

Doug Vernier Telecommunications Consultants

W220CH - Coordinate Correction Town Of Monroe, Connecticut CH# 220D - 91.9 MHz, Pwr= 0.01 kW, HAAT= 176.4 M, COR= 266 M Average Protected F(50-50)= 7.71 km Omni-directional										
REFERENCE 41 47 48.0 N. 72 47 50.0 W.		DISPLAY DATES DATA 03-15-16 SEARCH 03-15-16								
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
223B Waterbury	WWYZ	LIC_CN CT		188.7 8.7	26.27 BLH19940916KD	41 33 47.0 72 50 42.0	17.000 268	5.5 368	64.1 Capstar Tx, Lic	-38.3***
220D West Hartford	W220CH	APP_C_ CT		270.0 90.0	0.04 BPFT20160107ABA	41 47 48.0 72 47 52.0	0.010	29.5 257	8.9 Town Of Monroe, Connecticut	-30.0*
220D West Hartford	W220CH	LIC_C_ CT		270.0 90.0	0.04 BLFT20011002ACH	41 47 48.0 72 47 52.0	0.008 170	27.7 253	8.3 Town Of Monroe, Connecticut	-29.4*
217A West Hartford	WUWH	LIC_CN CT		195.4 15.4	2.59 BLED19970107KB	41 46 27.0 72 48 20.0	0.440 239	1.5 325	20.3 University Of Hartford	-18.0***
220D Middletfield	W220CE	LIC_DC_ CT		172.4 352.4	31.73 BLFT20151222AEX	41 30 49.3 72 44 48.3	0.010	19.5 247	5.6 Town Of Monroe, Connecticut	0.2
220A Springfield	WAI C	LIC_HX MA		29.4 209.6	40.35 BLED20141016ABC	42 06 45.0 72 33 24.0	0.230 20	33.8 91	10.0 American International Col	2.2
219B1 Storrs	WHUS	LIC_DEN CT		87.4 267.7	44.56 BLED19990413KA	41 48 50.0 72 15 36.0	4.400 150	36.1 313	23.8 The Board Of Trustees, The	7.3
221D Naugatuck, Etc.	W221CQ	LIC_C_ CT		216.1 35.9	40.06 BLFT20130123ABR	41 30 18.0 73 04 50.0	0.055 24	6.9 181	4.8 Danbury Community Radio, I	23.9
220A Sharon	WHDD-FM	LIC_ZCX CT		281.3 100.8	55.46 BLED20110114ABG	41 53 32.0 73 27 16.0	0.650 -19	30.8 279	9.1 Tri-state Public Communica	24.1
220A Northampton	WOZQ	LIC_DEN MA		12.7 192.8	59.69 BLED19820924AH	42 19 13.0 72 38 14.0	0.200 -35	13.3 76	4.1 Trustees Of The Smith Coll	28.9
220D Huntington	W220CF	LIC_DVN CT		205.6 25.4	64.16 BLFT19990225TD	41 16 33.0 73 07 46.0	0.007 73	13.4 144	4.3 Town Of Monroe, Connecticut	31.7
218D Warren	W218AV	LIC_DCN CT		261.9 81.6	46.69 BLFT19981203TE	41 44 11.0 73 21 16.0	0.250 163	1.0 452	13.7 Town Of Monroe, Connecticut	32.7
219A Danbury	WXCI	LIC_DCN CT		232.3 51.9	72.70 BLED19970702KB	41 23 42.0 73 29 14.0	3.000 67	35.6 241	23.5 Western Connecticut State	37.7

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. Call signs with strikeout need not be protected.  
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

11 GYWJ cb + ("SS(FL" D YUGY gYY DU Yg'!)"

## 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 "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum **required** distance in kilometers, while the letter "M" in the next column follows 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.

W220CH.A West Hartford, CT  
 74.1204(d) Showing  
 Translator or LPFM Maximum Licensed ERP = 0.01  
 Translator or LPFM Antenna Height AG = 50 Meters  
 W220CH.A Antenna Model = Shively 6812-1

Protected Station's Contour = 73.76805 dBu  
 Translator's or LPFM's full Interference contour 113.76805

Review Azimuth = 0 Degrees True  
 Relative Field on the horizon at Review Azimuth = 1.000  
 Translator/LPFM ERP on the horizon at Review Azimuth = 0.01 kW  
 Distance between stations = 26.3 km  
 Protected Station= WWYZ, 17 kW, 368 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.0100	045.4567	045.4567	050.000
05.00	0.993	1.0	0.0099	045.1385	044.9667	046.066
10.00	0.974	1.0	0.0095	044.2748	043.6022	042.312
15.00	0.941	1.0	0.0089	042.7747	041.3172	038.929
20.00	0.897	1.0	0.0080	040.7746	038.3156	036.054
25.00	0.843	1.0	0.0071	038.3200	034.7297	033.805
30.00	0.78	1.0	0.0061	035.4562	030.7060	032.272
35.00	0.709	1.0	0.0050	032.2288	026.4003	031.514
40.00	0.633	1.0	0.0040	028.7741	022.0422	031.504
45.00	0.554	1.0	0.0031	025.1830	017.8071	032.193
50.00	0.473	1.0	0.0022	021.5010	013.8206	033.529
55.00	0.394	1.0	0.0016	017.9099	010.2727	035.329
60.00	0.317	1.0	0.0010	014.4098	007.2049	037.521
65.00	0.245	1.0	0.0006	011.1369	004.7066	039.907
70.00	0.181	1.0	0.0003	008.2277	002.8140	042.269
75.00	0.124	1.0	0.0002	005.6366	001.4589	044.555
80.00	0.077	1.0	0.0001	003.5002	000.6078	046.553
85.00	0.041	1.0	0.0000	001.8637	000.1624	048.143
90.00	0.016	1.0	0.0000	000.7273	000.0000	049.273

W220CH.A West Hartford, CT  
 74.1204(d) Showing  
 Translator or LPFM Maximum Licensed ERP = 0.01  
 Translator or LPFM Antenna Height AG = 50 Meters  
 W220CH.A Antenna Model = Shively 6812-1

Protected Station's Contour = 92.565 dBu  
 Translator's or LPFM's full Interference contour 132.565

Review Azimuth = 0 Degrees True  
 Relative Field on the horizon at Review Azimuth = 1.000  
 Translator/LPFM ERP on the horizon at Review Azimuth = 0.01 kW  
 Distance between stations = 2.6 km  
 Protected Station= WWUH, .44 kW, 325 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.0100	005.2210	005.2210	050.000
05.00	0.993	1.0	0.0099	005.1844	005.1647	049.548
10.00	0.974	1.0	0.0095	005.0852	005.0080	049.117
15.00	0.941	1.0	0.0089	004.9129	004.7455	048.728
20.00	0.897	1.0	0.0080	004.6832	004.4008	048.398
25.00	0.843	1.0	0.0071	004.4013	003.9889	048.140
30.00	0.78	1.0	0.0061	004.0723	003.5268	047.964
35.00	0.709	1.0	0.0050	003.7017	003.0322	047.877
40.00	0.633	1.0	0.0040	003.3049	002.5317	047.876
45.00	0.554	1.0	0.0031	002.8924	002.0452	047.955
50.00	0.473	1.0	0.0022	002.4695	001.5874	048.108
55.00	0.394	1.0	0.0016	002.0571	001.1799	048.315
60.00	0.317	1.0	0.0010	001.6550	000.8275	048.567
65.00	0.245	1.0	0.0006	001.2791	000.5406	048.841
70.00	0.181	1.0	0.0003	000.9450	000.3232	049.112
75.00	0.124	1.0	0.0002	000.6474	000.1676	049.375
80.00	0.077	1.0	0.0001	000.4020	000.0698	049.604
85.00	0.041	1.0	0.0000	000.2141	000.0187	049.787
90.00	0.016	1.0	0.0000	000.0835	000.0000	049.916

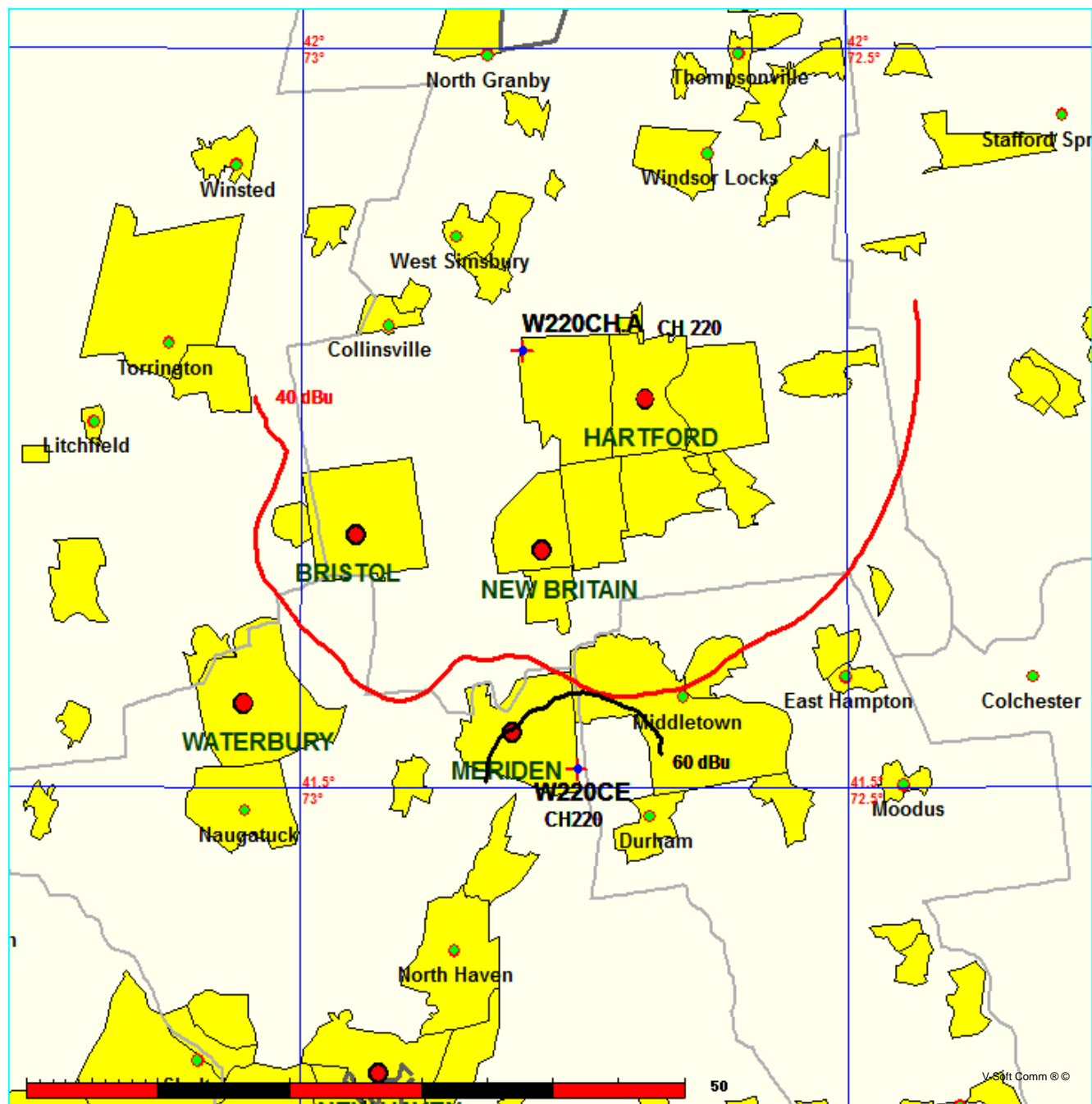


W220CH vs. W220CE  
Town Of Monroe, Connecticut

FMCommander Single Allocation Study - 03-15-2016 - GLOBE 30 Sec  
W220CH.A's Overlaps (In= 4.31 km, Out= 0.19 km)

W220CH.A CH 220 D  
Lat= 41 47 48.0, Lng= 72 47 50.0  
0.01 kW 176.4 m HAAT, 266 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

W220CE CH 220 D DA BLFT20151222AEX  
Lat= 41 30 49.3, Lng= 72 44 48.3  
0.01 kW 0 m HAAT, 247 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



03-15-2016

Terrain Data: GLOBE 30 Sec

FMOver Analysis

W220CE BLFT20151222AEX

W220CH.A

Channel = 220D

Max ERP = 0.01 kW

RCAMSL = 247 m

N. Lat. 41 30 49.3

W. Lng. 72 44 48.3

Protected

60 dBu

Channel = 220D

Max ERP = 0.01 kW

RCAMSL = 266 m

N. Lat. 41 47 48.0

W. Lng. 72 47 50.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
292.0	000.0045	0180.9	006.3	183.3	000.0100	0140.8	029.1	35.89	
293.0	000.0044	0180.4	006.3	183.2	000.0100	0140.7	029.0	35.94	
294.0	000.0043	0179.6	006.3	183.0	000.0100	0140.5	029.0	35.98	
295.0	000.0043	0178.3	006.2	182.9	000.0100	0140.3	028.9	36.03	
296.0	000.0042	0176.1	006.2	182.7	000.0100	0140.2	028.8	36.07	
297.0	000.0042	0172.8	006.1	182.4	000.0100	0140.2	028.7	36.11	
298.0	000.0041	0168.7	006.0	182.2	000.0100	0140.2	028.7	36.14	
299.0	000.0040	0164.4	005.9	181.9	000.0100	0140.2	028.6	36.17	
300.0	000.0040	0160.7	005.8	181.7	000.0100	0140.3	028.6	36.21	
301.0	000.0039	0157.8	005.7	181.5	000.0100	0140.3	028.5	36.24	
302.0	000.0039	0155.8	005.7	181.3	000.0100	0140.3	028.5	36.28	
303.0	000.0038	0154.4	005.6	181.1	000.0100	0140.3	028.4	36.32	
304.0	000.0038	0153.2	005.6	180.9	000.0100	0140.3	028.3	36.35	
305.0	000.0037	0152.6	005.6	180.7	000.0100	0140.3	028.3	36.40	
306.0	000.0037	0152.3	005.5	180.6	000.0100	0140.3	028.2	36.44	
307.0	000.0036	0153.0	005.5	180.5	000.0100	0140.3	028.1	36.48	
308.0	000.0036	0154.1	005.5	180.3	000.0100	0140.3	028.0	36.53	
309.0	000.0035	0155.5	005.5	180.2	000.0100	0140.3	028.0	36.59	
310.0	000.0035	0157.0	005.6	180.1	000.0100	0140.3	027.9	36.64	
311.0	000.0035	0158.7	005.6	180.0	000.0100	0140.3	027.8	36.69	
312.0	000.0034	0160.8	005.6	179.9	000.0100	0140.3	027.7	36.75	
313.0	000.0034	0162.4	005.6	179.8	000.0100	0140.3	027.6	36.80	
314.0	000.0034	0163.4	005.6	179.7	000.0100	0140.3	027.6	36.85	
315.0	000.0034	0164.1	005.6	179.5	000.0100	0140.4	027.5	36.89	
316.0	000.0033	0164.8	005.6	179.4	000.0100	0140.4	027.4	36.94	
317.0	000.0033	0165.8	005.6	179.2	000.0100	0140.4	027.4	36.98	
318.0	000.0033	0166.8	005.6	179.1	000.0100	0140.6	027.3	37.04	
319.0	000.0032	0167.1	005.6	178.9	000.0100	0141.0	027.2	37.10	
320.0	000.0032	0166.4	005.6	178.7	000.0100	0141.4	027.2	37.16	
321.0	000.0032	0164.6	005.5	178.5	000.0100	0142.0	027.2	37.22	
322.0	000.0032	0163.0	005.5	178.3	000.0100	0142.7	027.1	37.28	
323.0	000.0031	0161.8	005.5	178.1	000.0100	0143.2	027.1	37.33	
324.0	000.0031	0161.6	005.5	177.9	000.0100	0143.8	027.1	37.40	
325.0	000.0031	0161.3	005.5	177.7	000.0100	0144.3	027.0	37.46	



Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
326.0	000.0031	0160.0	005.4	177.5	000.0100	0144.9	027.0	37.51
327.0	000.0031	0158.0	005.4	177.3	000.0100	0145.5	027.0	37.56
328.0	000.0031	0155.4	005.3	177.1	000.0100	0146.2	027.0	37.60
329.0	000.0030	0152.6	005.3	176.8	000.0100	0146.8	027.0	37.64
330.0	000.0030	0150.5	005.2	176.6	000.0100	0147.5	027.0	37.69
331.0	000.0030	0150.3	005.2	176.4	000.0100	0148.2	027.0	37.75
332.0	000.0030	0150.8	005.2	176.3	000.0100	0148.7	026.9	37.81
333.0	000.0030	0151.5	005.2	176.1	000.0100	0149.3	026.9	37.87
334.0	000.0030	0153.1	005.3	175.9	000.0100	0149.8	026.8	37.94
335.0	000.0030	0156.6	005.3	175.8	000.0100	0150.2	026.7	38.03
336.0	000.0030	0160.2	005.4	175.7	000.0100	0150.5	026.6	38.10
337.0	000.0029	0161.9	005.4	175.5	000.0100	0150.9	026.6	38.16
338.0	000.0029	0163.1	005.4	175.3	000.0100	0151.3	026.5	38.22
339.0	000.0029	0165.5	005.4	175.1	000.0100	0151.7	026.5	38.28
340.0	000.0029	0168.8	005.5	174.9	000.0100	0152.1	026.4	38.36
341.0	000.0029	0171.8	005.5	174.8	000.0100	0152.6	026.3	38.43
342.0	000.0029	0174.1	005.6	174.6	000.0100	0153.1	026.3	38.50
343.0	000.0029	0175.3	005.6	174.4	000.0100	0153.7	026.3	38.56
344.0	000.0029	0174.9	005.6	174.2	000.0100	0154.3	026.3	38.60
345.0	000.0029	0173.2	005.5	174.0	000.0100	0154.9	026.3	38.63
346.0	000.0029	0171.7	005.5	173.7	000.0100	0155.6	026.3	38.66
347.0	000.0029	0172.2	005.5	173.5	000.0100	0156.1	026.3	38.71
348.0	000.0029	0174.1	005.5	173.3	000.0100	0156.7	026.2	38.77
349.0	000.0029	0176.6	005.6	173.1	000.0100	0157.4	026.2	38.84
350.0	000.0029	0178.6	005.6	172.9	000.0100	0158.1	026.2	38.90
351.0	000.0029	0179.9	005.6	172.7	000.0100	0158.9	026.1	38.96
352.0	000.0029	0181.3	005.6	172.5	000.0100	0159.7	026.1	39.02
353.0	000.0029	0182.7	005.6	172.3	000.0100	0160.6	026.1	39.08
354.0	000.0029	0184.1	005.7	172.0	000.0100	0161.5	026.1	39.15
355.0	000.0029	0185.9	005.7	171.8	000.0100	0162.4	026.1	39.22
356.0	000.0029	0187.4	005.7	171.6	000.0100	0163.4	026.1	39.28
357.0	000.0029	0187.5	005.7	171.4	000.0100	0164.4	026.1	39.33
358.0	000.0029	0187.1	005.7	171.2	000.0100	0165.5	026.1	39.38
359.0	000.0029	0186.6	005.7	171.0	000.0100	0166.5	026.1	39.43
000.0	000.0029	0186.1	005.7	170.7	000.0100	0167.6	026.1	39.47
001.0	000.0029	0186.8	005.7	170.5	000.0100	0168.6	026.1	39.52
002.0	000.0029	0187.3	005.7	170.3	000.0100	0169.7	026.1	39.57
003.0	000.0029	0187.9	005.7	170.1	000.0100	0170.7	026.2	39.61
004.0	000.0029	0188.3	005.7	169.9	000.0100	0171.7	026.2	39.65
005.0	000.0029	0188.4	005.7	169.7	000.0100	0172.6	026.2	39.69
006.0	000.0029	0187.3	005.7	169.5	000.0100	0173.4	026.2	39.70
007.0	000.0029	0186.2	005.7	169.3	000.0100	0174.3	026.3	39.72
008.0	000.0029	0185.8	005.7	169.1	000.0100	0175.2	026.3	39.74
009.0	000.0029	0185.1	005.7	168.9	000.0100	0176.1	026.3	39.76
010.0	000.0029	0184.5	005.7	168.7	000.0100	0177.0	026.4	39.77
011.0	000.0029	0183.8	005.7	168.5	000.0100	0177.9	026.4	39.79
012.0	000.0029	0183.1	005.7	168.3	000.0100	0178.7	026.5	39.80
013.0	000.0029	0183.2	005.7	168.1	000.0100	0179.6	026.5	39.81
014.0	000.0029	0184.5	005.7	167.9	000.0100	0180.5	026.5	39.84
015.0	000.0029	0185.8	005.7	167.7	000.0100	0181.4	026.6	39.86
016.0	000.0029	0185.7	005.7	167.5	000.0100	0182.2	026.6	39.87



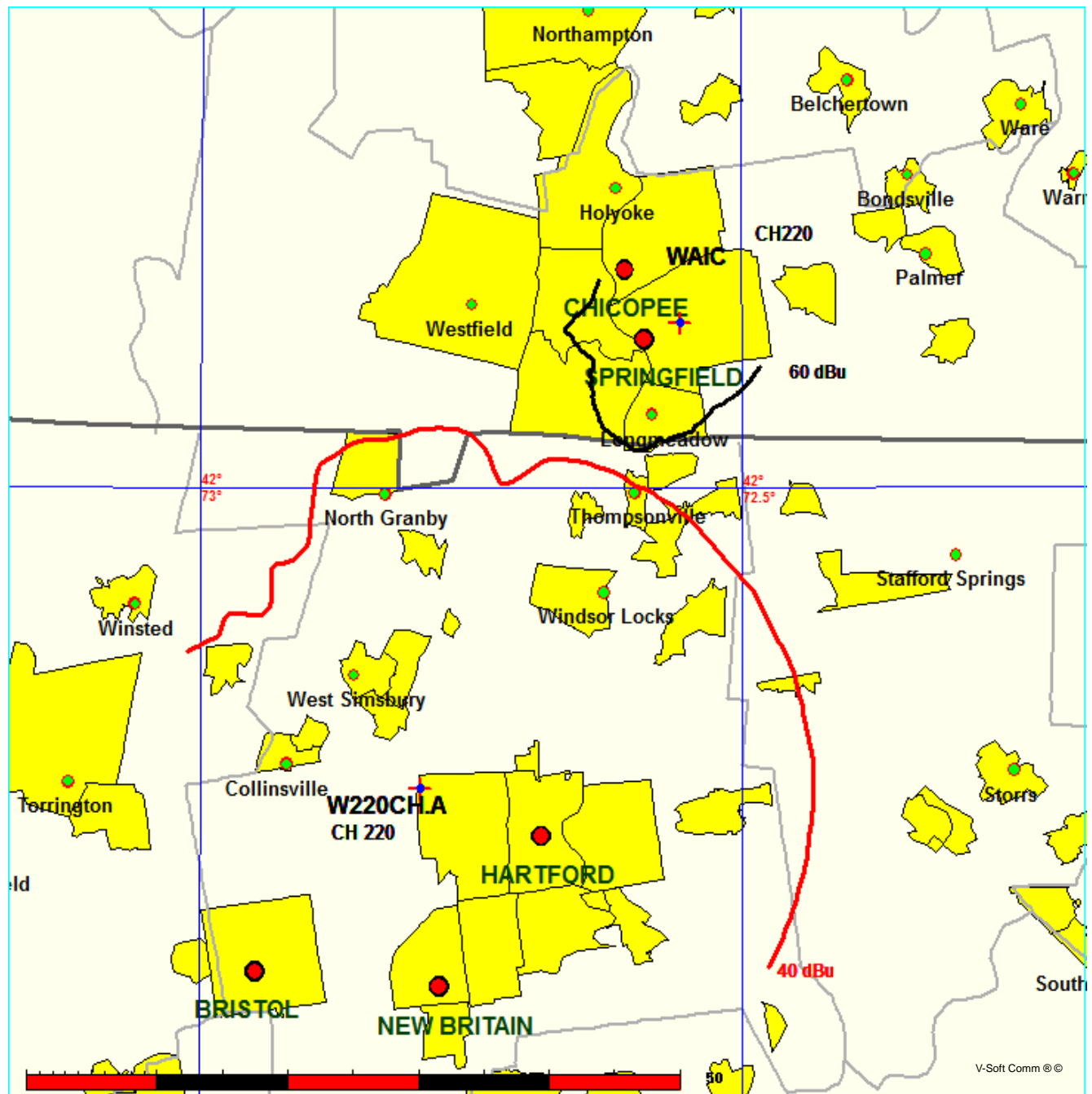
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
017.0	000.0029	0184.8	005.7	167.3	000.0100	0183.0	026.7	39.86
018.0	000.0029	0183.3	005.7	167.1	000.0100	0183.7	026.7	39.85
019.0	000.0029	0181.5	005.7	167.0	000.0100	0184.3	026.8	39.83
020.0	000.0029	0179.5	005.6	166.8	000.0100	0184.9	026.9	39.81
021.0	000.0029	0178.1	005.6	166.7	000.0100	0185.5	026.9	39.79
022.0	000.0029	0178.1	005.6	166.5	000.0100	0186.1	027.0	39.79
023.0	000.0029	0179.1	005.6	166.3	000.0100	0186.8	027.0	39.79
024.0	000.0030	0180.0	005.7	166.1	000.0100	0187.4	027.1	39.78
025.0	000.0030	0180.3	005.7	165.9	000.0100	0187.9	027.1	39.77
026.0	000.0030	0180.6	005.7	165.8	000.0100	0188.4	027.2	39.75
027.0	000.0030	0181.4	005.7	165.6	000.0100	0188.9	027.2	39.74
028.0	000.0030	0182.2	005.7	165.4	000.0100	0189.4	027.3	39.72
029.0	000.0030	0182.7	005.7	165.2	000.0100	0189.8	027.4	39.70
030.0	000.0030	0182.8	005.7	165.1	000.0100	0190.3	027.4	39.68
031.0	000.0030	0183.0	005.7	164.9	000.0100	0190.7	027.5	39.66
032.0	000.0031	0183.6	005.8	164.7	000.0100	0191.2	027.5	39.64
033.0	000.0031	0184.4	005.8	164.6	000.0100	0191.6	027.6	39.62
034.0	000.0031	0184.8	005.8	164.4	000.0100	0191.9	027.7	39.59
035.0	000.0031	0184.7	005.8	164.3	000.0100	0192.3	027.7	39.56
036.0	000.0031	0184.9	005.8	164.1	000.0100	0192.6	027.8	39.52
037.0	000.0031	0185.5	005.8	164.0	000.0100	0193.0	027.9	39.49
038.0	000.0032	0185.8	005.8	163.8	000.0100	0193.3	028.0	39.46
039.0	000.0032	0186.6	005.9	163.7	000.0100	0193.7	028.0	39.43
040.0	000.0032	0189.2	005.9	163.5	000.0100	0194.1	028.1	39.41
041.0	000.0032	0193.1	006.0	163.2	000.0100	0194.6	028.1	39.40
042.0	000.0033	0196.8	006.0	163.0	000.0100	0195.0	028.2	39.38
043.0	000.0033	0199.4	006.1	162.8	000.0100	0195.4	028.3	39.35
044.0	000.0033	0201.7	006.1	162.6	000.0100	0195.7	028.3	39.32
045.0	000.0034	0203.8	006.2	162.4	000.0100	0196.1	028.4	39.29
046.0	000.0034	0205.7	006.2	162.3	000.0100	0196.3	028.5	39.25
047.0	000.0034	0207.1	006.3	162.1	000.0100	0196.6	028.6	39.21
048.0	000.0034	0207.6	006.3	162.0	000.0100	0196.8	028.7	39.16
049.0	000.0035	0207.4	006.3	161.9	000.0100	0197.0	028.8	39.11
050.0	000.0035	0206.8	006.3	161.8	000.0100	0197.1	028.9	39.06
051.0	000.0035	0205.7	006.3	161.7	000.0100	0197.2	029.0	39.00

W220CH vs. WAIC  
Town Of Monroe, Connecticut

FMCommander Single Allocation Study - 03-15-2016 - GLOBE 30 Sec  
W220CH.A's Overlaps (In= -1.85 km, Out= 2.18 km)

W220CH.A CH 220 D  
Lat= 41 47 48.0, Lng= 72 47 50.0  
0.01 kW 176.4 m HAAT, 266 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

WAIC CH 220 A BLED20141016ABC  
Lat= 42 06 45.0, Lng= 72 33 24.0  
0.23 kW 20 m HAAT, 91 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



03-15-2016

Terrain Data: GLOBE 30 Sec

FMOver Analysis

WAIC BLED20141016ABC

W220CH.A

Channel = 220A

Max ERP = 0.23 kW

RCAMSL = 91 m

N. Lat. 42 06 45.0

W. Lng. 72 33 24.0

Protected

60 dBu

Channel = 220D

Max ERP = 0.01 kW

RCAMSL = 266 m

N. Lat. 41 47 48.0

W. Lng. 72 47 50.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
150.0	000.2300	0016.3	006.9	038.7	000.0100	0213.2	037.3	35.25	
151.0	000.2300	0016.6	006.9	038.6	000.0100	0213.2	037.2	35.30	
152.0	000.2300	0017.4	006.9	038.5	000.0100	0213.1	037.1	35.35	
153.0	000.2300	0018.6	006.9	038.5	000.0100	0213.0	037.0	35.40	
154.0	000.2300	0019.9	006.9	038.4	000.0100	0212.9	036.9	35.45	
155.0	000.2300	0021.6	006.9	038.3	000.0100	0212.7	036.8	35.50	
156.0	000.2300	0023.8	006.9	038.2	000.0100	0212.6	036.7	35.55	
157.0	000.2300	0026.5	006.9	038.1	000.0100	0212.5	036.6	35.59	
158.0	000.2300	0028.9	006.9	038.0	000.0100	0212.4	036.5	35.64	
159.0	000.2300	0030.5	007.0	038.0	000.0100	0212.3	036.3	35.70	
160.0	000.2300	0031.6	007.1	038.1	000.0100	0212.4	036.2	35.78	
161.0	000.2300	0032.5	007.2	038.1	000.0100	0212.4	036.0	35.86	
162.0	000.2300	0033.5	007.3	038.1	000.0100	0212.4	035.8	35.94	
163.0	000.2300	0034.4	007.4	038.1	000.0100	0212.5	035.7	36.02	
164.0	000.2300	0035.1	007.5	038.1	000.0100	0212.4	035.5	36.09	
165.0	000.2300	0035.9	007.5	038.0	000.0100	0212.4	035.4	36.16	
166.0	000.2300	0036.6	007.6	038.0	000.0100	0212.3	035.2	36.24	
167.0	000.2300	0037.4	007.7	038.0	000.0100	0212.3	035.1	36.32	
168.0	000.2300	0037.8	007.7	037.9	000.0100	0212.2	035.0	36.37	
169.0	000.2300	0038.1	007.8	037.8	000.0100	0212.0	034.8	36.43	
170.0	000.2300	0038.4	007.8	037.7	000.0100	0211.9	034.7	36.48	
171.0	000.2300	0038.8	007.8	037.6	000.0100	0211.7	034.6	36.54	
172.0	000.2300	0039.7	007.9	037.6	000.0100	0211.7	034.4	36.63	
173.0	000.2300	0041.3	008.1	037.6	000.0100	0211.7	034.2	36.74	
174.0	000.2300	0042.8	008.3	037.6	000.0100	0211.8	034.0	36.85	
175.0	000.2300	0043.1	008.3	037.5	000.0100	0211.6	033.8	36.91	
176.0	000.2300	0043.2	008.3	037.3	000.0100	0211.3	033.7	36.95	
177.0	000.2300	0043.6	008.4	037.2	000.0100	0211.0	033.6	37.01	
178.0	000.2300	0044.0	008.4	037.0	000.0100	0210.8	033.5	37.06	
179.0	000.2300	0044.6	008.5	036.9	000.0100	0210.6	033.3	37.13	
180.0	000.2300	0045.0	008.5	036.7	000.0100	0210.3	033.2	37.18	
181.0	000.2300	0045.2	008.6	036.6	000.0100	0210.0	033.1	37.22	
182.0	000.2300	0045.5	008.6	036.4	000.0100	0209.7	033.0	37.26	
183.0	000.2300	0046.2	008.7	036.2	000.0100	0209.4	032.8	37.33	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
184.0	000.2300	0047.1	008.8	036.1	000.0100	0209.2	032.7	37.40
185.0	000.2300	0048.0	008.9	036.0	000.0100	0209.0	032.5	37.48
186.0	000.2300	0048.9	009.0	035.8	000.0100	0208.7	032.3	37.55
187.0	000.2300	0050.0	009.1	035.7	000.0100	0208.5	032.2	37.64
188.0	000.2300	0050.1	009.1	035.4	000.0100	0208.3	032.1	37.67
189.0	000.2300	0049.5	009.0	035.1	000.0100	0208.0	032.1	37.66
190.0	000.2300	0049.3	009.0	034.9	000.0100	0207.9	032.0	37.69
191.0	000.2300	0050.7	009.1	034.7	000.0100	0207.9	031.8	37.79
192.0	000.2300	0052.9	009.4	034.6	000.0100	0207.9	031.6	37.93
193.0	000.2300	0055.1	009.6	034.5	000.0100	0207.9	031.3	38.07
194.0	000.2300	0057.2	009.7	034.3	000.0100	0208.0	031.1	38.20
195.0	000.2300	0059.4	009.9	034.1	000.0100	0208.1	030.9	38.33
196.0	000.2300	0060.8	010.0	033.9	000.0100	0208.2	030.7	38.43
197.0	000.2300	0061.5	010.1	033.6	000.0100	0208.4	030.6	38.49
198.0	000.2300	0062.0	010.1	033.3	000.0100	0208.5	030.5	38.55
199.0	000.2300	0062.8	010.2	033.0	000.0100	0208.6	030.4	38.60
200.0	000.2300	0063.4	010.2	032.7	000.0100	0208.5	030.3	38.65
201.0	000.2300	0063.5	010.2	032.3	000.0100	0208.2	030.3	38.66
202.0	000.2300	0062.9	010.2	032.0	000.0100	0207.7	030.3	38.64
203.0	000.2300	0062.0	010.1	031.6	000.0100	0207.1	030.3	38.59
204.0	000.2300	0061.2	010.1	031.3	000.0100	0206.4	030.4	38.54
205.0	000.2300	0061.2	010.1	031.0	000.0100	0205.7	030.3	38.53
206.0	000.2300	0061.6	010.1	030.6	000.0100	0205.1	030.3	38.53
207.0	000.2300	0061.7	010.1	030.3	000.0100	0204.5	030.3	38.52
208.0	000.2300	0061.3	010.1	030.0	000.0100	0204.0	030.3	38.48
209.0	000.2300	0060.8	010.0	029.6	000.0100	0203.5	030.3	38.44
210.0	000.2300	0060.5	010.0	029.3	000.0100	0203.0	030.4	38.41
211.0	000.2300	0060.2	010.0	029.0	000.0100	0202.6	030.4	38.37
212.0	000.2300	0059.8	010.0	028.7	000.0100	0202.1	030.4	38.33
213.0	000.2300	0059.5	009.9	028.3	000.0100	0201.6	030.5	38.29
214.0	000.2300	0059.3	009.9	028.0	000.0100	0201.1	030.5	38.25
215.0	000.2300	0059.2	009.9	027.7	000.0100	0200.5	030.5	38.21
216.0	000.2300	0058.9	009.9	027.4	000.0100	0199.9	030.6	38.16
217.0	000.2300	0058.2	009.8	027.1	000.0100	0199.4	030.6	38.09
218.0	000.2300	0057.4	009.8	026.8	000.0100	0198.9	030.7	38.01
219.0	000.2300	0056.7	009.7	026.5	000.0100	0198.3	030.8	37.93
220.0	000.2300	0055.8	009.6	026.2	000.0100	0197.8	030.9	37.85
221.0	000.2300	0054.8	009.5	026.0	000.0100	0197.3	031.1	37.75
222.0	000.2300	0053.5	009.4	025.7	000.0100	0196.9	031.2	37.64
223.0	000.2300	0052.3	009.3	025.5	000.0100	0196.5	031.4	37.54
224.0	000.2300	0051.4	009.2	025.3	000.0100	0196.1	031.5	37.45
225.0	000.2300	0050.9	009.2	025.0	000.0100	0195.5	031.6	37.37
226.0	000.2300	0050.4	009.1	024.8	000.0100	0195.0	031.7	37.29
227.0	000.2300	0049.7	009.0	024.6	000.0100	0194.6	031.8	37.20
228.0	000.2300	0048.9	009.0	024.4	000.0100	0194.1	032.0	37.11
229.0	000.2300	0048.0	008.9	024.2	000.0100	0193.7	032.1	37.01
230.0	000.2300	0047.0	008.8	024.0	000.0100	0193.3	032.3	36.91
231.0	000.2300	0045.6	008.6	023.9	000.0100	0193.0	032.5	36.79
232.0	000.2300	0044.5	008.5	023.8	000.0100	0192.7	032.7	36.68
233.0	000.2300	0043.9	008.4	023.6	000.0100	0192.2	032.8	36.59
234.0	000.2300	0043.7	008.4	023.4	000.0100	0191.6	032.9	36.51

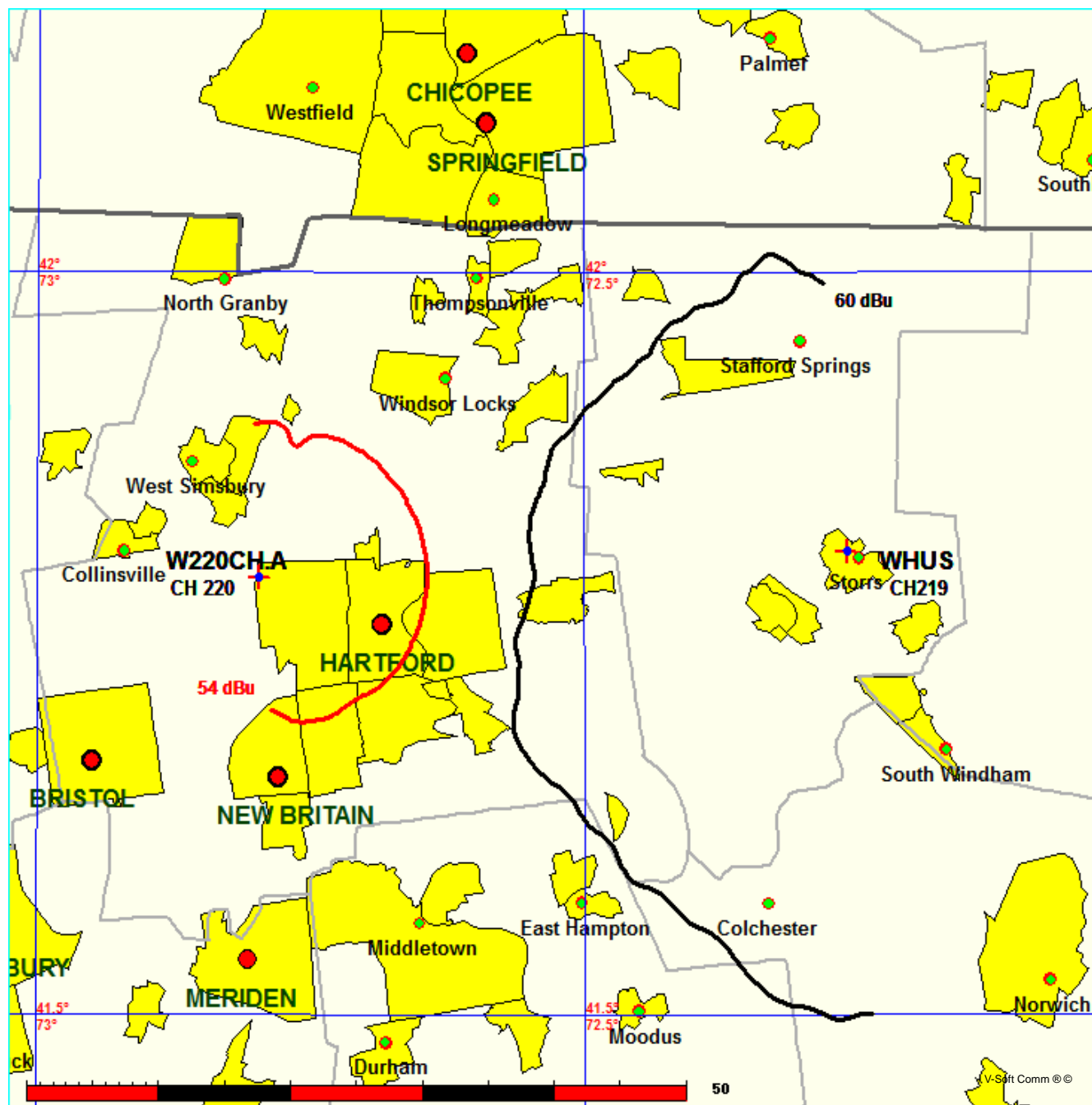
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
235.0	000.2300	0043.3	008.4	023.2	000.0100	0191.1	033.0	36.43
236.0	000.2300	0042.4	008.2	023.1	000.0100	0190.7	033.2	36.33
237.0	000.2300	0041.2	008.1	023.0	000.0100	0190.5	033.4	36.22
238.0	000.2300	0040.3	008.0	022.9	000.0100	0190.2	033.5	36.12
239.0	000.2300	0039.8	008.0	022.8	000.0100	0189.8	033.7	36.03
240.0	000.2300	0039.4	007.9	022.6	000.0100	0189.3	033.8	35.95
241.0	000.2300	0038.4	007.8	022.6	000.0100	0189.0	033.9	35.85
242.0	000.2300	0037.0	007.7	022.6	000.0100	0188.9	034.1	35.74
243.0	000.2300	0035.5	007.5	022.6	000.0100	0188.9	034.3	35.63
244.0	000.2300	0034.4	007.4	022.5	000.0100	0188.8	034.5	35.54
245.0	000.2300	0033.5	007.3	022.5	000.0100	0188.6	034.7	35.45
246.0	000.2300	0032.9	007.2	022.4	000.0100	0188.3	034.8	35.37
247.0	000.2300	0032.8	007.2	022.2	000.0100	0187.8	034.9	35.30
248.0	000.2300	0033.2	007.3	022.0	000.0100	0187.1	035.0	35.24
249.0	000.2300	0033.8	007.3	021.8	000.0100	0186.3	035.0	35.17
250.0	000.2300	0034.5	007.4	021.6	000.0100	0185.3	035.1	35.10
251.0	000.2300	0035.6	007.5	021.3	000.0100	0184.0	035.1	35.03
252.0	000.2300	0036.8	007.6	021.0	000.0100	0182.4	035.1	34.96
253.0	000.2300	0037.8	007.7	020.7	000.0100	0180.8	035.1	34.86
254.0	000.2300	0038.4	007.8	020.5	000.0100	0179.4	035.2	34.76
255.0	000.2300	0039.2	007.9	020.3	000.0100	0177.7	035.3	34.65
256.0	000.2300	0039.9	008.0	020.1	000.0100	0175.9	035.3	34.53
257.0	000.2300	0040.3	008.0	019.9	000.0100	0174.4	035.4	34.41
258.0	000.2300	0041.3	008.1	019.6	000.0100	0172.1	035.5	34.27
259.0	000.2300	0041.9	008.2	019.4	000.0100	0170.2	035.6	34.13
260.0	000.2300	0042.1	008.2	019.2	000.0100	0168.9	035.7	34.01
261.0	000.2300	0042.6	008.3	019.0	000.0100	0167.1	035.8	33.87
262.0	000.2300	0042.8	008.3	018.9	000.0100	0165.9	035.9	33.75
263.0	000.2300	0043.6	008.4	018.7	000.0100	0163.8	036.0	33.59
264.0	000.2300	0045.4	008.6	018.3	000.0100	0160.5	036.0	33.39
265.0	000.2300	0047.1	008.8	017.9	000.0100	0157.7	036.1	33.21
266.0	000.2300	0047.7	008.8	017.7	000.0100	0156.4	036.2	33.08
267.0	000.2300	0047.1	008.8	017.7	000.0100	0156.5	036.4	33.00
268.0	000.2300	0045.8	008.6	017.9	000.0100	0157.3	036.6	32.95
269.0	000.2300	0044.4	008.5	018.0	000.0100	0158.3	036.8	32.91

W220CH vs. WHUS  
Town Of Monroe, Connecticut

FMCommander Single Allocation Study - 03-15-2016 - GLOBE 30 Sec  
W220CH.A's Overlaps (In= -0.46 km, Out= 7.29 km)

W220CH.A CH 220 D  
Lat= 41 47 48.0, Lng= 72 47 50.0  
0.01 kW 176.4 m HAAT, 266 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

WHUS CH 219 B1 DA BLED19990413KA  
Lat= 41 48 50.0, Lng= 72 15 36.0  
4.4 kW 150 m HAAT, 313 m COR  
Prot.= 60 dBu, Intef.= 54 dBu



03-15-2016

Terrain Data: GLOBE 30 Sec

FMOver Analysis

WHUS BLED19990413KA

W220CH.A

Channel = 219B1

Max ERP = 4.4 kW

RCAMSL = 313 m

N. Lat. 41 48 50.0

W. Lng. 72 15 36.0

Protected

60 dBu

Channel = 220D

Max ERP = 0.01 kW

RCAMSL = 266 m

N. Lat. 41 47 48.0

W. Lng. 72 47 50.0

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
208.0	002.9716	0158.0	029.5	128.0	000.0100	0231.9	039.1	35.21	
209.0	002.9398	0157.7	029.4	128.0	000.0100	0231.9	038.6	35.45	
210.0	002.9083	0158.4	029.4	128.1	000.0100	0231.8	038.1	35.68	
211.0	002.8861	0160.3	029.5	128.4	000.0100	0231.6	037.6	35.91	
212.0	002.8641	0162.5	029.7	128.7	000.0100	0231.3	037.1	36.13	
213.0	002.8421	0164.0	029.7	128.9	000.0100	0231.2	036.6	36.37	
214.0	002.8202	0163.9	029.7	128.9	000.0100	0231.2	036.1	36.62	
215.0	002.7984	0162.1	029.5	128.6	000.0100	0231.4	035.5	36.89	
216.0	002.7767	0159.5	029.2	128.2	000.0100	0231.7	035.0	37.16	
217.0	002.7551	0156.6	028.9	127.8	000.0100	0232.1	034.5	37.43	
218.0	002.7335	0153.9	028.6	127.3	000.0100	0232.5	034.0	37.69	
219.0	002.7121	0151.8	028.4	126.9	000.0100	0232.9	033.5	37.96	
220.0	002.6907	0151.1	028.3	126.7	000.0100	0233.2	033.0	38.21	
221.0	002.6763	0152.0	028.3	126.7	000.0100	0233.2	032.5	38.46	
222.0	002.6619	0153.3	028.4	126.8	000.0100	0233.1	032.0	38.71	
223.0	002.6475	0154.6	028.5	126.8	000.0100	0233.1	031.5	38.97	
224.0	002.6332	0155.1	028.5	126.7	000.0100	0233.2	031.0	39.24	
225.0	002.6189	0154.4	028.4	126.4	000.0100	0233.5	030.5	39.52	
226.0	002.6047	0152.9	028.2	126.0	000.0100	0234.0	030.1	39.80	
227.0	002.5905	0151.5	028.1	125.5	000.0100	0234.5	029.6	40.08	
228.0	002.5763	0150.8	028.0	125.2	000.0100	0234.9	029.2	40.37	
229.0	002.5622	0151.1	028.0	124.9	000.0100	0235.1	028.7	40.67	
230.0	002.5481	0152.2	028.0	124.8	000.0100	0235.1	028.2	40.98	
231.0	002.5414	0154.3	028.2	124.8	000.0100	0235.1	027.7	41.31	
232.0	002.5348	0156.7	028.4	124.9	000.0100	0235.1	027.2	41.65	
233.0	002.5281	0158.6	028.5	124.9	000.0100	0235.1	026.6	42.00	
234.0	002.5214	0160.0	028.6	124.8	000.0100	0235.2	026.1	42.34	
235.0	002.5148	0161.0	028.7	124.5	000.0100	0235.3	025.7	42.69	
236.0	002.5081	0161.7	028.7	124.2	000.0100	0235.4	025.2	43.04	
237.0	002.5015	0162.6	028.8	123.9	000.0100	0235.5	024.7	43.39	
238.0	002.4948	0163.2	028.8	123.5	000.0100	0235.6	024.2	43.74	
239.0	002.4882	0163.5	028.8	123.0	000.0100	0235.7	023.7	44.08	
240.0	002.4816	0163.7	028.8	122.5	000.0100	0235.8	023.3	44.42	
241.0	002.4790	0163.4	028.8	121.8	000.0100	0235.9	022.9	44.74	



Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
242.0	002.4763	0161.9	028.6	120.9	000.0100	0236.2	022.5	45.04
243.0	002.4737	0159.1	028.4	119.7	000.0100	0236.5	022.2	45.28
244.0	002.4710	0155.4	028.1	118.3	000.0100	0236.7	022.0	45.46
245.0	002.4684	0151.0	027.7	116.8	000.0100	0237.0	021.8	45.61
246.0	002.4658	0146.7	027.4	115.2	000.0100	0237.2	021.7	45.73
247.0	002.4631	0143.2	027.1	113.8	000.0100	0237.4	021.5	45.86
248.0	002.4605	0140.7	026.9	112.5	000.0100	0237.6	021.3	46.02
249.0	002.4579	0138.6	026.7	111.3	000.0100	0238.0	021.1	46.18
250.0	002.4552	0136.5	026.5	110.0	000.0100	0238.1	020.9	46.32
251.0	002.4441	0134.4	026.3	108.7	000.0100	0238.3	020.8	46.44
252.0	002.4329	0133.2	026.2	107.5	000.0100	0238.5	020.6	46.59
253.0	002.4218	0133.7	026.2	106.4	000.0100	0238.7	020.4	46.81
254.0	002.4107	0134.1	026.2	105.4	000.0100	0238.9	020.1	47.02
255.0	002.3997	0133.3	026.1	104.1	000.0100	0238.6	019.9	47.13
256.0	002.3886	0130.3	025.8	102.6	000.0100	0238.6	020.0	47.11
257.0	002.3776	0126.5	025.5	101.0	000.0100	0239.0	020.1	47.03
258.0	002.3667	0122.9	025.2	099.5	000.0100	0239.0	020.2	46.94
259.0	002.3557	0120.1	024.9	098.1	000.0100	0238.8	020.3	46.86
260.0	002.3448	0117.5	024.7	096.7	000.0100	0238.8	020.4	46.78
261.0	002.3242	0115.3	024.4	095.4	000.0100	0239.4	020.5	46.70
262.0	002.3038	0113.7	024.2	094.1	000.0100	0239.8	020.6	46.64
263.0	002.2835	0112.5	024.1	092.8	000.0100	0239.8	020.7	46.58
264.0	002.2633	0111.4	023.9	091.6	000.0100	0239.7	020.8	46.51
265.0	002.2431	0110.6	023.8	090.5	000.0100	0239.4	020.8	46.44
266.0	002.2230	0110.4	023.7	089.3	000.0100	0239.6	020.9	46.42
267.0	002.2031	0111.7	023.8	088.2	000.0100	0239.8	020.8	46.51
268.0	002.1832	0113.2	023.9	087.0	000.0100	0240.0	020.7	46.58
269.0	002.1634	0114.6	024.0	085.9	000.0100	0239.9	020.6	46.63
270.0	002.1437	0116.0	024.0	084.7	000.0100	0239.3	020.6	46.66
271.0	002.1149	0117.3	024.1	083.5	000.0100	0238.6	020.6	46.63
272.0	002.0863	0118.6	024.1	082.3	000.0100	0237.8	020.6	46.58
273.0	002.0580	0119.7	024.1	081.2	000.0100	0237.1	020.7	46.52
274.0	002.0298	0120.4	024.1	080.1	000.0100	0236.7	020.8	46.42
275.0	002.0018	0121.2	024.1	078.9	000.0100	0236.4	020.9	46.32
276.0	001.9740	0122.1	024.1	077.8	000.0100	0236.3	021.0	46.21
277.0	001.9464	0121.7	024.0	076.9	000.0100	0236.2	021.2	46.02
278.0	001.9190	0121.8	023.9	075.9	000.0100	0236.3	021.5	45.86
279.0	001.8917	0121.7	023.8	074.9	000.0100	0236.4	021.7	45.67
280.0	001.8647	0121.3	023.7	074.1	000.0100	0236.4	022.0	45.46
281.0	001.8322	0121.1	023.6	073.2	000.0100	0236.1	022.2	45.23
282.0	001.8000	0120.9	023.5	072.5	000.0100	0235.6	022.5	44.98
283.0	001.7680	0121.8	023.5	071.6	000.0100	0234.8	022.8	44.78
284.0	001.7364	0123.6	023.5	070.6	000.0100	0233.7	022.9	44.61
285.0	001.7050	0125.5	023.6	069.7	000.0100	0232.8	023.1	44.44
286.0	001.6739	0127.1	023.6	068.9	000.0100	0231.9	023.4	44.24
287.0	001.6432	0128.3	023.6	068.1	000.0100	0231.2	023.6	44.02
288.0	001.6126	0129.6	023.6	067.3	000.0100	0230.6	023.9	43.81
289.0	001.5824	0130.2	023.5	066.7	000.0100	0230.1	024.2	43.56
290.0	001.5525	0130.0	023.4	066.1	000.0100	0229.8	024.6	43.28
291.0	001.5296	0128.5	023.2	065.8	000.0100	0229.6	025.0	42.97
292.0	001.5068	0126.2	023.0	065.6	000.0100	0229.6	025.4	42.63

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
293.0	001.4842	0124.5	022.8	065.3	000.0100	0229.5	025.9	42.33
294.0	001.4618	0123.9	022.6	064.9	000.0100	0229.4	026.3	42.06
295.0	001.4396	0124.3	022.6	064.4	000.0100	0229.3	026.6	41.83
296.0	001.4175	0125.0	022.6	063.9	000.0100	0229.2	026.9	41.61
297.0	001.3957	0125.6	022.5	063.5	000.0100	0229.1	027.2	41.38
298.0	001.3739	0125.4	022.4	063.2	000.0100	0229.1	027.6	41.14
299.0	001.3524	0124.6	022.3	063.0	000.0100	0229.2	028.0	40.88
300.0	001.3310	0123.4	022.1	062.8	000.0100	0229.2	028.4	40.62
301.0	001.3170	0122.2	022.0	062.6	000.0100	0229.2	028.8	40.37
302.0	001.3031	0121.0	021.8	062.5	000.0100	0229.2	029.2	40.12
303.0	001.2892	0120.7	021.7	062.3	000.0100	0229.3	029.6	39.90
304.0	001.2754	0121.0	021.7	062.0	000.0100	0229.4	030.0	39.70
305.0	001.2617	0121.5	021.7	061.7	000.0100	0229.5	030.3	39.51
306.0	001.2481	0121.3	021.6	061.5	000.0100	0229.5	030.7	39.30
307.0	001.2346	0120.0	021.5	061.4	000.0100	0229.5	031.1	39.07
308.0	001.2211	0118.2	021.3	061.5	000.0100	0229.5	031.5	38.85
309.0	001.2077	0117.6	021.2	061.4	000.0100	0229.5	031.9	38.65
310.0	001.1943	0118.2	021.2	061.1	000.0100	0229.6	032.2	38.47
311.0	001.1884	0119.0	021.2	060.9	000.0100	0229.7	032.6	38.31
312.0	001.1824	0118.9	021.2	060.7	000.0100	0229.7	032.9	38.13
313.0	001.1765	0117.5	021.0	060.7	000.0100	0229.7	033.3	37.93
314.0	001.1706	0116.4	020.9	060.7	000.0100	0229.7	033.7	37.74
315.0	001.1647	0117.0	020.9	060.5	000.0100	0229.7	034.0	37.57
316.0	001.1588	0119.3	021.1	060.1	000.0100	0229.7	034.3	37.41
317.0	001.1530	0122.0	021.3	059.6	000.0100	0229.5	034.7	37.25
318.0	001.1471	0123.7	021.4	059.3	000.0100	0229.4	035.0	37.07
319.0	001.1413	0124.3	021.4	059.2	000.0100	0229.3	035.4	36.89
320.0	001.1355	0125.3	021.4	059.0	000.0100	0229.1	035.7	36.71
321.0	001.1283	0126.9	021.5	058.8	000.0100	0228.9	036.1	36.53
322.0	001.1212	0127.6	021.6	058.7	000.0100	0228.8	036.5	36.34
323.0	001.1141	0126.6	021.4	058.8	000.0100	0228.9	036.8	36.16
324.0	001.1071	0125.1	021.3	058.9	000.0100	0229.0	037.2	35.98
325.0	001.1000	0124.8	021.2	059.0	000.0100	0229.0	037.6	35.80
326.0	001.1097	0125.4	021.3	058.8	000.0100	0228.9	038.0	35.63
327.0	001.1194	0125.7	021.4	058.7	000.0100	0228.8	038.3	35.45