

WJRF(FM) - Proposed Contour Study											
University Of Northwestern - St. Paul											
CH# 208C1 - 89.5 MHz, Pwr= 40 kW DA, HAAT= 216.8 M, COR= 521 M											
Average Protected F(50-50)= 56.76 km											
Standard Directional											
DISPLAY DATES											
DATA 12-05-19											
SEARCH 12-05-19											
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)
208C3	WJRF	LIC	___	11.1	0.44	46 47 20.80	2.850		---	Reference---	
Duluth		MN		191.1	BMLD20050204ABB	92 07 09.70	156	463	University Of Northwestern		
208A	WJRF	CP	___	0.0	0.00	46 47 06.80	1.650		---	Reference---	
Duluth		MN		0.0	BPED20190802AAK	92 07 13.70	181	488	University Of Northwestern		
208A	WJRF	LIC	___	0.0	0.00	46 47 06.80	1.650		---	Reference---	
Duluth		MN		0.0	0000086708	92 07 13.70	181	488	University Of Northwestern		
206C2	WGZS	LIC	___	277.5	44.64	46 50 10.80	50.000	5.8	51.2	-6.0*	-11.5*
Cloquet		MN		97.1	BLED20110907ABL	92 42 08.70	135	536	Fond Du Lac Band Of Lake S		
210C1	WHSB	LIC	D__	129.7	55.16	46 27 59.90	92.000	6.0	51.9	12.0	0.5
Brule		WI		310.1	BLED20120920ADG	91 33 59.50	157	519	State Of Wisconsin - Educa		
209C3	KGRP	LIC	___	299.0	114.63	47 16 39.00	8.900	58.2	38.9	15.4	11.8
Grand Rapids		MN		118.0	BLED20130313ABB	93 26 59.10	157	558	Minnesota Public Radio		
207C3	WIRC	LIC	___	9.6	123.89	47 53 00.70	18.500	59.4	39.1	18.7	16.7
Ely		MN		189.8	BLED20110915AAK	91 50 31.50	116	553	Minnesota Public Radio		
209C3	WLSN	LIC	___	50.1	172.72	47 46 03.60	6.000	71.9	48.2	47.4	46.3
Grand Marais		MN		231.4	BLED20020411AAL	90 20 47.40	194	537	Minnesota Public Radio		
211A	KADU	LIC	___	317.4	93.75	47 24 09.80	1.500	2.0	23.8	50.1	65.5
Hibbing		MN		136.8	BLED20070629AAJ	92 57 50.70	103	540	Heartland Christian Broadc		
205C1	WOJB	LIC	___	149.5	117.63	45 52 15.80	100.000	8.3	64.1	70.5	50.8
Reserve		WI		330.0	BLED19820428AH	91 20 56.60	184	595	Lac Courte Oreilles Ojibwa		
209C2	KPCS	LIC	___	219.9	177.30	45 33 09.90	40.000	47.7	27.9	68.7	61.0
Princeton		MN		38.9	BLED20100409ACB	93 34 54.90	42	341	Pensacola Christian Colleg		
207C1	KOPJ	LIC	___	263.3	194.79	46 33 07.90	100.000	85.9	56.4	61.9	68.0
Sebek		MN		81.4	BLED20051005AAI	94 39 04.00	143	560	We Have This Hope Christia		
208C3	WYNJ	CP	D__	299.7	220.72	47 44 20.80	10.000	93.8	30.6	85.8	67.1
Blackduck		MN		117.8	BPED20171229ABB	94 41 10.90	100	509	We Have This Hope Christia		
208A	WYNJ	LIC	___	299.7	220.72	47 44 20.80	0.800	56.2	16.7	123.4	81.0
Blackduck		MN		117.8	BLED20090526AFQ	94 41 10.90	100	509	We Have This Hope Christia		
205C3	WQRN	LIC	D__	341.7	129.00	47 53 08.70	16.000	3.0	29.3	83.5	94.7
Cook		MN		161.3	BLED20091020AAS	92 39 47.60	70	484	Vcy America Inc.		
208C1	WCLQ	LIC	D__	136.8	280.60	44 55 10.90	90.000	157.2	61.2	86.2	122.3
Wausau		WI		318.5	BLED20040225ABB	89 40 45.40	185	569	Christian Life Communicati		
207C1	KCMP	LIC	___	197.9	244.47	44 41 20.90	100.000	99.4	68.7	87.6	95.9
Northfield		MN		17.3	BLED20060308AIB	93 04 21.80	234	517	Minnesota Public Radio		
207B	CBON20«	LIC	D__	46.8	292.94	48 33 01.50	27.500	77.6	65.4	195.0R	97.9M
Thunder Bay		ON		228.9		89 13 25.20	173	554			

Terrain database is NGDC 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= - Zone 2, 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.
 « = Station meets FCC minimum distance spacing for its class.
 Reference station has protected zone issue: Canada