

ASR Registration Search

Registration 1058995 [Map Registration](#)**Registration Detail**

Reg Number	1058995	Status	Constructed
File Number	A0822438	Constructed	01/21/2013
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type GTOWER - Guyed Structure Used for Communication Purposes

Location (in NAD83 Coordinates)

Lat/Long	42-41-29.1 N 084-33-28.9 W	Address	600 W CAVANAUGH RD
City, State	LANSING , MI		
Zip	48910	County	INGHAM
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
257.8	132.6
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
390.4	131.7

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 13

Paint and Light in Accordance with FAA Circular Number 70/7460-1J

FAA Notification

FAA Study	2013-AGL-278-OE	FAA Issue Date	01/08/2013
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Owner & Contact Information

FRN	0002764900	Owner Entity Type	Corporation
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Owner

MACDONALD BROADCASTING COMPANY DBA =
RADIO STATION WHZZ
Attention To: GARY HARDING
2000 WHITTIER St.
SAGINAW , MI 48601

P: (989)752-8161
F:
E: macaudio@chartermi.net

Contact

Harding , Gary L
Attention To: Gary L Harding
2000 Whittier St
Saginaw , MI 48601

P: (989)752-8161
F:
E: macaudio@chartermi.net

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Last Action Status

Status	Constructed	Received	01/21/2013
Purpose	Notification	Entered	01/21/2013
Mode	Interactive		

Related Applications

01/21/2013 A0822438 - Notification (NT)
01/11/2013 A0813449 - Modification (MD)
01/11/2013 A0813448 - Notification (NT)

Related applications (5)

▣

Comments

Comments

01/14/2013 Special Condition: The FAA has approved the absence of steady burning red obstruction (L-810) lights on this structure. Accordingly, this tower will use red flashing lights (L-864) only.

01/14/2013 Refer to the Technical Report (Technical Note DOT/FAA/TC-TN12/9 Evaluation of New Obstruction Lighting Techniques to Reduce Avian Fatalities).

01/14/2013 Refer to the Technical Report (Technical Note DOT/FAA/TC-TN12/9 Evaluation of New Obstruction Lighting Techniques to Reduce Avian Fatalities).

All comments (4)

▣

History

Date	Event
01/21/2013	Construction Notification Received
01/15/2013	Registration Printed
01/14/2013	Modification Received

All History (9)

▣

Automated Letters

01/15/2013 Authorization, Reference

01/11/2013 Authorization, Reference

02/16/2005 FRN Association, Reference 402870

▣

CLOSE WINDOW

Exhibit 13.2 WXLA(AM) - Proposed Translator vs AM Contours

WXLA.L

Latitude: 42-39-01 N
Longitude: 084-34-49 W
Frequency: 1180 kHz

WHZZ

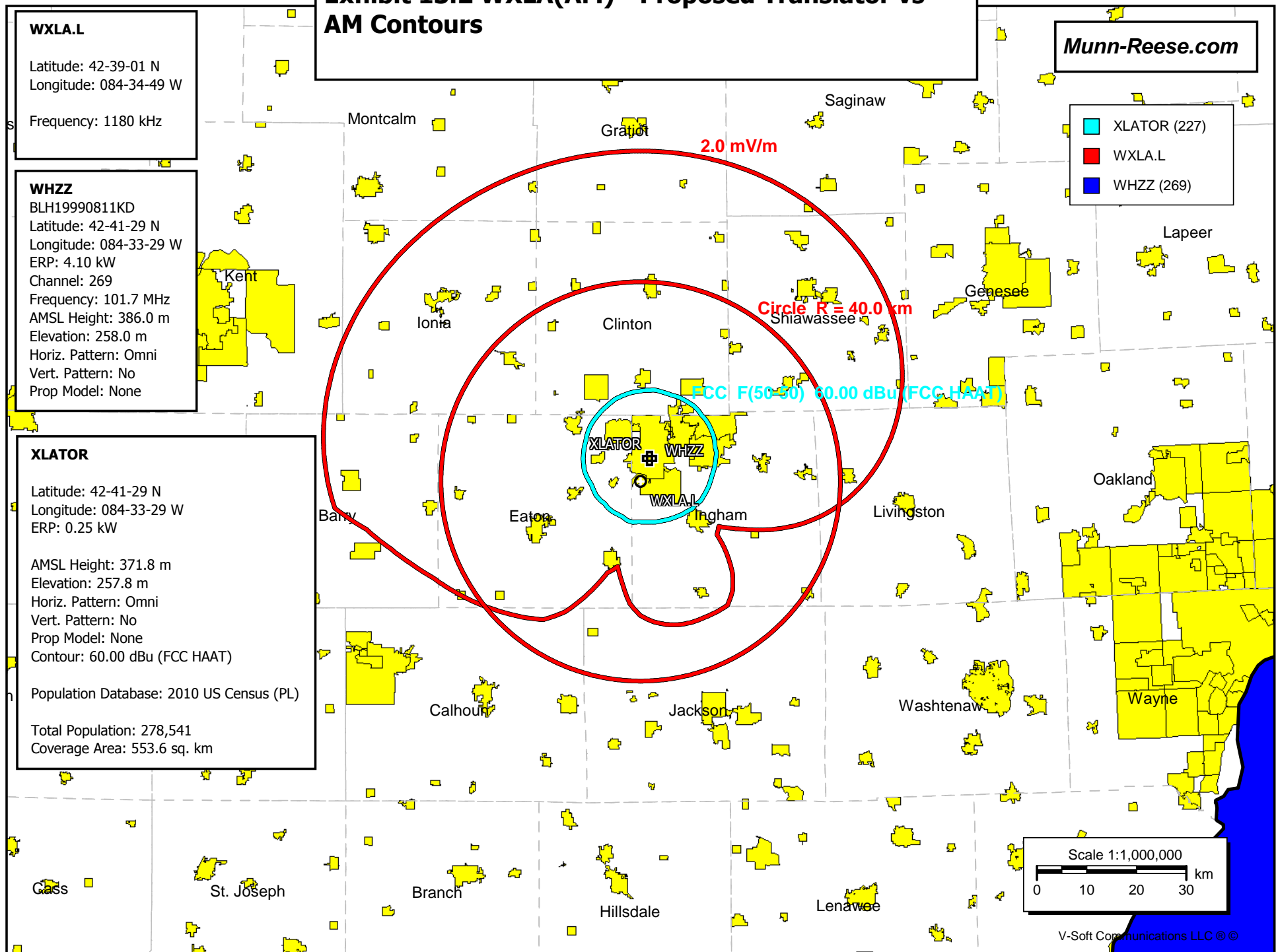
BLH19990811KD
Latitude: 42-41-29 N
Longitude: 084-33-29 W
ERP: 4.10 kW
Channel: 269
Frequency: 101.7 MHz
AMSL Height: 386.0 m
Elevation: 258.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

XLATOR

Latitude: 42-41-29 N
Longitude: 084-33-29 W
ERP: 0.25 kW
AMSL Height: 371.8 m
Elevation: 257.8 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None
Contour: 60.00 dBu (FCC HAAT)
Population Database: 2010 US Census (PL)
Total Population: 278,541
Coverage Area: 553.6 sq. km

Munn-Reese.com

- XLATOR (227)
- WXLA.L
- WHZZ (269)



Munn-Reese
Coldwater, MI 49036

13.3

The Macdonald Broadcasting Company

REFERENCE CH# 227D - 93.3 MHz, Pwr= 0.125 kw, HAAT= 0.0 M, COR= 372 M
42 41 29.0 N. Average Protected F(50-50)= 5.96 km
84 33 29.0 W. Omni-directional

DISPLAY DATES
DATA 11-08-17
SEARCH 11-11-17

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Lansing	1762366	APP _C_	MI	0.0 0.0	0.00 BNPFT20170726AEL	42 41 29.0 84 33 29.0	0.125 372	39.6	11.6 The Macdonald Broadcasting	-51.2*	-51.2*
225A Grand Ledge	WLMI	LIC _CX	MI	4.5 184.5	4.61 BLH20071119AEL	42 43 58.0 84 33 13.0	5.400 105	2.7 365	27.4 Midwest Communications, In	-9.7*<	-23.6*<
229B Grand Rapids	WBCT	LIC _CN	MI	265.6 85.0	80.36 BLH19800616AK	42 37 56.0 85 32 16.0	320.000 238	11.7 486	91.9 Cc Licenses, Llc	57.4	-13.1*<
227C2 Midland	WKQZ	LIC _CN	MI	16.2 196.5	133.80 BLH19881027KB	43 50 46.0 84 05 32.0	39.000 169	135.1 369	52.6 Radio License Holding Cbc,	-12.7*<	42.2
228A Howell	WHMI-FM	LIC _CN	MI	93.4 273.8	50.63 BLH19980911KF	42 39 47.0 83 56 23.0	5.200 108	44.3 388	28.8 Krol Communications Inc.	-4.8*<	5.9
227D Jackson	W227BY	LIC _C_	MI	169.1 349.2	53.21 BLFT20140819AAY	42 13 17.0 84 26 08.0	0.130 19	38.7 408	11.3 Jackson Lansing Catholic R	3.7	5.4
226B Detroit	WDRQ	LIC DCN	MI	102.0 282.9	113.77 BLH19860613KB	42 28 16.0 83 12 03.0	26.500 204	74.4 412	62.9 Radio License Holdings Llc	28.4	27.5
226D Hastings	1760935	APP _C_	MI	263.2 82.7	59.31 BNPFT20170728AED	42 37 34.0 85 16 41.0	0.250 348	17.2	11.8 Barry Broadcasting Co.	30.9	31.2
226L1 Marshall	WMLY-LP	LIC _C_	MI	208.2 28.0	54.18 BLL20041118ABM	42 15 42.0 84 52 11.0	0.090 31	323	34.8 Marshall Christian Radio	32.6	
227D Grand Rapids	W227CG	LIC DC_	MI	287.8 107.0	97.46 BLFT20150225ACR	42 57 13.0 85 41 55.0	0.250 146	48.7 361	14.5 World Radio Link, Inc.	37.4	44.3
227D Grand Rapids	W227CG	CP _C_	MI	287.8 107.0	97.46 BPFT20150302AAD	42 57 13.0 85 41 55.0	0.175 361	45.1	13.3 World Radio Link, Inc.	41.1	45.5
224D Ionia	W224BZ	LIC DV_	MI	309.2 128.8	55.33 BLFT20100309ABQ	43 00 16.0 85 05 09.0	0.212 60	1.0 300	10.5 Packer Radio Wion, Llc	42.9	44.1
226L1 Belding	WDLP-LP	LIC _C_	MI	318.4 138.1	69.75 BLL20160722ABB	43 09 34.0 85 07 43.0	0.100 30	287	49.5 Montcalm Public Radio, Inc	46.9	
280A Owosso	WRSR	LIC _CN	MI	53.5 233.9	57.26 BLH19960111KR	42 59 44.0 83 59 33.0	2.850 147	0.0 378	0.0 Krol Communications Inc.	9.5R	47.8M
227B1 Kendallville	WBTU	LIC NCX	IN	198.1 17.7	172.68 BLH20030602AXS	41 12 49.0 85 12 04.0	18.500 117	108.9 375	44.3 Adams Radio Of Fort Wayne,	52.5	82.9
224A Flint	WDZZ-FM	LIC _CX	MI	60.9 241.4	80.65 BLH20090513AEU	43 02 29.0 83 41 28.0	3.000 100	2.3 332	24.1 Cumulus Licensing Llc	66.9	55.7
230C1 Windsor	CKLW	OPE ?CN	ON	113.7 294.8	141.26	42 10 15.0 82 59 29.0	100.000 200	8.4 385	78.2	121.8	61.5
228L1 Cedar Lake	WGLN-LP	LIC _C_	MI	336.9 156.6	85.90 BLL20081002AFQ	43 24 04.0 84 58 34.0	0.064 38	317	64.7 Great Lakes Adventist Acad	62.2	
281B Grand Rapids	WVGR	LIC DCX	MI	267.4 86.7	79.55 BMLED20080306ABQ	42 39 17.0 85 31 38.0	96.000 221	0.0 469	0.0 Regents Of The University	14.5R	65.1M
227L1 Gobles	WTPP-LP	LIC _C_	MI	253.5 72.6	111.83 BLL20150805AAC	42 23 52.0 85 51 50.0	0.068 36	264	80.5 New Creation Station, Inc.	67.9	
229A Frankenmuth	WRCL	LIC _CX	MI	49.8 230.5	106.57 BLH20110114AAU	43 18 19.4 83 33 05.4	3.500 133	2.6 355	28.7 Townsquare Media Of Flint,	92.5	77.1
225D Grand Haven	W225BL	LIC DC_	MI	287.8 107.0	97.46 BLFT20131017CFE	42 57 13.0 85 41 55.0	0.250 360	1.1	14.5 Furniture City Broadcastin	85.0	82.2
280A Adrian	WLEN	LIC _CN	MI	151.6 332.0	99.42 BLH7244	41 54 11.0 83 59 13.0	3.000 91	0.0 325	0.0 Lenawee Broadcasting Compa	9.5R	89.9M
228B1 Bowling Green	WRQN	LIC NCX	OH	151.3 331.9	155.92 BLH20061002BGR	41 27 28.0 83 39 33.0	7.000 121	49.0 315	37.4 Cumulus Licensing Llc	96.0	99.3
226A Ferrysburg	WMPA	LIC NCX	MI	287.1 105.9	143.02 BLH20120723ADX	43 03 25.0 86 14 28.0	6.000 65	35.6 249	23.5 wghn, Inc.	96.1	103.2

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		*OUT* in km)
										IN	(Overlap	
224D Detroit	W224CC	LIC DC_	MI	103.0 283.9	116.59 BLFT20170524ABH	42 26 52.0 83 10 23.0	0.099	0.7 481	17.1 Caron Broadcasting, Inc.	104.9		98.7
228D Detroit	W228CJ	LIC DV_	MI	102.9 283.9	116.58 BLFT20151208AAS	42 26 53.0 83 10 23.0	0.099	3.3 498	1.9 Educational Media Foundati	102.3		98.9
228D Riverview	W228CU	LIC DC_	MI	110.8 291.7	124.72 BLFT20161212AAB	42 17 04.6 83 08 25.0	0.250	7.2 263	5.1 Educational Media Foundati	106.6		103.8
224D Angola	W224BY	LIC _C_	IN	198.2 17.9	118.14 BLFT20091124AHZ	41 40 51.0 85 00 05.0	0.250 112	1.1 418	13.5 Swick Broadcasting Company	105.8		103.9
224A Saugatuck	WYVN	LIC NCX	MI	270.3 89.2	131.57 BLH20021002ABE	42 41 10.0 86 10 05.0	3.300 114	2.3 311	24.8 Midwest Communications, In	118.0		106.0
280A Big Rapids	WBZX	LIC NCX	MI	330.1 149.5	124.92 BMLH20170602AAS	43 39 44.0 85 20 00.0	6.000 70	0.0 379	0.0 Up North Radio, Llc	9.5R		115.4M
281A Linwood	WSAG	LIC NCX	MI	23.1 203.5	125.10 BLH20070522ABZ	43 43 30.0 83 56 50.0	4.600 99	0.0 282	0.0 Macdonald Broadcasting Com	9.5R		115.6M
225B South Bend	WNDV-FM	LIC _C_	IN	229.0 47.9	182.14 BLH19980727KB	41 36 20.0 86 12 46.0	12.000 268	5.1 507	63.0 Sound Management, Llc	166.1		117.5
227C3 Onkama	1501924	VAC ____	MI	328.4 147.3	239.89	44 31 05.0 86 08 40.0	25.000 100	109.3 326	34.5 Richard L. Culpepper	119.0		165.8
227L1 Berrien Springs	WBSV-LP	CP ____	MI	239.5 58.4	165.47 BMPL20170928ACC	41 55 25.0 86 16 56.0	0.075 35	260	136.1 Leland Straw Memorial Educ			122.5
280A Windsor	CJBC-FM-1	OPE DCN	ON	108.1 289.1	130.81 20060321CAN	42 18 59.0 83 02 58.0	6.000 74	0.0 258	0.0 4.5R			126.3M
227B Milwaukee	WLDB	LIC NCX	WI	280.5 98.2	276.21 BLH20050923AAH	43 05 46.0 87 54 15.0	16.000 270	129.3 468	67.1 Milwaukee Radio Alliance,	135.6		155.7
228L1 Elkhart	WKIL-LP	LIC ____	IN	225.5 44.6	159.52 BLL20160301ACR	41 40 37.0 85 55 39.0	0.100 28	269	140.0 Kingdom Impact Christian C			138.0
224B1 Leamington	CJSP	OPE DEN	ON	114.1 295.5	180.98 20070228CAN	42 00 35.0 82 33 45.0	4.000 145	2.7 324	34.0 167.2			145.4
225C1 Cadillac	WJZQ	LIC _CX	MI	346.5 166.1	217.78 BMLH20020517AAG	44 35 41.0 85 11 53.0	100.000 278	9.4 612	69.1 Wkjf Radio, Inc.	196.7		147.9
230B1 Columbus Grove	WBKS	LIC _CX	OH	169.5 349.8	196.06 BMLH20050201BMF	40 57 24.0 84 07 56.0	14.000 133	4.0 356	44.9 Cc Licenses, Llc	181.4		150.1
228C1 London	CBCLFM	OPE ?CN	ON	82.5 264.7	263.47	42 57 20.0 81 21 20.0	100.000 231	99.3 488	81.3 152.9			158.3
228L1 South Bend	WSBL-LP	LIC ____	IN	231.2 50.0	179.36 BLL20130620AAV	41 40 02.0 86 14 25.0	0.089 32	265	160.6 South Bend Council 5001, I			158.1
280A South Bend	WRBR-FM	LIC _CX	IN	230.6 49.5	172.09 BLH20070321ADN	41 41 53.0 86 09 25.0	3.000 100	0.0 336	0.0 Talking Stick Communicatio	9.5R		162.6M
229A Harrietta	WKAD	LIC _CX	MI	335.1 154.4	195.09 BLH20030109AES	44 16 41.0 85 35 28.0	4.300 119	2.7 517	28.7 Cadillac Broadcasting, Llc	180.8		165.6
226A Lima	WWSR	LIC _CN	OH	171.6 351.9	216.63 BLH19920916KD	40 45 47.0 84 10 59.0	3.000 97	38.6 350	25.4 Childers Media Group Llc	167.3		175.9
228L1 Three Oaks	WRHZ-LP	LIC ____	MI	242.5 61.2	190.30 BLL20151102AAW	41 53 02.2 86 35 54.2	0.046 44	237	172.9 Radio Harbor Country			170.2
280A Fort Wayne	WWFW	LIC ZCX	IN	196.9 16.5	183.80 BLH20141105AAK	41 06 24.0 85 11 46.0	1.600 140	0.0 387	0.0 Adams Radio Of Fort Wayne,	9.5R		174.3M
225A1 Chatham	AL4535	____	ON	98.6 280.2	197.57	42 24 08.0 82 11 03.0	0.250 100	1.1 283	18.0 185.3			174.6
280A1 Sarnia	CHOK-1-FM	OPE _CN	ON	79.1 260.6	178.78	42 58 29.0 82 24 20.0	0.200 59	0.0 247	0.0 2.5R			176.3M
230C2 Mio	WAVC	LIC _CX	MI	3.9 184.1	227.02 BLED20140619ABQ	44 43 42.0 84 21 37.0	50.000 126	5.5 477	49.1 west Central Michigan Medi	209.9		177.2
225A1 Chatham	NEW	OPE _HN	ON	98.6 280.2	197.57	42 24 08.0 82 11 03.0	0.250 65	1.1 247	15.0 185.3			177.5
226B Chicago	WXRT	LIC DCN	IL	251.8 69.7	266.99 BLH19810930AF	41 53 56.0 87 37 23.0	6.700 399	67.6 579	57.6 Cbs Radio East Inc.	188.4		186.0

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
224A Berne	WZBD	LIC _CN IN		188.5 8.2	215.80 BLH19950327KC	40 46 15.0 84 56 05.0	4.100 120	2.6 366	28.2 Adams County Radio, Inc	202.3	186.9

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

Exhibit 13.4 WXLA(AM) - Proposed Translator vs WBCT(FM) and WLMI(AM) in Support of 74.1204(d) Waiver Request

Munn-Reese.com

WXLA.L

Latitude: 42-39-01 N
Longitude: 084-34-49 W
Frequency: 1180 kHz

WBCT

BLH19800616AK
Latitude: 42-37-56 N
Longitude: 085-32-16 W
ERP: 320.00 kW
Channel: 229
Frequency: 93.7 MHz
AMSL Height: 486.0 m
Elevation: 235.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

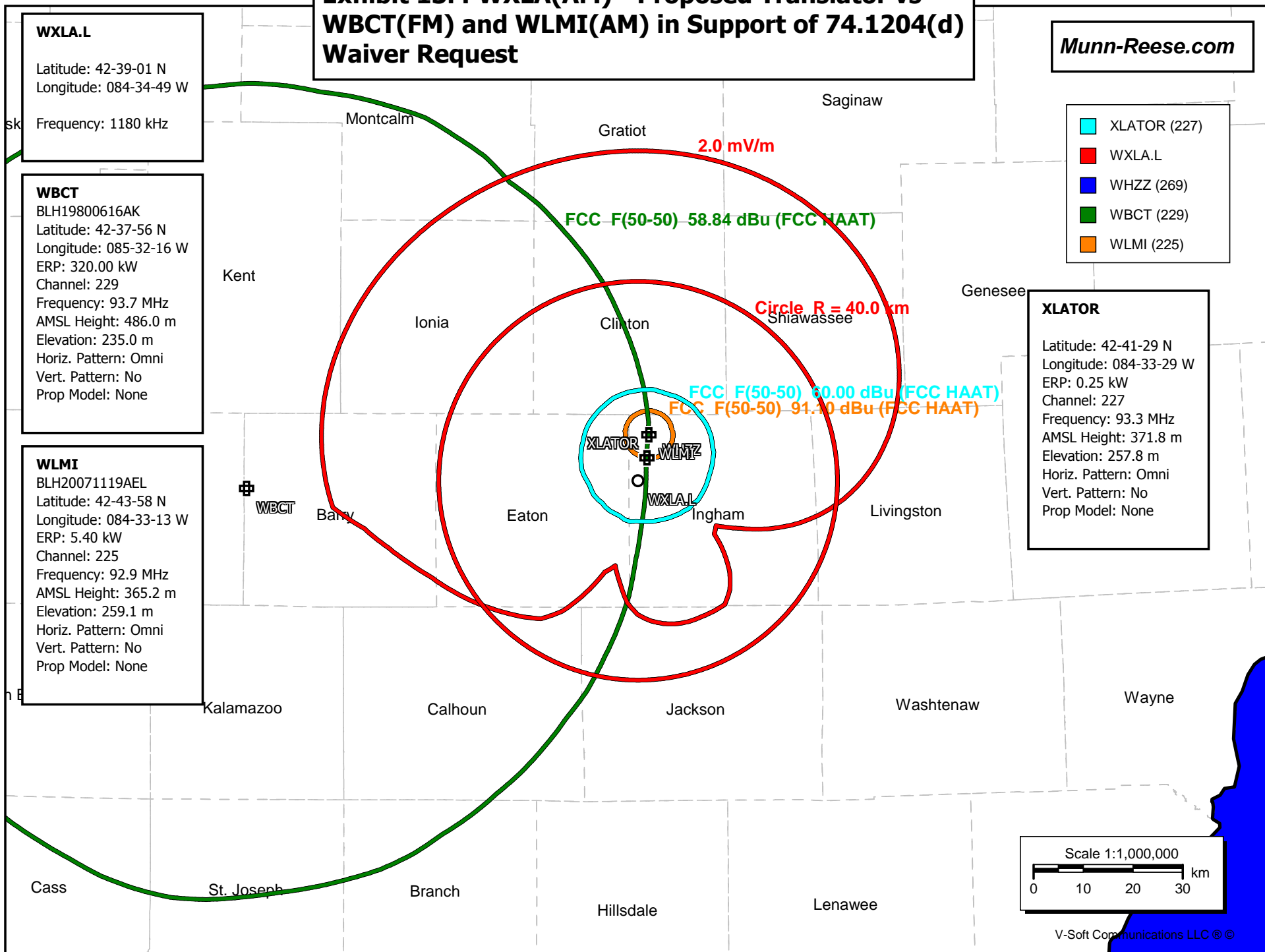
WLMI

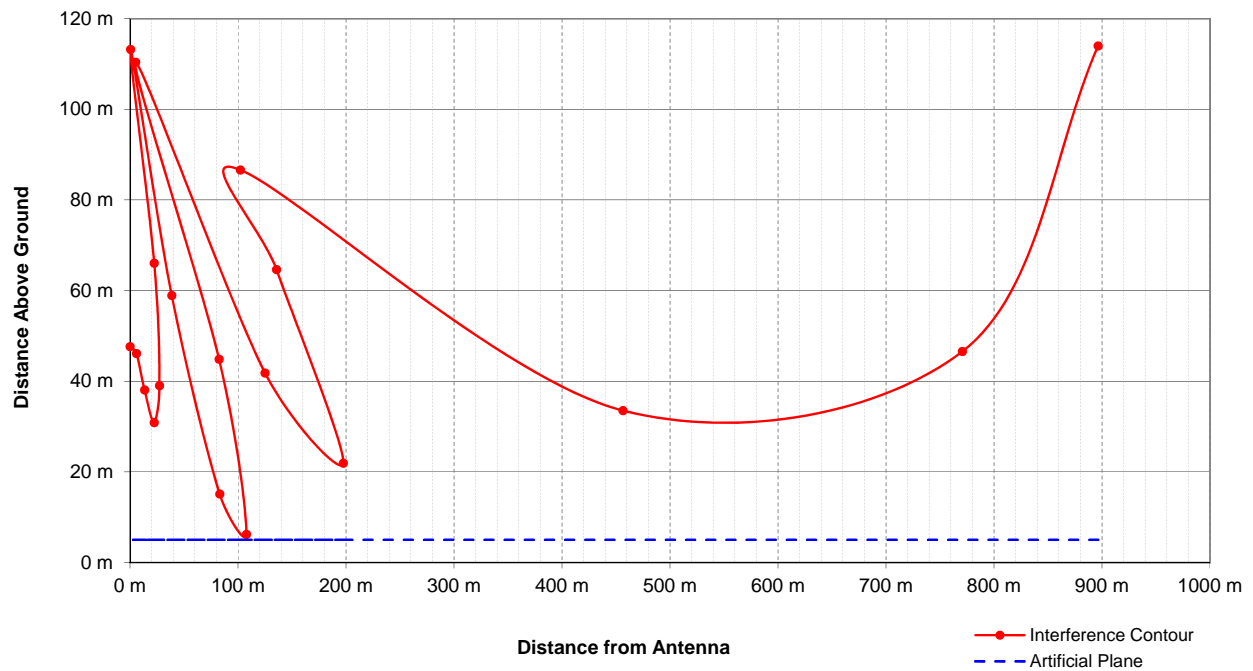
BLH20071119AEL
Latitude: 42-43-58 N
Longitude: 084-33-13 W
ERP: 5.40 kW
Channel: 225
Frequency: 92.9 MHz
AMSL Height: 365.2 m
Elevation: 259.1 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

- XLATOR (227)
- WXLA.L
- WHZZ (269)
- WBCT (229)
- WLMI (225)

XLATOR

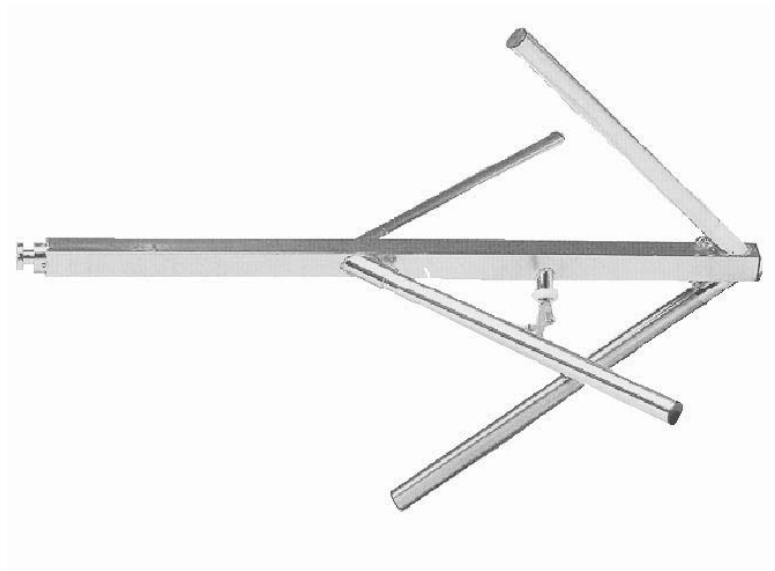
Latitude: 42-41-29 N
Longitude: 084-33-29 W
ERP: 0.25 kW
Channel: 227
Frequency: 93.3 MHz
AMSL Height: 371.8 m
Elevation: 257.8 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None





Proposed Antenna: BKG77/4 Four Bay 0.85λ Spaced
Proposed Power: 0.125 kW
Antenna Height AGL: 114 meters
Interference Contour: 98.84 dBu f(50:10)
Artificial Ground Plane Height: 5 meters
Distance (Free Space) Equation: $= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)) * 1000}$
Field Strength (dBu) Equation: $= 106.92 - (20 * (\text{LOG}_{10}[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]$

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	Artificial Plane	from Ant.	Artificial Plane
Horizon	Field	in kW	in dBk	Contour	Artificial Plane	Artificial Plane	to Ground Level	Ground Level
0°	1.000	0.125	-9.03	896.30 m	infinite	---	---	---
-5°	0.863	0.093	-10.31	773.51 m	1250.63 m	94.67 dBu	1308.00 m	94.28 dBu
-10°	0.517	0.033	-14.76	463.39 m	627.71 m	96.20 dBu	656.50 m	95.81 dBu
-15°	0.118	0.002	-27.59	105.76 m	421.14 m	86.84 dBu	440.46 m	86.45 dBu
-20°	0.161	0.003	-24.89	144.30 m	318.69 m	91.96 dBu	333.31 m	91.57 dBu
-25°	0.243	0.007	-21.32	217.80 m	257.92 m	97.37 dBu	269.75 m	96.98 dBu
-30°	0.161	0.003	-24.89	144.30 m	218.00 m	95.26 dBu	228.00 m	94.87 dBu
-35°	0.007	0.000	-52.13	6.27 m	190.04 m	69.21 dBu	198.75 m	68.82 dBu
-40°	0.120	0.002	-27.45	107.56 m	169.57 m	94.89 dBu	177.35 m	94.50 dBu
-45°	0.170	0.004	-24.42	152.37 m	154.15 m	98.74 dBu	161.22 m	98.35 dBu
-50°	0.144	0.003	-25.86	129.07 m	142.29 m	97.99 dBu	148.82 m	97.60 dBu
-55°	0.075	0.001	-31.53	67.22 m	133.06 m	92.91 dBu	139.17 m	92.52 dBu
-60°	0.001	0.000	-69.03	0.90 m	125.86 m	55.89 dBu	131.64 m	55.50 dBu
-65°	0.059	0.000	-33.61	52.88 m	120.27 m	91.70 dBu	125.79 m	91.31 dBu
-70°	0.089	0.001	-30.04	79.77 m	116.00 m	95.59 dBu	121.32 m	95.20 dBu
-75°	0.096	0.001	-29.39	86.05 m	112.85 m	96.48 dBu	118.02 m	96.10 dBu
-80°	0.086	0.001	-30.34	77.08 m	110.68 m	95.70 dBu	115.76 m	95.31 dBu
-85°	0.076	0.001	-31.41	68.12 m	109.42 m	94.72 dBu	114.44 m	94.33 dBu
-90°	0.074	0.001	-31.65	66.33 m	109.00 m	94.53 dBu	114.00 m	94.14 dBu



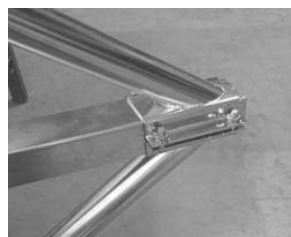
NICOM
BKG77

Low Power

**Broadband
FM Circular
Polarization
Antenna
Antena de
FM Banda Ancha
Polarizacion Circular**

This antenna, constructed completely of stainless steel, offers circular polarization for better coverage especially in urban areas. In order to facilitate and decrease shipping costs, this model is simple to break down and reassemble when ready to be installed. It is insulated with Teflon, and with the appropriate connector has a maximum input of 0.5 kw.

Esta antena, fabricada completamente de acero inoxidable, le ofrece polarización circular para mejor alcance, especialmente en zonas urbanas. Para facilitar y disminuir los costos de transportación, este modelo es fácil de desarmar y volver a montar tan pronto que la quiera instalar. Está aislada con Teflon, y con el conector apropiado tiene una entrada máxima de 0.5 kw.



TECHNICAL SPECIFICATIONS (per bay)

Antenna type	circular polarization dipole	Front-to-back ratio	3 dB
Frequency range	87.5 - 108 MHz	Lightening protection	all parts grounded
Bandwidth	500 kHz max	Max wind velocity	119 mph (190 km/h)
Impedance	50 ohms	Wind load	8 Lbs (3.6 kg)
Connectors	N type (0.5 kw)	Wind surface	0.3 ft ² (0.04 m ²)
Power rating	500 Watts max	Materials (external)	stainless steel
VSWR	< 1.1:1	Mounting	from 2" to 4"
Polarization	vertical and horizontal	Weight	7.7 Lbs (3.5 kg)
Gain	- 3 dBd (referred to half-wave dipole)	Dimensions	58"×32"×32" (1450×800×800mm)
H plane	omnidirectional ±1.5 dB (with a 4" mast)	Packing	72"×6"×6" (1500×152×152mm)
V plane	omnidirectional ±3 dB (with a 4" mast)		

Date: 29/04/2013

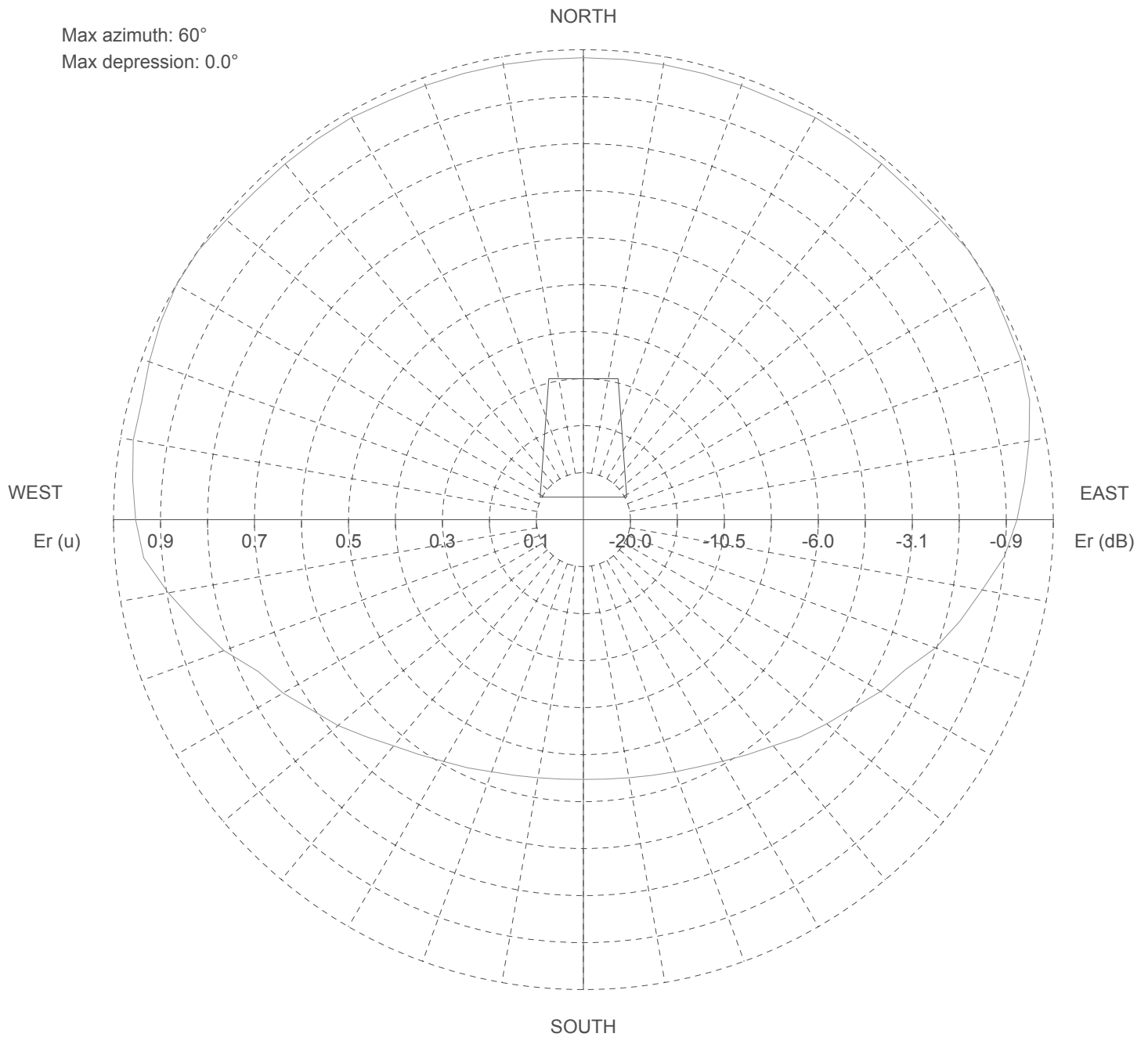
TX station: BKG77-I (0.85wl)

Site name:

Frequency: 100.00 MHz

Horizontal diagram of Maxima

Max azimuth: 60°
Max depression: 0.0°



—— 0.0° depres. (Total antenna), Gain (dBd): -3.03 ERP T.max (KW): 0.498

ERP E.max (KW): 0.387

Date: 29/04/2013

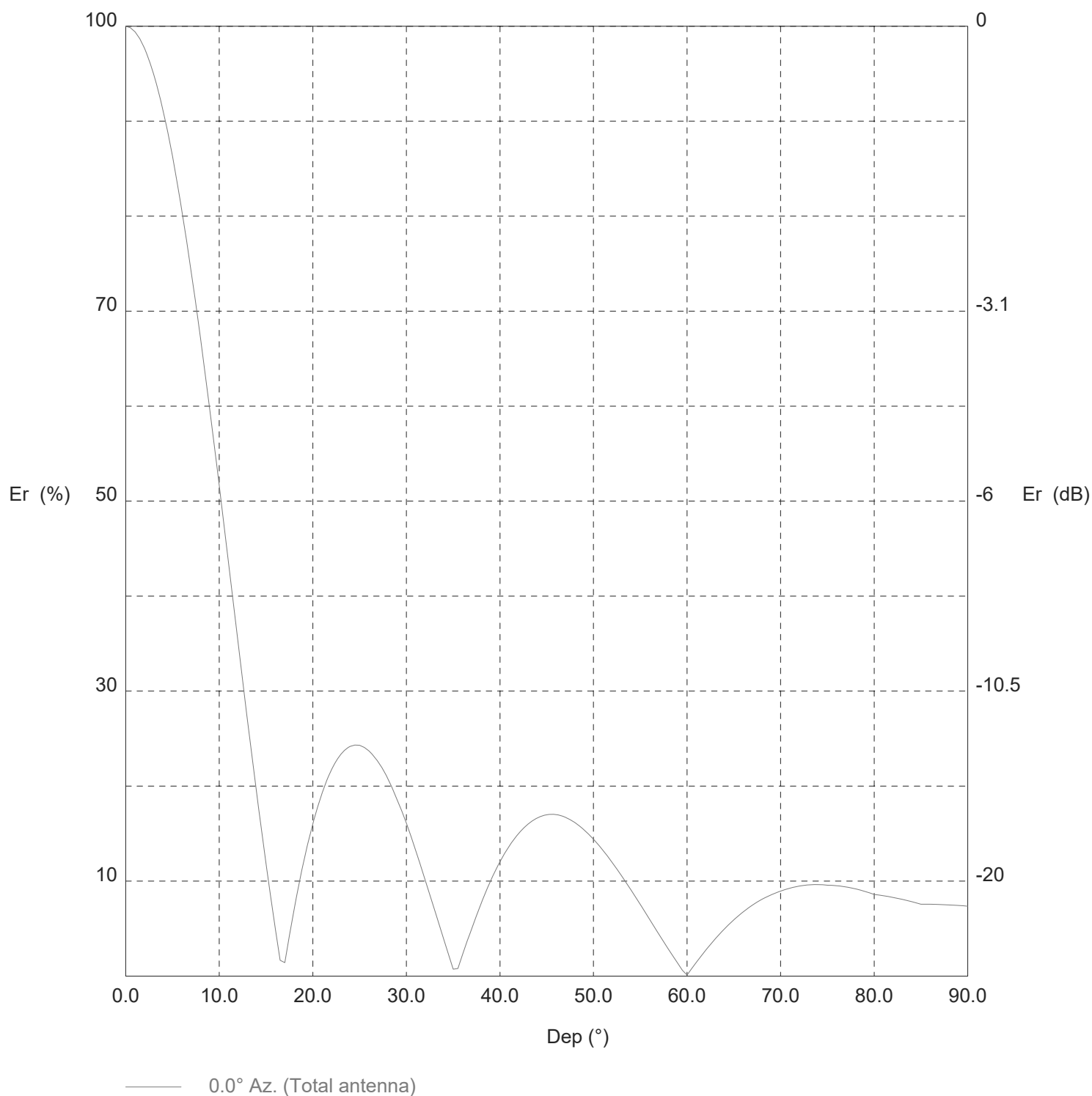
TX station: BKG77-I (0.85wl)

Site name:

Frequency: 100.00 MHz

Horizontal diagram of Maxima

Az (°)	Dep (°)	Er (%)	ERP (W)	Az (°)	Dep (°)	Er (%)	ERP (W)	Az (°)	Dep (°)	Er (%)	ERP (W)
0.0	0.0	98.3	373.6	120.0	0.0	73.1	206.6	240.0	0.0	73.8	210.7
5.0	0.0	98.3	373.6	125.0	0.0	69.9	189.2	245.0	0.0	76.4	225.7
10.0	0.0	98.3	373.6	130.0	0.0	67.6	176.7	250.0	0.0	81.5	256.6
15.0	0.0	98.3	373.6	135.0	0.0	65.3	165.1	255.0	0.0	85.3	281.6
20.0	0.0	98.3	373.6	140.0	0.0	62.8	152.7	260.0	0.0	89.7	311.1
25.0	0.0	98.3	373.6	145.0	0.0	61.0	144.0	265.0	0.0	93.9	341.1
30.0	0.0	98.8	377.5	150.0	0.0	59.4	136.3	270.0	0.0	95.3	351.1
35.0	0.0	98.8	377.5	155.0	0.0	58.0	130.3	275.0	0.0	96.3	358.5
40.0	0.0	98.8	377.5	160.0	0.0	57.1	126.1	280.0	0.0	97.3	366.1
45.0	0.0	98.8	377.5	165.0	0.0	56.3	122.8	285.0	0.0	97.3	366.1
50.0	0.0	99.2	380.8	170.0	0.0	55.8	120.3	290.0	0.0	98.3	373.6
55.0	0.0	100.0	386.5	175.0	0.0	55.4	118.7	295.0	0.0	99.3	381.4
60.0	0.0	100.0	386.7	180.0	0.0	55.3	118.2	300.0	0.0	100.0	386.7
65.0	0.0	99.3	381.4	185.0	0.0	55.4	118.7	305.0	0.0	100.0	386.5
70.0	0.0	99.1	380.0	190.0	0.0	55.8	120.3	310.0	0.0	99.2	380.8
75.0	0.0	98.3	373.6	195.0	0.0	56.3	122.8	315.0	0.0	98.8	377.5
80.0	0.0	96.3	358.5	200.0	0.0	57.1	126.1	320.0	0.0	98.8	377.5
85.0	0.0	94.3	343.8	205.0	0.0	58.3	131.4	325.0	0.0	98.8	377.5
90.0	0.0	92.3	329.3	210.0	0.0	59.4	136.5	330.0	0.0	98.8	377.5
95.0	0.0	90.0	312.9	215.0	0.0	61.0	144.0	335.0	0.0	98.3	373.6
100.0	0.0	86.2	287.1	220.0	0.0	62.8	152.7	340.0	0.0	98.3	373.6
105.0	0.0	83.0	266.7	225.0	0.0	65.3	165.1	345.0	0.0	98.3	373.6
110.0	0.0	79.7	245.9	230.0	0.0	68.2	179.6	350.0	0.0	98.3	373.6
115.0	0.0	75.6	221.0	235.0	0.0	70.6	192.7	355.0	0.0	98.3	373.6

[illegible]

TX station: NICOM BKG77-4(0.85wl)

Site name:

Frequency: 100.00 MHz

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)	Dep (°)	Er (%)	ERP (KW)
0.0	100.0	1.79	30.0	16.1	0.05	60.0	0.1	0.00
0.5	99.8	1.78	30.5	14.7	0.04	60.5	0.8	0.00
1.0	99.4	1.77	31.0	13.2	0.03	61.0	1.5	0.00
1.5	98.7	1.74	31.5	11.7	0.02	61.5	2.1	0.00
2.0	97.7	1.71	32.0	10.2	0.02	62.0	2.7	0.00
2.5	96.4	1.66	32.5	8.6	0.01	62.5	3.3	0.00
3.0	94.9	1.61	33.0	7.0	0.01	63.0	3.9	0.00
3.5	93.1	1.55	33.5	5.4	0.01	63.5	4.5	0.00
4.0	91.1	1.48	34.0	3.8	0.00	64.0	5.0	0.00
4.5	88.8	1.41	34.5	2.3	0.00	64.5	5.5	0.01
5.0	86.3	1.33	35.0	0.7	0.00	65.0	5.9	0.01
5.5	83.6	1.25	35.5	0.8	0.00	65.5	6.4	0.01
6.0	80.6	1.16	36.0	2.3	0.00	66.0	6.8	0.01
6.5	77.5	1.07	36.5	3.7	0.00	66.5	7.1	0.01
7.0	74.2	0.98	37.0	5.1	0.00	67.0	7.5	0.01
7.5	70.7	0.89	37.5	6.4	0.01	67.5	7.8	0.01
8.0	67.1	0.80	38.0	7.7	0.01	68.0	8.1	0.01
8.5	63.4	0.72	38.5	8.9	0.01	68.5	8.3	0.01
9.0	59.6	0.63	39.0	10.0	0.02	69.0	8.6	0.01
9.5	55.7	0.55	39.5	11.1	0.02	69.5	8.8	0.01
10.0	51.7	0.48	40.0	12.0	0.03	70.0	8.9	0.01
10.5	47.6	0.40	40.5	12.9	0.03	70.5	9.1	0.01
11.0	43.4	0.34	41.0	13.7	0.03	71.0	9.3	0.02
11.5	39.3	0.28	41.5	14.4	0.04	71.5	9.4	0.02
12.0	35.2	0.22	42.0	15.0	0.04	72.0	9.5	0.02
12.5	31.1	0.17	42.5	15.6	0.04	72.5	9.5	0.02
13.0	27.1	0.13	43.0	16.0	0.05	73.0	9.6	0.02
13.5	23.1	0.10	43.5	16.4	0.05	73.5	9.6	0.02
14.0	19.3	0.07	44.0	16.7	0.05	74.0	9.6	0.02
14.5	15.5	0.04	44.5	16.9	0.05	74.5	9.6	0.02
15.0	11.8	0.03	45.0	17.0	0.05	75.0	9.6	0.02
15.5	8.3	0.01	45.5	17.0	0.05	75.5	9.6	0.02
16.0	4.9	0.00	46.0	17.0	0.05	76.0	9.5	0.02
16.5	1.7	0.00	46.5	16.9	0.05	76.5	9.5	0.02
17.0	1.4	0.00	47.0	16.7	0.05	77.0	9.4	0.02
17.5	4.3	0.00	47.5	16.5	0.05	77.5	9.3	0.02
18.0	7.1	0.01	48.0	16.2	0.05	78.0	9.2	0.02
18.5	9.6	0.02	48.5	15.8	0.04	78.5	9.0	0.01
19.0	11.9	0.03	49.0	15.4	0.04	79.0	8.9	0.01
19.5	14.1	0.04	49.5	14.9	0.04	79.5	8.8	0.01
20.0	16.1	0.05	50.0	14.4	0.04	80.0	8.6	0.01
20.5	17.8	0.06	50.5	13.8	0.03	80.5	8.5	0.01
21.0	19.3	0.07	51.0	13.3	0.03	81.0	8.5	0.01
21.5	20.6	0.08	51.5	12.6	0.03	81.5	8.4	0.01
22.0	21.7	0.08	52.0	12.0	0.03	82.0	8.3	0.01
22.5	22.6	0.09	52.5	11.3	0.02	82.5	8.2	0.01
23.0	23.3	0.10	53.0	10.6	0.02	83.0	8.1	0.01
23.5	23.9	0.10	53.5	9.8	0.02	83.5	8.0	0.01
24.0	24.2	0.10	54.0	9.1	0.01	84.0	7.8	0.01
24.5	24.3	0.11	54.5	8.3	0.01	84.5	7.7	0.01
25.0	24.3	0.11	55.0	7.5	0.01	85.0	7.6	0.01
25.5	24.1	0.10	55.5	6.7	0.01	85.5	7.6	0.01
26.0	23.7	0.10	56.0	6.0	0.01	86.0	7.6	0.01
26.5	23.2	0.10	56.5	5.2	0.00	86.5	7.5	0.01
27.0	22.5	0.09	57.0	4.4	0.00	87.0	7.5	0.01
27.5	21.7	0.08	57.5	3.6	0.00	87.5	7.5	0.01
28.0	20.8	0.08	58.0	2.8	0.00	88.0	7.5	0.01
28.5	19.8	0.07	58.5	2.1	0.00	88.5	7.5	0.01
29.0	18.6	0.06	59.0	1.3	0.00	89.0	7.4	0.01
29.5	17.4	0.05	59.5	0.6	0.00	89.5	7.4	0.01