power, Maximum	1000 kW	30.0 dBk

Elevation Data

Vertical dimension of Channel 16 top-mounted antenna	20.1 meters 66 feet
Overall height above ground of the proposed antenna structure (including beacon)	142.9 meters 468.8 feet

Center of radiation of Channel 16 antenna above ground	132.9 meters 436.0 feet
Elevation of site above mean sea level	685.8 meters 2250 feet
Center of radiation of Channel 16 antenna above mean sea level	818.7 meters 2686 feet
Overall height above mean sea level of proposed tower (including beacon)	828.7 meters 2718.8 feet
Antenna height above average terrain	185.6 meters 608.9 feet

NOTE: Slight height differences result due to conversion to metric.

Allocation

An allocation study from the proposed site has been performed as the proposed DTV facilities are greater than that allotted. The transmitter site will be located at the coordinates authorized for the KSAN-DT facilities continued in the Sixth Report.

Coverage

The average elevation data for 3.2 to 16.1 km along each radial has been determined from 3-second NGDC for the existing KSAN-TV site. 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 0.32 to 0.42 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 F(50,90) 48 dBu (community coverage contour) and the 41 dBu contour, the average elevation 3.2 to 16.1 km, and the antenna height above average terrain for the eight radials.

Interference Analysis

A study of predicted interference caused by the proposed KSAN-DT service has been performed using a version of the Longley-Rice program as described in OET Bulletin No. 69 (July 2, 1997) 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 Windows98/Intel 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 km² using 3-second terrain data sampled

approximately every 1.0 km at one degree azimuth intervals with 1990 census centroids based on the information contained in the CDBS dated July 13, 2004.

The stations to be considered for potential interference, according to the processing guidelines cited above are listed in Table II. All of the potentially affected stations are predicted to receive less than de-minimus levels of new interference. Also, none of these stations are covered by more restrictive interference standards due to more than 10% total interference or less than 90% replication.

Other Licensed and Broadcast Facilities

No adverse technical effect is anticipated by the proposed DTV operation to any other FCC licensed facility. If required, the permittee will install filters or take other measures as necessary to resolve the problem.

FCC Rule, Section 1.1307

The proposed 1000 kW operation will utilize an ERI, Type ATW28H3-HTO-16H top-mounted antenna or the equivalent as described above with a center of radiation above ground of 132.9 meters. The proposed antenna will be top-mounted on a single, guyed, uniform, cross-section, steel lattice tower with an overall height of 142.9 meters AGL.

As previously indicated, there are no AM stations located within 3.22 km of the existing tower site. According to the FCC data base with the exception of KSAN-TV, there are no other broadcast stations located within 100 meters. The property on which the proposed tower is located 7.7 miles north and 0.4 mile west of Highway 208. Access to the tower will be prevented by a fence with a locked gate.

The proposed operation based upon the current OET Bulletin No. 65, Edition No. 97-01, dated August 1997 and Supplement A meets the provisions of the FCC radio frequency field ("RFF") guidelines, and thus, complies with Section 1.1307 of the FCC Rules. Provisions will be made to reduce power or to terminate the transmitter emissions, as appropriate, when it is necessary for authorized personnel to be on the tower.

Therefore, the RFF study will consider the following stations:

Station

KSAN-TV	Channel 3
KSAN-DT	Channel 16

The RFF radiation contribution of each station will be calculated using the following formula:

$$S = \frac{33.4(F^2) \text{ Total ERP}}{R^2}$$

where:

S = power density in $\mu\text{W}/\text{cm}^2$

F = relative field factor

Total ERP = ERP Horizontal Polarization + ERP Vertical Polarization

R = RCAGL - 2 meters

ERP = RMS ERP in watts for DTV Stations

ERP = $[0.4 \text{ ERP}_V + \text{ERP}_A]$ for NTSC Stations

ERP_V = peak visual ERP in watts

ERP_A = RMS aural ERP in watts

KSAN-TV NTSC Facility

Channel 3	Freq:	63 MHz range
	ERP = 17.8 kW	(0.4) [17800 watts (visual)]+[1780 watts (aural)]
	Polarization =	Horizontal
	RCAGL -2 meters =	130.2 meters

KSAN-TV is using a GE, 4-bay batwing, Type 4TY50D1, antenna with a 0° electrical beam tilt. The typical VHF vertical plane pattern for this antenna less than 0.3 at any angle greater than 45 degrees below the horizon. A value of 0.3 will be used in the calculation.

$$S = \frac{33.4 (F^2) \text{Tot ERP}}{R^2}$$

Tot ERP = 17800 watts (Horizontal Only)
 R = 130.2 meters
 F = 0.4 (field factor) (assumed)

$$S = 5.61 \text{ uW/cm}^2 \quad S = 0.00561 \text{ mW/cm}^2$$

KSAN-TV contributes 0.00539 mW/cm² at 132.2 meters above ground.
 The limit for an uncontrolled environment is 0.2 mW/cm² for station broadcasting on 63 MHz.

Therefore:

KSAN-TV NTSC facility contributes 2.8% RFF for an uncontrolled environment
 two meters above ground at tower site.

KSAN-DT Facility

Channel 16	Freq:	485 MHz range
	ERP =	1000 kW
	Polarization =	Horizontal
	RCAGL -2 meters =	130.9 meters

KSAN-DT proposed to utilize ERI, Type ATW28H3-HTO-16H antenna with 0.75° electrical beam tilt. The manufacturer's vertical plane pattern for this antenna is included as Exhibit E-2. Based on this plot, the field factor will be less than 0.1 at any angle greater than 10 degrees below the horizon. A value of 0.2 will be used in the calculation.

$$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2}$$

Tot ERP = 1000 kW (Horizontal Only)
R = 130.9 meters
F = 0.2 (field factor)

$$S = 19.5 \text{ uW/cm}^2 \quad S = 0.0195 \text{ mW/cm}^2$$

KSAN-DT contributes 0.0195 mW/cm² at 132.9 meters above ground.

The limit for an uncontrolled environment is f/1500 for station broadcasting on 485 MHz.

$$(485 \text{ MHz})/1500 = 0.323 \text{ mW/cm}^2 \text{ is the RFF limit for KSAN-DT}$$

Therefore:

KSAN-DT DTV facility contributes 6.0% RFF for an uncontrolled environment two meters above ground at tower site

Total RFF at Site

The total RFF contribution for all transmitters can now be calculated:

$$\text{Total RFF} = 5.61 \text{ uW/cm}^2 \text{ (TV) RFF} + 19.5 \text{ uW/cm}^2 \text{ (DT) RFF}$$

$$\text{Total RFF} = 2.8\% + 6.0\% \quad \text{Total RFF} = 8.8\%$$

Authorized personnel and rigging contractors will be alerted to the potential zone of high radiation 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.

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations since the permittee indicates:

- (a)(1) The proposed facilities on an existing communications tower are not located in an officially designated wilderness area.

- (a)(2) The proposed facilities on an existing communications tower are 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 located on an existing tower 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 an existing tower will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The proposed facilities located on an existing tower are not located near any known Indian religious sites.
- (a)(6) The proposed facilities located on an existing tower are not located in a flood plain.
- (a)(7) The operation of the DTV facilities on the 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 in accordance with OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A. A security fence with a locked gate [prevents] unauthorized access to the tower site.]

ABOVE GROUND

ABOVE MEAN SEA LEVEL

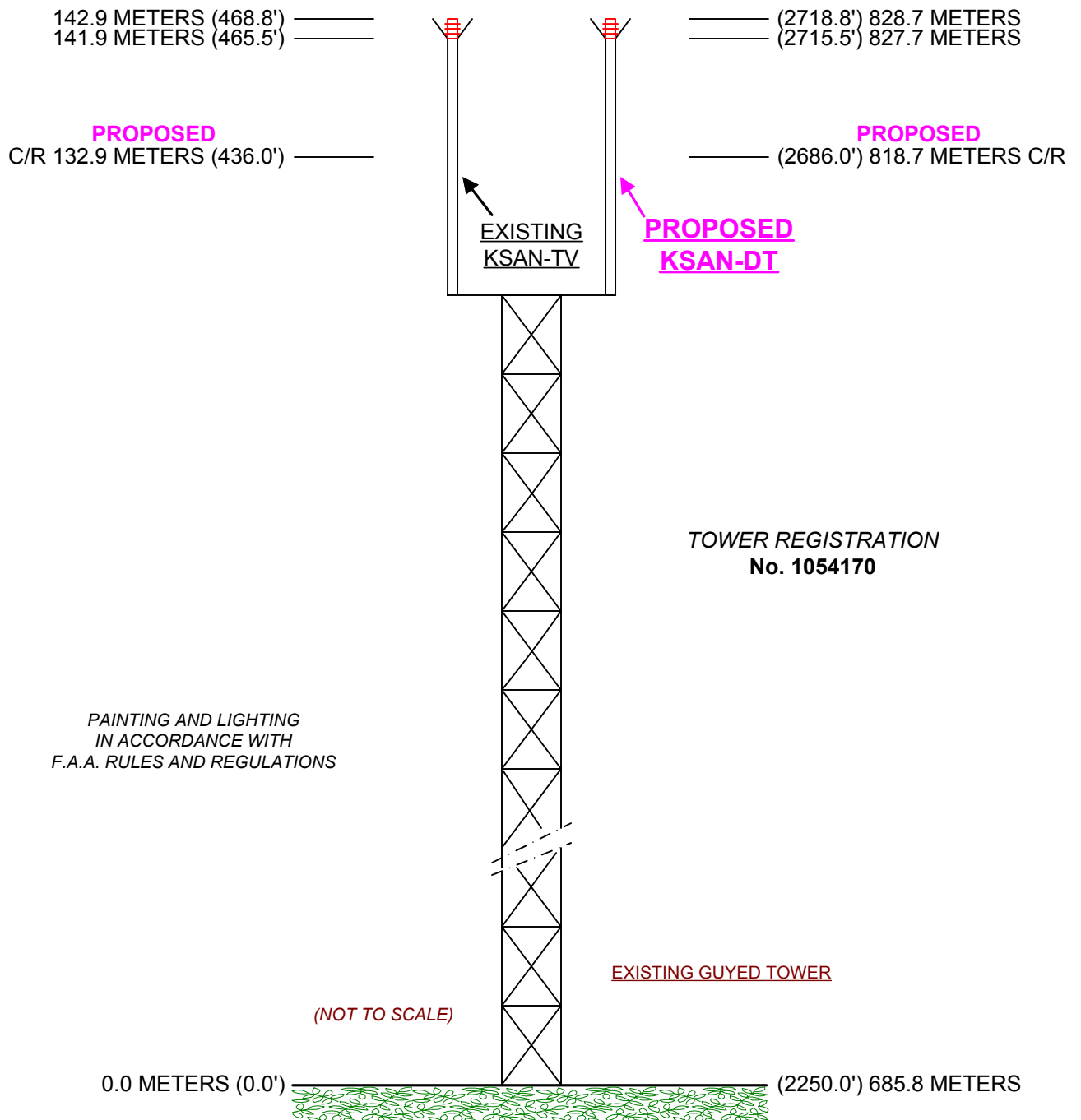


EXHIBIT E-1
TOWER SKETCH
FOR THE PROPOSED DTV OPERATION OF
KSAN-DT, SAN ANGELO, TEXAS

JULY 2004

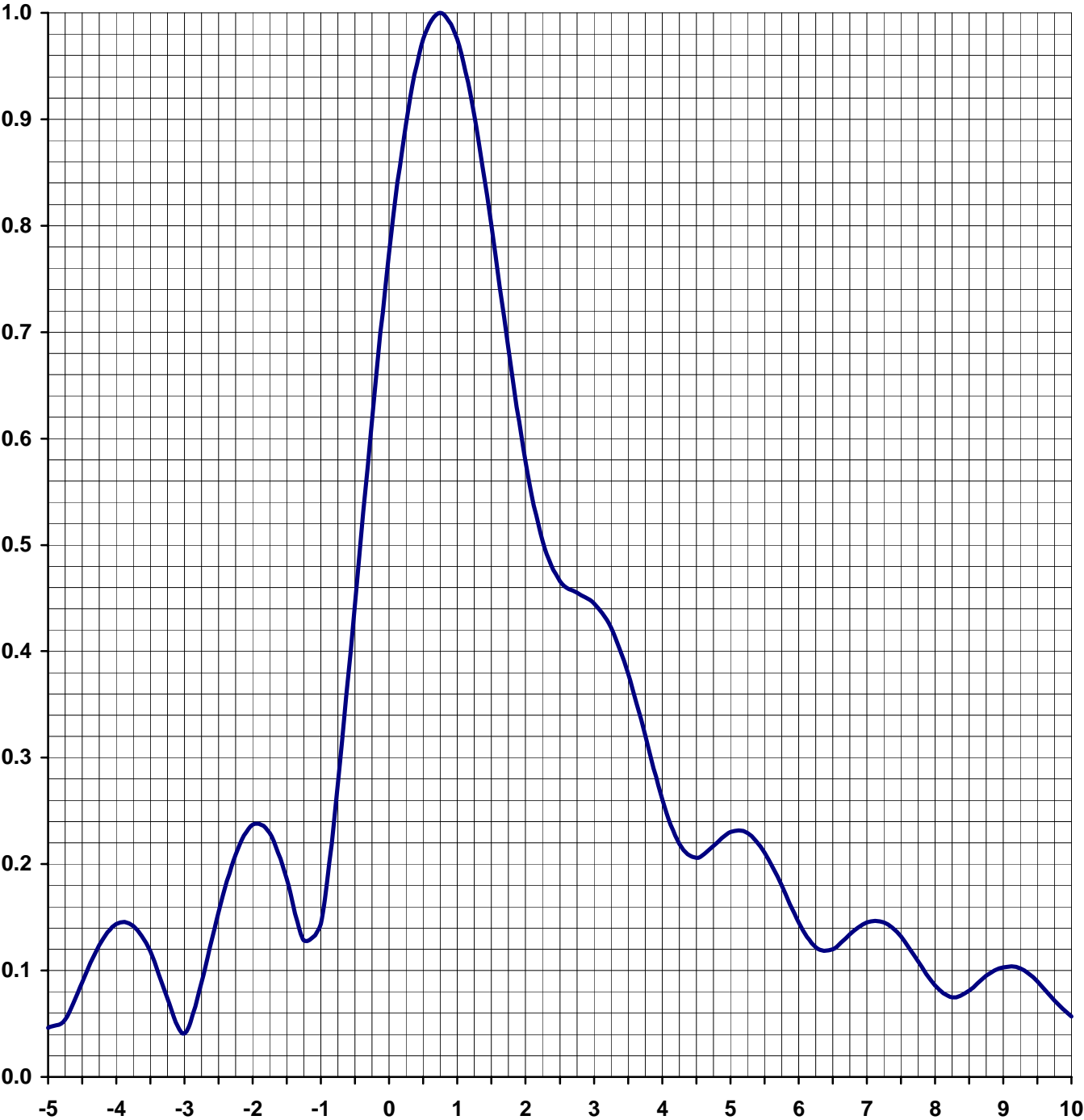
EXHIBIT E-2

ANTENNA MANUFACTURER DATA

KSAN-DT, SAN ANGELO, TEXAS

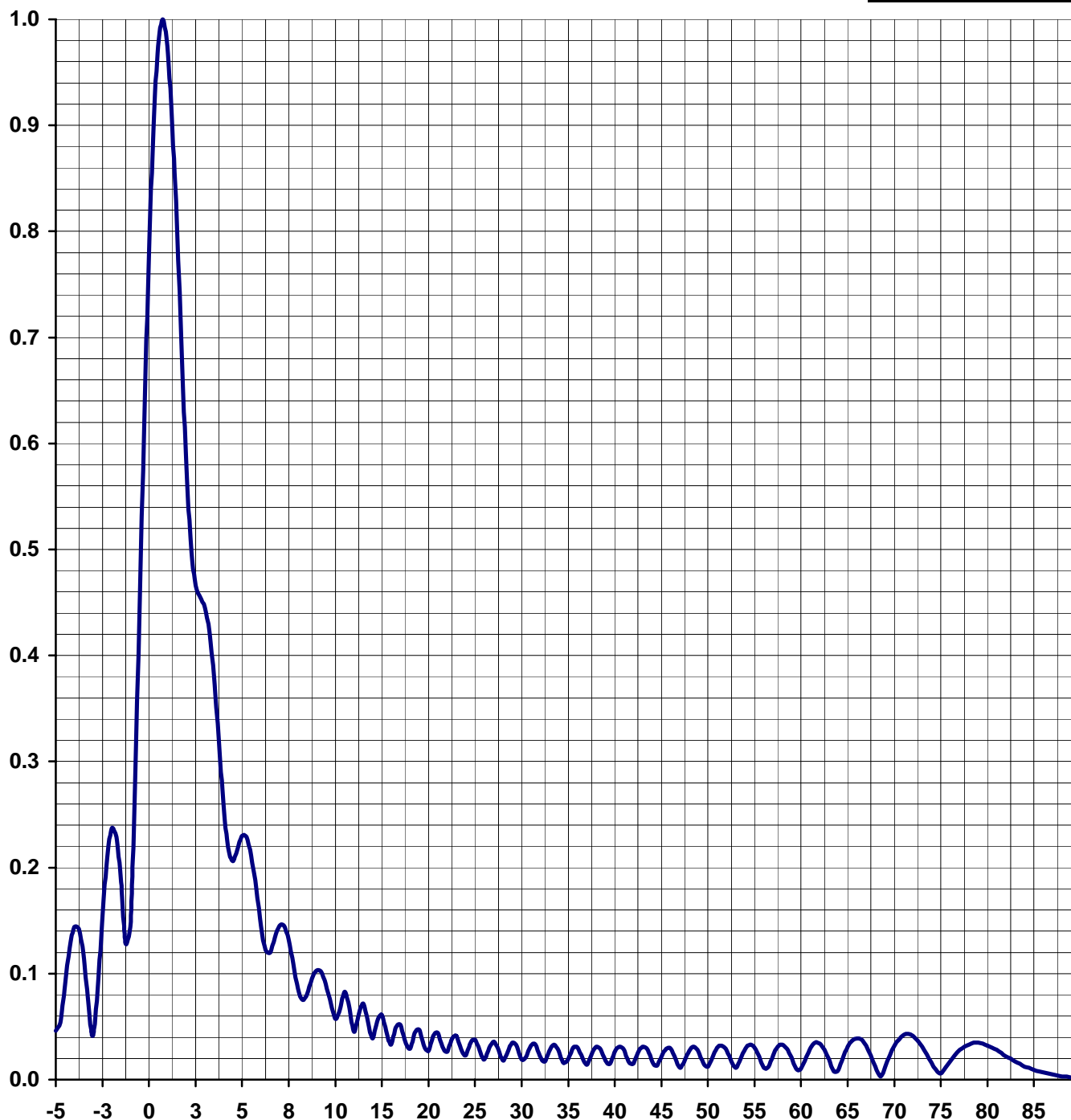
ELEVATION PATTERN

TYPE:	ATW28H3H	
Directivity:	Numeric	dBd
Main Lobe:	28.00	14.47
Horizontal:	16.77	12.25
Beam Tilt:	0.75	
Polarization:	Horizontal	
Frequency:	16 (Digital)	
Location:	San Angelo, TX	



ELEVATION PATTERN

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Frequency:	16 (Digital)	
Location:	San Angelo, TX	



TABULATED DATA FOR ELEVATION PATTERN

TYPE: **ATW28H3H**

-5 to 10 degrees in 0.25 increments

10 to 90 degrees in 0.50 increments

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
-5.00	0.046	-26.74	6.75	0.134	-17.46	27.00	0.036	-28.87	50.50	0.021	-33.56	74.00	0.016	-35.92
-4.75	0.054	-25.35	7.00	0.145	-16.77	27.50	0.028	-31.06	51.00	0.030	-30.46	74.50	0.009	-40.92
-4.50	0.089	-21.01	7.25	0.145	-16.77	28.00	0.018	-34.89	51.50	0.032	-29.90	75.00	0.006	-44.44
-4.25	0.124	-18.13	7.50	0.132	-17.59	28.50	0.026	-31.70	52.00	0.027	-31.37	75.50	0.011	-39.17
-4.00	0.144	-16.83	7.75	0.109	-19.25	29.00	0.035	-29.12	52.50	0.017	-35.39	76.00	0.017	-35.39
-3.75	0.142	-16.95	8.00	0.086	-21.31	29.50	0.031	-30.17	53.00	0.011	-39.17	76.50	0.023	-32.77
-3.50	0.118	-18.56	8.25	0.075	-22.50	30.00	0.019	-34.42	53.50	0.020	-33.98	77.00	0.028	-31.06
-3.25	0.074	-22.62	8.50	0.081	-21.83	30.50	0.022	-33.15	54.00	0.029	-30.75	77.50	0.031	-30.17
-3.00	0.041	-27.74	8.75	0.095	-20.45	31.00	0.032	-29.90	54.50	0.033	-29.63	78.00	0.033	-29.63
-2.75	0.089	-21.01	9.00	0.103	-19.74	31.50	0.033	-29.63	55.00	0.030	-30.46	78.50	0.035	-29.12
-2.50	0.155	-16.19	9.25	0.102	-19.83	32.00	0.022	-33.15	55.50	0.022	-33.15	79.00	0.035	-29.12
-2.25	0.209	-13.60	9.50	0.090	-20.92	32.50	0.017	-35.39	56.00	0.011	-39.17	79.50	0.034	-29.37
-2.00	0.237	-12.51	9.75	0.072	-22.85	33.00	0.027	-31.37	56.50	0.012	-38.42	80.00	0.032	-29.90
-1.75	0.229	-12.80	10.00	0.057	-24.88	33.50	0.033	-29.63	57.00	0.023	-32.77	80.50	0.030	-30.46
-1.50	0.186	-14.61	10.50	0.067	-23.48	34.00	0.027	-31.37	57.50	0.031	-30.17	81.00	0.028	-31.06
-1.25	0.128	-17.86	11.00	0.083	-21.62	34.50	0.016	-35.92	58.00	0.033	-29.63	81.50	0.025	-32.04
-1.00	0.144	-16.83	11.50	0.068	-23.35	35.00	0.020	-33.98	58.50	0.029	-30.75	82.00	0.022	-33.15
-0.75	0.276	-11.18	12.00	0.045	-26.94	35.50	0.030	-30.46	59.00	0.021	-33.56	82.50	0.020	-33.98
-0.50	0.444	-7.05	12.50	0.061	-24.29	36.00	0.030	-30.46	59.50	0.010	-40.00	83.00	0.017	-35.39
-0.25	0.617	-4.19	13.00	0.072	-22.85	36.50	0.021	-33.56	60.00	0.010	-40.00	83.50	0.015	-36.48
0.00	0.774	-2.23	13.50	0.055	-25.19	37.00	0.014	-37.08	60.50	0.021	-33.56	84.00	0.012	-38.42
0.25	0.896	-0.95	14.00	0.039	-28.18	37.50	0.024	-32.40	61.00	0.030	-30.46	84.50	0.011	-39.17
0.50	0.975	-0.22	14.50	0.055	-25.19	38.00	0.031	-30.17	61.50	0.035	-29.12	85.00	0.009	-40.92
0.75	1.000	0.00	15.00	0.061	-24.29	38.50	0.028	-31.06	62.00	0.034	-29.37	85.50	0.008	-41.94
1.00	0.975	-0.22	15.50	0.045	-26.94	39.00	0.018	-34.89	62.50	0.028	-31.06	86.00	0.007	-43.10
1.25	0.904	-0.88	16.00	0.033	-29.63	39.50	0.015	-36.48	63.00	0.019	-34.42	86.50	0.006	-44.44
1.50	0.801	-1.93	16.50	0.049	-26.20	40.00	0.026	-31.70	63.50	0.008	-41.94	87.00	0.005	-46.02
1.75	0.685	-3.29	17.00	0.052	-25.68	40.50	0.031	-30.17	64.00	0.009	-40.92	87.50	0.004	-47.96
2.00	0.579	-4.75	17.50	0.037	-28.64	41.00	0.028	-31.06	64.50	0.021	-33.56	88.00	0.003	-50.46
2.25	0.504	-5.95	18.00	0.029	-30.75	41.50	0.017	-35.39	65.00	0.031	-30.17	88.50	0.003	-50.46
2.50	0.466	-6.63	18.50	0.044	-27.13	42.00	0.015	-36.48	65.50	0.037	-28.64	89.00	0.002	-53.98
2.75	0.455	-6.84	19.00	0.047	-26.56	42.50	0.025	-32.04	66.00	0.039	-28.18	89.50	0.001	-60.00
3.00	0.445	-7.03	19.50	0.032	-29.90	43.00	0.031	-30.17	66.50	0.038	-28.40	90.00	0.000	#NUM!
3.25	0.422	-7.49	20.00	0.027	-31.37	43.50	0.028	-31.06	67.00	0.032	-29.90			
3.50	0.379	-8.43	20.50	0.041	-27.74	44.00	0.017	-35.39	67.50	0.023	-32.77			
3.75	0.321	-9.87	21.00	0.044	-27.13	44.50	0.013	-37.72	68.00	0.012	-38.42			
4.00	0.261	-11.67	21.50	0.031	-30.17	45.00	0.022	-33.15	68.50	0.003	-50.46			
4.25	0.219	-13.19	22.00	0.026	-31.70	45.50	0.029	-30.75	69.00	0.012	-38.42			
4.50	0.206	-13.72	22.50	0.038	-28.40	46.00	0.029	-30.75	69.50	0.023	-32.77			
4.75	0.217	-13.27	23.00	0.041	-27.74	46.50	0.020	-33.98	70.00	0.032	-29.90			
5.00	0.230	-12.77	23.50	0.029	-30.75	47.00	0.011	-39.17	70.50	0.038	-28.40			
5.25	0.229	-12.80	24.00	0.023	-32.77	47.50	0.018	-34.89	71.00	0.042	-27.54			
5.50	0.211	-13.51	24.50	0.034	-29.37	48.00	0.027	-31.37	71.50	0.043	-27.33			
5.75	0.180	-14.89	25.00	0.038	-28.40	48.50	0.031	-30.17	72.00	0.041	-27.74			
6.00	0.145	-16.77	25.50	0.028	-31.06	49.00	0.026	-31.70	72.50	0.037	-28.64			
6.25	0.122	-18.27	26.00	0.019	-34.42	49.50	0.016	-35.92	73.00	0.031	-30.17			
6.50	0.120	-18.42	26.50	0.030	-30.46	50.00	0.012	-38.42	73.50	0.024	-32.40			

Broadcast Antenna System Power Analysis

Type: ATW28H3-HTO-16H



Transmission Line:

Type:

MACX675B

6-1/8" 75 ohm MACXLine®

Vert. Length: 400 ft.

Horz. Length: 80 ft.

Attenuation:

0.100 dB/100 ft.

Efficiency: 89.56 %

ERP: Hor Pol:

kW: 1000.00

dBk: 30.00

Power Gain:

Ratio: 28.00

dBd: 14.47

Antenna Input:

kW: 35.71

dBk: 15.53

Line Loss:

kW: 4.16

dB: 0.48

Transmitter Power

kW: 39.88

dBk: 16.01

TABLE I
COMPUTED COVERAGE DATA
FOR THE PROPOSED DTV OPERATION OF
KSAN-DT, SAN ANGELO, TEXAS
CHANNEL 16 1000 KW ERP 185.6 METERS HAAT
JULY 2004

<u>Radial</u> <u>Bearing</u> N ° E, T	<u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u>	<u>Effective</u> <u>Height</u> meters	<u>Depression</u> <u>Angle</u>	<u>ERP At</u> <u>Radio</u> <u>Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
	meters				<u>48 dBu</u> <u>City Grade</u> km	<u>41 dBu</u> <u>Noise-Limited</u> km
0	676.7	142.0	0.330	1000	69.2	78.1
45	658.2	160.5	0.351	1000	70.7	79.9
90	615.9	202.8	0.394	1000	73.8	84.2
135	584.2	234.5	0.424	1000	76.1	87.9
180	594.5	224.2	0.415	1000	75.3	86.6
225	612.3	206.4	0.398	1000	74.0	84.6
270	641.0	177.7	0.369	1000	72.0	81.6
315	682.3	136.4	0.324	1000	68.7	77.6
Average	633.1	185.6				

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

DTV Channel 16 (482-488 MHz)
Average Elevation 3.2 to 16.1 km 633.1 meters AMSL
Center of Radiation 818.7 meters AMSL
Antenna Height Above Average Terrain 185.6 meters
Effective Radiated Power 1000 kW (30 dBk) Max

North Latitude: 31° 37' 22"
West Longitude: 100° 26' 14"

(NAD-27)

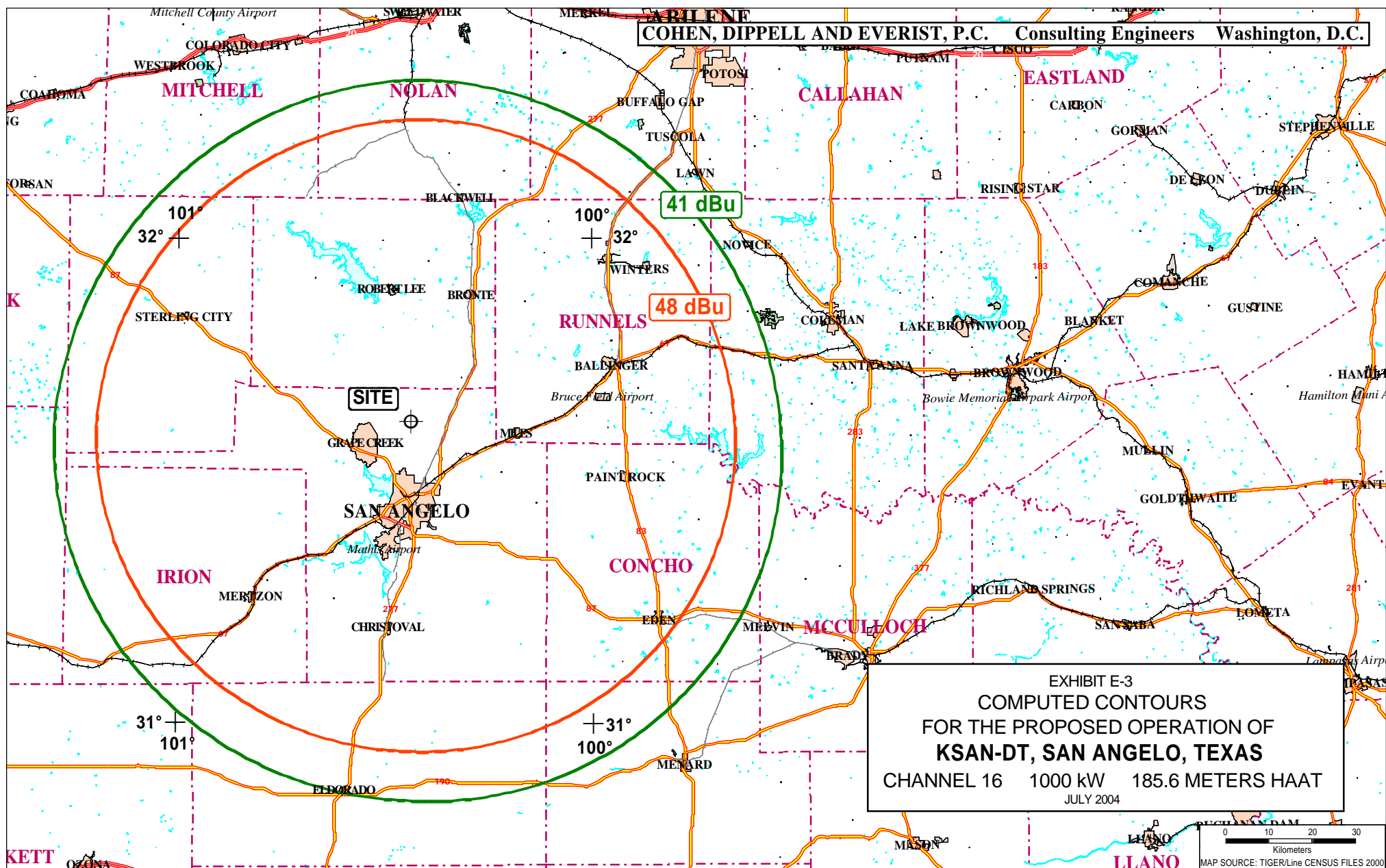


TABLE II
LONGLEY-RICE ANALYSIS FOR THE
PROPOSED OPERATION OF
KSAN-DT, SAN ANGELO, TEXAS
CHANNEL 16 1000 KW ND (MAX ERP) 185.6 METERS HAAT
JULY 2004

Stations Potentially Affected by Proposed Station (KSAN-DT)

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>Application Ref. No.</u>	<u>Result</u>
14	960726KL	BIG SPRING TX	135.4	APP	BPET-19960726KL	No Interference
15	KXVA	ABILENE TX	107.9	LIC	BLCT-20010130ABC	0.5%
16	K16EX	CLOVIS NM	406	LIC	BLTT-20040420AAS	No Interference
16	K16EB	HOBBS NM	277.4	LIC	BLTTL-19990809JF	No Interference
16	KHFT	HOBBS NM	278.5	CP	BPCDT-19991020ACH	0.0%
16	K62BQ	ERICK, ETC. OK	397.9	CP	BPTT-20000724ABA	No Interference
16	K16CY	AUSTIN TX	289.9	APP	BPTTA-20031201ABL	No Interference
16	KVAW	EAGLE PASS TX	322	LIC	BLCT-19910614KH	No Interference
16	NEW	FORT STOCKTON TX	244.2	APP	BNPTTL-20000831CFS	No Interference
16	K16CY	KILLEEN TX	261.3	LIC	BLTTL-19990915AVI	0.0%
16	K16CY	KILLEEN TX	270.7	APP	BPTTL-20010202AAH	0.0%
16	K16CY	KILLEEN TX	270.7	CP	BPTTL-20010205AAG	No Interference
16	KPTB	LUBBOCK TX	250.6	LIC	BLCT-19960617KF	0.0%
16	KHCE	SAN ANTONIO TX	333	CP	BPEDT-20000428ACF	0.1%
17	NEW	ABILENE TX	98.7	APP	BNPTTL-20000818AAL	No Interference
17	KIDU-LP	BROWNWOOD TX	135.1	APP	BMJPTTL-20000831AYN	No Interference
17	NEW	BROWNWOOD TX	138.5	APP	BNPTTL-20000828AZG	No Interference
17	NEW	BROWNWOOD TX	138.5	APP	BNPTTL-20000828AGG	No Interference
17	NEW	BROWNWOOD TX	136.1	APP	BNPTTL-20000830BML	No Interference
17	KIDU-LP	BROWNWOOD TX	127.5	APP	BPTTA-20040701ACT	No Interference
17	KIDU-LP	BROWNWOOD TX	135.1	CP	BPTTL-20010509ABG	No Interference
17	K17GZ	HARPER TX	183.5	CP	BNPTTL-20000831BJP	No Interference
17	NEW	RANGER TX	198.9	APP	BNPTTL-20000831AXP	No Interference
17	KPCB	SNYDER TX	135.8	LIC	BLCT-19970409KE	No Interference
18	KJTN-LP	ABILENE TX	98.7	CP	BNPTTL-20000818AER	No Interference
23	K23HA	EDEN TX	69.6	CP	BNPTTL-20000831CFW	No Interference
23	NEW	SAN ANGELO TX	24.3	APP	BNPTTL-20000831CFQ	0.0%
23	NEW	SAN ANGELO TX	24.3	APP	BNPTTL-20000830BOY	0.0%
23	NEW	SAN ANGELO TX	8.4	APP	BNPTTL-20000830BOD	0.0%

SECTION III-D - DTV Engineering

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

Certification Checklist: A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. 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.

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 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 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
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF 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
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 - 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

TECHBOX

- 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 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.") ☐ Yes ☐ No

If "No," attach as an Exhibit justification therefor, 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 therefor. (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 radiofrequency 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.


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 Donald G. Everist	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 	Date July 28, 2004	
Mailing Address Cohen, Dippell and Everist, P.C., 1300 L Street, NW, Suite 1100		
City Washington	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).