

Doug Vernier, Telecommunications Consultants
P.O. Box 1033, Cedar Falls, IA 50613

Proposed Translator Contour-to-Contour Allocation Study
Board Regents Of Univ Of Wi System
CH# 262D - 100.3 MHz, Pwr= 0.25 kW, HAAT= 0.0 M, COR= 323 M
Average Protected F(50-50)= 7.09 km
Omni-directional

DISPLAY DATES
DATA 11-07-17
SEARCH 11-07-17

REFERENCE
42 42 58.0 N.
89 00 24.6 W.

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*OUT* (Overlap in km)
262D	1759635	APP _C_	WI	0.0 0.0	0.00 BNPFT20170731AHK	42 42 58.0 89 00 24.6	0.250	33.8 323	10.1 Board Regents Of Univ Of W	-43.9*
260B1	WJVL	LIC _CN	WI	276.6 96.4	13.36 BLH19891018KB	42 43 47.0 89 10 10.0	11.000 153	4.1 427	46.6 Southern Wisconsin Broadca	-34.8*
264B	WKV-FM	LIC _CX	WI	82.5 263.1	78.86 BMLH20100809CJO	42 48 18.0 88 02 54.0	50.000 152	5.9 386	64.3 Clear Channel Broadcasting	12.9
265A	WQFL	LIC ZC_	IL	180.5 0.5	43.79 BMLED20110421ABV	42 19 20.0 89 00 41.0	2.700 149	2.6 396	29.2 Educational Media Foundati	13.1
263D	W263BJ	LIC _C_	IL	174.3 354.4	43.97 BLFT20111121ENA	42 19 21.0 88 57 14.0	0.230 107	18.8 355	12.2 Mid-way Radio, Inc.	15.5
263A	WTLX	LIC _CX	WI	325.7 145.4	56.40 BLH20090306ABX	43 08 04.0 89 23 56.0	6.000 55	38.6 338	24.7 Good Karma Broadcasting, L	17.6
262B1	WCCI	LIC NCN	IL	235.4 54.6	113.57 BLH19901204KG	42 07 47.0 90 08 24.0	9.600 157	102.3 374	44.1 Carroll County Communicati	25.5
262B	WSHE-FM	LIC _CX	IL	128.1 309.1	145.60 BLH20030702AAW	41 53 56.0 87 37 23.0	5.700 425	127.1 606	65.7 Chicago Fcc License Sub, L	33.6
265D	W265CV	LIC DV_	WI	311.5 131.1	57.25 BLFT20140725ABJ	43 03 21.0 89 32 06.0	0.250 243	1.0 543	19.2 Capstar Tx, Llc	36.2
261A	WDDC	LIC NCN	WI	339.2 158.9	96.71 BLH19990329KG	43 31 42.0 89 26 01.0	3.100 114	37.8 367	24.9 Magnum Communications, Inc	57.3
262D	W262CJ	LIC DC_	WI	64.4 245.2	99.23 BLFT20141023AAP	43 05 46.0 87 54 15.0	0.099	40.5 362	12.1 Milwaukee Radio Alliance,	58.1
208B	WNIJ	LIC DCN	IL	179.7 359.7	77.84 BLED19891011KA	42 00 55.0 89 00 07.0	50.000 128	0.0 380	0.0 Northern Illinois Universi	63.3M
263D	W263BM	LIC _C_	IL	166.2 346.4	88.99 BLFT20130708ABT	41 56 18.0 88 45 03.0	0.250 47	12.5 311	8.9 American Education Foundat	64.5

Terrain database is FCC 30 meter , 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.

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.

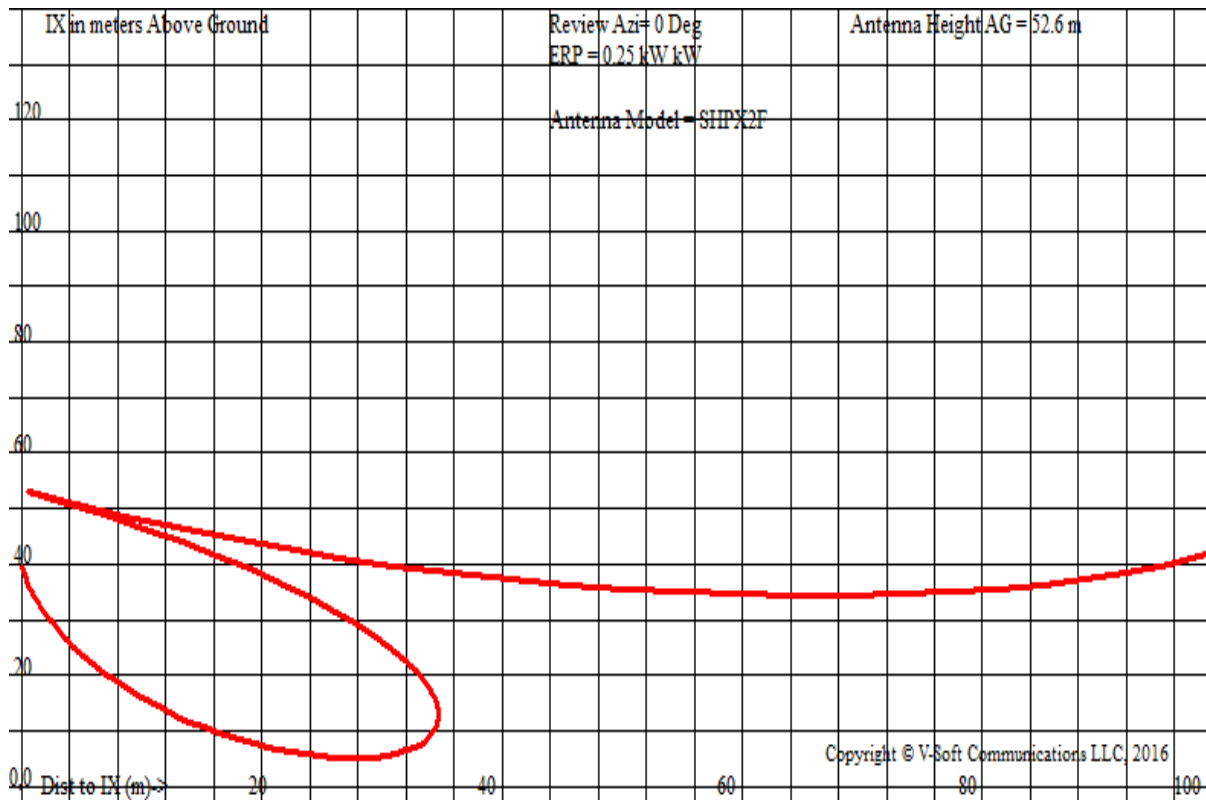
Under the "AZI" column, the first row of numbers indicate the True North azimuths from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station. Bearings are calculated using spherical trigonometry.

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.

Showing Protection to WJVL



W_NEW Janesville, WI
 74.1204(d) Showing
 Translator or LPFM Maximum Licensed ERP = 0.25
 Translator or LPFM Antenna Height AG = 52.6 Meters
 W_NEW Antenna Model = SHPX2F

Protected Station's Contour = 80.17754 dBu
 Translator's or LPFM's full Interference contour 120.17754

Review Azimuth = 0 Degrees True
 Relative Field on the horizon at Review Azimuth = 1.000
 Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW
 Distance between stations = 13.4 km
 Protected Station= WJVL, 11 kW, 427 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)
00.0	1.0	1.0	0.2500	108.6658	108.6658	052.600
05.0	0.960	1.0	0.2304	104.3192	103.9222	043.508
10.0	0.845	1.0	0.1785	091.8226	090.4276	036.655
15.0	0.669	1.0	0.1119	072.6974	070.2203	033.785
20.0	0.455	1.0	0.0518	049.4430	046.4612	035.690
25.0	0.226	1.0	0.0128	024.5585	022.2575	042.221
30.0	0.006	1.0	0.0000	000.6520	000.5646	052.274
35.0	0.187	1.0	0.0087	020.3205	016.6456	040.945
40.0	0.339	1.0	0.0287	036.8377	028.2193	028.921
45.0	0.445	1.0	0.0495	048.3563	034.1931	018.407
50.0	0.506	1.0	0.0640	054.9849	035.3436	010.479
55.0	0.525	1.0	0.0689	057.0496	032.7223	005.868
60.0	0.511	1.0	0.0653	055.5282	027.7641	004.511*
65.0	0.472	1.0	0.0557	051.2903	021.6762	006.115
70.0	0.416	1.0	0.0433	045.2050	015.4610	010.121
75.0	0.350	1.0	0.0306	038.0330	009.8437	015.863
80.0	0.277	1.0	0.0192	030.1004	005.2269	022.957
85.0	0.202	1.0	0.0102	021.9505	001.9131	030.733
90.0	0.126	1.0	0.0040	013.6919	000.0000	038.908

*Interference contour does not touch the ground. 27.7641 meters is within transmitter parking lot.
 (See attached satellite map)

Satellite View of Proposed 130 dBu service contour (radius = 37 meters):



11-07-2017

Terrain Data: FCC 30 meter

FMOver Analysis

WKKV-FM BMLH20100809CJO

1759635

Channel = 264B

Max ERP = 50 kW

RCAMSL = 386 m

N. Lat. 42 48 18.0

W. Lng. 88 02 54.0

Protected

54 dBu

Channel = 262D

Max ERP = 0.25 kW

RCAMSL = 323 m

N. Lat. 42 42 58.0

W. Lng. 89 00 24.6

Interfering

94 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
203.0	050.0000	0138.5	063.4	131.8	000.2500	0049.4	072.5	27.06	
204.0	050.0000	0138.6	063.5	132.1	000.2500	0049.5	071.5	27.31	
205.0	050.0000	0139.7	063.6	132.5	000.2500	0049.1	070.5	27.52	
206.0	050.0000	0140.6	063.7	132.9	000.2500	0049.1	069.5	27.75	
207.0	050.0000	0141.3	063.8	133.2	000.2500	0049.2	068.4	28.01	
208.0	050.0000	0142.2	064.0	133.6	000.2500	0049.4	067.4	28.27	
209.0	050.0000	0142.4	064.0	133.9	000.2500	0049.5	066.3	28.54	
210.0	050.0000	0142.2	064.0	134.1	000.2500	0049.5	065.2	28.80	
211.0	050.0000	0141.8	063.9	134.3	000.2500	0049.5	064.2	29.07	
212.0	050.0000	0142.0	063.9	134.6	000.2500	0049.6	063.1	29.34	
213.0	050.0000	0142.0	063.9	134.8	000.2500	0049.7	062.0	29.63	
214.0	050.0000	0141.6	063.9	135.0	000.2500	0049.7	060.9	29.91	
215.0	050.0000	0141.6	063.9	135.2	000.2500	0049.9	059.8	30.23	
216.0	050.0000	0142.4	064.0	135.5	000.2500	0050.2	058.7	30.56	
217.0	050.0000	0143.2	064.1	135.8	000.2500	0050.7	057.6	30.91	
218.0	050.0000	0143.0	064.1	135.9	000.2500	0050.9	056.5	31.26	
219.0	050.0000	0142.3	064.0	136.0	000.2500	0051.1	055.4	31.60	
220.0	050.0000	0141.7	063.9	136.1	000.2500	0051.1	054.3	31.93	
221.0	050.0000	0141.7	063.9	136.2	000.2500	0051.2	053.2	32.26	
222.0	050.0000	0142.0	064.0	136.4	000.2500	0051.1	052.1	32.58	
223.0	050.0000	0142.3	064.0	136.5	000.2500	0051.1	051.0	32.91	
224.0	050.0000	0143.2	064.1	136.7	000.2500	0051.2	049.9	33.24	
225.0	050.0000	0143.6	064.2	136.9	000.2500	0051.1	048.7	33.57	
226.0	050.0000	0144.1	064.3	137.0	000.2500	0051.0	047.6	33.87	
227.0	050.0000	0144.9	064.4	137.2	000.2500	0050.9	046.5	34.20	
228.0	050.0000	0145.1	064.4	137.2	000.2500	0050.9	045.4	34.56	
229.0	050.0000	0145.2	064.4	137.2	000.2500	0050.9	044.3	34.92	
230.0	050.0000	0144.5	064.3	137.0	000.2500	0051.0	043.1	35.30	
231.0	050.0000	0143.9	064.2	136.8	000.2500	0051.1	042.0	35.71	
232.0	050.0000	0142.9	064.1	136.5	000.2500	0051.1	040.9	36.10	
233.0	050.0000	0142.1	064.0	136.2	000.2500	0051.2	039.8	36.50	
234.0	050.0000	0143.2	064.1	136.3	000.2500	0051.2	038.7	36.92	
235.0	050.0000	0143.9	064.2	136.2	000.2500	0051.2	037.6	37.35	
236.0	050.0000	0143.1	064.1	135.8	000.2500	0050.5	036.5	37.67	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
237.0	050.0000	0143.2	064.1	135.4	000.2500	0050.1	035.4	38.03
238.0	050.0000	0142.5	064.0	134.9	000.2500	0049.7	034.3	38.40
239.0	050.0000	0143.7	064.2	134.8	000.2500	0049.7	033.2	38.86
240.0	050.0000	0145.8	064.5	134.8	000.2500	0049.7	032.0	39.36
241.0	050.0000	0146.3	064.5	134.4	000.2500	0049.5	030.9	39.84
242.0	050.0000	0146.5	064.6	133.8	000.2500	0049.5	029.8	40.38
243.0	050.0000	0147.4	064.7	133.4	000.2500	0049.4	028.7	40.98
244.0	050.0000	0147.8	064.8	132.7	000.2500	0049.1	027.6	41.57
245.0	050.0000	0147.6	064.7	131.7	000.2500	0049.5	026.6	42.30
246.0	050.0000	0147.3	064.7	130.7	000.2500	0049.4	025.6	42.98
247.0	050.0000	0147.0	064.6	129.5	000.2500	0049.2	024.6	43.64
248.0	050.0000	0147.3	064.7	128.3	000.2500	0048.4	023.5	44.23
249.0	050.0000	0146.7	064.6	126.7	000.2500	0047.8	022.6	44.82
250.0	050.0000	0146.8	064.6	125.1	000.2500	0048.5	021.7	45.69
251.0	050.0000	0147.0	064.6	123.4	000.2500	0050.1	020.7	46.74
252.0	050.0000	0147.0	064.6	121.4	000.2500	0048.2	019.8	47.11
253.0	050.0000	0146.0	064.5	118.9	000.2500	0049.1	019.1	47.91
254.0	050.0000	0145.1	064.4	116.2	000.2500	0050.2	018.4	48.71
255.0	050.0000	0145.3	064.4	113.6	000.2500	0051.1	017.6	49.52
256.0	050.0000	0145.2	064.4	110.6	000.2500	0050.1	017.0	49.91
257.0	050.0000	0144.9	064.4	107.3	000.2500	0048.1	016.4	50.02
258.0	050.0000	0145.0	064.4	103.8	000.2500	0047.2	015.8	50.33
259.0	050.0000	0145.0	064.4	100.0	000.2500	0042.0	015.4	49.60
260.0	050.0000	0145.8	064.5	096.1	000.2500	0034.1	014.9	48.10
261.0	050.0000	0146.1	064.5	091.9	000.2500	0028.7	014.6	47.47
262.0	050.0000	0145.2	064.4	087.5	000.2500	0030.7	014.5	47.70
263.0	050.0000	0144.6	064.3	083.0	000.2500	0035.1	014.5	48.74
264.0	050.0000	0144.7	064.3	078.6	000.2500	0040.3	014.6	49.91
265.0	050.0000	0144.5	064.3	074.3	000.2500	0042.9	014.7	50.26
266.0	050.0000	0145.5	064.4	069.9	000.2500	0042.0	014.9	49.95
267.0	050.0000	0145.3	064.4	065.9	000.2500	0044.2	015.2	50.22
268.0	050.0000	0145.8	064.5	061.9	000.2500	0046.8	015.6	50.43
269.0	050.0000	0146.5	064.6	058.2	000.2500	0047.7	016.0	50.24
270.0	050.0000	0147.3	064.7	054.6	000.2500	0050.3	016.6	50.29
271.0	050.0000	0147.5	064.7	051.5	000.2500	0050.8	017.2	49.83
272.0	050.0000	0147.8	064.8	048.6	000.2500	0050.7	017.9	49.19
273.0	050.0000	0147.8	064.8	046.1	000.2500	0051.9	018.7	48.74
274.0	050.0000	0147.8	064.8	043.8	000.2500	0052.8	019.5	48.20
275.0	050.0000	0147.6	064.7	041.8	000.2500	0050.8	020.5	47.10
276.0	050.0000	0147.7	064.7	040.0	000.2500	0051.0	021.4	46.40
277.0	050.0000	0148.0	064.8	038.2	000.2500	0052.1	022.3	45.88
278.0	050.0000	0147.3	064.7	037.0	000.2500	0053.0	023.3	45.25
279.0	050.0000	0147.7	064.8	035.6	000.2500	0049.2	024.3	43.86
280.0	050.0000	0147.7	064.8	034.4	000.2500	0050.2	025.3	43.33
281.0	050.0000	0147.8	064.8	033.4	000.2500	0051.6	026.3	42.87
282.0	050.0000	0148.1	064.8	032.4	000.2500	0051.7	027.3	42.21
283.0	050.0000	0147.9	064.8	031.7	000.2500	0052.8	028.4	41.74
284.0	050.0000	0147.7	064.8	031.0	000.2500	0053.9	029.5	41.30
285.0	050.0000	0148.1	064.8	030.3	000.2500	0054.1	030.6	40.77
286.0	050.0000	0148.0	064.8	029.8	000.2500	0054.5	031.6	40.31
287.0	050.0000	0148.2	064.8	029.2	000.2500	0055.7	032.7	40.02

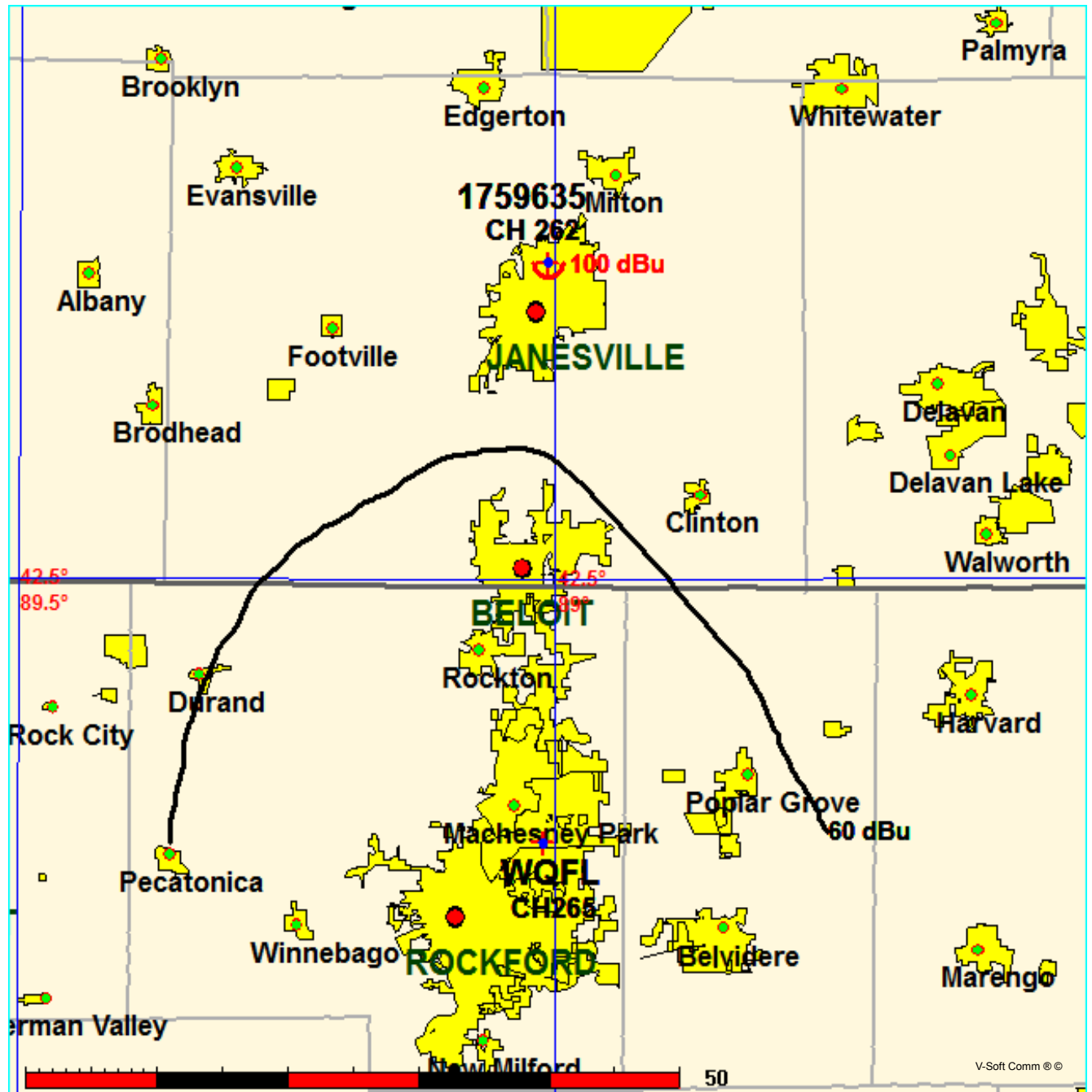
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
288.0	050.0000	0147.8	064.8		028.9	000.2500	0056.0	033.9	39.59
289.0	050.0000	0147.0	064.7		028.7	000.2500	0056.3	035.0	39.15
290.0	050.0000	0146.2	064.5		028.6	000.2500	0056.5	036.1	38.72
291.0	050.0000	0145.4	064.4		028.5	000.2500	0056.6	037.2	38.28
292.0	050.0000	0145.1	064.4		028.3	000.2500	0056.7	038.4	37.86
293.0	050.0000	0145.6	064.5		028.1	000.2500	0056.9	039.5	37.45
294.0	050.0000	0145.4	064.4		028.0	000.2500	0056.9	040.6	37.04
295.0	050.0000	0145.4	064.4		027.8	000.2500	0057.0	041.7	36.64
296.0	050.0000	0145.9	064.5		027.7	000.2500	0057.3	042.8	36.27
297.0	050.0000	0145.4	064.4		027.7	000.2500	0057.2	044.0	35.87
298.0	050.0000	0144.6	064.3		027.8	000.2500	0057.0	045.1	35.47
299.0	050.0000	0144.4	064.3		027.9	000.2500	0057.0	046.2	35.10
300.0	050.0000	0144.8	064.3		027.8	000.2500	0057.0	047.3	34.74
301.0	050.0000	0144.1	064.2		028.0	000.2500	0056.9	048.5	34.38
302.0	050.0000	0143.5	064.2		028.2	000.2500	0056.8	049.6	34.02
303.0	050.0000	0143.1	064.1		028.3	000.2500	0056.7	050.7	33.67
304.0	050.0000	0143.2	064.1		028.4	000.2500	0056.7	051.8	33.32
305.0	050.0000	0143.1	064.1		028.5	000.2500	0056.6	052.9	32.96
306.0	050.0000	0143.4	064.1		028.6	000.2500	0056.5	054.0	32.61
307.0	050.0000	0143.9	064.2		028.7	000.2500	0056.4	055.1	32.25
308.0	050.0000	0143.6	064.2		028.9	000.2500	0056.0	056.3	31.88
309.0	050.0000	0143.5	064.2		029.1	000.2500	0056.0	057.4	31.55
310.0	050.0000	0143.0	064.1		029.3	000.2500	0055.4	058.5	31.17
311.0	050.0000	0142.6	064.0		029.6	000.2500	0054.7	059.5	30.78
312.0	050.0000	0142.9	064.1		029.7	000.2500	0054.5	060.6	30.46
313.0	050.0000	0142.0	064.0		030.1	000.2500	0054.3	061.7	30.14
314.0	050.0000	0141.1	063.8		030.4	000.2500	0054.0	062.8	29.83
315.0	050.0000	0140.3	063.7		030.7	000.2500	0054.0	063.8	29.56
316.0	050.0000	0140.2	063.7		031.0	000.2500	0053.8	064.9	29.27
317.0	050.0000	0140.0	063.7		031.3	000.2500	0053.5	066.0	28.98
318.0	050.0000	0140.2	063.7		031.5	000.2500	0053.1	067.0	28.68
319.0	050.0000	0140.7	063.8		031.7	000.2500	0052.7	068.1	28.37
320.0	050.0000	0141.4	063.9		031.9	000.2500	0052.3	069.2	28.08
321.0	050.0000	0141.6	063.9		032.2	000.2500	0052.0	070.3	27.79
322.0	050.0000	0141.9	063.9		032.4	000.2500	0051.7	071.4	27.51

Contour-to-Contour Allocation Study 1759635 vs WQFL
Board Regents Of Univ Of Wi System

FMCommander Single Allocation Study - 11-07-2017 - FCC 30 meter
1759635's Overlaps (In= 29.74 km, Out= 13.11 km)

1759635 CH 262 D
Lat= 42 42 58.0, Lng= 89 00 24.6
0.25 kW 0 m HAAT, 323 m COR
Prot.= 60 dBu, Intef.= 100 dBu

WQFL CH 265 A 73.215 Z BMLED20110421ABV
Lat= 42 19 20.0, Lng= 89 00 41.0
2.7 kW 149 m HAAT, 396 m COR
Prot.= 60 dBu, Intef.= 100 dBu



11-07-2017

Terrain Data: FCC 30 meter

FMOver Analysis

WQFL BMLD20110421ABV

1759635

Channel = 265A

Max ERP = 2.7 kW

RCAMSL = 396 m

N. Lat. 42 19 20.0

W. Lng. 89 00 41.0

Protected

60 dBu

Channel = 262D

Max ERP = 0.25 kW

RCAMSL = 323 m

N. Lat. 42 42 58.0

W. Lng. 89 00 24.6

Interfering

100 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
300.0	002.7000	0157.4	028.8	220.8	000.2500	0074.3	038.8	39.75	
301.0	002.7000	0157.0	028.8	220.9	000.2500	0074.2	038.3	39.94	
302.0	002.7000	0155.4	028.7	220.8	000.2500	0074.3	037.8	40.17	
303.0	002.7000	0154.8	028.6	220.8	000.2500	0074.3	037.3	40.37	
304.0	002.7000	0154.6	028.6	220.9	000.2500	0074.2	036.8	40.57	
305.0	002.7000	0154.6	028.6	221.0	000.2500	0074.1	036.3	40.77	
306.0	002.7000	0156.0	028.7	221.2	000.2500	0073.7	035.8	40.93	
307.0	002.7000	0156.9	028.8	221.4	000.2500	0073.3	035.3	41.10	
308.0	002.7000	0158.5	028.9	221.7	000.2500	0073.2	034.8	41.30	
309.0	002.7000	0160.1	029.1	222.0	000.2500	0073.0	034.3	41.49	
310.0	002.7000	0161.7	029.2	222.3	000.2500	0072.7	033.8	41.69	
311.0	002.7000	0162.9	029.3	222.5	000.2500	0072.6	033.3	41.89	
312.0	002.7000	0162.5	029.3	222.4	000.2500	0072.6	032.8	42.12	
313.0	002.7000	0161.8	029.2	222.3	000.2500	0072.7	032.3	42.36	
314.0	002.7000	0160.9	029.1	222.2	000.2500	0072.8	031.8	42.62	
315.0	002.7000	0160.7	029.1	222.1	000.2500	0072.9	031.3	42.87	
316.0	002.7000	0160.3	029.1	222.0	000.2500	0073.0	030.8	43.13	
317.0	002.7000	0160.9	029.1	222.0	000.2500	0073.0	030.3	43.40	
318.0	002.7000	0161.9	029.2	222.1	000.2500	0072.9	029.7	43.67	
319.0	002.7000	0162.5	029.3	222.0	000.2500	0073.0	029.2	43.96	
320.0	002.7000	0162.0	029.2	221.8	000.2500	0073.0	028.7	44.26	
321.0	002.7000	0162.0	029.2	221.7	000.2500	0073.2	028.2	44.58	
322.0	002.7000	0161.1	029.1	221.3	000.2500	0073.5	027.7	44.92	
323.0	002.7000	0161.0	029.1	221.1	000.2500	0073.9	027.2	45.29	
324.0	002.7000	0160.4	029.1	220.8	000.2500	0074.4	026.8	45.65	
325.0	002.7000	0160.2	029.1	220.5	000.2500	0074.8	026.3	46.02	
326.0	002.7000	0159.3	029.0	220.0	000.2500	0074.9	025.8	46.35	
327.0	002.7000	0158.7	028.9	219.6	000.2500	0074.9	025.3	46.68	
328.0	002.7000	0158.0	028.9	219.1	000.2500	0075.3	024.9	47.05	
329.0	002.7000	0157.4	028.8	218.6	000.2500	0075.1	024.4	47.35	
330.0	002.7000	0158.3	028.9	218.3	000.2500	0075.0	023.9	47.71	
331.0	002.7000	0159.8	029.0	218.2	000.2500	0074.9	023.4	48.08	
332.0	002.7000	0159.9	029.0	217.7	000.2500	0074.7	022.9	48.41	
333.0	002.7000	0158.9	029.0	216.9	000.2500	0074.3	022.5	48.68	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
334.0	002.7000	0159.3	029.0	216.4	000.2500	0074.6	022.0	49.08
335.0	002.7000	0159.2	029.0	215.8	000.2500	0075.2	021.6	49.49
336.0	002.7000	0158.4	028.9	214.9	000.2500	0076.7	021.2	49.98
337.0	002.7000	0159.4	029.0	214.4	000.2500	0077.9	020.7	50.50
338.0	002.7000	0161.1	029.2	214.0	000.2500	0078.9	020.2	51.02
339.0	002.7000	0163.6	029.4	213.6	000.2500	0080.1	019.7	51.59
340.0	002.7000	0164.9	029.5	213.0	000.2500	0081.8	019.2	52.17
341.0	002.7000	0166.0	029.6	212.3	000.2500	0082.4	018.7	52.61
342.0	002.7000	0167.2	029.7	211.5	000.2500	0081.7	018.3	52.93
343.0	002.7000	0168.3	029.8	210.6	000.2500	0081.2	017.8	53.25
344.0	002.7000	0169.9	029.9	209.8	000.2500	0081.4	017.3	53.67
345.0	002.7000	0170.5	029.9	208.6	000.2500	0081.8	016.9	54.05
346.0	002.7000	0170.3	029.9	207.3	000.2500	0082.0	016.6	54.36
347.0	002.7000	0170.4	029.9	205.9	000.2500	0082.7	016.3	54.73
348.0	002.7000	0170.0	029.9	204.4	000.2500	0081.6	016.0	54.87
349.0	002.7000	0170.0	029.9	202.8	000.2500	0079.7	015.7	54.92
350.0	002.7000	0169.5	029.9	201.1	000.2500	0079.7	015.4	55.14
351.0	002.7000	0170.3	029.9	199.5	000.2500	0080.7	015.1	55.53
352.0	002.7000	0169.6	029.9	197.7	000.2500	0079.0	014.9	55.34
353.0	002.7000	0169.4	029.8	195.8	000.2500	0079.0	014.7	55.57
354.0	002.7000	0169.1	029.8	193.9	000.2500	0079.1	014.6	55.76
355.0	002.7000	0169.8	029.9	192.0	000.2500	0080.2	014.3	56.15
356.0	002.7000	0169.6	029.9	189.9	000.2500	0079.7	014.2	56.24
357.0	002.7000	0168.1	029.7	187.8	000.2500	0079.9	014.2	56.25
358.0	002.7000	0166.1	029.6	185.6	000.2500	0078.8	014.3	56.03
359.0	002.7000	0164.4	029.4	183.5	000.2500	0075.8	014.4	55.58
000.0	002.7000	0163.0	029.3	181.5	000.2500	0073.4	014.5	55.20
001.0	002.6037	0162.6	029.0	179.5	000.2500	0071.8	014.8	54.70
002.0	002.5091	0161.7	028.7	177.6	000.2500	0071.2	015.1	54.47
003.0	002.4163	0160.1	028.3	175.9	000.2500	0071.3	015.5	54.10
004.0	002.3252	0159.1	028.0	174.3	000.2500	0071.0	015.9	53.73
005.0	002.2359	0157.2	027.6	172.9	000.2500	0070.7	016.4	53.28
006.0	002.1483	0156.0	027.3	171.5	000.2500	0070.1	016.8	52.83
007.0	002.0625	0154.0	026.9	170.4	000.2500	0070.2	017.4	52.39
008.0	001.9784	0152.2	026.5	169.3	000.2500	0069.9	017.9	51.93
009.0	001.8961	0150.5	026.1	168.3	000.2500	0069.3	018.4	51.43
010.0	001.8155	0149.3	025.8	167.4	000.2500	0068.8	018.9	50.96
011.0	001.7584	0148.1	025.5	166.5	000.2500	0068.2	019.3	50.52
012.0	001.7022	0146.0	025.2	165.8	000.2500	0067.7	019.8	50.05
013.0	001.6469	0144.9	024.9	165.0	000.2500	0067.4	020.2	49.66
014.0	001.5925	0143.1	024.6	164.4	000.2500	0067.3	020.7	49.24
015.0	001.5391	0142.3	024.3	163.7	000.2500	0067.1	021.1	48.88
016.0	001.4865	0141.2	024.0	163.2	000.2500	0066.9	021.6	48.50
017.0	001.4349	0139.7	023.7	162.7	000.2500	0066.8	022.1	48.10
018.0	001.3842	0140.5	023.6	162.0	000.2500	0066.2	022.4	47.76
019.0	001.3344	0140.0	023.4	161.5	000.2500	0065.8	022.9	47.38
020.0	001.2855	0137.6	023.0	161.3	000.2500	0065.6	023.4	46.94
021.0	001.2669	0136.6	022.9	160.8	000.2500	0065.0	023.8	46.59
022.0	001.2485	0135.2	022.7	160.4	000.2500	0064.8	024.2	46.27
023.0	001.2302	0134.4	022.5	159.9	000.2500	0064.7	024.5	45.99
024.0	001.2120	0133.9	022.4	159.4	000.2500	0064.3	024.9	45.69

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
025.0	001.1940	0132.9	022.3		159.1	000.2500	0064.1	025.3	45.39
026.0	001.1761	0131.2	022.1		158.8	000.2500	0064.1	025.7	45.10
027.0	001.1584	0128.4	021.8		158.7	000.2500	0064.1	026.2	44.77
028.0	001.1407	0127.3	021.6		158.4	000.2500	0063.9	026.6	44.49
029.0	001.1233	0126.9	021.5		158.1	000.2500	0063.7	026.9	44.22
030.0	001.1059	0125.2	021.3		157.9	000.2500	0063.6	027.3	43.94
031.0	001.0956	0124.1	021.2		157.7	000.2500	0063.4	027.7	43.68
032.0	001.0853	0123.8	021.1		157.3	000.2500	0063.1	028.1	43.44
033.0	001.0750	0123.1	021.0		157.1	000.2500	0063.1	028.4	43.22
034.0	001.0648	0123.2	021.0		156.8	000.2500	0063.3	028.8	43.04
035.0	001.0547	0123.1	020.9		156.5	000.2500	0063.4	029.1	42.86
036.0	001.0446	0122.3	020.8		156.3	000.2500	0063.5	029.5	42.66
037.0	001.0345	0120.6	020.6		156.2	000.2500	0063.4	029.9	42.43
038.0	001.0245	0119.8	020.5		156.1	000.2500	0063.2	030.2	42.21
039.0	001.0146	0120.4	020.5		155.8	000.2500	0063.3	030.5	42.06
040.0	001.0047	0120.3	020.4		155.6	000.2500	0063.3	030.9	41.88
041.0	001.0014	0120.2	020.4		155.3	000.2500	0063.1	031.2	41.70
042.0	000.9981	0119.8	020.4		155.2	000.2500	0063.1	031.6	41.53
043.0	000.9948	0119.0	020.3		155.0	000.2500	0063.1	031.9	41.36
044.0	000.9915	0118.5	020.2		154.9	000.2500	0063.1	032.3	41.21
045.0	000.9883	0118.9	020.3		154.7	000.2500	0062.9	032.6	41.04
046.0	000.9850	0119.2	020.3		154.4	000.2500	0062.9	032.9	40.89
047.0	000.9817	0119.8	020.3		154.2	000.2500	0062.9	033.3	40.75
048.0	000.9785	0119.4	020.3		154.1	000.2500	0062.8	033.6	40.59
049.0	000.9752	0119.5	020.2		154.0	000.2500	0062.7	034.0	40.42
050.0	000.9720	0119.6	020.2		153.8	000.2500	0062.5	034.3	40.25
051.0	000.9688	0119.1	020.2		153.8	000.2500	0062.4	034.7	40.09
052.0	000.9655	0117.9	020.1		153.8	000.2500	0062.5	035.0	39.95
053.0	000.9623	0117.5	020.0		153.8	000.2500	0062.4	035.4	39.79
054.0	000.9591	0117.8	020.0		153.7	000.2500	0062.2	035.7	39.62
055.0	000.9559	0117.4	020.0		153.7	000.2500	0062.2	036.1	39.47
056.0	000.9527	0117.1	019.9		153.7	000.2500	0062.1	036.4	39.32
057.0	000.9495	0117.2	019.9		153.6	000.2500	0062.1	036.8	39.17
058.0	000.9463	0116.8	019.9		153.6	000.2500	0062.1	037.1	39.03
059.0	000.9431	0116.1	019.8		153.7	000.2500	0062.2	037.5	38.90

Contour-to-Contour Allocation Study 1759635 vs W263BJ
Board Regents Of Univ Of Wi System

FMCommander Single Allocation Study - 11-07-2017 - FCC 30 meter
1759635's Overlaps (In= 14.14 km, Out= 15.48 km)

1759635 CH 262 D

Lat= 42 42 58.0, Lng= 89 00 24.6

0.25 kW 0 m HAAT, 323 m COR

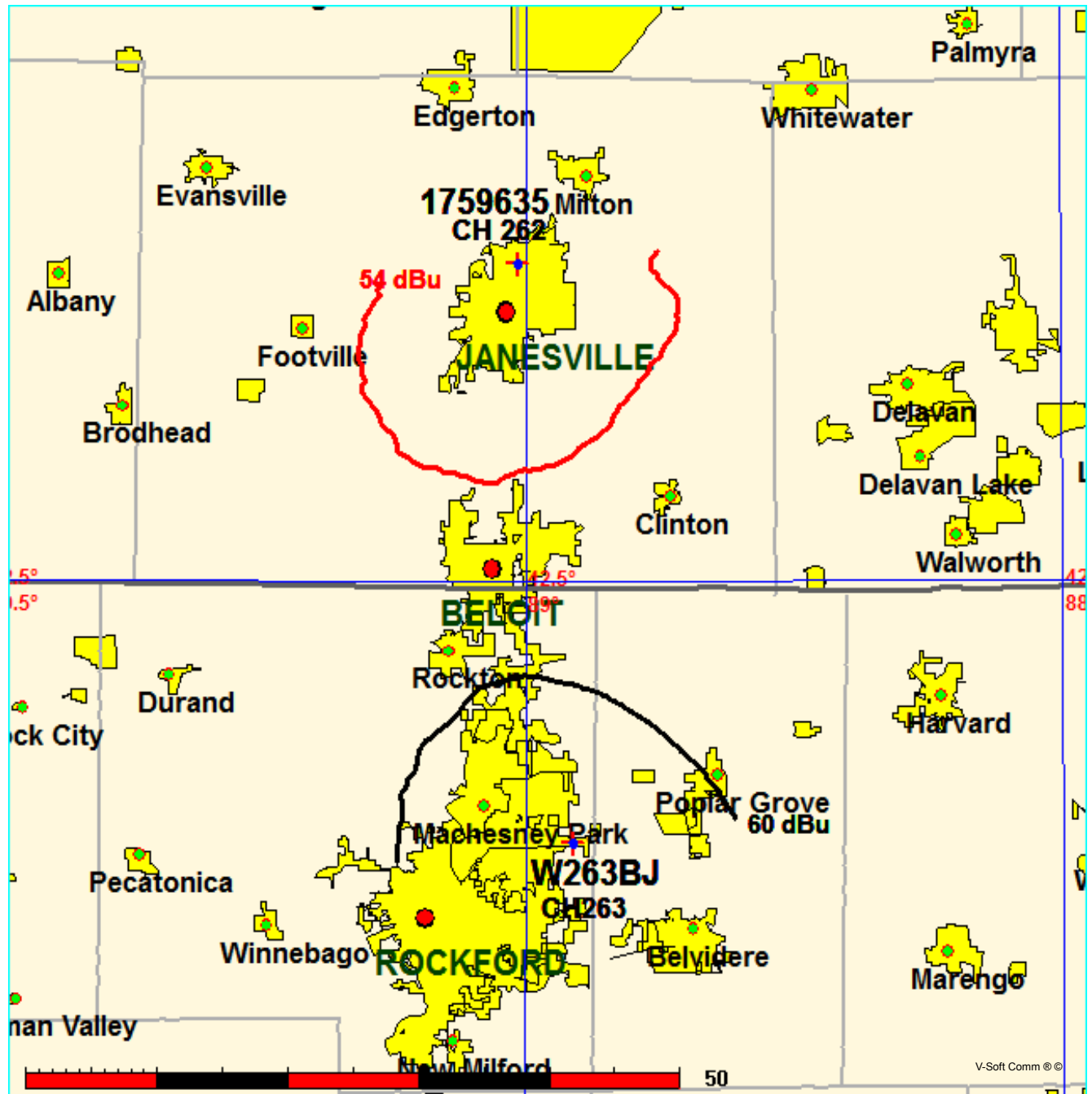
Prot.= 60 dBu, Intef.= 54 dBu

W263BJ CH 263 D BLFT20111121ENA

Lat= 42 19 21.0, Lng= 88 57 14.0

0.23 kW 106.8 m HAAT, 355 m COR

Prot.= 60 dBu, Intef.= 54 dBu



11-07-2017

Terrain Data: FCC 30 meter

FMOver Analysis

W263BJ BLFT20111121ENA

1759635

Channel = 263D

Max ERP = 0.23 kW

RCAMSL = 355 m

N. Lat. 42 19 21.0

W. Lng. 88 57 14.0

Protected

60 dBu

Channel = 262D

Max ERP = 0.25 kW

RCAMSL = 323 m

N. Lat. 42 42 58.0

W. Lng. 89 00 24.6

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
294.0	000.2300	0113.8	013.4	191.7	000.2500	0080.3	039.1	40.25	
295.0	000.2300	0114.6	013.5	191.7	000.2500	0080.3	038.9	40.35	
296.0	000.2300	0115.4	013.5	191.6	000.2500	0080.3	038.6	40.44	
297.0	000.2300	0117.2	013.6	191.7	000.2500	0080.3	038.4	40.55	
298.0	000.2300	0119.1	013.7	191.8	000.2500	0080.4	038.1	40.67	
299.0	000.2300	0119.3	013.7	191.7	000.2500	0080.3	037.9	40.76	
300.0	000.2300	0120.2	013.8	191.6	000.2500	0080.3	037.6	40.86	
301.0	000.2300	0120.5	013.8	191.5	000.2500	0080.2	037.4	40.95	
302.0	000.2300	0120.1	013.8	191.4	000.2500	0080.2	037.2	41.04	
303.0	000.2300	0119.5	013.7	191.2	000.2500	0080.2	037.0	41.13	
304.0	000.2300	0119.2	013.7	191.0	000.2500	0080.1	036.8	41.21	
305.0	000.2300	0118.4	013.7	190.8	000.2500	0080.0	036.6	41.29	
306.0	000.2300	0116.5	013.6	190.5	000.2500	0080.0	036.4	41.36	
307.0	000.2300	0115.3	013.5	190.2	000.2500	0079.8	036.2	41.42	
308.0	000.2300	0114.1	013.4	190.0	000.2500	0079.7	036.0	41.49	
309.0	000.2300	0113.4	013.4	189.7	000.2500	0079.8	035.9	41.58	
310.0	000.2300	0112.2	013.3	189.5	000.2500	0080.0	035.7	41.67	
311.0	000.2300	0111.5	013.3	189.2	000.2500	0080.3	035.5	41.78	
312.0	000.2300	0111.3	013.3	189.0	000.2500	0080.3	035.3	41.86	
313.0	000.2300	0110.1	013.2	188.7	000.2500	0080.1	035.2	41.91	
314.0	000.2300	0110.3	013.2	188.5	000.2500	0080.1	035.0	42.00	
315.0	000.2300	0109.3	013.2	188.2	000.2500	0080.0	034.8	42.05	
316.0	000.2300	0109.6	013.2	188.0	000.2500	0079.9	034.6	42.13	
317.0	000.2300	0110.6	013.2	187.8	000.2500	0079.9	034.4	42.23	
318.0	000.2300	0111.8	013.3	187.7	000.2500	0079.8	034.2	42.31	
319.0	000.2300	0112.3	013.3	187.4	000.2500	0079.6	034.0	42.38	
320.0	000.2300	0112.6	013.4	187.2	000.2500	0079.4	033.8	42.44	
321.0	000.2300	0113.5	013.4	187.0	000.2500	0079.4	033.6	42.54	
322.0	000.2300	0114.5	013.5	186.8	000.2500	0079.3	033.4	42.61	
323.0	000.2300	0115.0	013.5	186.5	000.2500	0078.9	033.2	42.66	
324.0	000.2300	0115.8	013.5	186.3	000.2500	0078.8	033.0	42.74	
325.0	000.2300	0117.0	013.6	186.1	000.2500	0079.1	032.8	42.86	
326.0	000.2300	0117.7	013.6	185.8	000.2500	0079.0	032.6	42.93	
327.0	000.2300	0119.8	013.8	185.6	000.2500	0078.8	032.4	43.02	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
328.0	000.2300	0120.1	013.8	185.3	000.2500	0078.4	032.2	43.06
329.0	000.2300	0118.4	013.7	184.8	000.2500	0078.1	032.1	43.05
330.0	000.2300	0117.3	013.6	184.4	000.2500	0077.1	032.1	42.98
331.0	000.2300	0116.7	013.6	184.0	000.2500	0076.3	032.0	42.94
332.0	000.2300	0116.2	013.6	183.6	000.2500	0076.0	031.9	42.94
333.0	000.2300	0115.1	013.5	183.2	000.2500	0075.2	031.8	42.89
334.0	000.2300	0114.3	013.5	182.8	000.2500	0074.7	031.7	42.86
335.0	000.2300	0113.0	013.4	182.4	000.2500	0074.2	031.7	42.83
336.0	000.2300	0112.9	013.4	182.0	000.2500	0073.7	031.6	42.81
337.0	000.2300	0112.3	013.3	181.6	000.2500	0073.4	031.5	42.82
338.0	000.2300	0111.5	013.3	181.2	000.2500	0073.4	031.4	42.84
339.0	000.2300	0110.9	013.3	180.7	000.2500	0073.1	031.4	42.83
340.0	000.2300	0110.3	013.2	180.3	000.2500	0072.6	031.3	42.80
341.0	000.2300	0110.4	013.2	179.9	000.2500	0072.2	031.3	42.79
342.0	000.2300	0109.6	013.2	179.5	000.2500	0071.9	031.2	42.76
343.0	000.2300	0109.2	013.2	179.1	000.2500	0071.6	031.2	42.75
344.0	000.2300	0107.3	013.0	178.6	000.2500	0071.3	031.2	42.70
345.0	000.2300	0105.7	012.9	178.2	000.2500	0071.1	031.3	42.65
346.0	000.2300	0104.2	012.9	177.7	000.2500	0071.2	031.3	42.65
347.0	000.2300	0104.2	012.9	177.3	000.2500	0071.4	031.3	42.69
348.0	000.2300	0102.2	012.7	176.9	000.2500	0071.5	031.3	42.66
349.0	000.2300	0100.3	012.6	176.5	000.2500	0071.5	031.4	42.62
350.0	000.2300	0098.8	012.5	176.1	000.2500	0071.3	031.5	42.56
351.0	000.2300	0097.3	012.4	175.6	000.2500	0071.3	031.6	42.53
352.0	000.2300	0095.7	012.3	175.2	000.2500	0071.3	031.6	42.49
353.0	000.2300	0094.0	012.2	174.8	000.2500	0071.2	031.7	42.44
354.0	000.2300	0093.5	012.2	174.5	000.2500	0071.0	031.8	42.40
355.0	000.2300	0092.7	012.2	174.1	000.2500	0071.0	031.8	42.38
356.0	000.2300	0090.1	012.0	173.7	000.2500	0071.1	032.0	42.31
357.0	000.2300	0089.8	012.0	173.3	000.2500	0070.8	032.0	42.27
358.0	000.2300	0090.2	012.0	173.0	000.2500	0070.8	032.0	42.26
359.0	000.2300	0089.4	011.9	172.6	000.2500	0070.7	032.1	42.22
000.0	000.2300	0088.2	011.9	172.2	000.2500	0070.5	032.2	42.15
001.0	000.2300	0087.0	011.8	171.9	000.2500	0070.2	032.3	42.07
002.0	000.2300	0085.4	011.7	171.6	000.2500	0070.1	032.4	42.00
003.0	000.2300	0084.4	011.6	171.2	000.2500	0070.1	032.5	41.95
004.0	000.2300	0083.5	011.6	170.9	000.2500	0070.1	032.6	41.90
005.0	000.2300	0083.4	011.6	170.6	000.2500	0070.2	032.7	41.89
006.0	000.2300	0083.2	011.6	170.2	000.2500	0070.1	032.7	41.86
007.0	000.2300	0083.0	011.5	169.9	000.2500	0070.1	032.8	41.83
008.0	000.2300	0082.2	011.5	169.6	000.2500	0070.2	032.9	41.79
009.0	000.2300	0081.1	011.4	169.3	000.2500	0069.9	033.1	41.69
010.0	000.2300	0080.0	011.3	169.0	000.2500	0069.6	033.2	41.59
011.0	000.2300	0079.3	011.3	168.7	000.2500	0069.3	033.3	41.51
012.0	000.2300	0078.7	011.3	168.5	000.2500	0069.4	033.4	41.46
013.0	000.2300	0078.2	011.2	168.2	000.2500	0069.2	033.5	41.40
014.0	000.2300	0077.2	011.2	167.9	000.2500	0069.0	033.7	41.31
015.0	000.2300	0076.1	011.1	167.7	000.2500	0068.9	033.8	41.23
016.0	000.2300	0075.6	011.1	167.4	000.2500	0068.8	033.9	41.17
017.0	000.2300	0074.7	011.0	167.2	000.2500	0068.8	034.1	41.10
018.0	000.2300	0074.5	011.0	166.9	000.2500	0068.5	034.2	41.03

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
019.0	000.2300	0074.1	011.0	166.7	000.2500	0068.4	034.3	40.95
020.0	000.2300	0073.1	010.9	166.5	000.2500	0068.1	034.5	40.85
021.0	000.2300	0072.4	010.8	166.3	000.2500	0067.9	034.6	40.77
022.0	000.2300	0071.6	010.8	166.0	000.2500	0067.8	034.8	40.69
023.0	000.2300	0071.6	010.8	165.8	000.2500	0067.7	034.9	40.63
024.0	000.2300	0071.1	010.8	165.6	000.2500	0067.6	035.0	40.55
025.0	000.2300	0070.6	010.7	165.4	000.2500	0067.5	035.2	40.48
026.0	000.2300	0070.1	010.7	165.2	000.2500	0067.4	035.3	40.41
027.0	000.2300	0070.2	010.7	165.0	000.2500	0067.4	035.4	40.36
028.0	000.2300	0070.3	010.7	164.7	000.2500	0067.4	035.6	40.30
029.0	000.2300	0069.8	010.7	164.5	000.2500	0067.3	035.7	40.23
030.0	000.2300	0069.4	010.6	164.4	000.2500	0067.3	035.9	40.16
031.0	000.2300	0069.4	010.6	164.2	000.2500	0067.2	036.0	40.09
032.0	000.2300	0069.9	010.7	163.9	000.2500	0067.2	036.1	40.05
033.0	000.2300	0070.2	010.7	163.7	000.2500	0067.1	036.2	39.98
034.0	000.2300	0070.1	010.7	163.5	000.2500	0067.0	036.4	39.91
035.0	000.2300	0069.7	010.7	163.4	000.2500	0067.0	036.6	39.84
036.0	000.2300	0069.4	010.6	163.2	000.2500	0067.0	036.7	39.77
037.0	000.2300	0069.1	010.6	163.1	000.2500	0066.9	036.9	39.70
038.0	000.2300	0068.7	010.6	162.9	000.2500	0066.8	037.0	39.62
039.0	000.2300	0068.7	010.6	162.8	000.2500	0066.8	037.2	39.56
040.0	000.2300	0068.9	010.6	162.6	000.2500	0066.7	037.3	39.48
041.0	000.2300	0068.8	010.6	162.5	000.2500	0066.6	037.5	39.40
042.0	000.2300	0069.0	010.6	162.3	000.2500	0066.4	037.7	39.32
043.0	000.2300	0068.7	010.6	162.2	000.2500	0066.3	037.8	39.24
044.0	000.2300	0068.5	010.6	162.1	000.2500	0066.3	038.0	39.17
045.0	000.2300	0068.9	010.6	161.9	000.2500	0066.1	038.1	39.08
046.0	000.2300	0069.4	010.6	161.7	000.2500	0065.9	038.3	39.01
047.0	000.2300	0069.5	010.6	161.6	000.2500	0065.8	038.5	38.93
048.0	000.2300	0069.7	010.7	161.5	000.2500	0065.9	038.6	38.87
049.0	000.2300	0069.8	010.7	161.4	000.2500	0065.7	038.8	38.78
050.0	000.2300	0069.5	010.6	161.3	000.2500	0065.6	039.0	38.69
051.0	000.2300	0069.9	010.7	161.2	000.2500	0065.4	039.1	38.61
052.0	000.2300	0070.4	010.7	161.0	000.2500	0065.3	039.3	38.54
053.0	000.2300	0071.6	010.8	160.8	000.2500	0065.0	039.5	38.45