

ENGINEERING STATEMENT  
APPLICATION FOR LICENSE  
DIGITAL LOW-POWER COMPANION CHANNEL  
CONSTRUCTION PERMIT (BMPDTL-20080530AGF)  
**WILM-LD, WILMINGTON, NORTH CAROLINA**  
CHANNEL 40 15 KW MAX ERP 267.3 METERS RC/AMSL

AUGUST 2008

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                )

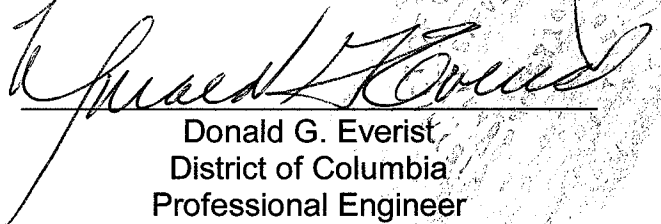
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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 22<sup>nd</sup> day of August, 2008.

  
Notary Public

My Commission Expires: 2/28/2013



### Introduction

This engineering statement has been prepared on behalf of WILM, Inc., ("WILM"), licensee of low-power television station WILM-LP, Wilmington, North Carolina. WILM operates on analog channel 10 and has a digital low-power television companion channel construction permit (FCC File No. BMPDTL-20080530AGF). This application requests license of the operation authorized in the outstanding companion channel construction permit.

### Transmitter Site

The antenna has been mounted on an existing tower (ASRN 1014589) located at the junction of Highways 76 and 87, 32 km west-northwest of Wilmington. The geographic coordinates of the existing site are as follows:

North Latitude: 34° 19' 16"

West Longitude: 78° 13' 43"

NAD-27

### Elevation Data

Elevation of site above mean sea level	8.8 meters (28.9 feet)
Center of radiation of antenna above ground level	258.5 meters (848.1 feet)
Center of radiation of antenna above mean sea level	267.3 meters (877 feet)
Overall tower height above mean sea level	319.7 meters (1049 feet)

The Antenna Structure Registration Number ("ASRN") for the existing tower is 1014589.

Equipment Data

Transmitter:	Type-approved
Mask:	Simple
Transmission Line:	ERI, Type HJ8-50B, 3" air dielectric, 289.5 meters (950 feet) with 70.4% efficiency
Antenna:	ERI Model ALP8L7-CSP-40 with maximum gain of 9.30 dBd and 1.75° electrical beam tilt. See Exhibit E-2 for the antenna pattern data

Power Data

Transmitter:	4.40 kW	6.43 dBk
Transmission Line Efficiency/Loss:	40.1%	3.97 dB
Input Into Antenna:	1.76 kW	2.46 dBk
Antenna Gain: (Maximum)	8.51	9.30 dBd
ERP:	15 kW	11.76 dBk

As indicated above, the transmitter with typical power output of 4.40 kW (simple mask) will deliver 1.76 kW to the input of the antenna. The antenna, having a maximum power gain of 8.51 and an electrical beam tilt of 1.75°, will produce a maximum ERP of 15 kW. The ERI ALP8L7-CSP-40 antenna elevation pattern and the other associated antenna data are included as Exhibit E-1.

COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-1

ANTENNA MANUFACTURER DATA

WILM-LD, WILMINGTON, NORTH CAROLINA

***PRELIMINARY SPECIFICATION FOR  
ERI CARINA™ CIRCULARLY POLARIZED  
COAXIAL SLOTTED ARRAY ANTENNA***

*Prepared For  
WILM-LD  
Channel 40  
Wilmington, NC  
May 23, 2008*

**ANTENNA TYPE:  
ALP8L7-CSP-40**

**SPECIFICATION NO:  
MDF-20080516-RevC**



## **PRELIMINARY SPECIFICATION FOR ERI CARINA™ CIRCULARLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA**

### **ELECTRICAL CHARACTERISTICS:**

CHANNEL:	DTV:	40
FREQUENCY RANGE:	DTV:	626.00 - 632.00 MHz
AZIMUTH PATTERN NUMBER:	Hor Pol:	ALP-P
	Ver Pol:	ALP-P
ELEVATION PATTERN NUMBER:	Hor Pol:	ALP8L7
	Ver Pol:	ALP8L7
AZIMUTH DIRECTIVITY:	Hor Pol:	1.88 (2.74 dB)
	Ver Pol:	1.88 (2.74 dB)
ELEVATION DIRECTIVITY:	Hor Pol:	9.05 (9.57 dBd)
	Ver Pol:	9.05 (9.57 dBd)
ELEVATION GAIN:	Hor Pol:	4.53 (6.56 dBd)
	Ver Pol:	4.53 (6.56 dBd)
PEAK POWER GAIN:	Hor Pol:	8.51 (9.30 dBd)
	Ver Pol:	8.51 (9.30 dBd)
GAIN AT HORIZONTAL:	Hor Pol:	6.09 (7.85 dBd)
	Ver Pol:	6.09 (7.85 dBd)
GAIN RATIO: VER POL/HOR POL		1.00
ELECTRICAL BEAM TILT:		-1.75 Degrees
INPUT POWER REQUIRED:		1.763 kW Average Power, 8VSB Digital
MAXIMUM INPUT POWER:		2.00 kW Average Power
INPUT TYPE:		1-5/8" EIA
ANTENNA VSWR (MAXIMUM):	DTV:	1.10 Over 6 MHz of Channel

*Preliminary, subject to final design and review.*

## PRELIMINARY SPECIFICATION FOR ERI CARINA™ CIRCULARLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA

### MECHANICAL CHARACTERISTICS:

#### MOUNTING CONFIGURATION:

*\*(Tower Interface supplied and installed by others.)*

Side Mount

HEIGHT OF ANTENNA:

17.8 feet

HEIGHT OF CENTER OF  
RADIATION:

8.9 feet

OVERALL HEIGHT (A):

17.8 feet

DEICING:

Unpressurized Slot Cover Radome Enclosure

RADOME DIAMETER (C):

CONTACT ERI

RADOME COLOR:

WHITE

CLIMBING DEVICE:

NOT APPLICABLE

CALCULATED WEIGHT<sup>1</sup>:

130 lbs.

ANTENNA AREA<sup>3</sup>:

FRONT AREA:

$C_A A_C$ : 16.8 square feet

$A_C$ : 14.0 square feet

SIDE AREA:

$C_A A_C$ : 9.2 square feet

$A_C$ : 7.7 square feet

***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.***

<sup>1</sup> 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.

<sup>3</sup> Antenna Area is calculated per EIA/TIA-RS222-F.

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

Preliminary, subject to final design and review.



## Broadcast Antenna System

### Power Analysis

**WILM-LD Channel 40**  
**Wilmington, NC**  
**ALP8L7-CSP-40**

#### ANTENNA PARAMETERS

##### Azimuth Directivity:

Hor. Pol: 1.88 (2.74 dBd)

Ver. Pol: 1.88 (2.74 dBd)

##### Elevation Directivity:

Hor. Pol: 9.05 (9.57 dBd)

Ver. Pol: 9.05 (9.57 dBd)

#### TRANSMISSION LINE:

##### VERTICAL RUN:

Type: HJ8-50B

Length, ft: 848 ft.

Attenuation, dB/100 ft: 0.418 dB/100 ft.

##### HORIZONTAL RUN:

Type: HJ8-50B

Length, ft: 102 ft.

Attenuation, dB/100 ft: 0.418 dB/100 ft.

Line Efficiency: 40.07 %

##### ERP:

Hor. Pol: 15.00 kW (11.76 dBk)

Ver. Pol: 15.00 kW (11.76 dBk)

##### POWER GAIN:

Hor. Pol: 8.51 (9.30 dBd)

Ver. Pol: 8.51 (9.30 dBd)

##### ANTENNA INPUT:

kW: 1.76

dBk: 2.46

##### LINE LOSS:

kW: 2.64

dB: 3.97

##### TRANSMITTER POWER:

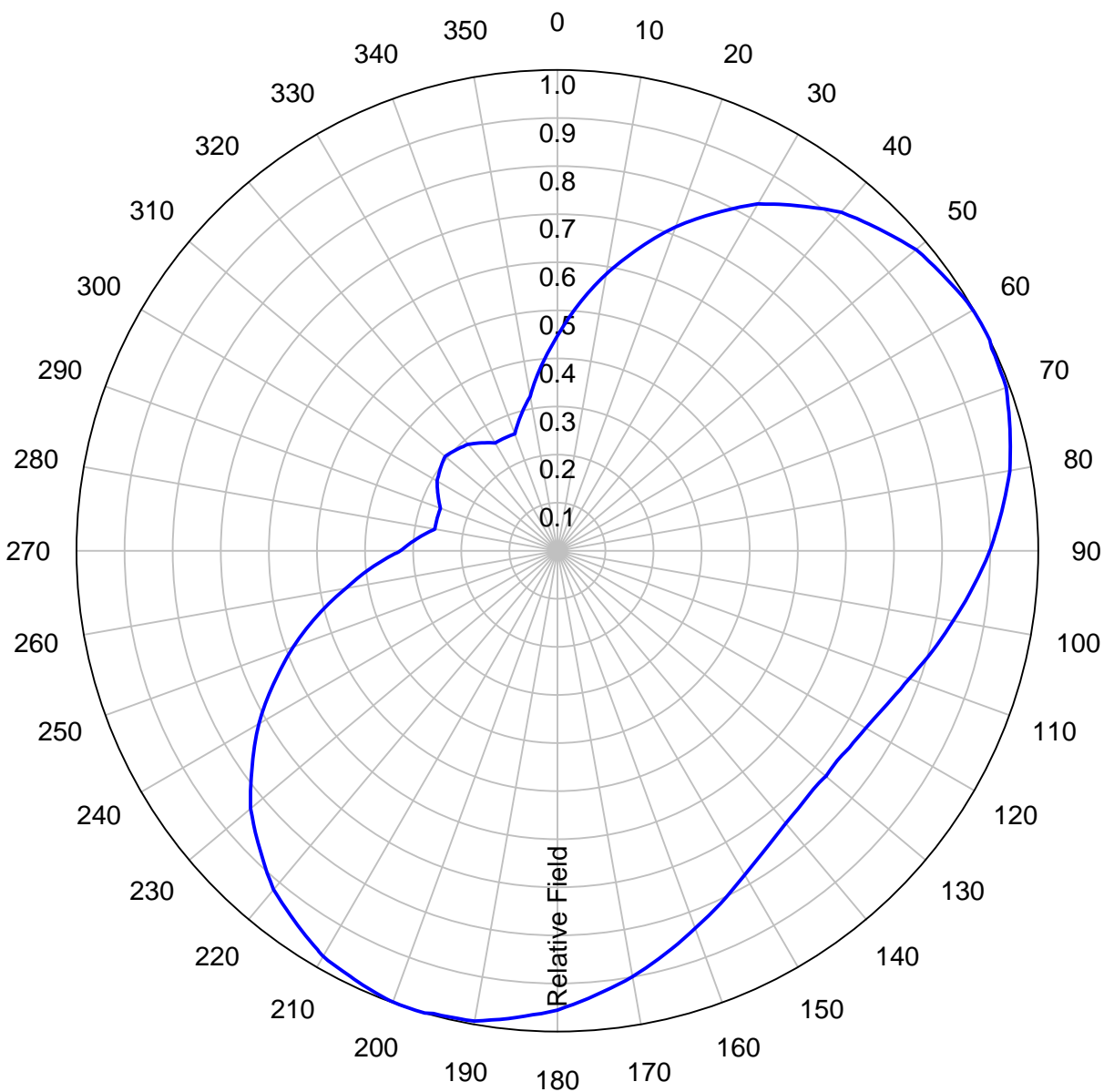
kW: 4.40

dBk: 6.43

Preliminary, subject to final design and review.

**AZIMUTH PATTERN****Type:****ALP-P****Channel:****40****Directivity:****Numeric****dBd****Location:****Wilmington, NC****Peak(s) at:****1.88****2.74****Polarization:****Horizontal**

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



*Preliminary, subject to final design and review.*

## TABULATED DATA FOR AZIMUTH PATTERN

Type: ALP-P

PolarizationHorizontal

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	0.446	-7.01	92	0.886	-1.05	184	0.970	-0.26	276	0.286	-10.87
2	0.474	-6.48	94	0.874	-1.17	186	0.978	-0.19	278	0.273	-11.28
4	0.502	-5.99	96	0.861	-1.30	188	0.985	-0.13	280	0.259	-11.73
6	0.529	-5.53	98	0.848	-1.43	190	0.993	-0.06	282	0.259	-11.73
8	0.557	-5.08	100	0.836	-1.56	192	0.994	-0.05	284	0.259	-11.73
10	0.585	-4.66	102	0.824	-1.68	194	0.996	-0.03	286	0.259	-11.73
12	0.611	-4.28	104	0.813	-1.80	196	1.000	0.00	288	0.259	-11.73
14	0.637	-3.92	106	0.801	-1.93	198	1.000	0.00	290	0.259	-11.73
16	0.664	-3.56	108	0.789	-2.06	200	0.999	-0.01	292	0.265	-11.54
18	0.690	-3.22	110	0.778	-2.18	202	0.995	-0.04	294	0.271	-11.34
20	0.717	-2.89	112	0.769	-2.28	204	0.990	-0.09	296	0.277	-11.15
22	0.740	-2.62	114	0.760	-2.38	206	0.984	-0.14	298	0.283	-10.96
24	0.763	-2.35	116	0.752	-2.48	208	0.979	-0.18	300	0.289	-10.78
26	0.786	-2.09	118	0.745	-2.56	210	0.974	-0.23	302	0.292	-10.69
28	0.810	-1.83	120	0.739	-2.63	212	0.963	-0.33	304	0.296	-10.57
30	0.833	-1.59	122	0.735	-2.67	214	0.952	-0.43	306	0.299	-10.49
32	0.850	-1.41	124	0.732	-2.71	216	0.941	-0.53	308	0.302	-10.40
34	0.867	-1.24	126	0.728	-2.76	218	0.930	-0.63	310	0.305	-10.31
36	0.884	-1.07	128	0.727	-2.77	220	0.919	-0.73	312	0.302	-10.40
38	0.902	-0.90	130	0.729	-2.75	222	0.902	-0.90	314	0.299	-10.49
40	0.919	-0.73	132	0.727	-2.77	224	0.884	-1.07	316	0.296	-10.57
42	0.930	-0.63	134	0.728	-2.76	226	0.867	-1.24	318	0.292	-10.69
44	0.941	-0.53	136	0.732	-2.71	228	0.850	-1.41	320	0.289	-10.78
46	0.952	-0.43	138	0.735	-2.67	230	0.833	-1.59	322	0.283	-10.96
48	0.963	-0.33	140	0.739	-2.63	232	0.810	-1.83	324	0.277	-11.15
50	0.974	-0.23	142	0.745	-2.56	234	0.786	-2.09	326	0.271	-11.34
52	0.979	-0.18	144	0.752	-2.48	236	0.763	-2.35	328	0.265	-11.54
54	0.984	-0.14	146	0.760	-2.38	238	0.740	-2.62	330	0.259	-11.73
56	0.990	-0.09	148	0.769	-2.28	240	0.717	-2.89	332	0.259	-11.73
58	0.995	-0.04	150	0.778	-2.18	242	0.690	-3.22	334	0.259	-11.73
60	0.999	-0.01	152	0.789	-2.06	244	0.664	-3.56	336	0.259	-11.73
62	1.000	0.00	154	0.801	-1.93	246	0.637	-3.92	338	0.259	-11.73
64	1.000	0.00	156	0.813	-1.80	248	0.611	-4.28	340	0.259	-11.73
66	0.996	-0.03	158	0.824	-1.68	250	0.585	-4.66	342	0.273	-11.28
68	0.994	-0.05	160	0.836	-1.56	252	0.557	-5.08	344	0.286	-10.87
70	0.993	-0.06	162	0.848	-1.43	254	0.529	-5.53	346	0.299	-10.49
72	0.985	-0.13	164	0.861	-1.30	256	0.502	-5.99	348	0.313	-10.09
74	0.978	-0.19	166	0.874	-1.17	258	0.474	-6.48	350	0.326	-9.74
76	0.970	-0.26	168	0.886	-1.05	260	0.446	-7.01	352	0.350	-9.12
78	0.963	-0.33	170	0.899	-0.92	262	0.422	-7.49	354	0.374	-8.54
80	0.955	-0.40	172	0.910	-0.82	264	0.398	-8.00	356	0.398	-8.00
82	0.944	-0.50	174	0.921	-0.71	266	0.374	-8.54	358	0.422	-7.49
84	0.933	-0.60	176	0.933	-0.60	268	0.350	-9.12	360	0.446	-7.01
86	0.921	-0.71	178	0.944	-0.50	270	0.326	-9.74			
88	0.910	-0.82	180	0.955	-0.40	272	0.313	-10.09			
90	0.899	-0.92	182	0.963	-0.33	274	0.299	-10.49			

Preliminary, subject to final design and review.

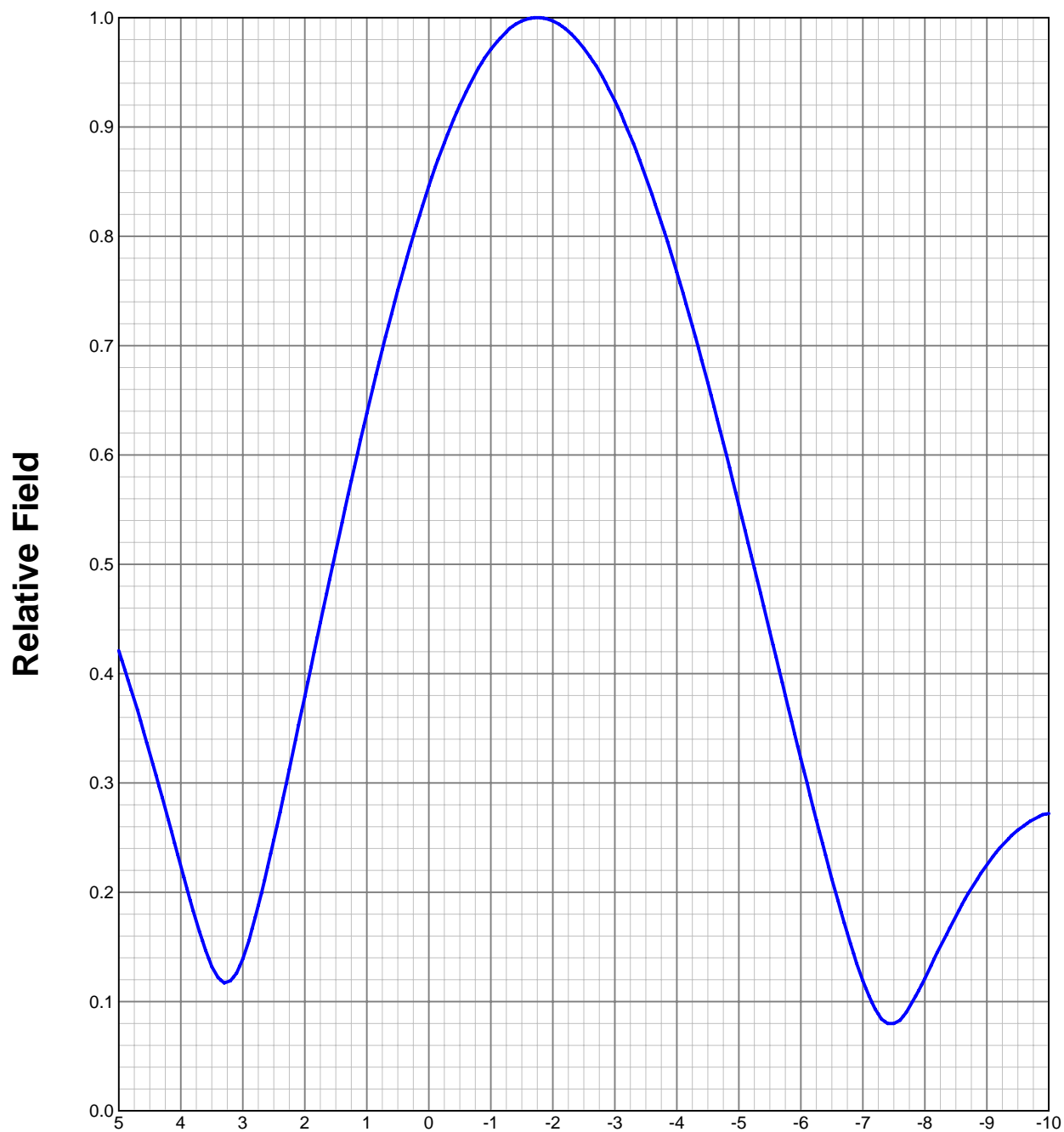
## **TABULATED DATA FOR AZIMUTH PATTERN FCC FILING FORMAT**

Type: ALP-P

PolarizationHorizontal

<b>ANGLE</b>	<b>FIELD</b>	<b>ERP (kW)</b>	<b>ERP (dBk)</b>
0	0.446	2.984	4.748
10	0.585	5.133	7.104
20	0.717	7.711	8.871
30	0.833	10.408	10.174
40	0.919	12.668	11.027
50	0.974	14.230	11.532
60	0.999	14.970	11.752
70	0.993	14.791	11.700
80	0.955	13.680	11.361
90	0.899	12.123	10.836
100	0.836	10.483	10.205
110	0.778	9.079	9.581
120	0.739	8.192	9.134
130	0.729	7.972	9.015
140	0.739	8.192	9.134
150	0.778	9.079	9.581
160	0.836	10.483	10.205
170	0.899	12.123	10.836
180	0.955	13.680	11.361
190	0.993	14.791	11.700
200	0.999	14.970	11.752
210	0.974	14.230	11.532
220	0.919	12.668	11.027
230	0.833	10.408	10.174
240	0.717	7.711	8.871
250	0.585	5.133	7.104
260	0.446	2.984	4.748
270	0.326	1.594	2.025
280	0.259	1.006	0.027
290	0.259	1.006	0.027
300	0.289	1.253	0.979
310	0.305	1.395	1.447
320	0.289	1.253	0.979
330	0.259	1.006	0.027
340	0.259	1.006	0.027
350	0.326	1.594	2.025

*Preliminary, subject to final design and review.*

**ELEVATION PATTERN****Type:****ALP8L7****Channel:****40****Directivity:****Numeric****dBd****Location:****Wilmington, NC****Main Lobe:****9.05****9.57****Beam Tilt:****-1.75****Horizontal:****6.48****8.11****Polarization:****Horizontal***Preliminary, subject to final design and review.*

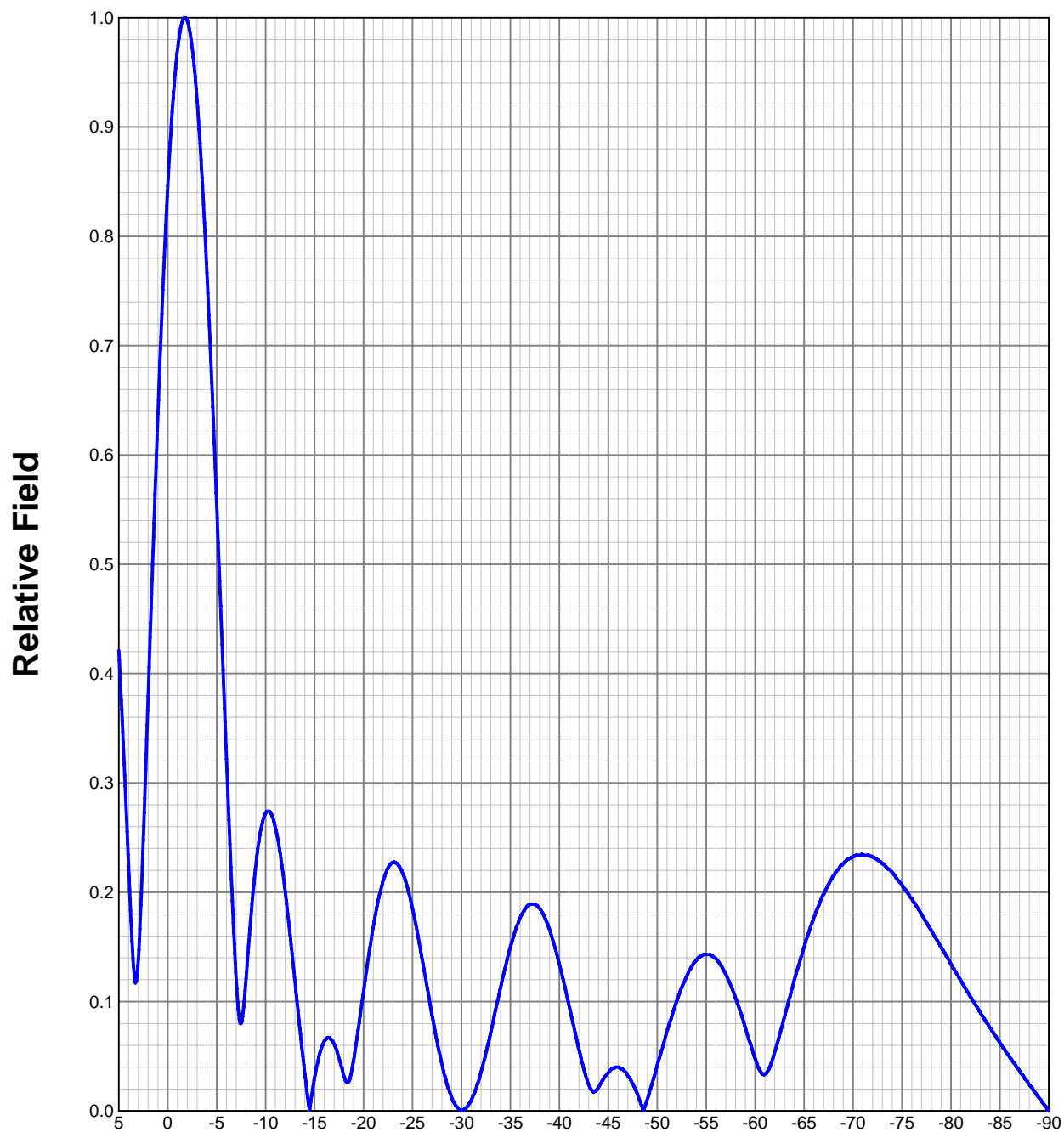
## TABULATED DATA FOR ELEVATION PATTERN

Type: ALP8L7

PolarizationHorizontal

ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB
5.00	0.421	-7.51	-6.75	0.162	-15.78	-27.00	0.087	-21.21	-50.50
4.75	0.376	-8.50	-7.00	0.119	-18.49	-27.50	0.064	-23.88	-51.00
4.50	0.327	-9.71	-7.25	0.088	-21.06	-28.00	0.043	-27.33	-51.50
4.25	0.276	-11.17	-7.50	0.080	-21.94	-28.50	0.025	-32.04	-52.00
4.00	0.224	-13.00	-7.75	0.095	-20.45	-29.00	0.012	-38.42	-52.50
3.75	0.173	-15.21	-8.00	0.121	-18.34	-29.50	0.004	-47.96	-53.00
3.50	0.132	-17.59	-8.25	0.150	-16.45	-30.00	0.000	-40.00	-53.50
3.25	0.118	-18.56	-8.50	0.178	-14.99	-30.50	0.003	-50.46	-54.00
3.00	0.139	-17.14	-8.75	0.204	-13.83	-31.00	0.010	-40.00	-54.50
2.75	0.188	-14.52	-9.00	0.225	-12.96	-31.50	0.021	-33.56	-55.00
2.50	0.248	-12.11	-9.25	0.243	-12.29	-32.00	0.036	-28.87	-55.50
2.25	0.313	-10.10	-9.50	0.257	-11.80	-32.50	0.053	-25.51	-56.00
2.00	0.379	-8.43	-9.75	0.267	-11.49	-33.00	0.072	-22.85	-56.50
1.75	0.447	-7.00	-10.00	0.272	-11.31	-33.50	0.093	-20.63	-57.00
1.50	0.512	-5.81	-10.50	0.273	-11.28	-34.00	0.113	-18.94	-57.50
1.25	0.577	-4.78	-11.00	0.259	-11.73	-34.50	0.132	-17.59	-58.00
1.00	0.638	-3.90	-11.50	0.235	-12.58	-35.00	0.150	-16.48	-58.50
0.75	0.697	-3.14	-12.00	0.201	-13.94	-35.50	0.165	-15.65	-59.00
0.50	0.751	-2.49	-12.50	0.161	-15.86	-36.00	0.177	-15.04	-59.50
0.25	0.800	-1.93	-13.00	0.118	-18.56	-36.50	0.185	-14.66	-60.00
0.00	0.846	-1.45	-13.50	0.075	-22.50	-37.00	0.189	-14.47	-60.50
-0.25	0.885	-1.06	-14.00	0.034	-29.37	-37.50	0.189	-14.47	-61.00
-0.50	0.920	-0.72	-14.50	0.001	-60.00	-38.00	0.185	-14.66	-61.50
-0.75	0.948	-0.46	-15.00	0.031	-30.17	-38.50	0.177	-15.04	-62.00
-1.00	0.971	-0.26	-15.50	0.052	-25.68	-39.00	0.166	-15.60	-62.50
-1.25	0.987	-0.11	-16.00	0.064	-23.88	-39.50	0.151	-16.42	-63.00
-1.50	0.997	-0.03	-16.50	0.067	-23.48	-40.00	0.134	-17.46	-63.50
-1.75	1.000	0.00	-17.00	0.061	-24.29	-40.50	0.116	-18.71	-64.00
-2.00	0.997	-0.03	-17.50	0.048	-26.38	-41.00	0.096	-20.35	-64.50
-2.25	0.988	-0.11	-18.00	0.032	-29.90	-41.50	0.076	-22.38	-65.00
-2.50	0.972	-0.25	-18.50	0.027	-31.37	-42.00	0.056	-25.04	-65.50
-2.75	0.951	-0.44	-19.00	0.047	-26.56	-42.50	0.038	-28.40	-66.00
-3.00	0.924	-0.69	-19.50	0.077	-22.27	-43.00	0.024	-32.40	-66.50
-3.25	0.891	-1.00	-20.00	0.109	-19.25	-43.50	0.017	-35.39	-67.00
-3.50	0.854	-1.37	-20.50	0.141	-17.02	-44.00	0.022	-33.15	-67.50
-3.75	0.813	-1.80	-21.00	0.169	-15.44	-44.50	0.029	-30.75	-68.00
-4.00	0.767	-2.30	-21.50	0.193	-14.29	-45.00	0.035	-29.12	-68.50
-4.25	0.718	-2.88	-22.00	0.211	-13.51	-45.50	0.039	-28.18	-69.00
-4.50	0.666	-3.53	-22.50	0.222	-13.07	-46.00	0.040	-27.96	-69.50
-4.75	0.611	-4.28	-23.00	0.227	-12.88	-46.50	0.038	-28.40	-70.00
-5.00	0.554	-5.13	-23.50	0.226	-12.92	-47.00	0.032	-29.90	-70.50
-5.25	0.496	-6.08	-24.00	0.217	-13.27	-47.50	0.025	-32.04	-71.00
-5.50	0.438	-7.17	-24.50	0.204	-13.81	-48.00	0.015	-36.48	-71.50
-5.75	0.380	-8.40	-25.00	0.185	-14.66	-48.50	0.002	-53.98	-72.00
-6.00	0.322	-9.84	-25.50	0.163	-15.76	-49.00	0.011	-39.17	-72.50
-6.25	0.266	-11.50	-26.00	0.138	-17.20	-49.50	0.026	-31.70	-73.00
-6.50	0.212	-13.47	-26.50	0.113	-18.94	-50.00	0.042	-27.54	-73.50

*Preliminary, subject to final design and review.*

**ELEVATION PATTERN****Type:****ALP8L7****Channel:****40****Directivity:****Numeric****dBd****Location:****Wilmington, NC****Main Lobe:****9.05****9.57****Beam Tilt:****-1.75****Horizontal:****6.48****8.11****Polarization:****Horizontal**

*Preliminary, subject to final design and review.*

## TABULATED DATA FOR ELEVATION PATTERN

Type: ALP8L7

PolarizationHorizontal

ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB
5.00	0.421	-7.51	-6.75	0.162	-15.78	-27.00	0.087	-21.21	-50.50
4.75	0.376	-8.50	-7.00	0.119	-18.49	-27.50	0.064	-23.88	-51.00
4.50	0.327	-9.71	-7.25	0.088	-21.06	-28.00	0.043	-27.33	-51.50
4.25	0.276	-11.17	-7.50	0.080	-21.94	-28.50	0.025	-32.04	-52.00
4.00	0.224	-13.00	-7.75	0.095	-20.45	-29.00	0.012	-38.42	-52.50
3.75	0.173	-15.21	-8.00	0.121	-18.34	-29.50	0.004	-47.96	-53.00
3.50	0.132	-17.59	-8.25	0.150	-16.45	-30.00	0.000	-40.00	-53.50
3.25	0.118	-18.56	-8.50	0.178	-14.99	-30.50	0.003	-50.46	-54.00
3.00	0.139	-17.14	-8.75	0.204	-13.83	-31.00	0.010	-40.00	-54.50
2.75	0.188	-14.52	-9.00	0.225	-12.96	-31.50	0.021	-33.56	-55.00
2.50	0.248	-12.11	-9.25	0.243	-12.29	-32.00	0.036	-28.87	-55.50
2.25	0.313	-10.10	-9.50	0.257	-11.80	-32.50	0.053	-25.51	-56.00
2.00	0.379	-8.43	-9.75	0.267	-11.49	-33.00	0.072	-22.85	-56.50
1.75	0.447	-7.00	-10.00	0.272	-11.31	-33.50	0.093	-20.63	-57.00
1.50	0.512	-5.81	-10.50	0.273	-11.28	-34.00	0.113	-18.94	-57.50
1.25	0.577	-4.78	-11.00	0.259	-11.73	-34.50	0.132	-17.59	-58.00
1.00	0.638	-3.90	-11.50	0.235	-12.58	-35.00	0.150	-16.48	-58.50
0.75	0.697	-3.14	-12.00	0.201	-13.94	-35.50	0.165	-15.65	-59.00
0.50	0.751	-2.49	-12.50	0.161	-15.86	-36.00	0.177	-15.04	-59.50
0.25	0.800	-1.93	-13.00	0.118	-18.56	-36.50	0.185	-14.66	-60.00
0.00	0.846	-1.45	-13.50	0.075	-22.50	-37.00	0.189	-14.47	-60.50
-0.25	0.885	-1.06	-14.00	0.034	-29.37	-37.50	0.189	-14.47	-61.00
-0.50	0.920	-0.72	-14.50	0.001	-60.00	-38.00	0.185	-14.66	-61.50
-0.75	0.948	-0.46	-15.00	0.031	-30.17	-38.50	0.177	-15.04	-62.00
-1.00	0.971	-0.26	-15.50	0.052	-25.68	-39.00	0.166	-15.60	-62.50
-1.25	0.987	-0.11	-16.00	0.064	-23.88	-39.50	0.151	-16.42	-63.00
-1.50	0.997	-0.03	-16.50	0.067	-23.48	-40.00	0.134	-17.46	-63.50
-1.75	1.000	0.00	-17.00	0.061	-24.29	-40.50	0.116	-18.71	-64.00
-2.00	0.997	-0.03	-17.50	0.048	-26.38	-41.00	0.096	-20.35	-64.50
-2.25	0.988	-0.11	-18.00	0.032	-29.90	-41.50	0.076	-22.38	-65.00
-2.50	0.972	-0.25	-18.50	0.027	-31.37	-42.00	0.056	-25.04	-65.50
-2.75	0.951	-0.44	-19.00	0.047	-26.56	-42.50	0.038	-28.40	-66.00
-3.00	0.924	-0.69	-19.50	0.077	-22.27	-43.00	0.024	-32.40	-66.50
-3.25	0.891	-1.00	-20.00	0.109	-19.25	-43.50	0.017	-35.39	-67.00
-3.50	0.854	-1.37	-20.50	0.141	-17.02	-44.00	0.022	-33.15	-67.50
-3.75	0.813	-1.80	-21.00	0.169	-15.44	-44.50	0.029	-30.75	-68.00
-4.00	0.767	-2.30	-21.50	0.193	-14.29	-45.00	0.035	-29.12	-68.50
-4.25	0.718	-2.88	-22.00	0.211	-13.51	-45.50	0.039	-28.18	-69.00
-4.50	0.666	-3.53	-22.50	0.222	-13.07	-46.00	0.040	-27.96	-69.50
-4.75	0.611	-4.28	-23.00	0.227	-12.88	-46.50	0.038	-28.40	-70.00
-5.00	0.554	-5.13	-23.50	0.226	-12.92	-47.00	0.032	-29.90	-70.50
-5.25	0.496	-6.08	-24.00	0.217	-13.27	-47.50	0.025	-32.04	-71.00
-5.50	0.438	-7.17	-24.50	0.204	-13.81	-48.00	0.015	-36.48	-71.50
-5.75	0.380	-8.40	-25.00	0.185	-14.66	-48.50	0.002	-53.98	-72.00
-6.00	0.322	-9.84	-25.50	0.163	-15.76	-49.00	0.011	-39.17	-72.50
-6.25	0.266	-11.50	-26.00	0.138	-17.20	-49.50	0.026	-31.70	-73.00
-6.50	0.212	-13.47	-26.50	0.113	-18.94	-50.00	0.042	-27.54	-73.50

Preliminary, subject to final design and review.



### SECTION III - 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: \_\_\_\_\_
2. Frequency Offset  
☐ No offset      ☐ Zero offset      ☐ Plus offset      ☐ Minus offset
3. Antenna Location Coordinates: (NAD 27)  
\_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ N      ☐ S Latitude  
\_\_\_\_\_ ° \_\_\_\_\_ ' \_\_\_\_\_ " ☐ E      ☐ W Longitude
4. Maximum Effective Radiated Power (ERP) Toward Radio Horizon: \_\_\_\_\_ kW
5. Maximum ERP in any horizontal and vertical angle: \_\_\_\_\_ kW

**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.

#### CERTIFICATION

All applicants must complete this section.

6. **Constructed Facility.** The facility was constructed as authorized in the underlying construction permit. ☐ Yes ☐ No 

See Explanation in Exhibit No.
7. **Special Operating Conditions.** The facility was constructed in compliance with all special operating conditions, terms, and obligations described in the construction permit. ☐ Yes ☐ No 

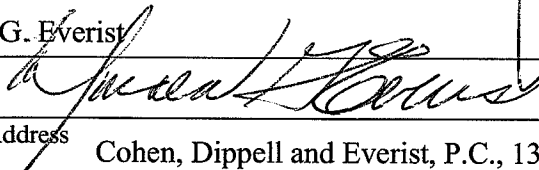
See Explanation in Exhibit No.

Exhibit No.  
9

**PREPARER'S CERTIFICATION ON PAGE 4 MUST BE COMPLETED AND SIGNED.**

## 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 August 22, 2008	
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).