

Technical Report Supporting a Form 349 Application for a New FM Translator Station

Pursuant to 47 C.F.R. Section 74:

for

*CH233D.P - Fort Wayne, IN
CH233D (94.5 MHz)*

"New FM Translator Operation"

as a

*Commercial, Fill-In Translator
for Class B AM Station
WGL(AM) - Fort Wayne, IN*

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RF Appendix 1 - Radio Frequency Radiation Compliance Showing

EXPLANATION OF PROPOSAL: This Form 349 Filing and accompanying technical report supports an Original Construction Permit Application for a new FM Translator facility for CH233D.P - Fort Wayne, IN. This FCC Form 349 Filing requests a new CH233D (94.5 MHz) operation with a power of 0.050 kW ERP (circular polarization). The FM Translator will operate from a COR of 330 meters AMSL. This Form 349 Filing will specify rebroadcast of Class B, AM Primary Station WGL(AM) - Fort Wayne, IN (1250 kHz); Facility ID No. 22285. The Translator will be licensed to the community of Fort Wayne, IN.

FACILITY COMPLIANCE SHOWINGS: A map of the proposed 60 dB μ service contour has been included in ***Exhibit 1***. The proposed 60 dB μ contour of the Translator lies wholly inside the larger of the AM primary daytime 2.0 mV/m contour or a 25 mile radius around the AM site. The primary station service contour relationship has been plotted in ***Exhibit 2***.

The proposed facility will be located on the tower bearing Antenna Structure Registration Number 1028214. In support of this filing, a copy of the existing ASRN has been included in ***Exhibit 3***. A depiction of the tower and antenna configuration has been included in ***Exhibit 4***. Further notification to the FAA or ASR governing authorities is not required as this proposal will not increase the overall tower height.

The applicant would like to note use of the NED 03 second terrain database for all allocation, contour and HAAT showings contained herein. A copy of the proposed HAAT calculation has been included in ***Exhibit 5***.

ALLOCATION COMPLIANCE SHOWINGS: The proposed Translator remains in compliance with 47 C.F.R. Section 74.1204 toward all allocation protection concerns with the exception of WAJI(FM) - Fort Wayne, IN (CH236B) and WBNI-FM - Roanoke, IN (CH231A). A general allocation study for this proposal is found in ***Exhibit 6***.

The applicant would like to note the existence of a 47 C.F.R. Section 74.1204(d) Second/Third Adjacent Channel Given Interference Waiver Request toward WAJI(FM) - Fort Wayne, IN (CH236B) and WBNI-FM - Roanoke, IN (CH231A) as noted in ***Exhibit 8***. Protection of the worst case calculated 107.4 dBμ F(50:10) Interference Contour, corresponding to the worst case calculated 67.4 dBμ F(50:50) Protected Contour, has been demonstrated through a downward radiation study. Full protection will be afforded the facility as this area will not reach the ground nor a two meter artificial plane representing a standard person when taking into account the downward radiation characteristics of the antenna as supplied by the antenna manufacturer. A copy of the antenna manufacturer specifications has been included in ***Exhibit 9***.

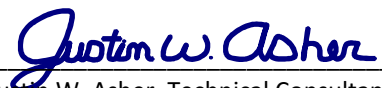
There are two additional facilities, existing or proposed, close enough to merit further study. Therefore, a supplemental contour protection study has been provided toward each facility as included in ***Exhibit(s) 7(a-b)***. It is believed sufficient clearance exists, precluding the need for additional contour protection showings.

Regarding protection of international concerns, the facility is and will remain within 320 km from the common border between the United States and Canada. However full protection will be afforded all Canadian concerns as noted in ***Exhibit 6***.

ENVIRONMENTAL COMPLIANCE SHOWINGS: The proposed facility complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments as set forth under §1.1310 and/or §1.1307(b)(3) of the Commission's rules and the guidelines for RF radiation protection guidelines as set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01). Compliance has been demonstrated in the attached **RF Appendix 1** of this filing. The facility is, or will be, properly marked with signs. Entry is, or will be, restricted by means of fencing with locked doors or gates. In addition, coordination with other users of the site will be secured to reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.

Regarding compliance with the NEPA, Nationwide Programmatic Agreement and NHPA Section 106 for tower co-location, compliance with the Agreement is not required where no new tower construction is being proposed and the tower is not being substantially altered. Specifically, compliance is not necessary where only an existing antenna and feed-line are being reused (quadplexed), as here. However, should the Commission determine compliance is necessary, upon notification to the applicant, the applicant will file FCC Form 621.

CERTIFICATION OF TECHNICAL CONSULTANT: *I declare, under penalty of perjury, that the contents of this report are true and accurate to the best of my knowledge and belief. I further certify I have over eighteen years of experience as a broadcast technical consultant before the Federal Communications Commission ("the FCC"); and am familiar with the Code of Federal Regulations Title 47 ("the Rules") as pertaining to this report and its contents herein. The underlying data utilized in this report was taken directly from FCC databases or indirectly through third party software vendors securing data directly from FCC databases. This firm cannot be held liable for errors or omissions resulting from the underlying data. The information contained herein is believed accurate to the date reported below.*



Justin W. Asher, Technical Consultant

March 19, 2018

Exhibit 1
Service Contour Study:
Present vs Proposed Operations

Proposed 60 dBμ F(50:50) Contour

Fort Wayne

CH233D.P



CH233D.P
Fort Wayne, IN
Proposed Operation
Facility ID: NEW
Latitude: 41-05-57 N
Longitude: 085-08-42 W
ERP: 0.05 kW
Channel: 233D (94.5 MHz)
AMSL Height: 330.0 m
Horiz. Pattern: Omni

60 dBμ F(50:50) Contour
Total Population: 172,358
Total Area: 198.0 sq. km

New Haven

NED 03 SEC Terrain Database
US Census 2010 PL Database

Terrain
204 277 m

Scale 1:120,000
0 2 4 6 km

Asher Broadcast Consulting LLC
justinasher@consultant.com
1 (202) 875-2986

Primary 2 mV/m Daytime Contour

25 mile Radius from AM Site

Proposed 60 dBµ F(50:50) Contour

CH233D.P



Allen

WGL(AM)



Exhibit 2

Service Contour Study: Proposed vs Primary Operations

WGL 1250 kHz
Fort Wayne, Indiana
Station Class: B
Region 2 Class: B
Facility ID: 22285
File Number: BMML-20101220ACG
41-01-16.0 N 85-09-46.0 W (NAD 27)
41-01-16.2 N 85-09-45.9 W (NAD 83)
Power: 2.3 kW, Directional
Hours: Daytime
Pattern Type: Standard
Towers: 3 Augmentations: 0
RMS Theoretical: 473.2 mV/meter
RMS Standard: 497.12 mV/meter

CH233D.P
Fort Wayne, IN
Proposed Operation
Facility ID: NEW
Latitude: 41-05-57 N
Longitude: 085-08-42 W
ERP: 0.05 kW
Channel: 233D (94.5 MHz)
AMSL Height: 330.0 m
Horiz. Pattern: Omni

NED 03 SEC Terrain Database
US Census 2010 PL Database

Terrain
193 337 m

Scale 1:475,000
0 6 12 18 km

Asher Broadcast Consulting LLC
justinasher@consultant.com
1 (202) 875-2986

V-Soft Communications LLC ©

Exhibit 3

Copy of Existing Antenna Structure Registration

(public record copy)

Registration Detail

Reg Number	1028214	Status	Constructed
File Number	A0816435	Constructed	05/17/2005
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type GTOWER - Guyed Structure Used for Communication Purposes

Location (in NAD83 Coordinates)

Lat/Long	41-05-56.9 N 085-08-42.0 W	Address	2602 CASS STREET (Fort Wayne -Cass St. #90136)
City, State	FORT WAYNE , IN		
Zip	46808	County	ALLEN
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	233.5	Overall Height Above Ground (AGL)	128.3
Overall Height Above Mean Sea Level	361.8	Overall Height Above Ground w/o Appurtenances	123.4

Painting and Lighting Specifications

FAA Chapters 4, 8, 12
 Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2012-AGL-5804-OE	FAA Issue Date	09/13/2012
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Owner & Contact Information

FRN	0011498342	Owner Entity Type	Limited Liability Company
Assignor FRN	0005885231	Assignor ID	L00008376

Owner

American Towers, LLC.
 Attention To: Regulatory Compliance 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	01/15/2013
Purpose	Change Owner	Entered	01/15/2013
Mode	Interactive		

Related Applications

01/15/2013	A0816435 - Change Owner (OC)
09/17/2012	A0785830 - Notification (NT)
09/17/2012	A0785829 - Modification (MD)

Related applications (11)

Comments

Comments

None

History

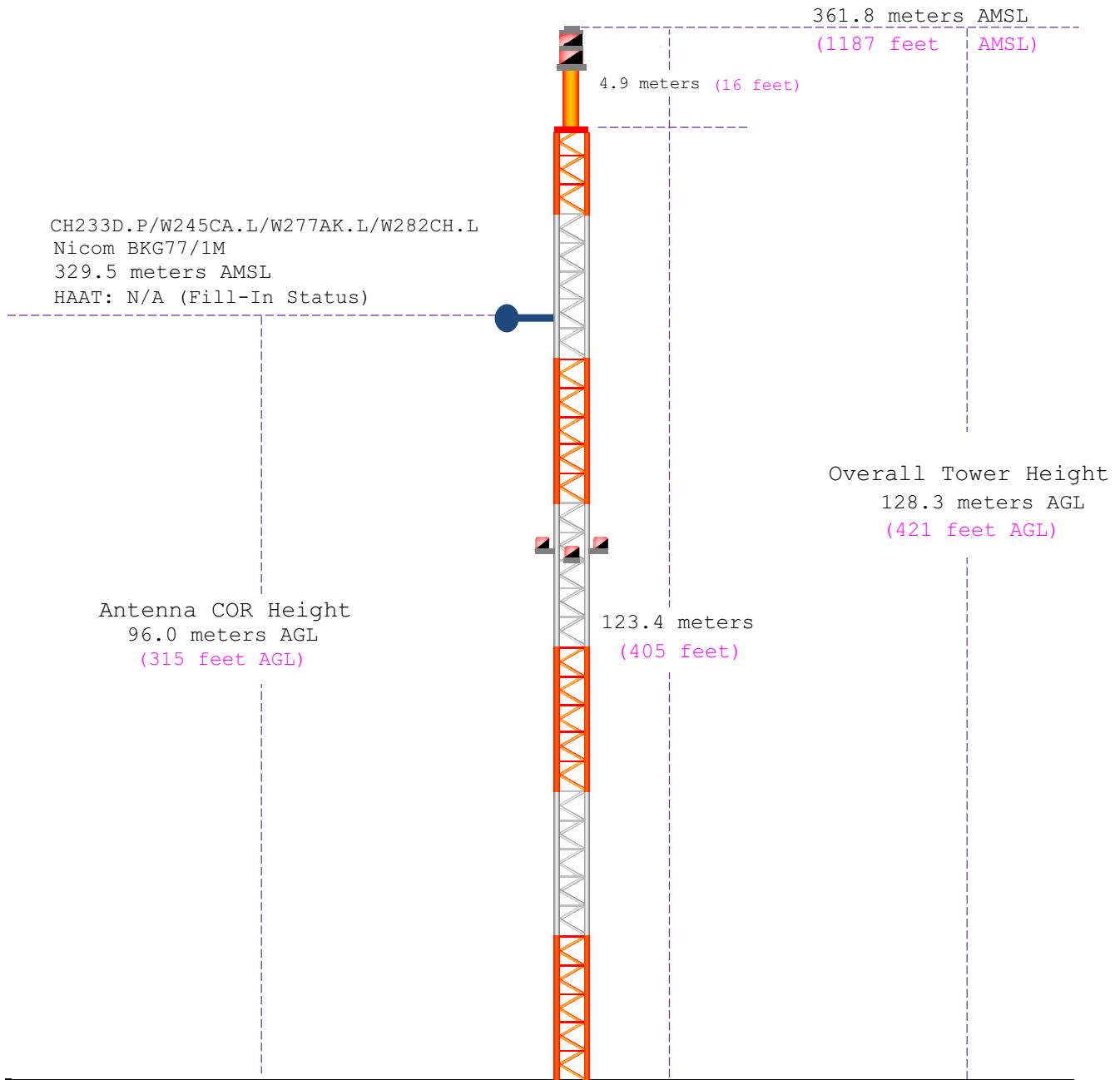
Date	Event
01/16/2013	Registration Printed
01/16/2013	Change of Ownership Letter Sent
01/15/2013	Change of Ownership Received
All History (22)	

Automated Letters

01/16/2013	Authorization, Reference
01/16/2013	Ownership Change, Reference 742669

Exhibit 4

Vertical Plan of Antenna System



Ground Elevation: 233.5 meters AMSL (766 feet AMSL)		
Address: 2602 Cass Street		
City: Fort Wayne	Latitude (D M S) Longitude (D M S)	
County: Allen	NAD 27 datum values: 41 05 56.72610 85 08 42.10457	
State: Indiana	NAD 83 datum values: 41 05 56.90000 85 08 42.00000	
Antenna Structure Registration	Drawing	Asher Broadcast Consulting, LLC
1028214	Is Not	justinasher@consultant.com
	To Scale	1(202)875-2986

Exhibit 5

HAAT and Miscellaneous Coordinate Information

HAAT Calculation (1927):

N. Lat. = 410557.0 W. Lng. = 850842.0
 HAAT and Distance to Contour,
 FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	255.7	74.3	0.0500	-13.01	1.000	7.40
030	244.2	85.8	0.0500	-13.01	1.000	7.99
060	244.6	85.4	0.0500	-13.01	1.000	7.97
090	233.3	96.7	0.0500	-13.01	1.000	8.53
120	236.1	93.9	0.0500	-13.01	1.000	8.40
150	243.3	86.7	0.0500	-13.01	1.000	8.03
180	239.9	90.1	0.0500	-13.01	1.000	8.21
210	237.4	92.6	0.0500	-13.01	1.000	8.34
240	249.4	80.6	0.0500	-13.01	1.000	7.73
270	255.9	74.1	0.0500	-13.01	1.000	7.40
300	259.2	70.8	0.0500	-13.01	1.000	7.23
330	254.9	75.1	0.0500	-13.01	1.000	7.44

Ave El= 246.15 M HAAT= 83.85 M AMSL= 330.0

NAD 1983 to NAD 1927 Conversion:

	<u>Latitude</u>	<u>Longitude</u>
NAD 27 datum values:	41 05 56.72610	85 08 42.10457
NAD 83 datum values:	41 05 56.90000	85 08 42.00000

Various Coordinate Conversion Calculations (NAD 1983):

Position Type	Lat Lon
Degrees Lat Long	41.0991389°, -085.1450000°
Degrees Minutes	41°05.94833', -085°08.70000'
Degrees Minutes Seconds	41°05'56.9000", -085°08'42.0000"
UTM	16T 655778mE 4551420mN
UTM centimeter	16T 655778.09mE 4551420.51mN
MGRS	16TFL5577851420
Grid North	1.2°
GARS	190LY45
Maidenhead	EN71KC23OT30
GEOREF	GJEM51300594

Exhibit 6

Tabulation of Proposed Allocation

Blue Text indicates contour protection studies toward select stations as included in **Exhibit(s) 7(a-b)**.

Yellow Text denotes the existence of a 47 C.F.R. Section 74.1204(d) Second/Third Adjacent Channel Given Interference Waiver Request as included in **Exhibit 8**.

REFERENCE		CH# 233D - 94.5 MHz, Pwr= 0.05 kW, HAAT= 83.9 M, COR= 330 M								DISPLAY DATES	
41 05 57.0 N.		Average Protected F(50-50)= 7.89 km								DATA 01-08-18	
85 08 42.0 W.		Omni-directional								SEARCH 01-10-18	
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*
236B Fort Wayne	WAJI	LIC CN IN		277.3 97.3	3.89 BLH19900226KE	41 06 13.0 85 11 28.0	39.000 207	6.7 453	69.8 Sarkes Tarzian, Inc.	-10.1*<	-66.9*<
231A Roanoke	WBNI-FM	LIC NCX IN		220.8 40.7	17.35 BLED20090825BUV	40 58 51.0 85 16 48.0	3.400 100	2.4 342	26.2 Northeast Indiana Public R	6.3	-9.3*<
232D Auburn	W232DK	CP DC IN		15.0 195.1	35.43 BNPFT20171201ANL	41 24 25.0 85 02 05.0	0.250 361	17.6 361	12.0 Northeast Indiana Broadcas	10.2	12.6
232A Celina	WKKI	LIC C OH		141.2 321.6	74.91 BLH20090831ADP	40 34 21.0 84 35 22.0	5.200 108	44.8 369	29.2 The Sonshine Communication	22.0	34.4
234A Bronson	WCVM	LIC CX MI		353.6 173.5	71.89 BMLD20141020ABJ	41 44 30.0 85 14 32.0	4.000 123	42.2 409	27.5 Taylor University Broadcas	22.3	33.8
233B Port Clinton	WXKR	LIC ZCX OH		73.5 254.7	162.75 BLH20080910ACQ	41 30 03.0 83 16 16.0	30.000 188	130.7 374	63.9 Cumulus Licensing Llc	23.8	59.0
232B1 Plymouth	WZOC	LIC CX IN		297.4 116.6	105.07 BLH20140124ALI	41 31 42.0 86 15 58.0	11.500 150	57.9 395	44.5 Wsjm, Inc.	40.0	48.4
230B1 Columbus Grove	WBKS	LIC CX OH		100.2 280.9	86.40 BMLH20050201BMF	40 57 24.0 84 07 56.0	14.000 133	4.0 356	44.8 Cc Licenses, Llc	73.9	40.9
234B Indianapolis Grandfathered at	WFBQ	LIC CN IN		214.1 33.4	160.89 BLH19980707KB	39 53 43.0 86 12 04.0	58.000 245	92.4 502	76.4 Capstar Tx, Llc	60.1	67.2
232L1 Marion	WIWU-LP	LIC IN		214.5 34.1	77.84 BLL20071001AJP	40 31 15.0 85 39 59.0	0.100 25	281	61.4 Indiana Wesleyan Universit		60.4
233B Holland	WTNR	LIC CN MI		341.2 160.6	206.63 BLH19840309AR	42 51 20.0 85 57 45.0	50.000 152	137.0 353	64.4 Radio License Holding Cbc,	62.3	106.7
233A Englewood	WYDB	LIC ZCX OH		151.7 332.3	161.43 BLH20061114ABX	39 49 03.0 84 14 53.0	3.600 130	84.9 401	29.0 Aloha Station Trust, Llc	68.5	105.6
232D Archbold	W232CM	LIC DC OH		57.2 237.8	94.96 BLFT20161222AAN	41 33 29.0 84 11 08.0	0.250 304	16.1 304	11.2 Nobco, Inc.	70.9	72.5

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 7a
Contour Protection Studies Toward Select Allocation Concern(s)

FMCommander Single Allocation Study - 01-10-2018 - NED 03 SEC
CH233D.P's Overlaps (In= 10.16 km, Out= 12.56 km)

CH233D.P CH 233 D
Lat= 41 05 57.0, Lng= 85 08 42.0
0.05 kW 83.9 m HAAT, 330 m COR
Prot.= 60 dBu, Intef.= 54 dBu

W232DK CH 232 D DA BNPFT20171201ANL
Lat= 41 24 25.0, Lng= 85 02 05.0
0.25 kW 0 m HAAT, 361 m COR
Prot.= 60 dBu, Intef.= 54 dBu

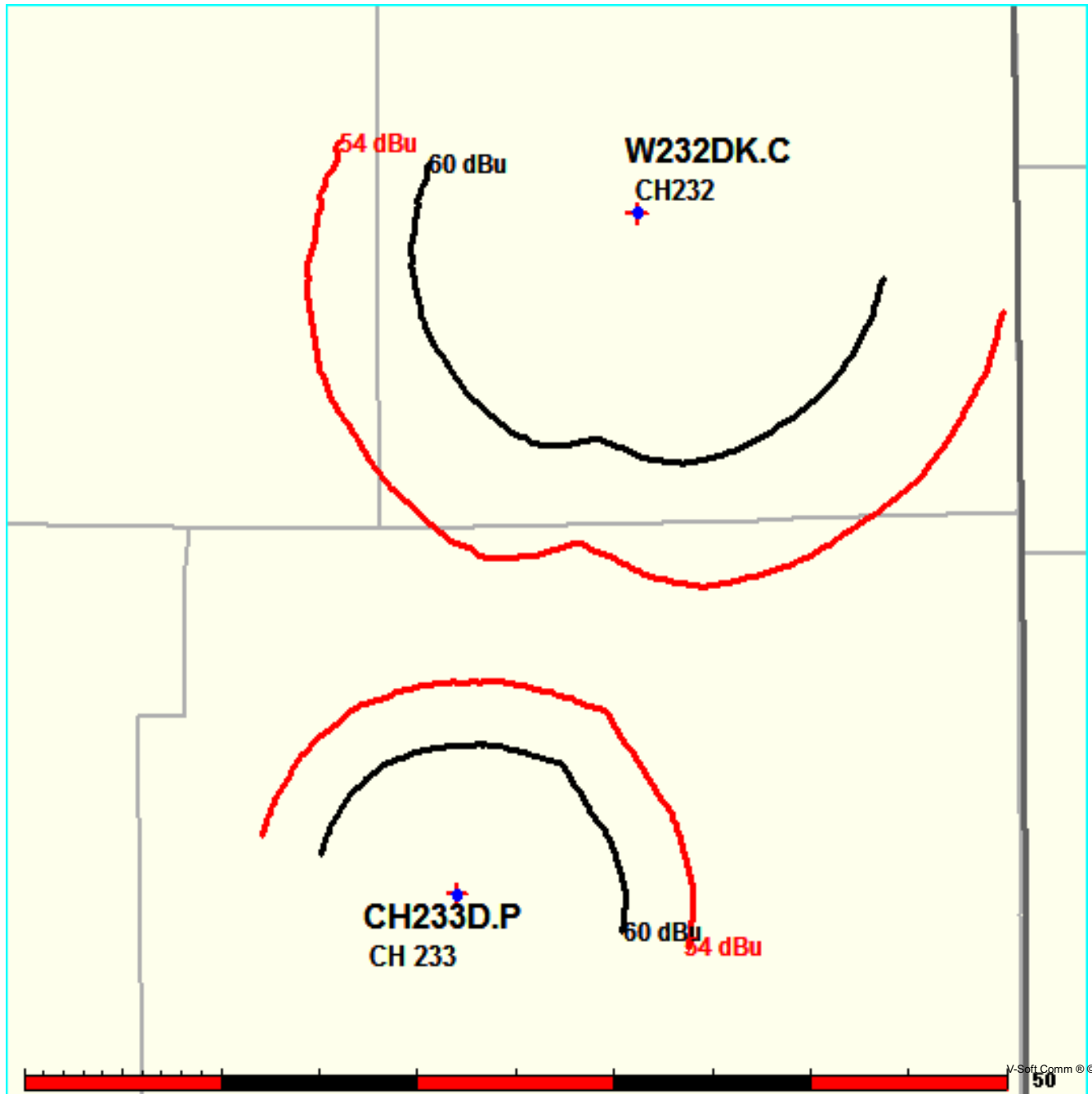


Exhibit 7b

Contour Protection Studies Toward Select Allocation Concern(s)

FMCommander Single Allocation Study - 01-10-2018 - NED 03 SEC
CH233D.P's Overlaps (In= 22.05 km, Out= 34.38 km)

CH233D.P CH 233 D
Lat= 41 05 57.0, Lng= 85 08 42.0
0.05 kW 83.9 m HAAT, 330 m COR
Prot.= 60 dBu, Intef.= 54 dBu

WKKI CH 232 A BLH20090831ADP
Lat= 40 34 21.0, Lng= 84 35 22.0
5.2 kW 108 m HAAT, 369 m COR
Prot.= 60 dBu, Intef.= 54 dBu

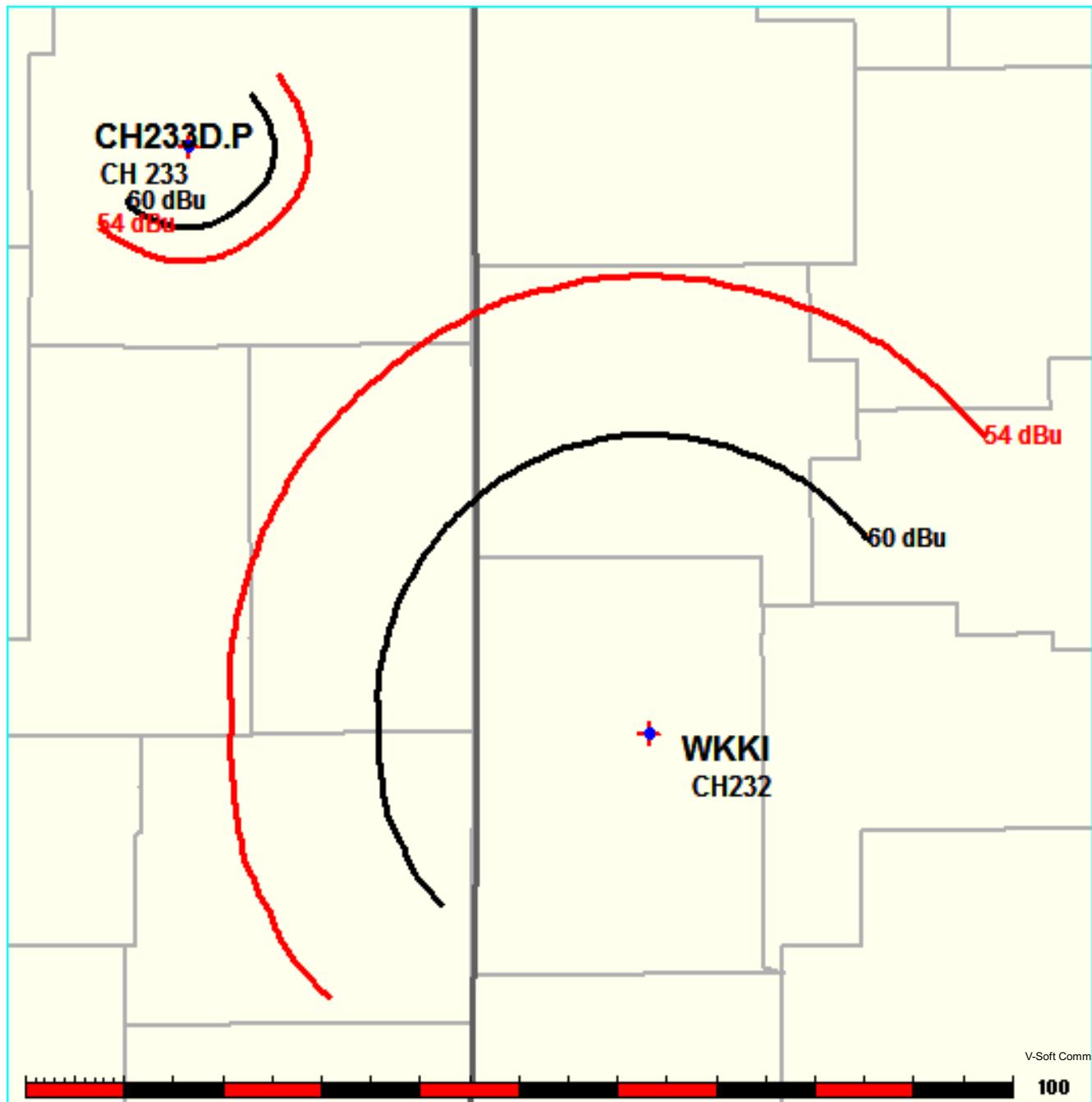


Exhibit 8

47 C.F.R. Section 74.1204(d) Second / Third Adjacent Given Interference Waiver Request

Yellow Highlighted Text denotes the existence of a 47 C.F.R. Section 74.1204(d) Second/Third Adjacent Channel Given Interference Waiver Request toward WJLI(FM) - Fort Wayne, IN (CH236B) and WBNI-FM - Roanoke, IN (CH231A) as noted in **Exhibit 8**. Protection of the worst case calculated 107.4 dBμ F(50:10) Interference Contour, corresponding to the worst case calculated 67.4 dBμ F(50:50) Protected Contour, has been demonstrated through a downward radiation study. Full protection will be afforded the facility as this area will not reach the ground nor a two meter artificial plane representing a standard person when taking into account the downward radiation characteristics of the antenna as supplied by the antenna manufacturer. A copy of the antenna manufacturer specifications has been included in **Exhibit 9**.

Signal Report

WJLI Signal value at Reference site = 107.7 dBu. Distance to CH233D.P interference signal contour = 2.0 m

OK

Signal Report

WBNI-FM Signal value at Reference site = 67.4 dBu. Distance to CH233D.P interference signal contour = 211.8 m

OK

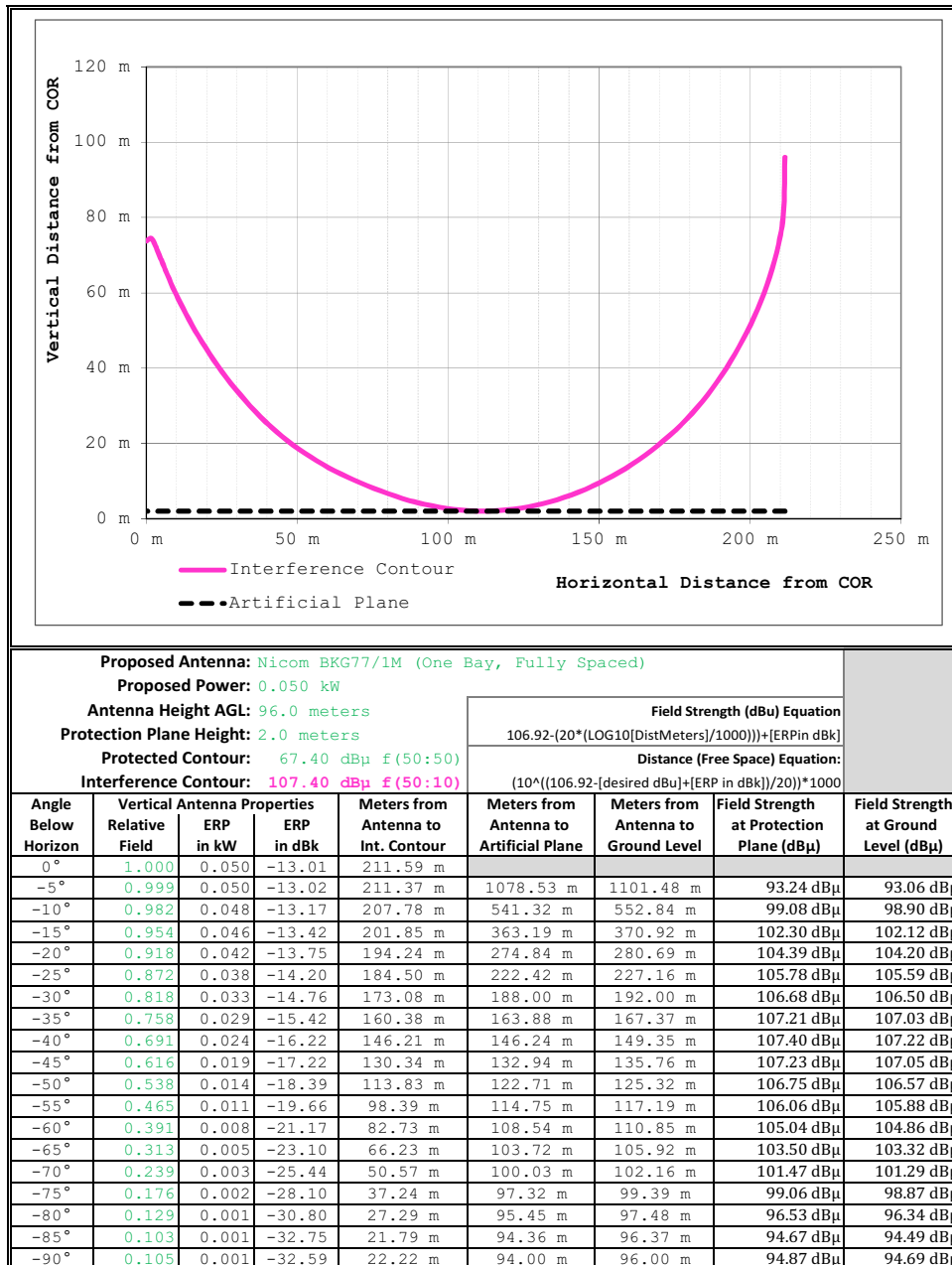


Exhibit 9
Copy of Manufacturer's Antenna Documentation
(public record copy)



Your Number 1 Source For Radio And Digital TV Gear

BKG 77

Medium Power Broadband FM Circular Polarization Antenna

TECHNICAL SPECIFICATIONS

Antenna type: circular

polarization: dipole

Front-to-back ratio: 3 dB

Frequency range: 87.5 - 108 MHz

Lightening protection: all parts grounded

Bandwidth: 20 MHz

Max wind velocity: 120 mph (190 km/h)

Impedance: 50 ohms

Wind load: 53 Lbs (24 kg)

Connectors: N type (1 kw) -7/8 type / 7/16DIN(2 kw)

Wind surface: 1.1 ft² (0.10 m²)

Power rating: 2000 Watts max

Materials (external): stainless steel

VSWR: < 1.3

Mounting: from 2" to 4"

Polarization: vertical and horizontal

Weight: 25 Lbs (11.3 kg)

Gain: -3 dBd (referred to half-wave dipole)

Dimensions: 58"x32"x32" (1450x800x800mm)

H plane: omnidirectional ± 1.5 dB (with a 4" mast)

V plane: omnidirectional ± 3 dB (with a 4" mast)

Packing: 68"x10"x10"



Optional Mini-Radome

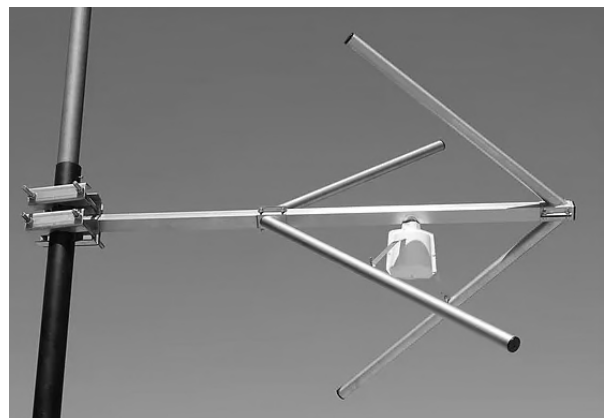


Exhibit 9
Copy of Manufacturer's Antenna Documentation
(public record copy)

BKG77SINGLE.PRJ

TX station: BKG77-1

Site name:

Frequency: 100.00 MHz

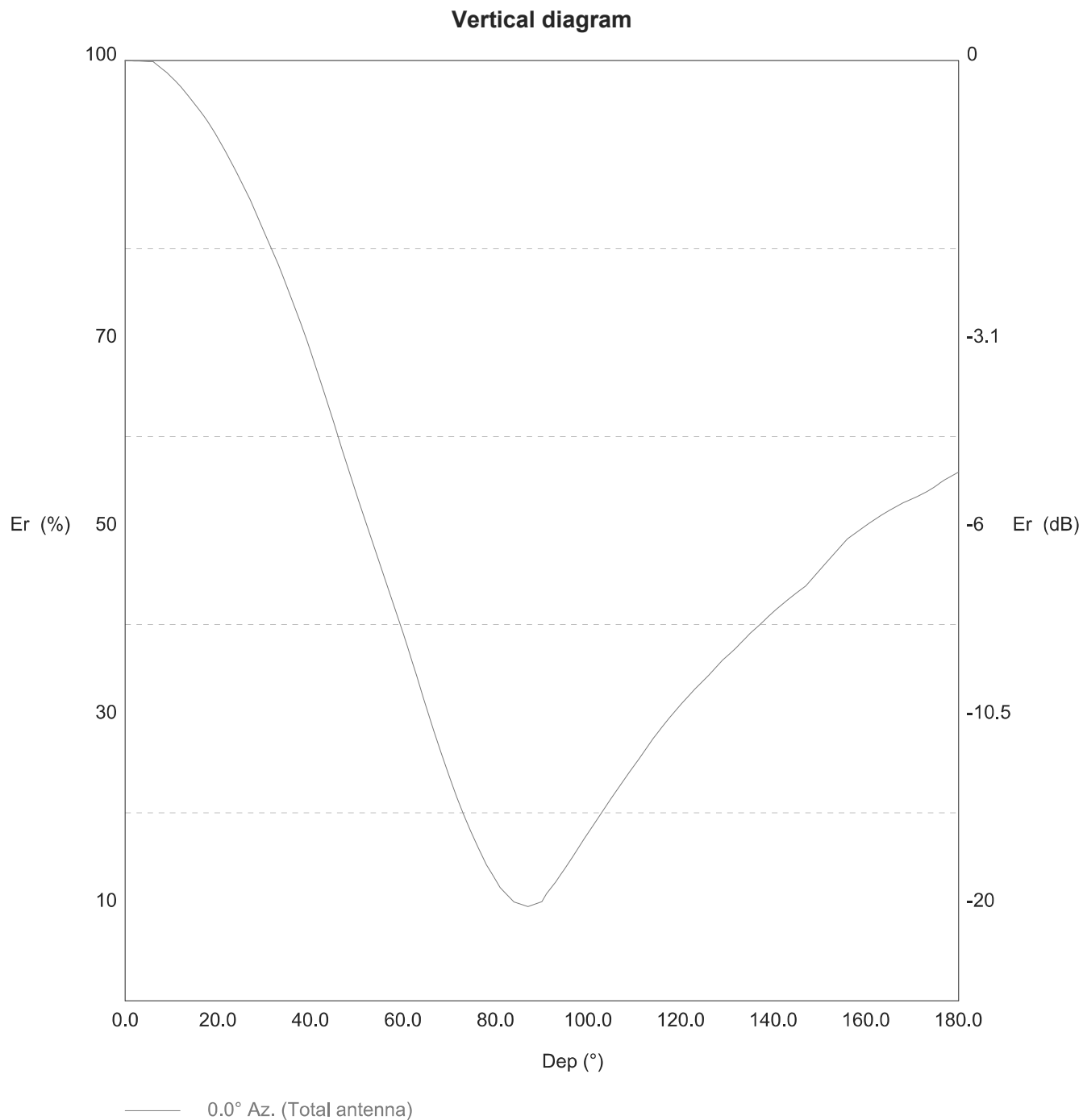


Exhibit 9

Copy of Manufacturer's Antenna Documentation

(public record copy)

BKG77SINGLE.PRJ

TX station: BKG77-1

Site name:

Frequency: 100.00 MHz

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	373.6	60.0	39.1	57.2	120.0	31.5	37.0
1.0	100.0	373.5	61.0	37.6	52.8	121.0	32.0	38.3
2.0	100.0	373.4	62.0	36.1	48.6	122.0	32.6	39.6
3.0	99.9	373.3	63.0	34.5	44.6	123.0	33.1	41.0
4.0	99.9	373.1	64.0	32.9	40.5	124.0	33.6	42.2
5.0	99.9	372.9	65.0	31.3	36.6	125.0	34.1	43.5
6.0	99.9	372.8	66.0	29.7	33.0	126.0	34.6	44.7
7.0	99.5	369.9	67.0	28.2	29.8	127.0	35.2	46.2
8.0	99.1	367.0	68.0	26.8	26.8	128.0	35.7	47.6
9.0	98.7	364.1	69.0	25.3	23.9	129.0	36.2	49.1
10.0	98.2	360.5	70.0	23.9	21.3	130.0	36.7	50.3
11.0	97.7	356.9	71.0	22.5	18.9	131.0	37.1	51.5
12.0	97.2	353.3	72.0	21.1	16.6	132.0	37.6	52.7
13.0	96.6	348.9	73.0	19.9	14.8	133.0	38.1	54.1
14.0	96.0	344.5	74.0	18.8	13.2	134.0	38.6	55.6
15.0	95.4	340.1	75.0	17.6	11.6	135.0	39.1	57.0
16.0	94.7	335.4	76.0	16.6	10.2	136.0	39.5	58.4
17.0	94.1	330.8	77.0	15.5	9.0	137.0	40.0	59.7
18.0	93.4	326.1	78.0	14.5	7.8	138.0	40.4	61.1
19.0	92.6	320.4	79.0	13.7	7.0	139.0	40.9	62.5
20.0	91.8	314.7	80.0	12.9	6.2	140.0	41.4	63.9
21.0	91.0	309.1	81.0	12.0	5.4	141.0	41.8	65.3
22.0	90.0	302.7	82.0	11.5	5.0	142.0	42.2	66.5
23.0	89.1	296.5	83.0	11.0	4.5	143.0	42.6	67.8
24.0	88.1	290.3	84.0	10.5	4.1	144.0	43.0	69.0
25.0	87.2	283.8	85.0	10.3	4.0	145.0	43.4	70.3
26.0	86.2	277.4	86.0	10.2	3.9	146.0	43.8	71.6
27.0	85.2	271.1	87.0	10.0	3.7	147.0	44.1	72.8
28.0	84.0	263.9	88.0	10.2	3.9	148.0	44.7	74.7
29.0	82.9	256.8	89.0	10.4	4.0	149.0	45.3	76.5
30.0	81.8	249.8	90.0	10.5	4.1	150.0	45.8	78.4
31.0	80.6	242.9	91.0	11.4	4.8	151.0	46.4	80.3
32.0	79.5	236.1	92.0	12.0	5.4	152.0	46.9	82.3
33.0	78.3	229.3	93.0	12.7	6.0	153.0	47.5	84.3
34.0	77.1	222.0	94.0	13.4	6.7	154.0	48.0	86.2
35.0	75.8	214.7	95.0	14.1	7.4	155.0	48.6	88.2
36.0	74.5	207.6	96.0	14.8	8.2	156.0	49.1	90.2
37.0	73.2	200.4	97.0	15.6	9.1	157.0	49.5	91.5
38.0	71.9	193.3	98.0	16.4	10.0	158.0	49.8	92.8
39.0	70.6	186.3	99.0	17.1	11.0	159.0	50.2	94.1
40.0	69.1	178.6	100.0	17.9	11.9	160.0	50.5	95.4
41.0	67.6	170.9	101.0	18.6	12.9	161.0	50.9	96.8
42.0	66.1	163.5	102.0	19.3	13.9	162.0	51.2	98.1
43.0	64.6	156.0	103.0	20.1	15.0	163.0	51.5	99.2
44.0	63.1	148.7	104.0	20.8	16.2	164.0	51.8	100.4
45.0	61.6	141.6	105.0	21.5	17.3	165.0	52.1	101.6
46.0	60.0	134.4	106.0	22.3	18.5	166.0	52.4	102.7
47.0	58.4	127.5	107.0	23.0	19.7	167.0	52.7	103.7
48.0	56.8	120.7	108.0	23.7	21.0	168.0	53.0	104.8
49.0	55.3	114.4	109.0	24.4	22.2	169.0	53.2	105.7
50.0	53.8	108.2	110.0	25.1	23.5	170.0	53.4	106.5
51.0	52.3	102.2	111.0	25.7	24.8	171.0	53.6	107.4
52.0	50.8	96.6	112.0	26.5	26.2	172.0	53.9	108.4
53.0	49.4	91.1	113.0	27.2	27.6	173.0	54.1	109.4
54.0	47.9	85.8	114.0	27.9	29.0	174.0	54.4	110.5
55.0	46.5	80.7	115.0	28.5	30.4	175.0	54.7	111.9
56.0	45.0	75.7	116.0	29.2	31.8	176.0	55.1	113.3
57.0	43.6	71.0	117.0	29.8	33.1	177.0	55.4	114.7
58.0	42.1	66.2	118.0	30.4	34.4	178.0	55.7	115.9
59.0	40.6	61.6	119.0	30.9	35.7	179.0	56.0	117.0