

## **ENGINEERING STATEMENT & INTERFERENCE ANALYSIS**

This exhibit support this minor change application for the licensed facility of WNMF-LD, Facility ID 74513, FCC File Number BLDL-20130325APT.

The proposed facility on channel 17 was studied using the Techware's tv\_process\_2010 software on a Sun Blade 1500 using the post transition data and the 2010 US Census. The proposed facility is within 30 miles of the existing licensed facility of WNMF-LD on channel 17. The F (50, 90) 51 dBu contour of the licened facility of the WNMF-LD overlaps with the F (50, 90) 51 dBu of the proposed facility of WNMF-LD. The proposed facility is not predicted to cause any interference to any station. The Applicant requests that the Commission process this application using the following Longley-Rice analysis settings:

Cell Size for Service Analysis of 1.0 km per side

Distance Increments for Longley-Rice Analysis of 1.0 km

WNMF-LD has been successfully using channel 17 since 2008. In fact, channel 17 has been operating in the New York metropolitan area since 2005. WEBR-CA and subsequently WEBR-CD utilized channel 17 for a decade until 2015 transmitting from a site less than 1.0 mile from the instant proposed transmitter site of WNMF-LD. While WEBR had a maximum ERP of 315 watts in the horizontal plane, it generated a maximum ERP below the horizontal plane of 10 kW. However, because the maximum ERP in the proposed WNMF-LD facility is 135 watts in any plane (see Attachment A), the proposed facility is predicted to cause less interference to channel 16 land mobile than did WEBR-CD.

The proposed facility will be less than 1.0 mile from the transmitter site of WEBR-CD as it operated on channel 17. As seen in Attachment B, the predicted 51 dBu contour of the proposed facility is entirely within the 51 dBu contour of WEBR-CD when it operated on channel 17.

It is believed that the proposed facility is grandfathered with regard to protection of channel 16 land mobile facilities and complies with the requirements of 47 C.F.R. Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h) and other applicable parts of the Rules and Regulations of the Federal Communications Commission.

### **Digital TV and Class A Station Protection**

The proposed operation causes less than 0.5% interference to surrounding digital assignments and allotments and facilities (i.e., "*de minimis*"). It is believed that the proposed operation is in compliance with the spirit and intent of the FCC's interference standards.

### **Low Power TV and TV Translator Station Protection**

The proposed operation causes less than 2.0% interference to surrounding low power assignments and allotments (i.e., "*de minimis*"). It is believed that the proposed operation is in compliance with the spirit and intent of the FCC's interference standards.

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

*Prepared For  
Local Media TV New York, LLC  
Channel 17  
Morristown, NJ  
September 7, 2016*

**ANTENNA TYPE:  
ALP4L1-HSH-17**

**SPECIFICATION NO:  
WNMF-LD Trump V1**



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

**ELECTRICAL CHARACTERISTICS:**

CHANNEL:	DTV:	17
FREQUENCY RANGE:	DTV:	488.00 - 494.00 MHz
AZIMUTH PATTERN NUMBER:	Hor Pol:	ALP-H
ELEVATION PATTERN NUMBER:	Hor Pol:	ALP4L1
AZIMUTH DIRECTIVITY:	Hor Pol:	2.46 (3.91 dB)
ELEVATION DIRECTIVITY:	Hor Pol:	4.58 (6.61 dBd)
PEAK POWER GAIN:	Hor Pol:	11.27 (10.52 dBd)
GAIN AT HORIZONTAL:	Hor Pol:	11.27 (10.52 dBd)
ELECTRICAL BEAM TILT:		0.00 Degrees
INPUT POWER REQUIRED:		0.014 kW Average Power, 8VSB Digital
MAXIMUM INPUT POWER:		1.30 kW Average Power
INPUT TYPE:		7/8" EIA
ANTENNA VSWR (MAXIMUM):	DTV:	1.10 Over 6 MHz of Channel

*Preliminary, subject to final design and review.*

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

### MECHANICAL CHARACTERISTICS:

#### MOUNTING CONFIGURATION:

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

Side Mount

HEIGHT OF ANTENNA:

10.8 feet

HEIGHT OF CENTER OF  
RADIATION:

5.4 feet

OVERALL HEIGHT (A):

10.8 feet

DEICING:

Unpressurized Slot Cover Radome Enclosure

RADOME DIAMETER (C):

CONTACT ERI

RADOME COLOR:

GRAY

CLIMBING DEVICE:

NOT APPLICABLE

CALCULATED WEIGHT<sup>1</sup>:

60 lbs.

ANTENNA AREA<sup>3</sup>:

FRONT AREA:

C<sub>A</sub>A<sub>c</sub>: 12.0 square feet

A<sub>c</sub>: 10.0 square feet

SIDE AREA:

C<sub>A</sub>A<sub>c</sub>: 7.2 square feet

A<sub>c</sub>: 6.0 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 transitional 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.***

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## Broadcast Antenna System Power Analysis

**Local Media TV New York, LLC Channel 17**  
**Morristown, NJ**  
**ALP4L1-HSH-17**

### ANTENNA PARAMETERS

#### **Azimuth Directivity:**

Hor. Pol: 2.46  
dBd: 3.91

#### **Elevation Directivity:**

Hor. Pol: 4.58  
dBd: 6.61

### TRANSMISSION LINE:

#### VERTICAL RUN:

Type: LDF4-50A  
Length, ft: 133 ft.  
Attenuation, dB/100 ft: 1.582 dB/100 ft.

#### HORIZONTAL RUN:

Type: LDF4-50A  
Length, ft: 0 ft.  
Attenuation, dB/100 ft: 1.582 dB/100 ft.

Line Efficiency: 61.60 %

### ERP:

kW: 0.16  
dBk: -7.96

### POWER GAIN:

Ratio: 11.27  
dBd: 10.52

### ANTENNA INPUT:

kW: 0.01  
dBk: -18.48

### LINE LOSS:

kW: 0.01  
dB: 2.10

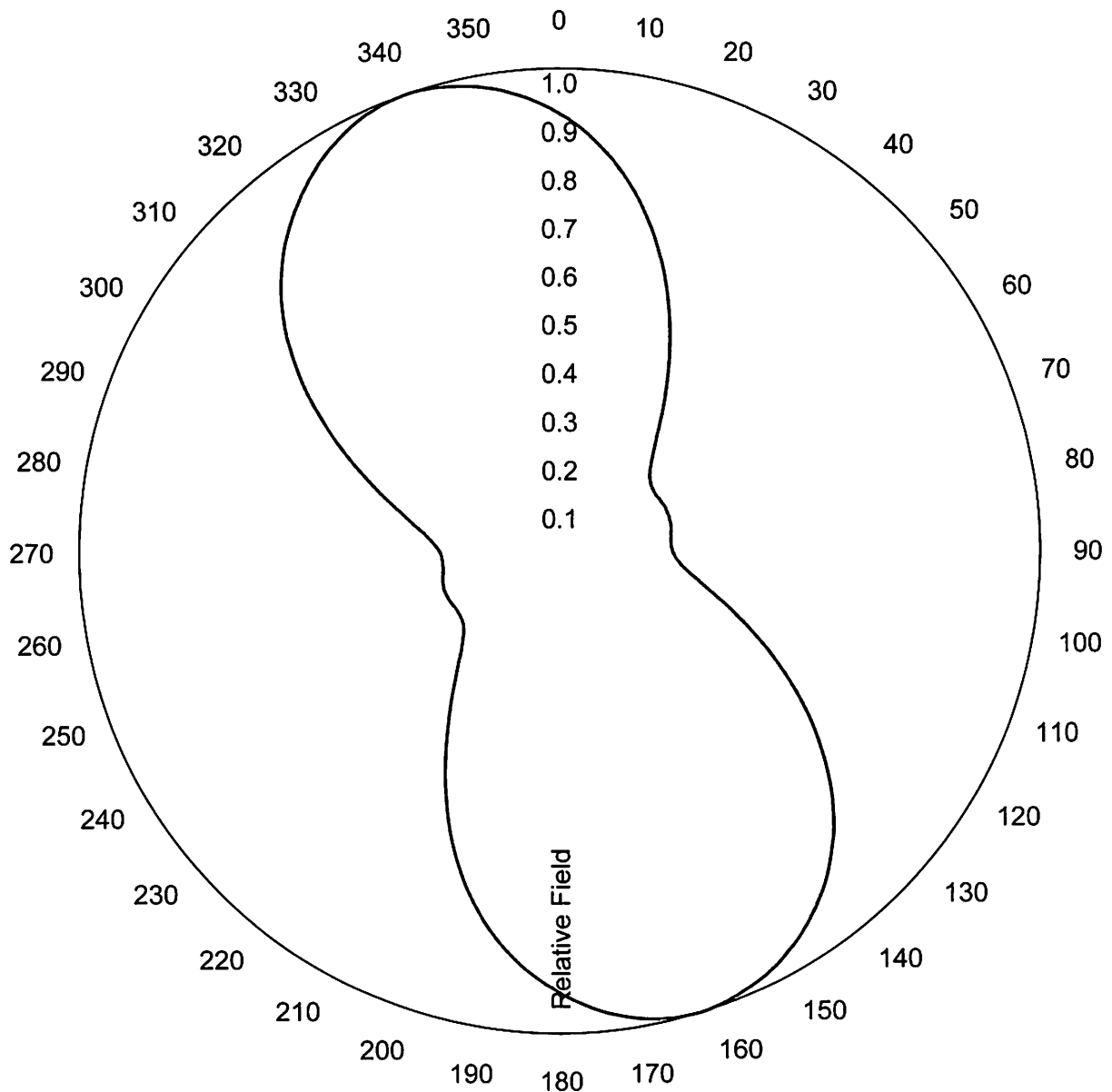
### TRANSMITTER POWER:

kW: 0.02  
dBk: -16.37

Preliminary, subject to final design and review.

**AZIMUTH PATTERN****Type:****ALP-H****Channel:****17****Directivity:****Numeric****dBd****Location:****Morristown, NJ****Peak(s) at:****2.46****3.91****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-H

Polarization Horizontal

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	0.908	-0.84	92	0.242	-12.32	184	0.877	-1.14	276	0.277	-11.15
2	0.889	-1.02	94	0.248	-12.11	186	0.856	-1.35	278	0.289	-10.78
4	0.868	-1.23	96	0.257	-11.80	188	0.832	-1.60	280	0.306	-10.29
6	0.844	-1.47	98	0.269	-11.40	190	0.807	-1.86	282	0.324	-9.79
8	0.820	-1.72	100	0.284	-10.93	192	0.781	-2.15	284	0.344	-9.27
10	0.793	-2.01	102	0.302	-10.40	194	0.752	-2.48	286	0.368	-8.68
12	0.764	-2.34	104	0.322	-9.84	196	0.722	-2.83	288	0.394	-8.09
14	0.733	-2.70	106	0.346	-9.22	198	0.689	-3.24	290	0.421	-7.51
16	0.701	-3.09	108	0.373	-8.57	200	0.656	-3.66	292	0.451	-6.92
18	0.668	-3.50	110	0.401	-7.94	202	0.622	-4.12	294	0.483	-6.32
20	0.635	-3.94	112	0.432	-7.29	204	0.586	-4.64	296	0.517	-5.73
22	0.600	-4.44	114	0.464	-6.67	206	0.551	-5.18	298	0.551	-5.18
24	0.565	-4.96	116	0.497	-6.07	208	0.517	-5.73	300	0.586	-4.64
26	0.531	-5.50	118	0.531	-5.50	210	0.483	-6.32	302	0.622	-4.12
28	0.497	-6.07	120	0.565	-4.96	212	0.451	-6.92	304	0.656	-3.66
30	0.464	-6.67	122	0.600	-4.44	214	0.421	-7.51	306	0.689	-3.24
32	0.432	-7.29	124	0.635	-3.94	216	0.394	-8.09	308	0.722	-2.83
34	0.401	-7.94	126	0.668	-3.50	218	0.368	-8.68	310	0.752	-2.48
36	0.373	-8.57	128	0.701	-3.09	220	0.344	-9.27	312	0.781	-2.15
38	0.346	-9.22	130	0.733	-2.70	222	0.324	-9.79	314	0.807	-1.86
40	0.322	-9.84	132	0.764	-2.34	224	0.306	-10.29	316	0.832	-1.60
42	0.302	-10.40	134	0.793	-2.01	226	0.289	-10.78	318	0.856	-1.35
44	0.284	-10.93	136	0.820	-1.72	228	0.277	-11.15	320	0.877	-1.14
46	0.269	-11.40	138	0.844	-1.47	230	0.266	-11.50	322	0.897	-0.94
48	0.257	-11.80	140	0.868	-1.23	232	0.258	-11.77	324	0.916	-0.76
50	0.248	-12.11	142	0.889	-1.02	234	0.252	-11.97	326	0.933	-0.60
52	0.242	-12.32	144	0.908	-0.84	236	0.249	-12.08	328	0.949	-0.45
54	0.238	-12.47	146	0.925	-0.68	238	0.248	-12.11	330	0.963	-0.33
56	0.236	-12.54	148	0.941	-0.53	240	0.248	-12.11	332	0.974	-0.23
58	0.235	-12.58	150	0.954	-0.41	242	0.248	-12.11	334	0.984	-0.14
60	0.235	-12.58	152	0.967	-0.29	244	0.250	-12.04	336	0.992	-0.07
62	0.237	-12.51	154	0.977	-0.20	246	0.252	-11.97	338	0.997	-0.03
64	0.238	-12.47	156	0.985	-0.13	248	0.254	-11.90	340	0.999	-0.01
66	0.240	-12.40	158	0.992	-0.07	250	0.255	-11.87	342	1.000	0.00
68	0.241	-12.36	160	0.997	-0.03	252	0.256	-11.84	344	0.997	-0.03
70	0.241	-12.36	162	1.000	0.00	254	0.255	-11.87	346	0.992	-0.07
72	0.242	-12.32	164	0.999	-0.01	256	0.254	-11.90	348	0.985	-0.13
74	0.241	-12.36	166	0.997	-0.03	258	0.252	-11.97	350	0.977	-0.20
76	0.241	-12.36	168	0.992	-0.07	260	0.250	-12.04	352	0.967	-0.29
78	0.240	-12.40	170	0.984	-0.14	262	0.248	-12.11	354	0.954	-0.41
80	0.238	-12.47	172	0.974	-0.23	264	0.248	-12.11	356	0.941	-0.53
82	0.237	-12.51	174	0.963	-0.33	266	0.248	-12.11	358	0.925	-0.68
84	0.235	-12.58	176	0.949	-0.45	268	0.249	-12.08	360	0.908	-0.84
86	0.235	-12.58	178	0.933	-0.60	270	0.252	-11.97			
88	0.236	-12.54	180	0.916	-0.76	272	0.258	-11.77			
90	0.238	-12.47	182	0.897	-0.94	274	0.266	-11.50			

Preliminary, subject to final design and review.

## TABULATED DATA FOR AZIMUTH PATTERN FCC FILING FORMAT

Type: ALP-H

Polarization: Horizontal

ANGLE	FIELD	ERP (kW)	ERP (dBk)
0	0.908	0.132	-8.797
10	0.793	0.101	-9.973
20	0.635	0.065	-11.903
30	0.464	0.034	-14.628
40	0.322	0.017	-17.802
50	0.248	0.010	-20.070
60	0.235	0.009	-20.537
70	0.241	0.009	-20.318
80	0.238	0.009	-20.427
90	0.238	0.009	-20.427
100	0.284	0.013	-18.892
110	0.401	0.026	-15.896
120	0.565	0.051	-12.918
130	0.733	0.086	-10.657
140	0.868	0.121	-9.188
150	0.954	0.146	-8.368
160	0.997	0.159	-7.985
170	0.984	0.155	-8.099
180	0.916	0.134	-8.721
190	0.807	0.104	-9.821
200	0.656	0.069	-11.621
210	0.483	0.037	-14.280
220	0.344	0.019	-17.228
230	0.266	0.011	-19.461
240	0.248	0.010	-20.070
250	0.255	0.010	-19.828
260	0.250	0.010	-20.000
270	0.252	0.010	-19.931
280	0.306	0.015	-18.244
290	0.421	0.028	-15.473
300	0.586	0.055	-12.601
310	0.752	0.090	-10.434
320	0.877	0.123	-9.099
330	0.963	0.148	-8.286
340	0.999	0.160	-7.967
350	0.977	0.153	-8.161

Preliminary, subject to final design and review.



**ELEVATION PATTERN**

Type:

ALP4L1

Channel:

17

Directivity:

Numeric

dBd

Location:

Morristown, NJ

Main Lobe:

4.58

6.61

Beam Tilt:

0.00

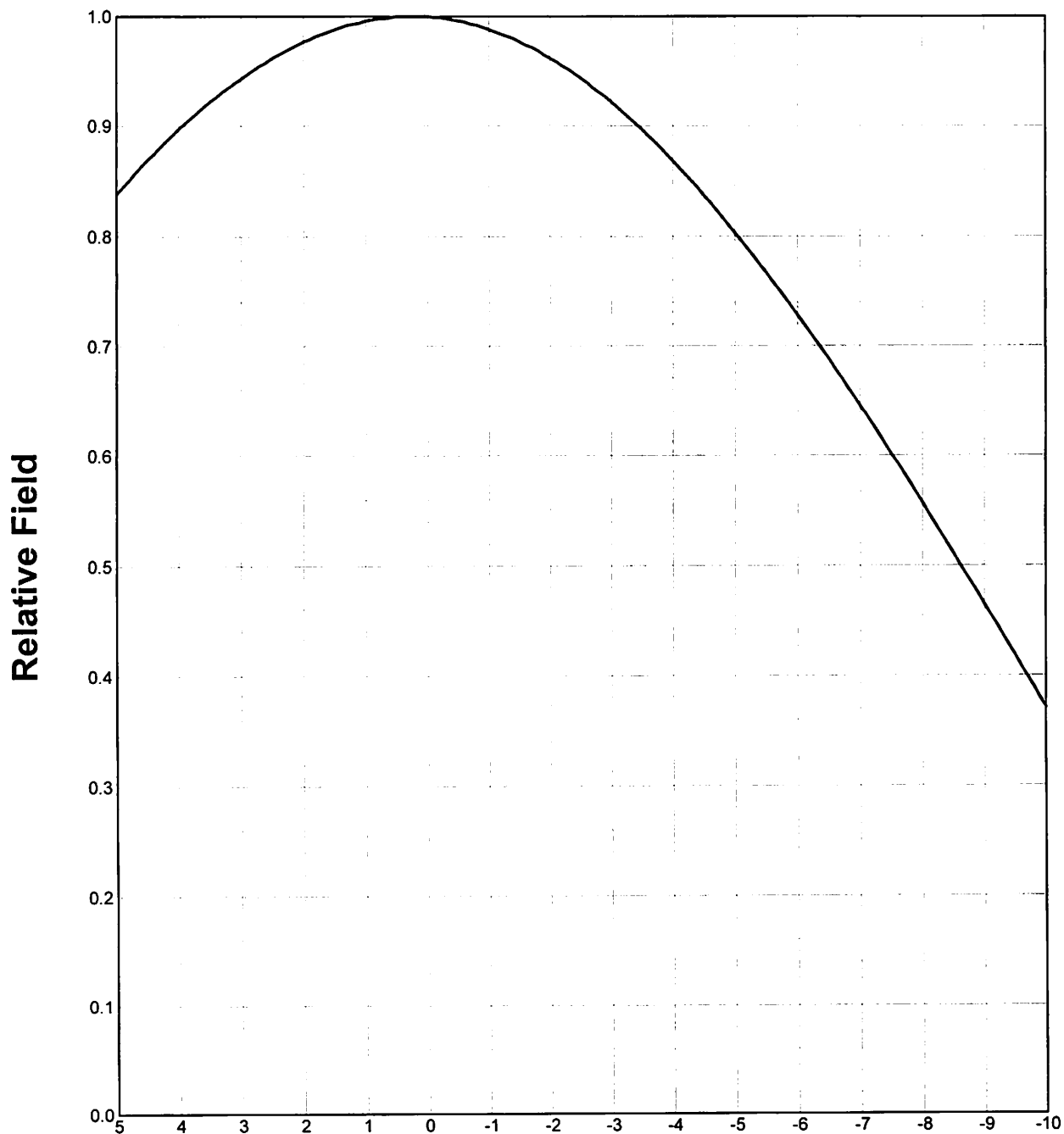
Horizontal:

4.58

6.61

Polarization:

Horizontal



Preliminary, subject to final design and review.

## TABULATED DATA FOR ELEVATION PATTERN

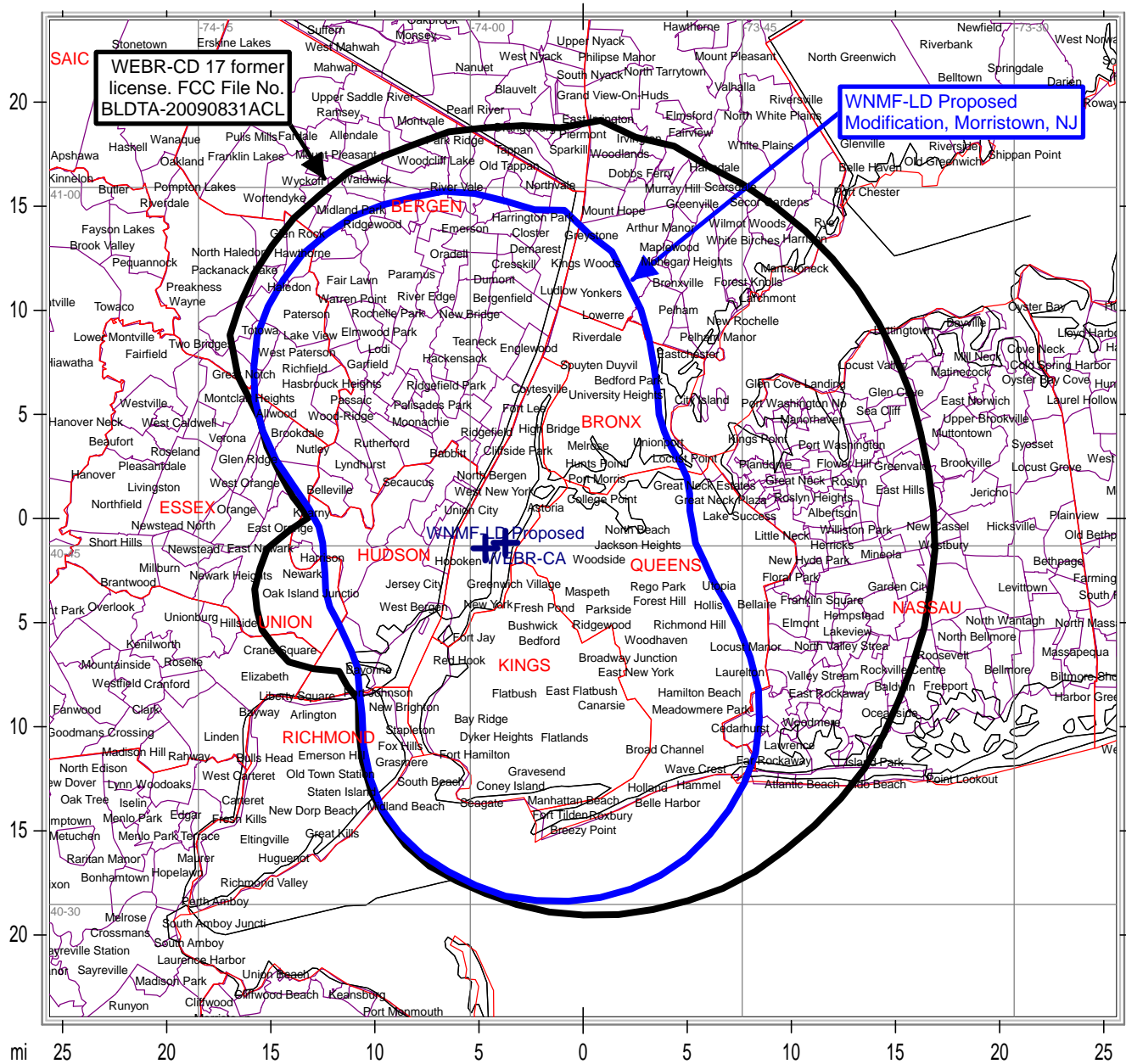
Type: ALP4L1

Polarization: Horizontal

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
5.00	0.838	-1.54	-6.75	0.667	-3.52	-27.00	0.134	-17.46	-50.50	0.081	-21.83	-74.00	0.213	-13.43
4.75	0.853	-1.38	-7.00	0.645	-3.81	-27.50	0.115	-18.79	-51.00	0.093	-20.63	-74.50	0.207	-13.68
4.50	0.869	-1.22	-7.25	0.623	-4.10	-28.00	0.096	-20.35	-51.50	0.106	-19.49	-75.00	0.201	-13.94
4.25	0.883	-1.08	-7.50	0.601	-4.42	-28.50	0.077	-22.27	-52.00	0.118	-18.56	-75.50	0.195	-14.20
4.00	0.897	-0.94	-7.75	0.579	-4.74	-29.00	0.057	-24.88	-52.50	0.130	-17.72	-76.00	0.189	-14.47
3.75	0.909	-0.82	-8.00	0.557	-5.08	-29.50	0.038	-28.40	-53.00	0.142	-16.95	-76.50	0.183	-14.75
3.50	0.922	-0.71	-8.25	0.534	-5.46	-30.00	0.019	-34.42	-53.50	0.154	-16.25	-77.00	0.176	-15.09
3.25	0.933	-0.60	-8.50	0.511	-5.83	-30.50	0.005	-46.02	-54.00	0.165	-15.65	-77.50	0.170	-15.39
3.00	0.943	-0.51	-8.75	0.487	-6.24	-31.00	0.020	-33.98	-54.50	0.176	-15.09	-78.00	0.163	-15.76
2.75	0.953	-0.42	-9.00	0.464	-6.67	-31.50	0.038	-28.40	-55.00	0.186	-14.61	-78.50	0.157	-16.08
2.50	0.962	-0.34	-9.25	0.441	-7.11	-32.00	0.055	-25.19	-55.50	0.196	-14.15	-79.00	0.150	-16.48
2.25	0.970	-0.27	-9.50	0.418	-7.58	-32.50	0.071	-22.97	-56.00	0.206	-13.72	-79.50	0.143	-16.89
2.00	0.977	-0.20	-9.75	0.395	-8.08	-33.00	0.086	-21.31	-56.50	0.215	-13.35	-80.00	0.137	-17.27
1.75	0.983	-0.15	-10.00	0.371	-8.61	-33.50	0.100	-20.00	-57.00	0.223	-13.03	-80.50	0.130	-17.72
1.50	0.988	-0.10	-10.50	0.325	-9.76	-34.00	0.113	-18.94	-57.50	0.231	-12.73	-81.00	0.123	-18.20
1.25	0.992	-0.07	-11.00	0.280	-11.06	-34.50	0.125	-18.06	-58.00	0.238	-12.47	-81.50	0.116	-18.71
1.00	0.996	-0.03	-11.50	0.235	-12.58	-35.00	0.136	-17.33	-58.50	0.245	-12.22	-82.00	0.110	-19.17
0.75	0.998	-0.02	-12.00	0.193	-14.29	-35.50	0.145	-16.77	-59.00	0.251	-12.01	-82.50	0.103	-19.74
0.50	1.000	0.00	-12.50	0.153	-16.31	-36.00	0.153	-16.31	-59.50	0.256	-11.84	-83.00	0.096	-20.35
0.25	1.000	0.00	-13.00	0.116	-18.71	-36.50	0.160	-15.92	-60.00	0.261	-11.67	-83.50	0.089	-21.01
0.00	1.000	0.00	-13.50	0.086	-21.31	-37.00	0.166	-15.60	-60.50	0.265	-11.54	-84.00	0.082	-21.72
-0.25	0.998	-0.01	-14.00	0.067	-23.48	-37.50	0.170	-15.39	-61.00	0.269	-11.40	-84.50	0.075	-22.50
-0.50	0.996	-0.03	-14.50	0.068	-23.35	-38.00	0.172	-15.29	-61.50	0.272	-11.31	-85.00	0.069	-23.22
-0.75	0.992	-0.07	-15.00	0.084	-21.51	-38.50	0.174	-15.19	-62.00	0.275	-11.21	-85.50	0.062	-24.15
-1.00	0.988	-0.10	-15.50	0.107	-19.41	-39.00	0.174	-15.19	-62.50	0.277	-11.15	-86.00	0.055	-25.19
-1.25	0.983	-0.15	-16.00	0.131	-17.65	-39.50	0.172	-15.29	-63.00	0.279	-11.09	-86.50	0.048	-26.38
-1.50	0.977	-0.20	-16.50	0.155	-16.19	-40.00	0.170	-15.39	-63.50	0.280	-11.06	-87.00	0.041	-27.74
-1.75	0.970	-0.26	-17.00	0.177	-15.04	-40.50	0.166	-15.60	-64.00	0.280	-11.06	-87.50	0.034	-29.37
-2.00	0.962	-0.34	-17.50	0.196	-14.15	-41.00	0.162	-15.81	-64.50	0.280	-11.06	-88.00	0.027	-31.37
-2.25	0.954	-0.41	-18.00	0.214	-13.39	-41.50	0.156	-16.14	-65.00	0.280	-11.06	-88.50	0.021	-33.56
-2.50	0.944	-0.50	-18.50	0.229	-12.80	-42.00	0.149	-16.54	-65.50	0.279	-11.09	-89.00	0.014	-37.08
-2.75	0.933	-0.60	-19.00	0.241	-12.36	-42.50	0.141	-17.02	-66.00	0.278	-11.12	-89.50	0.007	-43.10
-3.00	0.922	-0.71	-19.50	0.251	-12.01	-43.00	0.133	-17.52	-66.50	0.276	-11.18	-90.00	0.000	-40.00
-3.25	0.909	-0.82	-20.00	0.258	-11.77	-43.50	0.123	-18.20	-67.00	0.274	-11.24			
-3.50	0.897	-0.94	-20.50	0.262	-11.63	-44.00	0.113	-18.94	-67.50	0.271	-11.34			
-3.75	0.883	-1.08	-21.00	0.264	-11.57	-44.50	0.103	-19.74	-68.00	0.268	-11.44			
-4.00	0.868	-1.23	-21.50	0.263	-11.60	-45.00	0.092	-20.72	-68.50	0.265	-11.54			
-4.25	0.853	-1.38	-22.00	0.261	-11.67	-45.50	0.081	-21.83	-69.00	0.262	-11.63			
-4.50	0.837	-1.55	-22.50	0.255	-11.87	-46.00	0.070	-23.10	-69.50	0.258	-11.77			
-4.75	0.821	-1.72	-23.00	0.248	-12.11	-46.50	0.060	-24.44	-70.00	0.254	-11.90			
-5.00	0.803	-1.91	-23.50	0.239	-12.43	-47.00	0.051	-25.85	-70.50	0.250	-12.04			
-5.25	0.786	-2.10	-24.00	0.228	-12.84	-47.50	0.044	-27.13	-71.00	0.245	-12.22			
-5.50	0.767	-2.30	-24.50	0.216	-13.31	-48.00	0.042	-27.54	-71.50	0.240	-12.40			
-5.75	0.748	-2.52	-25.00	0.202	-13.89	-48.50	0.044	-27.13	-72.00	0.235	-12.58			
-6.00	0.728	-2.76	-25.50	0.186	-14.61	-49.00	0.050	-26.02	-72.50	0.230	-12.77			
-6.25	0.708	-3.00	-26.00	0.170	-15.39	-49.50	0.059	-24.58	-73.00	0.225	-12.96			
-6.50	0.688	-3.25	-26.50	0.152	-16.36	-50.00	0.069	-23.22	-73.50	0.219	-13.19			

Preliminary, subject to final design and review.

## NJ MORRISTOWN WNMF-LD 17 PROPOSED MINOR CHANGE COMPARED TO WEBR-CD 17



The contours of the proposed channel 17 facility versus that of WEBR-CD.

National Borders
  County Borders
  State Borders
  City Borders
  Lat/Lon Grid