

Channel Study

REFERENCE		CH# 249D - 97.7 MHz, Pwr= 0.25 kW, HAAT= 303.9 M, COR= 582 M								DISPLAY DATES	
45 20 20.0 N.		Average Protected F(50-50)= 22.7 km								DATA 05-21-14	
93 23 27.0 W.		Omni-directional								SEARCH 05-21-14	
CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
249D Albertville	K249ED	CP	C MN	0.0 0.0	0.00 BPFT20130326ACE	45 20 20.0 93 23 27.0	0.210 312	67.0 590	22.0 Educational Media Foundati	-89.7*	-90.4*
249D Albertville	K249ED	LIC	C MN	186.3 6.2	23.73 BLFT20071025AED	45 07 36.0 93 25 26.0	0.170 41	27.9 316	8.3 Educational Media Foundati	-27.3*	-54.3
246C Minneapolis	KTCZ-FM	LIC	CN MN	146.1 326.3	37.54 BLH19910814KC	45 03 30.0 93 07 27.0	100.000 315	10.4 593	73.6 Amfm Broadcasting Licenses	4.2	-37.1*
251C0 St. Cloud	WWJO	LIC	CY MN	317.1 136.6	72.44 BLH19890117KF	45 48 52.0 94 01 38.0	100.000 305	10.1 669	72.4 Townsquare Media Licensee	40.5	-0.7
250L1 Minneapolis	1587553	APP	MN	163.9 344.0	43.43 BNPL20131113BHS	44 57 48.2 93 14 15.9	0.100 1			12.4	3.3
250L1 St. Paul	1594086	APP	MN	160.6 340.7	43.85 BNPL20131115ADR	44 58 00.2 93 12 19.8	0.093 31			12.8	3.3
248L1 St. Louis Park	KUOL-LP	CP	MN	179.1 359.1	44.04 BNPL20131112BDA	44 56 34.0 93 22 56.0	0.050 13			14.2	4.7
249C3 Barron	WAQE-FM	LIC	NC WI	79.5 260.7	128.83 BLH20010412AAH	45 32 16.0 91 45 50.0	15.500 88	99.4 455	31.4 TkC, Inc.	6.6	27.5
250L1 Fort Snelling,	1601009	APP	MN	162.5 342.7	52.68 BNPL20131114BCE	44 53 12.0 93 11 24.0	0.100 -1			21.7	12.6
248L1 Saint Cloud	NEW	CP	MN	292.3 111.8	63.89 BNPL20131113BKK	45 33 17.0 94 09 00.0	0.045 44			32.3	24.3
250L1 Lakeville	1572914	APP	MN	169.5 349.6	70.32 BNPL20131028AOC	44 43 00.7 93 13 42.2	0.100 29			36.3	28.0
248C Rochester	KNXR	LIC	C MN	149.7 330.4	166.47 BLH19990505KB	44 02 28.0 92 20 25.0	100.000 317	107.0 671	73.7 United Audio	36.5	58.4
248D Hinckley	W248AS	LIC	C MN	24.7 205.0	82.74 BLFT20061127ADB	46 00 51.0 92 56 35.0	0.055 46	9.9 360	6.9 Minnesota Public Radio	50.1	41.8

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=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 protected contour.

The F(50/50) 60dbu contour of the proposed and licensed facility of K249ED overlap.
 3rd adjacent KTCZ-FM is addressed in Exhibit 13-A
 2nd adjacent WWJO is addressed in Exhibit 13-B

Compliance with C.F.R. 74.1204

The proposed FM Translator is located within the protected 60 dBu contour of third adjacent channel station KTCZ-FM, channel 246C, Minneapolis, MN. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for K249ED:	250 watts
The proposed COR for K249ED:	303 meters
KTCZ-FM F(50/50) contour at proposed site:	76.9 dBu
The F(50/10) contour of proposed K249ED	116.9 dBu

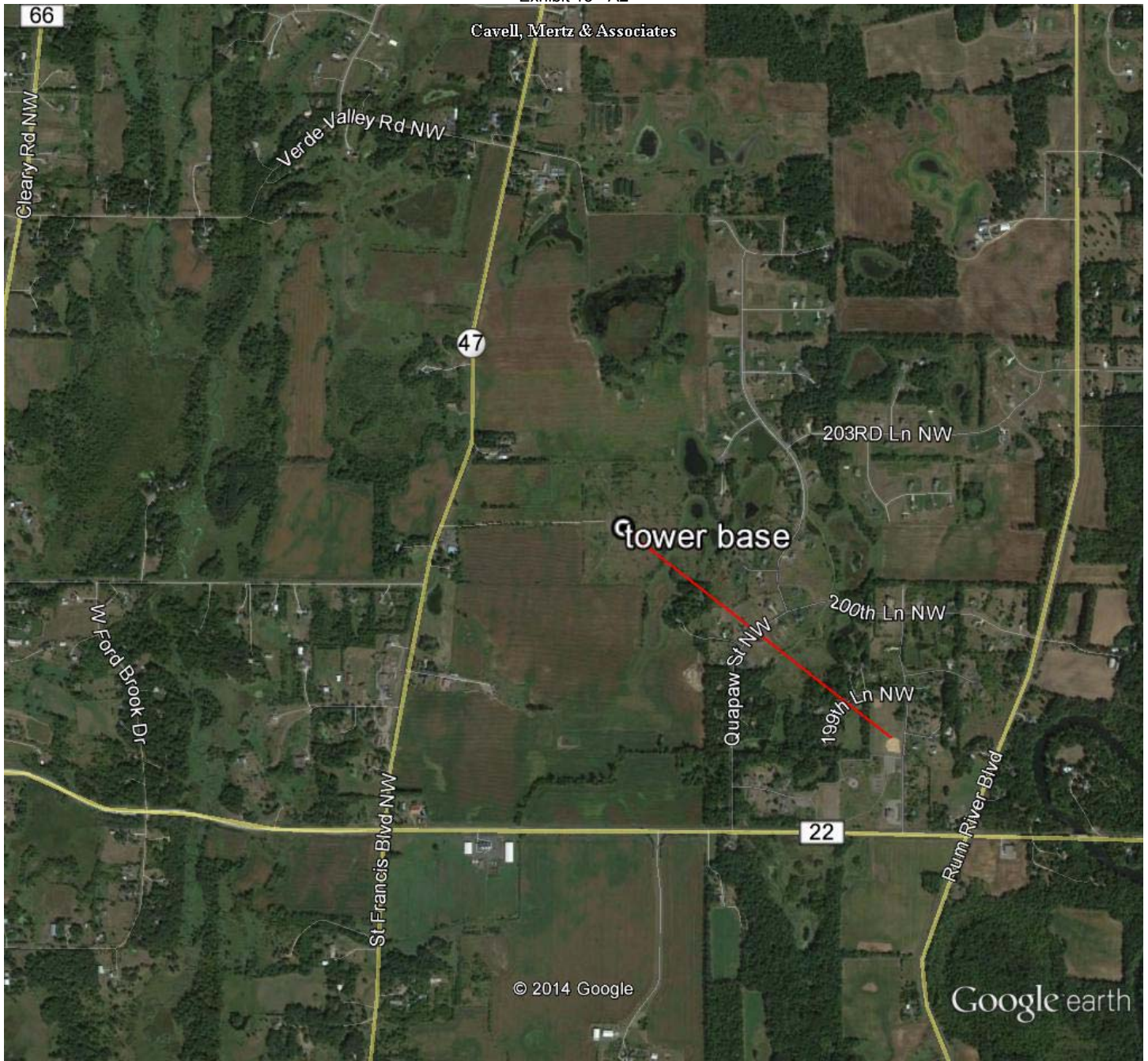
By taking into account the antenna vertical elevation pattern for a four bay half wave spaced Jampro, JLCP, it has been determined that the predicted interfering contour will not actually reach the ground (see Exhibit 13 A-1). The maximum distance to the interference contour is 159 meters. Please see Exhibit 13 A-2 for an aerial photo of the area that shows there are no buildings tall enough to enter the predicted interference area.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1
74.1204(d) Showing
K249ED
Albertville, MN

ERP (kw): 0.25
Height of Antenna above Ground (m): 303
Translator's IX Contour: 116.9
Antenna Type: JLCP-4BAY 0.5 spacing

Depression Angle from Horizon	Antenna Relative Field	ERP (kw) from the Antenna RF	Dist. To IX Contour (m)	Height IX Contour Above Ground (m)
0	1.000	0.2500	158.4784	303.000
5	0.948	0.2247	150.2375	289.906
10	0.803	0.1612	127.2581	280.902
15	0.593	0.0879	93.9777	278.677
20	0.372	0.0346	58.9540	282.837
25	0.167	0.0070	26.4659	291.815
30	0.001	0.0000	0.1585	302.921
35	0.110	0.0030	17.4326	293.001
40	0.164	0.0067	25.9905	286.294
45	0.175	0.0077	27.7337	283.389
50	0.160	0.0064	25.3565	283.576
55	0.123	0.0038	19.4928	287.032
60	0.086	0.0018	13.6291	291.197
65	0.053	0.0007	8.3994	295.388
70	0.030	0.0002	4.7544	298.532
75	0.013	0.0000	2.0602	301.010
80	0.004	0.0000	0.6339	302.376
85	0.001	0.0000	0.1585	302.842
90	0.001	0.0000	0.1585	302.842



Google earth

miles 1
km 1



NAD27 COORDIANTES

45 20 20 N

093 23 27 W

The red line measures 1109m from the base of the tower.

Compliance with C.F.R. 74.1204

The proposed FM Translator is located within the protected 60 dBu contour of second adjacent channel station WWJO, channel 246C, St. Cloud, MN. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

The proposed ERP for K249ED:	250 watts
The proposed COR for K249ED:	303 meters
WWJO F(50/50) contour at proposed site:	60 dBu
The F(50/10) contour of proposed K249ED	100 dBu

By taking into account the antenna vertical elevation pattern for a four bay half wave spaced Jampro, JLCP, it has been determined that the predicted interfering contour will not actually reach the ground (see Exhibit 13 B-1). The maximum distance to the interference contour is 1109 meters. Please see Exhibit 13 A-2 for an aerial photo of the area that shows there are no buildings tall enough to enter the predicted interference area.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - B1
74.1204(d) Showing
K249ED
Albertville, MN

ERP (kw): 0.25
Height of Antenna above Ground (m): 303
Translator's IX Contour: 100
Antenna Type: JLCP-4BAY 0.5 spacing

Depression Angle from Horizon	Antenna Relative Field	ERP (kw) from the Antenna RF	Dist. To IX Contour (m)	Height IX Contour Above Ground (m)
0	1.000	0.2500	1109.0982	303.000
5	0.948	0.2247	1051.4251	211.362
10	0.803	0.1612	890.6059	148.348
15	0.593	0.0879	657.6952	132.776
20	0.372	0.0346	412.5845	161.888
25	0.167	0.0070	185.2194	224.723
30	0.001	0.0000	1.1091	302.445
35	0.110	0.0030	122.0008	233.023
40	0.164	0.0067	181.8921	186.082
45	0.175	0.0077	194.0922	165.756
50	0.160	0.0064	177.4557	167.061
55	0.123	0.0038	136.4191	191.252
60	0.086	0.0018	95.3824	220.396
65	0.053	0.0007	58.7822	249.725
70	0.030	0.0002	33.2729	271.734
75	0.013	0.0000	14.4183	289.073
80	0.004	0.0000	4.4364	298.631
85	0.001	0.0000	1.1091	301.895
90	0.001	0.0000	1.1091	301.891