

ASR Registration Search

**Registration 1007996** [Map Registration](#)**Registration Detail**

Reg Number	1007996	Status	Constructed
File Number	A0936027	Constructed	01/01/1968
EMI	No	Dismantled	
NEPA	No		

**Antenna Structure**

Structure Type GTOWER - Guyed Structure Used for Communication Purposes

**Location** (in NAD83 Coordinates)

Lat/Long	42-29-01.0 N 083-18-44.0 W	Address	26955 W ELEVEN RD (282675)
City, State	SOUTHFIELD , MI		
Zip	48033	County	OAKLAND
Center of AM Array		Position of Tower in Array	

**Heights (meters)**

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
212.5	320.9
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
533.4	304.3

**Painting and Lighting Specifications**

FCC Paragraphs 1, 3, 8, 17, 21

**FAA Notification**

FAA Study	2014-AGL-8726-OE	FAA Issue Date	11/12/2014
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**Owner & Contact Information**

FRN	0011498342	Owner Entity Type	Limited Liability Company
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**Owner**

American Tower, LLC  
 Attention To: FAA/FCC  
 10 Presidential Way  
 Woburn , MA 01801

P: (678)564-3236  
 F:  
 E: FAA-FCC@americantower.com

**Contact**

Attention To: FAA/FCC  
 10 Presidential Way  
 Woburn , MA 01801

P: (678)564-3236  
 F:  
 E: FAA-FCC@americantower.com

**Last Action Status**

Status	Constructed	Received	02/13/2015
Purpose	Notification	Entered	02/13/2015
Mode	Interactive		

**Related Applications**

02/13/2015 A0936027 - Notification (NT)

02/05/2015      A0934778 - Modification (MD)  
04/14/2014      A0898163 - Change Owner (OC)

Related applications (9)

#### Comments

##### Comments

None

#### History

Date	Event
02/13/2015	Construction Notification Received
02/11/2015	Registration Printed
02/10/2015	Modification Received

All History (21)

#### Automated Letters

02/11/2015	Authorization, Reference
04/15/2014	Authorization, Reference
04/15/2014	Ownership Change, Reference 795675

All letters (10)

CLOSE WINDOW

## Exhibit 13.2 - WDEO(AM) - Present and Proposed vs. AM Contours

Munn-Reese.com

### WDEO.L

Latitude: 42-15-53 N  
Longitude: 083-36-47 W

Frequency: 990 kHz

### 1776755.P

BNPFT20180125AGM  
Latitude: 42-29-01 N  
Longitude: 083-18-44 W  
ERP: 0.069 kW  
Channel: 288  
Frequency: 105.5 MHz  
AMSL Height: 312.0 m  
Elevation: 213.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

### 1776755.A

BNPFT20180125AGM  
Latitude: 42-29-01 N  
Longitude: 083-18-44 W  
ERP: 0.07 kW  
Channel: 288  
Frequency: 105.5 MHz  
AMSL Height: 313.0 m  
Elevation: 213.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

- WDEO.L
- 1776755.A (288)
- 1776755.P (288)

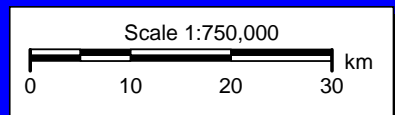
Oakland  
Circle R = 40.0 km

FCC F(50-50) 65.00 dBu (FCC HAAT)  
FCC F(50-50) 60.00 dBu (FCC HAAT)

1776755.P  
1776755.A

WDEO.L

1.0 mV/m



Munn-Reese  
Coldwater, MI 49036

Exhibit 13.3  
Word Broadcasters, Inc.  
Average Protected F(50-50)= 8.39 km  
Standard Directional

REFERENCE  
42 29 01.0 N.  
83 18 44.0 W.

CH# 288D - 105.5 MHz, Pwr= 0.069 kw DA, HAAT= 80.0 M, COR= 312 M

DISPLAY DATES  
DATA 04-11-18  
SEARCH 04-11-18

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*
286B Detroit	WMGC-FM	LIC _CX MI		105.3 285.4	12.61 BMLH20061004AIW	42 27 13.0 83 09 50.0	50.000 150	5.7 349	63.4 Beasley Media Group	2.6	-50.9*
290B Detroit	WDMK	LIC DCN MI		98.6 278.7	9.23 BLH19840619CK	42 28 16.0 83 12 03.0	20.000 221	4.3 429	55.2 Radio One Of Detroit, Llc	1.1	-46.0*
288D Ypsilanti	1776755	APP DC_ MI		0.0 0.0	0.00 BNPFT20180125AGM	42 29 01.0 83 18 44.0	0.070	0.00 313	0.00 Word Broadcasters, Inc.	64.5R	-64.5M
288A Windsor	NEW	USE DCN ON		130.7 310.8	28.50 20071123CAN	42 18 59.0 83 02 58.0	2.400 74	21.8 258	8.7	0.3	-22.6*
288B1 Flint	WWCK-FM	LIC ZCN MI		334.8 154.6	64.81 BLH19970124KD	43 00 39.0 83 39 04.0	25.000 100	71.5 337	25.0 Cumulus Licensing Llc	-12.2*	17.3
288D Rochester Hills	W288BK	LIC _C_ MI		35.3 215.4	26.57 BLFT20150305AAO	42 40 43.0 83 07 28.0	0.038 54	18.5 296	5.5 Educational Media Foundati	2.0	0.1
288A Chatham	AL3320	VAC ____ ON		95.4 276.1	93.32	42 24 00.0 82 11 00.0	6.000 100	87.4 283	38.0	1.9	42.9
288A Sylvania	WQOO	LIC _CX OH		194.7 14.5	96.10 BLH20091204AAR	41 38 49.0 83 36 18.0	4.300 119	84.2 303	28.1 Cumulus Licensing Llc	2.2	35.0
291B Charlotte	AL4309	RSV-A ____ MI		265.0 84.1	108.02 RM11134	42 23 28.0 84 37 22.0	50.000 150	6.1 440	66.2	94.7	40.8
291B Charlotte	WJXQ	LIC _C_ MI		265.0 84.1	108.04 BMLH20150427AAU	42 23 30.0 84 37 23.0	49.000 151	6.1 442	66.2 Midwest Communications, In	94.7	40.8
287A Brooklyn	WKHM-FM	LIC _CN MI		248.1 67.4	96.79 BLH19940201KC	42 09 14.0 84 24 07.0	2.200 115	37.6 418	24.7 Jackson Radio Works, Inc.	50.7	61.3
288D St. Clair	W288BT	LIC DC_ MI		51.3 231.9	88.32 BLFT20150916ADV	42 58 37.0 82 27 52.0	0.049	22.3 263	6.7 Edgewater Broadcasting, In	60.0	65.6
289B Grand Rapids	WSRW-FM	LIC _CX MI		276.7 95.2	182.35 BLH20071129AJD	42 39 17.4 85 31 37.9	265.000 177	107.1 424	84.9 Cc Licenses, Llc	68.8	85.0
286D East Lansing	W286DC	LIC DC_ MI		285.4 104.7	93.33 BLFT20180306ACV	42 42 07.0 84 24 48.0	0.250	0.3 369	6.3 Board Of Trustees Of Michi	86.9	86.5
289B Cleveland	WMJI	LIC _CN OH		131.9 313.0	181.17 BLH19940823KS	41 23 02.0 81 41 44.0	16.000 344	86.8 603	73.0 Citicasters Licenses, Inc.	87.3	98.3
289A Strthroy	4203	USE _CN ON		67.8 249.0	146.25	42 58 01.0 81 39 03.0	1.750 60	25.2 296	24.1	115.8	99.4
288A Lagrange	WTHD	LIC _C_ IN		241.0 59.7	193.28 BLH20031222AAB	41 37 24.0 85 20 49.0	2.400 159	82.1 445	28.2 Swick Broadcasting Company	102.3	138.9
285A Marshall	WBXX	LIC _CX MI		262.5 81.4	134.05 BLH20160527AAL	42 18 52.0 84 55 43.8	6.000 97	2.6 381	26.8 Townsquare Media Battle Cr	124.0	106.4
286D Saginaw	W286CI	LIC _C_ MI		334.6 154.2	116.62 BLFT20130610AAD	43 25 47.0 83 55 52.0	0.170 37	0.9 219	6.8 Plonta Broadcasting Inc.	110.1	109.2
289A Defiance	WZOM	LIC _CN OH		212.5 31.8	165.56 BLH19941109KD	41 13 23.0 84 22 36.0	6.000 100	43.7 318	28.3 Cc Licenses, Llc	112.2	123.8
285A Alma	WQBX	LIC NCX MI		313.5 132.6	144.10 BLH20141219ACN	43 22 08.0 84 36 19.0	6.000 100	2.8 327	29.2 Jacom, Inc.	136.1	114.4
288A West Branch	WBMI	LIC _CX MI		339.5 158.8	216.02 BLH20071004ABN	44 17 57.0 84 15 54.0	6.000 91	95.7 432	35.3 Cf Broadcasting, Llc	114.7	162.1
287B Mansfield	WYHT	LIC _CN OH		161.1 341.6	201.13 BLH6750	40 46 09.0 82 32 23.0	50.000 113	75.9 494	63.1 Capstar Tx, Llc	116.1	121.4
290D Bowling Green	W290BA	LIC _C_ OH		190.9 10.7	128.41 BLFT20070521AAD	41 20 57.0 83 36 15.0	0.055 52	0.5 255	6.5 Educational Media Foundati	118.1	121.4
285A Lorain	WCLV	LIC _C_ OH		135.3 316.2	156.53 BMLED20140718AAF	41 28 32.0 81 59 24.0	6.000 100	2.9 294	30.5 Radio Seaway, Inc.	146.2	125.9

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	Page # 2	
										*IN* (Overlap	*OUT* in km)
291B Mansfield	WVNO-FM	LIC _CN OH		163.0 343.4	199.71 BLH19911030KB	40 45 50.0 82 37 04.0	40.000 166	6.3 545	67.7 Johnny Appleseed	184.2	131.2 Broadcast
285B1 Goderich	R11632	VAC ____ ON		43.9 225.0	186.16	43 40 42.0 81 42 31.0	25.000 100	4.9 100	51.0	175.0	134.6
287C1 Kitchener	CFCAFM	OPE _CN ON		63.9 245.8	241.22	43 24 15.0 80 38 05.0	100.000 250	100.1 250	81.9	135.6	146.1
287B Coopersville	AL6792	RSV-A ____ MI		295.5 113.8	229.22 RM10545	43 20 36.0 85 52 16.0	50.000 150	75.9 382	63.0	147.4	155.5
287B Coopersville	WHTS	LIC _CX MI		294.3 112.6	230.83 BLH20060516ACU	43 18 35.0 85 54 45.0	20.000 242	74.9 469	63.5 Radio License Holding	150.0	156.4 Cbc,
291C3 Tawas City	WTZM	LIC _C_ MI		352.0 171.8	201.02 BMLH20171003AAL	44 16 25.0 83 39 48.0	25.000 93	4.3 305	41.3 Carroll Enterprises, Inc.	191.1	159.2
288A Conneaut	WGOJ	LIC ZEN OH		105.8 287.6	240.46 BLH19930913KC	41 51 42.0 80 31 01.0	6.000 90	76.1 364	25.3 Bible Broadcasting, Inc.	160.0	205.1
288A Sidney	WMVR-FM	LIC _CN OH		197.4 16.8	253.83 BMLH19980908KB	40 18 04.0 84 12 21.0	6.000 47	73.9 356	18.8 Dean Miller Broadcasting C	170.2	201.7
286B1 Huntertown	WQHK-FM	LIC _CX IN		226.3 45.0	218.30 BLH20120307AAG	41 06 39.0 85 11 44.0	5.700 210	3.6 457	44.7 Jam Communications, Inc.	205.2	172.7
290A1 Aylmer	AL2271	____ ON		80.2 261.8	197.47	42 45 40.0 80 56 03.0	0.250 100	1.1 327	18.0	191.9	177.8
285A Lima	WEGE	LIC _CX OH		198.4 17.9	205.97 BMLH20160912ABS	40 43 23.0 84 05 01.0	3.000 67	2.1 340	21.2 woof Boom Radio Of Lima L1	194.2	184.2

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. 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.

# Exhibit 13.4 - WDEO(AM) - Proposed Translator vs. WDMK(FM) & WMGC-FM in support of a 74.1204(d) Waiver Request

Munn-Reese.com

## WDEO.L

Latitude: 42-15-53 N  
Longitude: 083-36-47 W

Frequency: 990 kHz

## 1776755.P

BNPFT20180125AGM  
Latitude: 42-29-01 N  
Longitude: 083-18-44 W  
ERP: 0.069 kW  
Channel: 288  
Frequency: 105.5 MHz  
AMSL Height: 312.0 m  
Elevation: 213.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

## 1776755.A

BNPFT20180125AGM  
Latitude: 42-29-01 N  
Longitude: 083-18-44 W  
ERP: 0.07 kW  
Channel: 288  
Frequency: 105.5 MHz  
AMSL Height: 312.0 m  
Elevation: 213.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

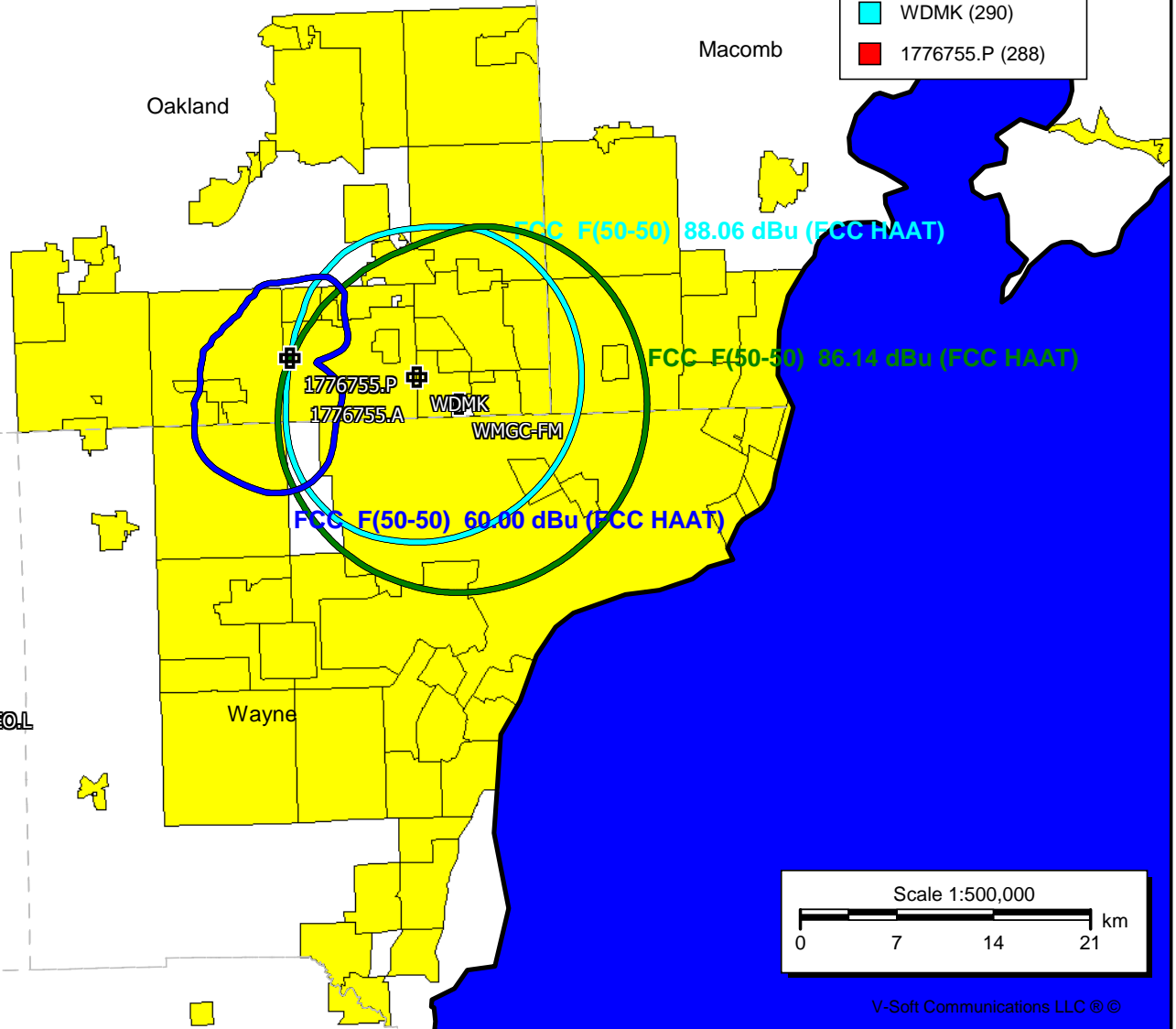
## WMGC-FM

BMLH20061004AIW  
Latitude: 42-27-13 N  
Longitude: 083-09-50 W  
ERP: 50.00 kW  
Channel: 286  
Frequency: 105.1 MHz  
AMSL Height: 349.0 m  
Elevation: 203.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

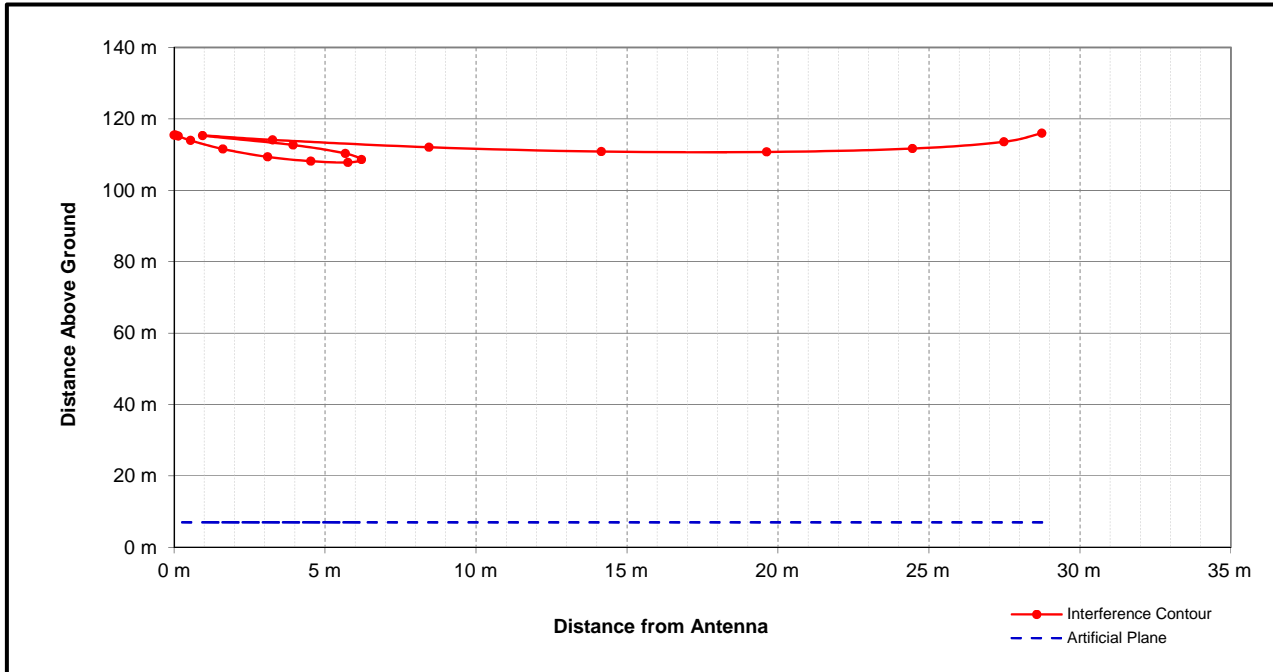
## WDMK

BLH19840619CK  
Latitude: 42-28-16 N  
Longitude: 083-12-03 W  
ERP: 20.00 kW  
Channel: 290  
Frequency: 105.9 MHz  
AMSL Height: 429.0 m  
Elevation: 206.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

- WDEO.L
- 1776755.A (288)
- WMGC-FM (286)
- WDMK (290)
- 1776755.P (288)



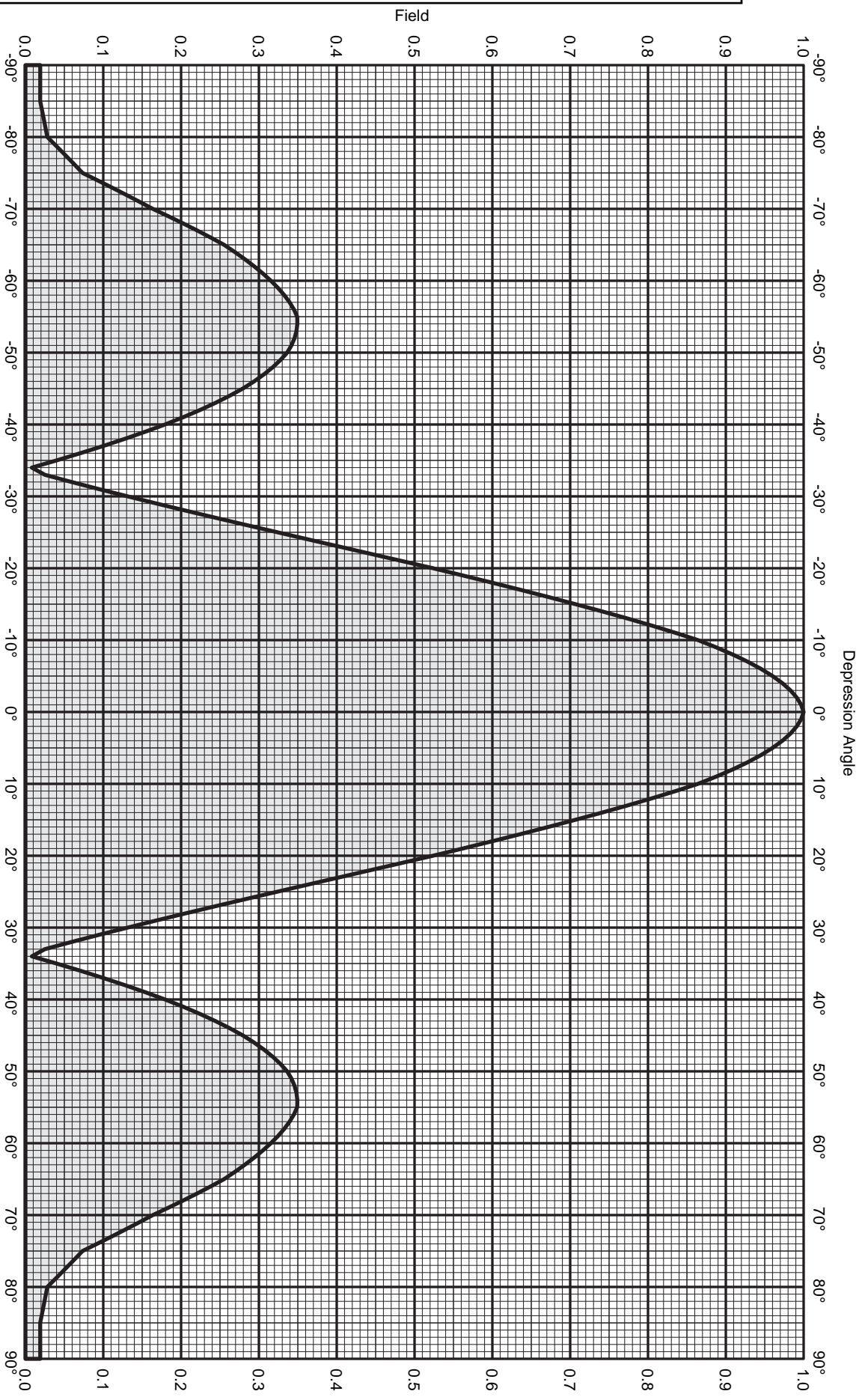
# Exhibit 13.4 - Downward Radiation Study in support of a 74.1204(d) Waiver Request



**Proposed Antenna:** 2-Bay CA2-FM 0.9 wavelength Spaced  
**Proposed Power:** 0.069 kW  
**Antenna Height AGL:** 116 meters  
**Interference Contour:** 126.14 dBu f(50:10)  
**Artificial Ground Plane Height:** 7 meters  
**Distance (Free Space) Equation:**  $= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)) * 1000}$   
**Field Strength (dBu) Equation:**  $= 106.92 - (20 * (\text{LOG10}[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]$

Depression				Distance		Field Strength		Field Strength
Angle	Antenna			from Ant.	Distance	in dBu @	Distance	in dBu @
Below	Relative	ERP	ERP	to Interference	from Ant. to		from Ant.	
Horizon	Field	in kW	in dBk	Contour	Artificial Plane	Artificial Plane	to Ground Level	Ground Level
0°	1.000	0.069	-11.61	28.74 m	infinite	---	---	---
-5°	0.960	0.064	-11.97	27.59 m	1250.63 m	93.01 dBu	1330.95 m	92.47 dBu
-10°	0.864	0.052	-12.88	24.83 m	627.71 m	98.08 dBu	668.02 m	97.54 dBu
-15°	0.707	0.034	-14.62	20.32 m	421.14 m	99.81 dBu	448.19 m	99.27 dBu
-20°	0.524	0.019	-17.22	15.06 m	318.69 m	99.63 dBu	339.16 m	99.09 dBu
-25°	0.324	0.007	-21.40	9.31 m	257.92 m	97.29 dBu	274.48 m	96.75 dBu
-30°	0.131	0.001	-29.27	3.76 m	218.00 m	90.88 dBu	232.00 m	90.34 dBu
-35°	0.040	0.000	-39.57	1.15 m	190.04 m	81.77 dBu	202.24 m	81.23 dBu
-40°	0.179	0.002	-26.55	5.14 m	169.57 m	95.78 dBu	180.46 m	95.24 dBu
-45°	0.279	0.005	-22.70	8.02 m	154.15 m	100.46 dBu	164.05 m	99.92 dBu
-50°	0.336	0.008	-21.08	9.66 m	142.29 m	102.77 dBu	151.43 m	102.23 dBu
-55°	0.349	0.008	-20.76	10.03 m	133.06 m	103.68 dBu	141.61 m	103.14 dBu
-60°	0.315	0.007	-21.65	9.05 m	125.86 m	103.28 dBu	133.95 m	102.74 dBu
-65°	0.255	0.004	-23.48	7.33 m	120.27 m	101.84 dBu	127.99 m	101.30 dBu
-70°	0.164	0.002	-27.31	4.71 m	116.00 m	98.32 dBu	123.44 m	97.78 dBu
-75°	0.073	0.000	-34.35	2.10 m	112.85 m	91.53 dBu	120.09 m	90.98 dBu
-80°	0.028	0.000	-42.67	0.80 m	110.68 m	83.37 dBu	117.79 m	82.83 dBu
-85°	0.019	0.000	-46.04	0.55 m	109.42 m	80.10 dBu	116.44 m	79.56 dBu
-90°	0.019	0.000	-46.04	0.55 m	109.00 m	80.14 dBu	116.00 m	79.59 dBu

# Exhibit 13.5 - Antenna Specifications



**KATHREIN**  
**SCALA DIVISION**

Post Office Box 4580  
Medford, OR 97501 (USA)  
Phone: (541) 779-6500  
Fax: (541) 779-3991  
<http://www.kathrein-scala.com>

Two CA2-FM dipole/reflector antennas  
Oriented at horizon  
Horizontal polarization  
Vertical stack @ .90 wavelength

Vertical radiation pattern





Two CA2-FM dipole/reflector antennas

Vertical radiation pattern

Oriented at horizon

Horizontal polarization

Vertical stack @ .90 wavelength

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.019	-34.42	-34.42	0.00	-45	0.279	-11.08	-11.08	0.08
-89	0.019	-34.42	-34.42	0.00	-44	0.262	-11.62	-11.62	0.07
-88	0.019	-34.42	-34.42	0.00	-43	0.244	-12.25	-12.25	0.06
-87	0.019	-34.43	-34.43	0.00	-42	0.224	-12.99	-12.99	0.05
-86	0.019	-34.44	-34.44	0.00	-41	0.203	-13.87	-13.87	0.04
-85	0.019	-34.45	-34.45	0.00	-40	0.179	-14.92	-14.92	0.03
-84	0.021	-33.63	-33.63	0.00	-39	0.154	-16.24	-16.24	0.02
-83	0.023	-32.89	-32.89	0.00	-38	0.128	-17.88	-17.88	0.02
-82	0.024	-32.22	-32.22	0.00	-37	0.100	-20.02	-20.02	0.01
-81	0.026	-31.60	-31.60	0.00	-36	0.070	-23.04	-23.04	0.00
-80	0.028	-31.02	-31.02	0.00	-35	0.040	-27.97	-27.97	0.00
-79	0.037	-28.55	-28.55	0.00	-34	0.010	-40.00	-40.00	0.00
-78	0.047	-26.65	-26.65	0.00	-33	0.025	-32.06	-32.06	0.00
-77	0.056	-25.10	-25.10	0.00	-32	0.059	-24.54	-24.54	0.00
-76	0.065	-23.81	-23.81	0.00	-31	0.095	-20.46	-20.46	0.01
-75	0.073	-22.69	-22.69	0.01	-30	0.131	-17.63	-17.63	0.02
-74	0.092	-20.72	-20.72	0.01	-29	0.169	-15.46	-15.46	0.03
-73	0.110	-19.13	-19.13	0.01	-28	0.207	-13.70	-13.70	0.04
-72	0.129	-17.82	-17.82	0.02	-27	0.245	-12.21	-12.21	0.06
-71	0.146	-16.69	-16.69	0.02	-26	0.284	-10.92	-10.92	0.08
-70	0.164	-15.72	-15.72	0.03	-25	0.324	-9.79	-9.79	0.10
-69	0.183	-14.74	-14.74	0.03	-24	0.364	-8.78	-8.78	0.13
-68	0.202	-13.88	-13.88	0.04	-23	0.404	-7.88	-7.88	0.16
-67	0.221	-13.13	-13.13	0.05	-22	0.444	-7.06	-7.06	0.20
-66	0.238	-12.46	-12.46	0.06	-21	0.484	-6.31	-6.31	0.23
-65	0.255	-11.86	-11.86	0.07	-20	0.524	-5.62	-5.62	0.27
-64	0.269	-11.41	-11.41	0.07	-19	0.562	-5.01	-5.01	0.32
-63	0.282	-11.00	-11.00	0.08	-18	0.599	-4.45	-4.45	0.36
-62	0.294	-10.63	-10.63	0.09	-17	0.636	-3.93	-3.93	0.40
-61	0.305	-10.31	-10.31	0.09	-16	0.672	-3.45	-3.45	0.45
-60	0.315	-10.02	-10.02	0.10	-15	0.707	-3.01	-3.01	0.50
-59	0.325	-9.77	-9.77	0.11	-14	0.741	-2.60	-2.60	0.55
-58	0.333	-9.56	-9.56	0.11	-13	0.774	-2.23	-2.23	0.60
-57	0.339	-9.38	-9.38	0.12	-12	0.806	-1.88	-1.88	0.65
-56	0.345	-9.24	-9.24	0.12	-11	0.836	-1.56	-1.56	0.70
-55	0.349	-9.14	-9.14	0.12	-10	0.864	-1.27	-1.27	0.75
-54	0.349	-9.13	-9.13	0.12	-9	0.887	-1.04	-1.04	0.79
-53	0.348	-9.16	-9.16	0.12	-8	0.909	-0.83	-0.83	0.83
-52	0.346	-9.22	-9.22	0.12	-7	0.928	-0.65	-0.65	0.86
-51	0.342	-9.32	-9.32	0.12	-6	0.945	-0.49	-0.49	0.89
-50	0.336	-9.46	-9.46	0.11	-5	0.960	-0.35	-0.35	0.92
-49	0.328	-9.68	-9.68	0.11	-4	0.973	-0.24	-0.24	0.95
-48	0.318	-9.95	-9.95	0.10	-3	0.983	-0.15	-0.15	0.97
-47	0.307	-10.26	-10.26	0.09	-2	0.991	-0.08	-0.08	0.98
-46	0.294	-10.64	-10.64	0.09	-1	0.997	-0.03	-0.03	0.99
					0	1.000	0.00	0.00	1.00



Two CA2-FM dipole/reflector antennas

Vertical radiation pattern

Oriented at horizon

Horizontal polarization

Vertical stack @ .90 wavelength

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	0.00	1.00	45	0.279	-11.08	-11.08	0.08
1	0.997	-0.03	-0.03	0.99	46	0.294	-10.64	-10.64	0.09
2	0.991	-0.08	-0.08	0.98	47	0.307	-10.26	-10.26	0.09
3	0.983	-0.15	-0.15	0.97	48	0.318	-9.95	-9.95	0.10
4	0.973	-0.24	-0.24	0.95	49	0.328	-9.68	-9.68	0.11
5	0.960	-0.35	-0.35	0.92	50	0.336	-9.46	-9.46	0.11
6	0.945	-0.49	-0.49	0.89	51	0.342	-9.32	-9.32	0.12
7	0.928	-0.65	-0.65	0.86	52	0.346	-9.22	-9.22	0.12
8	0.909	-0.83	-0.83	0.83	53	0.348	-9.16	-9.16	0.12
9	0.888	-1.04	-1.04	0.79	54	0.349	-9.13	-9.13	0.12
10	0.864	-1.27	-1.27	0.75	55	0.349	-9.14	-9.14	0.12
11	0.836	-1.56	-1.56	0.70	56	0.345	-9.24	-9.24	0.12
12	0.806	-1.88	-1.88	0.65	57	0.339	-9.38	-9.38	0.12
13	0.774	-2.23	-2.23	0.60	58	0.333	-9.56	-9.56	0.11
14	0.741	-2.60	-2.60	0.55	59	0.325	-9.77	-9.77	0.11
15	0.707	-3.01	-3.01	0.50	60	0.315	-10.02	-10.02	0.10
16	0.672	-3.45	-3.45	0.45	61	0.305	-10.31	-10.31	0.09
17	0.636	-3.93	-3.93	0.40	62	0.294	-10.63	-10.63	0.09
18	0.599	-4.45	-4.45	0.36	63	0.282	-11.00	-11.00	0.08
19	0.562	-5.01	-5.01	0.32	64	0.269	-11.41	-11.41	0.07
20	0.524	-5.62	-5.62	0.27	65	0.255	-11.86	-11.86	0.07
21	0.484	-6.31	-6.31	0.23	66	0.238	-12.46	-12.46	0.06
22	0.444	-7.06	-7.06	0.20	67	0.221	-13.13	-13.13	0.05
23	0.404	-7.88	-7.88	0.16	68	0.202	-13.88	-13.88	0.04
24	0.364	-8.78	-8.78	0.13	69	0.183	-14.74	-14.74	0.03
25	0.324	-9.79	-9.79	0.10	70	0.164	-15.72	-15.72	0.03
26	0.284	-10.92	-10.92	0.08	71	0.146	-16.69	-16.69	0.02
27	0.245	-12.21	-12.21	0.06	72	0.129	-17.82	-17.82	0.02
28	0.207	-13.70	-13.70	0.04	73	0.110	-19.13	-19.13	0.01
29	0.169	-15.46	-15.46	0.03	74	0.092	-20.72	-20.72	0.01
30	0.131	-17.63	-17.63	0.02	75	0.073	-22.69	-22.69	0.01
31	0.095	-20.46	-20.46	0.01	76	0.065	-23.81	-23.81	0.00
32	0.059	-24.54	-24.54	0.00	77	0.056	-25.10	-25.10	0.00
33	0.025	-32.06	-32.06	0.00	78	0.047	-26.65	-26.65	0.00
34	0.010	-40.00	-40.00	0.00	79	0.037	-28.55	-28.55	0.00
35	0.040	-27.97	-27.97	0.00	80	0.028	-31.02	-31.02	0.00
36	0.070	-23.04	-23.04	0.00	81	0.026	-31.60	-31.60	0.00
37	0.100	-20.02	-20.02	0.01	82	0.024	-32.22	-32.22	0.00
38	0.128	-17.88	-17.88	0.02	83	0.023	-32.89	-32.89	0.00
39	0.154	-16.24	-16.24	0.02	84	0.021	-33.63	-33.63	0.00
40	0.179	-14.92	-14.92	0.03	85	0.019	-34.45	-34.45	0.00
41	0.203	-13.87	-13.87	0.04	86	0.019	-34.44	-34.44	0.00
42	0.224	-12.99	-12.99	0.05	87	0.019	-34.43	-34.43	0.00
43	0.244	-12.25	-12.25	0.06	88	0.019	-34.42	-34.42	0.00
44	0.262	-11.62	-11.62	0.07	89	0.019	-34.42	-34.42	0.00
					90	0.019	-34.42	-34.42	0.00