

ENGINEERING STATEMENT RE  
MODIFICATION OF OUTSTANDING CONSTRUCTION PERMIT,  
FCC FILE NO. BDRTCDT-20100323AHF  
FOR REPLACEMENT TRANSLATOR FOR WIAT(TV)  
IN ACCORDANCE WITH FCC PUBLIC  
COMMENCEMENT FOR NEW LOW-POWER TELEVISION  
AND TV TRANSLATORS PER MB DOCKET NO. 08-253  
TUSCALOOSA, ALABAMA  
CHANNEL 42 15 KW (H&V) MAX ERP 228.6 METERS RC/AMSL

MAY 2011

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         )

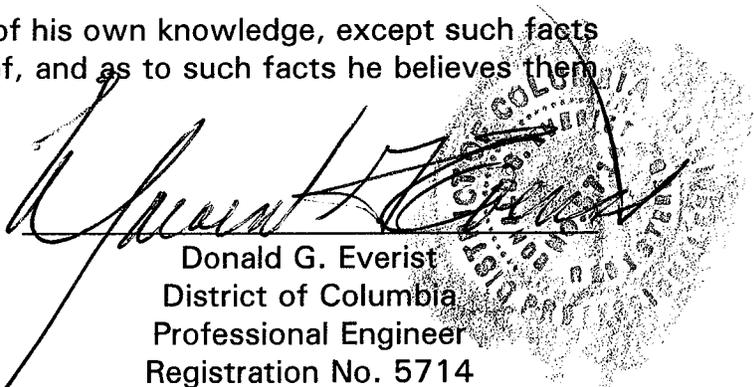
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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 1420 N Street, N.W., Suite One, Washington, D.C. 20005;

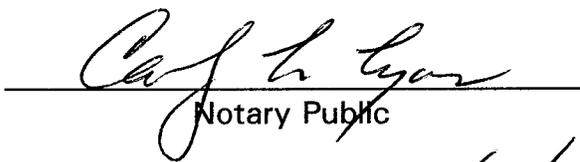
That his qualifications are a matter of record in the Federal Communications Commission;

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 16<sup>th</sup> day of May, 2011.

  
Notary Public

My Commission Expires: 2/28/2013



Introduction

This engineering statement has been prepared on behalf of NVT Birmingham Licensee, LLC, licensee of WIAT-DT, Birmingham, Alabama. This statement supports the licensee's request for modification of construction permit for a new DTV translator operation, FCC File No. BDRTCDT-20100323AHF. The construction permit will serve as a replacement service with a DTV effective radiated power ("ERP") of 15 kW (H&V) maximum directional on Channel 42 at a radiation center above mean sea level ("RCAMSL") of 228.6 meters.

Transmitter Site

No significant alteration of the tower is proposed. The existing tower is located at 1700 Jug Factory Road, Tuscaloosa, Alabama. The geographic coordinates of the site follow below.

North Latitude: 33° 09' 35.6"

West Longitude: 87° 30' 54"

NAD-27

Elevation Data

Elevation of site above mean sea level	118.9 meters (390.1 feet)
Center of radiation of antenna above ground level	109.7 meters (360 feet)
Center of radiation of antenna above mean sea level	228.6 meters (750 feet)
Overall height of the tower above ground with appurtenances	152.4 meters (500 feet)
Overall height of the tower above mean sea level with appurtenances	271.3 meters (890.1 feet)

Antenna Structure Registration for the existing tower is 1065251. A tower sketch has been included as Exhibit E-1.

Equipment Data

Transmitter:	Type-approved
Transmission Line:	Andrew, Type AVA7-50, 1-5/8", low loss foam, 61 meters (400 feet) with 61.5% efficiency [0.528 dB loss/100 ft] or equivalent
Antenna:	ERI, Type ALP8M1-CSN-42 (H&V) 8-bay antenna with maximum gain of 12.32 dB and 0.25° electrical beam tilt or equivalent oriented max at N 0°E. Antenna pattern information is provided in Exhibit E-2
Transmission Mask:	Stringent

Power Data

Transmitter:	1.43 kW	1.553 dBk
Transmission Line Efficiency/Loss:	0.615%	2.112 dB
Input Into Antenna:	0.879 kW	-0.559 dBk
Antenna Gain:	17.06	12.32 dB
ERP (H&V):	15 kW	11.76 dBk

As indicated above, the transmitter with typical power output of 1430 watts will deliver 879 watts to the input of the antenna. The antenna, having a maximum gain of 12.32 dB and an electrical beam tilt of 0.25°, will produce maximum ERP of 15 kW.

#### Interference Analysis

A study of predicted interference caused by the proposed new low-power digital operation has been performed with a stringent mask using the Longley-Rice program for which the source data has been posted by the Commission on its website at [http://www.fcc.gov/oet/dtv/dtv\\_apps.html](http://www.fcc.gov/oet/dtv/dtv_apps.html). The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Microsoft Windows XP platform. Comparison of service/interference areas and population indicates this model closely matches the FCC's digital low-power TV/translator evaluation program. Best efforts have been made to use data and calculation identical to the FCC's program. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 1 sq. km. Using 3-second terrain data sampled approximately every 1.0 km at one-degree azimuth intervals with 2000 census centroids, all studies are based upon data in the current CDBS database update of the FCC's engineering database. A Longley-Rice study was performed with the proposed new low-power digital facilities and all relevant stations listed in the FCC data base as of May 5, 2011. The study results and the included stations are listed in Table I.

### Predicted Coverage

A coverage map of the proposed facility has been included as Exhibit E-3 and depicts the predicted replacement translator service contour in relation to the WIAT(TV) predicted analog Grade B (64 dBu F(50,50)) contour and the licensed DTV predicted 41 dBu F(50,90) contour.

The area proposed to be served by this replacement translator covers the basic area that the station reports that replication of the previous analog coverage has not been achieved.

In the *Report and Order*, entitled, “Amendment of Parts 73 and 74 of the Commission’s Rules to Establish Rules for Replacement Digital Low Power Television Translator Stations”.

Paragraph 18, the Commission stated, “Therefore, as outlined below, we adopt our proposal and allow full-service stations seeking replacement digital television translators to propose a *de minimis* expansion of their analog service areas upon a showing that it is necessary<sup>1</sup> to replace service in their post-transition analog loss areas.” WIAT-DT believes it has located the optimum transmitter site in which to achieve DT service to the loss area in the Tuscaloosa area. The slight area that exceeds the WIAT(TV) predicted Grade B is the null and side of the directional pattern. The main lobe is [pointed] predicted contour that lays due to north and the outside the Grade B service is inadvertent.

### Other Broadcast Facilities

A brief analysis was completed to determine the presence of stations in the vicinity of the existing tower using the May 4, 2011 data contained within the Commission’s Consolidated

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<sup>1</sup>In this context, a showing of “necessary” requires that the post-transition full-service digital television station demonstrate, through an engineering exhibit, that it is not possible to site a replacement digital television translator without “*de minimis*” expansion of the station’s analog service area.

Database System (“CDBS”). Within 100 meters of the proposed site, there are nine authorized FM radio stations or television stations other than the proposed operation. There are no AM facilities within 3.2 km of the existing tower. Although no adverse technical affects are expected due to the proposed changes, the permittee will take measures to resolve any problems proven to be related to the changes proposed in this application.

All FM Antennas On or Near the Proposed WIAT-DT Antenna

<u>Call/File</u>	<u>Channel</u>	<u>C/R AMSL</u> meters	<u>C/R AG</u> meters	<u>ERP</u> kW	<u>Distance</u> km
W245BR FX (Lic)* BMLFT-20100602AKE	245D	266	147	0.080	0.03
W271AM FX (Lic)* BLFT-20080509AAQ	271D	267	148	0.099	0.03
WUAC-LP FL (Lic)* BMML-20071106ABW	277L1	125	6	0.039	0.03
WTUS-LP FL (Lic)* BMML-20071114AAZ	277L1	121	6	0.047	0.03
W286BV FX (CP)* BPFT-20110318AEY	286D	246	127	0.25	0.03
W286BV FX (Lic)* BLFT-20110303AAI	286D	246	127	0.20	0.03
W292DU FX (Lic)* BLFT-20100223AEE	292D	266	147	0.25	0.03

<u>Call/File</u>	<u>Channel</u>	<u>C/R AMSL</u> meters	<u>C/R AG</u> meters	<u>ERP</u> kW	<u>Distance</u> km
<u>All TV Antennas On or Near the Proposed WIAT-DT Antenna</u>					
WDVZ-CA (Lic)* BLTVA-20040107AAH	3	237.9	119	1.6	0.04
WDVZ-CA (CP)* BDFCDVA- 20090824ABE	3	237.9	119	0.3	0.04
WVUA-CA (Lic)* BLTTL-19991220ABJ	7	257	138	0.43	0.03
WVUA-LD LD (CP) BDCCDTL- 20061030AQP	14	256.9	138	6.0	0.02

No AM stations within 3.22 Kilometers.

\*Tower owner confirmation of frequency.

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 15 kW directional operation (H&V) will utilize an ERI, Type ALP8MI-CSN-42 antenna (or equivalent) described above with a center of radiation above ground of

109.7 meters. The proposed antenna is side-mounted on a steel lattice tower with an overall height of 152.4 meters above ground.

The proposed operation based upon the current OET Bulletin No. 65, Edition 97-01 dated August 1997 and Supplement A meets the provisions of the FCC radiofrequency field ("RFF") guidelines, and thus, complies with Section 1.1307 of the FCC Rules. The elevation pattern for the ERI, Type ALP8M1-CSN-42 antenna is provided in Exhibit E-2, shows a maximum relative field of less than 0.28 toward the ground (30° to 90° below the horizontal). Calculation according to OET Bulletin 65 predicts a maximum RFF power density of less than 7 μW/cm<sup>2</sup>, 2 meters above ground or less than 2% of 427 μW/cm<sup>2</sup> uncontrolled Maximum Permissible Exposure ("MPE") guideline.

The following is estimated using an assumed field ratio of 0.5 for the downward radiation value.

<u>FM Contribution in Percent</u>		<u>TV Contribution in Percent</u>	
<u>At Level</u> meters	<u>Percent</u>	<u>At Level</u> meters	<u>Percent</u>
6	20	119	1
147	1	138	1
127	2		

The total estimated RFF value is less than 30 percent.

The entrance to the site is blocked by locked access.

The station will cooperate with 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 or near the tower.

Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

#### Environmental Assessment

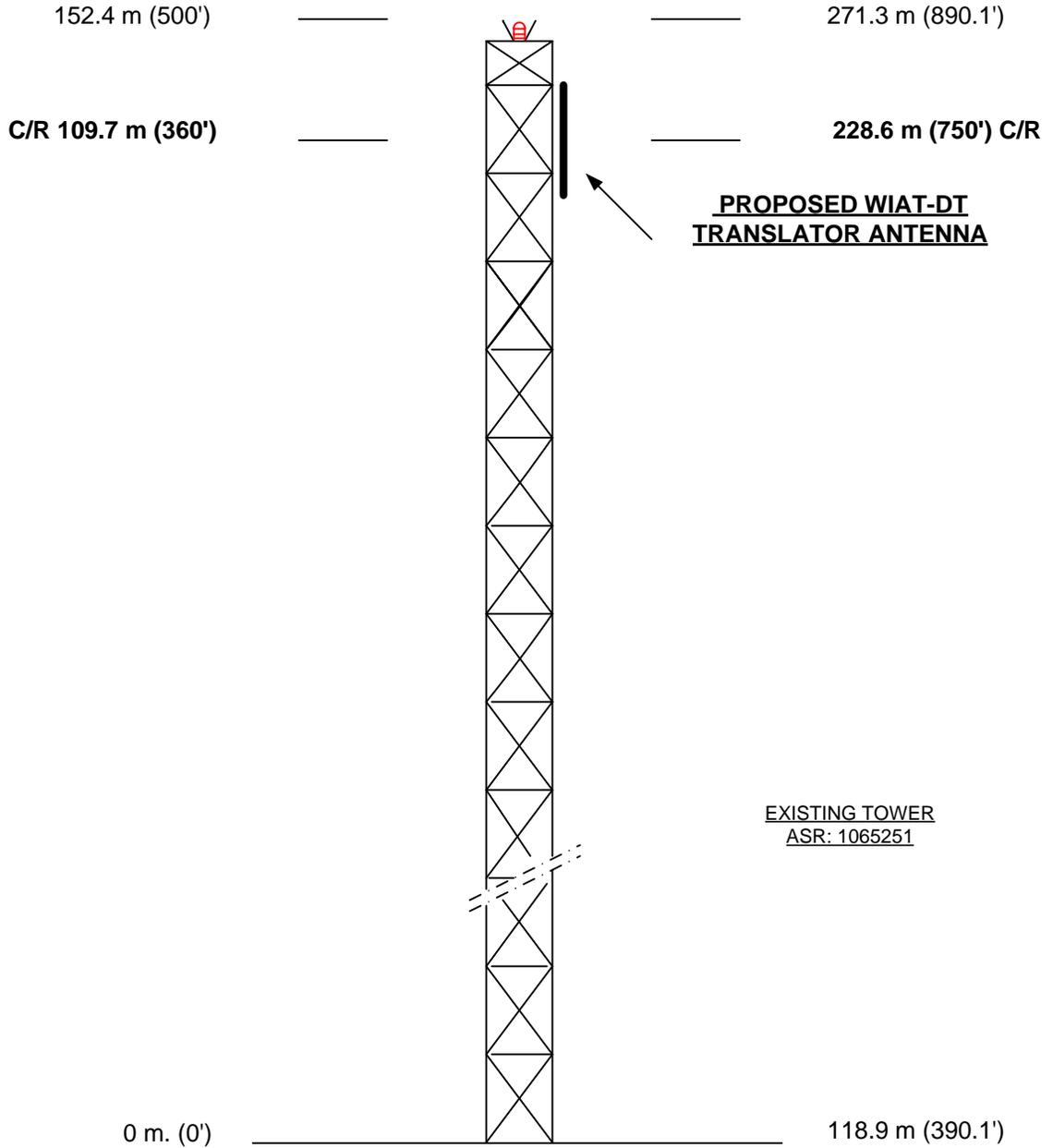
An environmental assessment (“EA”) is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the permittee indicates:

- (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



NOT TO SCALE

EXHIBIT E - 1  
VERTICAL SKETCH  
FOR  
FOR THE PROPOSED TRANSLATOR OPERATION OF  
**WIAT-DT, TUSCALOSA, ALABAMA**  
MAY 2011

COHEN, DIPPELL and EVERIST, P.C. Consulting Engineers

COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

TUSCALOOSA, ALABAMA

**PRELIMINARY SPECIFICATION FOR  
ERI ALP UCS Series<sup>®</sup> CIRCULARLY POLARIZED  
MEDIUM POWER COAXIAL SLOTTED ARRAY ANTENNA**

*Prepared for  
WIAT-DT Channel 42 Tuscaloosa, AL  
April 26, 2011*

**ANTENNA TYPE:  
ALP8M1-CSN-42**

**SPECIFICATION NO :  
-**



**PRELIMINARY SPECIFICATION FOR  
ERI ALP UCS Series<sup>®</sup> CIRCULARLY POLARIZED  
MEDIUM POWER COAXIAL SLOTTED ARRAY ANTENNA**

**ELECTRICAL CHARACTERISTICS:**

CHANNEL :		42
FREQUENCY RANGE :		638 - 644 MHz
AZIMUTH PATTERN NUMBER :	Hpol:	ALP-N
	Vpol:	ALP-N
ELEVATION PATTERN NUMBER :	Hpol:	ALP8M1
	Vpol:	ALP8M1
AZIMUTH DIRECTIVITY :	Hpol:	3.77 (5.76 dBd)
	Vpol:	3.77 (5.76 dBd)
ELEVATION DIRECTIVITY :	Hpol:	9.05 (9.57 dBd)
	Vpol:	9.05 (9.57 dBd)
PEAK POWER GAIN :	Hpol:	17.06 (12.32 dBd)
	Vpol:	17.06 (12.32 dBd)
GAIN AT HORIZONTAL :	Hpol:	16.96 (12.29 dBd)
	Vpol:	16.96 (12.29 dBd)
V/H RATIO:		1.00
ELECTRICAL BEAM TILT :		0.25 Degrees
INPUT POWER REQUIRED :		0.88 kW (-0.56 dBk)
INPUT TYPE :		3 1/8-50 Ohm
INPUT POWER MAXIMUM		3kW Average, 8 VSB Digital
ANTENNA VSWR (MAXIMUM) :		1.10 Over 6MHz Channel

**PRELIMINARY SPECIFICATION FOR  
ERI ALP UCS Series<sup>®</sup> CIRCULARLY POLARIZED  
MEDIUM POWER COAXIAL SLOTTED ARRAY ANTENNA**

**MECHANICAL CHARACTERISTICS:**

<b>MOUNTING CONFIGURATION:</b>		Side Mount*
*(Tower Interface supplied and installed by others)		
HEIGHT OF ANTENNA :		17.80 feet
HEIGHT OF CENTER OF RADIATION (B) :		8.90 feet
DEICING :		Unpressurized Radome Slot Covers
RADOME DIAMETER (C):		0.00 inches, OD
RADOME COLOR :		WHITE
CLIMBING DEVICE :		Not Applicable
CALCULATED WEIGHT :		205.00 lbs
	with 0.5" ice:	340.00 lbs
WINDLOAD DATA :	CaAc :	18.6 sq.ft.
	with 0.5" ice:	23.4 sq.ft.

**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. This figure includes the antenna and basic standoffs..

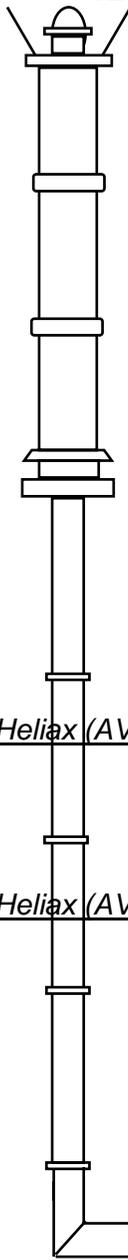
2 All loads Calculated in accordance with the ANSI/TIA-222 standards. Listed areas includes **PRELIMINARY** design of all aperture components including antenna modules and basic leg mount brackets. Mounting pole is not included.

**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

**WIAT-DT**  
**Tuscaloosa, AL**  
**ALP8M1-CSN-42**

**Channel 42**



**ANTENNA PARAMETERS :**

**Azimuth Directivity :**

Hor. Pol : 3.77 (5.76 dBd)  
Ver. Pol : 3.77 (5.76 dBd)

**Elevation Directivity :**

Hor. Pol : 9.05 (9.57 dBd)  
Ver. Pol : 9.05 (9.57 dBd)

**TRANSMISSION LINE :**

**VERTICAL RUN :**

Type: 1 5/8" Virtual Air Heliax (AVA7-50)  
Length, ft. : 300  
Attenuation , dB/100 ft: 0.528

**HORIZONTAL RUN :**

Type: 1 5/8" Virtual Air Heliax (AVA7-50)  
Length, ft. : 100  
Attenuation , dB/100 ft: 0.528

**OTHER LINE LOSSES:**

Type: N/A  
Length, ft. : 0  
Attenuation , dB/100 ft: 0

Line Efficiency : 61.49%

**ERP :**

Hor. Pol : 15.00 kW (11.76 dBk)  
Ver. Pol : 15.00 kW (11.76 dBk)

**POWER GAIN :**

Hor. Pol : 17.06 (12.32 dBd)  
Ver. Pol : 17.06 (12.32 dBd)

**ANTENNA INPUT :**

kW : 0.88  
dBk : -0.56

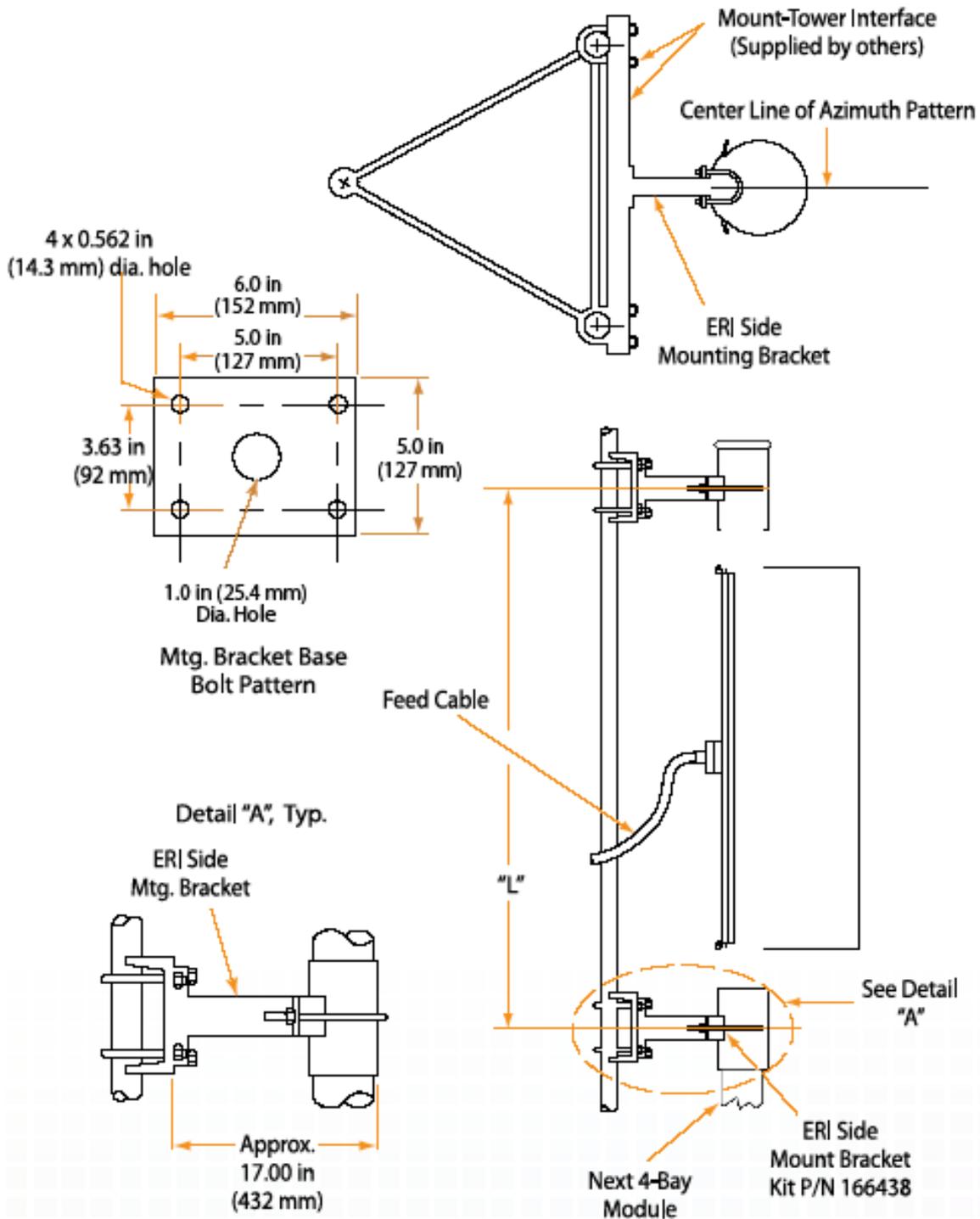
**LINE LOSS :**

kW : 0.55  
dB : 2.11

**TRANSMITTER  
POWER :**

kW : 1.43  
dBk : 1.55

TYPICAL MOUNTING CONFIGURATION SHOWN. ACTUAL CONFIGURATION MAY VARY.

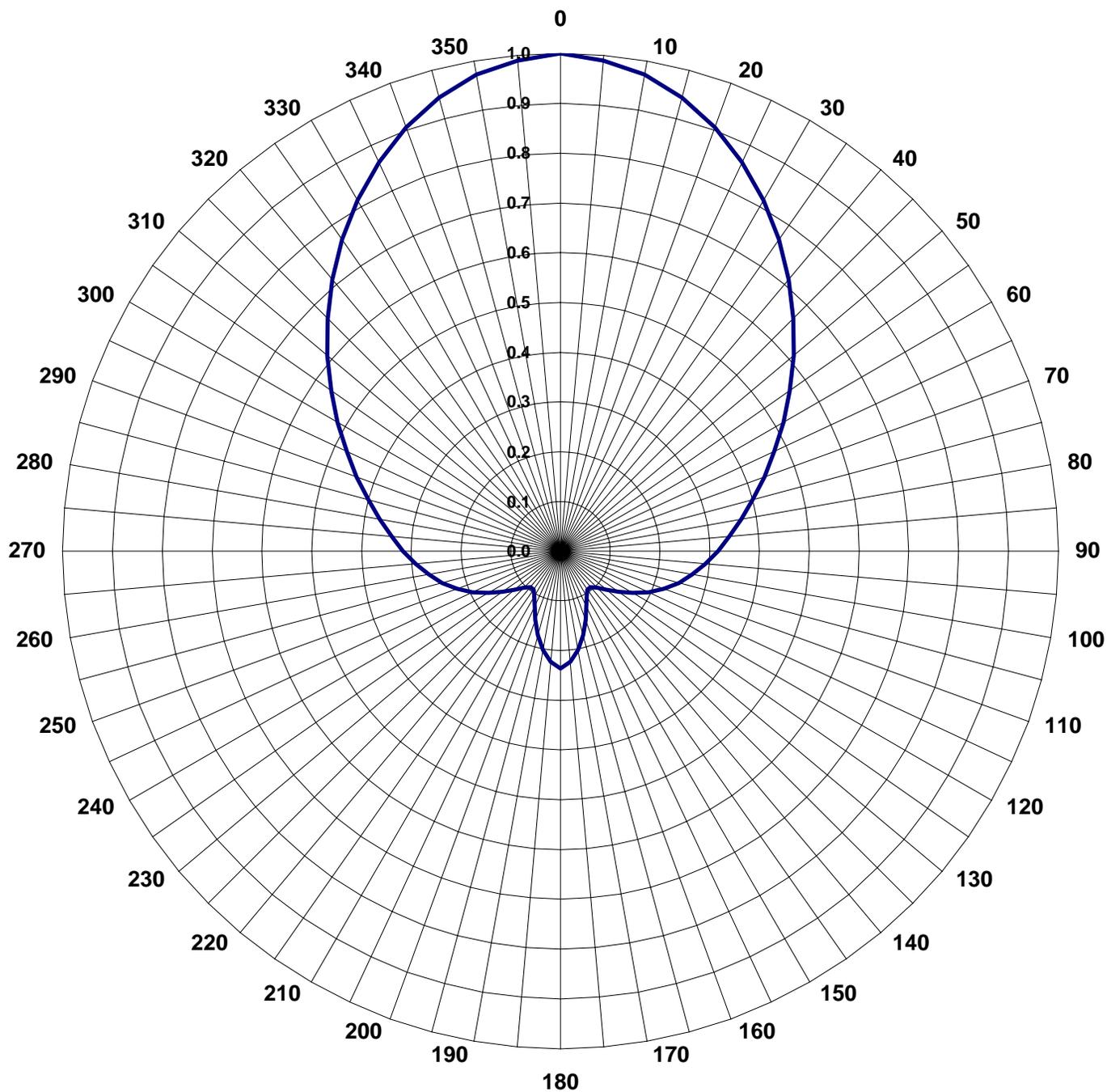


### AZIMUTH PATTERN

<b>TYPE:</b>	<b>ALP-N</b>	
	<b>Numeric</b>	<b>dB</b>
<b>Directivity:</b>	<b>3.77</b>	<b>5.76</b>
<b>Peak(s) at:</b>		

<b>Frequency:</b>	<b>42 (DTV)</b>
<b>Location:</b>	<b>Tuscaloosa, AL</b>
<b>Polarization:</b>	<b>Horizontal/Vertical</b>

Note: Simulated pattern. Shape and directivity may vary with actual configuration.



## TABULATED DATA FOR AZIMUTH PATTERN

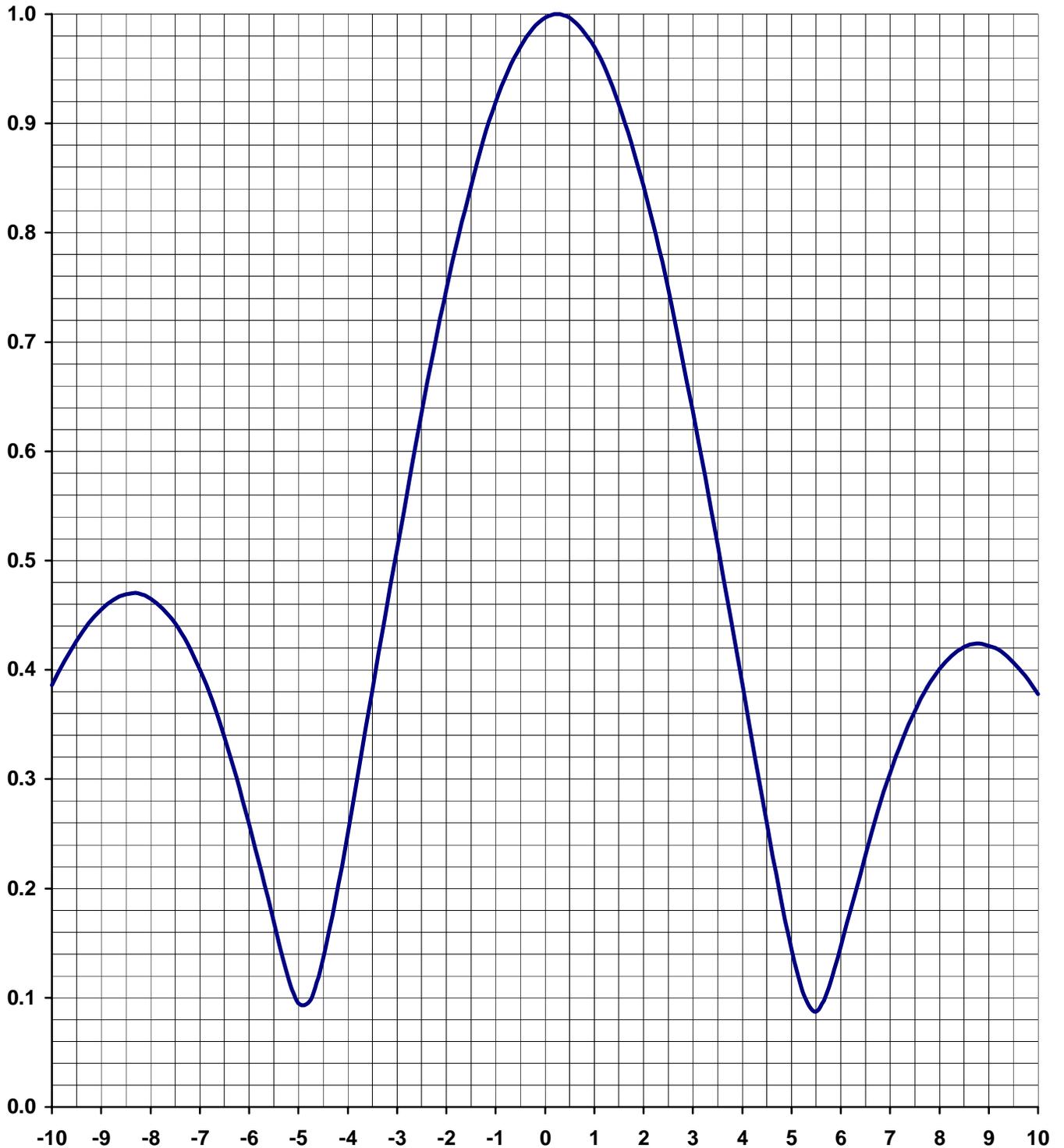
TYPE: ALP-N

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	1.000	0.00	92	0.306	-10.29	184	0.226	-12.92	276	0.346	-9.22
2	0.997	-0.03	94	0.297	-10.54	186	0.220	-13.15	278	0.357	-8.95
4	0.993	-0.06	96	0.287	-10.84	188	0.212	-13.47	280	0.368	-8.68
6	0.988	-0.10	98	0.279	-11.09	190	0.202	-13.89	282	0.380	-8.40
8	0.981	-0.17	100	0.269	-11.40	192	0.192	-14.33	284	0.393	-8.11
10	0.972	-0.25	102	0.260	-11.70	194	0.181	-14.85	286	0.406	-7.83
12	0.962	-0.34	104	0.250	-12.04	196	0.169	-15.44	288	0.421	-7.51
14	0.950	-0.45	106	0.241	-12.36	198	0.159	-15.97	290	0.435	-7.23
16	0.936	-0.57	108	0.231	-12.73	200	0.147	-16.65	292	0.450	-6.94
18	0.922	-0.71	110	0.221	-13.11	202	0.137	-17.27	294	0.466	-6.63
20	0.906	-0.86	112	0.211	-13.51	204	0.127	-17.92	296	0.483	-6.32
22	0.889	-1.02	114	0.200	-13.98	206	0.118	-18.56	298	0.499	-6.04
24	0.872	-1.19	116	0.189	-14.47	208	0.110	-19.17	300	0.517	-5.73
26	0.853	-1.38	118	0.179	-14.94	210	0.104	-19.66	302	0.535	-5.43
28	0.834	-1.58	120	0.168	-15.49	212	0.099	-20.09	304	0.553	-5.15
30	0.815	-1.78	122	0.158	-16.03	214	0.095	-20.45	306	0.571	-4.87
32	0.795	-1.99	124	0.148	-16.59	216	0.093	-20.63	308	0.591	-4.57
34	0.775	-2.21	126	0.138	-17.20	218	0.093	-20.63	310	0.611	-4.28
36	0.754	-2.45	128	0.129	-17.79	220	0.094	-20.54	312	0.631	-4.00
38	0.734	-2.69	130	0.120	-18.42	222	0.096	-20.35	314	0.651	-3.73
40	0.713	-2.94	132	0.113	-18.94	224	0.101	-19.91	316	0.671	-3.47
42	0.692	-3.20	134	0.106	-19.49	226	0.106	-19.49	318	0.692	-3.20
44	0.671	-3.47	136	0.101	-19.91	228	0.113	-18.94	320	0.713	-2.94
46	0.651	-3.73	138	0.096	-20.35	230	0.120	-18.42	322	0.734	-2.69
48	0.631	-4.00	140	0.094	-20.54	232	0.129	-17.79	324	0.754	-2.45
50	0.611	-4.28	142	0.093	-20.63	234	0.138	-17.20	326	0.775	-2.21
52	0.591	-4.57	144	0.093	-20.63	236	0.148	-16.59	328	0.795	-1.99
54	0.571	-4.87	146	0.095	-20.45	238	0.158	-16.03	330	0.815	-1.78
56	0.553	-5.15	148	0.099	-20.09	240	0.168	-15.49	332	0.834	-1.58
58	0.535	-5.43	150	0.104	-19.66	242	0.179	-14.94	334	0.853	-1.38
60	0.517	-5.73	152	0.110	-19.17	244	0.189	-14.47	336	0.872	-1.19
62	0.499	-6.04	154	0.118	-18.56	246	0.200	-13.98	338	0.889	-1.02
64	0.483	-6.32	156	0.127	-17.92	248	0.211	-13.51	340	0.906	-0.86
66	0.466	-6.63	158	0.137	-17.27	250	0.221	-13.11	342	0.922	-0.71
68	0.450	-6.94	160	0.147	-16.65	252	0.231	-12.73	344	0.936	-0.57
70	0.435	-7.23	162	0.159	-15.97	254	0.241	-12.36	346	0.950	-0.45
72	0.421	-7.51	164	0.169	-15.44	256	0.250	-12.04	348	0.962	-0.34
74	0.406	-7.83	166	0.181	-14.85	258	0.260	-11.70	350	0.972	-0.25
76	0.393	-8.11	168	0.192	-14.33	260	0.269	-11.40	352	0.981	-0.17
78	0.380	-8.40	170	0.202	-13.89	262	0.279	-11.09	354	0.988	-0.10
80	0.368	-8.68	172	0.212	-13.47	264	0.287	-10.84	356	0.993	-0.06
82	0.357	-8.95	174	0.220	-13.15	266	0.297	-10.54	358	0.997	-0.03
84	0.346	-9.22	176	0.226	-12.92	268	0.306	-10.29	360	1.000	0.00
86	0.335	-9.50	178	0.232	-12.69	270	0.316	-10.01			
88	0.325	-9.76	180	0.236	-12.54	272	0.325	-9.76			
90	0.316	-10.01	182	0.232	-12.69	274	0.335	-9.50			

### ELEVATION PATTERN

<b>TYPE:</b>	<b>ALP8M1</b>	
<b>Directivity:</b>	<b>Numeric</b>	<b>dBd</b>
<b>Main Lobe:</b>	<b>9.05</b>	<b>9.57</b>
<b>Horizontal:</b>	<b>9.00</b>	<b>9.54</b>

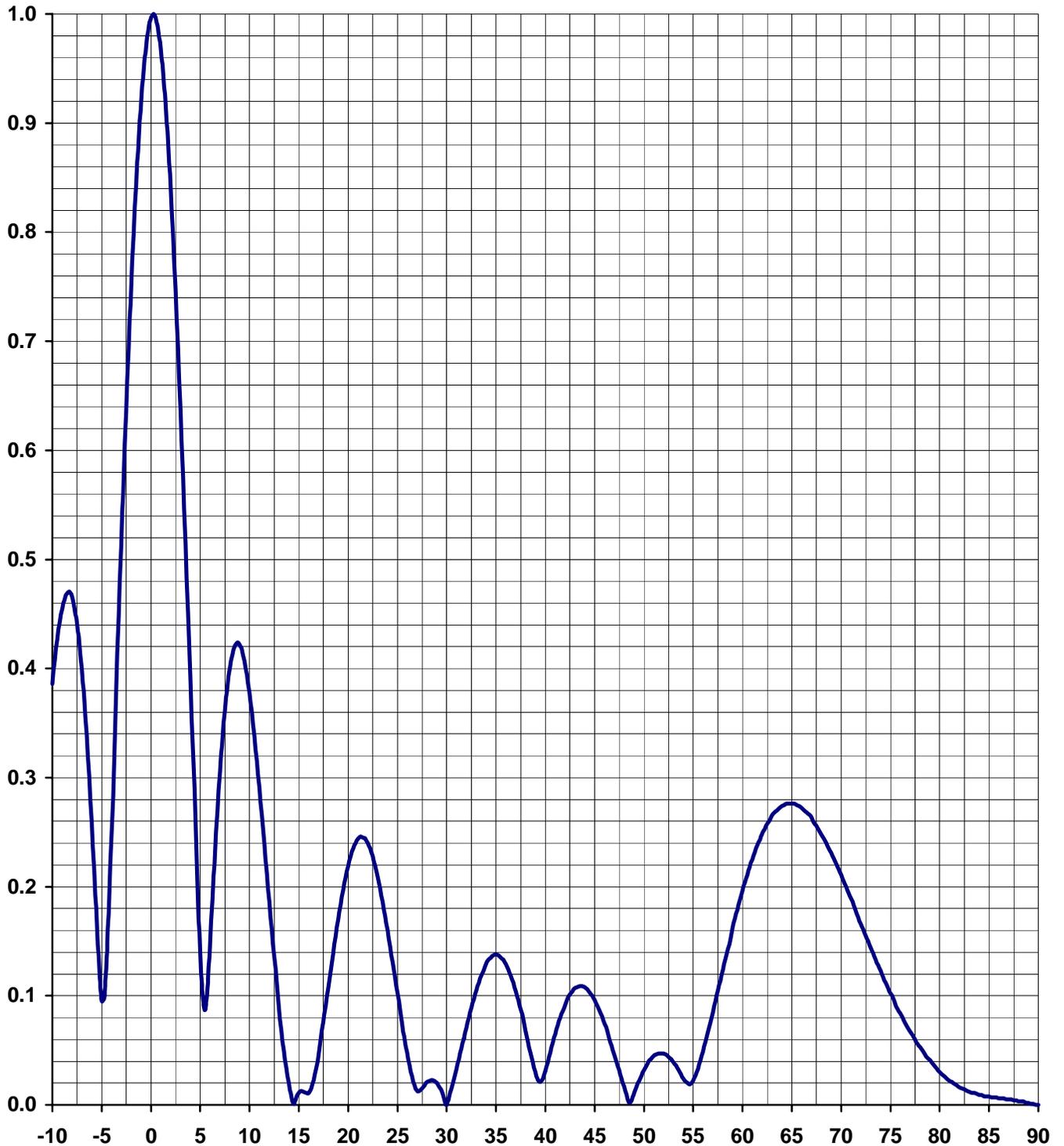
<b>Frequency:</b>	<b>42 (DTV)</b>
<b>Location:</b>	<b>Tuscaloosa, AL</b>
<b>Beam Tilt:</b>	<b>0.25</b>
<b>Polarization:</b>	<b>Horizontal/Vertical</b>



### ELEVATION PATTERN

<b>TYPE:</b>	<b>ALP8M1</b>	
<b>Directivity:</b>	<b>Numeric</b>	<b>dBd</b>
<b>Main Lobe:</b>	<b>9.05</b>	<b>9.57</b>
<b>Horizontal:</b>	<b>9.00</b>	<b>9.54</b>

<b>Frequency:</b>	<b>42 (DTV)</b>
<b>Location:</b>	<b>Tuscaloosa, AL</b>
<b>Beam Tilt:</b>	<b>0.25</b>
<b>Polarization:</b>	<b>Horizontal</b>



## TABULATED DATA FOR ELEVATION PATTERN

TYPE ALP8M1			-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
-10.00	0.386	-8.27	2.00	0.843	-1.48	18.00	0.107	-19.41	42.00	0.092	-20.72	66.00	0.272	-11.31
-9.75	0.408	-7.79	2.25	0.798	-1.96	18.50	0.139	-17.14	42.50	0.101	-19.91	66.50	0.268	-11.44
-9.50	0.427	-7.39	2.50	0.748	-2.52	19.00	0.170	-15.39	43.00	0.107	-19.41	67.00	0.263	-11.60
-9.25	0.443	-7.07	2.75	0.694	-3.17	19.50	0.197	-14.11	43.50	0.109	-19.25	67.50	0.256	-11.84
-9.00	0.455	-6.84	3.00	0.637	-3.92	20.00	0.219	-13.19	44.00	0.108	-19.33	68.00	0.248	-12.11
-8.75	0.464	-6.67	3.25	0.577	-4.78	20.50	0.235	-12.58	44.50	0.103	-19.74	68.50	0.240	-12.40
-8.50	0.469	-6.58	3.50	0.515	-5.76	21.00	0.244	-12.25	45.00	0.096	-20.35	69.00	0.231	-12.73
-8.25	0.470	-6.56	3.75	0.451	-6.92	21.50	0.245	-12.22	45.50	0.086	-21.31	69.50	0.221	-13.11
-8.00	0.465	-6.65	4.00	0.387	-8.25	22.00	0.240	-12.40	46.00	0.074	-22.62	70.00	0.211	-13.51
-7.75	0.456	-6.82	4.25	0.323	-9.82	22.50	0.228	-12.84	46.50	0.061	-24.29	70.50	0.200	-13.98
-7.50	0.443	-7.07	4.50	0.260	-11.70	23.00	0.209	-13.60	47.00	0.046	-26.74	71.00	0.189	-14.47
-7.25	0.424	-7.45	4.75	0.199	-14.02	23.50	0.186	-14.61	47.50	0.032	-29.90	71.50	0.178	-14.99
-7.00	0.400	-7.96	5.00	0.144	-16.83	24.00	0.160	-15.92	48.00	0.017	-35.39	72.00	0.166	-15.60
-6.75	0.372	-8.59	5.25	0.102	-19.83	24.50	0.131	-17.65	48.50	0.002	-53.98	72.50	0.155	-16.19
-6.50	0.339	-9.40	5.50	0.087	-21.21	25.00	0.102	-19.83	49.00	0.011	-39.17	73.00	0.144	-16.83
-6.25	0.301	-10.43	5.75	0.108	-19.33	25.50	0.074	-22.62	49.50	0.022	-33.15	73.50	0.133	-17.52
-6.00	0.259	-11.73	6.00	0.147	-16.65	26.00	0.048	-26.38	50.00	0.032	-29.90	74.00	0.123	-18.20
-5.75	0.215	-13.35	6.25	0.189	-14.47	26.50	0.026	-31.70	50.50	0.040	-27.96	74.50	0.112	-19.02
-5.50	0.169	-15.44	6.50	0.231	-12.73	27.00	0.013	-37.72	51.00	0.045	-26.94	75.00	0.102	-19.83
-5.25	0.126	-17.99	6.75	0.270	-11.37	27.50	0.015	-36.48	51.50	0.047	-26.56	75.50	0.093	-20.63
-5.00	0.095	-20.45	7.00	0.305	-10.31	28.00	0.021	-33.56	52.00	0.047	-26.56	76.00	0.084	-21.51
-4.75	0.098	-20.18	7.25	0.336	-9.47	28.50	0.023	-32.77	52.50	0.044	-27.13	76.50	0.075	-22.50
-4.50	0.136	-17.33	7.50	0.362	-8.83	29.00	0.020	-33.98	53.00	0.039	-28.18	77.00	0.067	-23.48
-4.25	0.190	-14.42	7.75	0.384	-8.31	29.50	0.012	-38.42	53.50	0.032	-29.90	77.50	0.060	-24.44
-4.00	0.251	-12.01	8.00	0.401	-7.94	30.00	0.000	---	54.00	0.024	-32.40	78.00	0.053	-25.51
-3.75	0.315	-10.03	8.25	0.413	-7.68	30.50	0.015	-36.48	54.50	0.019	-34.42	78.50	0.046	-26.74
-3.50	0.381	-8.38	8.50	0.421	-7.51	31.00	0.033	-29.63	55.00	0.022	-33.15	79.00	0.041	-27.74
-3.25	0.447	-6.99	8.75	0.424	-7.45	31.50	0.052	-25.68	55.50	0.033	-29.63	79.50	0.035	-29.12
-3.00	0.511	-5.83	9.00	0.422	-7.49	32.00	0.071	-22.97	56.00	0.049	-26.20	80.00	0.030	-30.46
-2.75	0.575	-4.81	9.25	0.417	-7.60	32.50	0.089	-21.01	56.50	0.067	-23.48	80.50	0.026	-31.70
-2.50	0.635	-3.94	9.50	0.407	-7.81	33.00	0.105	-19.58	57.00	0.085	-21.41	81.00	0.022	-33.15
-2.25	0.693	-3.19	9.75	0.394	-8.09	33.50	0.119	-18.49	57.50	0.105	-19.58	81.50	0.019	-34.42
-2.00	0.748	-2.52	10.00	0.378	-8.45	34.00	0.129	-17.79	58.00	0.124	-18.13	82.00	0.016	-35.92
-1.75	0.798	-1.96	10.50	0.338	-9.42	34.50	0.135	-17.39	58.50	0.143	-16.89	82.50	0.014	-37.08
-1.50	0.843	-1.48	11.00	0.291	-10.72	35.00	0.138	-17.20	59.00	0.162	-15.81	83.00	0.012	-38.42
-1.25	0.884	-1.07	11.50	0.239	-12.43	35.50	0.135	-17.39	59.50	0.179	-14.94	83.50	0.011	-39.17
-1.00	0.919	-0.73	12.00	0.186	-14.61	36.00	0.129	-17.79	60.00	0.196	-14.15	84.00	0.009	-40.92
-0.75	0.948	-0.46	12.50	0.135	-17.39	36.50	0.118	-18.56	60.50	0.211	-13.51	84.50	0.008	-41.94
-0.50	0.970	-0.26	13.00	0.089	-21.01	37.00	0.104	-19.66	61.00	0.225	-12.96	85.00	0.008	-41.94
-0.25	0.987	-0.11	13.50	0.050	-26.02	37.50	0.087	-21.21	61.50	0.238	-12.47	85.50	0.007	-43.10
0.00	0.997	-0.03	14.00	0.020	-33.98	38.00	0.068	-23.35	62.00	0.249	-12.08	86.00	0.006	-44.44
0.25	1.000	0.00	14.50	0.001	-60.00	38.50	0.048	-26.38	62.50	0.258	-11.77	86.50	0.006	-44.44
0.50	0.997	-0.03	15.00	0.011	-39.17	39.00	0.030	-30.46	63.00	0.265	-11.54	87.00	0.005	-46.02
0.75	0.986	-0.12	15.50	0.012	-38.42	39.50	0.021	-33.56	63.50	0.270	-11.37	87.50	0.004	-47.96
1.00	0.970	-0.26	16.00	0.011	-39.17	40.00	0.031	-30.17	64.00	0.274	-11.24	88.00	0.003	-50.46
1.25	0.947	-0.47	16.50	0.023	-32.77	40.50	0.048	-26.38	64.50	0.276	-11.18	88.50	0.003	-50.46
1.50	0.918	-0.74	17.00	0.047	-26.56	41.00	0.065	-23.74	65.00	0.276	-11.18	89.00	0.002	-53.98
1.75	0.883	-1.08	17.50	0.076	-22.38	41.50	0.080	-21.94	65.50	0.275	-11.21	89.50	0.001	-60.00
												90.00	0.000	---

COHEN, DIPPELL AND EVERIST, P.C.

TABLE I  
LONGLEY-RICE INTERFERENCE  
FOR THE OPERATION FOR  
WIAT, TUSCALOOSA, ALABAMA  
CHANNEL 42 15 KW ERP 228.6 METERS RCAMSL  
MAY 2011

ERI Pattern Oriented at N 0° E

N 33° 09' 35"

W 87° 30' 54"

(Stringent Mask)

<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>
27	WCQT-LP	CULLMAN AL	128.4	LIC	BLTTL-20050125AHL	0.00%
28	WBUN-CA	BIRMINGHAM AL	72.1	LIC	BLTTL-19990105JD	0.00%
38	WBMG-LP	MOODY AL	106.4	LIC	BLTTL-19970804JG	0.00%
39	WETU-LP	WETUMPKA AL	141.6	LIC	BLTTL-19970206JC	0.00%
39	W39CD	FULTON MS	121.3	CP	BPTTA-20100601AGO	0.00%
39	W39CD	FULTON MS	121.3	LIC	BLTTA-20090811ABQ	0.00%
39	W39CD	FULTON MS	121.3	STA	BSTA-20050228ADW	0.00%
41	WZDX	HUNTSVILLE AL	197.2	CP	BPCDT-20080619AJV	No interference
42	WMOE-LD	MOBILE AL	281.7	CP	BDCCDTL-20061030AOM	No interference
42	WAKA	SELMA AL	131.7	LIC	BLCDDT-20090612AGR	0.45%
42	NEW	CHATTAHOOCHEE FL	374.9	APP	BNPDTL-20090825ACV	No interference
42	NEW	PANAMA CITY FL	371	APP	BNPDTL-20090825BWZ	No interference
42	W42DV-D	PONCE DE LEON FL	299.4	CP	BNPDTL-20090825AVC	No interference
42	NEW	WEWAHITCHKA FL	404.1	APP	BNPDTL-20090825BQY	No interference
42	NEW	ALBANY GA	356.1	APP	BNPDTL-20090914ACL	No interference
42	WTHC-LD	ATLANTA GA	297.5	LIC	BLDTL-20060511ABF	No interference
42	W42DU-D	LA GRANGE GA	215.5	CP MO	BMPDTL-20110124ACO	No interference
42	W42DW-D	WARNER ROBINS GA	371.5	CP MO	BMPDTL-20100719ADT	0.00%
42	W42CY	GREENVILLE MS	320.6	LIC	BLTT-20051021AGT	0.00%
42	W42CW	HATTIESBURG MS	271.7	CP	BPTTL-20090824AMJ	No interference
42	W42CW	HATTIESBURG MS	271.7	LIC	BLTTL-20070621ARK	No interference
42	W42DD	MERIDAN MS	144.2	CP	BPTTL-20090511BAT	No interference
42	W42DD	MERIDAN MS	144.2	LIC	BLTTL-20090311ABL	No interference

COHEN, DIPPELL AND EVERIST, P.C.

TABLE I  
LONGLEY-RICE INTERFERENCE  
FOR THE OPERATION FOR  
WIAT, TUSCALOOSA, ALABAMA  
CHANNEL 42 15 KW ERP 228.6 METERS RCAMSL  
MAY 2011

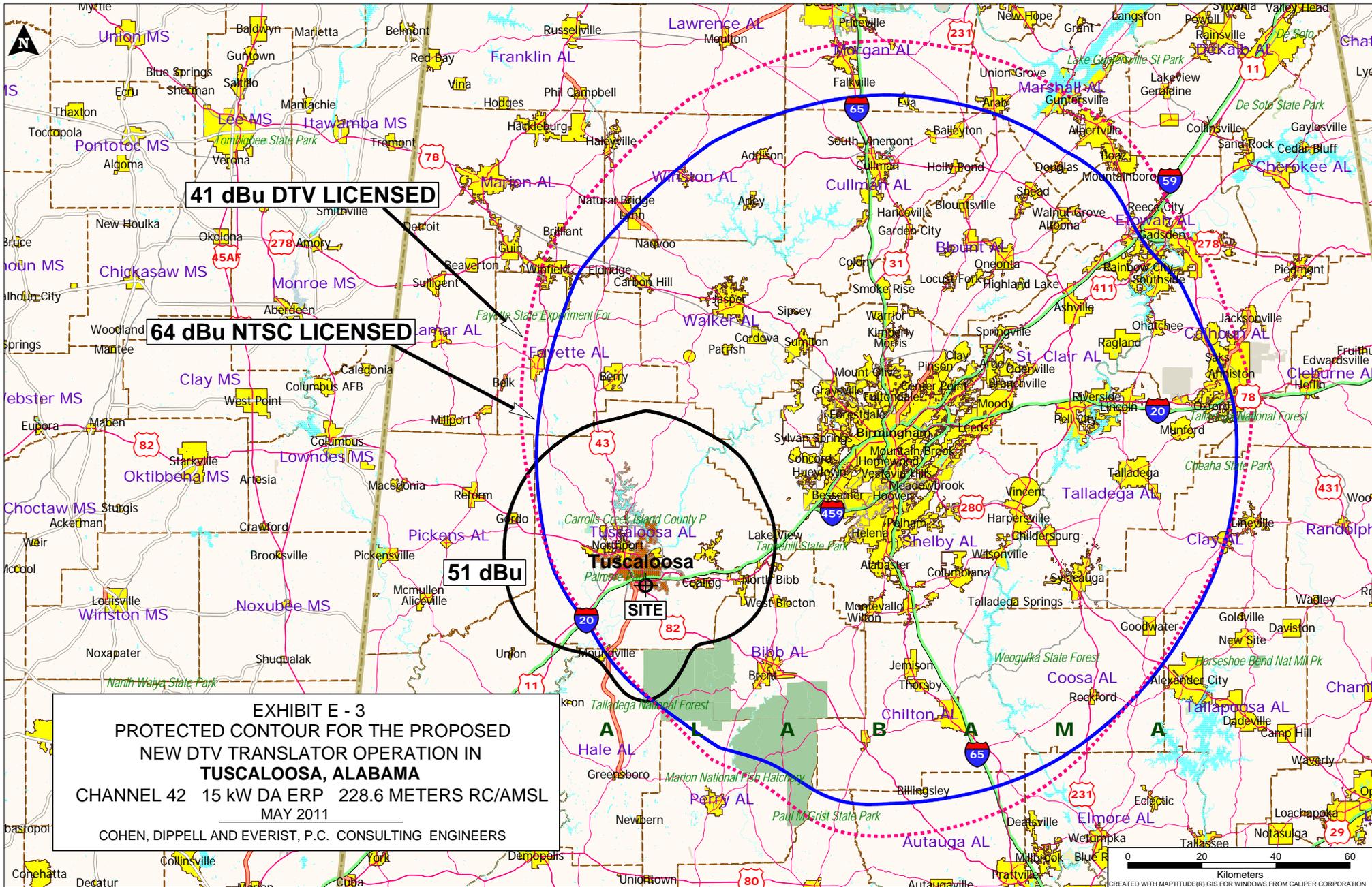
ERI Pattern Oriented at N 0° E

N 33° 09' 35"

W 87° 30' 54"

(Stringent Mask)

<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>
42	W42EA-D	MERIDIAN MS	144.2	CP	BNPDTL-20090918ACE	No interference
42	WFLI-TV	CLEVELAND TN	306.9	LIC	BLCDDT-20050808AGH	0.00%
42	WJTD-LP	JACKSON TN	301.8	LIC	BLTTL-20070320ANN	No interference
42	W42BY	MEMPHIS TN	321	LIC	BLTTL-19980629JE	No interference
42	WLLC-LP	NASHVILLE TN	340.8	LIC	BLTTL-20040226AAL	0.00%
43	NEW	AUBURN AL	199	APP	BNPDTL-20100728AES	0.00%
43	NEW	MONTGOMERY AL	132.4	APP	BNPDTL-20100607AIG	No interference
43	WMJN-LP	SOMERVILLE AL	163.6	APP	BSTA-20060201ACN	0.00%
43	WMAA	COLUMBUS MS	133.2	CP MO	BMPEDT-20020611ABI	No interference
46	W46DK	BIRMINGHAM AL	75	LIC	BLTT-20030311AIA	0.00%
46	W46BU	TUSCALOOSA AL	12.2	LIC	BLTT-19930202ID	No interference
49	W49AY	BIRMINGHAM AL	74.7	LIC	BLTTL-19920218JN	0.00%



**41 dBu DTV LICENSED**

**64 dBu NTSC LICENSED**

**51 dBu**

**SITE**

**EXHIBIT E - 3**  
**PROTECTED CONTOUR FOR THE PROPOSED**  
**NEW DTV TRANSLATOR OPERATION IN**  
**TUSCALOOSA, ALABAMA**  
**CHANNEL 42 15 KW DA ERP 228.6 METERS RC/AMSL**  
**MAY 2011**  
**COHEN, DIPPELL AND EVERIST, P.C. CONSULTING ENGINEERS**

0 20 40 60  
 Kilometers  
 CREATED WITH MAPITUDE(R) GIS FOR WINDOWS FROM CALIPER CORPORATION

**Section III - Engineering (Digital)**

**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: \_\_\_\_\_
- 2. Translator Input Channel No. \_\_\_\_\_
- 3. Station proposed to be rebroadcast:

Call Sign	City	State	Channel
-----------	------	-------	---------

- 4. Antenna Location Coordinates: (NAD 27)  
\_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  N  S Latitude  
\_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ "  E  W Longitude

- 5. Antenna Structure Registration Number: \_\_\_\_\_  
 Not applicable  See Explanation in Exhibit No.  FAA Notification Filed with FAA

- 6. Antenna Location Site Elevation Above Mean Sea Level: \_\_\_\_\_ meters
- 7. Overall Tower Height Above Ground Level: \_\_\_\_\_ meters
- 8. Height of Radiation Center Above Ground Level: \_\_\_\_\_ meters
- 9. Maximum Effective Radiated Power (ERP): \_\_\_\_\_ kW
- 10. Transmitter Output Power: \_\_\_\_\_ kW

- 11. a. Transmitting Antenna:  Nondirectional  Directional  Directional composite

Manufacturer	Model
--------------	-------

- b. Electrical Beam Tilt: \_\_\_\_\_ degrees  Not applicable

c. Directional Antenna Relative Field Values:

Rotation: \_\_\_\_\_ °  No rotation  N/A (Nondirectional)

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											

**NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.**

12. **Out-of-Channel Emission Mask:** Simple  Stringent

**CERTIFICATION**

13. **Interference.** The proposed facility complies with all of the following applicable rule sections. 47 C.F.R. Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030.  Yes  No See Explanation in Exhibit No.

14. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (*i.e.*, the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance. An **Exhibit is required.**  Yes  No See Explanation in Exhibit No.

Exhibit No.

By checking "Yes" above, 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.

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

**PREPARER'S CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.**

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance for WIAT-DT following requirements, as applicable:

- Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees,
  
- Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreement(s) with 700 MHz public safety regional planning committee(s) and state frequency administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.
  
- Pursuant to Section 74.786(e), an applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

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 May 16, 2011	
Mailing Address Cohen, Dippell and Everist, P.C., 1420 N Street, NW, Suite One			
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).