

ENGINEERING STATEMENT  
RE DTV BROADCAST ENGINEERING DATA  
APPLICATION FOR  
MODIFICATION OF CONSTRUCTION PERMIT  
FILE NO. BMPEDT-20090430AAC  
ON BEHALF OF  
UPPER CUMBERLAND BROADCAST COUNCIL  
WCTE-DT, COOKEVILLE, TENNESSEE  
CHANNEL 22 200 KW MAX ERP 425.4 METERS  
JULY 2010

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         )

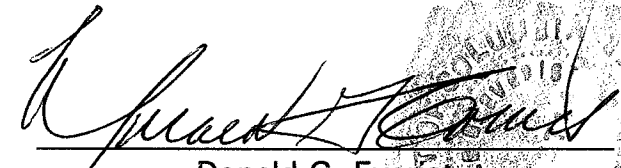
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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;

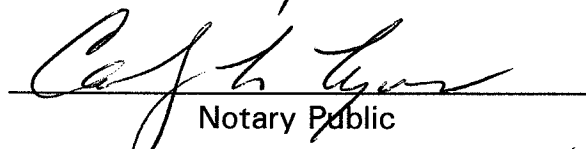
That his qualifications are a matter of record in the Federal Communications Commission;

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

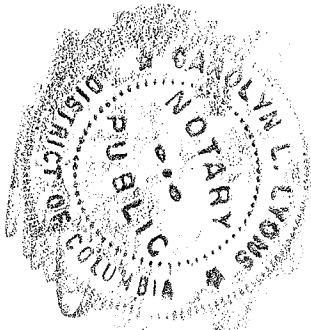
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

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

Subscribed and sworn to before me this 29<sup>th</sup> day of July, 2010.

  
\_\_\_\_\_  
Notary Public

My Commission Expires: 2/28/2013



This engineering statement has been prepared in support of an application for outstanding construction permit on behalf of Upper Cumberland Broadcast Council, licensee of WCTE(TV), Cookeville, Tennessee. The purpose of the application is to specify a higher gain antenna with slightly different mechanical tilt in order to achieve the maximized parameters authorized for WCTE-DT in the outstanding construction permit (FCC File No. BMPEDT-20090430AAC).

WCTE(TV) was licensed to operate on NTSC television Channel 22 with a maximum visual effective radiated power “ERP” of 1320 kW and an antenna height above average terrain (“HAAT”) of 425 meters (1394 feet). WCTE-DT has been allocated DTV Channel 22 with facilities of 50 kW directional and HAAT of 425 meters in the revised DTV Table of Allotments.<sup>1</sup> WCTE-DT is authorized to construct DTV facilities of 200 kW directional at a height above average terrain of 422.4 meters and now desires to redesign the transmitting antenna so that maximized DTV service area can be achieved.

The DTV antenna will be located on the same existing WCTE tower.

There are no AM stations located within 3.2 km of the proposed WCTE-DT tower site. There is one FM and no other full-service DTV facilities within 100 meters.

The TV antenna will be top-mounted on the existing tower. The WCTE-DT antenna will be located on an existing tower having a total overall structure height above ground of 245.4 meters (805.1 feet). The existing transmitter site is located on Buck Mountain Road, 3.5 miles southeast of Monterey, Tennessee. The registration number for the tower is 1047124.

---

<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) Appendix B, Released March 6, 2008.

Since there is no change in overall height, FAA airspace approval is not required. Exhibit E-1 is a vertical sketch of the tower and the proposed transmitting antenna.

The geographic coordinates of the existing site are as follows:

North Latitude: 36° 10' 26"

West Longitude: 85° 20' 37"

NAD-27

Equipment Data

Antenna: ERI, Model ATW-22H4-HTO-22S (or equivalent) antenna with 1° electrical beam tilt and 0.5° mechanical tilt at a bearing of N 275° E, T. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included as Exhibit E-2.

Transmission Line: 259 meters (850 ft) of ERI, Type MACX450, 4-1/16", 50 ohm or equivalent

Power Data

Transmitter output	12.7 kW	11.05 dBk
Transmission line efficiency/loss	71.5%	1.46 dB
Input power to the antenna	9.10 kW	9.59 dBk
Antenna power gain, Main Lobe	22	13.42 dB
Effective Radiated Power, Maximum	200 kW	23.01 dBk

Elevation Data

Vertical dimension for Channel 22 antenna including lighting rods and lighting	15.9 meters 52.2 feet
Overall height above ground of the existing antenna structure (including beacon and lightning rod)	245.4 meters 805.1 feet
Center of radiation of Channel 22 antenna above ground	236.8 meters 776.9 feet
Elevation of site above mean sea level	608.7 meters 1997.1 feet
Center of radiation of Channel 22 antenna above mean sea level	845.5 meters 2774 feet
Overall height above mean sea level of existing tower and top-mounted antenna (including beacon)	854.1 meters 2802.2 feet
Antenna height above average terrain	425.4 meters

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

Allocation

An allocation study from the proposed site has not been performed since there is no change in channel requested from that specified in the revised Table B.

Interference Analysis

An interference analysis (Table I) has been performed for the current construction permit, BMPEDT-20090430AAC, and the proposed operation (Table II).

A study of predicted interference caused by the proposed WCTE 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 DTV Table of Allotments, Appendix B released March 6, 2008<sup>2</sup> and all relevant stations in the CDBS dated July 27, 2010. The interference analysis to potentially affected stations for the outstanding construction permit and the proposed operation are summarized in Table I and Table II. The interference to each station is equal to or less than that now authorized. Appendix A includes the interference agreement between WCTE-DT and

---

<sup>2</sup>Ibid.

WPXK-DT. As noted in Table II, the proposed WCTE-DT operation reduces the interference to WPXK-DT construction permit.

### Coverage

The average elevation data for 3.2 to 16.1 km along each radial are based upon the 3-second NGDC profile data reasonably conforms closely to the terrain information of that determined by using the 7.5 minute topographic maps on file at the Commission.

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 0.468 to 0.636 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 III includes the distances to the 48 and 41 dBu F(50,90) coverage contours, the average elevation 3.2 to 16.1 km, and the antenna height above average terrain for every ten degrees in azimuth. Exhibit E-3 provides the 48 and 41 dBu F(50,90) coverage contours and demonstrates that the community of license is covered by the F(50,90) 48 dBu contour.

### Total Radiofrequency Field Levels at WCTE-DT Tower Site

The following equations from OET Bulletin No. 65 have been used to calculate the predicted radiofrequency fields at 2 meters above ground at the base of the tower:

**FM Broadcast Stations**

$$S = [(33.4)(F^2)(0.4 * ERP)]/R^2$$

**Digital Television Broadcast Stations**

$$S = [(33.4)(F^2)(ERP^2)]/R^2$$

S = Power Density in Microwatts/sq. cm ( $\mu\text{W}/\text{cm}^2$ )

F = Relative Field Factor in the downward direction of interest ( $-60^\circ$  to  $-90^\circ$  elevation)

ERP<sub>V</sub> = Total Peak Visual ERP in Watts

ERP<sub>A</sub> = Total Aural ERP in Watts

ERP = Power in Watts

R = Distance from 2 meters above ground to center of radiation in meters

The total percentage of radiofrequency field levels ("RFF") can be calculated by combining the percentage contribution of each station.

The elevation pattern provided by the manufacturer for the proposed DTV operation shows a maximum relative field of less than 0.3 ( $5$  to  $90^\circ$ ) towards the ground in the vicinity of the tower (see Exhibit E-3). Using this relative field factor and the procedures prescribed in OET Bulletin 65, the maximum RFF resulting from the proposed operation is less than  $11 \mu\text{W}/\text{cm}^2$ . This is less than 2.3% of the  $467.3 \mu\text{W}/\text{cm}^2$  maximum human exposure to RFF recommended by the current FCC guidelines for the general public.

WGSQ(FM) utilizes an 8-bay antenna with a center of radiation at 213.3 meters above ground. A typical relative field value toward the ground for a 8-bay FM antenna is 0.3. Using this relative field factor and the procedure prescribed in OET Bulletin No. 65, the maximum RFF resulting from the existing WGSQ(FM) operation at two meters above ground near the base of the tower is calculated to be less than  $13.5 \mu\text{W}/\text{cm}^2$ . This is less than 6.8% of the  $200 \mu\text{W}/\text{cm}^2$



maximum uncontrolled exposure to RFF recommended by the current FCC guidelines for the general population.

There is an authorization for the FM translator facility, W223AG (FX), for 10 watts ERP at 10.3 meters above ground. The RFF evaluation of W223AG (FX) according to OET Bulletin No. 65 is not required as the authorized ERP is less than 100 watts and is, therefore, Subpart L exempt under Part 74 of the FCC Rules.

The total contribution by the proposed DTV operation, and the existing FM and FM translator operation at 2 meters above ground level is less than 9% of the current FCC guidelines for general population exposure.

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 permittee 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) The installation of the DTV 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 GROUND

ABOVE MEAN SEA LEVEL

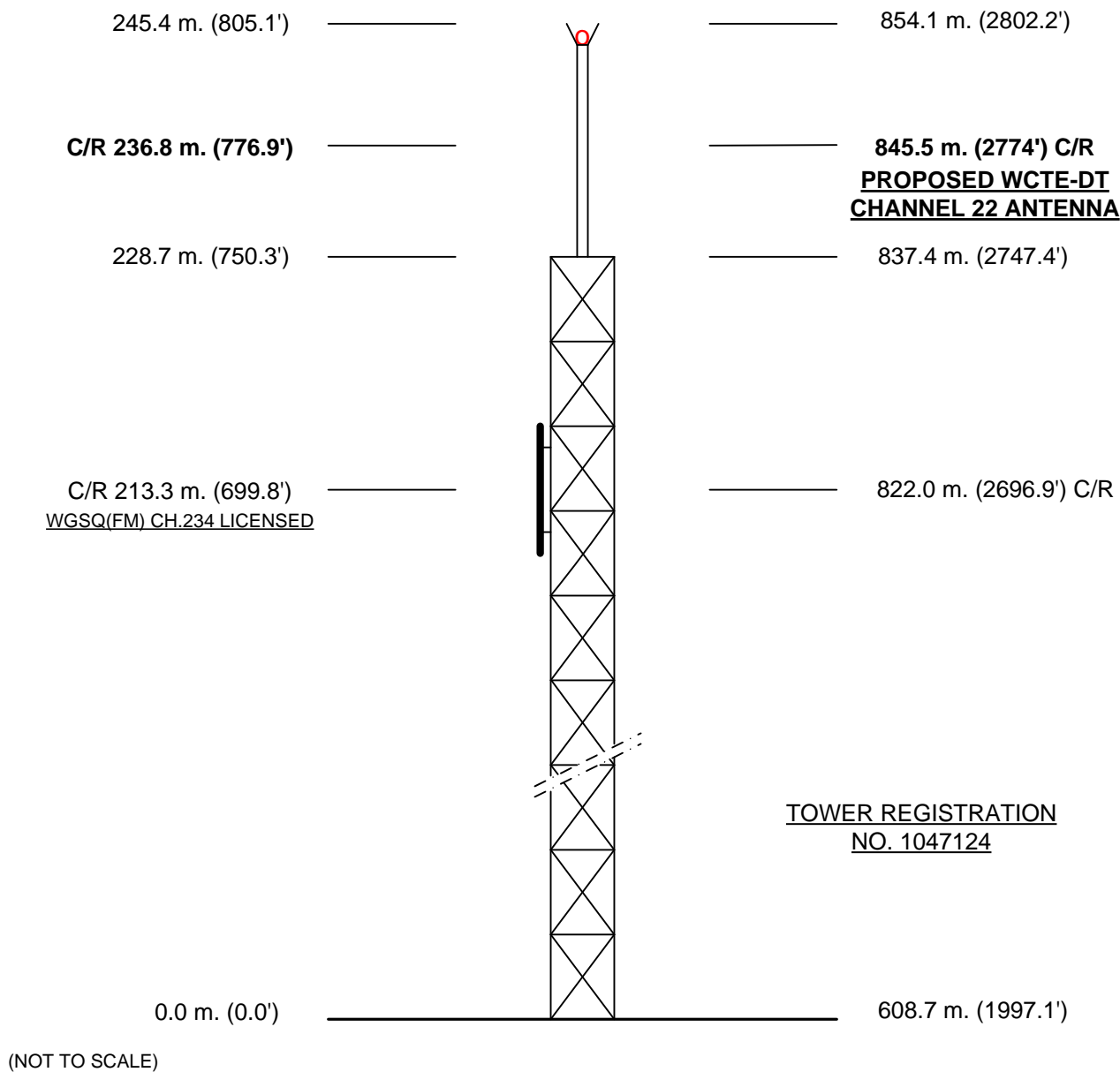


EXHIBIT E - 1  
VERTICAL SKETCH  
FOR THE PROPOSED DTV OPERATION OF  
**WCTE-DT, COOKEVILLE, TN**  
JULY 2010

COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

WCTE-DT, COOKEVILLE, TENNESSEE

***PRELIMINARY SPECIFICATION FOR  
TRASAR<sup>®</sup> HORIZONTALLY POLARIZED  
COAXIAL SLOTTED ARRAY ANTENNA***

*Prepared for  
WCTE-DT Channel 22 Cookeville, TN  
July 30, 2010*

**ANTENNA TYPE:  
ATW22H4-HTO-22S**

**SPECIFICATION NO :  
KO082808-1908 RevC**



**PRELIMINARY SPECIFICATION FOR  
TRASAR<sup>®</sup> HORIZONTALLY POLARIZED  
COAXIAL SLOTTED ARRAY ANTENNA**

**ELECTRICAL CHARACTERISTICS:**

CHANNEL :	DTV:	22
FREQUENCY RANGE :	DTV:	518 - 524 MHz
AZIMUTH PATTERN NUMBER :		ATW-O
ELEVATION PATTERN NUMBER :		ATW22H4H
AZIMUTH DIRECTIVITY :		1.00 (0.00 dBd)
ELEVATION DIRECTIVITY :		22.00 (13.42 dBd)
PEAK POWER GAIN :		22.00 (13.42 dBd)
GAIN AT HORIZONTAL :		11.72 (10.69 dBd)
ELECTRICAL BEAM TILT :		1.00 Degree(s)
MECHANICAL BEAM TILT :		0.50 Degree(s)
INPUT POWER REQUIRED :		9.09 kW (9.59 dBk)
INPUT TYPE :		4 1/16-50 Ohm
INPUT POWER (MAXIMUM) :		28 kW Average, 8VSB Digital
ANTENNA VSWR (MAXIMUM) :	DTV:	1.10 Over 6MHz Channel

## PRELIMINARY SPECIFICATION FOR TRASAR<sup>®</sup> HORIZONTALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA

### MECHANICAL CHARACTERISTICS:

#### MOUNTING CONFIGURATION:

Top Mount

\*(Tower Interface supplied and installed by others)

HEIGHT OF ANTENNA :

48.24 feet

HEIGHT OF CENTER OF RADIATION (B) :

24.12 feet

OVERALL HEIGHT (A) :

52.24 feet

(Includes two 4-foot Lightning Rods)

DEICING :

Pressurized Radome Enclosure

RADOME DIAMETER (C):

16.40 inches, OD

RADOME COLOR :

AVIATION ORANGE (Standard)

CLIMBING DEVICE :

Galvanized Climbing Pole

CALCULATED WEIGHT :

8790.0 lbs

WINDLOAD DATA<sup>1</sup> :

CaAc :

58.2 sq.ft.

EFFECTIVE MOMENT ARM:

27.1 feet

#### BASE FLANGE DIMENSIONS

BOLT CIRCLE DIAMETER:

21.50 in.

BOLT DIAMETER:

1.25 in.

NO. OF BOLTS:

16

***This antenna is designed to be supported by a structure that can resist the antenna base reactions and which provides a support that is rigid in the three translational and three rotational degrees of freedom.***

1 Calculated weight is based on the **PRELIMINARY** design of the antenna. The actual weight of the antenna will be within  $\pm 10\%$  of the calculated weight. The actual weight will be given in the technical manual that accompanies the antenna. This figure is for the antenna only and does not include the antenna input section.

2 Based on a wind speed of 70 miles per hour (MPH) and 61MPH with 0.5in radial ice, a height above average terrain (HAAT) of 1,010 feet, and a height above ground level (HAGL) of 879 feet per EIA/TIA-222-F. CaAa values include beacon and lightning spurs.

**NOTE:** Localized conditions may require higher wind speed specifications than TIA/EIA specifications. Check with local authorities to verify wind speed requirements.

## Broadcast Antenna System

### Power Analysis

WCTE-DT  
Cookeville, TN  
ATW22H4-HTO-22S

Channel 22

#### ANTENNA PARAMETERS :

##### Azimuth Directivity :

Hor. Pol : 1.00

dBd : 0.00

##### Elevation Directivity :

Hor. Pol : 22.00

dBd : 13.42

#### TRANSMISSION LINE :

##### VERTICAL RUN :

Type: MACX450

Length, ft. : 750

Attenuation , dB/100 ft: 0.172

##### HORIZONTAL RUN :

Type: MACX450

Length, ft. : 100

Attenuation , dB/100 ft: 0.172

##### OTHER LINE LOSSES:

Type: N/A

Length, ft. : 0

Attenuation , dB/100 ft: 0

Line Efficiency : 71.42%

#### ERP :

kW : 200.00

dBk : 23.01

#### POWER GAIN :

Ratio : 22.00

dBd : 13.42

#### ANTENNA INPUT :

kW : 9.09

dBk : 9.59

#### LINE LOSS :

kW : 3.64

dB : 1.46

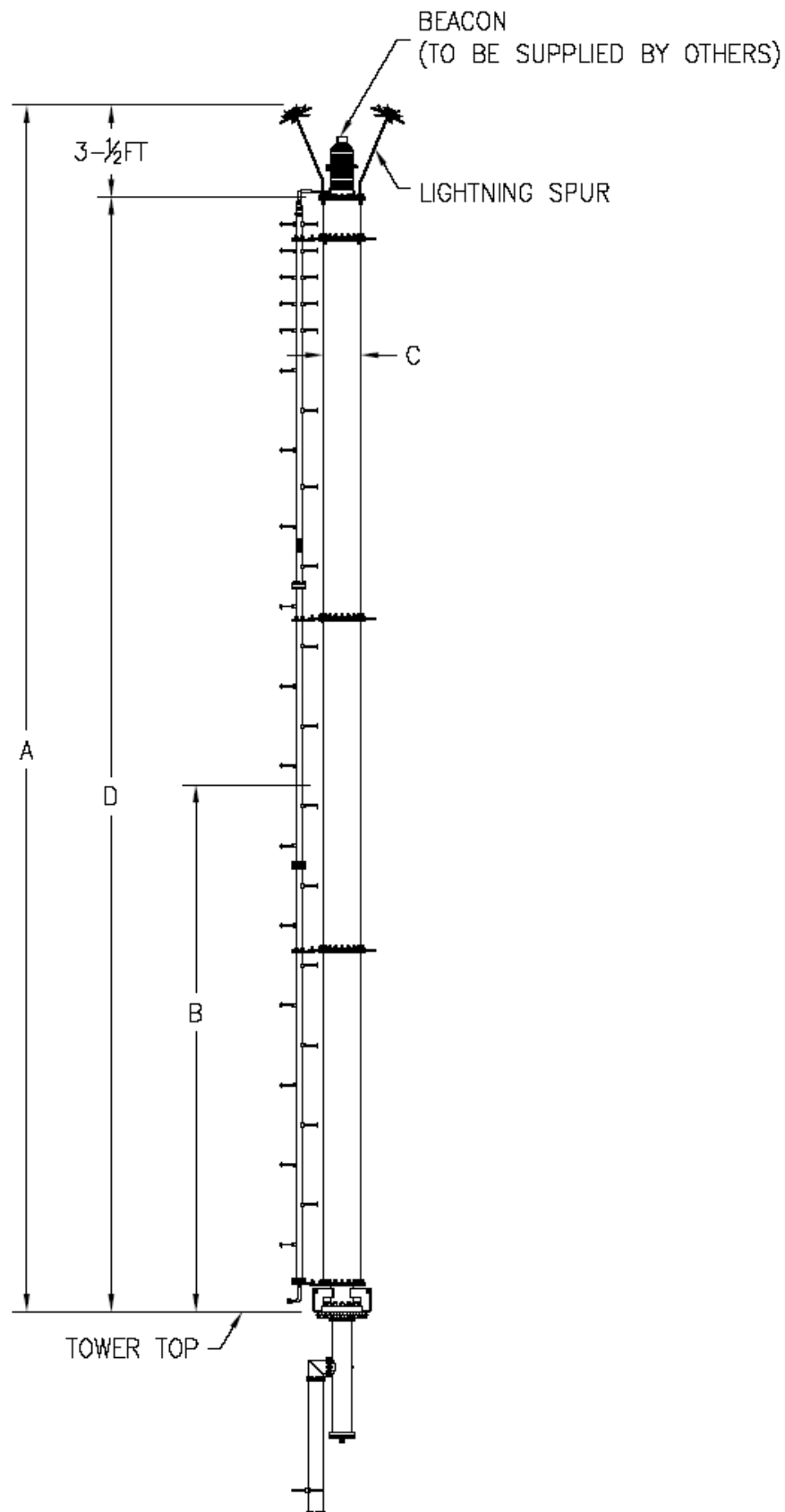
#### TRANSMITTER POWER :

kW : 12.73

dBk : 11.05

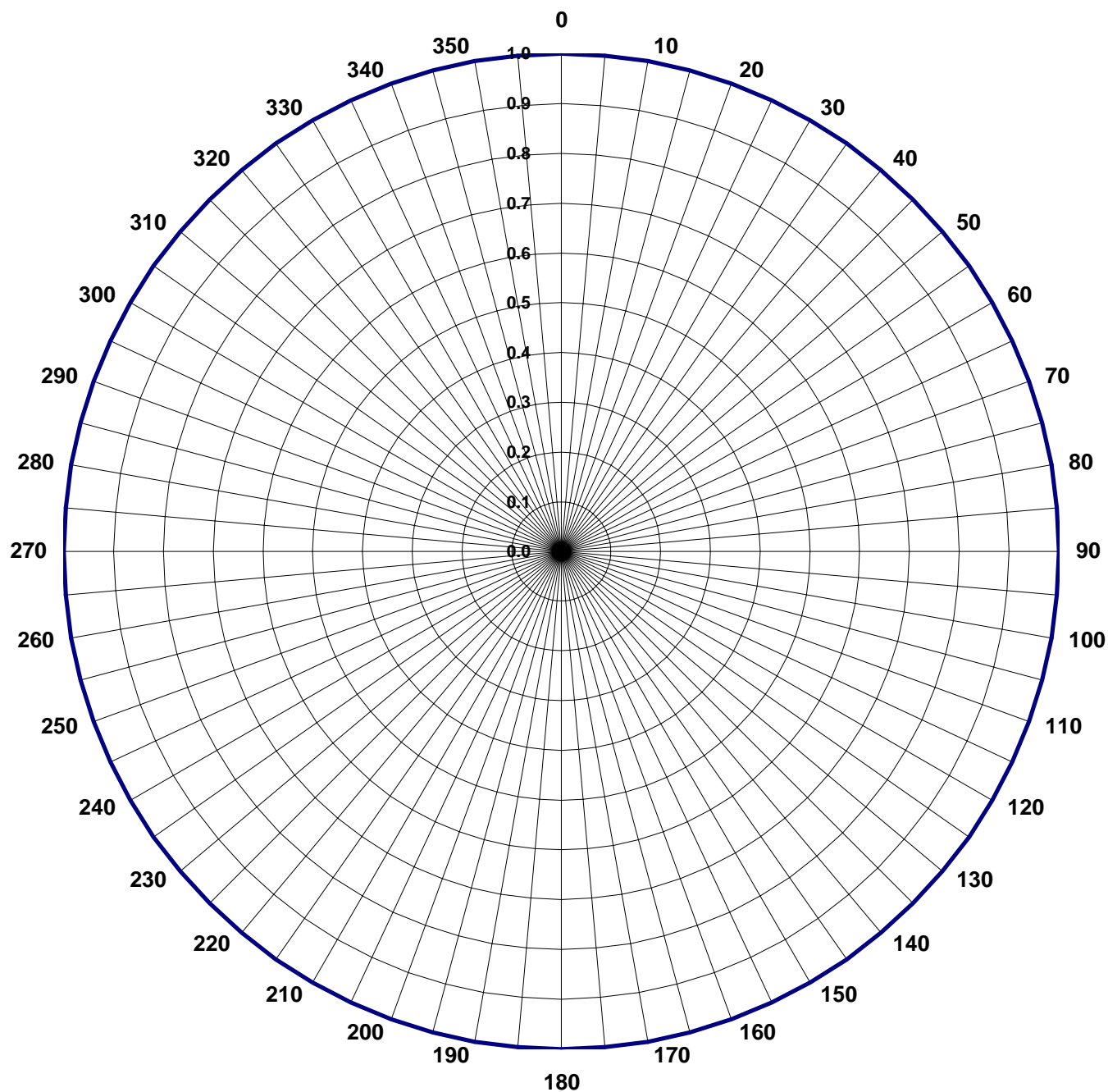


**TYPICAL MOUNTING CONFIGURATION SHOWN. ACTUAL CONFIGURATION MAY VARY.**



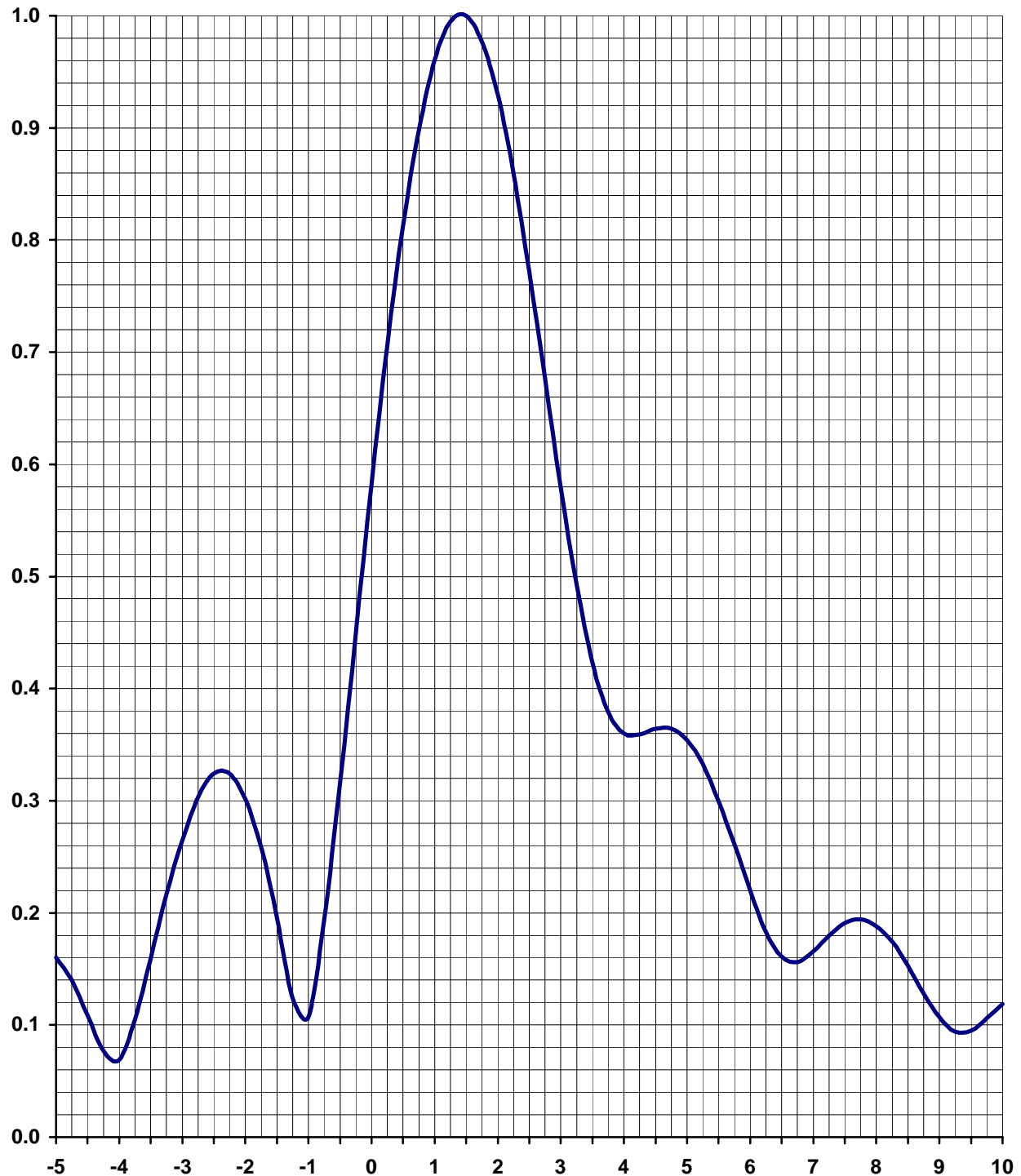
**AZIMUTH PATTERN****TYPE:****ATW-O****Frequency:****22 (DTV)****Numeric****dB****Location:****Cookeville, TN****Directivity:****1.00****0.00****Polarization:****Horizontal****Peak(s) at:**

Note: Pattern shape and directivity may vary with  
channel and mounting configuration.



**TABULATED DATA FOR AZIMUTH PATTERN****TYPE: ATW-O**

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	1.000	0.00	92	0.947	0.00	184	1.000	0.00	276	0.961	0.00
2	1.000	0.00	94	0.947	0.00	186	1.000	0.00	278	0.961	0.00
4	1.000	0.00	96	0.947	0.00	188	1.000	0.00	280	0.961	0.00
6	1.000	0.00	98	0.947	0.00	190	1.000	0.00	282	0.962	0.00
8	0.999	0.00	100	0.947	0.00	192	1.000	0.00	284	0.962	0.00
10	0.999	0.00	102	0.948	0.00	194	1.000	0.00	286	0.962	0.00
12	0.998	0.00	104	0.948	0.00	196	1.000	0.00	288	0.963	0.00
14	0.998	0.00	106	0.949	0.00	198	0.999	0.00	290	0.964	0.00
16	0.997	0.00	108	0.949	0.00	200	0.999	0.00	292	0.964	0.00
18	0.996	0.00	110	0.950	0.00	202	0.998	0.00	294	0.965	0.00
20	0.995	0.00	112	0.951	0.00	204	0.997	0.00	296	0.966	0.00
22	0.994	0.00	114	0.952	0.00	206	0.996	0.00	298	0.967	0.00
24	0.993	0.00	116	0.953	0.00	208	0.995	0.00	300	0.968	0.00
26	0.991	0.00	118	0.954	0.00	210	0.994	0.00	302	0.969	0.00
28	0.990	0.00	120	0.955	0.00	212	0.993	0.00	304	0.970	0.00
30	0.989	0.00	122	0.957	0.00	214	0.992	0.00	306	0.972	0.00
32	0.987	0.00	124	0.958	0.00	216	0.990	0.00	308	0.973	0.00
34	0.985	0.00	126	0.960	0.00	218	0.989	0.00	310	0.975	0.00
36	0.984	0.00	128	0.962	0.00	220	0.988	0.00	312	0.976	0.00
38	0.982	0.00	130	0.963	0.00	222	0.987	0.00	314	0.977	0.00
40	0.980	0.00	132	0.965	0.00	224	0.985	0.00	316	0.978	0.00
42	0.979	0.00	134	0.967	0.00	226	0.984	0.00	318	0.980	0.00
44	0.977	0.00	136	0.968	0.00	228	0.982	0.00	320	0.981	0.00
46	0.975	0.00	138	0.970	0.00	230	0.981	0.00	322	0.982	0.00
48	0.973	0.00	140	0.972	0.00	232	0.980	0.00	324	0.984	0.00
50	0.972	0.00	142	0.973	0.00	234	0.978	0.00	326	0.985	0.00
52	0.970	0.00	144	0.975	0.00	236	0.977	0.00	328	0.987	0.00
54	0.968	0.00	146	0.977	0.00	238	0.976	0.00	330	0.988	0.00
56	0.967	0.00	148	0.979	0.00	240	0.975	0.00	332	0.989	0.00
58	0.965	0.00	150	0.980	0.00	242	0.973	0.00	334	0.990	0.00
60	0.963	0.00	152	0.982	0.00	244	0.972	0.00	336	0.992	0.00
62	0.962	0.00	154	0.984	0.00	246	0.970	0.00	338	0.993	0.00
64	0.960	0.00	156	0.985	0.00	248	0.969	0.00	340	0.994	0.00
66	0.958	0.00	158	0.987	0.00	250	0.968	0.00	342	0.995	0.00
68	0.957	0.00	160	0.989	0.00	252	0.967	0.00	344	0.996	0.00
70	0.955	0.00	162	0.990	0.00	254	0.966	0.00	346	0.997	0.00
72	0.954	0.00	164	0.991	0.00	256	0.965	0.00	348	0.998	0.00
74	0.953	0.00	166	0.993	0.00	258	0.964	0.00	350	0.999	0.00
76	0.952	0.00	168	0.994	0.00	260	0.964	0.00	352	0.999	0.00
78	0.951	0.00	170	0.995	0.00	262	0.963	0.00	354	1.000	0.00
80	0.950	0.00	172	0.996	0.00	264	0.962	0.00	356	1.000	0.00
82	0.949	0.00	174	0.997	0.00	266	0.962	0.00	358	1.000	0.00
84	0.949	0.00	176	0.998	0.00	268	0.962	0.00	360	1.000	0.00
86	0.948	0.00	178	0.998	0.00	270	0.961	0.00			
88	0.948	0.00	180	0.999	0.00	272	0.961	0.00			
90	0.947	0.00	182	0.999	0.00	274	0.961	0.00			

**ELEVATION PATTERN****TYPE:****ATW22H4H****Frequency:****22 (DTV)****Directivity:****Numeric****dBd****Location:****Cookeville, TN****Main Lobe:****22.00****13.42****Beam Tilt:****1.0 EBT / 0.50 MBT****Horizontal:****7.45****8.72****Polarization:****Horizontal**

## TABULATED DATA FOR ELEVATION PATTERN

### ATW22H4H

-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	0.160	-7.96	6.75	0.156	-8.07	27.00	0.043	-13.67	50.50	0.019	-17.21	74.00	0.016	-17.96
-4.75	0.140	-8.54	7.00	0.166	-7.80	27.50	0.052	-12.84	51.00	0.027	-15.69	74.50	0.023	-16.38
-4.50	0.109	-9.63	7.25	0.180	-7.45	28.00	0.051	-12.92	51.50	0.036	-14.44	75.00	0.029	-15.38
-4.25	0.077	-11.14	7.50	0.191	-7.19	28.50	0.040	-13.98	52.00	0.042	-13.77	75.50	0.035	-14.56
-4.00	0.069	-11.61	7.75	0.194	-7.12	29.00	0.027	-15.69	52.50	0.043	-13.67	76.00	0.039	-14.09
-3.75	0.105	-9.79	8.00	0.188	-7.26	29.50	0.027	-15.69	53.00	0.040	-13.98	76.50	0.043	-13.67
-3.50	0.159	-7.99	8.25	0.174	-7.59	30.00	0.039	-14.09	53.50	0.032	-14.95	77.00	0.045	-13.47
-3.25	0.216	-6.66	8.50	0.153	-8.15	30.50	0.048	-13.19	54.00	0.023	-16.38	77.50	0.047	-13.28
-3.00	0.265	-5.77	8.75	0.128	-8.93	31.00	0.049	-13.10	54.50	0.016	-17.96	78.00	0.048	-13.19
-2.75	0.303	-5.19	9.00	0.107	-9.71	31.50	0.040	-13.98	55.00	0.019	-17.21	78.50	0.048	-13.19
-2.50	0.324	-4.89	9.25	0.094	-10.27	32.00	0.028	-15.53	55.50	0.027	-15.69	79.00	0.048	-13.19
-2.25	0.324	-4.89	9.50	0.095	-10.22	32.50	0.024	-16.20	56.00	0.036	-14.44	79.50	0.046	-13.37
-2.00	0.302	-5.20	9.75	0.106	-9.75	33.00	0.033	-14.81	56.50	0.042	-13.77	80.00	0.045	-13.47
-1.75	0.258	-5.88	10.00	0.119	-9.24	33.50	0.043	-13.67	57.00	0.044	-13.57	80.50	0.043	-13.67
-1.50	0.195	-7.10	10.50	0.134	-8.73	34.00	0.046	-13.37	57.50	0.042	-13.77	81.00	0.040	-13.98
-1.25	0.124	-9.07	11.00	0.121	-9.17	34.50	0.041	-13.87	58.00	0.037	-14.32	81.50	0.037	-14.32
-1.00	0.107	-9.71	11.50	0.090	-10.46	35.00	0.031	-15.09	58.50	0.029	-15.38	82.00	0.035	-14.56
-0.75	0.193	-7.14	12.00	0.066	-11.80	35.50	0.021	-16.78	59.00	0.020	-16.99	82.50	0.032	-14.95
-0.50	0.317	-4.99	12.50	0.078	-11.08	36.00	0.026	-15.85	59.50	0.014	-18.54	83.00	0.029	-15.38
-0.25	0.450	-3.47	13.00	0.099	-10.04	36.50	0.036	-14.44	60.00	0.018	-17.45	83.50	0.026	-15.85
0.00	0.582	-2.35	13.50	0.101	-9.96	37.00	0.043	-13.67	60.50	0.027	-15.69	84.00	0.023	-16.38
0.25	0.705	-1.52	14.00	0.083	-10.81	37.50	0.043	-13.67	61.00	0.035	-14.56	84.50	0.021	-16.78
0.50	0.812	-0.90	14.50	0.057	-12.44	38.00	0.036	-14.44	61.50	0.042	-13.77	85.00	0.018	-17.45
0.75	0.899	-0.46	15.00	0.053	-12.76	38.50	0.025	-16.02	62.00	0.045	-13.47	85.50	0.016	-17.96
1.00	0.961	-0.17	15.50	0.072	-11.43	39.00	0.020	-16.99	62.50	0.046	-13.37	86.00	0.014	-18.54
1.25	0.995	-0.02	16.00	0.084	-10.76	39.50	0.027	-15.69	63.00	0.044	-13.57	86.50	0.011	-19.59
1.50	1.000	0.00	16.50	0.078	-11.08	40.00	0.037	-14.32	63.50	0.038	-14.20	87.00	0.010	-20.00
1.75	0.977	-0.10	17.00	0.059	-12.29	40.50	0.043	-13.67	64.00	0.031	-15.09	87.50	0.008	-20.97
2.00	0.929	-0.32	17.50	0.042	-13.77	41.00	0.042	-13.77	64.50	0.022	-16.58	88.00	0.006	-22.22
2.25	0.859	-0.66	18.00	0.050	-13.01	41.50	0.035	-14.56	65.00	0.014	-18.54	88.50	0.004	-23.98
2.50	0.772	-1.12	18.50	0.066	-11.80	42.00	0.025	-16.02	65.50	0.011	-19.59	89.00	0.003	-25.23
2.75	0.677	-1.69	19.00	0.072	-11.43	42.50	0.019	-17.21	66.00	0.017	-17.70	89.50	0.001	-30.00
3.00	0.580	-2.37	19.50	0.062	-12.08	43.00	0.025	-16.02	66.50	0.026	-15.85	90.00	0.000	#NUM!
3.25	0.492	-3.08	20.00	0.044	-13.57	43.50	0.035	-14.56	67.00	0.034	-14.69			
3.50	0.423	-3.74	20.50	0.035	-14.56	44.00	0.041	-13.87	67.50	0.041	-13.87			
3.75	0.379	-4.21	21.00	0.048	-13.19	44.50	0.042	-13.77	68.00	0.046	-13.37			
4.00	0.360	-4.44	21.50	0.061	-12.15	45.00	0.037	-14.32	68.50	0.049	-13.10			
4.25	0.359	-4.45	22.00	0.062	-12.08	45.50	0.028	-15.53	69.00	0.049	-13.10			
4.50	0.364	-4.39	22.50	0.051	-12.92	46.00	0.019	-17.21	69.50	0.048	-13.19			
4.75	0.364	-4.39	23.00	0.035	-14.56	46.50	0.020	-16.99	70.00	0.044	-13.57			
5.00	0.354	-4.51	23.50	0.033	-14.81	47.00	0.029	-15.38	70.50	0.039	-14.09			
5.25	0.333	-4.78	24.00	0.046	-13.37	47.50	0.038	-14.20	71.00	0.033	-14.81			
5.50	0.300	-5.23	24.50	0.056	-12.52	48.00	0.042	-13.77	71.50	0.025	-16.02			
5.75	0.261	-5.83	25.00	0.055	-12.60	48.50	0.042	-13.77	72.00	0.017	-17.70			
6.00	0.220	-6.58	25.50	0.044	-13.57	49.00	0.036	-14.44	72.50	0.009	-20.46			
6.25	0.183	-7.38	26.00	0.030	-15.23	49.50	0.027	-15.69	73.00	0.002	-26.99			
6.50	0.161	-7.93	26.50	0.030	-15.23	50.00	0.018	-17.45	73.50	0.008	-20.97			

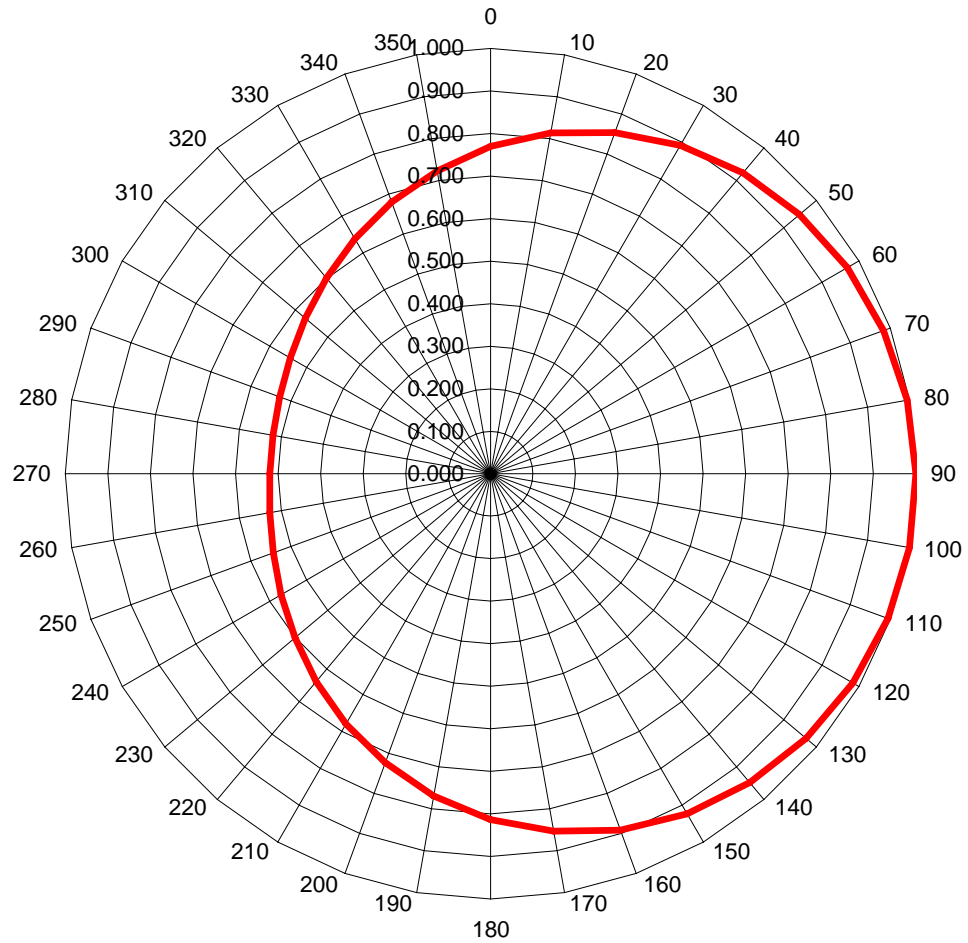
**Azimuthal Summary for WCTE, COOKEVILLE, TENNESSEE**

**Latitude:** 36° 10' 26" N  
**Longitude:** 85° 20' 37" W

**Azimuth**  
 (N ° E T)

**Relative Field at Horizontal**

0	0.770
10	0.813
20	0.853
30	0.891
40	0.923
50	0.948
60	0.969
70	0.984
80	0.995
90	1.000
100	1.000
110	0.995
120	0.984
130	0.969
140	0.948
150	0.923
160	0.891
170	0.853
180	0.813
190	0.770
200	0.723
210	0.680
220	0.638
230	0.600
240	0.569
250	0.544
260	0.528
270	0.519
280	0.519
290	0.528
300	0.544
310	0.569
320	0.600
330	0.638
340	0.680
350	0.723



COHEN, DIPPELL AND EVERIST, P.C.

TABLE I  
PREDICTED LONGLEY-RICE INTERFERENCE  
FOR THE AUTHORIZED OPERATION OF  
WCTE(TV), COOKEVILLE, TENNESSEE  
(FCC FILE NO. BMPEDT-20090430AAC)  
CHANNEL 22 200 KW DA ERP 422.5 METERS HAAT  
1.0° ELECTRICAL TILT 0.75° MECHANICAL TILT AT A BEARING OF N 275° E, T  
WITH A 16-BAY ANTENNA  
JUNE 2010

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>FCC File No.</u>	<u>Result</u>
21	W21BZ	COLLEGEDALE TN	129.9	CP	BPTTA-20030304AAR	No interference
21	W21BZ	COLLEGEDALE TN	129.9	LIC	BLTTA-20010111AAI	No interference
21	W21BZ	COLLEGEDALE TN	129.9	CP	BDFCDTA-20090824AET	No interference
21	WUXP-TV	NASHVILLE TN	130.5	PLN	DTVPLN-DTVPLN9971	0.48%
21	WUXP-TV	NASHVILLE TN	130.5	LIC	BLCDT-20060414AAU	0.47%
22	WFIQ	FLORENCE AL	283.5	CP	BPEDT-20080619AGU	0.08%
22	WFIQ	FLORENCE AL	283.5	PLN	DTVPLN-DTVPLN715	0.01%
22	WFIQ	FLORENCE AL	283.5	LIC	BLEDT-20060718ACG	0.01%
22	WSKC-CA	ATLANTA GA	247.7	LIC	BLTTA-20051013AAE	No interference
22	WSKC-CA	ATLANTA GA	267	CP MO	BMPDTA-20080804ABS	0.00%
22	WVUT	VINCENNES IN	333.6	CP	BPEDT-20080530AAN	No interference
22	WVUT	VINCENNES IN	333.6	PLN	DTVPLN-DTVPLN4329	No interference
22	KBSI	CAPE GIRARDEAU MO	399.7	PLN	DTVPLN-DTVPLN19593	No interference
22	KBSI	CAPE GIRARDEAU MO	399.7	LIC	BLCDT-20041213ABC	No interference
22	WCNC-TV	CHARLOTTE NC	387.4	CP	BPCDT-20080617AEH	No interference
22	WCNC-TV	CHARLOTTE NC	387.4	PLN	DTVPLN-DTVPLN32326	No interference
22	WCNC-TV	CHARLOTTE NC	387.4	LIC	BLCDT-20031211ABN	No interference
22	WCPO-DR	CINCINNATI OH	336.3	RULE	BPRM-20090916ADM	0.01%
22	WCPO-TV	CINCINNATI OH	336.3	APP	BPCDT-20100115ABY	0.01%
23	WPXK	JELICO TN	99.9	PLN	DTVPLN-DTVPLN52628	0.29%
23	WPXK-TV	JELICO TN	127.2	CP	BPCDT-20080620AGZ	0.91%
23	WPXK-TV	JELICO TN	99.9	LIC	BLCDT-20020510AAJ	0.29%
23	WNAB	NASHVILLE TN	130.5	PLN	DTVPLN-DTVPLN73310	0.02%
23	WNAB	NASHVILLE TN	130.5	LIC	BLCDT-20040712AAO	0.02%
24	WJDE-LP	NASHVILLE TN	127.3	LIC	BLTTA-20001208AEY	No interference
25	WPDP-LP	CLEVELAND TN	132.6	LIC	BLTTL-19990810JD	No interference

COHEN, DIPPELL AND EVERIST, P.C.

TABLE II  
PREDICTED LONGLEY-RICE INTERFERENCE  
FOR THE PROPOSED CHANNEL 22 OPERATION OF  
WCTE(TV), COOKEVILLE, TENNESSEE  
CHANNEL 22 200 KW DA ERP 425.4 METERS HAAT  
1.0° ELECTRICAL TILT 0.5° MECHANICAL TILT AT N 275°E  
JULY 2010

COORDINATES

N 36° 10' 26"

W 85° 20' 37"

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>FCC File No.</u>	<u>Result</u>
21	W21BZ	COLLEGEDALE TN	129.9	CP	BPTTA-20030304AAR	No interference
21	W21BZ	COLLEGEDALE TN	129.9	LIC	BLTTA-20010111AAI	No interference
21	W21BZ	COLLEGEDALE TN	129.9	CP	BDFCDTA-20090824AET	No interference
21	WUXP-TV	NASHVILLE TN	130.5	PLN	DTVPLN-DTVPLN9971	0.30%
21	WUXP-TV	NASHVILLE TN	130.5	LIC	BLCDDT-20060414AAU	0.30%
22	WFIQ	FLORENCE AL	283.5	CP	BPEDT-20080619AGU	0.08%
22	WFIQ	FLORENCE AL	283.5	PLN	DTVPLN-DTVPLN715	0.00%
22	WFIQ	FLORENCE AL	283.5	LIC	BLEDT-20060718ACG	0.00%
22	WSKC-CA	ATLANTA GA	247.7	LIC	BLTTA-20051013AAE	No interference
22	WSKC-CA	ATLANTA GA	267	CP MO	BMPDTA-20080804ABS	0.00%
22	WVUT	VINCENNES IN	333.6	CP	BPEDT-20080530AAN	No interference
22	WVUT	VINCENNES IN	333.6	PLN	DTVPLN-DTVPLN4329	No interference
22	KBSI	CAPE GIRARDEAU MO	399.7	PLN	DTVPLN-DTVPLN19593	No interference
22	KBSI	CAPE GIRARDEAU MO	399.7	LIC	BLCDDT-20041213ABC	No interference
22	WCNC-TV	CHARLOTTE NC	387.4	CP	BPCDDT-20080617AEH	No interference
22	WCNC-TV	CHARLOTTE NC	387.4	PLN	DTVPLN-DTVPLN32326	No interference
22	WCNC-TV	CHARLOTTE NC	387.4	LIC	BLCDDT-20031211ABN	No interference
22	WCPO-DR	CINCINNATI OH	336.3	RULE	BPRM-20090916ADM	0.01%
22	WCPO-TV	CINCINNATI OH	336.3	APP	BPCDDT-20100115ABY	0.01%
23	WPXK	JELICO TN	99.9	PLN	DTVPLN-DTVPLN52628	0.29%
23	WPXK-TV	JELICO TN	127.2	CP	BPCDDT-20080620AGZ	0.80%
23	WPXK-TV	JELICO TN	99.9	LIC	BLCDDT-20020510AAJ	0.29%
23	WNAB	NASHVILLE TN	130.5	PLN	DTVPLN-DTVPLN73310	0.00%
23	WNAB	NASHVILLE TN	130.5	LIC	BLCDDT-20040712AAO	0.00%
24	WJDE-LP	NASHVILLE TN	127.3	LIC	BLTTA-20001208AEY	No interference
25	WPDP-LP	CLEVELAND TN	132.6	LIC	BLTTL-19990810JD	No interference



TABLE III  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
WCTE-DT, COOKEVILLE, TENNESSEE  
CHANNEL 22 200 KW MAX-DA ERP 425.4 METERS HAAT  
JULY 2010

Radial Bearing (N ° E, T)	Average*	Effective Height	Depression Angle	ERP At Radio Horizon kW	Distance to Contour	
	Elevation 3.2 to 16.1 km meters				F(50/90) 48 dBu km	F(50/90) 41 dBu km
0	353.8	491.7	0.614	118.58	82.230	93.994
10	375.1	470.4	0.601	132.194	81.919	93.325
20	400.5	445.0	0.584	145.522	81.386	92.358
30	413.6	431.9	0.576	158.776	81.334	92.220
40	389.9	455.6	0.591	170.386	82.857	94.320
50	404.4	441.1	0.582	179.741	82.536	93.752
60	404.4	441.1	0.582	187.792	82.814	94.100
70	443.7	401.8	0.555	193.651	81.014	91.960
80	457.8	387.7	0.545	198.005	80.263	91.316
90	496.7	348.8	0.517	200.0	77.122	88.439
100	516.3	329.2	0.503	200.0	75.289	86.409
110	552.6	292.9	0.474	198.005	72.163	82.104
120	560.3	285.2	0.468	193.651	71.433	80.994
130	533.0	312.5	0.490	187.792	73.451	84.037
140	520.4	325.1	0.499	179.741	74.265	85.142
150	519.2	326.3	0.500	170.386	74.041	84.870
160	445.3	400.2	0.554	158.776	79.627	90.426
170	417.3	428.2	0.573	145.522	80.612	91.356
180	458.8	386.7	0.545	132.194	77.492	88.345
190	472.9	372.6	0.535	118.58	75.680	86.615
200	482.2	363.3	0.528	104.546	74.081	84.972
210	438.3	407.2	0.559	92.48	76.485	87.055
220	381.1	464.4	0.597	81.409	78.601	89.247
230	357.1	488.4	0.612	72.0	78.781	89.878
240	318.7	526.8	0.636	64.752	79.673	91.795
250	359.9	485.6	0.610	59.187	77.372	88.252
260	355.6	489.9	0.613	55.757	77.138	88.094
270	369.6	475.9	0.604	53.872	76.388	86.993

TABLE III  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
WCTE-DT, COOKEVILLE, TENNESSEE  
CHANNEL 22 200 KW MAX-DA ERP 425.4 METERS HAAT  
JULY 2010

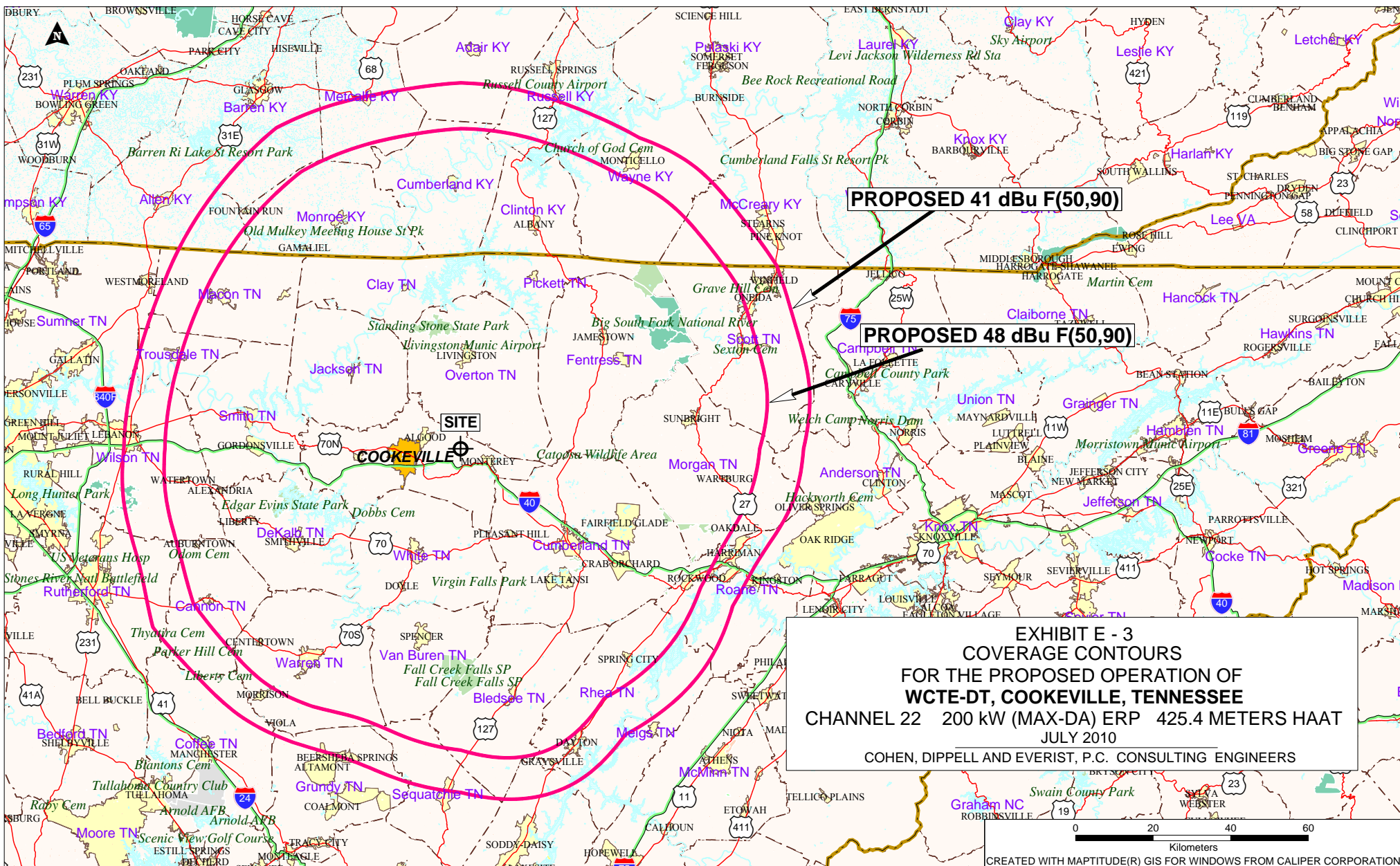
Radial	Average*			ERP At	<u>Distance to Contour</u>	
<u>Bearing</u>	<u>Elevation</u>	<u>Effective</u>	<u>Depression</u>	<u>Radio</u>	<u>F(50/90)</u>	<u>F(50/90)</u>
(N ° E, T)	<u>3.2 to 16.1 km</u>	<u>Height</u>	<u>Angle</u>	<u>Horizon</u>	<u>48 dBu</u>	<u>41 dBu</u>
	meters	meters	degrees	kW	km	km
280	376.0	469.5	0.600	53.872	76.142	86.620
290	378.4	467.1	0.599	55.757	76.274	86.725
300	365.5	480.0	0.607	59.187	77.161	87.907
310	341.3	504.2	0.622	64.752	78.707	90.151
320	319.9	525.6	0.635	72.0	80.385	92.560
330	299.6	545.9	0.647	81.409	82.249	95.226
340	324.0	521.5	0.633	92.48	81.991	94.277
350	347.2	498.3	0.618	104.546	81.705	93.468

\* Based on data from FCC 3-second database

DTV Channel 22 (518-524 MHz)  
Average Elevation 3.2 to 16.1 km 415.3 meters AMSL  
Center of Radiation 845.5 meters AMSL  
Antenna Height Above Average Terrain 425.4 meters  
Effective Radiated Power 200 kW (23.01 dBk) Max.

North Latitude: 36° 10' 26"  
West Longitude: 85° 20' 37"

(NAD-27)



COHEN, DIPPELL AND EVERIST, P.C.

APPENDIX A

INTERFERENCE AGREEMENT



## **RESTATED INTERFERENCE ACCEPTANCE AGREEMENT**

This Restated Interference Acceptance Agreement ("Agreement") is entered into as of May 20, 2009 by and between Upper Cumberland Broadcast Council ("UCBC") and ION Media Knoxville License, Inc. ("ION").

1. UCBC is the licensee of television station WCTE-DT, FCC Facility ID No. 69479, Cookeville, Tennessee, and holds a construction permit issued by the Federal Communications Commission ("FCC") authorizing it to construct a post-transition digital television ("DTV") facility on Channel 22 (*see* FCC File No. BPEDT-20080317ADB (the "WCTE Permit")).
2. ION is the licensee of television station WPXK-DT, FCC Facility ID No. 52628, Jellico, Tennessee, and holds a license issued by the FCC authorizing it to operate a post-transition DTV facility on Channel 23 (*see* FCC File No. BLCDT-20020510AAJ (the "WPXK License")).
3. UCBC desires to modify the authorized post-transition DTV facilities for WCTE-DT in order to maximize service to the public. UCBC has filed an application to modify the WCTE Permit in order to construct DTV transmission facilities located at 36-10-26 NL / 85-20-37 WL, with ERP of 200 kw and HAAT of 422.4 m, specifying a directional antenna ID No. 87679. *See* File No. BMPEDT-20080620ADW (the "WCTE Application").
4. ION desires to modify the authorized post-transition DTV facilities for WPXK-DT in order to maximize service to the public. ION has filed an application, as amended, to construct DTV transmission facilities located at 36-00-13 NL / 83-56-34 WL, with ERP of 1000kw and HAAT of 529 m, specifying a non-directional antenna. *See* File No. BPCDT-20080620AGZ (the "WPXK Application").
5. The facility proposed by the WPXK Application is predicted cause unique new interference to 1.00% of the total population predicted to be served by the facility proposed by the WCTE Application, and the facility proposed by the WCTE Application is predicted cause unique new interference to 0.91% of the total population predicted to be served by the facility proposed by the WPXK Application, creating a conflict between the WPXK Application and the WCTE Application.
6. UCBC hereby acknowledges and agrees to accept such interference from WPXK.
7. ION hereby acknowledges and agrees to accept such interference from WCTE.
8. UCBC and ION acknowledge that it is in their mutual interest and in the public interest to resolve the interference conflict between their applications and that the resolution of the interference conflict serves as consideration for this Agreement. Aside from the acceptance of interference reflected in paragraphs 6 and 7 of this Agreement, no other consideration has been received or promised by or to either UCBC or ION in connection with this Agreement.

9. Upon the execution of this Agreement by both parties, each of UCBC and ION will file a copy of this Agreement with the FCC by an amendment to the WCTE Application and the WPXK Application, respectively (or provide a copy of the Agreement to the FCC by other means as may be requested by the FCC).

10. This Agreement may be executed in one or more counterparts, and all counterparts, when so executed, constitute one and the same agreement.

11. This Agreement replaces in its entirety the April 29, 2009 Interference Acceptance Agreement ("Prior Agreement") between the parties, which Prior Agreement is now of no force and effect.

UPPER CUMBERLAND BROADCAST  
COUNCIL

ION MEDIA KNOXVILLE LICENSE,  
INC.

By: Rebecca Mayne  
Title: PRESIDENT / GENERAL MANAGER  
WCTE

By: William Watson  
Title: Secretary

## SECTION VII - 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 these questions will ensure an expeditious grant of a construction permit application to change 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 on or before March 17, 2008 (45 days of 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
- 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"). ☐ ☐ 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 VII - 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.

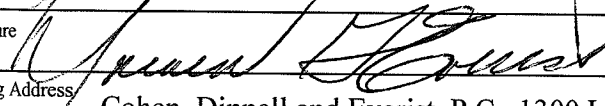
By checking "Yes" to **Certification Checklist** Item 2, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radio frequency electromagnetic exposure in 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 ON PAGE 8 MUST BE COMPLETED AND SIGNED.**

**Section VII -- Preparer's Certification**

I certify that I have prepared Section VII (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 29, 2010	
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).