

Exhibit 13.1 - Copy of Existing Antenna Structure Registration

**Registration Detail**

Reg Number	1044988	Status	Constructed
File Number	A0727253	Constructed	01/01/1954
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	36-32-31.0 N 087-19-31.9 W	Address	OLD CLARKSVILLE-RUSSELVILLE PIKE, 0.32 MI FROM CITY
City, State	CLARKSVILLE , TN	County	MONTGOMERY
Zip	37043	Position of Tower in Array	
Center of AM Array			

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
147.8	113.3
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
261.1	112.4

Painting and Lighting Specifications

FCC Paragraphs 1, 3, 4, 13, 21

FAA Notification

FAA Study	2010-ASO-4715-OE	FAA Issue Date	10/22/2010
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Owner & Contact Information

FRN	0005005111	Owner Entity Type	
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Owner

Saga Communications of Tuckessee, LLC
 Attention To: Gregory Urbiel
 73 Kercheval Avenue, Suite 201
 Grosse Pointe Farms , MI 48236

P: (313)886-7070
 F:
 E: gurbiel@sagacommunications.com

Contact

Smithwick , Gary S Esq
 5028 Wisconsin Avenue NW, Suite 301
 Washington , DC 20016

P: (202)363-4050
 F:
 E: gsmithwick@fccworld.com

Last Action Status

Status	Constructed	Received	05/09/2011
Purpose	Notification	Entered	05/09/2011
Mode	Interactive		

Related Applications

05/09/2011	A0727253 - Notification (NT)
05/04/2011	A0726979 - Modification (MD)
12/13/2002	A0300187 - Change Owner (OC)

Related applications (4)

Comments**Comments**

None

History**Date**

05/09/2011	Construction Notification Received
05/06/2011	Registration Printed
05/05/2011	Modification Received

All History (7)

Automated Letters

05/06/2011	Authorization, Reference
12/16/2002	Authorization, Reference 255442
12/16/2002	Ownership Change, Reference 255634

Exhibit 13.2

Vertical Plan of Antenna System

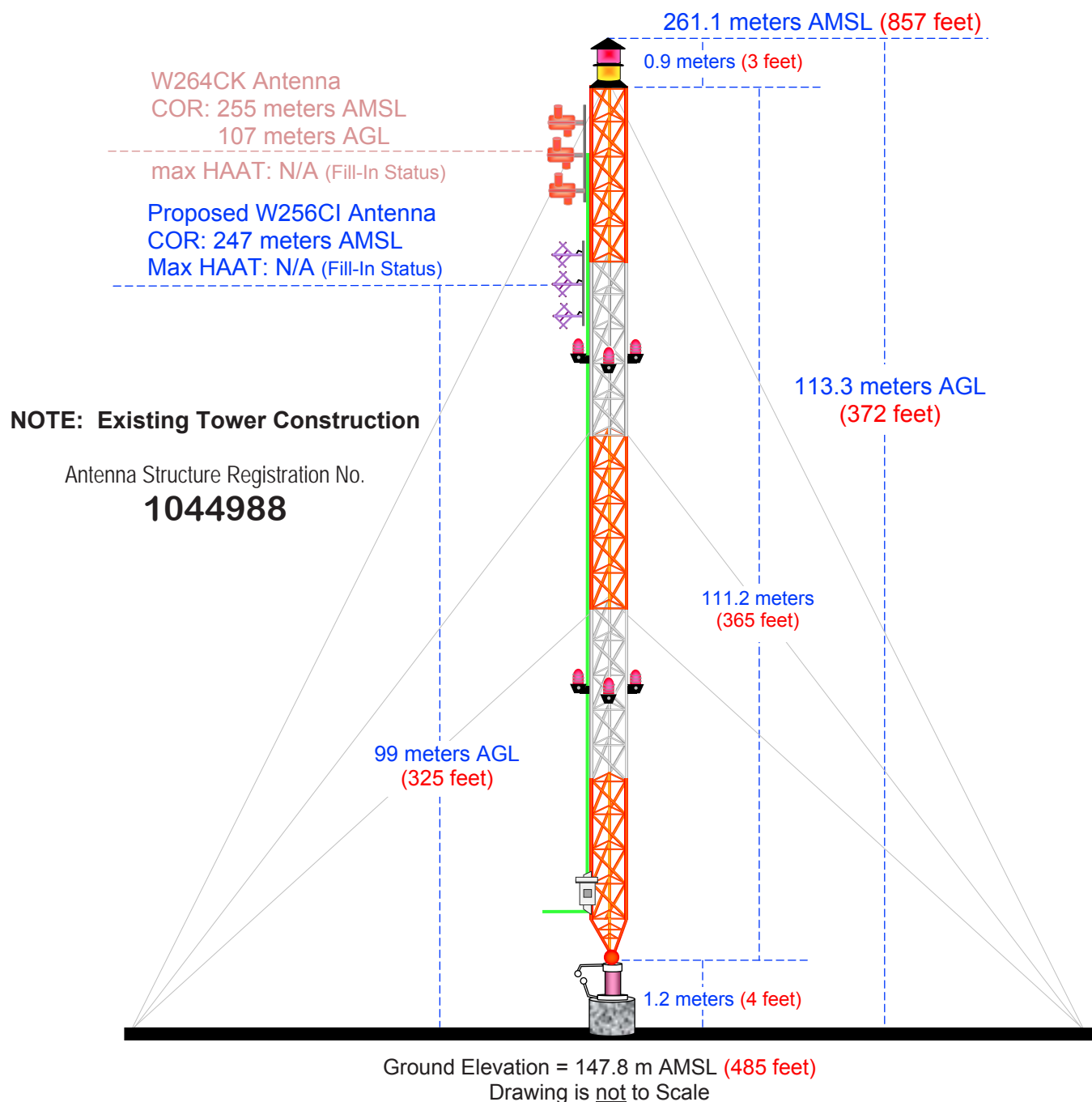
The site is located on Old Clarksville-Russellville Pike, 0.32 mi from the city of Clarksville, Montgomery County, Tennessee.

Site Location (NAD 27)

NL: 36° 32' 31"

WL: 87° 19' 32"

(N 36-32-31.0; W 87-19-31.9 (NAD '83))



MUNN-REESE, INC.

Broadcast Engineering Consultants
Coldwater, MI 49036

Terrain
106 241 m

NED 03 SEC Terrain Database
US Census 2010 PL Database

Exhibit 13.3 Present vs. Proposed Service Contour Study

Present 60 dBu F(50:50) Contour
Proposed 60 dBu F(50:50) Contour

W256CI.C
Clarksville, TN
BNPFT20130820ABI
Facility ID: 154860
Latitude: 36-32-31 N
Longitude: 087-19-32 W
ERP: 0.25 kW
Channel: 256D
Frequency: 99.1 MHz
AMSL Height: 247.0 m
Horiz. Pattern: Directional

60 dBu Contour
Total Population: 136,693
Total Area: 409 sq. km

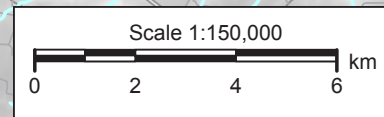
W256CI.P
Clarksville, TN
Proposed Operation
Facility ID: 154860
Latitude: 36-32-31 N
Longitude: 087-19-32 W
ERP: 0.25 kW
Channel: 256D
Frequency: 99.1 MHz
AMSL Height: 247.0 m
Horiz. Pattern: Directional

60 dBu Contour
Total Population: 136,693
Total Area: 409 sq. km

W256CI.C
+ W256CI.P

Clarksville

Guthrie



Terrain
88 579 m

NED 03 SEC Terrain Database
US Census 2010 PL Database

Exhibit 13.4 Proposed vs Primary Service Contour Study

WCVQ(FM)
Fort Campbell, KY
BLH19880923KB
Facility ID: 61253
Latitude: 36-32-23 N
Longitude: 087-39-45 W
ERP: 100.00 kW
Channel: 300C1
Frequency: 107.9 MHz
AMSL Height: 439.0 m
Horiz. Pattern: Omni

W256CI.P
Clarksville, TN
Proposed Operation
Facility ID: 154860
Latitude: 36-32-31 N
Longitude: 087-19-32 W
ERP: 0.25 kW
Channel: 256D
Frequency: 99.1 MHz
AMSL Height: 247.0 m
Horiz. Pattern: Directional

WCVQ(FM)
+

W256CI.P
+

Clarksville

Primary 60 dBμ F(50:50) Contour

Proposed 60 dBμ F(50:50) Contour

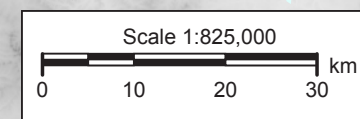


Exhibit 13.5

Tabulation of Proposed Translator Allocation Study

REFERENCE		CH# 256D - 99.1 MHz, Pwr= 0.25 kw DA, HAAT= 0.0 M, COR= 247 M								DISPLAY DATES	
36 32 31.0 N.		Average Protected F(50-50)= 7.09 km								DATA 01-17-14	
87 19 32.0 W.		Standard Directional								SEARCH 01-17-14	
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)
256D	W256CI	CP	DC_	0.0	0.00	36 32 31.0	0.250	41.2	12.0	-53.1*	-53.1*
Clarksville		TN		0.0	BNPFT20130820ABI	87 19 32.0		247	Edgewater Broadcasting, In		
254C1	WHOP-FM	LIC	NCX	335.4	47.25	36 55 41.0	100.000	8.2	63.7	26.5	-17.5*<
Hopkinsville		KY		155.2	BLH20041018ACH	87 32 50.0	189	366	Hop Broadcasting, Inc.		
256C3	WCBL-FM	LIC	NCX	304.9	111.79	37 06 47.0	16.000	107.8	39.0	-8.5<	29.9
Grand Rivers		KY		124.3	BLH20100217AAC	88 21 34.0	127	243	Freeland Broadcasting Co.,		
258D	W258AD	LIC	_HN	271.5	8.71	36 32 38.0	0.020	0.3	7.4	-2.8*<	0.2
Clarksville		TN		91.4	BLFT19941103TA	87 25 23.0	93	247	Community Broadcasting, In		
Translator For WNAZ, Nashville, TN											
256D	W256CG	CP	_C_	168.3	27.91	36 17 46.0	0.027	23.4	7.0	-1.7<	0.3
Dickson		TN		348.3	BNPFT20130830AAA	87 15 44.0	56	233	Thomas Mach D/b/a Dickson		
202C2	WAYQ	LIC	DCX	176.3	27.69	36 17 36.0	14.000	17.1	5.2	14.5R	13.2M
Clarksville		TN		356.3	BLED20031020ABN	87 18 20.0	227	416	Way Media, Inc.		
256A	WWKN	CP	NCX	35.4	93.90	37 13 45.0	1.100	60.1	18.3	21.9	34.7
Morgantown		KY		215.7	BPH20131206AEC	86 42 42.0	73	228	Newberry Broadcasting, Inc		
256C0	WAHR	LIC	_CN	162.1	203.53	34 47 53.0	100.000	170.6	71.3	26.7	111.7
Huntsville		AL		342.5	BLH19891219KC	86 38 24.0	300	538	Southern Stone Communicati		
259C0	WWTN	LIC	_CX	138.0	108.02	35 49 03.0	100.000	11.3	78.1	87.3	29.2
Hendersonville		TN		318.4	BLH20080428AAL	86 31 24.0	395	604	Cumulus Licensing LLC		
256D	W256CR	CP	DH_	132.7	67.86	36 07 36.0	0.020	15.8	4.9	42.2	30.0
Nashville		TN		313.0	BNPFT20130827AAX	86 46 13.0	28	197	Caron Broadcasting, Inc.		
256A	WWKN	LIC	NCX	36.0	94.42	37 13 38.0	0.650	50.2	14.3	32.3	39.0
Morgantown		KY		216.4	BLH20100629ANS	86 41 54.0	69	219	Newberry Broadcasting, Inc		
255D	W255AP	LIC	_C_	182.8	47.55	36 06 53.0	0.023	8.0	5.7	32.9	32.5
Dickson		TN		2.8	BLFT20040120ABI	87 21 05.0	50	273	Pennyrile Christian Commun		
255A	WANT	CP	_CX	116.5	95.27	36 09 20.0	3.900	45.2	29.7	39.1	49.9
Lebanon		TN		297.1	BPH20111118CPD	86 22 33.0	125	314	Bay-pointe Broadcasting, I		

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 protected contour.
 < = Contour Overlap
 Reference station has protected zone issue:

Green Text denotes the W256CI.C - Clarksville, TN 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 facilities as included in **Exhibit(s) 13.6 and 13.7.**

Yellow Highlighted text denotes a §74.1204(d) waiver request for Second Adjacent Channel Given Interference toward WHOP-FM - Hopkinsville, KY (CH254C1). The portion of the §74.1204(d) WHOP-FM protection from 100 meters to the extent of the calculated 107.85 dBµ F(50:10) interference contour has been demonstrated through a downward radiation study as included in **Exhibit 13.8a**. Full protection will be afforded WHOP-FM from 100 meters to the extent of the calculated 107.85 dBµ F(50:10) interference contour as this area will not reach the ground nor a 7 meter artificial plane representing a standard two story house 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 13.8c**. The portion of the §74.1204(d) WHOP-FM protection within 100 meters of the site are currently void of population, buildings (with the exception of the dedicated transmitter building) or major roads as noted in **Exhibit 13.8b**.

Exhibit 13.6

Contour Protection Studies Toward W258AD.L - Clarksville, TN

FMCommander Single Allocation Study - 11-25-2013 - NED 03 SEC

CH256D.P's Overlaps (In= -2.78 km, Out= 0.22 km)

CH256D.P CH 256 D DA
Lat= 36 32 31.0, Lng= 87 19 32.0
0.25 kW 90.2 M HAAT, 247 M COR
Prot.= 60 dBu, Intef.= 100 dBu

W258AD CH 258 D BLFT19941103TA
Lat= 36 32 38.0, Lng= 87 25 23.0
0.02 kW 93 M HAAT, 247 M COR
Prot.= 60 dBu, Intef.= 100 dBu

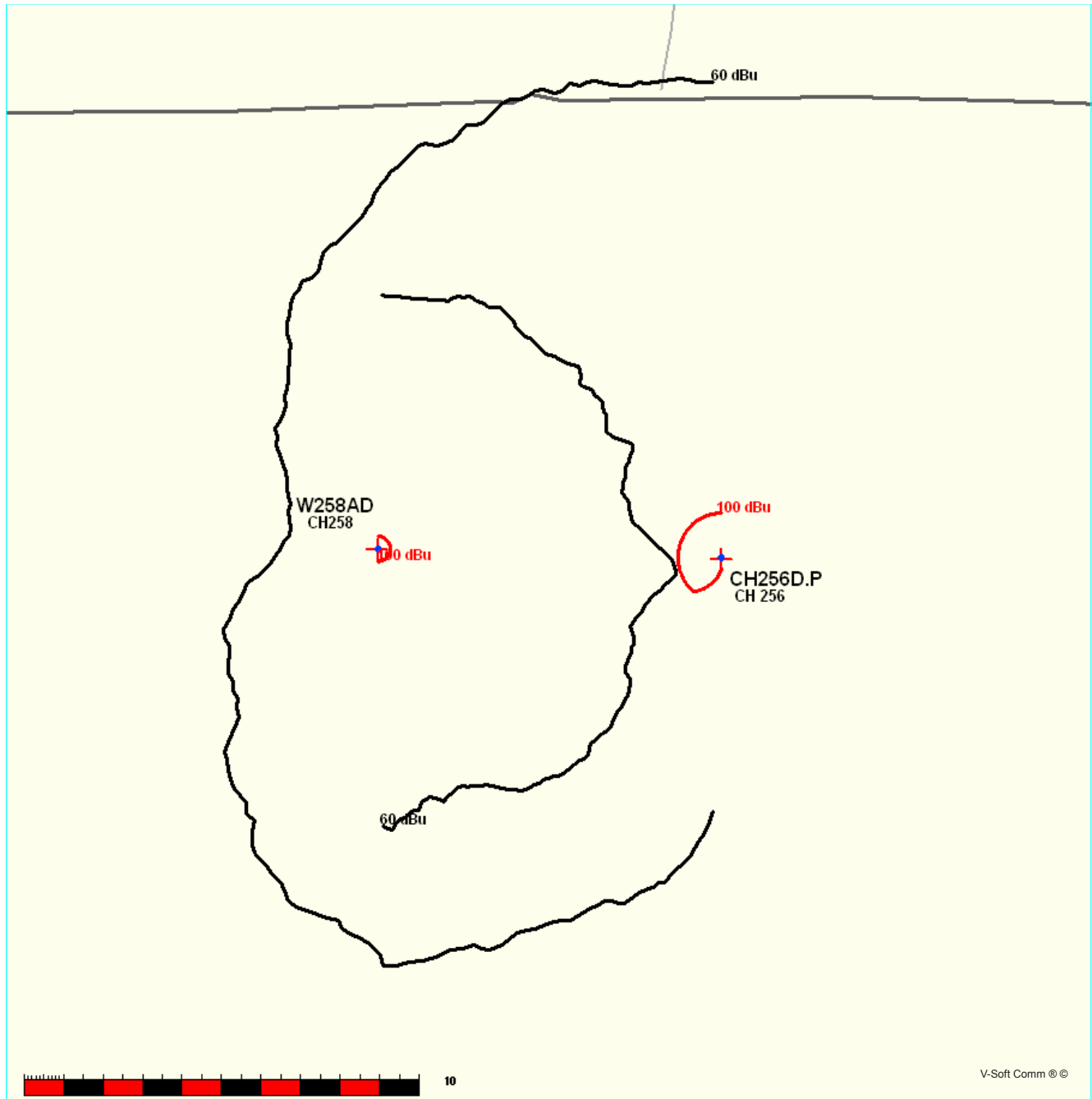


Exhibit 13.6

Contour Protection Studies Toward W258AD.L - Clarksville, TN

Channel = 256D
 Max ERP = 0.25 kW
 RCAMSL = 247 M
 N. Lat. 36 32 31.0
 W. Lng. 87 19 32.0
 Protected
 60 dBu

Channel = 258D
 Max ERP = 0.02 kW
 RCAMSL = 247 M
 N. Lat. 36 32 38.0
 W. Lng. 87 25 23.0
 Interfering
 100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
226.0	000.2500	0108.2	013.4	185.4	000.0011	0115.5	009.6	42.84	
227.0	000.2500	0106.7	013.3	186.1	000.0010	0113.1	009.3	42.94	
228.0	000.2500	0109.4	013.4	187.9	000.0009	0108.7	009.3	42.31	
229.0	000.2500	0112.0	013.6	189.6	000.0009	0104.3	009.3	41.66	
230.0	000.2500	0113.8	013.7	191.2	000.0008	0111.6	009.2	41.85	
231.0	000.2500	0116.4	013.9	192.9	000.0007	0110.0	009.2	41.10	
232.0	000.2500	0117.9	013.9	194.5	000.0006	0106.6	009.1	40.35	
233.0	000.2500	0116.2	013.9	195.3	000.0005	0109.5	008.9	40.65	
234.0	000.2500	0115.2	013.8	196.3	000.0005	0111.8	008.7	40.73	
235.0	000.2500	0116.3	013.9	197.9	000.0004	0111.9	008.6	40.17	
236.0	000.2500	0116.4	013.9	199.2	000.0003	0109.9	008.4	39.59	
237.0	000.2500	0116.9	013.9	200.6	000.0003	0107.7	008.3	38.97	
238.0	000.2500	0118.0	014.0	202.2	000.0003	0110.2	008.2	38.79	
239.0	000.2500	0116.8	013.9	203.4	000.0002	0106.5	008.0	38.46	
240.0	000.2500	0114.3	013.7	204.2	000.0002	0108.0	007.8	38.82	
241.0	000.2500	0110.7	013.5	204.6	000.0002	0108.7	007.5	39.43	
242.0	000.2500	0112.5	013.6	206.6	000.0002	0103.2	007.4	38.21	
243.0	000.2500	0110.6	013.5	207.6	000.0001	0102.1	007.2	38.24	
244.0	000.2500	0111.5	013.6	209.4	000.0001	0097.7	007.1	37.12	
245.0	000.2500	0112.4	013.6	211.3	000.0001	0096.7	007.0	36.77	
246.0	000.2500	0112.1	013.6	212.8	000.0001	0098.0	006.9	37.07	
247.0	000.2500	0111.5	013.6	214.4	000.0001	0098.0	006.7	37.27	
248.0	000.2500	0110.7	013.5	215.8	000.0001	0097.0	006.5	37.41	
249.0	000.2500	0110.3	013.5	217.5	000.0001	0095.6	006.4	37.42	
250.0	000.2500	0106.5	013.3	218.2	000.0001	0095.9	006.1	38.26	
251.0	000.2500	0103.1	013.1	219.1	000.0001	0097.2	005.8	39.15	
252.0	000.2500	0100.1	012.9	220.0	000.0001	0098.3	005.5	39.97	
253.0	000.2500	0099.8	012.8	221.9	000.0001	0102.1	005.3	40.77	
254.0	000.2500	0098.2	012.8	223.5	000.0001	0105.5	005.2	41.73	
255.0	000.2500	0099.4	012.8	226.0	000.0001	0101.7	005.1	41.63	
256.0	000.2500	0098.5	012.8	228.0	000.0001	0094.6	005.0	41.55	
257.0	000.2500	0099.3	012.8	230.6	000.0001	0092.9	004.9	41.79	
258.0	000.2500	0098.6	012.8	232.7	000.0001	0088.1	004.8	42.39	
259.0	000.2500	0097.6	012.7	234.9	000.0001	0089.3	004.6	43.59	
260.0	000.2500	0096.9	012.7	237.2	000.0001	0083.8	004.5	44.07	
261.0	000.2500	0098.0	012.7	240.2	000.0002	0080.5	004.5	44.53	

Exhibit 13.6

Contour Protection Studies Toward W258AD.L - Clarksville, TN

(degrees)	(kW)	(m)	(km)	(degrees)	(kW)	(m)	(km)	(dBu)
262.0	000.2500	0098.1	012.7	242.9	000.0002	0085.7	004.4	46.65
263.0	000.2500	0095.3	012.6	245.0	000.0003	0092.2	004.2	49.07
264.0	000.2500	0093.5	012.5	247.4	000.0003	0079.2	004.0	49.45
265.0	000.2500	0090.8	012.3	249.8	000.0004	0074.4	003.8	50.74
266.0	000.2500	0088.5	012.1	252.5	000.0006	0074.7	003.6	53.47
267.0	000.2500	0087.0	012.0	255.5	000.0009	0074.1	003.4	55.80
268.0	000.2500	0081.6	011.7	258.0	000.0011	0066.4	003.0	58.14
269.0	000.2500	0078.3	011.5	261.2	000.0017	0064.2	002.8	61.17
270.0	000.2500	0076.4	011.3	265.1	000.0029	0057.2	002.6	63.67
271.0	000.2500	0074.5	011.2	269.4	000.0045	0057.5	002.5	66.71
272.0	000.2500	0073.1	011.1	273.9	000.0066	0056.2	002.4	68.89
273.0	000.2500	0071.0	011.0	278.9	000.0093	0057.3	002.3	71.60
274.0	000.2500	0070.7	010.9	283.8	000.0113	0059.5	002.3	72.62
275.0	000.2500	0071.6	011.0	288.1	000.0130	0066.5	002.4	73.14
276.0	000.2500	0072.3	011.0	292.2	000.0143	0072.5	002.5	73.38
277.0	000.2500	0071.7	011.0	296.8	000.0154	0073.6	002.5	73.65
278.0	000.2500	0072.7	011.1	300.2	000.0162	0077.5	002.6	73.31
279.0	000.2500	0073.6	011.1	303.5	000.0167	0078.6	002.8	72.67
280.0	000.2500	0074.3	011.2	306.7	000.0172	0081.1	002.9	72.24
281.0	000.2500	0075.1	011.2	309.5	000.0176	0082.2	003.0	71.64
282.0	000.2500	0077.1	011.4	311.5	000.0179	0085.2	003.2	70.88
283.0	000.2500	0078.6	011.5	313.6	000.0181	0087.2	003.4	70.22
284.0	000.2500	0080.7	011.6	315.2	000.0183	0088.5	003.6	69.38
285.0	000.2500	0081.3	011.7	317.6	000.0185	0091.4	003.8	69.09
286.0	000.2500	0082.8	011.8	319.3	000.0187	0090.5	004.0	68.22
287.0	000.2500	0081.8	011.7	322.2	000.0189	0088.9	004.0	67.87
288.0	000.2500	0081.3	011.7	324.8	000.0191	0091.3	004.1	67.78
289.0	000.2500	0081.7	011.7	326.8	000.0193	0091.2	004.3	67.23
290.0	000.2500	0083.0	011.8	328.2	000.0194	0091.5	004.5	66.55
291.0	000.2500	0083.3	011.8	330.1	000.0195	0090.9	004.6	66.00
292.0	000.2500	0083.8	011.8	331.8	000.0196	0088.4	004.8	65.23
293.0	000.2500	0085.1	011.9	333.0	000.0196	0088.6	005.0	64.61
294.0	000.2500	0086.4	012.0	334.2	000.0197	0087.7	005.2	63.87
295.0	000.2500	0087.6	012.1	335.4	000.0198	0085.6	005.4	63.03
296.0	000.2500	0088.8	012.2	336.5	000.0198	0084.4	005.6	62.28
297.0	000.2500	0092.2	012.4	336.8	000.0198	0084.2	005.9	61.31
298.0	000.2500	0093.5	012.4	337.9	000.0199	0083.8	006.1	60.67
299.0	000.2500	0094.7	012.5	338.9	000.0199	0083.5	006.3	60.06
300.0	000.2500	0096.1	012.6	339.9	000.0200	0083.4	006.5	59.47
301.0	000.2500	0096.9	012.7	341.1	000.0199	0083.2	006.7	58.93
302.0	000.2500	0096.0	012.6	342.9	000.0199	0083.1	006.8	58.63
303.0	000.2500	0097.2	012.7	343.8	000.0198	0082.9	007.0	58.06
304.0	000.2500	0094.5	012.5	346.1	000.0197	0083.6	007.0	58.08
305.0	000.2500	0093.6	012.5	347.8	000.0196	0084.0	007.1	57.82
306.0	000.2500	0095.1	012.6	348.5	000.0196	0084.8	007.3	57.36
307.0	000.2500	0096.5	012.6	349.3	000.0195	0085.6	007.5	56.92
308.0	000.2500	0096.2	012.6	350.6	000.0194	0086.5	007.6	56.69

Exhibit 13.6

Contour Protection Studies Toward W258AD.L - Clarksville, TN

W258AD BLFT19941103TA

CH256D.P

Channel = 258D

Max ERP = 0.02 kW

RCAMSL = 247 M

N. Lat. 36 32 38.0

W. Lng. 87 25 23.0

Protected

60 dBu

Channel = 256D

Max ERP = 0.25 kW

RCAMSL = 247 M

N. Lat. 36 32 31.0

W. Lng. 87 19 32.0

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
046.0	000.0200	0093.5	006.7	321.3	000.2500	0098.4	006.2	72.70	
047.0	000.0200	0095.1	006.7	321.9	000.2500	0098.8	006.1	73.07	
048.0	000.0200	0097.7	006.8	322.9	000.2500	0099.7	006.0	73.48	
049.0	000.0200	0096.3	006.8	322.5	000.2500	0099.5	005.9	73.82	
050.0	000.0200	0094.4	006.7	321.8	000.2500	0098.7	005.8	74.12	
051.0	000.0200	0091.2	006.6	320.7	000.2500	0098.4	005.6	74.44	
052.0	000.0200	0091.3	006.6	320.7	000.2500	0098.4	005.5	74.80	
053.0	000.0200	0093.6	006.7	321.5	000.2500	0098.5	005.4	75.19	
054.0	000.0200	0094.5	006.7	321.9	000.2500	0098.8	005.3	75.58	
055.0	000.0200	0094.1	006.7	321.6	000.2500	0098.6	005.2	75.94	
056.0	000.0200	0095.8	006.8	322.3	000.2500	0099.2	005.1	76.39	
057.0	000.0200	0096.0	006.8	322.2	000.2500	0099.1	004.9	76.76	
058.0	000.0200	0094.5	006.7	321.4	000.2500	0098.5	004.8	77.07	
059.0	000.0200	0093.2	006.7	320.7	000.2500	0098.4	004.7	77.42	
060.0	000.0200	0093.3	006.7	320.5	000.2500	0098.3	004.6	77.82	
061.0	000.0200	0091.5	006.6	319.4	000.2500	0098.6	004.5	78.20	
062.0	000.0200	0090.2	006.6	318.5	000.2500	0097.9	004.4	78.51	
063.0	000.0200	0088.4	006.5	317.2	000.2500	0097.7	004.3	78.84	
064.0	000.0200	0089.4	006.5	317.2	000.2500	0097.7	004.2	79.30	
065.0	000.0200	0091.2	006.6	317.7	000.2500	0097.6	004.1	79.80	
066.0	000.0200	0094.7	006.7	319.0	000.2500	0098.8	003.9	80.51	
067.0	000.0200	0098.6	006.9	320.5	000.2500	0098.3	003.8	81.12	
068.0	000.0200	0100.9	006.9	321.1	000.2500	0098.3	003.6	81.72	
069.0	000.0200	0099.5	006.9	319.8	000.2500	0097.9	003.5	82.13	
070.0	000.0200	0096.9	006.8	317.7	000.2500	0097.5	003.4	82.46	
071.0	000.0200	0094.4	006.7	315.5	000.2500	0095.7	003.4	82.63	
072.0	000.0200	0091.2	006.6	312.8	000.2500	0093.4	003.3	82.67	
073.0	000.0200	0090.0	006.5	311.0	000.2500	0094.0	003.2	83.07	
074.0	000.0200	0089.1	006.5	309.4	000.2500	0094.5	003.2	83.46	
075.0	000.0200	0087.1	006.4	307.1	000.2500	0096.5	003.1	83.87	
076.0	000.0200	0085.9	006.4	305.1	000.2500	0093.5	003.1	83.91	
077.0	000.0200	0084.5	006.3	302.9	000.2500	0097.2	003.0	84.45	
078.0	000.0200	0085.5	006.4	302.0	000.2500	0096.0	002.9	84.93	

Exhibit 13.6

Contour Protection Studies Toward W258AD.L - Clarksville, TN

(degrees)	(kW)	(m)	(km)		(degrees)	(kW)	(m)	(km)	(dBu)
079.0	000.0200	0087.3	006.4		301.2	000.2500	0096.3	002.8	85.67
080.0	000.0200	0087.3	006.4		299.5	000.2500	0095.3	002.7	86.03
081.0	000.0200	0087.2	006.4		297.5	000.2500	0092.8	002.6	86.24
082.0	000.0200	0087.9	006.5		295.8	000.2500	0088.5	002.6	86.47
083.0	000.0200	0087.8	006.5		293.6	000.2500	0085.7	002.5	86.64
084.0	000.0200	0088.3	006.5		291.5	000.2500	0083.5	002.4	86.97
085.0	000.0200	0091.5	006.6		290.4	000.2500	0083.1	002.3	88.09
086.0	000.0200	0094.6	006.7		288.8	000.2500	0081.5	002.1	89.12
087.0	000.0200	0097.7	006.8		286.9	000.2500	0081.9	002.0	90.28
088.0	000.0200	0100.6	006.9		284.4	000.2500	0081.1	001.8	91.31
089.0	000.0200	0102.1	007.0		281.0	000.2500	0075.1	001.8	91.58
090.0	000.0200	0107.1	007.2		277.8	000.2500	0072.4	001.6	93.08
091.0	000.0200	0112.4	007.3		273.5	000.2500	0070.5	001.4	98.06
092.0	000.0200	0116.9	007.5		267.8	000.2500	0082.6	001.3	98.93
093.0	000.0200	0117.7	007.5		261.8	000.2500	0098.6	001.3	98.96
094.0	000.0200	0120.3	007.6		255.0	000.2500	0099.4	001.2	99.23
095.0	000.0200	0120.9	007.6		249.0	000.2500	0110.3	001.2	98.99
096.0	000.0200	0117.0	007.5		246.3	000.2500	0112.4	001.4	97.92
097.0	000.0200	0111.8	007.3		245.1	000.2500	0112.3	001.6	94.39
098.0	000.0200	0110.4	007.3		242.3	000.2500	0112.3	001.7	93.62
099.0	000.0200	0105.7	007.1		242.0	000.2500	0112.5	001.9	92.22
100.0	000.0200	0102.9	007.0		240.9	000.2500	0111.1	002.1	91.13
101.0	000.0200	0101.3	007.0		239.3	000.2500	0116.0	002.2	90.51
102.0	000.0200	0100.0	006.9		237.8	000.2500	0117.8	002.3	89.83
103.0	000.0200	0098.7	006.9		236.6	000.2500	0117.1	002.4	89.07
104.0	000.0200	0097.5	006.8		235.4	000.2500	0117.0	002.5	88.36
105.0	000.0200	0095.5	006.8		235.0	000.2500	0116.2	002.7	87.52
106.0	000.0200	0094.0	006.7		234.3	000.2500	0115.8	002.8	86.79
107.0	000.0200	0093.7	006.7		233.0	000.2500	0116.2	002.9	86.28
108.0	000.0200	0096.3	006.8		230.2	000.2500	0114.0	002.9	85.94
109.0	000.0200	0098.0	006.8		228.0	000.2500	0109.7	003.0	85.32
110.0	000.0200	0099.8	006.9		226.0	000.2500	0108.1	003.1	84.83
111.0	000.0200	0099.1	006.9		225.4	000.2500	0107.2	003.2	84.20
112.0	000.0200	0100.5	006.9		223.8	000.2500	0105.6	003.3	83.67
113.0	000.0200	0099.6	006.9		223.6	000.2500	0105.9	003.4	83.13
114.0	000.0200	0100.0	006.9		222.7	000.2500	0104.3	003.5	82.54
115.0	000.0200	0100.4	006.9		221.9	000.2500	0104.1	003.6	82.04
116.0	000.0200	0102.2	007.0		220.5	000.2500	0106.8	003.7	81.80
117.0	000.0200	0107.3	007.2		217.5	000.2256	0103.2	003.8	80.74
118.0	000.0200	0109.1	007.2		216.3	000.2145	0099.7	003.9	79.78
119.0	000.0200	0110.6	007.3		215.4	000.2064	0097.6	004.1	78.95
120.0	000.0200	0111.5	007.3		214.9	000.2012	0095.3	004.2	78.16
121.0	000.0200	0111.5	007.3		214.7	000.1999	0095.2	004.3	77.63
122.0	000.0200	0112.4	007.3		214.3	000.1960	0095.7	004.4	77.12
123.0	000.0200	0112.3	007.3		214.3	000.1958	0095.7	004.6	76.65
124.0	000.0200	0111.7	007.3		214.5	000.1979	0095.4	004.7	76.22
125.0	000.0200	0112.1	007.3		214.3	000.1964	0095.7	004.8	75.79

Exhibit 13.7

Contour Protection Studies Toward W256CG.C - Dickson, TN

FMCommander Single Allocation Study - 11-25-2013 - NED 03 SEC

CH256D.P's Overlaps (In= -1.73 km, Out= 0.33 km)

CH256D.P CH 256 D DA
Lat= 36 32 31.0, Lng= 87 19 32.0
0.25 kW 90.2 M HAAT, 247 M COR
Prot.= 60 dBu, Intef.= 40 dBu

W256CG CH 256 D BNPFT20130830AAA
Lat= 36 17 46.0, Lng= 87 15 44.0
0.027 kW 55.5 M HAAT, 233 M COR
Prot.= 60 dBu, Intef.= 40 dBu

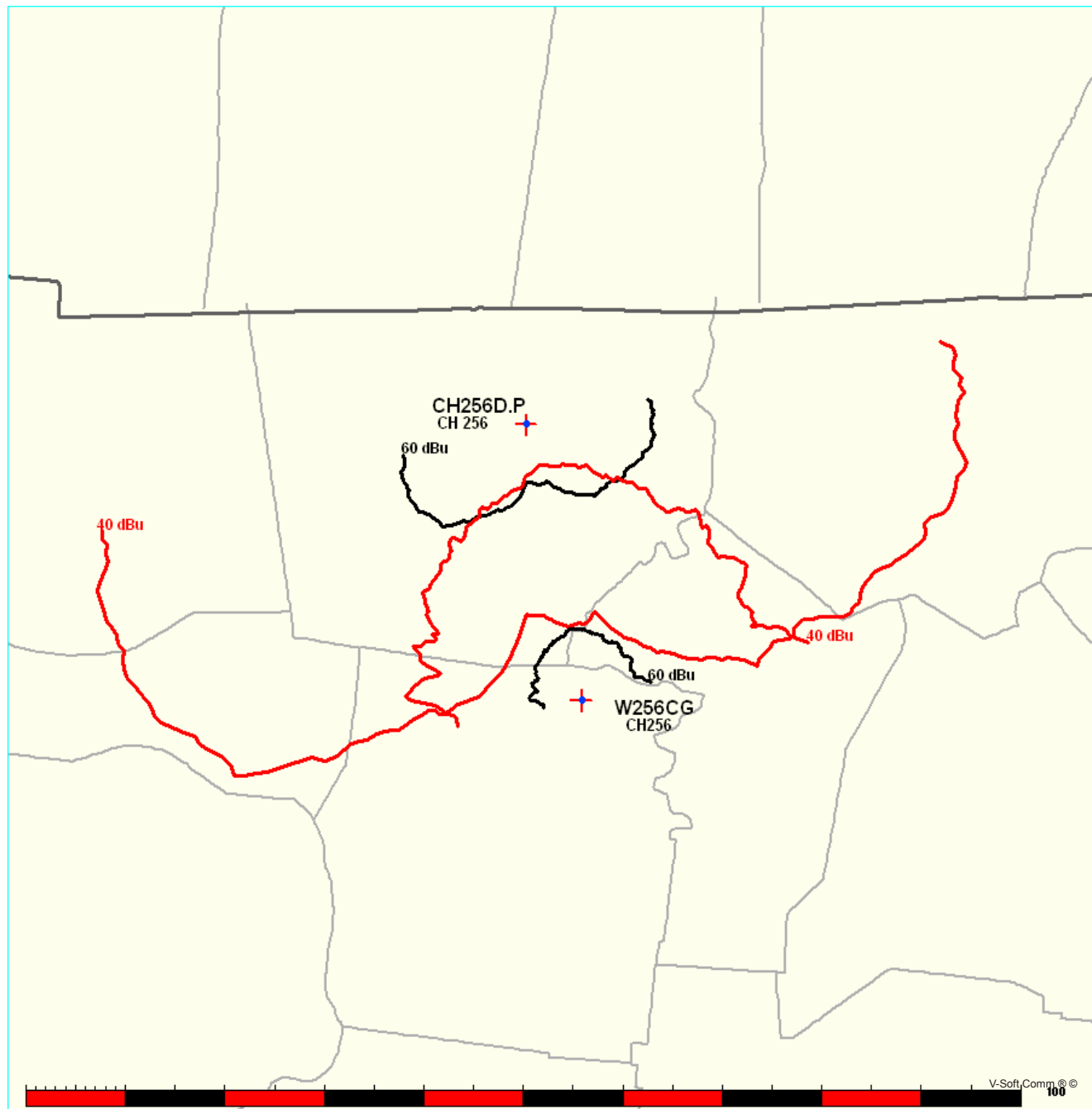


Exhibit 13.7

Contour Protection Studies Toward W256CG.C - Dickson, TN

11-25-2013

Terrain Data: NED 03 SEC

FMOver Analysis

CH256D.P

W256CG BNPFT20130830AAA

Channel = 256D

Max ERP = 0.25 kW

RCAMSL = 247 M

N. Lat. 36 32 31.0

W. Lng. 87 19 32.0

Protected

60 dBu

Channel = 256D

Max ERP = 0.027 kW

RCAMSL = 233 M

N. Lat. 36 17 46.0

W. Lng. 87 15 44.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
123.0	000.2209	0067.8	010.4	008.1	000.0242	0078.8	021.9	39.54	
124.0	000.2116	0067.4	010.3	007.6	000.0243	0079.0	021.8	39.66	
125.0	000.2025	0066.6	010.1	007.0	000.0243	0080.1	021.7	39.86	
126.0	000.1936	0067.5	010.1	006.6	000.0244	0081.6	021.6	40.15*	0.19
127.0	000.1849	0068.9	010.0	006.3	000.0244	0082.3	021.4	40.33*	0.43
128.0	000.1764	0072.4	010.2	006.4	000.0244	0082.2	021.2	40.50*	0.63
129.0	000.1681	0073.6	010.1	006.0	000.0245	0082.2	021.1	40.61*	0.77
130.0	000.1600	0073.2	010.0	005.4	000.0246	0080.8	021.0	40.51*	0.65
131.0	000.1521	0073.3	009.8	004.9	000.0246	0080.5	020.9	40.54*	0.69
132.0	000.1444	0075.7	009.9	004.6	000.0247	0081.0	020.8	40.73*	0.92
133.0	000.1369	0078.1	009.9	004.4	000.0247	0081.4	020.6	40.90*	1.13
134.0	000.1296	0080.2	009.9	004.1	000.0248	0081.7	020.5	41.04*	1.32
135.0	000.1225	0081.6	009.8	003.6	000.0248	0082.2	020.4	41.19*	1.51
136.0	000.1156	0086.4	010.0	003.6	000.0248	0082.3	020.2	41.37*	1.73
137.0	000.1089	0082.8	009.6	002.5	000.0250	0083.6	020.3	41.45*	1.84
138.0	000.1024	0082.4	009.4	001.8	000.0251	0084.6	020.3	41.57*	2.00
139.0	000.0961	0082.0	009.3	001.2	000.0252	0087.2	020.3	41.85*	2.37
140.0	000.0900	0083.8	009.2	000.7	000.0252	0089.9	020.3	42.19*	2.82
141.0	000.0841	0082.9	009.0	000.0	000.0254	0087.3	020.3	41.89*	2.43
142.0	000.0784	0083.6	008.9	359.5	000.0254	0085.3	020.3	41.69*	2.16
143.0	000.0729	0085.6	008.8	359.0	000.0254	0086.1	020.3	41.82*	2.33
144.0	000.0676	0086.2	008.7	358.4	000.0255	0087.6	020.3	41.97*	2.53
145.0	000.0625	0087.5	008.6	357.9	000.0256	0088.4	020.3	42.05*	2.64
146.0	000.0576	0088.0	008.4	357.3	000.0256	0088.4	020.4	42.01*	2.59
147.0	000.0529	0086.9	008.2	356.6	000.0257	0087.4	020.5	41.81*	2.34
148.0	000.0484	0087.1	008.0	356.0	000.0257	0088.0	020.6	41.81*	2.34
149.0	000.0441	0088.9	007.9	355.6	000.0258	0089.7	020.6	41.97*	2.56
150.0	000.0400	0092.0	007.8	355.1	000.0258	0089.7	020.6	42.00*	2.59
151.0	000.0361	0091.3	007.6	354.5	000.0259	0088.5	020.8	41.75*	2.27
152.0	000.0324	0092.6	007.5	354.1	000.0259	0087.8	020.9	41.62*	2.09
153.0	000.0289	0092.5	007.3	353.5	000.0260	0088.4	021.0	41.58*	2.06
154.0	000.0256	0093.9	007.1	353.1	000.0260	0088.1	021.1	41.48*	1.92
155.0	000.0225	0096.8	007.0	352.7	000.0260	0089.0	021.2	41.53*	2.00
156.0	000.0196	0098.9	006.8	352.2	000.0261	0089.1	021.3	41.45*	1.90
157.0	000.0169	0100.7	006.7	351.8	000.0261	0088.9	021.4	41.33*	1.74
158.0	000.0144	0102.3	006.5	351.4	000.0262	0088.4	021.6	41.16*	1.52

MUNN-REESE, INC.

Broadcast Engineering Consultants
COLDWATER, MI 49036

Exhibit 13.7

Contour Protection Studies Toward W256CG.C - Dickson, TN

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
159.0	000.0121	0102.8	006.2	350.9	000.0262	0090.1	021.8	41.17* 1.55
160.0	000.0100	0105.9	006.0	350.6	000.0262	0091.0	022.0	41.14* 1.51
161.0	000.0098	0109.1	006.1	350.3	000.0263	0091.1	021.9	41.22* 1.61
162.0	000.0096	0114.0	006.2	350.1	000.0263	0090.9	021.8	41.29* 1.71
163.0	000.0094	0117.0	006.2	349.8	000.0263	0090.6	021.7	41.31* 1.73
164.0	000.0092	0118.3	006.2	349.5	000.0263	0090.6	021.7	41.32* 1.74
165.0	000.0090	0117.5	006.2	349.2	000.0264	0090.8	021.7	41.31* 1.72
166.0	000.0088	0118.6	006.2	349.0	000.0264	0091.1	021.7	41.35* 1.78
167.0	000.0086	0121.6	006.2	348.7	000.0264	0091.0	021.7	41.37* 1.81
168.0	000.0085	0123.6	006.2	348.4	000.0264	0089.9	021.7	41.27* 1.68
169.0	000.0083	0121.6	006.1	348.1	000.0264	0088.4	021.8	41.06* 1.39
170.0	000.0081	0121.7	006.1	347.8	000.0265	0087.2	021.8	40.90* 1.18
171.0	000.0083	0118.2	006.1	347.5	000.0265	0086.5	021.9	40.80* 1.04
172.0	000.0085	0115.0	006.0	347.3	000.0265	0086.3	021.9	40.74* 0.97
173.0	000.0086	0110.8	005.9	347.0	000.0265	0086.4	022.0	40.69* 0.90
174.0	000.0088	0107.3	005.9	346.8	000.0265	0086.6	022.1	40.65* 0.85
175.0	000.0090	0103.6	005.8	346.5	000.0265	0086.7	022.2	40.60* 0.79
176.0	000.0092	0102.3	005.8	346.3	000.0266	0086.7	022.2	40.58* 0.77
177.0	000.0094	0101.5	005.8	346.0	000.0266	0086.2	022.2	40.52* 0.69
178.0	000.0096	0100.4	005.8	345.8	000.0266	0085.3	022.2	40.41* 0.54
179.0	000.0098	0099.0	005.8	345.5	000.0266	0084.8	022.2	40.34* 0.44
180.0	000.0100	0097.7	005.8	345.3	000.0266	0084.5	022.3	40.28* 0.36
181.0	000.0121	0096.7	006.0	344.9	000.0267	0083.7	022.1	40.35* 0.46
182.0	000.0144	0098.9	006.4	344.3	000.0267	0080.7	021.8	40.25* 0.32
183.0	000.0169	0101.6	006.7	343.8	000.0267	0078.9	021.5	40.28* 0.36
184.0	000.0196	0101.6	006.9	343.2	000.0268	0078.3	021.3	40.36* 0.46
185.0	000.0225	0101.6	007.2	342.7	000.0268	0077.6	021.1	40.42* 0.54
186.0	000.0256	0103.1	007.4	342.1	000.0269	0078.4	020.9	40.68* 0.86
187.0	000.0289	0102.4	007.6	341.5	000.0269	0078.9	020.8	40.85* 1.08
188.0	000.0324	0101.1	007.8	341.0	000.0269	0078.6	020.7	40.89* 1.12
189.0	000.0361	0100.0	008.0	340.4	000.0270	0078.0	020.6	40.90* 1.14
190.0	000.0400	0100.8	008.2	339.8	000.0270	0077.2	020.5	40.93* 1.18
191.0	000.0441	0097.3	008.3	339.3	000.0270	0076.7	020.5	40.85* 1.06
192.0	000.0484	0095.7	008.4	338.8	000.0269	0076.9	020.5	40.89* 1.11
193.0	000.0529	0094.1	008.5	338.3	000.0269	0076.6	020.5	40.86* 1.07
194.0	000.0576	0092.0	008.6	337.8	000.0268	0076.9	020.5	40.87* 1.10
195.0	000.0625	0092.2	008.8	337.1	000.0268	0075.7	020.4	40.78* 0.98
196.0	000.0676	0092.1	009.0	336.5	000.0268	0074.8	020.4	40.69* 0.86
197.0	000.0729	0089.7	009.0	336.0	000.0267	0074.7	020.5	40.63* 0.78
198.0	000.0784	0086.1	009.0	335.8	000.0267	0074.6	020.6	40.52* 0.65
199.0	000.0841	0083.9	009.1	335.4	000.0267	0075.3	020.6	40.54* 0.67
200.0	000.0900	0084.8	009.3	334.6	000.0266	0075.2	020.6	40.54* 0.68
201.0	000.0961	0084.8	009.4	334.0	000.0266	0074.6	020.6	40.46* 0.58
202.0	000.1024	0086.4	009.7	333.2	000.0265	0073.5	020.6	40.35* 0.43
203.0	000.1089	0086.9	009.8	332.5	000.0265	0075.6	020.6	40.58* 0.73
204.0	000.1156	0085.8	009.9	332.0	000.0264	0076.5	020.7	40.61* 0.76
205.0	000.1225	0085.2	010.0	331.5	000.0264	0076.5	020.8	40.54* 0.68

Exhibit 13.7

Contour Protection Studies Toward W256CG.C - Dickson, TN

11-25-2013

Terrain Data: NED 03 SEC

FMOver Analysis

W256CG BNPFT20130830AAA

CH256D.P

Channel = 256D

Max ERP = 0.027 kW

RCAMSL = 233 M

N. Lat. 36 17 46.0

W. Lng. 87 15 44.0

Protected

60 dBu

Channel = 256D

Max ERP = 0.25 kW

RCAMSL = 247 M

N. Lat. 36 32 31.0

W. Lng. 87 19 32.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
303.0	000.0270	0060.8	005.8	178.1	000.0096	0100.1	024.2	36.03	
304.0	000.0270	0061.1	005.8	178.0	000.0096	0100.4	024.1	36.11	
305.0	000.0270	0059.1	005.7	177.7	000.0095	0101.5	024.1	36.20	
306.0	000.0270	0059.3	005.7	177.5	000.0095	0101.7	024.0	36.27	
307.0	000.0270	0059.9	005.8	177.4	000.0095	0101.7	023.9	36.33	
308.0	000.0270	0060.0	005.8	177.3	000.0095	0101.8	023.8	36.38	
309.0	000.0270	0059.4	005.7	177.1	000.0094	0101.6	023.7	36.39	
310.0	000.0270	0059.9	005.8	177.0	000.0094	0101.5	023.7	36.44	
311.0	000.0270	0059.7	005.8	176.8	000.0094	0101.6	023.6	36.48	
312.0	000.0270	0060.5	005.8	176.7	000.0093	0101.8	023.5	36.55	
313.0	000.0270	0062.9	005.9	176.7	000.0093	0101.8	023.4	36.66	
314.0	000.0270	0063.5	005.9	176.5	000.0093	0102.2	023.3	36.74	
315.0	000.0270	0061.4	005.8	176.2	000.0093	0102.5	023.3	36.75	
316.0	000.0270	0062.3	005.9	176.0	000.0092	0102.4	023.2	36.79	
317.0	000.0270	0064.4	006.0	176.0	000.0092	0102.2	023.0	36.87	
318.0	000.0270	0064.6	006.0	175.8	000.0092	0102.2	023.0	36.90	
319.0	000.0270	0069.0	006.2	175.9	000.0092	0102.1	022.7	37.07	
320.0	000.0270	0070.6	006.2	175.8	000.0092	0102.2	022.6	37.15	
321.0	000.0270	0070.3	006.2	175.5	000.0091	0102.5	022.6	37.19	
322.0	000.0270	0065.3	006.0	175.0	000.0090	0103.6	022.7	37.16	
323.0	000.0270	0065.5	006.0	174.8	000.0090	0104.4	022.6	37.26	
324.0	000.0270	0067.0	006.1	174.6	000.0090	0105.0	022.5	37.38	
325.0	000.0270	0069.7	006.2	174.5	000.0089	0105.3	022.4	37.52	
326.0	000.0270	0070.9	006.2	174.4	000.0089	0105.7	022.3	37.61	
327.0	000.0270	0070.9	006.2	174.1	000.0089	0106.7	022.2	37.71	
328.0	000.0270	0071.5	006.3	173.9	000.0088	0107.8	022.1	37.83	
329.0	000.0270	0071.0	006.2	173.6	000.0088	0108.3	022.1	37.87	
330.0	000.0270	0071.5	006.3	173.4	000.0087	0109.2	022.1	37.97	
331.0	000.0270	0075.4	006.4	173.3	000.0087	0109.6	021.9	38.15	
332.0	000.0270	0076.4	006.5	173.1	000.0087	0110.6	021.8	38.27	
333.0	000.0270	0073.5	006.3	172.7	000.0086	0112.0	021.9	38.28	
334.0	000.0270	0074.6	006.4	172.4	000.0085	0112.7	021.8	38.38	
335.0	000.0270	0075.8	006.4	172.2	000.0085	0113.8	021.7	38.50	

Exhibit 13.7

Contour Protection Studies Toward W256CG.C - Dickson, TN

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
336.0	000.0270	0074.6	006.4	171.9	000.0084	0115.8	021.7	38.62
337.0	000.0270	0075.5	006.4	171.6	000.0084	0117.0	021.6	38.73
338.0	000.0270	0076.8	006.5	171.4	000.0083	0117.4	021.6	38.79
339.0	000.0270	0077.0	006.5	171.1	000.0083	0118.1	021.5	38.84
340.0	000.0270	0077.3	006.5	170.8	000.0082	0118.6	021.5	38.88
341.0	000.0270	0078.6	006.6	170.5	000.0082	0119.6	021.4	38.97
342.0	000.0270	0078.6	006.6	170.2	000.0081	0121.1	021.4	39.07
343.0	000.0270	0078.3	006.5	169.9	000.0081	0121.9	021.4	39.11
344.0	000.0270	0079.4	006.6	169.6	000.0082	0121.4	021.3	39.16
345.0	000.0270	0084.0	006.8	169.3	000.0082	0121.2	021.1	39.32
346.0	000.0270	0086.1	006.9	169.0	000.0083	0121.6	021.0	39.45
347.0	000.0270	0086.5	006.9	168.7	000.0083	0122.3	021.0	39.55
348.0	000.0270	0087.9	006.9	168.4	000.0084	0123.0	021.0	39.67
349.0	000.0270	0091.0	007.1	168.0	000.0085	0123.6	020.8	39.84
350.0	000.0270	0090.8	007.1	167.7	000.0085	0124.3	020.9	39.91
351.0	000.0270	0089.7	007.0	167.4	000.0086	0123.4	020.9	39.84
352.0	000.0270	0088.9	007.0	167.0	000.0086	0121.7	020.9	39.72
353.0	000.0270	0088.2	007.0	166.7	000.0087	0120.8	021.0	39.66
354.0	000.0270	0087.8	006.9	166.4	000.0088	0119.7	021.0	39.59
355.0	000.0270	0089.5	007.0	166.0	000.0088	0118.7	021.0	39.60
356.0	000.0270	0088.1	007.0	165.7	000.0089	0118.3	021.0	39.53
357.0	000.0270	0088.0	007.0	165.4	000.0089	0117.8	021.1	39.52
358.0	000.0270	0088.4	007.0	165.1	000.0090	0117.6	021.1	39.52
359.0	000.0270	0086.1	006.9	164.8	000.0091	0117.5	021.2	39.44
000.0	000.0270	0087.3	006.9	164.5	000.0091	0117.7	021.2	39.50
001.0	000.0270	0088.4	007.0	164.1	000.0092	0118.0	021.2	39.56
002.0	000.0270	0084.2	006.8	163.9	000.0092	0118.3	021.4	39.45
003.0	000.0270	0083.1	006.8	163.7	000.0093	0118.4	021.5	39.41
004.0	000.0270	0081.8	006.7	163.4	000.0093	0118.0	021.5	39.34
005.0	000.0270	0080.3	006.6	163.2	000.0094	0117.5	021.6	39.24
006.0	000.0270	0082.2	006.7	162.8	000.0094	0116.3	021.6	39.21
007.0	000.0270	0080.0	006.6	162.7	000.0095	0115.6	021.7	39.08
008.0	000.0270	0078.5	006.6	162.5	000.0095	0115.1	021.9	38.98
009.0	000.0270	0081.0	006.7	162.1	000.0096	0114.4	021.8	38.99
010.0	000.0270	0079.7	006.6	161.9	000.0096	0113.4	021.9	38.85
011.0	000.0270	0079.8	006.6	161.6	000.0097	0111.8	022.0	38.71
012.0	000.0270	0079.1	006.6	161.4	000.0097	0110.7	022.0	38.58
013.0	000.0270	0079.7	006.6	161.1	000.0098	0109.6	022.1	38.49
014.0	000.0270	0077.6	006.5	161.0	000.0098	0109.0	022.2	38.35
015.0	000.0270	0077.3	006.5	160.7	000.0099	0108.7	022.3	38.28
016.0	000.0270	0077.5	006.5	160.5	000.0099	0108.3	022.4	38.22
017.0	000.0270	0078.8	006.6	160.2	000.0100	0106.8	022.4	38.11
018.0	000.0270	0075.9	006.4	160.1	000.0100	0106.5	022.5	37.97
019.0	000.0270	0074.1	006.4	160.0	000.0100	0106.0	022.7	37.83
020.0	000.0270	0071.0	006.2	160.0	000.0100	0106.0	022.8	37.70
021.0	000.0270	0070.1	006.2	159.9	000.0102	0105.2	022.9	37.67
022.0	000.0270	0069.4	006.2	159.7	000.0106	0104.5	023.0	37.66

MUNN-REESE, INC.

Broadcast Engineering Consultants
COLDWATER, MI 49036

WHOP-FM
+

Terrain

106

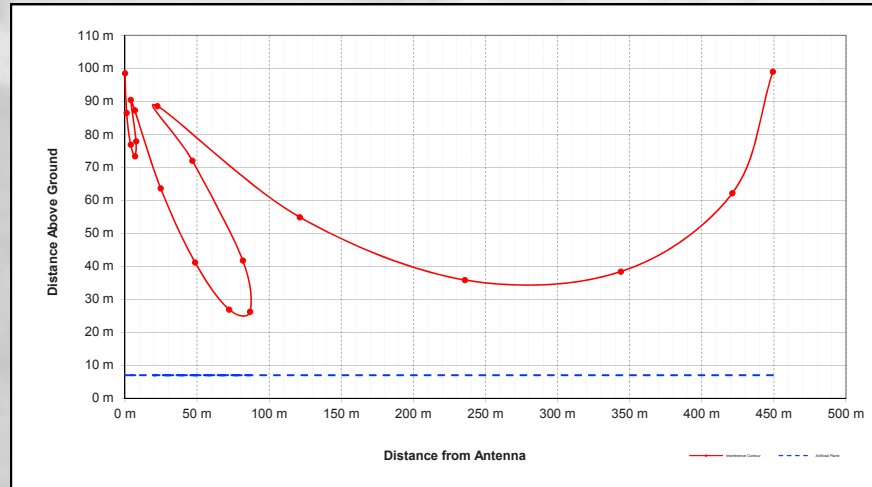
277 m

NED 03 SEC Terrain Database
US Census 2010 PL Database

Exhibit 13.8a

§74.1204(d) Second Adjacent Channel Given Interference Waiver Request with WHOP-FM - Hopkinsville, KY

WHOP-FM
Hopkinsville, KY
BLH20041018ACH
Facility ID: 27633
Latitude: 36-55-41 N
Longitude: 087-32-50 W
ERP: 100.00 kW
Channel: 254C1
Frequency: 98.7 MHz
AMSL Height: 366.1 m
Horiz. Pattern: Omni



W256CI.A
Clarksville, TN
Proposed Operation
Facility ID: 154860
Latitude: 36-32-31 N
Longitude: 087-19-32 W
ERP: 0.25 kW
Channel: 256D
Frequency: 99.1 MHz
AMSL Height: 247.0 m
Horiz. Pattern: Directional

Proposed Antenna: 3 Bay PSI FML-3 (Three-quarter Spaced)									
Proposed Power: 0.25 kW									
Antenna Height AGL: 99 meters									
Interference Contour: 107.85 dBu f(50:10)									
Artificial Ground Plane Height: 7 meters									
Distance (Free Space) Equation: =(10^((106.92-[desired dBu]+[ERP in dBk])/20))*1000									
Field Strength (dBu) Equation: "=106.92-(20*(LOG10(DistMeters/1000)))+[ERP in dBk]"									
Depression					Distance				
Angle	Antenna				from Ant.	Distance	Field Strength	Distance	Field Strength
Below	Relative	ERP	ERP		to Interference	from Ant. to	in dBu @	from Ant.	in dBu @
Horizon	Field	in kW	in dBk	Contour	Artificial Plane	Artificial Plane		to Ground Level	Ground Level
0°	1.000	0.250	-6.02	449.23 m	infinite	---		---	
-5°	0.941	0.221	-6.55	422.73 m	1055.58 m	99.90 dBu	1135.90 m	99.26 dBu	
-10°	0.777	0.151	-8.21	349.05 m	529.81 m	104.23 dBu	570.12 m	103.59 dBu	
-15°	0.543	0.074	-11.32	243.93 m	355.46 m	104.58 dBu	382.51 m	103.94 dBu	
-20°	0.287	0.021	-16.86	128.93 m	268.99 m	101.46 dBu	289.46 m	100.83 dBu	
-25°	0.055	0.001	-31.21	24.71 m	217.69 m	88.95 dBu	234.25 m	88.31 dBu	
-30°	0.120	0.004	-24.44	53.91 m	184.00 m	97.19 dBu	198.00 m	96.55 dBu	
-35°	0.222	0.012	-19.09	99.73 m	160.40 m	103.72 dBu	172.60 m	103.09 dBu	
-40°	0.252	0.016	-17.99	113.21 m	143.13 m	105.61 dBu	154.02 m	105.18 dBu	
-45°	0.227	0.013	-18.90	101.98 m	130.11 m	105.73 dBu	140.01 m	105.10 dBu	
-50°	0.168	0.007	-21.51	75.47 m	120.10 m	103.61 dBu	129.24 m	103.18 dBu	
-55°	0.096	0.002	-26.38	43.13 m	112.31 m	99.54 dBu	120.86 m	98.90 dBu	
-60°	0.030	0.000	-36.48	13.48 m	106.23 m	89.92 dBu	114.32 m	89.28 dBu	
-65°	0.021	0.000	-39.58	9.43 m	101.51 m	87.21 dBu	109.23 m	86.58 dBu	
-70°	0.050	0.001	-32.04	22.46 m	97.90 m	95.06 dBu	105.35 m	94.43 dBu	
-75°	0.059	0.001	-30.60	26.50 m	95.25 m	96.74 dBu	102.49 m	96.10 dBu	
-80°	0.050	0.001	-32.04	22.46 m	93.42 m	95.47 dBu	100.53 m	94.83 dBu	
-85°	0.028	0.000	-37.08	12.58 m	92.35 m	90.53 dBu	99.38 m	89.90 dBu	
-90°	0.001	0.000	-66.02	0.45 m	92.00 m	61.62 dBu	99.00 m	60.99 dBu	

Scale 1:200,000



The portion of the §74.1204(d) WHOP-FM - Hopkinsville, KY (CH254C1) protection from 100 meters to the extent of the calculated 107.85 dBu F(50:10) interference contour has been demonstrated through a downward radiation study as included in **Exhibit 13.8a**. Full protection will be afforded WHOP-FM from 100 meters to the extent of the calculated 107.85 dBu F(50:10) interference contour as this area will not reach the ground nor a 7 meter artificial plane representing a standard two story house 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 13.8c**.

The portion of the §74.1204(d) WHOP-FM protection within 100 meters of the site is currently void of population, buildings (with the exception of the dedicated transmitter building) or major roads as noted in **Exhibit 13.8b**.

WHOP-FM - 67.85 dBu
F(50:50) Contour

W256CI.A



**Exhibit 13.8b - Copy of USGS Aerial
Photograph of Existing Site &
§74.1204(d) Second Adjacent Channel
Given Interference Waiver Request with
WHOP-FM - Hopkinsville, KY (CH254C1)**

Proposed Site

36° 32' 31" NL

87° 19' 32" WL

NAD 1927

(36-32-31.0 NL; 87-19-31.9 WL NAD83)

100 meter Radius



The portion of the §74.1204(d) WHOP-FM - Hopkinsville, KY (CH254C1) protection from 100 meters to the extent of the calculated 107.85 dBμ F(50:10) interference contour has been demonstrated through a downward radiation study as included in **Exhibit 13.8a**. Full protection will be afforded WHOP-FM from 100 meters to the extent of the calculated 107.85 dBμ F(50:10) interference contour as this area will not reach the ground nor a 7 meter artificial plane representing a standard two story house 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 13.8c**.

The portion of the §74.1204(d) WHOP-FM protection within 100 meters of the site is currently void of population, buildings (with the exception of the dedicated transmitter building) or major roads as noted in **Exhibit 13.8b**.



0 200 400ft

Exhibit 13.8c - Copy of Manufacturer's Vertical Radiation Data

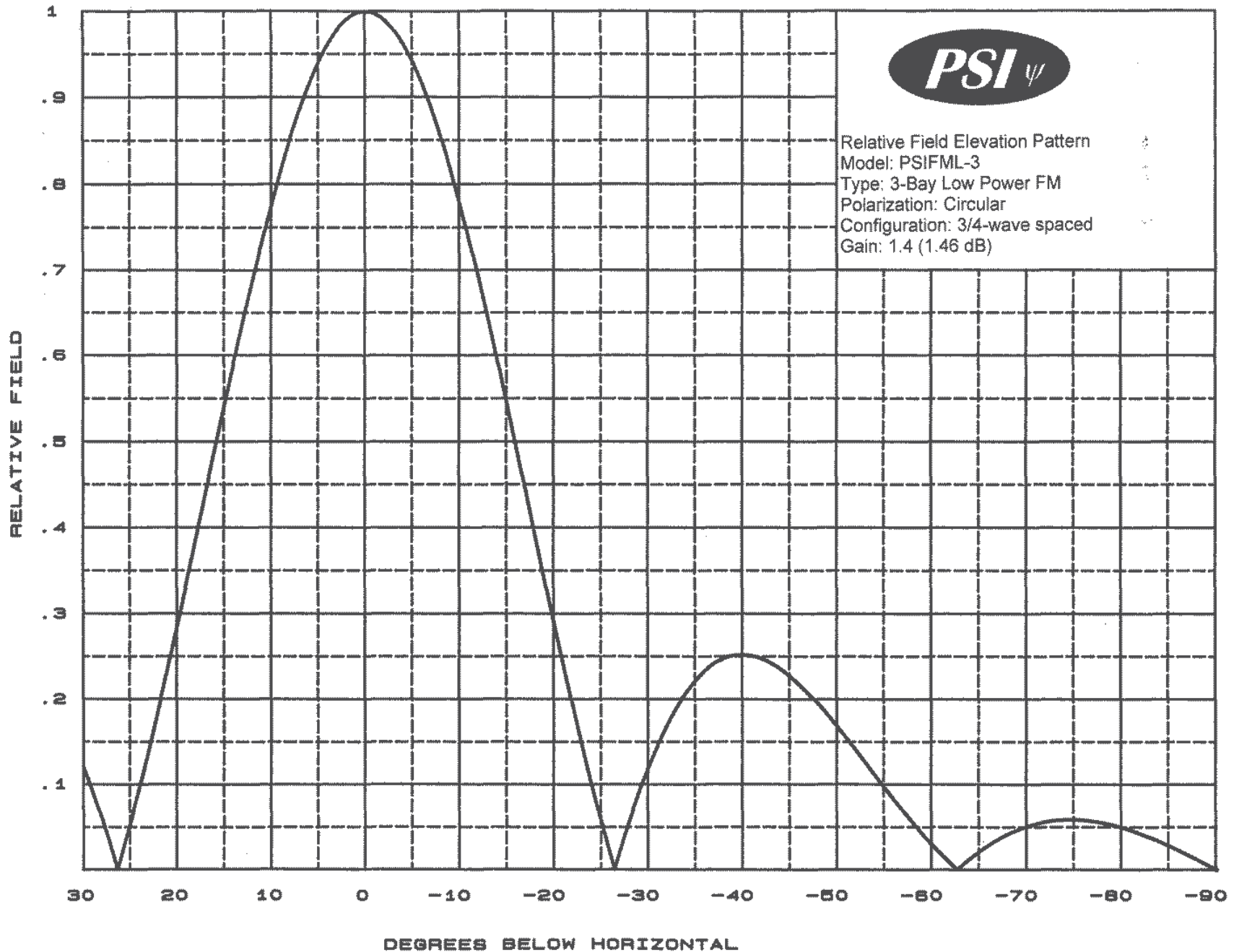


Exhibit 13.8c - Copy of Manufacturer's Vertical Radiation Data



Propagation Systems Inc.

Elevation Pattern Tabulation

Antenna: PSIFML-3 Special

Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.00	0.001	-60.000	-50.00	0.168	-15.500	-10.00	0.777	-2.194
-89.00	0.006	-44.795	-49.00	0.181	-14.829	-9.00	0.817	-1.761
-88.00	0.012	-38.775	-48.00	0.194	-14.240	-8.00	0.853	-1.379
-87.00	0.017	-35.329	-47.00	0.206	-13.714	-7.00	0.886	-1.049
-86.00	0.023	-32.869	-46.00	0.217	-13.266	-6.00	0.916	-0.766
-85.00	0.028	-31.047	-45.00	0.227	-12.881	-5.00	0.941	-0.529
-84.00	0.033	-29.622	-44.00	0.235	-12.562	-4.00	0.962	-0.338
-83.00	0.038	-28.467	-43.00	0.242	-12.308	-3.00	0.978	-0.190
-82.00	0.042	-27.510	-42.00	0.248	-12.126	-2.00	0.990	-0.085
-81.00	0.046	-26.705	-41.00	0.251	-12.010	-1.00	0.998	-0.021
-80.00	0.050	-26.073	-40.00	0.252	-11.968	0.00	1.000	0.000
-79.00	0.053	-25.559	-39.00	0.251	-12.004	1.00	0.998	-0.021
-78.00	0.055	-25.169	-38.00	0.248	-12.126	2.00	0.990	-0.085
-77.00	0.057	-24.887	-37.00	0.242	-12.336	3.00	0.978	-0.190
-76.00	0.058	-24.682	-36.00	0.233	-12.657	4.00	0.962	-0.338
-75.00	0.059	-24.614	-35.00	0.222	-13.092	5.00	0.941	-0.529
-74.00	0.059	-24.637	-34.00	0.207	-13.676	6.00	0.916	-0.766
-73.00	0.058	-24.772	-33.00	0.190	-14.432	7.00	0.886	-1.049
-72.00	0.056	-25.027	-32.00	0.170	-15.414	8.00	0.853	-1.379
-71.00	0.054	-25.411	-31.00	0.146	-16.700	9.00	0.817	-1.759
-70.00	0.050	-25.968	-30.00	0.120	-18.427	10.00	0.777	-2.194
-69.00	0.046	-26.733	-29.00	0.090	-20.871	11.00	0.734	-2.683
-68.00	0.041	-27.731	-28.00	0.058	-24.704	12.00	0.689	-3.233
-67.00	0.035	-29.081	-27.00	0.023	-32.754	13.00	0.642	-3.848
-66.00	0.028	-30.954	-26.00	0.015	-36.745	14.00	0.593	-4.534
-65.00	0.021	-33.656	-25.00	0.055	-25.217	15.00	0.543	-5.301
-64.00	0.012	-38.221	-24.00	0.098	-20.213	16.00	0.492	-6.156
-63.00	0.003	-50.816	-23.00	0.142	-16.928	17.00	0.441	-7.116
-62.00	0.007	-42.949	-22.00	0.189	-14.460	18.00	0.389	-8.196
-61.00	0.018	-34.880	-21.00	0.238	-12.484	19.00	0.338	-9.425
-60.00	0.030	-30.546	-20.00	0.287	-10.839	20.00	0.287	-10.834
-59.00	0.042	-27.541	-19.00	0.338	-9.425	21.00	0.238	-12.484
-58.00	0.055	-25.217	-18.00	0.389	-8.199	22.00	0.189	-14.460
-57.00	0.068	-23.307	-17.00	0.441	-7.116	23.00	0.143	-16.919
-56.00	0.082	-21.711	-16.00	0.492	-6.159	24.00	0.098	-20.200
-55.00	0.096	-20.335	-15.00	0.543	-5.301	25.00	0.055	-25.193
-54.00	0.111	-19.124	-14.00	0.593	-4.536	26.00	0.015	-36.745
-53.00	0.125	-18.051	-13.00	0.642	-3.850	27.00	0.023	-32.754
-52.00	0.140	-17.106	-12.00	0.689	-3.234	28.00	0.058	-24.704
-51.00	0.154	-16.253	-11.00	0.734	-2.683	29.00	0.090	-20.871
						30.00	0.120	-18.438

Exhibit 13.9

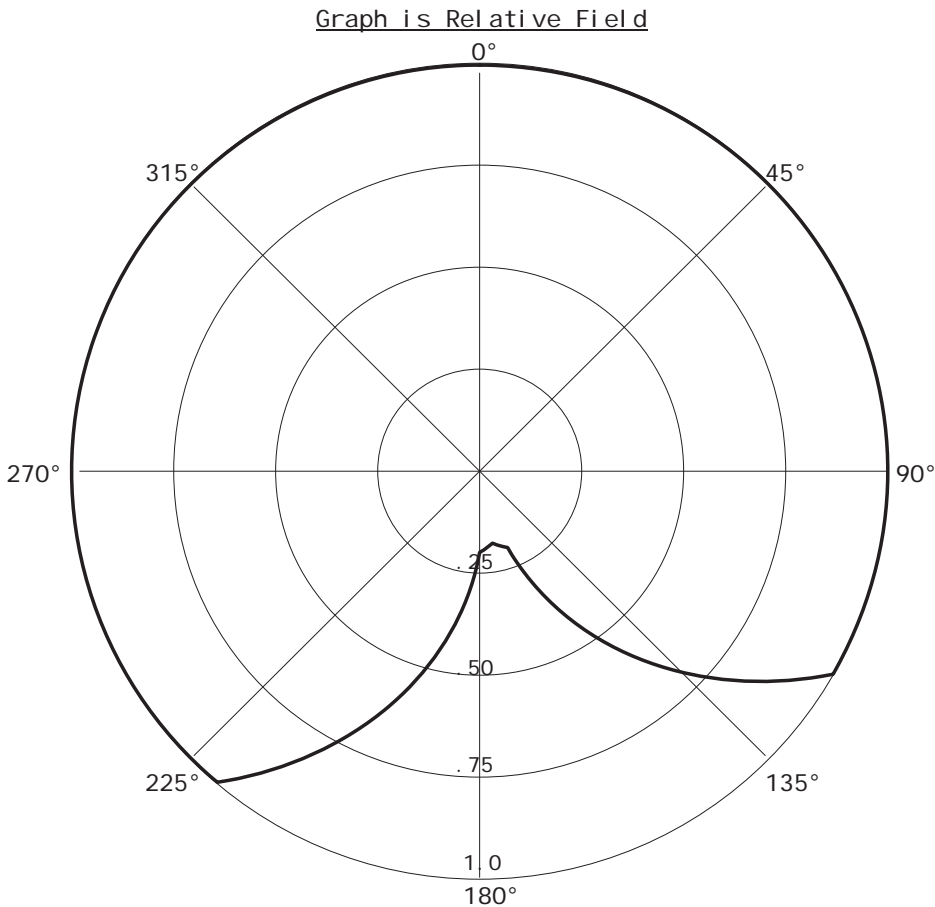
Proposed Directional Antenna Information

CH256D. P

11-25-2013

RMS(V)= .903

Azi	Field	dBk	kW
000	1.000	-06.021	0.250
010	1.000	-06.021	0.250
020	1.000	-06.021	0.250
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	1.000	-06.021	0.250
100	1.000	-06.021	0.250
110	1.000	-06.021	0.250
120	1.000	-06.021	0.250
130	0.800	-07.959	0.160
140	0.600	-10.458	0.090
150	0.400	-13.979	0.040
160	0.200	-20.000	0.010
170	0.180	-20.915	0.008
180	0.200	-20.000	0.010
190	0.400	-13.979	0.040
200	0.600	-10.458	0.090
210	0.800	-07.959	0.160
220	1.000	-06.021	0.250
230	1.000	-06.021	0.250
240	1.000	-06.021	0.250
250	1.000	-06.021	0.250
260	1.000	-06.021	0.250
270	1.000	-06.021	0.250
280	1.000	-06.021	0.250
290	1.000	-06.021	0.250
300	1.000	-06.021	0.250
310	1.000	-06.021	0.250
320	1.000	-06.021	0.250
330	1.000	-06.021	0.250
340	1.000	-06.021	0.250
350	1.000	-06.021	0.250



The antenna proposed in this application will be mounted in accordance with specific instructions provided by the antenna manufacturer. The antenna will be tested by the manufacturer using the type of mounting which will be employed in the field.

No other antennas of any type are or will be mounted on the same tower level as the directional antenna.

No antenna is or will be mounted within any vertical or horizontal distance specified by the antenna manufacturer as being necessary for proper operation of the directional antenna. In addition, the antenna will be assembled under the supervision of a qualified engineer and installed pursuant to the manufacturer's instructions and manufacturer specified antenna orientation.

The directional antenna pattern will be produced by means of parasitic elements and/or reflective panels adjusted to produce the required pattern.

The antenna pattern will be measured by the manufacturer on the test range, and the measurement results will be supplied to the Commission at the time Form 350-FM is filed covering the construction.