

Channel Study

REFERENCE		CH# 227D - 93.3 MHz, Pwr= 0.099 kW, HAAT= 235.9 M, COR= 504 M								DISPLAY DATES	
44 58 34.0 N.		Average Protected F(50-50)= 15.8 km								DATA 06-20-17	
93 16 20.0 W.		Omni-directional								SEARCH 06-21-17	
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*
227D Shoreview	W227BF!	LIC	V MN	0.0 0.0	0.00 BLFT20130412ABJ	44 58 34.0 93 16 20.0	0.099 236	52.2 504	16.0 Educational Media Foundati	-68.1	-68.1
227D Shoreview	W227BF!	CP	V MN	0.0 0.0	0.00 BPFT20170223AAV	44 58 34.0 93 16 20.0	0.065	47.7 504	14.3 Educational Media Foundati	-63.6	-66.5
229C Minneapolis	KXXR	LIC	CN MN	51.8 231.9	14.82 BLH19910814KF	45 03 30.0 93 07 27.0	100.000 315	10.4 593	73.7 Radio License Holdings Llc	-10.8*<	-59.6*<
225D St. Paul	W225AP	LIC	C MN	60.6 240.6	0.12 BLFT20150212AAA	44 58 36.0 93 16 15.0	0.099 236	0.7 504	15.3 Educational Media Foundati	-15.8*<	-15.8*<
225D St. Paul	W225AP	CP	C MN	97.2 277.3	15.66 BPFT20170223ABF	44 57 30.0 93 04 31.0	0.250	1.1 287	7.1 Educational Media Foundati	-1.3*<	7.9
227C1 Nisswa	KBLB	LIC	CX MN	332.5 151.8	184.50 BLH20020125AAX	46 26 34.0 94 22 55.0	100.000 170	160.3 554	62.6 Hbi Radio Brainerd/wadena,	8.4	70.4
227C0 La Crosse	WIZM-FM	LIC	CN WI	130.0 311.3	199.80 BLH19830527AE	43 48 23.0 91 22 04.0	100.000 311	169.5 579	70.3 Family Radio, Inc.	14.1	77.0
226C1 New Ulm	KATO-FM	LIC	CX MN	217.9 37.3	118.94 BMLH20140612ACV	44 07 46.0 94 11 17.0	100.000 149	88.0 440	58.4 Minnesota Valley Broadcast	15.4	37.0
226L1 Amery	WPCA-LP	LIC		62.2 242.9	82.47 BLL20120523AAS	45 19 02.0 92 20 27.0	0.050 42			57.1	52.3
228D St. Peter	K228XN	LIC	C MN	215.3 34.9	90.74 BLFT20090619ACK	44 18 31.0 93 55 52.0	0.060 70	9.7 361	6.8 Minnesota Public Radio	65.4	60.4
228D Owatonna	K228DR	LIC	C MN	177.8 357.8	98.55 BLFT20160304ABH	44 05 23.4 93 13 28.7	0.250	13.4 400	9.6 Owatonna Area Christian Ra	69.1	64.7

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= West Zone, Co to 3rd adjacent.
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

Educational Media Foundation

5700 W Oaks Blvd
Rocklin, CA 95765

*Exhibit 13-A
Shoreview, MN*

Compliance with C.F.R. 74.1204

The proposed FM Translator to operate on channel 227 is located within the protected 60dBu contour of a modification application for a second adjacent channel translator W225AP, channel 225D, St Paul, 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 W227BF.P:	99 watts
The proposed COR for W227BF.P:	244 meters
W225AP F(50/50) contour at proposed site:	114.9dBu
The F(50/10) contour of proposed W227BF.P:	154.9dBu

The predicted distance to the 154.9dbu interfering contour is 1.26 meters. Taking into account the vertical elevation pattern of the Bext TFLBDI single bay vertically polarized antenna and the height above ground of 244m, it has been determined that the interfering contour of 154.9dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 243.4m above ground at distances of 1m from the antenna.

As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 1.26m distance from the antenna. Taking into consideration the building underneath this rooftop antenna also provides ample distance to protect the potentially occupied floors since the lowest height above ground for the interfering contour is only 1m below the center of radiation of the antenna.

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
W227BF
Shoreview, MN

ERP (kw): 0.099
Height of Antenna above Ground (m): 244
Translator's IX Contour: 154.9
Antenna Type: Bext TFLBDI Single Bay

<u>Depression Angle from Horizon</u>	<u>Antenna Relative Field</u>	<u>ERP (kw) from the Antenna RF</u>	<u>Dist. To IX Contour (m)</u>	<u>Height IX Contour Above Ground (m)</u>
0	1	0.0990	1.2555	244.000
5	0.998	0.0986	1.2530	243.891
10	0.987	0.0964	1.2392	243.785
15	0.963	0.0918	1.2090	243.687
20	0.931	0.0858	1.1689	243.600
25	0.895	0.0793	1.1237	243.525
30	0.853	0.0720	1.0709	243.465
35	0.808	0.0646	1.0144	243.418
40	0.755	0.0564	0.9479	243.391
45	0.689	0.0470	0.8650	243.388
50	0.621	0.0382	0.7797	243.403
55	0.554	0.0304	0.6955	243.430
60	0.483	0.0231	0.6064	243.475
65	0.406	0.0163	0.5097	243.538
70	0.332	0.0109	0.4168	243.608
75	0.265	0.0070	0.3327	243.679
80	0.215	0.0046	0.2699	243.734
85	0.179	0.0032	0.2247	243.776
90	0.149	0.0022	0.1871	243.813

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*Exhibit 13-A
Shoreview, MN*

Compliance with C.F.R. 74.1204

The proposed FM Translator to operate on channel 227 is located within the protected 60dBu contour of second adjacent channel station KXXR, channel 229C, 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 W227BF.P:	99 watts
The proposed COR for W227BF.P:	244 meters
KXXR F(50/50) contour at proposed site:	93.6dBu
The F(50/10) contour of proposed W227BF.P:	133.6dBu

The predicted distance to the 133.6dbu interfering contour is 14.6 meters. Taking into account the vertical elevation pattern of the Bext TFLBDI single bay vertically polarized antenna and the height above ground of 244m, it has been determined that the interfering contour of 133.6dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 236.9m above ground at a distance of 10m from the antenna.

As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 14.6m distance from the antenna. Taking into consideration the building underneath this rooftop antenna also provides ample distance to protect the potentially occupied floors since the lowest height above ground for the interfering contour is only 7.1m below the center of radiation of the antenna.

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
W227BF
Shoreview, MN

ERP (kw): 0.099
Height of Antenna above Ground (m): 244
Translator's IX Contour: 133.6
Antenna Type: Bext TFLBDI Single Bay

<u>Depression Angle from Horizon</u>	<u>Antenna Relative Field</u>	<u>ERP (kw) from the Antenna RF</u>	<u>Dist. To IX Contour (m)</u>	<u>Height IX Contour Above Ground (m)</u>
0	1	0.0990	14.5820	244.000
5	0.998	0.0986	14.5529	242.732
10	0.987	0.0964	14.3925	241.501
15	0.963	0.0918	14.0425	240.366
20	0.931	0.0858	13.5759	239.357
25	0.895	0.0793	13.0509	238.484
30	0.853	0.0720	12.4385	237.781
35	0.808	0.0646	11.7823	237.242
40	0.755	0.0564	11.0094	236.923
45	0.689	0.0470	10.0470	236.896
50	0.621	0.0382	9.0554	237.063
55	0.554	0.0304	8.0784	237.383
60	0.483	0.0231	7.0431	237.900
65	0.406	0.0163	5.9203	238.634
70	0.332	0.0109	4.8412	239.451
75	0.265	0.0070	3.8642	240.267
80	0.215	0.0046	3.1351	240.912
85	0.179	0.0032	2.6102	241.400
90	0.149	0.0022	2.1727	241.827



Google Earth

feet 400
meters 100



Yellow Pin Marker

NAD27

44 58' 34.0" N 93 16' 20.0" W