

Doug Vernier, Telecommunications Consultants
1600 Picturesque Dr. Cedar Falls, IA 50613

Allocations Study - Contour-to-Contour
Harry Govan

REFERENCE CH# 241D - 96.1 MHz, Pwr= 0.25 kw, HAAT= 44.0 M, COR= 73 M
33 20 21.0 N. Average Protected F(50-50)= 8.62 km
80 26 02.2 W. Omni-directional

DISPLAY DATES
DATA 12-18-17
SEARCH 12-18-17

CH CITY	CALL	TYPE STATE	ANT --	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
241D Holly Hill	1763463	APP _C_ SC		0.0 0.0	0.00 BNPFT20170731AJL	33 20 21.0 80 26 02.2	0.250	26.4 73	7.9 Harry Govan	-34.3*
241D Orangeburg	W241BI	LIC _C_ SC		290.9 110.6	40.71 BLFT20090925ABA	33 28 08.0 80 50 39.0	0.120 37	23.2 94	6.9 Bible Broadcasting Network	5.4
239A Orangeburg	WQKI-FM	CP ZCX SC		288.7 108.5	36.28 BPH20150420ABG	33 26 35.0 80 48 16.0	4.000 123	2.7 178	28.9 Community Broadcasters, L	6.2
240C2 Isle Of Palms	WMXZ	LIC NCX SC		144.8 325.1	69.94 BLH20090617ACL	32 49 27.0 80 00 10.0	50.000 107	70.2 109	45.1 Saga Quad States Communica	11.8
238A Wedgfield	WIBZ	LIC _CX SC		3.2 183.2	67.89 BLH20020606AAY	33 56 56.0 80 23 34.0	4.400 118	2.7 174	29.0 Community Broadcasters, L	37.7
294C1 Orangeburg	WTCB	LIC DCN SC		317.6 137.3	66.66 BMLH19981203KA	33 46 52.0 80 55 14.0	100.000 240	13.8 304	81.3 Radio License Holding Cbc,	21.5R 45.2M
243D Bamberg-denmark	1763548	APP _C_ SC		267.2 86.8	60.29 BNPFT20170801ADX	33 18 39.4 81 04 55.6	0.250	1.1 150	13.2 Voorhees College	46.0
242D Sumter	W242AH	LIC _C_ SC		7.5 187.5	64.44 BLFT20060922ACO	33 54 50.0 80 20 36.0	0.170 33	9.3 79	6.5 Bible Broadcasting Network	46.3
242L1 Charleston	WOHM-LP	LIC _C_ SC		142.4 322.6	73.76 BLL20150612AAG	32 48 45.7 79 57 07.6	0.025 59	60	Media Reform Sc	55.5
244C3 Cayce	WLTY	LIC ZCX SC		324.3 144.0	91.33 BLH20050902ABZ	34 00 18.0 81 00 44.0	9.000 132	3.1 199	33.0 Capstar Tx, Llc	56.4
241C2 Forestbrook	WKZQ-FM	LIC NCX SC		77.3 258.1	131.49 BLH20081007ACQ	33 35 27.0 79 02 55.0	8.500 265	113.5 267	46.1 Alpha Media Licensee Llc	57.4
238D Charleston	W239AL	CP _C_ SC		136.0 316.4	80.47 BMPFT20170222ACS	32 49 00.0 79 50 10.0	0.250	1.1 150	15.6 Norsan Communications And	63.7
240D Columbia	W240AX	LIC _C_ SC		321.0 140.7	88.95 BLFT20080603ADF	33 57 34.0 81 02 28.0	0.250 71	19.5 139	13.0 Glory Communications, Inc.	64.8

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 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)
Incoming contour overlap is ignored.
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
Reference station has protected zone issue: AM tower

HOW TO READ THE FM COMPUTER PRINT-OUT

Translator Reference Station

The computer printout should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table. Contour distances are in kilometers and are predicted using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90. The column labeled "* OUT *" shows the greatest distance in kilometers of overlap (or smallest distance of clearance) between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing contour overlap. Since translators are able to receive interference there is no "In" or incoming column in this report.

Listed antenna heights and power are the specific antenna heights and power from the FCC database.

Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

The columns labeled "INT" and "PRO" contain the distance in kilometers of the appropriate interference contour and the protected contour of a data base station.

For I.F. relationships the minimum spacings the "OUT" columns change its significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column displays the **available clear space** separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended. Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

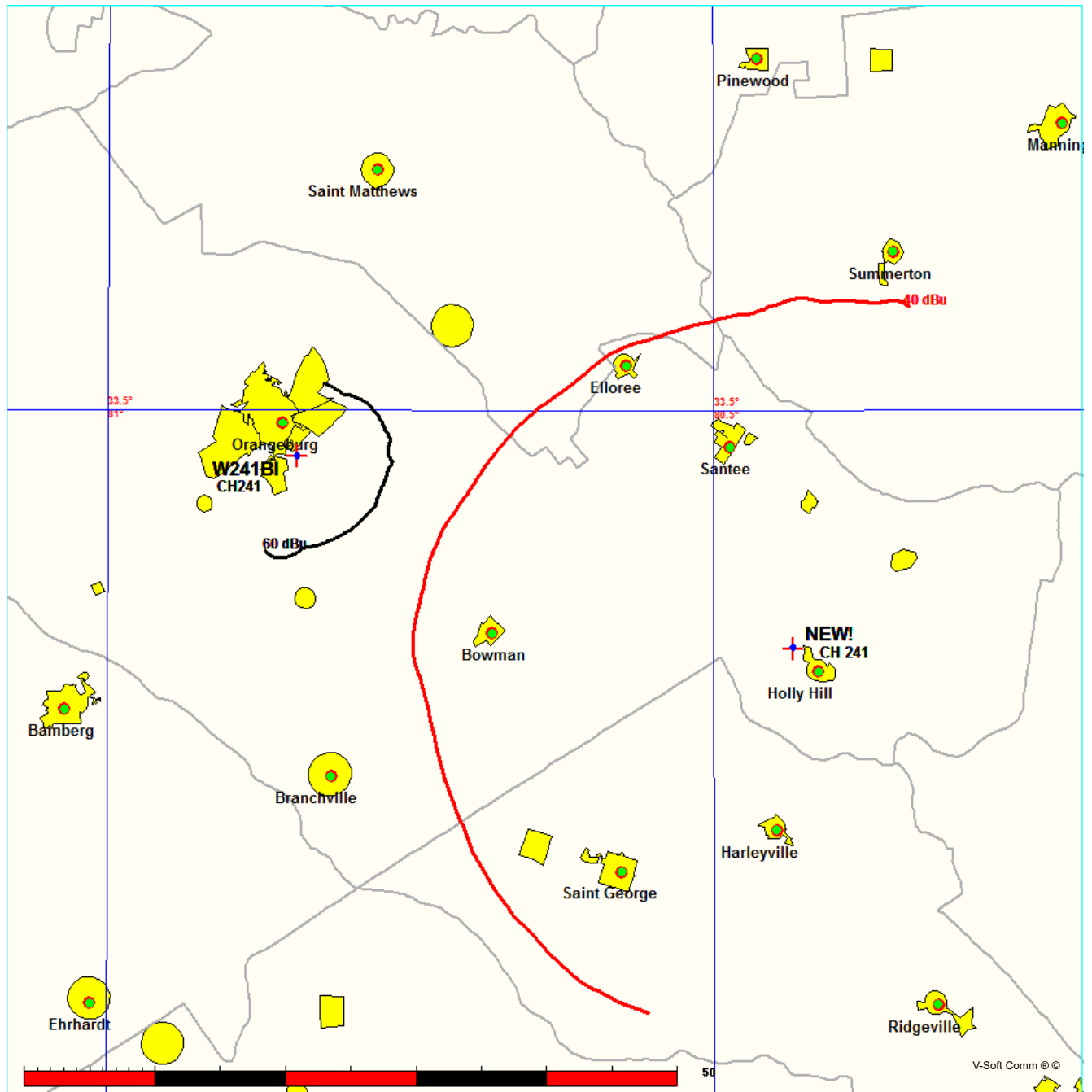
The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates with an omni-directional antenna. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt or an "X" if the commission is not sure, otherwise it will be an "N" or left blank.

Contour-to-Contour Study - Outgoing - NEW! vs W241BI
Community Action Corp.

FMCommander Single Allocation Study - 07-20-2017 - GLOBE 30 Sec
NEW!'s Overlaps (In= 8.97 km, Out= 5.53 km)

NEW! CH 241 D
Lat= 33 20 21.0, Lng= 80 26 02.2
0.25 kW 43.6 m HAAT, 72.6 m COR
Prot.= 60 dBu, Intef.= 40 dBu

W241BI CH 241 D BLFT20090925ABA
Lat= 33 28 08.0, Lng= 80 50 39.0
0.12 kW 37 m HAAT, 94 m COR
Prot.= 60 dBu, Intef.= 40 dBu



07-20-2017

Terrain Data: GLOBE 30 Sec

FMOver Analysis

W241BI BLFT20090925ABA

NEW!

Channel = 241D

Max ERP = 0.12 kW

RCAMSL = 94 m

N. Lat. 33 28 08.0

W. Lng. 80 50 39.0

Protected

60 dBu

Channel = 241D

Max ERP = 0.25 kW

RCAMSL = 72.6 m

N. Lat. 33 20 21.0

W. Lng. 80 26 02.2

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
051.0	000.1200	0038.5	006.6	299.5	000.2500	0040.2	037.8	35.31	
052.0	000.1200	0039.0	006.7	299.5	000.2500	0040.2	037.7	35.36	
053.0	000.1200	0039.5	006.7	299.5	000.2500	0040.2	037.6	35.41	
054.0	000.1200	0040.0	006.7	299.5	000.2500	0040.2	037.4	35.45	
055.0	000.1200	0040.3	006.8	299.5	000.2500	0040.2	037.3	35.49	
056.0	000.1200	0040.6	006.8	299.4	000.2500	0040.2	037.2	35.54	
057.0	000.1200	0040.8	006.8	299.4	000.2500	0040.2	037.1	35.58	
058.0	000.1200	0041.0	006.8	299.3	000.2500	0040.3	037.0	35.62	
059.0	000.1200	0041.2	006.9	299.2	000.2500	0040.3	036.9	35.67	
060.0	000.1200	0041.4	006.9	299.2	000.2500	0040.3	036.7	35.71	
061.0	000.1200	0041.7	006.9	299.1	000.2500	0040.3	036.6	35.75	
062.0	000.1200	0041.9	006.9	299.0	000.2500	0040.3	036.5	35.80	
063.0	000.1200	0042.1	006.9	298.9	000.2500	0040.3	036.4	35.84	
064.0	000.1200	0042.4	006.9	298.9	000.2500	0040.3	036.3	35.88	
065.0	000.1200	0042.6	007.0	298.8	000.2500	0040.3	036.2	35.93	
066.0	000.1200	0042.7	007.0	298.7	000.2500	0040.3	036.1	35.97	
067.0	000.1200	0042.9	007.0	298.6	000.2500	0040.3	036.0	36.01	
068.0	000.1200	0043.1	007.0	298.5	000.2500	0040.3	035.9	36.05	
069.0	000.1200	0043.3	007.0	298.4	000.2500	0040.4	035.8	36.09	
070.0	000.1200	0043.4	007.0	298.2	000.2500	0040.4	035.7	36.13	
071.0	000.1200	0043.5	007.0	298.1	000.2500	0040.4	035.6	36.17	
072.0	000.1200	0043.5	007.0	298.0	000.2500	0040.4	035.5	36.21	
073.0	000.1200	0043.7	007.1	297.9	000.2500	0040.4	035.4	36.26	
074.0	000.1200	0043.9	007.1	297.7	000.2500	0040.5	035.3	36.30	
075.0	000.1200	0044.3	007.1	297.6	000.2500	0040.5	035.2	36.34	
076.0	000.1200	0044.8	007.2	297.5	000.2500	0040.5	035.1	36.39	
077.0	000.1200	0045.3	007.2	297.4	000.2500	0040.5	034.9	36.44	
078.0	000.1200	0045.8	007.2	297.3	000.2500	0040.5	034.8	36.49	
079.0	000.1200	0046.1	007.3	297.2	000.2500	0040.6	034.7	36.53	
080.0	000.1200	0045.9	007.3	297.0	000.2500	0040.6	034.7	36.57	
081.0	000.1200	0045.6	007.2	296.8	000.2500	0040.6	034.6	36.59	
082.0	000.1200	0045.0	007.2	296.6	000.2500	0040.7	034.6	36.61	
083.0	000.1200	0044.3	007.1	296.3	000.2500	0040.7	034.6	36.63	
084.0	000.1200	0043.7	007.1	296.1	000.2500	0040.8	034.5	36.65	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
085.0	000.1200	0043.3	007.0	295.9	000.2500	0040.8	034.5	36.67
086.0	000.1200	0043.1	007.0	295.7	000.2500	0040.9	034.5	36.70
087.0	000.1200	0043.1	007.0	295.5	000.2500	0040.9	034.4	36.73
088.0	000.1200	0043.2	007.0	295.4	000.2500	0040.9	034.3	36.76
089.0	000.1200	0043.2	007.0	295.2	000.2500	0041.0	034.3	36.79
090.0	000.1200	0044.1	007.1	295.1	000.2500	0041.0	034.2	36.84
091.0	000.1200	0045.0	007.2	294.9	000.2500	0041.0	034.0	36.90
092.0	000.1200	0045.9	007.3	294.8	000.2500	0041.1	033.9	36.95
093.0	000.1200	0046.7	007.3	294.6	000.2500	0041.1	033.8	37.01
094.0	000.1200	0046.5	007.3	294.4	000.2500	0041.2	033.8	37.03
095.0	000.1200	0045.8	007.2	294.2	000.2500	0041.2	033.8	37.03
096.0	000.1200	0045.0	007.2	293.9	000.2500	0041.3	033.8	37.03
097.0	000.1200	0044.4	007.1	293.7	000.2500	0041.3	033.8	37.04
098.0	000.1200	0044.0	007.1	293.5	000.2500	0041.4	033.8	37.05
099.0	000.1200	0043.7	007.1	293.3	000.2500	0041.5	033.8	37.07
100.0	000.1200	0043.5	007.0	293.1	000.2500	0041.5	033.8	37.08
101.0	000.1200	0043.4	007.0	292.9	000.2500	0041.6	033.8	37.10
102.0	000.1200	0043.3	007.0	292.6	000.2500	0041.6	033.8	37.12
103.0	000.1200	0043.1	007.0	292.4	000.2500	0041.7	033.8	37.13
104.0	000.1200	0042.9	007.0	292.2	000.2500	0041.8	033.8	37.15
105.0	000.1200	0042.7	007.0	292.0	000.2500	0041.8	033.8	37.16
106.0	000.1200	0042.6	007.0	291.8	000.2500	0041.9	033.8	37.17
107.0	000.1200	0042.5	007.0	291.6	000.2500	0042.0	033.8	37.19
108.0	000.1200	0042.4	006.9	291.4	000.2500	0042.0	033.8	37.20
109.0	000.1200	0042.2	006.9	291.2	000.2500	0042.1	033.8	37.21
110.0	000.1200	0042.0	006.9	291.0	000.2500	0042.2	033.8	37.22
111.0	000.1200	0042.0	006.9	290.8	000.2500	0042.3	033.8	37.24
112.0	000.1200	0042.0	006.9	290.6	000.2500	0042.3	033.8	37.25
113.0	000.1200	0042.1	006.9	290.4	000.2500	0042.4	033.8	37.27
114.0	000.1200	0042.2	006.9	290.2	000.2500	0042.5	033.8	37.28
115.0	000.1200	0042.2	006.9	290.0	000.2500	0042.5	033.8	37.29
116.0	000.1200	0042.3	006.9	289.8	000.2500	0042.6	033.8	37.30
117.0	000.1200	0042.5	007.0	289.6	000.2500	0042.7	033.8	37.32
118.0	000.1200	0042.7	007.0	289.3	000.2500	0042.8	033.8	37.33
119.0	000.1200	0042.9	007.0	289.1	000.2500	0042.8	033.8	37.34
120.0	000.1200	0043.2	007.0	288.9	000.2500	0042.9	033.8	37.35
121.0	000.1200	0043.5	007.0	288.7	000.2500	0042.9	033.8	37.37
122.0	000.1200	0043.7	007.1	288.5	000.2500	0043.0	033.8	37.37
123.0	000.1200	0043.7	007.1	288.3	000.2500	0043.1	033.8	37.37
124.0	000.1200	0043.6	007.1	288.1	000.2500	0043.1	033.9	37.36
125.0	000.1200	0043.4	007.0	287.9	000.2500	0043.2	033.9	37.35
126.0	000.1200	0043.1	007.0	287.7	000.2500	0043.2	034.0	37.34
127.0	000.1200	0042.9	007.0	287.5	000.2500	0043.2	034.1	37.32
128.0	000.1200	0042.8	007.0	287.4	000.2500	0043.3	034.1	37.31
129.0	000.1200	0042.6	007.0	287.2	000.2500	0043.3	034.2	37.29
130.0	000.1200	0042.5	007.0	287.0	000.2500	0043.3	034.2	37.27
131.0	000.1200	0042.4	006.9	286.8	000.2500	0043.4	034.3	37.26
132.0	000.1200	0042.3	006.9	286.6	000.2500	0043.4	034.3	37.24
133.0	000.1200	0042.2	006.9	286.5	000.2500	0043.4	034.4	37.22
134.0	000.1200	0042.2	006.9	286.3	000.2500	0043.5	034.5	37.21
135.0	000.1200	0042.1	006.9	286.1	000.2500	0043.5	034.5	37.19

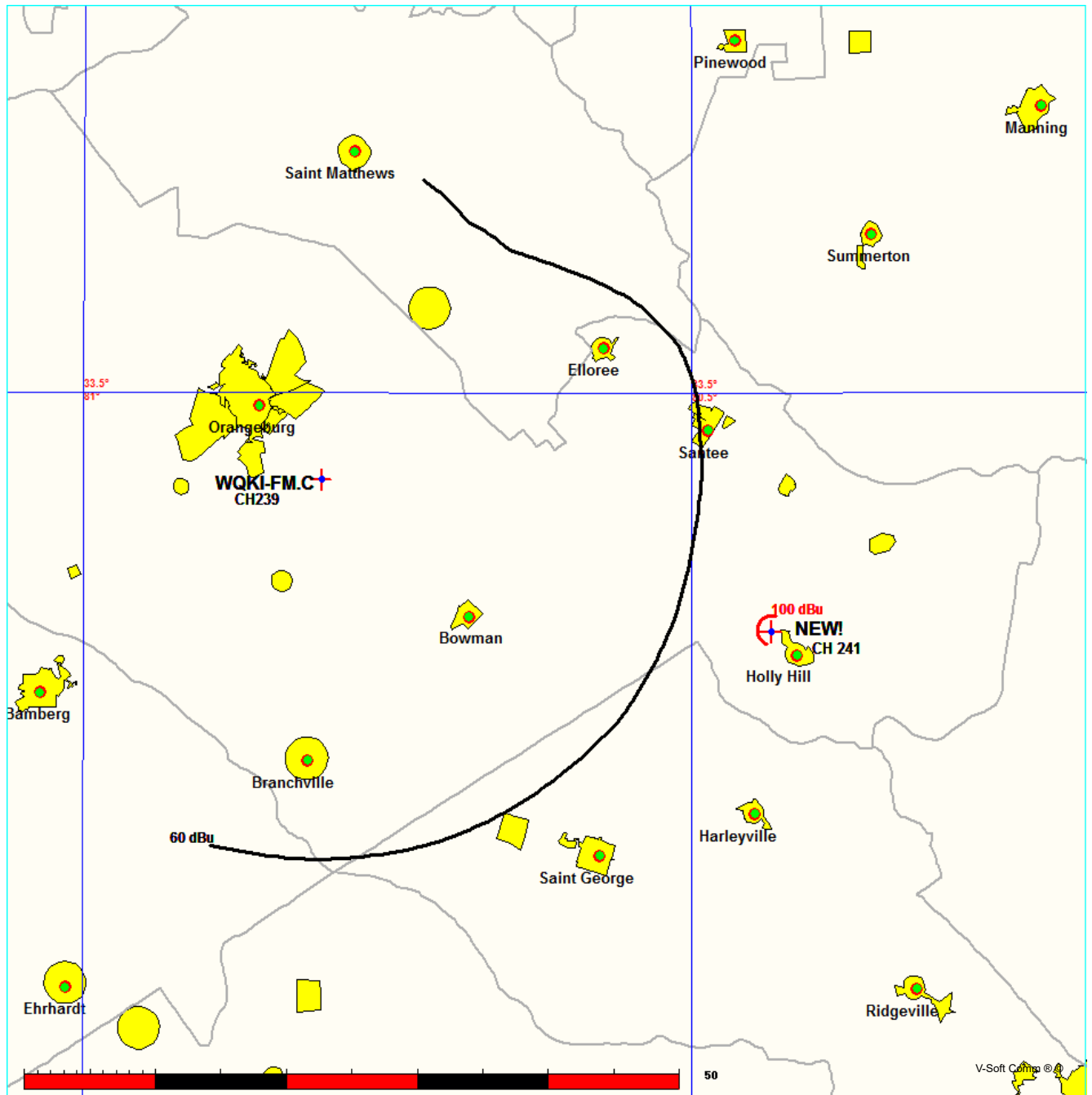
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
136.0	000.1200	0042.1	006.9		285.9	000.2500	0043.6	034.6	37.17
137.0	000.1200	0042.0	006.9		285.8	000.2500	0043.6	034.7	37.15
138.0	000.1200	0042.0	006.9		285.6	000.2500	0043.6	034.7	37.13
139.0	000.1200	0042.0	006.9		285.4	000.2500	0043.7	034.8	37.12
140.0	000.1200	0042.1	006.9		285.3	000.2500	0043.7	034.8	37.10
141.0	000.1200	0042.1	006.9		285.1	000.2500	0043.7	034.9	37.07
142.0	000.1200	0042.0	006.9		285.0	000.2500	0043.8	035.0	37.05
143.0	000.1200	0041.9	006.9		284.8	000.2500	0043.8	035.1	37.02
144.0	000.1200	0041.8	006.9		284.7	000.2500	0043.8	035.2	36.99
145.0	000.1200	0041.8	006.9		284.5	000.2500	0043.8	035.2	36.96
146.0	000.1200	0041.7	006.9		284.4	000.2500	0043.8	035.3	36.93
147.0	000.1200	0041.6	006.9		284.2	000.2500	0043.8	035.4	36.90
148.0	000.1200	0041.6	006.9		284.1	000.2500	0043.9	035.5	36.87
149.0	000.1200	0041.6	006.9		284.0	000.2500	0043.9	035.6	36.84
150.0	000.1200	0041.5	006.9		283.8	000.2500	0043.9	035.7	36.81
151.0	000.1200	0041.5	006.9		283.7	000.2500	0043.9	035.8	36.78
152.0	000.1200	0041.5	006.9		283.6	000.2500	0043.9	035.8	36.75
153.0	000.1200	0041.4	006.9		283.5	000.2500	0043.9	035.9	36.72
154.0	000.1200	0041.4	006.9		283.3	000.2500	0044.0	036.0	36.68
155.0	000.1200	0041.4	006.9		283.2	000.2500	0044.0	036.1	36.65
156.0	000.1200	0041.3	006.9		283.1	000.2500	0044.0	036.2	36.62
157.0	000.1200	0041.3	006.9		283.0	000.2500	0044.0	036.3	36.58
158.0	000.1200	0041.3	006.9		282.9	000.2500	0044.0	036.4	36.55
159.0	000.1200	0041.3	006.9		282.8	000.2500	0044.0	036.5	36.51
160.0	000.1200	0041.4	006.9		282.7	000.2500	0044.1	036.6	36.48
161.0	000.1200	0041.5	006.9		282.6	000.2500	0044.1	036.7	36.44
162.0	000.1200	0041.6	006.9		282.5	000.2500	0044.1	036.8	36.41
163.0	000.1200	0041.6	006.9		282.4	000.2500	0044.1	036.9	36.37
164.0	000.1200	0041.7	006.9		282.3	000.2500	0044.1	037.0	36.33
165.0	000.1200	0041.9	006.9		282.2	000.2500	0044.1	037.1	36.30
166.0	000.1200	0042.0	006.9		282.1	000.2500	0044.1	037.2	36.26
167.0	000.1200	0042.0	006.9		282.0	000.2500	0044.1	037.3	36.22
168.0	000.1200	0041.9	006.9		281.9	000.2500	0044.1	037.4	36.18
169.0	000.1200	0041.8	006.9		281.9	000.2500	0044.1	037.6	36.14
170.0	000.1200	0041.8	006.9		281.8	000.2500	0044.1	037.7	36.10

Contour-to-Contour Study - Outgoing - NEW! vs WQKI-FM (CP)
Community Action Corp.

FMCommander Single Allocation Study - 07-20-2017 - GLOBE 30 Sec
NEW!'s Overlaps (In= 25.01 km, Out= 6.25 km)

NEW! CH 241 D
Lat= 33 20 21.0, Lng= 80 26 02.2
0.25 kW 43.6 m HAAT, 72.6 m COR
Prot.= 60 dBu, Intef.= 100 dBu

WQKI-FM CH 239 A 73.215 Z BPH20150420ABG
Lat= 33 26 35.0, Lng= 80 48 16.0
4.0 kW 123.3 m HAAT, 178.4 m COR
Prot.= 60 dBu, Intef.= 100 dBu



07-20-2017

Terrain Data: GLOBE 30 Sec

FMOver Analysis

WQKI-FM BPH20150420ABG

NEW!

Channel = 239A

Max ERP = 4 kW

RCAMSL = 178.4 m

N. Lat. 33 26 35.0

W. Lng. 80 48 16.0

Protected

60 dBu

Channel = 241D

Max ERP = 0.25 kW

RCAMSL = 72.6 m

N. Lat. 33 20 21.0

W. Lng. 80 26 02.2

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
048.0	001.7213	0129.5	023.9	329.1	000.2500	0036.9	032.1	36.81	
049.0	001.7849	0129.7	024.2	329.6	000.2500	0036.8	031.8	36.94	
050.0	001.8496	0129.8	024.4	330.1	000.2500	0036.7	031.4	37.09	
051.0	001.9438	0130.0	024.6	330.7	000.2500	0036.6	031.0	37.23	
052.0	002.0403	0130.1	024.9	331.4	000.2500	0036.5	030.6	37.39	
053.0	002.1392	0130.2	025.2	332.0	000.2500	0036.4	030.2	37.55	
054.0	002.2404	0130.3	025.5	332.6	000.2500	0036.3	029.8	37.72	
055.0	002.3440	0130.4	025.7	333.3	000.2500	0036.1	029.4	37.89	
056.0	002.4499	0130.6	026.0	333.9	000.2500	0035.9	029.0	38.07	
057.0	002.5581	0130.8	026.3	334.5	000.2500	0035.7	028.6	38.26	
058.0	002.6686	0131.0	026.5	335.2	000.2500	0035.6	028.2	38.46	
059.0	002.7816	0131.3	026.8	335.9	000.2500	0035.4	027.8	38.68	
060.0	002.8968	0131.7	027.1	336.5	000.2500	0035.4	027.3	38.93	
061.0	002.9991	0132.1	027.3	337.2	000.2500	0035.3	026.9	39.18	
062.0	003.1032	0132.3	027.5	337.7	000.2500	0035.3	026.4	39.46	
063.0	003.2091	0132.3	027.7	338.3	000.2500	0035.2	026.0	39.75	
064.0	003.3168	0132.0	027.9	338.8	000.2500	0035.2	025.5	40.05	
065.0	003.4262	0131.6	028.1	339.2	000.2500	0035.2	025.0	40.36	
066.0	003.5374	0131.4	028.3	339.7	000.2500	0035.1	024.5	40.68	
067.0	003.6504	0131.4	028.5	340.3	000.2500	0035.1	024.1	41.01	
068.0	003.7652	0131.3	028.7	340.8	000.2500	0035.1	023.6	41.36	
069.0	003.8817	0131.3	028.9	341.3	000.2500	0035.1	023.1	41.72	
070.0	004.0000	0131.2	029.1	341.8	000.2500	0035.0	022.6	42.08	
071.0	004.0000	0131.4	029.1	341.9	000.2500	0035.0	022.1	42.46	
072.0	004.0000	0131.7	029.1	342.0	000.2500	0035.0	021.6	42.84	
073.0	004.0000	0132.2	029.1	342.1	000.2500	0035.0	021.1	43.24	
074.0	004.0000	0132.6	029.2	342.2	000.2500	0035.0	020.5	43.63	
075.0	004.0000	0133.1	029.2	342.2	000.2500	0035.0	020.0	44.04	
076.0	004.0000	0133.6	029.3	342.3	000.2500	0035.0	019.5	44.45	
077.0	004.0000	0133.8	029.3	342.2	000.2500	0035.0	019.0	44.87	
078.0	004.0000	0133.8	029.3	342.1	000.2500	0035.0	018.5	45.30	
079.0	004.0000	0133.5	029.3	341.8	000.2500	0035.1	018.0	45.72	
080.0	004.0000	0132.9	029.2	341.4	000.2500	0035.1	017.5	46.15	
081.0	004.0000	0132.4	029.2	341.0	000.2500	0035.1	017.0	46.57	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
082.0	004.0000	0132.0	029.1	340.5	000.2500	0035.1	016.5	46.99
083.0	004.0000	0131.6	029.1	340.0	000.2500	0035.1	016.0	47.41
084.0	004.0000	0131.3	029.1	339.4	000.2500	0035.1	015.5	47.84
085.0	004.0000	0131.2	029.1	338.9	000.2500	0035.2	015.0	48.27
086.0	004.0000	0131.3	029.1	338.3	000.2500	0035.2	014.6	48.75
087.0	004.0000	0131.3	029.1	337.7	000.2500	0035.3	014.1	49.35
088.0	004.0000	0131.3	029.1	336.9	000.2500	0035.3	013.6	49.97
089.0	004.0000	0131.2	029.1	336.1	000.2500	0035.4	013.1	50.62
090.0	004.0000	0130.9	029.0	335.1	000.2500	0035.6	012.7	51.30
091.0	004.0000	0130.5	029.0	333.9	000.2500	0035.9	012.3	52.02
092.0	004.0000	0130.2	029.0	332.6	000.2500	0036.3	011.8	52.76
093.0	004.0000	0129.9	028.9	331.2	000.2500	0036.5	011.4	53.48
094.0	004.0000	0129.5	028.9	329.7	000.2500	0036.8	011.0	54.19
095.0	004.0000	0129.2	028.9	328.0	000.2500	0037.1	010.6	54.92
096.0	004.0000	0128.9	028.8	326.1	000.2500	0037.2	010.2	55.59
097.0	004.0000	0128.8	028.8	324.2	000.2500	0037.0	009.9	56.19
098.0	004.0000	0128.8	028.8	322.1	000.2500	0036.8	009.5	56.78
099.0	004.0000	0128.7	028.8	319.8	000.2500	0036.8	009.2	57.38
100.0	004.0000	0128.7	028.8	317.3	000.2500	0037.2	008.9	58.05
101.0	004.0000	0128.6	028.8	314.5	000.2500	0037.7	008.6	58.69
102.0	004.0000	0128.6	028.8	311.6	000.2500	0038.5	008.3	59.37
103.0	004.0000	0128.7	028.8	308.5	000.2500	0038.9	008.1	59.94
104.0	004.0000	0128.9	028.8	305.3	000.2500	0039.4	007.9	60.47
105.0	004.0000	0129.1	028.9	301.8	000.2500	0040.0	007.7	60.96
106.0	004.0000	0129.1	028.9	298.1	000.2500	0040.4	007.6	61.33
107.0	004.0000	0129.2	028.9	294.3	000.2500	0041.2	007.5	61.70
108.0	004.0000	0129.5	028.9	290.5	000.2500	0042.4	007.4	62.11
109.0	004.0000	0129.9	028.9	286.5	000.2500	0043.4	007.4	62.42
110.0	004.0000	0130.3	029.0	282.6	000.2500	0044.1	007.4	62.53
111.0	004.0000	0130.5	029.0	278.7	000.2500	0044.4	007.4	62.45
112.0	004.0000	0130.6	029.0	275.0	000.2500	0045.1	007.6	62.30
113.0	004.0000	0130.5	029.0	271.4	000.2500	0045.6	007.7	62.04
114.0	004.0000	0130.5	029.0	268.0	000.2500	0045.3	007.9	61.55
115.0	004.0000	0130.6	029.0	264.8	000.2500	0044.2	008.2	60.88
116.0	004.0000	0130.7	029.0	261.8	000.2500	0043.6	008.4	60.25
117.0	004.0000	0130.9	029.0	259.1	000.2500	0043.3	008.7	59.66
118.0	004.0000	0131.1	029.0	256.5	000.2500	0043.3	009.0	59.10
119.0	004.0000	0131.3	029.1	254.1	000.2500	0043.5	009.4	58.51
120.0	004.0000	0131.4	029.1	252.0	000.2500	0043.6	009.7	57.89
121.0	004.0000	0131.5	029.1	250.0	000.2500	0043.7	010.1	57.24
122.0	004.0000	0131.6	029.1	248.3	000.2500	0043.8	010.5	56.59
123.0	004.0000	0131.7	029.1	246.7	000.2500	0043.9	010.9	55.92
124.0	004.0000	0131.9	029.1	245.2	000.2500	0044.0	011.3	55.26
125.0	004.0000	0132.2	029.1	243.8	000.2500	0044.2	011.8	54.62
126.0	004.0000	0132.5	029.2	242.6	000.2500	0044.3	012.2	53.97
127.0	004.0000	0132.7	029.2	241.5	000.2500	0044.4	012.7	53.33
128.0	004.0000	0132.7	029.2	240.6	000.2500	0044.6	013.1	52.70
129.0	004.0000	0132.6	029.2	239.8	000.2500	0044.8	013.6	52.08
130.0	004.0000	0132.4	029.2	239.2	000.2500	0044.9	014.1	51.48
131.0	004.0000	0132.0	029.1	238.7	000.2500	0045.0	014.6	50.90
132.0	004.0000	0131.7	029.1	238.2	000.2500	0045.1	015.1	50.55

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
133.0	004.0000	0131.4	029.1		237.8	000.2500	0045.2	015.6	50.14
134.0	004.0000	0131.3	029.1		237.4	000.2500	0045.3	016.1	49.72
135.0	004.0000	0131.2	029.0		237.1	000.2500	0045.3	016.6	49.30
136.0	004.0000	0131.0	029.0		236.8	000.2500	0045.4	017.1	48.88
137.0	004.0000	0130.7	029.0		236.6	000.2500	0045.4	017.6	48.45
138.0	004.0000	0130.4	029.0		236.4	000.2500	0045.4	018.1	48.03
139.0	004.0000	0130.2	029.0		236.3	000.2500	0045.5	018.6	47.61
140.0	004.0000	0130.0	028.9		236.2	000.2500	0045.5	019.1	47.19
141.0	004.0000	0129.9	028.9		236.1	000.2500	0045.5	019.6	46.77
142.0	004.0000	0129.8	028.9		236.0	000.2500	0045.5	020.1	46.36
143.0	004.0000	0129.7	028.9		235.9	000.2500	0045.5	020.6	45.96
144.0	004.0000	0129.7	028.9		235.9	000.2500	0045.5	021.1	45.55
145.0	004.0000	0129.7	028.9		235.8	000.2500	0045.5	021.6	45.15
146.0	004.0000	0129.7	028.9		235.8	000.2500	0045.5	022.1	44.76
147.0	004.0000	0129.7	028.9		235.9	000.2500	0045.5	022.6	44.37
148.0	004.0000	0129.7	028.9		235.9	000.2500	0045.5	023.1	43.99
149.0	004.0000	0129.7	028.9		236.0	000.2500	0045.5	023.6	43.61
150.0	004.0000	0129.7	028.9		236.0	000.2500	0045.5	024.1	43.24
151.0	004.0000	0129.6	028.9		236.1	000.2500	0045.5	024.6	42.88
152.0	004.0000	0129.6	028.9		236.3	000.2500	0045.5	025.1	42.52
153.0	004.0000	0129.5	028.9		236.4	000.2500	0045.5	025.6	42.17
154.0	004.0000	0129.5	028.9		236.5	000.2500	0045.4	026.1	41.83
155.0	004.0000	0129.5	028.9		236.7	000.2500	0045.4	026.6	41.50
156.0	004.0000	0129.5	028.9		236.9	000.2500	0045.4	027.1	41.18
157.0	004.0000	0129.5	028.9		237.0	000.2500	0045.4	027.6	40.86
158.0	004.0000	0129.6	028.9		237.2	000.2500	0045.3	028.1	40.56
159.0	004.0000	0129.6	028.9		237.4	000.2500	0045.3	028.6	40.26
160.0	004.0000	0129.5	028.9		237.6	000.2500	0045.3	029.1	39.98
161.0	004.0000	0129.5	028.9		237.9	000.2500	0045.2	029.6	39.70
162.0	004.0000	0129.4	028.9		238.1	000.2500	0045.2	030.1	39.44
163.0	004.0000	0129.4	028.9		238.4	000.2500	0045.1	030.6	39.18
164.0	004.0000	0129.3	028.9		238.6	000.2500	0045.0	031.1	38.94
165.0	004.0000	0129.2	028.9		238.9	000.2500	0045.0	031.5	38.70
166.0	004.0000	0129.1	028.9		239.2	000.2500	0044.9	032.0	38.48
167.0	004.0000	0129.0	028.8		239.5	000.2500	0044.8	032.5	38.27

Contour-to-Contour - Outgoing New! vs WMXZ
WJBS Radio

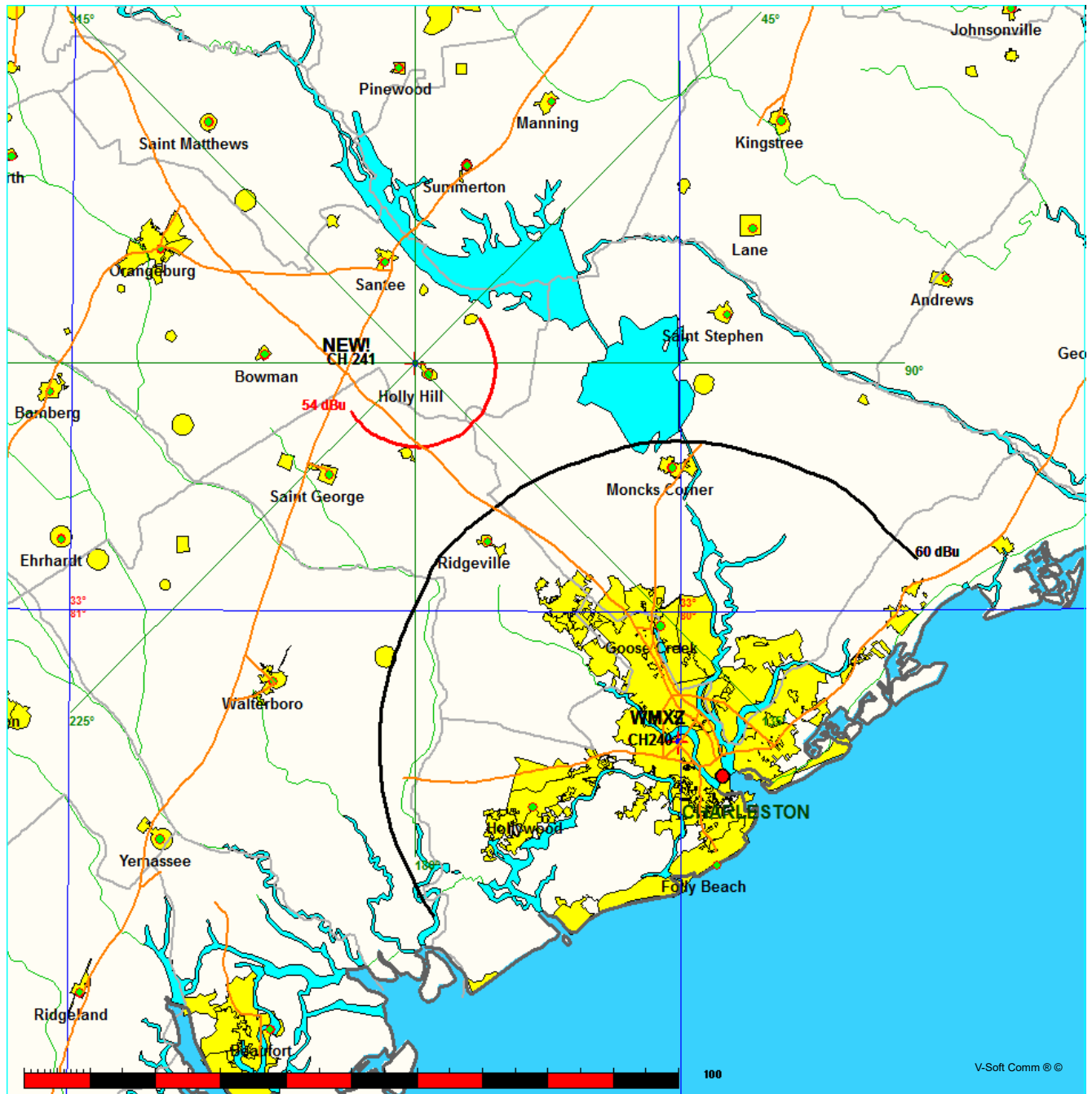
FMCommander Single Allocation Study - 07-20-2017 - GLOBE 30 Sec
NEW!'s Overlaps (In= -9.49 km, Out= 11.89 km)

NEW! CH 241 D

Lat= 33 20 21.0, Lng= 80 26 02.2
0.25 kW 43.6 m HAAT, 72.6 m COR
Prot.= 60 dBu, Intef.= 54 dBu

WMXZ CH 240 C2 73.215 N BLH20090617ACL

Lat= 32 49 27.0, Lng= 80 00 10.0
50.0 kW 107.4 m HAAT, 108.8 m COR
Prot.= 60 dBu, Intef.= 54 dBu



07-20-2017

Terrain Data: GLOBE 30 Sec

FMOver Analysis

WMXZ BLH20090617ACL

NEW!

Channel = 240C2

Max ERP = 50 kW

RCAMSL = 108.8 m

N. Lat. 32 49 27.0

W. Lng. 80 00 10.0

Protected

60 dBu

Channel = 241D

Max ERP = 0.25 kW

RCAMSL = 72.6 m

N. Lat. 33 20 21.0

W. Lng. 80 26 02.2

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
265.0	050.0000	0106.1	045.8	185.0	000.2500	0048.5	061.6	29.61	
266.0	050.0000	0106.0	045.8	185.1	000.2500	0048.5	060.8	29.81	
267.0	050.0000	0106.0	045.8	185.2	000.2500	0048.5	060.0	30.02	
268.0	050.0000	0105.9	045.8	185.3	000.2500	0048.5	059.2	30.23	
269.0	050.0000	0105.9	045.8	185.4	000.2500	0048.5	058.4	30.45	
270.0	050.0000	0105.8	045.8	185.4	000.2500	0048.5	057.6	30.67	
271.0	050.0000	0105.8	045.7	185.5	000.2500	0048.5	056.8	30.89	
272.0	050.0000	0105.8	045.7	185.6	000.2500	0048.5	056.0	31.11	
273.0	050.0000	0105.7	045.7	185.6	000.2500	0048.5	055.2	31.34	
274.0	050.0000	0105.6	045.7	185.6	000.2500	0048.5	054.4	31.57	
275.0	050.0000	0105.6	045.7	185.6	000.2500	0048.5	053.6	31.79	
276.0	050.0000	0105.5	045.7	185.6	000.2500	0048.5	052.8	32.02	
277.0	050.0000	0105.3	045.7	185.6	000.2500	0048.5	052.0	32.25	
278.0	050.0000	0105.1	045.6	185.5	000.2500	0048.5	051.2	32.48	
279.0	050.0000	0104.9	045.6	185.4	000.2500	0048.5	050.5	32.71	
280.0	050.0000	0104.7	045.6	185.3	000.2500	0048.5	049.7	32.93	
281.0	050.0000	0104.6	045.5	185.2	000.2500	0048.5	048.9	33.16	
282.0	050.0000	0104.4	045.5	185.1	000.2500	0048.5	048.1	33.38	
283.0	050.0000	0104.3	045.5	184.9	000.2500	0048.5	047.3	33.61	
284.0	050.0000	0104.0	045.4	184.8	000.2500	0048.5	046.5	33.84	
285.0	050.0000	0103.7	045.4	184.5	000.2500	0048.5	045.7	34.08	
286.0	050.0000	0103.4	045.4	184.3	000.2500	0048.5	045.0	34.32	
287.0	050.0000	0103.2	045.3	184.0	000.2500	0048.5	044.2	34.56	
288.0	050.0000	0103.1	045.3	183.8	000.2500	0048.5	043.4	34.81	
289.0	050.0000	0102.9	045.3	183.5	000.2500	0048.5	042.7	35.07	
290.0	050.0000	0102.8	045.2	183.1	000.2500	0048.5	041.9	35.32	
291.0	050.0000	0102.6	045.2	182.8	000.2500	0048.5	041.2	35.59	
292.0	050.0000	0102.6	045.2	182.4	000.2500	0048.5	040.5	35.85	
293.0	050.0000	0102.5	045.2	182.0	000.2500	0048.5	039.7	36.11	
294.0	050.0000	0102.5	045.2	181.6	000.2500	0048.6	039.0	36.39	
295.0	050.0000	0102.4	045.2	181.1	000.2500	0048.7	038.3	36.68	
296.0	050.0000	0102.3	045.2	180.6	000.2500	0048.9	037.5	36.97	
297.0	050.0000	0102.4	045.2	180.1	000.2500	0049.0	036.8	37.27	
298.0	050.0000	0102.4	045.2	179.5	000.2500	0049.1	036.1	37.57	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
299.0	050.0000	0102.6	045.2	178.9	000.2500	0049.3	035.4	37.87
300.0	050.0000	0102.8	045.2	178.3	000.2500	0049.4	034.7	38.18
301.0	050.0000	0103.2	045.3	177.7	000.2500	0049.6	034.0	38.48
302.0	050.0000	0103.9	045.4	177.1	000.2500	0049.5	033.3	38.77
303.0	050.0000	0104.8	045.6	176.6	000.2500	0049.4	032.6	39.06
304.0	050.0000	0105.7	045.7	175.9	000.2500	0049.3	031.8	39.37
305.0	050.0000	0106.4	045.9	175.2	000.2500	0049.2	031.1	39.67
306.0	050.0000	0106.8	045.9	174.3	000.2500	0049.2	030.5	39.97
307.0	050.0000	0106.9	045.9	173.3	000.2500	0049.2	029.9	40.28
308.0	050.0000	0106.7	045.9	172.2	000.2500	0049.2	029.3	40.58
309.0	050.0000	0106.3	045.8	170.9	000.2500	0049.2	028.8	40.86
310.0	050.0000	0105.9	045.8	169.6	000.2500	0049.2	028.4	41.14
311.0	050.0000	0105.5	045.7	168.3	000.2500	0049.1	027.9	41.39
312.0	050.0000	0105.2	045.6	166.9	000.2500	0048.9	027.5	41.62
313.0	050.0000	0104.9	045.6	165.4	000.2500	0048.7	027.1	41.84
314.0	050.0000	0104.6	045.6	163.9	000.2500	0048.4	026.7	42.03
315.0	050.0000	0104.3	045.5	162.4	000.2500	0048.2	026.4	42.20
316.0	050.0000	0103.8	045.4	160.8	000.2500	0048.1	026.1	42.37
317.0	050.0000	0103.3	045.3	159.1	000.2500	0048.1	025.9	42.54
318.0	050.0000	0102.8	045.2	157.4	000.2500	0048.2	025.7	42.69
319.0	050.0000	0102.4	045.2	155.6	000.2500	0048.3	025.5	42.83
320.0	050.0000	0102.1	045.1	153.9	000.2500	0048.6	025.3	43.00
321.0	050.0000	0102.0	045.1	152.1	000.2500	0049.0	025.2	43.18
322.0	050.0000	0101.8	045.1	150.4	000.2500	0049.7	025.0	43.38
323.0	050.0000	0101.8	045.1	148.6	000.2500	0050.1	025.0	43.53
324.0	050.0000	0101.9	045.1	146.8	000.2500	0050.2	024.9	43.60
325.0	050.0000	0102.0	045.1	145.0	000.2500	0049.9	024.8	43.58
326.0	050.0000	0102.2	045.1	143.1	000.2500	0049.5	024.8	43.50
327.0	050.0000	0102.3	045.1	141.3	000.2500	0049.1	024.9	43.40
328.0	050.0000	0102.4	045.2	139.5	000.2500	0048.6	024.9	43.26
329.0	050.0000	0102.3	045.2	137.7	000.2500	0048.0	025.1	43.04
330.0	050.0000	0102.2	045.1	136.0	000.2500	0047.5	025.3	42.82
331.0	050.0000	0102.0	045.1	134.3	000.2500	0047.5	025.5	42.65
332.0	050.0000	0101.9	045.1	132.6	000.2500	0047.8	025.8	42.53
333.0	050.0000	0101.9	045.1	131.0	000.2500	0048.5	026.0	42.47
334.0	050.0000	0101.8	045.1	129.4	000.2500	0049.0	026.4	42.37
335.0	050.0000	0101.6	045.0	127.9	000.2500	0049.0	026.7	42.11
336.0	050.0000	0101.3	045.0	126.5	000.2500	0048.5	027.1	41.76
337.0	050.0000	0101.1	044.9	125.1	000.2500	0048.0	027.6	41.39
338.0	050.0000	0100.8	044.9	123.8	000.2500	0047.4	028.0	41.01
339.0	050.0000	0100.6	044.9	122.6	000.2500	0047.0	028.5	40.64
340.0	050.0000	0100.5	044.8	121.4	000.2500	0046.7	029.0	40.30
341.0	050.0000	0100.5	044.8	120.2	000.2500	0046.6	029.5	40.01
342.0	050.0000	0100.6	044.9	119.0	000.2500	0046.5	030.0	39.73
343.0	050.0000	0100.6	044.9	118.0	000.2500	0046.4	030.6	39.43
344.0	050.0000	0100.6	044.9	117.0	000.2500	0046.3	031.1	39.14
345.0	050.0000	0100.6	044.9	116.0	000.2500	0046.2	031.7	38.86
346.0	050.0000	0100.7	044.9	115.1	000.2500	0046.1	032.3	38.58
347.0	050.0000	0100.9	044.9	114.2	000.2500	0045.9	032.9	38.31
348.0	050.0000	0101.3	045.0	113.2	000.2500	0045.8	033.5	38.04
349.0	050.0000	0101.9	045.1	112.4	000.2500	0045.7	034.1	37.78

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
350.0	050.0000	0102.5	045.2		111.5	000.2500	0045.6	034.7	37.52
351.0	050.0000	0103.0	045.3		110.7	000.2500	0045.5	035.3	37.25
352.0	050.0000	0103.2	045.3		110.0	000.2500	0045.4	036.0	36.98
353.0	050.0000	0103.3	045.3		109.4	000.2500	0045.3	036.7	36.69
354.0	050.0000	0103.3	045.3		108.9	000.2500	0045.3	037.4	36.41
355.0	050.0000	0103.2	045.3		108.4	000.2500	0045.2	038.1	36.13
356.0	050.0000	0103.1	045.3		108.0	000.2500	0045.2	038.8	35.85
357.0	050.0000	0103.1	045.3		107.6	000.2500	0045.1	039.6	35.58
358.0	050.0000	0103.1	045.3		107.2	000.2500	0045.1	040.3	35.31
359.0	050.0000	0103.2	045.3		106.8	000.2500	0045.0	041.1	35.05
000.0	050.0000	0103.1	045.3		106.5	000.2500	0045.0	041.8	34.79
001.0	050.0000	0103.0	045.3		106.2	000.2500	0045.0	042.6	34.53
002.0	050.0000	0102.9	045.3		106.0	000.2500	0045.0	043.4	34.28
003.0	050.0000	0102.8	045.2		105.8	000.2500	0045.0	044.1	34.03
004.0	050.0000	0102.9	045.3		105.5	000.2500	0045.0	044.9	33.79
005.0	050.0000	0102.9	045.3		105.3	000.2500	0044.9	045.7	33.55
006.0	050.0000	0102.9	045.3		105.2	000.2500	0044.9	046.4	33.32
007.0	050.0000	0102.8	045.2		105.0	000.2500	0044.9	047.2	33.09
008.0	050.0000	0102.6	045.2		104.9	000.2500	0044.9	048.0	32.87
009.0	050.0000	0102.3	045.2		104.9	000.2500	0044.9	048.8	32.66
010.0	050.0000	0102.0	045.1		104.9	000.2500	0044.9	049.6	32.44
011.0	050.0000	0101.7	045.0		104.9	000.2500	0044.9	050.4	32.23
012.0	050.0000	0101.5	045.0		104.8	000.2500	0044.9	051.2	32.01
013.0	050.0000	0101.4	045.0		104.8	000.2500	0044.9	052.0	31.79
014.0	050.0000	0101.4	045.0		104.8	000.2500	0044.9	052.7	31.58
015.0	050.0000	0101.3	045.0		104.8	000.2500	0044.9	053.5	31.36
016.0	050.0000	0101.3	045.0		104.8	000.2500	0044.9	054.3	31.15
017.0	050.0000	0101.3	045.0		104.8	000.2500	0044.9	055.1	30.93
018.0	050.0000	0101.5	045.0		104.8	000.2500	0044.9	055.9	30.72
019.0	050.0000	0101.8	045.1		104.8	000.2500	0044.9	056.7	30.51
020.0	050.0000	0102.0	045.1		104.9	000.2500	0044.9	057.5	30.29
021.0	050.0000	0102.1	045.1		104.9	000.2500	0044.9	058.2	30.09
022.0	050.0000	0102.0	045.1		105.0	000.2500	0044.9	059.0	29.88
023.0	050.0000	0102.0	045.1		105.1	000.2500	0044.9	059.8	29.68
024.0	050.0000	0102.2	045.1		105.2	000.2500	0044.9	060.6	29.48