

# FCC Form 340 - Exhibit No. 18

## FM Channel Study

REFERENCE CH# 211C2- 90.1 MHz, Pwr= 18 kW DA, HAAT= 195.3 M, COR= 439 M DISPLAY DATES  
 44 21 32.0 N. Average Protected F(50-50)= 47.8 km DATA 06-29-15  
 87 59 07.0 W. Standard Directional SEARCH 07-27-15

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	INT (km) COR (M)	PRO (km) LICENSEE	*IN* (Overlap in km)	*OUT*
211C2 Green Bay	WORQ!	APP DCX	WI	0.0 0.0	0.00 BPED20150625ACK	44 21 32.0 87 59 07.0	17.000 197	120.7 439	48.9 Lakeshore Communications,	-170.1	-170.8
211C2 Green Bay	WORQ!	LIC DCX	WI	0.0 0.0	0.00 BLED20021015AAY	44 21 32.0 87 59 07.0	11.000 197	115.1 439	46.4 Lakeshore Communications,	-164.5	-168.3
212A Oshkosh	WRST-FM	LIC CN	WI	231.2 50.8	58.19 BLED1160	44 01 45.0 88 33 08.0	0.960 38	18.5 276	12.6 Board Of Regents, Universi	7.1	-3.1<
211C1 Marquette	WNMU-FM	LIC CX	MI	2.6 182.7	221.91 BLED20131113BSN	46 21 10.0 87 51 15.0	100.000 283	172.2 730	72.5 Board Of Control, Northern	0.4	27.5
210A Fond Du Lac	WVFL	LIC DVX	WI	204.6 24.4	67.98 BLED20070514AGG	43 48 09.0 88 20 18.0	1.000 117	27.8 396	18.9 Vcy America, Inc.	8.1	0.8
213C1 Sturgeon Bay	WPFF	LIC C	WI	38.6 219.0	77.71 BLED19980211KA	44 54 14.0 87 22 13.0	100.000 195	7.8 390	62.0 Educational Media Foundati	22.6	10.7
210C2 Stevens Point	WWSP	LIC DCX	WI	276.4 95.2	134.97 BLED20080611ABK	44 28 55.0 89 40 35.0	30.000 98	51.9 425	33.6 Board Of Regents, Universi	35.2	30.7
212C1 Twin Lake	WBLV	LIC CN	MI	119.4 300.7	179.60 BLED19901002KB	43 33 00.0 86 02 34.0	100.000 185	92.7 427	62.3 Blue Lake Fine Arts Camp	40.9	49.3

Terrain database is USGS 03 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference Zone= - Zone 2, Co to 3rd adjacent.  
 All separation margins (if shown) include rounding. Call signs with exclamation marks 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)  
 « = Station meets FCC minimum distance spacing for its class.  
 < = Contour Overlap

/1 Please see next page for map showing compliance with 47 C.F.R. §73.509(e) due to the contour overlap being entirely over water.

**NOTE: This study uses more accurate USGS 03 Second datum per 47 C.F.R. 73.312.**

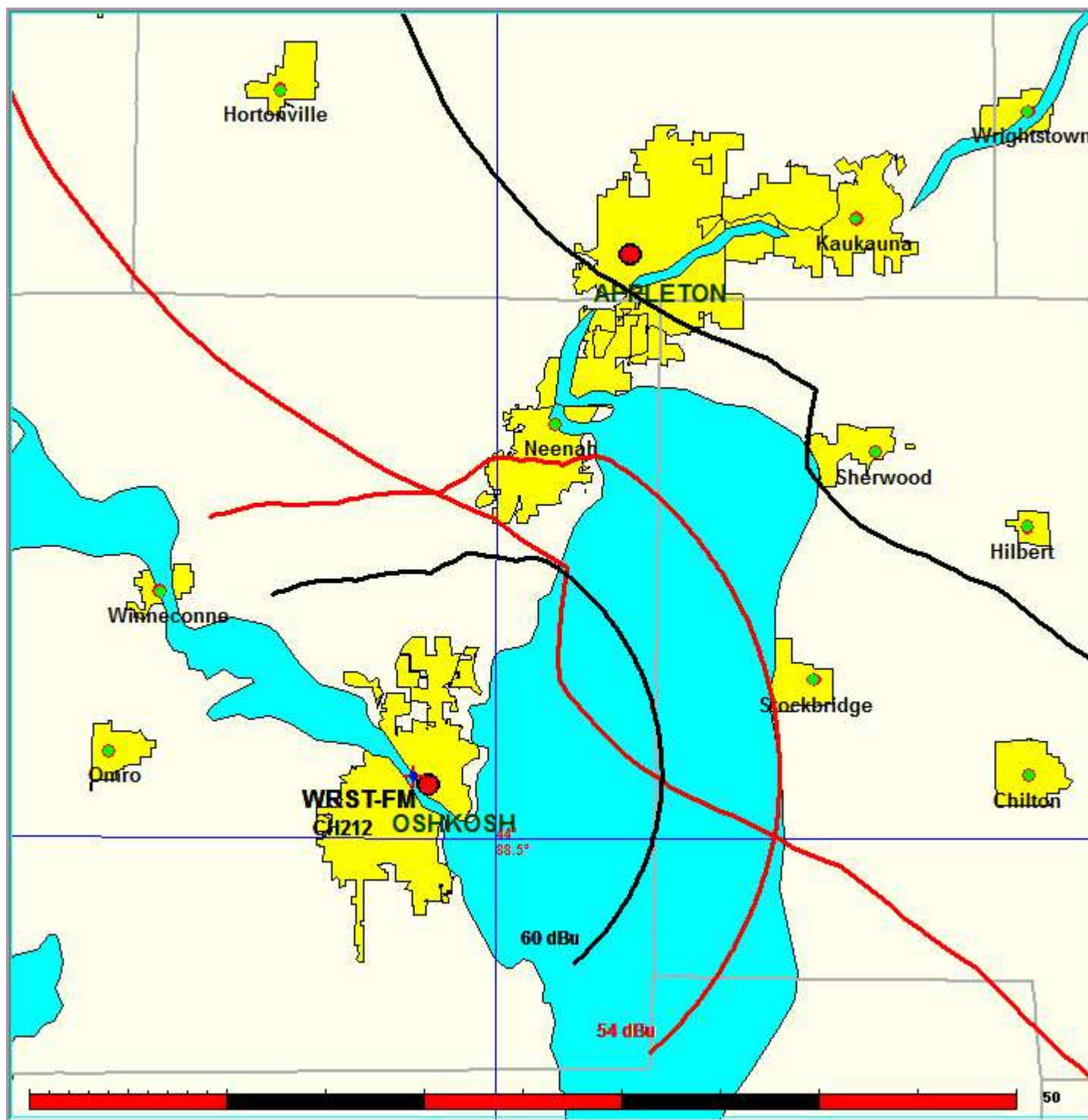
FCC Form 340 - Exhibit No. 18  
FM Channel Study

Azimuth	Envelope		
	Field		dB
	Actual	Rounded	
0	0.925	0.925	-0.677
10	0.925	0.925	-0.677
20	1.000	1.000	0.000
30	1.000	1.000	0.000
40	1.000	1.000	0.000
50	1.000	1.000	0.000
60	1.000	1.000	0.000
70	1.000	1.000	0.000
80	1.000	1.000	0.000
90	1.000	1.000	0.000
100	1.000	1.000	0.000
110	1.000	1.000	0.000
120	1.000	1.000	0.000
130	1.000	1.000	0.000
140	1.000	1.000	0.000
150	1.000	1.000	0.000
160	0.944	0.944	-0.501
170	0.891	0.891	-1.002
180	0.750	0.750	-2.499

Azimuth	Envelope		
	Field		dB
	Actual	Rounded	
190	0.596	0.596	-4.495
200	0.490	0.490	-6.196
210	0.445	0.445	-7.033
220	0.461	0.461	-6.726
230	0.426	0.426	-7.412
235	0.350	0.350	-9.119
240	0.380	0.380	-8.404
250	<b>0.4784</b>	0.478	<b>-6.404</b>
260	<b>0.6023</b>	0.602	<b>-4.404</b>
270	<b>0.7582</b>	0.758	<b>-2.404</b>
280	<b>0.9546</b>	0.955	<b>-0.404</b>
290	1.000	1.000	0.000
300	1.000	1.000	0.000
310	1.000	1.000	0.000
320	1.000	1.000	0.000
330	1.000	1.000	0.000
340	1.000	1.000	0.000
350	1.000	1.000	0.000

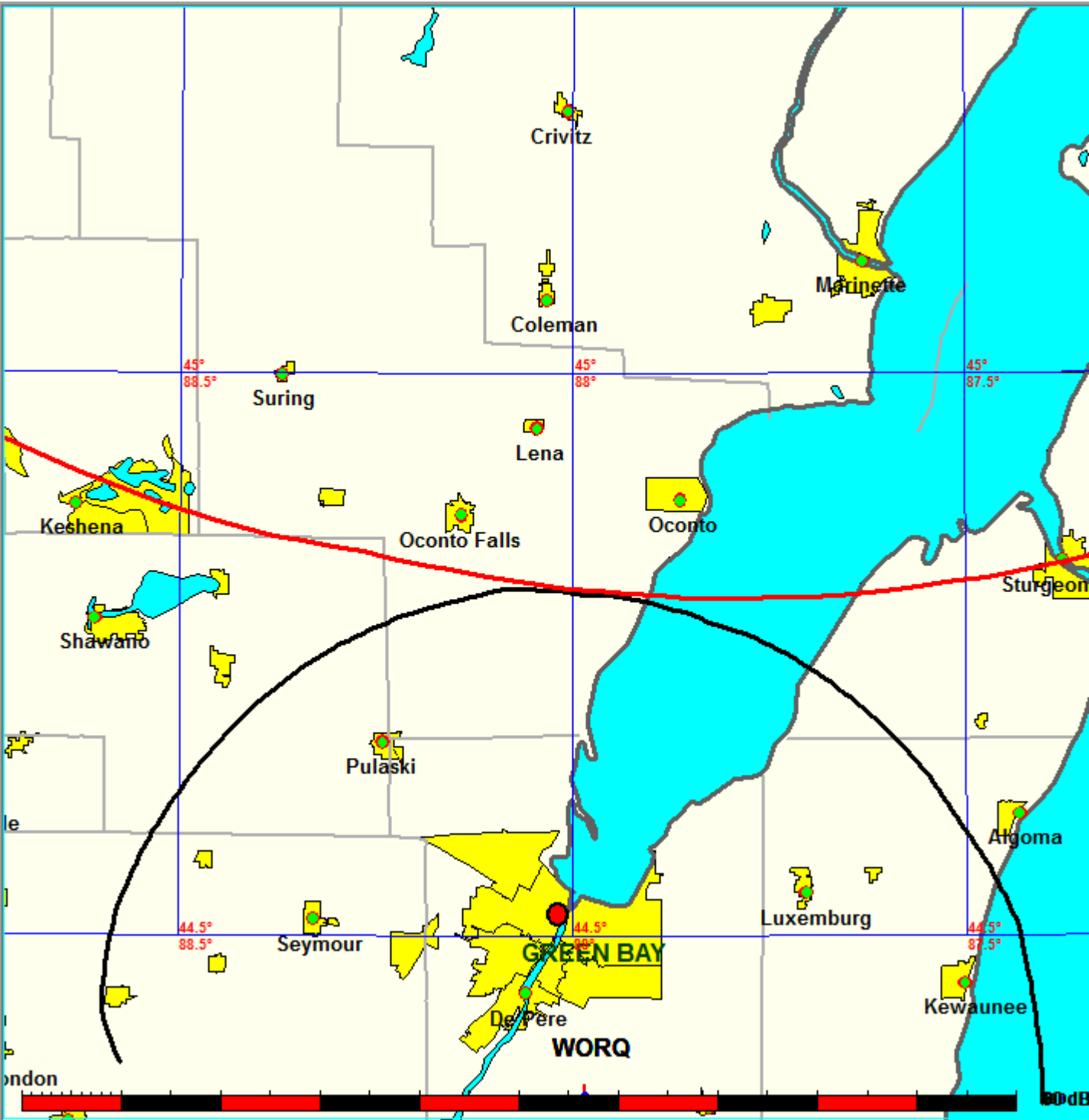
Data supplied to FCC is in 10 degree azimuth increments except for special azimuth @ 235 degrees.

WORQ-CP-Mod 54dBu vs. WRST-FM 60dBu



§73.509(e) [Prohibited overlap]: "The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water."

WORQ-CP-Mod 60dBu vs. WNMU-FM 40dBu



WORQ-CP-Mod 54dBu vs. WVFL 60dBu

