

BNPFT-20180131ACE
Greensboro, North Carolina
Long Form Application
For New FM Translator
On Channel 285
by
Crescent Media Group, LLC

Exhibit 13
Interference Analysis

May 2018

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Exhibit 13, Interference Analysis, for Crescent Media Group, LLC, and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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3 May 2018

Narrative

This Exhibit supports a long form application for FM translator BNPFT-20180131ACE, on Channel 285 in Greensboro, North Carolina. Allocation details are provided in this exhibit. This proposal complies fully with the requirements of 74 C.F.R. §74.1204(a). The proposed modified facilities create no mutual exclusivities with any licensed facilities, construction permits, or applications as shown in the allocation table in this exhibit.

Figure 1 shows the original Tech Box and proposed 60 dBu F(50,50) coverage areas. Figure 1 shows fill-in status confirmation.

This is a long form application in response to a Media Bureau Public Notice announcing an FM Translator filing window for long-form applications¹. The short form application, File Number BNPFT-20180131ACE, application reference number 1777928, is listed in Attachment A of that Notice.

The only change from the Tech Box parameters is a different directional antenna pattern.

Allocations

This application proposes service to Greensboro, North Carolina, on channel 285. An updated Table 1: Allocations is included in this exhibit with a list of the stations, construction permits, allocations, and applications studied. All authorizations are protected under §74.1204(a) contour protection by this application.

¹ See *Public Notice: MEDIA BUREAU ANNOUNCES AUCTION 100 FM TRANSLATOR FILING WINDOW FOR LONG-FORM APPLICATIONS*, DA 18-256, released March 15, 2018.

Where the outgoing protection is provided by interference contours with a separation of less than 3.2 kilometers (2 miles), the lack of overlap is plotted in figures in this exhibit, and the output of the FM Over program is provided. For this application, there are two (2) facilities for which additional detail is provided.

Table and Figure	Call Sign	Location	Channel, class and relationship
2	W285EU	Jamestown, North Carolina	285D, co-channel
3	W284BN	Greensboro, North Carolina	284D, first adjacent

Table 1: Allocations

Allocation Study											
Crescent Media Group LLC											
REFERENCE		CH# 285D - 104.9 MHz, Pwr= 0.25 kW DA, HAAT= 0.0 M, COR= 300 M								DISPLAY DATES	
36 13 12.0 N.		Average Protected F(50-50)= 7.1 km								DATA 05-03-18	
79 48 32.0 W.		Standard Directional								SEARCH 05-03-18	
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)	
285D	1777928!	APP	DC	0.0	0.00	36 13 12.0	0.250	32.2	9.7	-41.9*	-41.9*
Greensboro			NC	0.0	BNPFT20180131ACE	79 48 32.0		300	Crescent Media Group LLC		
Short form application for which this is the long form application.											
285C2	WJJS	LIC	ZCX	355.3	128.63	37 22 23.0	14.500	139.0	59.0	-20.8*	36.7
Roanoke			VA	175.2	BLH20040723ADP	79 55 40.0	282	699	Capstar Tx, LLC, As Debtor		
286C1	WDCG	LIC	NCX	122.0	105.45	35 42 50.0	73.000	104.4	71.7	-9.4	19.2
Durham			NC	302.5	BLH20080310ADT	78 49 04.0	339	443	Capstar Tx, LLC, As Debtor		
285D	W285EU	LIC	C	211.1	34.32	35 57 20.0	0.099	27.9	8.2	-0.8	2.0
Jamestown			NC	31.0	BLFT20140514AAM	80 00 22.0		330	Eastern Airwaves, LLC		
284D	W284BN	LIC	C	166.7	15.67	36 04 58.0	0.013	8.7	6.0	-0.3	0.3
Greensboro			NC	346.8	BLFT20070928BBU	79 46 08.0	103	342	Eastern Airwaves, LLC		
285D	W285DJ	LIC	CN	289.4	53.35	36 22 41.0	0.010	39.0	11.4	6.8	16.6
Mount Airy			NC	109.1	BLFT19941212TG	80 22 16.0	381	702	Triad Family Network, Inc,		
Translator For WBFFJFM, Winston-Salem, NC											
287D	W284BN	CP	C	166.7	15.67	36 04 58.0	0.015	0.3	6.2	8.0	8.9
Greensboro			NC	346.8	BPFT20180418AFU	79 46 08.0		342	Eastern Airwaves, LLC		
284C0	WKQC	LIC	DCY	216.6	133.66	35 15 06.0	100.000	115.1	77.7	11.3	46.0
Charlotte			NC	36.1	BLH19920416KB	80 41 12.0	369	570	Beasley Media Group Licens		
283D	W283BT	LIC	C	115.1	31.99	36 05 51.0	0.190	1.0	12.8	20.4	18.0
Burlington			NC	295.3	BLFT20140716AEE	79 29 11.0		334	Eastern Airwaves, LLC		
231C	WWLV	LIC	DCX	232.4	55.09	35 55 02.0	100.000	0.0	0.0	28.5R	26.6M
Lexington			NC	52.2	BMLED20170407AAN	80 17 37.0	309	543	Educational Media Foundati		
286L1	WFOZ-LP	LIC		248.2	44.85	36 04 09.0	0.100			28.6	27.8
Winston-salem			NC	67.9	BLL20150327AMZ	80 16 20.0	17	270	Forsyth Technical Communit		
284L1	WHUP-LP	LIC		101.9	62.79	36 06 04.0	0.024			45.5	43.9
Hillsborough			NC	282.4	BLL20150930AJA	79 07 30.0	53	250	Hillsborough Community Med		
283D	W283BN	LIC	C	40.9	57.72	36 36 41.0	0.250	1.1	10.3	46.4	45.7
Danville			VA	221.2	BLFT20100107ACU	79 23 06.0	57	232	Lakes Media, LLC		
283D	1779732	APP	DC	124.1	69.82	35 51 58.5	0.190	0.1	4.4	59.3	60.6
Durham			NC	304.5	BNPFT20180314AAN	79 10 01.5		356	wdnc-am, LLC		
283D	1761731	APP	DC	124.1	69.82	35 51 58.5	0.150	0.1	4.0	59.3	61.4
Durham			NC	304.5	BNPFT20170728ABI	79 10 01.5		356	wdnc-am, LLC		
286D	1782333	APP	C	296.6	78.69	36 32 03.5	0.250	10.1	7.1	59.8	59.8
Mount Airy			NC	116.1	BNPFT20180418AGE	80 35 47.8		416	Granite City Broadcasting,		
286D	1775348	APP	C	296.6	78.69	36 32 03.5	0.250	10.1	7.1	59.8	59.8
Mount Airy			NC	116.1	BNPFT20180126ABT	80 35 47.8		416	Granite City Broadcasting,		
Terrain database is GLOBE 30 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 adj.											
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.											
« = Station meets FCC minimum distance spacing for its class.											

Source of Data

Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's CDBS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments.

The contours were evaluated using terrain extracted from the GLOBE 30 arcsecond terrain database, formatted by V-Soft Communications to work with its allocation and mapping programs.

Table 2: FMOver analysis with respect to W285EU

05-03-2018 Terrain Data: GLOBE 30 Sec FMOver Analysis

W285EU BLFT20140514AAM

1777928m

Channel = 285D
 Max ERP = 0.099 kW
 RCAMSL = 330 m
 N. Lat. 35 57 20.0
 W. Lng. 80 00 22.0
 Protected
 60 dBu

Channel = 285D
 Max ERP = 0.25 kW
 RCAMSL = 300 m
 N. Lat. 36 13 12.0
 W. Lng. 79 48 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)
331.0	000.0990	0051.2	007.3	222.8	000.1126	0048.1	031.3	35.91	
332.0	000.0990	0049.9	007.2	222.6	000.1116	0047.8	031.2	35.87	
333.0	000.0990	0048.5	007.1	222.3	000.1107	0047.5	031.2	35.80	
334.0	000.0990	0047.6	007.0	222.1	000.1099	0047.1	031.1	35.76	
335.0	000.0990	0047.3	007.0	222.0	000.1094	0046.9	031.0	35.74	
336.0	000.0990	0047.1	007.0	221.8	000.1090	0046.6	030.9	35.73	
337.0	000.0990	0046.4	006.9	221.7	000.1083	0046.2	030.8	35.67	
338.0	000.0990	0045.0	006.8	221.4	000.1073	0045.6	030.7	35.54	
339.0	000.0990	0043.8	006.7	221.1	000.1064	0045.1	030.6	35.43	
340.0	000.0990	0043.8	006.7	221.0	000.1060	0044.8	030.5	35.41	
341.0	000.0990	0045.1	006.8	221.1	000.1062	0044.9	030.4	35.52	
342.0	000.0990	0046.8	007.0	221.2	000.1066	0045.2	030.2	35.67	
343.0	000.0990	0048.5	007.1	221.3	000.1069	0045.4	030.0	35.81	
344.0	000.0990	0050.1	007.2	221.3	000.1072	0045.5	029.9	35.95	
345.0	000.0990	0051.6	007.3	221.4	000.1074	0045.7	029.7	36.06	
346.0	000.0990	0052.9	007.4	221.4	000.1074	0045.7	029.5	36.16	
347.0	000.0990	0053.7	007.5	221.3	000.1072	0045.6	029.4	36.20	
348.0	000.0990	0054.4	007.6	221.3	000.1070	0045.4	029.3	36.24	
349.0	000.0990	0054.9	007.6	221.2	000.1067	0045.2	029.1	36.26	
350.0	000.0990	0055.8	007.7	221.1	000.1064	0045.1	029.0	36.31	
351.0	000.0990	0056.7	007.7	221.1	000.1062	0044.9	028.8	36.35	
352.0	000.0990	0057.8	007.8	221.0	000.1060	0044.8	028.7	36.41	
353.0	000.0990	0059.4	007.9	221.0	000.1059	0044.8	028.5	36.49	
354.0	000.0990	0060.7	008.0	220.9	000.1057	0044.6	028.3	36.55	
355.0	000.0990	0061.6	008.1	220.8	000.1053	0044.4	028.2	36.57	
356.0	000.0990	0062.1	008.1	220.7	000.1047	0044.0	028.1	36.55	
357.0	000.0990	0062.4	008.1	220.5	000.1041	0043.6	028.0	36.50	
358.0	000.0990	0061.7	008.1	220.2	000.1031	0043.0	027.9	36.39	
359.0	000.0990	0060.7	008.0	219.9	000.1023	0042.5	027.9	36.26	
000.0	000.0990	0059.7	007.9	219.6	000.1021	0041.9	027.8	36.16	
001.0	000.0990	0059.0	007.9	219.3	000.1020	0041.5	027.8	36.09	
002.0	000.0990	0059.4	007.9	219.1	000.1018	0041.2	027.7	36.09	
003.0	000.0990	0059.6	007.9	218.9	000.1017	0040.9	027.6	36.09	
004.0	000.0990	0059.7	007.9	218.7	000.1017	0040.7	027.5	36.09	
005.0	000.0990	0059.3	007.9	218.4	000.1016	0040.5	027.4	36.08	
006.0	000.0990	0058.2	007.8	218.1	000.1015	0040.4	027.4	36.05	
007.0	000.0990	0057.7	007.8	217.8	000.1014	0040.4	027.4	36.07	
008.0	000.0990	0058.2	007.8	217.6	000.1013	0040.4	027.3	36.14	
009.0	000.0990	0059.1	007.9	217.4	000.1013	0040.5	027.2	36.23	

010.0	000.0990	0059.7	007.9	217.2	000.1012	0040.6	027.1	36.32
011.0	000.0990	0060.2	008.0	216.9	000.1011	0040.8	027.0	36.41
012.0	000.0990	0060.9	008.0	216.7	000.1009	0041.1	026.9	36.52
013.0	000.0990	0061.7	008.1	216.5	000.1008	0041.3	026.8	36.63
014.0	000.0990	0062.8	008.1	216.3	000.1007	0041.5	026.6	36.75
015.0	000.0990	0063.5	008.2	216.0	000.1005	0041.9	026.6	36.87
016.0	000.0990	0063.4	008.2	215.7	000.1003	0042.2	026.5	36.97
017.0	000.0990	0063.6	008.2	215.4	000.1001	0042.6	026.4	37.08
018.0	000.0990	0064.1	008.2	215.2	000.1000	0043.0	026.4	37.20
019.0	000.0990	0064.9	008.3	214.9	000.0998	0043.4	026.3	37.33
020.0	000.0990	0065.5	008.3	214.6	000.0997	0043.8	026.2	37.47
021.0	000.0990	0066.1	008.4	214.3	000.0996	0044.2	026.1	37.60
022.0	000.0990	0066.8	008.4	214.0	000.0996	0044.7	026.1	37.74
023.0	000.0990	0067.3	008.4	213.7	000.0994	0045.2	026.0	37.87
024.0	000.0990	0067.5	008.5	213.4	000.0992	0045.8	026.0	37.99
025.0	000.0990	0067.4	008.4	213.1	000.0990	0046.3	025.9	38.11
026.0	000.0990	0067.3	008.4	212.8	000.0988	0046.9	025.9	38.22
027.0	000.0990	0067.2	008.4	212.4	000.0987	0047.5	025.9	38.34
028.0	000.0990	0067.0	008.4	212.1	000.0986	0048.0	025.9	38.44
029.0	000.0990	0066.3	008.4	211.8	000.0985	0048.6	026.0	38.51
030.0	000.0990	0065.2	008.3	211.5	000.0984	0049.0	026.0	38.54
031.0	000.0990	0064.1	008.2	211.1	000.0983	0049.3	026.1	38.54
032.0	000.0990	0063.6	008.2	210.8	000.0982	0049.5	026.1	38.54
033.0	000.0990	0063.9	008.2	210.5	000.0980	0049.6	026.1	38.56
034.0	000.0990	0064.7	008.3	210.2	000.0978	0049.6	026.1	38.58
035.0	000.0990	0065.2	008.3	209.9	000.0976	0049.5	026.0	38.57
036.0	000.0990	0065.3	008.3	209.5	000.0974	0049.3	026.1	38.52
037.0	000.0990	0065.1	008.3	209.2	000.0972	0049.1	026.1	38.47
038.0	000.0990	0065.2	008.3	208.9	000.0970	0049.0	026.1	38.42
039.0	000.0990	0065.5	008.3	208.6	000.0969	0048.8	026.1	38.38
040.0	000.0990	0065.9	008.4	208.3	000.0968	0048.7	026.1	38.34
041.0	000.0990	0066.5	008.4	207.9	000.0967	0048.5	026.1	38.32
042.0	000.0990	0067.3	008.4	207.6	000.0966	0048.4	026.1	38.31
043.0	000.0990	0068.2	008.5	207.3	000.0965	0048.5	026.1	38.32
044.0	000.0990	0069.2	008.6	206.9	000.0963	0048.6	026.1	38.34
045.0	000.0990	0069.8	008.6	206.6	000.0961	0048.7	026.1	38.36
046.0	000.0990	0070.3	008.6	206.2	000.0959	0049.0	026.1	38.38
047.0	000.0990	0070.8	008.7	205.9	000.0958	0049.3	026.1	38.41
048.0	000.0990	0071.2	008.7	205.6	000.0957	0049.6	026.1	38.44
049.0	000.0990	0071.8	008.7	205.2	000.0956	0049.8	026.2	38.46
050.0	000.0990	0072.4	008.8	204.9	000.0954	0050.0	026.2	38.47
051.0	000.0990	0072.9	008.8	204.6	000.0952	0050.0	026.2	38.44
052.0	000.0990	0073.1	008.8	204.2	000.0950	0050.0	026.3	38.38
053.0	000.0990	0073.0	008.8	204.0	000.0948	0049.8	026.4	38.28
054.0	000.0990	0072.7	008.8	203.7	000.0947	0049.5	026.5	38.17
055.0	000.0990	0072.5	008.8	203.4	000.0945	0049.2	026.6	38.05
056.0	000.0990	0072.5	008.8	203.1	000.0943	0048.8	026.6	37.91
057.0	000.0990	0073.0	008.8	202.8	000.0942	0048.3	026.7	37.77
058.0	000.0990	0073.6	008.8	202.5	000.0941	0047.7	026.8	37.62
059.0	000.0990	0074.3	008.9	202.2	000.0940	0047.1	026.8	37.46
060.0	000.0990	0074.8	008.9	201.9	000.0939	0046.4	026.9	37.29
061.0	000.0990	0075.0	008.9	201.6	000.0938	0045.9	027.0	37.12
062.0	000.0990	0074.9	008.9	201.4	000.0937	0045.4	027.1	36.95
063.0	000.0990	0074.7	008.9	201.1	000.0937	0044.9	027.2	36.78
064.0	000.0990	0074.3	008.9	200.9	000.0936	0044.4	027.3	36.61
065.0	000.0990	0074.1	008.9	200.7	000.0935	0044.0	027.4	36.45
066.0	000.0990	0074.3	008.9	200.5	000.0933	0043.5	027.5	36.28
067.0	000.0990	0075.0	008.9	200.2	000.0931	0043.0	027.6	36.11
068.0	000.0990	0076.3	009.0	199.8	000.0929	0042.4	027.7	35.94
069.0	000.0990	0077.8	009.1	199.5	000.0927	0041.8	027.7	35.77
070.0	000.0990	0079.4	009.2	199.1	000.0925	0041.2	027.8	35.60

071.0	000.0990	0081.0	009.3	198.8	000.0923	0040.6	027.9	35.43
072.0	000.0990	0082.3	009.4	198.5	000.0921	0040.2	027.9	35.27
073.0	000.0990	0083.4	009.4	198.2	000.0919	0039.8	028.0	35.12
074.0	000.0990	0084.7	009.5	197.8	000.0917	0039.4	028.1	34.97
075.0	000.0990	0085.6	009.5	197.6	000.0915	0039.0	028.3	34.82
076.0	000.0990	0086.4	009.6	197.3	000.0914	0038.7	028.4	34.68
077.0	000.0990	0086.8	009.6	197.1	000.0913	0038.5	028.5	34.55
078.0	000.0990	0086.4	009.6	197.0	000.0912	0038.4	028.7	34.43
079.0	000.0990	0085.9	009.6	196.9	000.0911	0038.3	028.8	34.32
080.0	000.0990	0085.4	009.5	196.8	000.0911	0038.2	029.0	34.21
081.0	000.0990	0085.2	009.5	196.6	000.0910	0038.1	029.1	34.10
082.0	000.0990	0085.0	009.5	196.5	000.0909	0038.0	029.3	33.99
083.0	000.0990	0084.9	009.5	196.4	000.0908	0037.9	029.4	33.89
084.0	000.0990	0084.9	009.5	196.3	000.0908	0037.8	029.6	33.79
085.0	000.0990	0085.3	009.5	196.1	000.0907	0037.8	029.7	33.70
086.0	000.0990	0085.7	009.5	196.0	000.0906	0037.7	029.9	33.61
087.0	000.0990	0086.2	009.6	195.8	000.0905	0037.7	030.0	33.53
088.0	000.0990	0085.9	009.6	195.8	000.0905	0037.7	030.2	33.44
089.0	000.0990	0085.5	009.5	195.7	000.0904	0037.7	030.4	33.36
090.0	000.0990	0085.0	009.5	195.7	000.0904	0037.7	030.5	33.28

Table 3: FMOver analysis with respect to W284BN

05-03-2018 Terrain Data: GLOBE 30 Sec FMOver Analysis

W284BN BLFT20070928BBU

1777928m

Channel = 284D
 Max ERP = 0.013 kW
 RCAMSL = 342 m
 N. Lat. 36 04 58.0
 W. Lng. 79 46 08.0
 Protected
 60 dBu

Channel = 285D
 Max ERP = 0.25 kW
 RCAMSL = 300 m
 N. Lat. 36 13 12.0
 W. Lng. 79 48 32.0
 Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
287.0	000.0130	0081.1	005.6	187.3	000.0781	0045.0	013.7	46.91	
288.0	000.0130	0080.6	005.6	187.2	000.0777	0045.1	013.6	47.01	
289.0	000.0130	0080.0	005.6	187.0	000.0771	0045.1	013.6	47.12	
290.0	000.0130	0080.0	005.6	186.9	000.0768	0045.2	013.5	47.24	
291.0	000.0130	0080.3	005.6	186.9	000.0767	0045.2	013.4	47.36	
292.0	000.0130	0081.0	005.6	186.9	000.0767	0045.2	013.3	47.50	
293.0	000.0130	0081.6	005.6	186.8	000.0765	0045.2	013.2	47.64	
294.0	000.0130	0081.5	005.6	186.7	000.0762	0045.3	013.1	47.76	
295.0	000.0130	0080.9	005.6	186.5	000.0755	0045.4	013.0	47.85	
296.0	000.0130	0080.0	005.6	186.2	000.0746	0045.5	012.9	47.94	
297.0	000.0130	0079.3	005.5	186.0	000.0739	0045.6	012.8	48.03	
298.0	000.0130	0079.4	005.5	185.8	000.0734	0045.6	012.7	48.15	
299.0	000.0130	0080.0	005.6	185.7	000.0732	0045.7	012.6	48.29	
300.0	000.0130	0081.2	005.6	185.7	000.0732	0045.7	012.5	48.44	
301.0	000.0130	0082.4	005.6	185.7	000.0731	0045.7	012.4	48.60	
302.0	000.0130	0083.4	005.7	185.7	000.0730	0045.7	012.3	48.75	
303.0	000.0130	0084.1	005.7	185.6	000.0726	0045.8	012.2	48.89	
304.0	000.0130	0084.7	005.7	185.4	000.0722	0045.8	012.1	49.03	
305.0	000.0130	0085.0	005.7	185.3	000.0716	0045.9	012.0	49.15	
306.0	000.0130	0085.3	005.7	185.1	000.0709	0046.0	011.9	49.27	
307.0	000.0130	0085.7	005.8	184.9	000.0704	0046.1	011.8	49.40	
308.0	000.0130	0086.4	005.8	184.7	000.0699	0046.3	011.7	49.55	
309.0	000.0130	0087.3	005.8	184.5	000.0694	0046.4	011.6	49.72	
310.0	000.0130	0088.2	005.8	184.4	000.0690	0046.6	011.5	49.88	
311.0	000.0130	0089.0	005.9	184.2	000.0684	0046.8	011.4	50.04	
312.0	000.0130	0089.7	005.9	184.0	000.0678	0047.0	011.3	50.19	
313.0	000.0130	0090.0	005.9	183.7	000.0669	0047.3	011.3	50.33	
314.0	000.0130	0090.0	005.9	183.4	000.0659	0047.6	011.2	50.46	
315.0	000.0130	0090.2	005.9	183.0	000.0648	0047.9	011.1	50.59	
316.0	000.0130	0090.5	005.9	182.7	000.0639	0048.3	011.0	50.73	
317.0	000.0130	0090.7	005.9	182.3	000.0630	0048.6	010.9	50.86	
318.0	000.0130	0090.8	005.9	182.0	000.0619	0048.9	010.9	50.97	
319.0	000.0130	0090.8	005.9	181.6	000.0607	0049.2	010.8	51.06	
320.0	000.0130	0090.8	005.9	181.2	000.0595	0049.4	010.7	51.12	
321.0	000.0130	0090.6	005.9	180.7	000.0583	0049.5	010.7	51.17	
322.0	000.0130	0090.2	005.9	180.2	000.0571	0049.7	010.6	51.19	
323.0	000.0130	0089.6	005.9	179.7	000.0562	0049.8	010.6	51.23	
324.0	000.0130	0089.3	005.9	179.2	000.0559	0050.0	010.5	51.32	
325.0	000.0130	0089.3	005.9	178.8	000.0556	0050.1	010.4	51.43	

326.0	000.0130	0089.7	005.9	178.4	000.0554	0050.3	010.4	51.57
327.0	000.0130	0090.1	005.9	177.9	000.0552	0050.9	010.3	51.76
328.0	000.0130	0090.3	005.9	177.4	000.0550	0051.7	010.3	51.98
329.0	000.0130	0090.3	005.9	176.9	000.0547	0052.5	010.2	52.21
330.0	000.0130	0090.3	005.9	176.4	000.0543	0053.6	010.2	52.43
331.0	000.0130	0090.3	005.9	175.9	000.0540	0054.7	010.1	52.67
332.0	000.0130	0090.3	005.9	175.3	000.0536	0055.6	010.1	52.85
333.0	000.0130	0090.4	005.9	174.8	000.0533	0056.2	010.0	53.00
334.0	000.0130	0090.6	005.9	174.3	000.0530	0056.8	010.0	53.13
335.0	000.0130	0090.7	005.9	173.7	000.0527	0057.1	009.9	53.23
336.0	000.0130	0090.7	005.9	173.2	000.0523	0057.4	009.9	53.30
337.0	000.0130	0090.5	005.9	172.6	000.0520	0057.7	009.9	53.35
338.0	000.0130	0090.4	005.9	172.0	000.0517	0057.5	009.9	53.34
339.0	000.0130	0091.0	005.9	171.4	000.0514	0057.1	009.8	53.33
340.0	000.0130	0092.3	006.0	170.9	000.0510	0056.6	009.8	53.33
341.0	000.0130	0093.7	006.0	170.3	000.0508	0056.0	009.7	53.34
342.0	000.0130	0094.5	006.1	169.7	000.0506	0055.6	009.7	53.34
343.0	000.0130	0094.4	006.1	169.1	000.0504	0055.3	009.6	53.29
344.0	000.0130	0093.9	006.0	168.5	000.0504	0055.1	009.7	53.24
345.0	000.0130	0093.2	006.0	167.8	000.0504	0055.0	009.7	53.20
346.0	000.0130	0092.7	006.0	167.2	000.0502	0055.1	009.7	53.18
347.0	000.0130	0092.3	006.0	166.6	000.0502	0055.5	009.7	53.21
348.0	000.0130	0092.1	006.0	166.0	000.0502	0055.9	009.7	53.26
349.0	000.0130	0091.7	006.0	165.4	000.0500	0056.2	009.7	53.27
350.0	000.0130	0091.8	006.0	164.8	000.0500	0056.6	009.7	53.30
351.0	000.0130	0091.9	006.0	164.2	000.0500	0056.8	009.7	53.32
352.0	000.0130	0092.3	006.0	163.5	000.0500	0057.0	009.7	53.36
353.0	000.0130	0092.4	006.0	162.9	000.0499	0057.3	009.7	53.38
354.0	000.0130	0092.4	006.0	162.3	000.0498	0057.6	009.8	53.37
355.0	000.0130	0092.7	006.0	161.7	000.0497	0057.8	009.8	53.37
356.0	000.0130	0093.3	006.0	161.1	000.0495	0057.9	009.8	53.36
357.0	000.0130	0094.0	006.0	160.5	000.0495	0057.9	009.8	53.34
358.0	000.0130	0094.0	006.0	159.9	000.0496	0057.9	009.8	53.30
359.0	000.0130	0094.3	006.0	159.3	000.0500	0058.0	009.8	53.31
000.0	000.0130	0094.3	006.0	158.7	000.0504	0058.2	009.9	53.30
001.0	000.0130	0094.2	006.0	158.1	000.0510	0058.4	009.9	53.30
002.0	000.0130	0094.1	006.0	157.6	000.0514	0058.6	010.0	53.29
003.0	000.0130	0094.6	006.1	157.0	000.0520	0058.8	010.0	53.31
004.0	000.0130	0095.5	006.1	156.4	000.0524	0059.0	010.0	53.34
005.0	000.0130	0096.4	006.1	155.8	000.0528	0059.2	010.0	53.37
006.0	000.0130	0097.3	006.2	155.1	000.0533	0059.4	010.1	53.39
007.0	000.0130	0098.4	006.2	154.5	000.0538	0059.7	010.1	53.42
008.0	000.0130	0099.2	006.2	153.9	000.0544	0059.9	010.1	53.43
009.0	000.0130	0099.3	006.2	153.4	000.0548	0060.0	010.2	53.38
010.0	000.0130	0099.6	006.2	152.9	000.0553	0060.1	010.3	53.33
011.0	000.0130	0099.9	006.2	152.4	000.0557	0060.1	010.3	53.26
012.0	000.0130	0099.5	006.2	151.9	000.0560	0060.1	010.4	53.15
013.0	000.0130	0098.7	006.2	151.6	000.0562	0060.0	010.5	53.00
014.0	000.0130	0097.6	006.2	151.3	000.0564	0060.0	010.6	52.85
015.0	000.0130	0096.9	006.1	151.0	000.0567	0060.0	010.7	52.71
016.0	000.0130	0096.5	006.1	150.6	000.0570	0059.9	010.8	52.58
017.0	000.0130	0096.3	006.1	150.2	000.0574	0059.8	010.8	52.47
018.0	000.0130	0096.2	006.1	149.9	000.0589	0059.8	010.9	52.43
019.0	000.0130	0096.3	006.1	149.5	000.0627	0059.7	011.0	52.57
020.0	000.0130	0097.0	006.1	149.0	000.0674	0059.6	011.1	52.76
021.0	000.0130	0098.1	006.2	148.5	000.0729	0059.4	011.1	52.97
022.0	000.0130	0099.0	006.2	148.1	000.0780	0059.2	011.2	53.12
023.0	000.0130	0099.3	006.2	147.7	000.0822	0059.0	011.3	53.18
024.0	000.0130	0099.2	006.2	147.4	000.0857	0058.7	011.4	53.19
025.0	000.0130	0099.5	006.2	147.1	000.0897	0058.5	011.5	53.22
026.0	000.0130	0100.2	006.2	146.7	000.0944	0058.2	011.5	53.26

027.0	000.0130	0101.0	006.3		146.3	000.0993	0057.9	011.6	53.31
028.0	000.0130	0101.6	006.3		146.0	000.1038	0057.6	011.7	53.32
029.0	000.0130	0102.2	006.3		145.7	000.1082	0057.4	011.8	53.33
030.0	000.0130	0102.7	006.3		145.4	000.1123	0057.3	011.9	53.33
031.0	000.0130	0103.1	006.3		145.1	000.1161	0057.2	012.0	53.32
032.0	000.0130	0103.3	006.3		144.8	000.1195	0057.2	012.1	53.29
033.0	000.0130	0103.7	006.4		144.6	000.1230	0057.2	012.2	53.27
034.0	000.0130	0104.2	006.4		144.3	000.1267	0057.3	012.3	53.27
035.0	000.0130	0104.9	006.4		144.1	000.1306	0057.5	012.4	53.28
036.0	000.0130	0105.4	006.4		143.8	000.1342	0057.7	012.5	53.28
037.0	000.0130	0105.7	006.4		143.6	000.1371	0057.9	012.6	53.25
038.0	000.0130	0105.6	006.4		143.5	000.1390	0058.1	012.7	53.17
039.0	000.0130	0105.3	006.4		143.4	000.1403	0058.2	012.8	53.06
040.0	000.0130	0105.1	006.4		143.3	000.1418	0058.3	012.9	52.97
041.0	000.0130	0105.3	006.4		143.2	000.1439	0058.4	013.0	52.90
042.0	000.0130	0105.7	006.4		143.1	000.1462	0058.6	013.1	52.84
043.0	000.0130	0106.3	006.4		142.9	000.1489	0058.8	013.2	52.80
044.0	000.0130	0107.3	006.5		142.7	000.1520	0059.1	013.3	52.78
045.0	000.0130	0108.5	006.5		142.5	000.1556	0059.4	013.4	52.77
046.0	000.0130	0109.8	006.5		142.3	000.1590	0059.6	013.5	52.75

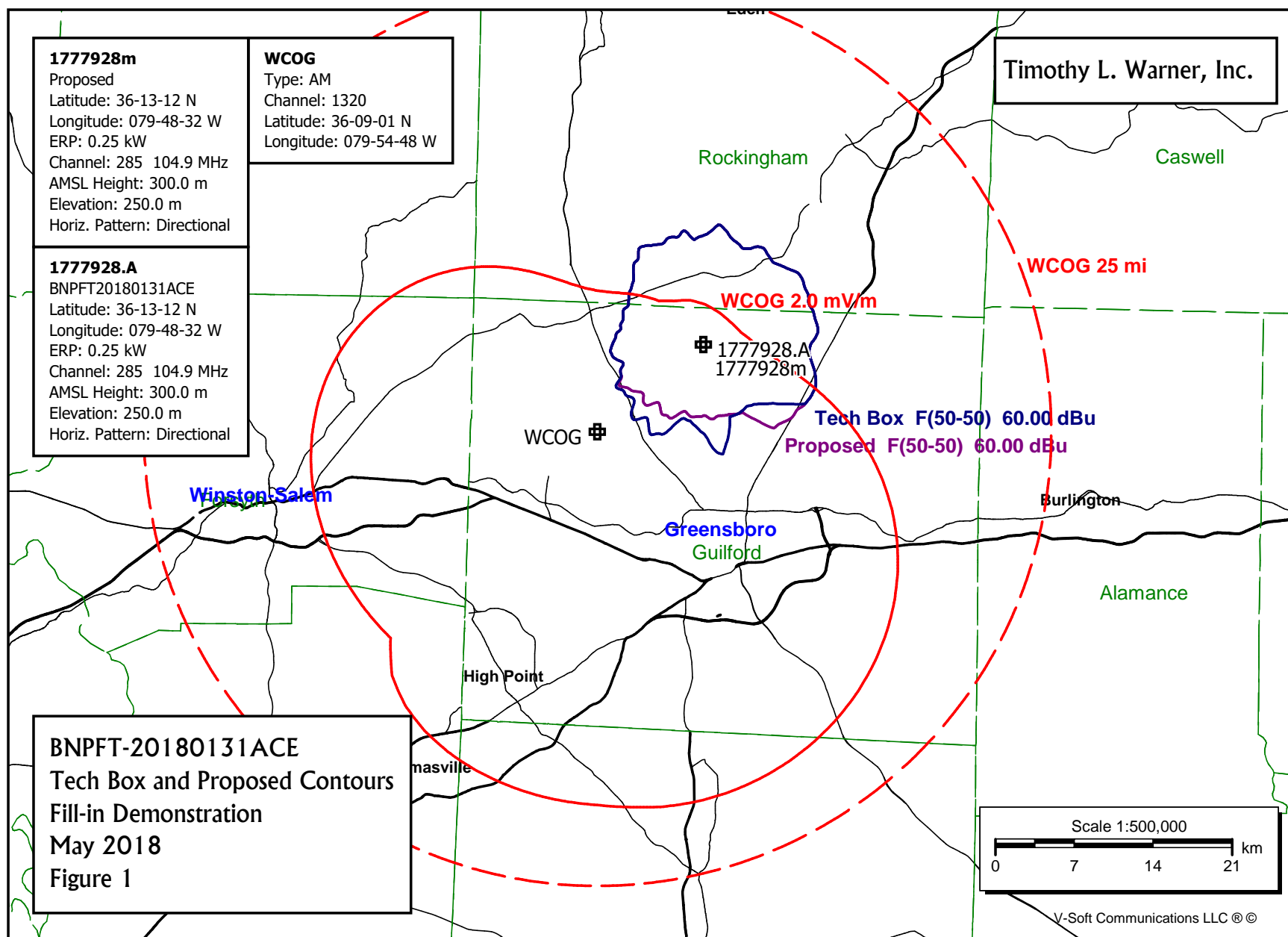


Figure 2: Allocation Study: W285EU
Crescent Media Group LLC

FMCommander Single Allocation Study - 05-03-2018 - GLOBE 30 Sec
1777928m's Overlaps (In= -0.76 km, Out= 2.02 km)

1777928m CH 285 D DA
Lat= 36 13 12.0, Lng= 79 48 32.0
0.25 kW 0 m HAAT, 300 m COR
Prot.= 60 dBu, Intef.= 40 dBu

W285EU CH 285 D BLFT20140514AAM
Lat= 35 57 20.0, Lng= 80 00 22.0
0.099 kW 0 m HAAT, 330 m COR
Prot.= 60 dBu, Intef.= 40 dBu

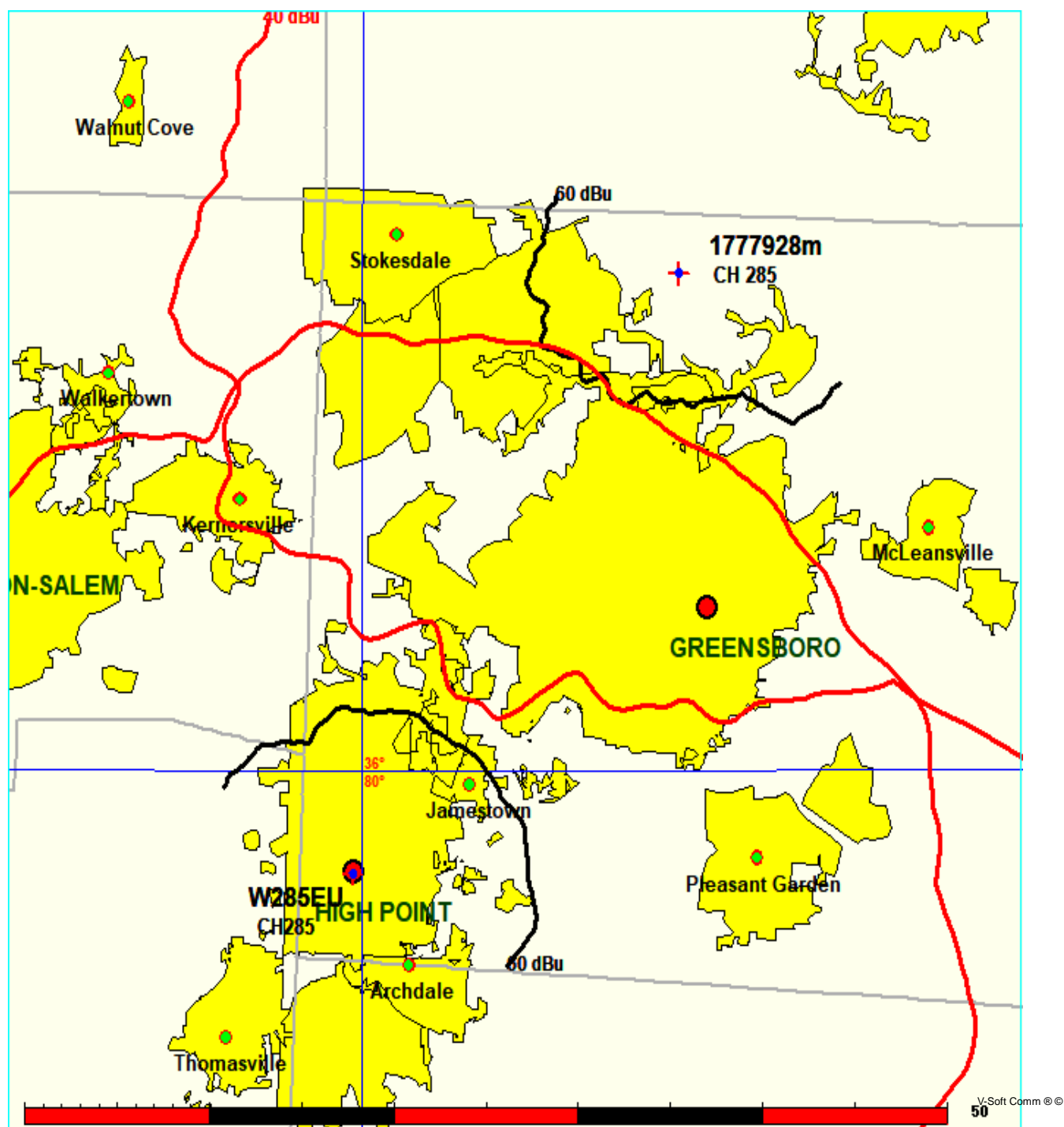


Figure 3: Allocation Study: W284BN
Crescent Media Group LLC

FMCommander Single Allocation Study - 05-03-2018 - GLOBE 30 Sec
1777928m's Overlaps (In= -0.34 km, Out= 0.33 km)

1777928m CH 285 D DA
Lat= 36 13 12.0, Lng= 79 48 32.0
0.25 kW 0 m HAAT, 300 m COR
Prot.= 60 dBu, Intef.= 54 dBu

W284BN CH 284 D BLFT20070928BBU
Lat= 36 04 58.0, Lng= 79 46 08.0
0.013 kW 103.3 m HAAT, 342 m COR
Prot.= 60 dBu, Intef.= 54 dBu

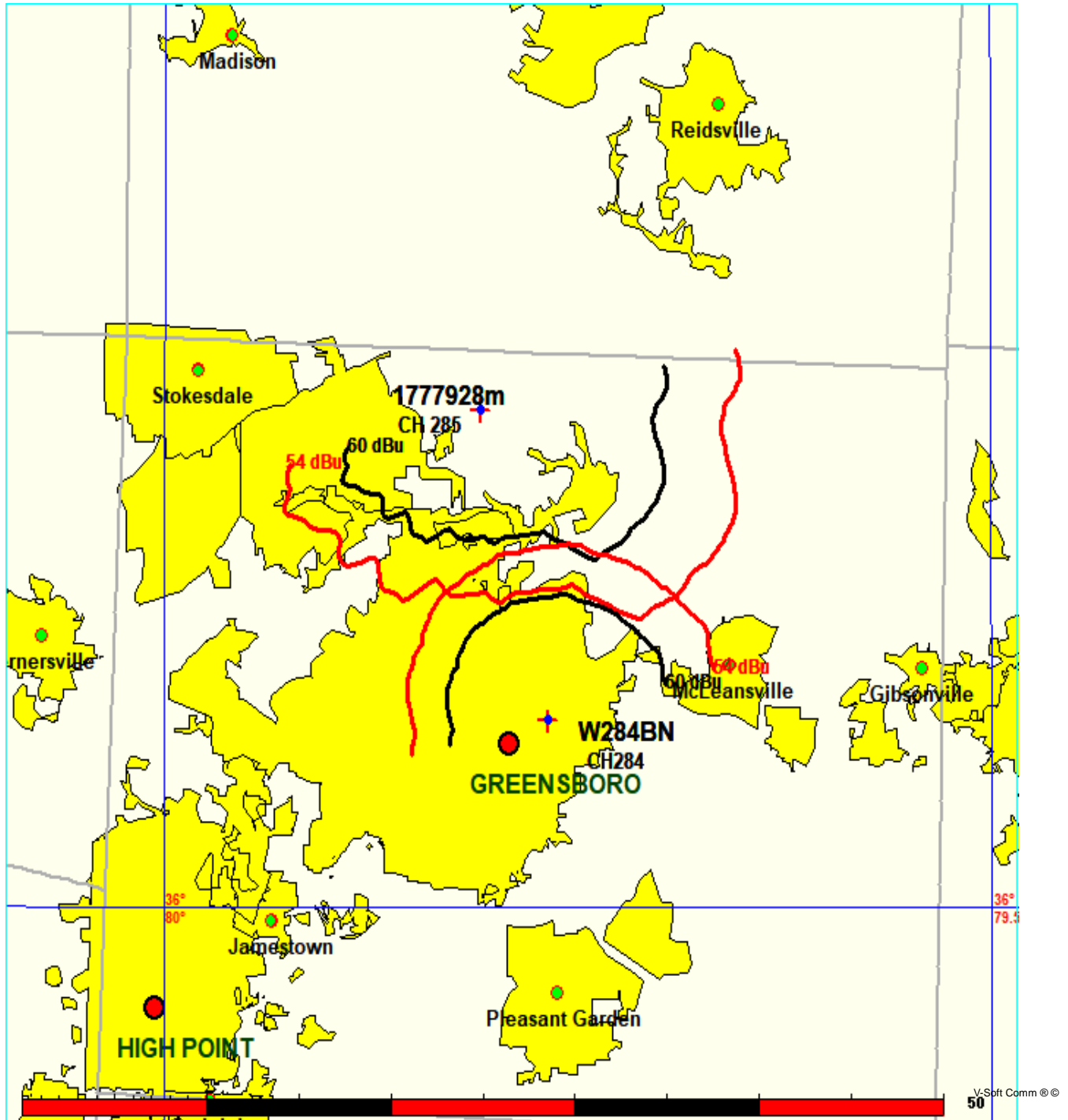


Figure 4: Directional Pattern

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	1.0
20.0	1.0
30.0	1.0
40.0	1.0
50.0	1.0
60.0	1.0
70.0	1.0
80.0	1.0
90.0	1.0
100.0	1.0
110.0	1.0
120.0	1.0
130.0	1.0
140.0	0.89
150.0	0.48
160.0	0.445
170.0	0.45
180.0	0.475
190.0	0.59
200.0	0.61
210.0	0.625
220.0	0.64
230.0	0.75
240.0	0.89
250.0	1.0
260.0	1.0
270.0	1.0
280.0	1.0
290.0	1.0
300.0	1.0
310.0	1.0
320.0	1.0
330.0	1.0
340.0	1.0
350.0	1.0

