

Exhibit 13 - FM Channel Study

Kilgore Broadcast Maintenance

Form 349 Long-Form  
Metro North Communications, Inc.  
44 04 22.6 N.      CH# 230D - 93.9 MHz, Pwr= 0.25 kW DA, HAAT= 0.0 M, COR= 357 M      DISPLAY DATES  
88 15 24.7 W.      Average Protected F(50-50)= 7.09 km      DATA 03-01-18  
Standard Directional      SEARCH 03-06-18

CH CITY	CALL	TYPE	ANT STATE	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
230D	1772685 New Holstein	APP DC_	WI	0.0 0.0	0.00 BNPFT20170726ATQ	44 04 22.6 88 15 24.7	0.250 0.00	0.00 357	0.00 Metro North Communications	64.5R	-64.5M	/1
230C1	WDOR-FM Sturgeon Bay	LIC _CN	WI	36.9 217.5	116.38 BLH19801224AK	44 54 23.0 87 22 15.0	77.000 198	153.6 396	60.2 Door County Broadcasting C	-50.0*<	12.1	/2
232C3	WYDR Neenah-menasha	LIC ZCN	WI	347.1 167.1	9.73 BLH19950920KB	44 09 30.0 88 17 03.0	13.000 140	2.7 387	27.8 Midwest Communications, In	-3.5*<	-19.0*<	/3
228C2	WGEE New London	LIC _CN	WI	336.3 156.1	57.54 BLH19890911KB	44 32 47.0 88 32 57.0	50.000 150	6.0 388	52.6 Midwest Communications, In	41.7	4.3	
230D	1772565 Oshkosh	APP DC_	WI	262.2 82.0	22.02 BNPFT20170731ABC	44 02 45.1 88 31 44.8	0.250 0.00	10.4 320	3.2 Cumulus Licensing LIc	7.8	6.6	
229A	WBFM Sheboygan	LIC _CN	WI	133.0 313.3	57.44 BLH19930225KB	43 43 12.0 87 44 04.0	6.000 77	33.2 277	22.2 Midwest Communications, In	13.0	19.2	
230C3	WMMA-FM Nekoosa	LIC NCX	WI	278.1 97.0	126.92 BLH20050525AIH	44 13 23.0 89 49 46.0	18.000 112	105.4 411	35.7 Immaculate Heart Media, In	17.8	79.1	
229D	1769726 Fond Du Lac	APP _C_	WI	204.6 24.5	36.68 BNPFT20170801AHF	43 46 22.0 88 26 50.0	0.250 0.00	11.3 268	7.9 Radio Plus, Inc.	17.9	18.1	
283A	WXER Plymouth	LIC NCX	WI	156.9 337.0	41.96 BLH20060109ACJ	43 43 32.0 88 03 07.0	5.100 108	0.0 401	0.0 Midwest Communications, In	9.5R	32.5M	
284A	WBJZ Berlin	APP NCX	WI	250.0 69.5	53.82 BPH20180222AAY	43 54 20.8 88 53 11.7	5.200 100	0.0 360	0.0 Caxambas Corporation	9.5R	44.3M	
231B	WJJO Watertown	LIC _CX	WI	210.2 29.7	130.11 BMLH20160921AAN	43 03 32.0 89 03 45.0	50.000 150	78.4 416	65.3 Mid-west Management, Inc.	44.9	51.3	
284A	WBJZ Berlin	LIC NCX	WI	249.4 69.0	54.61 BLH20060612AAK	43 53 57.0 88 53 37.0	5.200 107	0.0 369	0.0 Caxambas Corporation	9.5R	45.1M	
233B	WKTJ Milwaukee	LIC _C_	WI	165.2 345.4	112.75 BLH19991020ABM	43 05 29.0 87 54 07.0	14.000 291	5.5 498	65.6 Scripps Broadcasting Hol di	96.8	45.5	
227B	WLDB Milwaukee	LIC NCX	WI	165.2 345.5	112.20 BLH20050923AAH	43 05 46.0 87 54 15.0	16.000 270	5.5 468	64.6 Milwaukee Radio Alliance,	96.2	46.0	

Terrain database is FCC NGDC 30 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= 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)  
"\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
< = Contour Overlap

/1 This is the subject station of this instant application.

/2 Full-service stations are not required to protect FM translators.

/3 Please see UD/D Study and 74.1204 waiver request herein.

Protected zones report for 1772685 on channel 230D 03-06-2018

Lat. 44 04 22.6 Lng. 88 15 24.7, ERP= 0.25 kw, HAAT= 0 m

Facility is okay with respect to Canada. Distance = 393.3 km.

Facility is okay with respect to AM station towers.

Closest AM Facility is WLAK, NEW HOLSTEIN, WI, L, NDD at 89.0° at a distance of 6.2 km

Facility is okay with respect to FCC monitoring stations.

Closest FCC Monitoring Station is 247.8 km= Allegan, MI

Facility is okay toward West Virginia Quiet Zone. Distance to center = 969.3 km

Facility is okay toward Table Mountain. Distance to Center = 1471.3 km,

Azimuth = 258.5 Degrees True

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**Waiver For Compliance with 47 C.F.R. 74.1204**

**Interference to WYDR**

The site for the facility of proposed CP amendment is located within the protected contour of second-adjacent channel station WYDR, channel 232C3, in Neenah-Menasha, WI, the Protected Station. The predicted contour at the proposed site for this amendment is 78.5 dBu F[50,50]. According to established contour protection ratios, the contour from the interfering station should be 40 dB higher than the protected contour. Therefore the respective potential interfering contour for this proposed amendment is 118.5 dBu F[50,10].

An aerial view map shows the 118.5dBu interfering contour in red which encompasses the UD/D interference area. The ground elevation within that radius is approximately even with or below the site elevation within the potentially affected area. In that areas there are no residences, business buildings, storage buildings or other structures where the public might be located. The only public location within the potentially affected area is County Road E.

The antenna is proposed to be located with radiation center 48 meters AGL transmitting 0.250 KW ERP. Applicant proposes to use a BEXT Log-R-FM-DA2 composite antenna. A graphical representation of radiation in the vertical plane, the results from XField (© V-Soft), is displayed in a following page shows the interference hovers more than 20 meters AGL at the reference elevation.

**Request for Waiver**

No buildings, roads or other structures that the public would normally occupy would put the public within the interference pattern radiated by the antenna.

Since this proposal complies with 47 C.F.R. 74.1204(d) based upon the fact that no actual interference will occur due to no population and no public locations within the areas of interference, we hereby request waiver of 47 C.F.R. 74.1204(a)(3) for separation between this proposed facility and the Protected Station.

# Exhibit 13 - WLAK Chilton Xltr vs WYDR

## 1762889.Prop 118.6dBu

Chilton, WI  
Latitude: 44-04-22.60 N  
Longitude: 088-15-24.70 W  
ERP: 0.25 kW, Class D  
Ch: 230, Freq: 93.9 MHz  
Height: AMSL 357.1 m, AGL 51.93 m  
Site Elev: 305.17 m, HAAT 0.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

1762889.Prop 118.6dBu (230)

1762889.Prop 118.6dBu (230)

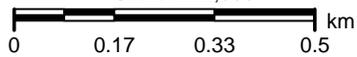
WYDR 78.60dBu (232)

Moore Rd

County Hwy E

1762889.Prop 118.6dBu

Scale 1:12,500



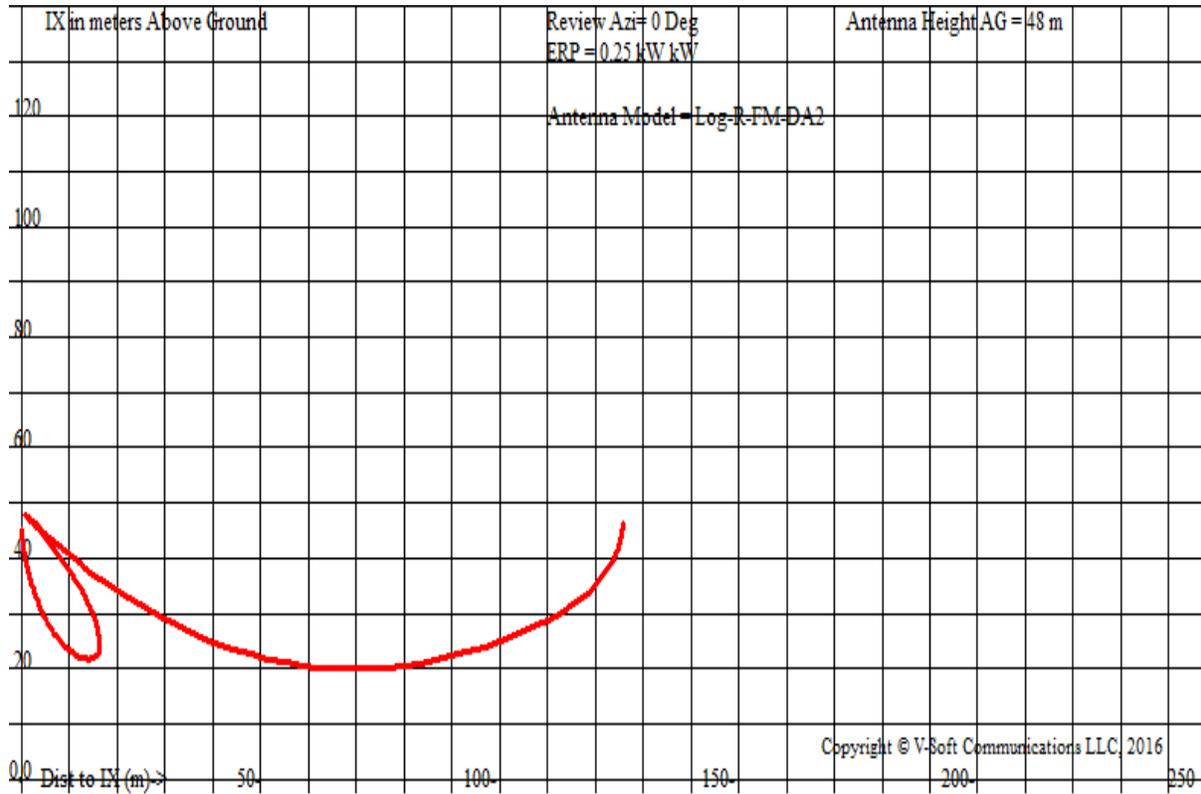
# Exhibit 13 - WLAK Chilton Xltr vs WYDR: Aerial Map

1762889.Prop 118.6dBu (230)

## Legend

-  1762889.Prop 118.6dBu (230) - 50 50 Field Strength: 118.6 dBu FCC [VS 03 US/FCC 30 US]
-  WYDR 78.60dBu (232) - 50 50 Field Strength: 78.6 dBu FCC [FCC 30 US/VS 03 US]





1762889.P , , Showing Protection to WYDR  
 74.1204(d) Study - Using FCC 30 SEC Terrain Database  
 Translator or LPPFM Maximum Licensed ERP = 0.25  
 Translator or LPPFM Antenna Height AG = 48 Meters  
 1762889.P Antenna Model = Log-R-FM-DA2

Protected Station's Contour = 78.51461 dBu  
 Translator's or LPPFM's full Interference contour 118.51461

Review Azimuth = 0 Degrees True  
 Relative Field on the horizon at Review Azimuth = 0.950  
 Translator/LPPFM ERP on the horizon at Review Azimuth = 0.226 kW  
 Distance between stations = 9.7 km  
 Protected Station= WYDR, 13 kW, 387 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	0.95	0.2375	128.2630	128.2630	048.000
05.0	0.978	0.95	0.2269	125.3771	124.9000	037.073
10.0	0.891	0.95	0.1885	114.2823	112.5461	028.155
15.0	0.768	0.95	0.1399	098.4418	095.0875	022.521
20.0	0.646	0.95	0.0991	082.8579	077.8609	019.661
25.0	0.517	0.95	0.0634	066.2478	060.0409	020.002
30.0	0.372	0.95	0.0329	047.7138	041.3214	024.143
35.0	0.210	0.95	0.0104	026.8711	022.0115	032.587
40.0	0.050	0.95	0.0006	006.4131	004.9128	043.878
45.0	0.084	0.95	0.0017	010.7100	007.5731	040.427
50.0	0.178	0.95	0.0075	022.8308	014.6754	030.511
55.0	0.227	0.95	0.0122	029.0516	016.6633	024.202
60.0	0.240	0.95	0.0137	030.7831	015.3916	021.341
65.0	0.228	0.95	0.0123	029.2440	012.3590	021.496
70.0	0.200	0.95	0.0095	025.6526	008.7737	023.894
75.0	0.160	0.95	0.0060	020.4579	005.2949	028.239
80.0	0.114	0.95	0.0031	014.6220	002.5391	033.600
85.0	0.064	0.95	0.0010	008.1447	000.7099	039.886
90.0	0.028	0.95	0.0002	003.5914	000.0000	044.409