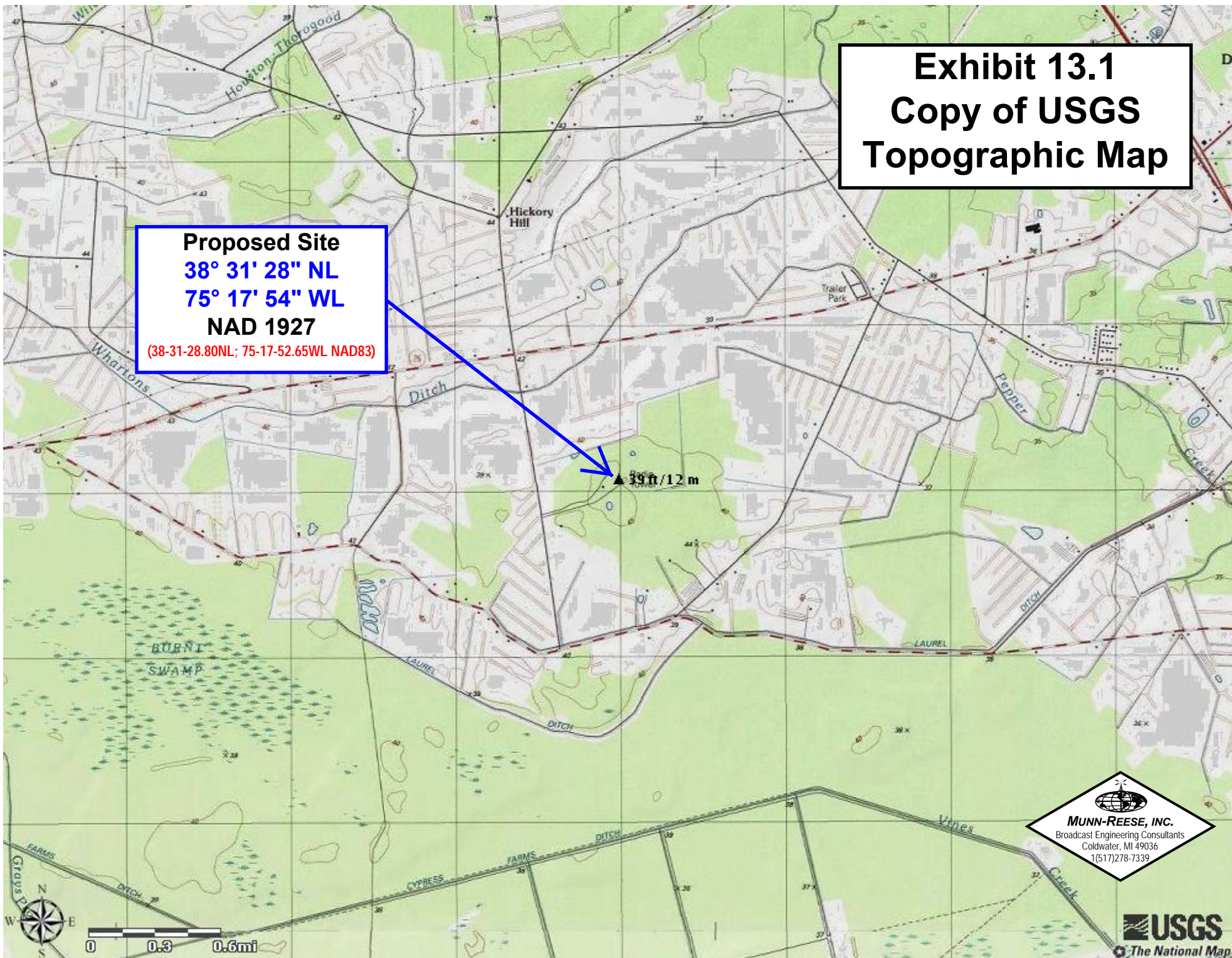


Exhibit 13.1 Copy of USGS Topographic Map

Proposed Site
38° 31' 28" NL
75° 17' 54" WL
NAD 1927
(38-31-28.80NL; 75-17-52.65WL NAD83)




MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339


USGS
The National Map

Exhibit 13.2 Copy of USGS Aerial Photograph

Proposed Site
38° 31' 28" NL
75° 17' 54" WL
NAD 1927
(38-31-28.80NL; 75-17-52.65WL NAD83)

▲ 39 ft / 12 m



0 100 200ft



Exhibit 13.3

Vertical Plan of Antenna System

The site is located 1.0 km south east of the
“+” intersection of DE Route 26 (9 Foot Rd)
and Delaware Avenue (Hickory Hill Rd);
the city of Dagsboro; Sussex County; Delaware.

Site Location (NAD 27)

NL: 38° 31' 28"

WL: 75° 17' 54"

(38-31-28.80NL; 75-17-52.65WL NAD1983)

NOTE: Existing Tower Construction

Antenna Structure Registration No.

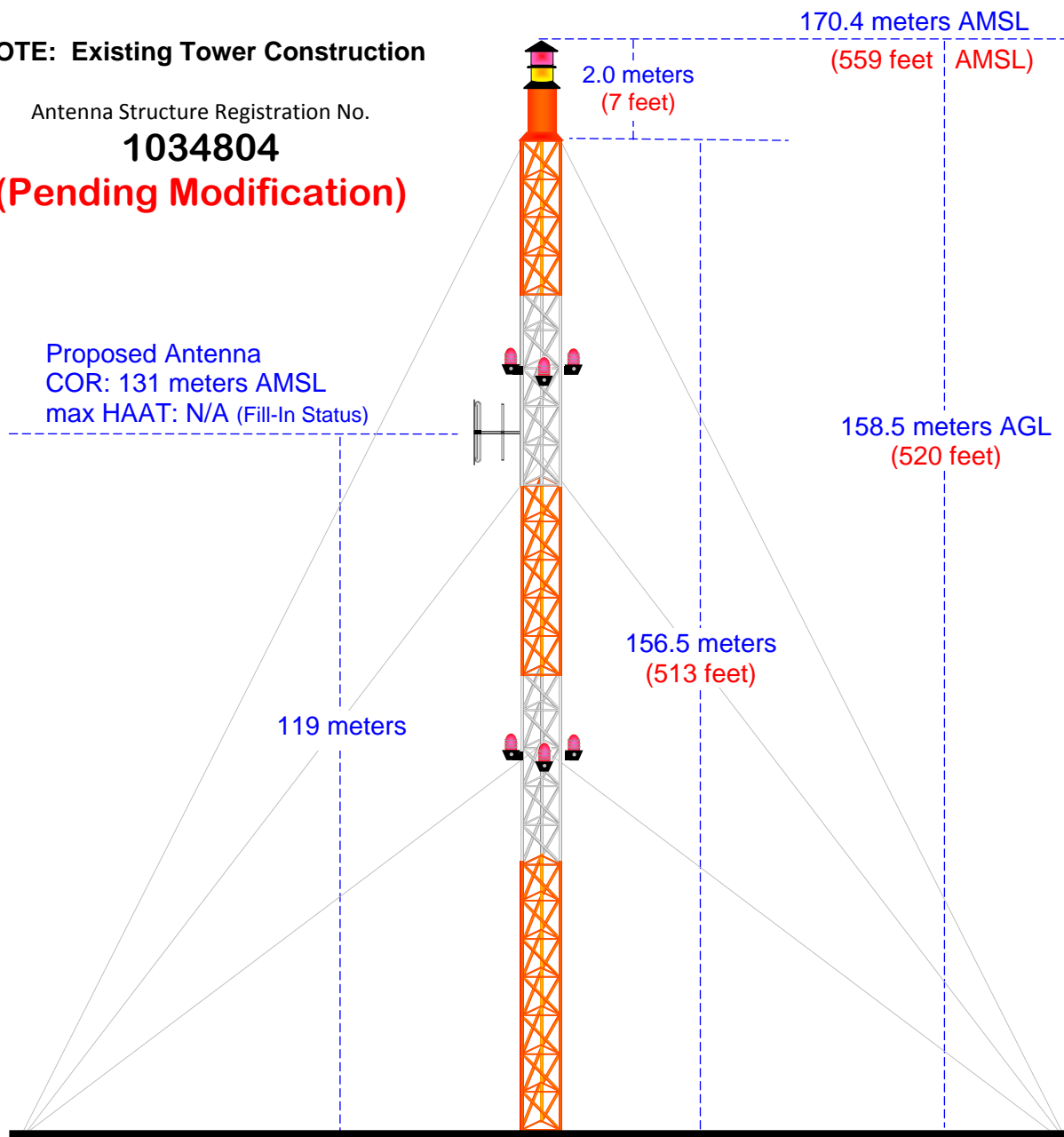
1034804

(Pending Modification)

Proposed Antenna

COR: 131 meters AMSL

max HAAT: N/A (Fill-In Status)



Ground Elevation = 11.9 m AMSL (39 feet)

Drawing is not to Scale

MUNN-REESE, INC.

Broadcast Engineering Consultants
Coldwater, MI 49036

Terrain

0

41 m

NED 03 SEC Terrain Database
US Census 2010 PL Database

Exhibit 13.4 Present vs Proposed Service Contour Study

W262BF.L
Georgetown, DE
BLFT20140703AAJ
Facility ID: 151579
Latitude: 38-42-29 N
Longitude: 075-24-21 W
ERP: 0.13 kW
Channel: 262D (100.3 MHz)
AMSL Height: 116.0 m
Horiz. Pattern: Omni

60 dBμ F(50:50) Contour
Total Population: 22,081
Coverage Area: 394 sq. km

CH264D.P
Georgetown, DE
Proposed Operation
Facility ID: 151579
Latitude: 38-31-28 N
Longitude: 075-17-54 W
ERP: 0.25 kW
Channel: 264D (100.7 MHz)
AMSL Height: 131.0 m
Horiz. Pattern: Directional

60 dBμ F(50:50) Contour
Total Population: 20,783
Coverage Area: 490 sq. km

Present 60 dBμ F(50:50) Contour

Proposed 60 dBμ F(50:50) Contour

CH264D.P

Scale 1:250,000
0 3 6 9 km

V-Soft Communications LLC ©



MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339

Terrain
-1 38 m

NED 03 SEC Terrain Database
US Census 2010 PL Database

Exhibit 13.5 Proposed vs. Primary Service Contour Study

WZBH.L
Georgetown, DE
BLH19881115KH
Facility ID: 25003
Latitude: 38-31-24 N
Longitude: 075-17-55 W
ERP: 11.00 kW
Channel: 228B1 (93.5 MHz)
AMSL Height: 158.0 m
Horiz. Pattern: Omni

CH264D.P
Georgetown, DE
Proposed Operation
Facility ID: 151579
Latitude: 38-31-28 N
Longitude: 075-17-54 W
ERP: 0.25 kW
Channel: 264D (100.7 MHz)
AMSL Height: 131.0 m
Horiz. Pattern: Directional

**WZBH.L +
CH264D.P**

Primary 57 dBμ F(50:50) Contour

Proposed 57 dBμ F(50:50) Contour

Scale 1:575,000

0 8 16 24 km

V-Soft Communications LLC ® ©



MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339

Exhibit 13.6

Tabulation of Proposed Allocation

Adams Radio Of Delmarva Peninsula, Lic CH# 264D - 100.7 MHz, Pwr= 0.25 kW DA, HAAT= 121.0 M, COR= 131 M Average Protected F(50-50)= 14.13 km Standard Directional REFERENCE 38 31 28.0 N. 75 17 54.0 W. DISPLAY DATES DATA 03-16-15 SEARCH 03-19-15											
CH CITY	CALL	TYPE STATE	ANT AZI --	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
264B Wilmington	WZXL	LIC_CX NJ	34.5 214.8	81.11 BMLH20060118ADA	39 07 28.0 74 45 56.0	38.000 101	124.5 104	55.1 Equity Communications, L.p	-48.7*<	1.3	
265A Hurllock	WAAI	LIC_CN MD	282.4 102.0	52.52 BLH19990902AAO	38 37 28.0 75 53 20.0	1.300 153	35.8 158	23.9 Mts Broadcasting, L.c.	2.8	7.6	
264D Pocomoke City	W264BJ	LIC_C_ MD	204.4 24.2	57.51 BLFT20070628AAF	38 03 11.0 75 34 11.0	0.170 32	21.5 35	6.4 Bay Broadcasting, Inc.	22.0	3.4	
263L1 Salisbury	WRBY-LP	CP MD	237.0 56.9	31.90 BNPL20131028APL	38 22 04.6 75 36 19.8	0.100 22	32	10.1 Rebirth Inc.	5.4		
262D Georgetown	W262BF	LIC_E_ DE	335.5 155.4	22.44 BLFT20140703AAJ	38 42 29.0 75 24 21.0	0.130 116	0.8 116	11.2 Adams Radio Of Delmarva	7.6	10.1	Pe
266A Snow Hill	WRYD	LIC_NCX MD	183.5 3.5	34.37 BLH20021231AEH	38 12 57.0 75 19 21.0	1.200 149	1.9 152	23.2 Bayshore Media, Lic	18.4	10.0	
267A Millsford	WNCL	LIC_CN DE	336.5 156.3	40.20 BLH19901119KH	38 51 21.0 75 29 02.0	3.000 100	2.2 109	23.6 Delmarva Broadcasting Comp	23.9	15.5	
264B Westminster	WZBA	LIC_ZCX MD	309.2 128.2	164.07 BLH20081117ADX	39 26 50.0 76 46 48.0	25.000 210	132.8 366	67.0 Shamrock Communications, I	17.3	33.9	
261D Camden	W261AE	LIC_C_ DE	342.5 162.3	68.88 BLFT19970630TF	39 06 54.0 75 32 20.0	0.170 32	0.9 39	6.4 Faith Community Church	54.9	61.5	
261D Easton	W261AU	LIC_C_ MD	293.6 113.1	72.14 BLFT20050811ABM	38 46 53.0 76 03 41.0	0.100 22	0.7 27	5.6 Easton Wolc Support Group	57.6	65.4	
262D Cape May	W262CH	CP_C_ NJ	33.3 213.6	69.93 BNPFT20130328APY	39 02 58.0 74 51 14.0	0.080 50	0.6 51	6.6 Hope Christian Church Of M	64.1	63.2	
263D Warwick	W263CQ	CP_C_ MD	333.9 153.6	104.10 BNPFT20130826ACH	39 21 51.0 75 49 52.0	0.055 62	9.3 71	6.4 Hope Christian Church Of M	80.8	76.5	
210A Woodbine	WJPH	CP_DCX NJ	23.9 204.2	89.58 BPED20140204ABX	39 15 37.0 74 52 35.0	1.700 50	132.6 55	68.3 Maranatha Ministries/joy C	9.5R	80.1M	
267D Palermo	W267BP	LIC_C_ NJ	34.1 214.5	94.78 BLFT20131125CAY	39 13 44.6 74 40 54.4	0.250 85	1.1 86	11.8 Edward A. Schober	88.5	82.8	
210A Woodbine	WJPH	LIC_DCX NJ	24.5 204.8	92.49 BLED20050418AAK	39 16 51.0 74 51 11.0	1.000 32	132.6 38	68.3 Maranatha Ministries/joy C	9.5R	83.0M	
211B Nassawadox	WHRX	LIC_CX VA	201.8 21.6	101.38 BLED20120829ADP	37 40 38.0 75 43 37.0	46.000 68	132.6 73	68.3 Hampton Roads Educational	14.5R	86.9M	

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
 Contour distances are on direct line to and from reference station. Reference zone= East Zone, Co to 3rd adjacent.
 All separation margins (if shown) include rounding.
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 ""affixed to 'IN' or 'OUT' values = site inside restricted contour.
 < = Contour Overlap

Green Text denotes the W262BF - Georgetown, DE (Facility ID: 151579) facility to be modified by this Form 349 Filing. This facility need not be protected.

Blue Highlighted Text denotes supplemental contour protection studies toward select stations as included in **Exhibit 13.7**.

Exhibit 13.7

Contour Protection Studies Toward WZXL(FM) - Wildwood, NJ

Adams Radio Of Delmarva Peninsula, Llc

FMCommander Single Allocation Study - 03-19-2015 - NED 03 SEC
CH264D.P's Overlaps (In= -48.66 km, Out= 1.26 km)

CH264D.P CH 264 D DA
Lat= 38 31 28.0, Lng= 75 17 54.0
0.25 kW 121 M HAAT, 131 M COR
Prot.= 60 dBu, Intef.= 34 dBu

WZXL CH 264 B BMLH20060118ADA
Lat= 39 07 28.0, Lng= 74 45 56.0
38.0 kW 101 M HAAT, 104 M COR
Prot.= 54 dBu, Intef.= 40 dBu

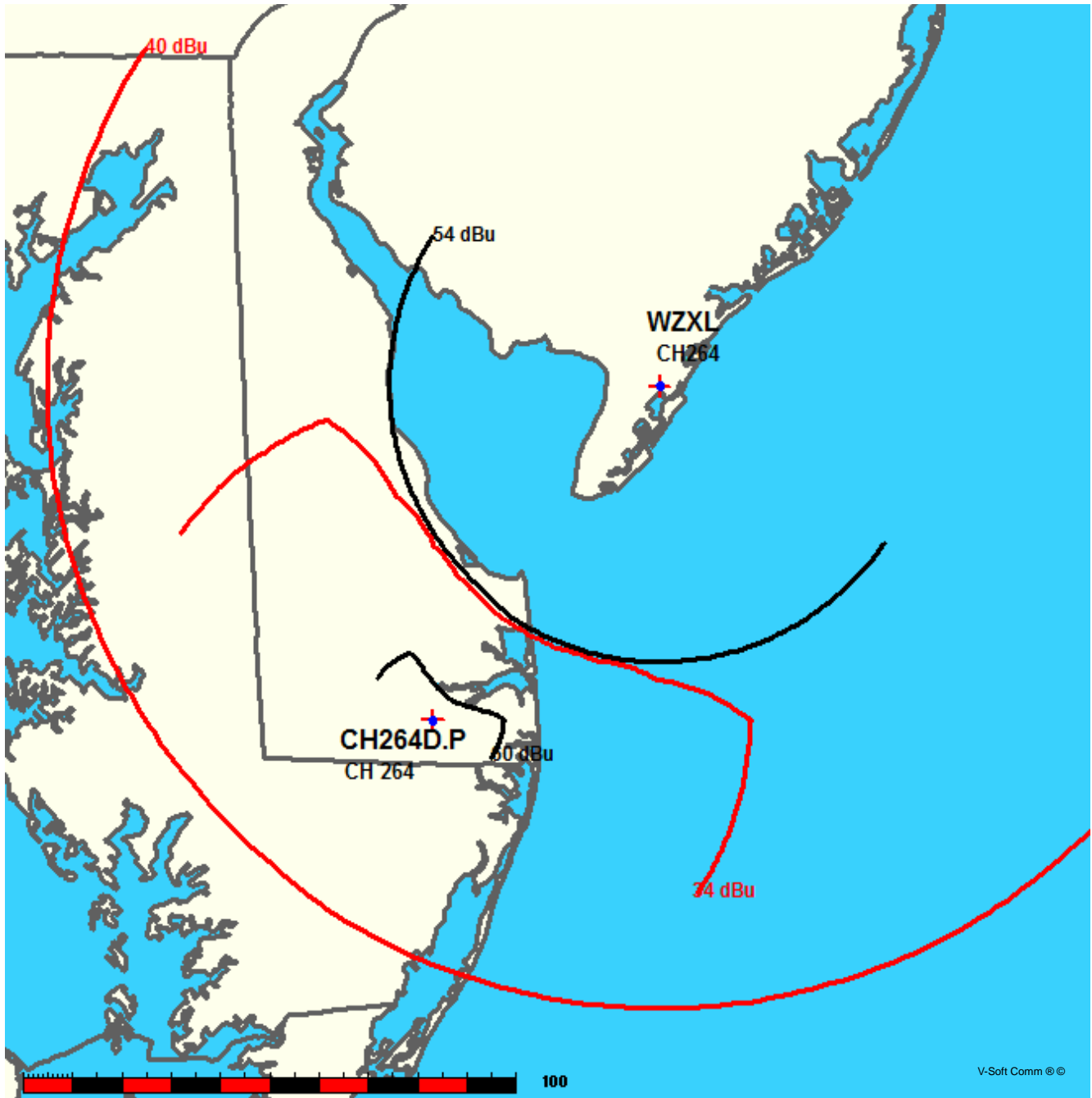


Exhibit 13.7

Contour Protection Studies Toward WZXL(FM) - Wildwood, NJ

03-19-2015

Terrain Data: NED 03 SEC

FMOver Analysis

CH264D.P

WZXL BMLH20060118ADA

Channel = 264D

Max ERP = 0.25 kW

RCAMSL = 131 M

N. Lat. 38 31 28.0

W. Lng. 75 17 54.0

Protected

60 dBu

Channel = 264B

Max ERP = 38 kW

RCAMSL = 104 M

N. Lat. 39 07 28.0

W. Lng. 74 45 56.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
352.0	000.0424	0122.0	009.2	219.6	038.0000	0100.8	074.6	51.44*	49.59
353.0	000.0386	0122.4	009.0	219.4	038.0000	0100.8	074.6	51.44*	49.58
354.0	000.0350	0122.8	008.8	219.2	038.0000	0100.9	074.6	51.43*	49.55
355.0	000.0315	0122.8	008.6	219.0	038.0000	0100.9	074.7	51.42*	49.50
356.0	000.0282	0122.6	008.3	218.8	038.0000	0100.9	074.8	51.40*	49.43
357.0	000.0251	0122.6	008.1	218.6	038.0000	0101.0	074.9	51.37*	49.35
358.0	000.0222	0122.2	007.8	218.4	038.0000	0101.1	075.0	51.35*	49.26
359.0	000.0195	0122.4	007.6	218.2	038.0000	0101.1	075.1	51.32*	49.16
000.0	000.0169	0122.6	007.3	218.0	038.0000	0101.2	075.2	51.29*	49.07
001.0	000.0159	0122.4	007.2	217.9	038.0000	0101.3	075.2	51.29*	49.07
002.0	000.0149	0122.2	007.1	217.7	038.0000	0101.4	075.2	51.29*	49.06
003.0	000.0139	0122.0	007.0	217.6	038.0000	0101.4	075.3	51.29*	49.05
004.0	000.0130	0122.0	006.9	217.5	038.0000	0101.5	075.3	51.28*	49.03
005.0	000.0121	0121.9	006.7	217.4	038.0000	0101.6	075.3	51.28*	49.01
006.0	000.0112	0121.8	006.6	217.2	038.0000	0101.7	075.4	51.27*	48.99
007.0	000.0104	0121.9	006.5	217.1	038.0000	0101.8	075.4	51.26*	48.95
008.0	000.0096	0122.2	006.4	217.0	038.0000	0101.8	075.5	51.25*	48.92
009.0	000.0088	0122.4	006.3	216.9	038.0000	0101.9	075.5	51.24*	48.88
010.0	000.0081	0122.5	006.1	216.8	038.0000	0102.0	075.6	51.22*	48.82
011.0	000.0078	0122.6	006.1	216.7	038.0000	0102.0	075.6	51.23*	48.83
012.0	000.0076	0122.6	006.0	216.6	038.0000	0102.1	075.6	51.23*	48.84
013.0	000.0073	0122.7	006.0	216.5	038.0000	0102.1	075.6	51.23*	48.84
014.0	000.0071	0123.1	005.9	216.4	038.0000	0102.2	075.6	51.23*	48.85
015.0	000.0068	0123.2	005.9	216.3	038.0000	0102.3	075.6	51.23*	48.85
016.0	000.0066	0123.2	005.8	216.2	038.0000	0102.3	075.6	51.23*	48.85
017.0	000.0063	0123.3	005.8	216.2	038.0000	0102.4	075.6	51.23*	48.84
018.0	000.0061	0123.6	005.7	216.1	038.0000	0102.4	075.6	51.23*	48.84
019.0	000.0059	0123.7	005.7	216.0	038.0000	0102.4	075.7	51.22*	48.82
020.0	000.0056	0123.9	005.6	215.9	038.0000	0102.5	075.7	51.22*	48.80
021.0	000.0055	0123.9	005.6	215.8	038.0000	0102.5	075.7	51.22*	48.79
022.0	000.0053	0123.9	005.5	215.7	038.0000	0102.5	075.7	51.21*	48.77
023.0	000.0052	0123.8	005.5	215.7	038.0000	0102.5	075.7	51.21*	48.76
024.0	000.0050	0123.7	005.5	215.6	038.0000	0102.5	075.8	51.20*	48.74
025.0	000.0049	0123.9	005.4	215.5	038.0000	0102.5	075.8	51.20*	48.72

Exhibit 13.7

Contour Protection Studies Toward WZXL(FM) - Wildwood, NJ

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
026.0	000.0048	0124.1	005.4	215.4	038.0000	0102.5	075.8	51.19* 48.70
027.0	000.0046	0124.2	005.3	215.4	038.0000	0102.6	075.8	51.18* 48.68
028.0	000.0045	0124.3	005.3	215.3	038.0000	0102.6	075.9	51.18* 48.66
029.0	000.0044	0124.5	005.3	215.2	038.0000	0102.6	075.9	51.17* 48.63
030.0	000.0042	0124.6	005.2	215.2	038.0000	0102.6	075.9	51.16* 48.60
031.0	000.0042	0124.7	005.2	215.1	038.0000	0102.7	075.9	51.17* 48.62
032.0	000.0042	0124.7	005.2	215.0	038.0000	0102.7	075.9	51.17* 48.63
033.0	000.0042	0125.0	005.2	214.9	038.0000	0102.7	075.9	51.18* 48.65
034.0	000.0042	0124.9	005.2	214.9	038.0000	0102.8	075.9	51.18* 48.66
035.0	000.0042	0124.9	005.2	214.8	038.0000	0102.8	075.9	51.18* 48.67
036.0	000.0042	0125.0	005.2	214.7	038.0000	0102.9	075.9	51.18* 48.68
037.0	000.0042	0124.9	005.2	214.7	038.0000	0103.0	075.9	51.19* 48.68
038.0	000.0042	0124.7	005.2	214.6	038.0000	0103.0	075.9	51.19* 48.68
039.0	000.0042	0124.8	005.2	214.5	038.0000	0103.1	075.9	51.19* 48.69
040.0	000.0042	0124.8	005.2	214.5	038.0000	0103.1	075.9	51.19* 48.69
041.0	000.0043	0125.1	005.2	214.4	038.0000	0103.2	075.9	51.20* 48.71
042.0	000.0044	0125.2	005.3	214.3	038.0000	0103.2	075.9	51.20* 48.74
043.0	000.0044	0125.4	005.3	214.3	038.0000	0103.3	075.9	51.21* 48.75
044.0	000.0045	0125.6	005.3	214.2	038.0000	0103.3	075.9	51.21* 48.77
045.0	000.0046	0125.6	005.3	214.1	038.0000	0103.3	075.9	51.21* 48.78
046.0	000.0046	0125.8	005.4	214.0	038.0000	0103.4	075.9	51.22* 48.79
047.0	000.0047	0126.0	005.4	214.0	038.0000	0103.4	075.9	51.22* 48.80
048.0	000.0048	0126.1	005.4	213.9	038.0000	0103.5	075.9	51.22* 48.81
049.0	000.0048	0126.3	005.4	213.8	038.0000	0103.5	075.9	51.22* 48.81
050.0	000.0049	0126.4	005.5	213.7	038.0000	0103.6	075.9	51.23* 48.82
051.0	000.0051	0126.4	005.5	213.7	038.0000	0103.6	075.8	51.24* 48.86
052.0	000.0053	0126.6	005.6	213.6	038.0000	0103.7	075.8	51.25* 48.90
053.0	000.0056	0126.8	005.7	213.5	038.0000	0103.7	075.8	51.26* 48.94
054.0	000.0058	0126.8	005.7	213.4	038.0000	0103.7	075.8	51.27* 48.96
055.0	000.0060	0126.9	005.8	213.3	038.0000	0103.8	075.7	51.27* 48.98
056.0	000.0062	0127.0	005.8	213.2	038.0000	0103.8	075.7	51.28* 49.00
057.0	000.0065	0127.1	005.9	213.1	038.0000	0103.8	075.7	51.28* 49.02
058.0	000.0067	0127.3	005.9	213.0	038.0000	0103.8	075.7	51.29* 49.03
059.0	000.0070	0127.9	006.0	213.0	038.0000	0103.8	075.7	51.29* 49.05
060.0	000.0072	0128.6	006.1	212.9	038.0000	0103.9	075.7	51.30* 49.07
061.0	000.0079	0128.8	006.2	212.7	038.0000	0103.9	075.6	51.32* 49.15
062.0	000.0086	0128.3	006.4	212.6	038.0000	0103.9	075.5	51.34* 49.21
063.0	000.0094	0127.4	006.5	212.5	038.0000	0103.9	075.5	51.35* 49.25
064.0	000.0102	0126.9	006.6	212.4	038.0000	0103.9	075.5	51.36* 49.30
065.0	000.0110	0126.8	006.7	212.3	038.0000	0104.0	075.4	51.38* 49.34
066.0	000.0119	0126.8	006.8	212.1	038.0000	0104.0	075.4	51.39* 49.38
067.0	000.0128	0126.5	006.9	212.0	038.0000	0104.0	075.4	51.39* 49.40
068.0	000.0137	0126.2	007.0	211.9	038.0000	0104.0	075.3	51.40* 49.42
069.0	000.0146	0126.0	007.2	211.8	038.0000	0104.0	075.3	51.40* 49.43
070.0	000.0156	0125.6	007.3	211.6	038.0000	0104.0	075.3	51.41* 49.44
071.0	000.0182	0125.4	007.5	211.4	038.0000	0104.0	075.2	51.44* 49.56

Exhibit 13.7

Contour Protection Studies Toward WZXL(FM) - Wildwood, NJ

03-19-2015

Terrain Data: NED 03 SEC

FMOVer Analysis

WZXL BMLH20060118ADA

CH264D.P

Channel = 264B

Max ERP = 38 kW

RCAMSL = 104 M

N. Lat. 39 07 28.0

W. Lng. 74 45 56.0

Protected

54 dBu

Channel = 264D

Max ERP = 0.25 kW

RCAMSL = 131 M

N. Lat. 38 31 28.0

W. Lng. 75 17 54.0

Interfering

34 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
170.0	038.0000	0103.8	055.3	077.4	000.0397	0125.1	057.2	28.59	
171.0	038.0000	0103.8	055.3	077.4	000.0395	0125.1	056.3	28.93	
172.0	038.0000	0103.8	055.3	077.3	000.0393	0125.1	055.3	29.27	
173.0	038.0000	0103.8	055.3	077.2	000.0390	0125.1	054.4	29.61	
174.0	038.0000	0103.9	055.3	077.1	000.0386	0125.1	053.4	29.94	
175.0	038.0000	0103.8	055.3	077.0	000.0381	0125.1	052.4	30.25	
176.0	038.0000	0103.8	055.3	076.9	000.0374	0125.1	051.5	30.56	
177.0	038.0000	0103.8	055.3	076.7	000.0368	0125.1	050.5	30.85	
178.0	038.0000	0103.7	055.3	076.5	000.0359	0125.2	049.6	31.13	
179.0	038.0000	0103.8	055.3	076.2	000.0351	0125.2	048.6	31.39	
180.0	038.0000	0103.7	055.3	076.0	000.0341	0125.3	047.7	31.64	
181.0	038.0000	0103.8	055.3	075.7	000.0331	0125.3	046.8	31.87	
182.0	038.0000	0103.8	055.3	075.4	000.0319	0125.3	045.8	32.09	
183.0	038.0000	0103.8	055.3	075.0	000.0306	0125.3	044.9	32.29	
184.0	038.0000	0103.7	055.3	074.6	000.0293	0125.4	044.0	32.47	
185.0	038.0000	0103.8	055.3	074.2	000.0279	0125.4	043.1	32.65	
186.0	038.0000	0103.9	055.3	073.7	000.0264	0125.5	042.2	32.80	
187.0	038.0000	0104.0	055.3	073.3	000.0248	0125.6	041.3	32.93	
188.0	038.0000	0103.9	055.3	072.7	000.0231	0125.7	040.4	33.01	
189.0	038.0000	0103.9	055.3	072.1	000.0212	0125.7	039.5	33.03	
190.0	038.0000	0103.8	055.3	071.4	000.0193	0125.6	038.7	33.00	
191.0	038.0000	0103.8	055.3	070.7	000.0174	0125.4	037.9	32.92	
192.0	038.0000	0103.8	055.3	069.9	000.0156	0125.7	037.0	32.83	
193.0	038.0000	0103.7	055.3	069.1	000.0147	0125.9	036.2	32.99	
194.0	038.0000	0103.7	055.3	068.2	000.0139	0126.1	035.4	33.12	
195.0	038.0000	0103.9	055.3	067.3	000.0131	0126.5	034.6	33.27	
196.0	038.0000	0103.9	055.3	066.3	000.0122	0126.7	033.9	33.33	
197.0	038.0000	0103.9	055.3	065.3	000.0113	0126.9	033.1	33.37	
198.0	038.0000	0103.9	055.3	064.1	000.0103	0126.9	032.4	33.34	

MUNN-REESE, INC.

Broadcast Engineering Consultants

COLDWATER, MI 49036

Exhibit 13.7

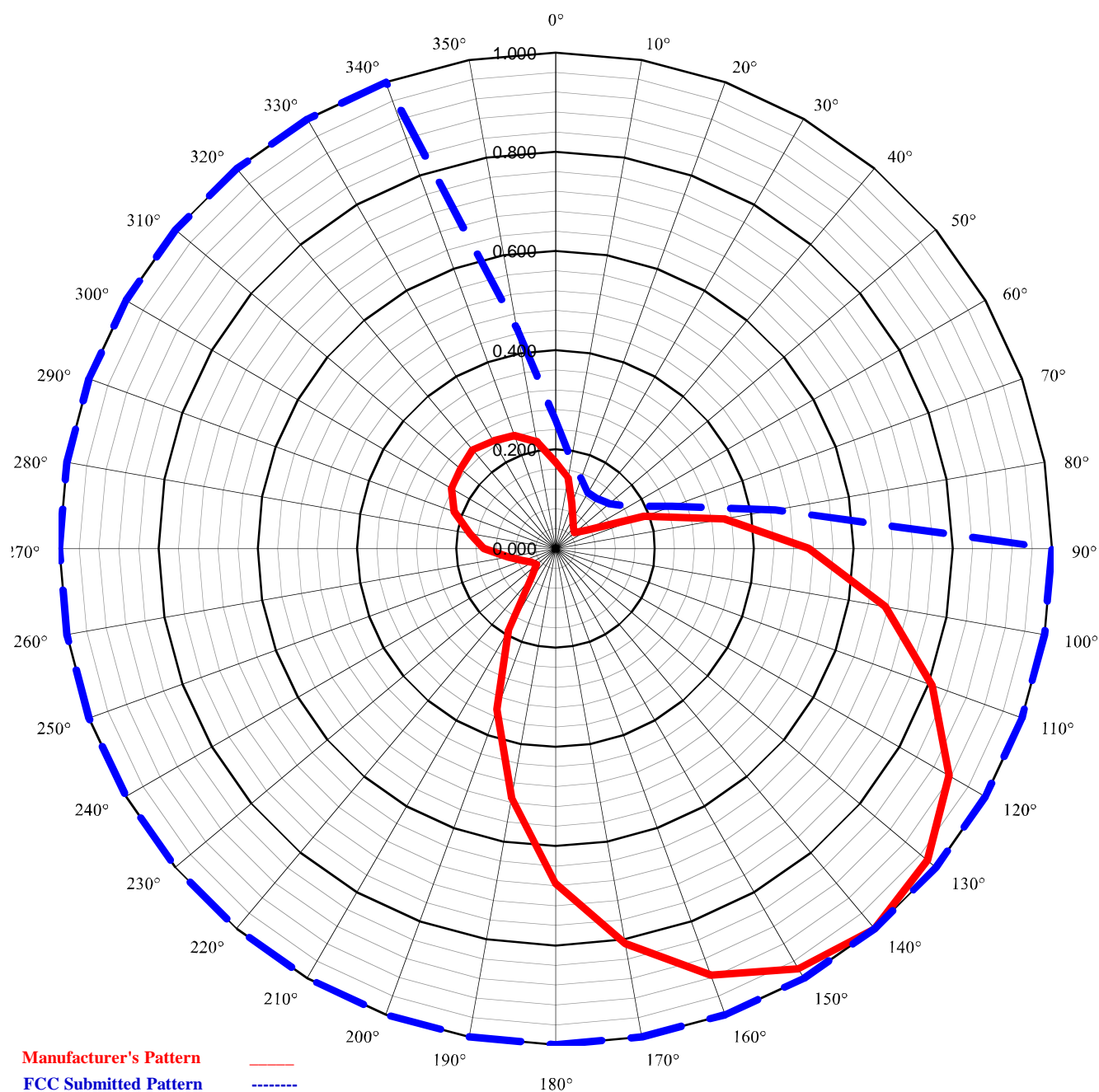
Contour Protection Studies Toward WZXL(FM) - Wildwood, NJ

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
199.0	038.0000	0104.0	055.3	062.9	000.0094	0127.4	031.7	33.30
200.0	038.0000	0104.0	055.3	061.6	000.0084	0128.5	031.1	33.24
201.0	038.0000	0103.9	055.3	060.3	000.0074	0128.8	030.4	33.07
202.0	038.0000	0104.0	055.3	058.9	000.0069	0127.8	029.8	33.05
203.0	038.0000	0104.0	055.3	057.3	000.0066	0127.1	029.3	33.10
204.0	038.0000	0104.0	055.3	055.7	000.0062	0126.9	028.7	33.15
205.0	038.0000	0104.0	055.3	054.1	000.0058	0126.8	028.2	33.16
206.0	038.0000	0104.0	055.3	052.3	000.0054	0126.7	027.8	33.14
207.0	038.0000	0103.9	055.3	050.5	000.0050	0126.5	027.4	33.05
208.0	038.0000	0103.9	055.3	048.6	000.0048	0126.3	027.0	33.10
209.0	038.0000	0104.0	055.3	046.7	000.0047	0126.0	026.7	33.17
210.0	038.0000	0104.0	055.3	044.7	000.0045	0125.6	026.4	33.20
211.0	038.0000	0104.0	055.3	042.6	000.0044	0125.3	026.2	33.21
212.0	038.0000	0104.0	055.3	040.6	000.0043	0125.0	026.0	33.16
213.0	038.0000	0103.8	055.3	038.4	000.0042	0124.8	025.9	33.18
214.0	038.0000	0103.4	055.2	036.3	000.0042	0124.9	025.9	33.18
215.0	038.0000	0102.7	055.1	034.2	000.0042	0125.0	026.0	33.11
216.0	038.0000	0102.4	055.0	032.1	000.0042	0124.7	026.1	33.04
217.0	038.0000	0101.8	054.9	030.0	000.0042	0124.6	026.3	32.89
218.0	038.0000	0101.2	054.8	028.0	000.0045	0124.3	026.6	32.97
219.0	038.0000	0100.9	054.7	026.0	000.0048	0124.1	026.8	33.05
220.0	038.0000	0100.7	054.7	024.0	000.0050	0123.7	027.1	33.08
221.0	038.0000	0100.4	054.7	022.2	000.0053	0124.0	027.4	33.12
222.0	038.0000	0100.2	054.6	020.3	000.0056	0123.8	027.8	33.09
223.0	038.0000	0100.1	054.6	018.5	000.0060	0123.6	028.2	33.12
224.0	038.0000	0099.9	054.6	016.8	000.0064	0123.2	028.6	33.11
225.0	038.0000	0099.8	054.5	015.2	000.0068	0123.2	029.1	33.09
226.0	038.0000	0099.8	054.5	013.6	000.0072	0123.0	029.6	33.04
227.0	038.0000	0099.7	054.5	012.1	000.0075	0122.6	030.1	32.93
228.0	038.0000	0099.5	054.5	010.7	000.0079	0122.5	030.7	32.81
229.0	038.0000	0099.3	054.4	009.3	000.0086	0122.5	031.3	32.83
230.0	038.0000	0099.4	054.5	008.0	000.0096	0122.2	031.9	32.99
231.0	038.0000	0099.6	054.5	006.7	000.0106	0121.8	032.5	33.10
232.0	038.0000	0099.8	054.5	005.5	000.0117	0121.9	033.2	33.19
233.0	038.0000	0100.3	054.6	004.3	000.0128	0121.9	033.8	33.26
234.0	038.0000	0100.4	054.6	003.2	000.0137	0122.0	034.5	33.24
235.0	038.0000	0100.5	054.7	002.2	000.0147	0122.1	035.3	33.19
236.0	038.0000	0100.5	054.7	001.3	000.0156	0122.2	036.0	33.10
237.0	038.0000	0100.5	054.7	000.4	000.0165	0122.5	036.8	32.99
238.0	038.0000	0100.3	054.6	359.7	000.0177	0122.6	037.6	32.94
239.0	038.0000	0100.2	054.6	359.0	000.0196	0122.4	038.4	32.98
240.0	038.0000	0100.2	054.6	358.3	000.0214	0122.2	039.3	32.98
241.0	038.0000	0100.2	054.6	357.6	000.0233	0122.2	040.1	32.97
242.0	038.0000	0100.3	054.6	357.0	000.0251	0122.6	041.0	32.94
243.0	038.0000	0100.5	054.7	356.4	000.0269	0122.7	041.8	32.87
244.0	038.0000	0100.5	054.7	355.9	000.0285	0122.5	042.7	32.75

Exhibit 13.8

Manufacturer's Directional Antenna Pattern Documentation

Measured Composite Pattern in Relative Field



Call Sign: CH264D.P

Channel: CH264D

Max ERP: 0.250 kW (V)
--- kW (H)

Antenna Make: Kathrein-Scala

Model: CA2-FM-1DA(vertical only)

Licensee: Adams Radio of Delmarva Peninsula, LLC.

Munn-Reese, Inc.

Broadcast Engineering Consultants
Coldwater, MI 49036

Exhibit 13.8

Manufacturer's Directional Antenna Pattern Documentation

MEASURED PATTERN (from manufacturer)								SUBMITTED PATTERN (to FCC)							
Enter		Measured	Calculated			Measured	Relative	Enter		Submitted	Calculated			Submitted	Relative
Max ERP		Relative	dB		Equiv	Relative	Field	Max ERP		Relative	dB		Equiv	Relative	Field
(kW)	° True	Field	Change	Suppression	Power	Field ²	RMS	(kW)	° True	Field	Change	Suppression	Power	Field ²	RMS
0.250	0°	0.175	-1.91	-15.14	0.008	0.03	0.477	0.250	0°	0.260	-4.76	-11.70	0.017	0.07	0.861
	10°	0.145	-1.63	-16.77	0.005	0.02			10°	0.180	-3.19	-14.89	0.008	0.03	
	20°	0.097	-3.49	-20.26	0.002	0.01			20°	0.150	-1.58	-16.48	0.006	0.02	
	30°	0.070	-2.83	-23.10	0.001	0.00			30°	0.130	-1.24	-17.72	0.004	0.02	
	40°	0.055	-2.09	-25.19	0.001	0.00			40°	0.130	0.00	-17.72	0.004	0.02	
	50°	0.050	-0.83	-26.02	0.001	0.00			50°	0.140	0.64	-17.08	0.005	0.02	
	60°	0.075	3.52	-22.50	0.001	0.01			60°	0.170	1.69	-15.39	0.007	0.03	
	70°	0.190	8.07	-14.42	0.009	0.04			70°	0.250	3.35	-12.04	0.016	0.06	
	80°	0.345	5.18	-9.24	0.030	0.12			80°	0.450	5.11	-6.94	0.051	0.20	
	90°	0.510	3.40	-5.85	0.065	0.26			90°	1.000	6.94	0.00	0.250	1.00	
	100°	0.675	2.43	-3.41	0.114	0.46			100°	1.000	0.00	0.00	0.250	1.00	
	110°	0.808	1.56	-1.85	0.163	0.65			110°	1.000	0.00	0.00	0.250	1.00	
	120°	0.915	1.08	-0.77	0.209	0.84			120°	1.000	0.00	0.00	0.250	1.00	
	130°	0.978	0.58	-0.19	0.239	0.96			130°	1.000	0.00	0.00	0.250	1.00	
	140°	1.000	0.19	0.00	0.250	1.00			140°	1.000	0.00	0.00	0.250	1.00	
	150°	0.978	-0.19	-0.19	0.239	0.96			150°	1.000	0.00	0.00	0.250	1.00	
	160°	0.915	-0.58	-0.77	0.209	0.84			160°	1.000	0.00	0.00	0.250	1.00	
	170°	0.808	-1.08	-1.85	0.163	0.65			170°	1.000	0.00	0.00	0.250	1.00	
	180°	0.675	-1.56	-3.41	0.114	0.46			180°	1.000	0.00	0.00	0.250	1.00	
	190°	0.510	-2.43	-5.85	0.065	0.26			190°	1.000	0.00	0.00	0.250	1.00	
	200°	0.345	-3.40	-9.24	0.030	0.12			200°	1.000	0.00	0.00	0.250	1.00	
	210°	0.190	-5.18	-14.42	0.009	0.04			210°	1.000	0.00	0.00	0.250	1.00	
	220°	0.075	-8.07	-22.50	0.001	0.01			220°	1.000	0.00	0.00	0.250	1.00	
	230°	0.050	-3.52	-26.02	0.001	0.00			230°	1.000	0.00	0.00	0.250	1.00	
	240°	0.055	0.83	-25.19	0.001	0.00			240°	1.000	0.00	0.00	0.250	1.00	
	250°	0.070	2.09	-23.10	0.001	0.00			250°	1.000	0.00	0.00	0.250	1.00	
	260°	0.097	2.83	-20.26	0.002	0.01			260°	1.000	0.00	0.00	0.250	1.00	
	270°	0.145	3.49	-16.77	0.005	0.02			270°	1.000	0.00	0.00	0.250	1.00	
	280°	0.175	1.63	-15.14	0.008	0.03			280°	1.000	0.00	0.00	0.250	1.00	
	290°	0.218	1.91	-13.23	0.012	0.05			290°	1.000	0.00	0.00	0.250	1.00	
	300°	0.242	0.91	-12.32	0.015	0.06			300°	1.000	0.00	0.00	0.250	1.00	
	310°	0.250	0.28	-12.04	0.016	0.06			310°	1.000	0.00	0.00	0.250	1.00	
	320°	0.260	0.34	-11.70	0.017	0.07			320°	1.000	0.00	0.00	0.250	1.00	
	330°	0.250	-0.34	-12.04	0.016	0.06			330°	1.000	0.00	0.00	0.250	1.00	
	340°	0.242	-0.28	-12.32	0.015	0.06			340°	1.000	0.00	0.00	0.250	1.00	
	350°	0.218	-0.91	-13.23	0.012	0.05			350°	0.450	-6.94	-6.94	0.051	0.20	

Exhibit 13.8 - Manufacturer's Directional Antenna Pattern Documentation (Actual Pattern Rotated to 140°T)



CA2-FM FM DIPOLE REFLECTOR ANTENNA 4 dBd gain 88 to 108 MHz

The Scala CA2-FM is a ruggedly built dipole reflector antenna, designed for professional FM transmit and receive applications.

Like all Scala antennas, the CA2-FM is made of the finest materials resulting in superior performance and long service life.

The CA2-FM may be used stand-alone or in stacked arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.



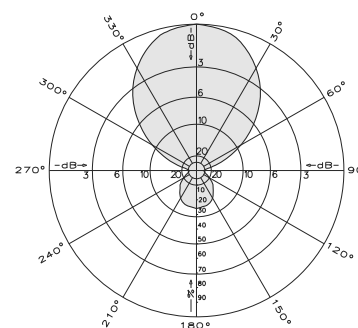
Specifications:

Frequency range	Any specified FM channel 88 to 108 MHz
Gain	4 dBd
Impedance	50 or 75 ohms
VSWR	< 1.5:1
Polarization	Horizontal or Vertical
Front-to-back ratio	>11 dB
Maximum input power	250 watts
Azimuth pattern	72 degrees (half-power)
Elevation pattern	80 degrees (half-power)
Connector	50Ω or 75Ω N female
Weight	5.7 lb (2.6 kg)
Dimensions	35.3 x 68.9 inches maximum (897 x 1750 mm)
Equivalent flat plate area	1.19 ft ² (0.11 m ²) maximum
Wind survival rating*	120 mph (194 kph)
Shipping dimensions	70 x 6 x 5 inches maximum (1778 x 152 x 127mm)
Shipping weight	10 lb (4.5 kg) maximum
Mounting	For masts of 2.375 inches (60 mm) OD.

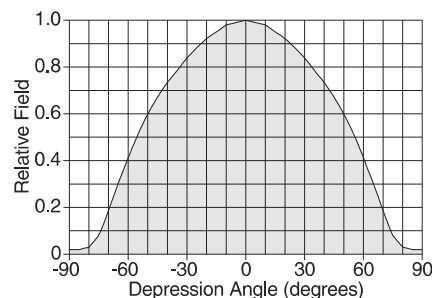
* Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

Order Information:

Contact Scala Customer Service for detailed order information.



Azimuth pattern (E-plane - typical)



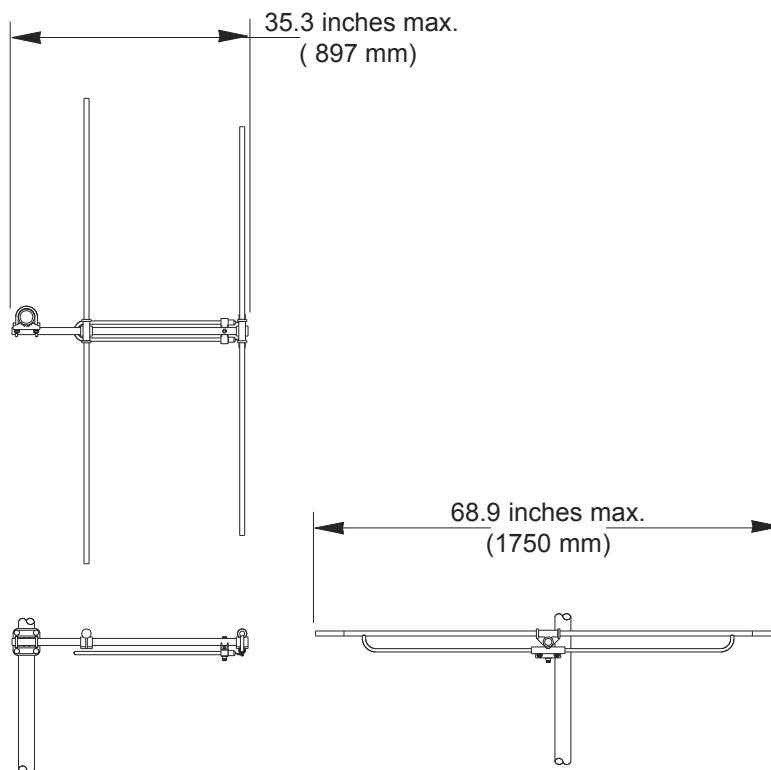
Elevation pattern (H-plane)



Exhibit 13.8 - Manufacturer's Directional Antenna Pattern Documentation (Actual Pattern Rotated to 140°T)



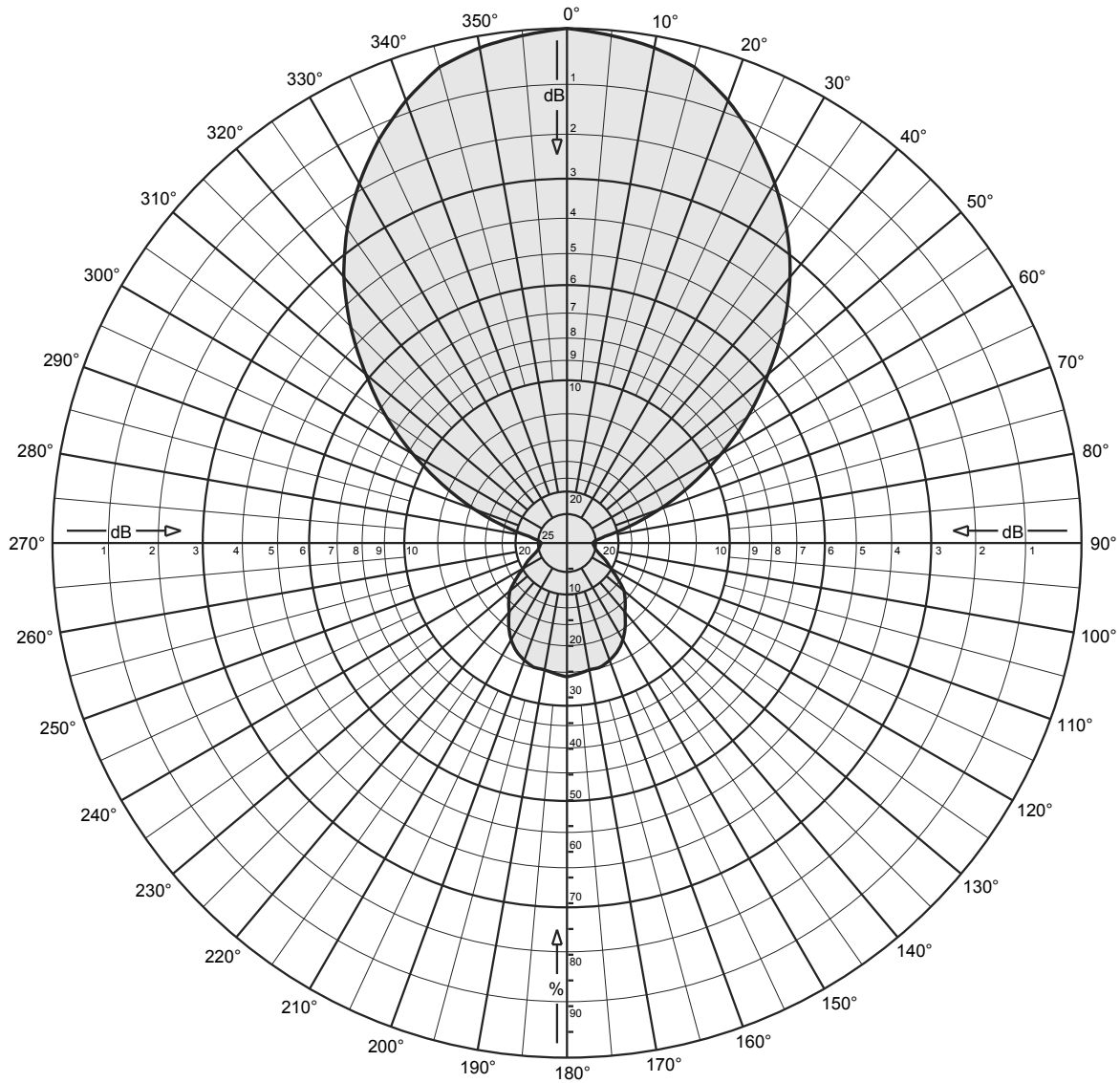
CA2-FM FM DIPOLE REFLECTOR ANTENNA 4 dBd gain 88 to 108 MHz



Order Information:

Contact Scala Customer Service for detailed order information.

Exhibit 13.8 - Manufacturer's Directional Antenna Pattern Documentation (Actual Pattern Rotated to 140°T)



CA2-FM Dipole/Reflector

FM

Maximum gain: 4.0 dBd

Horizontal or Vertical Polarization

Horizontal radiation pattern

0 degree electrical downtilt



Exhibit 13.8 - Manufacturer's Directional Antenna Pattern Documentation (Actual Pattern Rotated to 140°T)



CA2-FM Dipole/Reflector

radiation pattern

FM

0 degree electrical downtilt

Maximum gain: 4.0 dBd

Horizontal or Vertical Polarization

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	4.00	2.51	45	0.595	-4.51	-0.51	0.89
1	0.998	-0.02	3.98	2.50	46	0.578	-4.76	-0.76	0.84
2	0.996	-0.03	3.97	2.49	47	0.561	-5.02	-1.02	0.79
3	0.994	-0.05	3.95	2.48	48	0.544	-5.29	-1.29	0.74
4	0.992	-0.07	3.93	2.47	49	0.527	-5.56	-1.56	0.70
5	0.990	-0.09	3.91	2.46	50	0.510	-5.85	-1.85	0.65
6	0.988	-0.11	3.89	2.45	51	0.494	-6.13	-2.13	0.61
7	0.985	-0.13	3.87	2.44	52	0.478	-6.41	-2.41	0.57
8	0.982	-0.15	3.85	2.42	53	0.462	-6.71	-2.71	0.54
9	0.980	-0.18	3.82	2.41	54	0.446	-7.01	-3.01	0.50
10	0.978	-0.20	3.80	2.40	55	0.430	-7.33	-3.33	0.46
11	0.974	-0.23	3.77	2.38	56	0.413	-7.68	-3.68	0.43
12	0.970	-0.27	3.73	2.36	57	0.396	-8.05	-4.05	0.39
13	0.965	-0.30	3.70	2.34	58	0.379	-8.43	-4.43	0.36
14	0.961	-0.34	3.66	2.32	59	0.362	-8.83	-4.83	0.33
15	0.957	-0.38	3.62	2.30	60	0.345	-9.24	-5.24	0.30
16	0.949	-0.45	3.55	2.26	61	0.329	-9.66	-5.66	0.27
17	0.940	-0.53	3.47	2.22	62	0.313	-10.09	-6.09	0.25
18	0.932	-0.61	3.39	2.18	63	0.297	-10.54	-6.54	0.22
19	0.924	-0.69	3.31	2.14	64	0.281	-11.03	-7.03	0.20
20	0.915	-0.77	3.23	2.10	65	0.265	-11.54	-7.54	0.18
21	0.905	-0.87	3.13	2.06	66	0.250	-12.04	-8.04	0.16
22	0.895	-0.96	3.04	2.01	67	0.235	-12.58	-8.58	0.14
23	0.885	-1.06	2.94	1.97	68	0.220	-13.15	-9.15	0.12
24	0.875	-1.16	2.84	1.92	69	0.205	-13.76	-9.76	0.11
25	0.865	-1.26	2.74	1.88	70	0.190	-14.42	-10.42	0.09
26	0.854	-1.38	2.62	1.83	71	0.177	-15.04	-11.04	0.08
27	0.842	-1.49	2.51	1.78	72	0.164	-15.70	-11.70	0.07
28	0.831	-1.61	2.39	1.73	73	0.151	-16.42	-12.42	0.06
29	0.819	-1.73	2.27	1.68	74	0.138	-17.20	-13.20	0.05
30	0.808	-1.86	2.14	1.64	75	0.125	-18.06	-14.06	0.04
31	0.795	-1.99	2.01	1.59	76	0.115	-18.79	-14.79	0.03
32	0.783	-2.13	1.87	1.54	77	0.105	-19.58	-15.58	0.03
33	0.770	-2.27	1.73	1.49	78	0.095	-20.45	-16.45	0.02
34	0.757	-2.41	1.59	1.44	79	0.085	-21.41	-17.41	0.02
35	0.745	-2.56	1.44	1.39	80	0.075	-22.50	-18.50	0.01
36	0.731	-2.72	1.28	1.34	81	0.071	-22.97	-18.97	0.01
37	0.717	-2.89	1.11	1.29	82	0.067	-23.48	-19.48	0.01
38	0.703	-3.06	0.94	1.24	83	0.063	-24.01	-20.01	0.01
39	0.689	-3.24	0.76	1.19	84	0.059	-24.58	-20.58	0.01
40	0.675	-3.41	0.59	1.14	85	0.055	-25.19	-21.19	0.01
41	0.659	-3.62	0.38	1.09	86	0.054	-25.35	-21.35	0.01
42	0.643	-3.84	0.16	1.04	87	0.053	-25.51	-21.51	0.01
43	0.627	-4.05	-0.05	0.99	88	0.052	-25.68	-21.68	0.01
44	0.611	-4.28	-0.28	0.94	89	0.051	-25.85	-21.85	0.01

Exhibit 13.8 - Manufacturer's Directional Antenna Pattern Documentation (Actual Pattern Rotated to 140°T)



CA2-FM Dipole/Reflector

FM

Maximum gain: 4.0 dBd

Horizontal or Vertical Polarization

radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
90	0.050	-26.02	-22.02	0.01	135	0.160	-15.92	-11.92	0.06
91	0.051	-25.93	-21.93	0.01	136	0.163	-15.76	-11.76	0.07
92	0.051	-25.85	-21.85	0.01	137	0.166	-15.60	-11.60	0.07
93	0.052	-25.76	-21.76	0.01	138	0.169	-15.44	-11.44	0.07
94	0.052	-25.68	-21.68	0.01	139	0.172	-15.29	-11.29	0.07
95	0.053	-25.60	-21.60	0.01	140	0.175	-15.14	-11.14	0.08
96	0.053	-25.51	-21.51	0.01	141	0.179	-14.92	-10.92	0.08
97	0.054	-25.43	-21.43	0.01	142	0.184	-14.70	-10.70	0.09
98	0.054	-25.35	-21.35	0.01	143	0.188	-14.49	-10.49	0.09
99	0.055	-25.27	-21.27	0.01	144	0.193	-14.29	-10.29	0.09
100	0.055	-25.19	-21.19	0.01	145	0.197	-14.09	-10.09	0.10
101	0.056	-25.04	-21.04	0.01	146	0.201	-13.91	-9.91	0.10
102	0.057	-24.88	-20.88	0.01	147	0.205	-13.74	-9.74	0.11
103	0.058	-24.73	-20.73	0.01	148	0.209	-13.58	-9.58	0.11
104	0.059	-24.58	-20.58	0.01	149	0.213	-13.41	-9.41	0.11
105	0.060	-24.44	-20.44	0.01	150	0.218	-13.25	-9.25	0.12
106	0.062	-24.15	-20.15	0.01	151	0.220	-13.13	-9.13	0.12
107	0.064	-23.88	-19.88	0.01	152	0.224	-13.01	-9.01	0.13
108	0.066	-23.61	-19.61	0.01	153	0.226	-12.90	-8.90	0.13
109	0.068	-23.35	-19.35	0.01	154	0.230	-12.78	-8.78	0.13
110	0.070	-23.10	-19.10	0.01	155	0.233	-12.67	-8.67	0.14
111	0.073	-22.73	-18.73	0.01	156	0.235	-12.60	-8.60	0.14
112	0.076	-22.38	-18.38	0.01	157	0.236	-12.52	-8.52	0.14
113	0.079	-22.05	-18.05	0.02	158	0.238	-12.45	-8.45	0.14
114	0.082	-21.72	-17.72	0.02	159	0.241	-12.38	-8.38	0.15
115	0.085	-21.41	-17.41	0.02	160	0.242	-12.31	-8.31	0.15
116	0.087	-21.16	-17.16	0.02	161	0.244	-12.25	-8.25	0.15
117	0.090	-20.92	-16.92	0.02	162	0.246	-12.20	-8.20	0.15
118	0.093	-20.68	-16.68	0.02	163	0.247	-12.15	-8.15	0.15
119	0.095	-20.45	-16.45	0.02	164	0.248	-12.09	-8.09	0.16
120	0.097	-20.22	-16.22	0.02	165	0.250	-12.04	-8.04	0.16
121	0.102	-19.83	-15.83	0.03	166	0.250	-12.04	-8.04	0.16
122	0.107	-19.45	-15.45	0.03	167	0.250	-12.04	-8.04	0.16
123	0.111	-19.09	-15.09	0.03	168	0.250	-12.04	-8.04	0.16
124	0.115	-18.75	-14.75	0.03	169	0.250	-12.04	-8.04	0.16
125	0.120	-18.42	-14.42	0.04	170	0.250	-12.04	-8.04	0.16
126	0.125	-18.06	-14.06	0.04	171	0.251	-12.01	-8.01	0.16
127	0.130	-17.72	-13.72	0.04	172	0.252	-11.97	-7.97	0.16
128	0.135	-17.39	-13.39	0.05	173	0.253	-11.94	-7.94	0.16
129	0.140	-17.08	-13.08	0.05	174	0.254	-11.90	-7.90	0.16
130	0.145	-16.77	-12.77	0.05	175	0.255	-11.87	-7.87	0.16
131	0.148	-16.59	-12.59	0.06	176	0.256	-11.84	-7.84	0.16
132	0.151	-16.42	-12.42	0.06	177	0.257	-11.80	-7.80	0.17
133	0.154	-16.25	-12.25	0.06	178	0.258	-11.77	-7.77	0.17
134	0.157	-16.08	-12.08	0.06	179	0.259	-11.73	-7.73	0.17

Exhibit 13.8 - Manufacturer's Directional Antenna Pattern Documentation (Actual Pattern Rotated to 140°T)



CA2-FM Dipole/Reflector

FM

Maximum gain: 4.0 dBd

Horizontal or Vertical Polarization

radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
180	0.260	-11.70	-7.70	0.17	225	0.160	-15.92	-11.92	0.06
181	0.259	-11.73	-7.73	0.17	226	0.157	-16.08	-12.08	0.06
182	0.258	-11.77	-7.77	0.17	227	0.154	-16.25	-12.25	0.06
183	0.257	-11.80	-7.80	0.17	228	0.151	-16.42	-12.42	0.06
184	0.256	-11.84	-7.84	0.16	229	0.148	-16.59	-12.59	0.06
185	0.255	-11.87	-7.87	0.16	230	0.145	-16.77	-12.77	0.05
186	0.254	-11.90	-7.90	0.16	231	0.140	-17.08	-13.08	0.05
187	0.253	-11.94	-7.94	0.16	232	0.135	-17.39	-13.39	0.05
188	0.252	-11.97	-7.97	0.16	233	0.130	-17.72	-13.72	0.04
189	0.251	-12.01	-8.01	0.16	234	0.125	-18.06	-14.06	0.04
190	0.250	-12.04	-8.04	0.16	235	0.120	-18.42	-14.42	0.04
191	0.250	-12.04	-8.04	0.16	236	0.115	-18.75	-14.75	0.03
192	0.250	-12.04	-8.04	0.16	237	0.111	-19.09	-15.09	0.03
193	0.250	-12.04	-8.04	0.16	238	0.107	-19.45	-15.45	0.03
194	0.250	-12.04	-8.04	0.16	239	0.102	-19.83	-15.83	0.03
195	0.250	-12.04	-8.04	0.16	240	0.097	-20.22	-16.22	0.02
196	0.248	-12.09	-8.09	0.16	241	0.095	-20.45	-16.45	0.02
197	0.247	-12.15	-8.15	0.15	242	0.093	-20.68	-16.68	0.02
198	0.246	-12.20	-8.20	0.15	243	0.090	-20.92	-16.92	0.02
199	0.244	-12.25	-8.25	0.15	244	0.087	-21.16	-17.16	0.02
200	0.242	-12.31	-8.31	0.15	245	0.085	-21.41	-17.41	0.02
201	0.241	-12.38	-8.38	0.15	246	0.082	-21.72	-17.72	0.02
202	0.238	-12.45	-8.45	0.14	247	0.079	-22.05	-18.05	0.02
203	0.236	-12.52	-8.52	0.14	248	0.076	-22.38	-18.38	0.01
204	0.235	-12.60	-8.60	0.14	249	0.073	-22.73	-18.73	0.01
205	0.233	-12.67	-8.67	0.14	250	0.070	-23.10	-19.10	0.01
206	0.230	-12.78	-8.78	0.13	251	0.068	-23.35	-19.35	0.01
207	0.226	-12.90	-8.90	0.13	252	0.066	-23.61	-19.61	0.01
208	0.224	-13.01	-9.01	0.13	253	0.064	-23.88	-19.88	0.01
209	0.220	-13.13	-9.13	0.12	254	0.062	-24.15	-20.15	0.01
210	0.218	-13.25	-9.25	0.12	255	0.060	-24.44	-20.44	0.01
211	0.213	-13.41	-9.41	0.11	256	0.059	-24.58	-20.58	0.01
212	0.209	-13.58	-9.58	0.11	257	0.058	-24.73	-20.73	0.01
213	0.205	-13.74	-9.74	0.11	258	0.057	-24.88	-20.88	0.01
214	0.201	-13.91	-9.91	0.10	259	0.056	-25.04	-21.04	0.01
215	0.197	-14.09	-10.09	0.10	260	0.055	-25.19	-21.19	0.01
216	0.193	-14.29	-10.29	0.09	261	0.055	-25.27	-21.27	0.01
217	0.188	-14.49	-10.49	0.09	262	0.054	-25.35	-21.35	0.01
218	0.184	-14.70	-10.70	0.09	263	0.054	-25.43	-21.43	0.01
219	0.179	-14.92	-10.92	0.08	264	0.053	-25.51	-21.51	0.01
220	0.175	-15.14	-11.14	0.08	265	0.053	-25.60	-21.60	0.01
221	0.172	-15.29	-11.29	0.07	266	0.052	-25.68	-21.68	0.01
222	0.169	-15.44	-11.44	0.07	267	0.052	-25.76	-21.76	0.01
223	0.166	-15.60	-11.60	0.07	268	0.051	-25.85	-21.85	0.01
224	0.163	-15.76	-11.76	0.07	269	0.051	-25.93	-21.93	0.01

Exhibit 13.8 - Manufacturer's Directional Antenna Pattern Documentation (Actual Pattern Rotated to 140°T)



CA2-FM Dipole/Reflector

FM

Maximum gain: 4.0 dBd

Horizontal or Vertical Polarization

radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
270	0.050	-26.02	-22.02	0.01	315	0.595	-4.51	-0.51	0.89
271	0.051	-25.85	-21.85	0.01	316	0.611	-4.28	-0.28	0.94
272	0.052	-25.68	-21.68	0.01	317	0.627	-4.05	-0.05	0.99
273	0.053	-25.51	-21.51	0.01	318	0.643	-3.84	0.16	1.04
274	0.054	-25.35	-21.35	0.01	319	0.659	-3.62	0.38	1.09
275	0.055	-25.19	-21.19	0.01	320	0.675	-3.41	0.59	1.14
276	0.059	-24.58	-20.58	0.01	321	0.689	-3.24	0.76	1.19
277	0.063	-24.01	-20.01	0.01	322	0.703	-3.06	0.94	1.24
278	0.067	-23.48	-19.48	0.01	323	0.717	-2.89	1.11	1.29
279	0.071	-22.97	-18.97	0.01	324	0.731	-2.72	1.28	1.34
280	0.075	-22.50	-18.50	0.01	325	0.745	-2.56	1.44	1.39
281	0.085	-21.41	-17.41	0.02	326	0.757	-2.41	1.59	1.44
282	0.095	-20.45	-16.45	0.02	327	0.770	-2.27	1.73	1.49
283	0.105	-19.58	-15.58	0.03	328	0.783	-2.13	1.87	1.54
284	0.115	-18.79	-14.79	0.03	329	0.795	-1.99	2.01	1.59
285	0.125	-18.06	-14.06	0.04	330	0.808	-1.86	2.14	1.64
286	0.138	-17.20	-13.20	0.05	331	0.819	-1.73	2.27	1.68
287	0.151	-16.42	-12.42	0.06	332	0.831	-1.61	2.39	1.73
288	0.164	-15.70	-11.70	0.07	333	0.842	-1.49	2.51	1.78
289	0.177	-15.04	-11.04	0.08	334	0.854	-1.38	2.62	1.83
290	0.190	-14.42	-10.42	0.09	335	0.865	-1.26	2.74	1.88
291	0.205	-13.76	-9.76	0.11	336	0.875	-1.16	2.84	1.92
292	0.220	-13.15	-9.15	0.12	337	0.885	-1.06	2.94	1.97
293	0.235	-12.58	-8.58	0.14	338	0.895	-0.96	3.04	2.01
294	0.250	-12.04	-8.04	0.16	339	0.905	-0.87	3.13	2.06
295	0.265	-11.54	-7.54	0.18	340	0.915	-0.77	3.23	2.10
296	0.281	-11.03	-7.03	0.20	341	0.924	-0.69	3.31	2.14
297	0.297	-10.54	-6.54	0.22	342	0.932	-0.61	3.39	2.18
298	0.313	-10.09	-6.09	0.25	343	0.940	-0.53	3.47	2.22
299	0.329	-9.66	-5.66	0.27	344	0.949	-0.45	3.55	2.26
300	0.345	-9.24	-5.24	0.30	345	0.957	-0.38	3.62	2.30
301	0.362	-8.83	-4.83	0.33	346	0.961	-0.34	3.66	2.32
302	0.379	-8.43	-4.43	0.36	347	0.965	-0.30	3.70	2.34
303	0.396	-8.05	-4.05	0.39	348	0.970	-0.27	3.73	2.36
304	0.413	-7.68	-3.68	0.43	349	0.974	-0.23	3.77	2.38
305	0.430	-7.33	-3.33	0.46	350	0.978	-0.20	3.80	2.40
306	0.446	-7.01	-3.01	0.50	351	0.980	-0.18	3.82	2.41
307	0.462	-6.71	-2.71	0.54	352	0.982	-0.15	3.85	2.42
308	0.478	-6.41	-2.41	0.57	353	0.985	-0.13	3.87	2.44
309	0.494	-6.13	-2.13	0.61	354	0.988	-0.11	3.89	2.45
310	0.510	-5.85	-1.85	0.65	355	0.990	-0.09	3.91	2.46
311	0.527	-5.56	-1.56	0.70	356	0.992	-0.07	3.93	2.47
312	0.544	-5.29	-1.29	0.74	357	0.994	-0.05	3.95	2.48
313	0.561	-5.02	-1.02	0.79	358	0.996	-0.03	3.97	2.49
314	0.578	-4.76	-0.76	0.84	359	0.998	-0.02	3.98	2.50