

**Channel Study**

REFERENCE		CH# 204D - 88.7 MHz, Pwr= 0.01 kW, HAAT= 141.2 M, COR= 476 M								DISPLAY DATES		
40 35 25.0 N.		Average Protected F(50-50)= 6.9 km								DATA 09-26-16		
80 00 37.0 W.		Omni-directional								SEARCH 09-29-16		
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*	
207B Pittsburgh	WQED-FM	LIC	C PA	166.3 346.3	16.47 BLED20010209AAG	40 26 46.0 79 57 51.0	28.000 199	5.6 505	50.7 Wqed Multimedia	3.3	-34.4*<	
06--- Pittsburgh	WBPA-LP	AP	N PA	184.5 4.5	10.70 BDISTVL20090122ABF	40 29 39.0 80 01 13.0	3.000 242	6.5 491	25.4	31.9R	-21.2M	
06 D Weirton	WBPA-LD	CPM	N WV	184.5 4.5	10.70 BMPDVL20120810ABQ	40 29 39.0 80 01 13.0	3.000 242	6.5 491	25.4	31.9R	-21.2M	
204D Butler	W204CR	LIC	C PA	15.9 196.0	32.82 BLFT20160405ABN	40 52 27.8 79 54 10.8	0.013	24.2 480	7.2 Family Life Ministries, In	2.2	4.3	
202A Pittsburgh	WRCT	LIC	DCN PA	160.8 340.9	17.18 BLED19931202KB	40 26 39.0 79 56 37.0	1.750 22	1.6 324	11.6 Wrct Radio, Inc.	7.9	5.3	
205B Johnstown	WFRJ	LIC	DVX PA	105.3 286.0	90.49 BMLED20130530AMH	40 22 17.0 78 58 56.0	5.500 370	76.8 897	50.9 Family Stations, Inc.	6.7	29.7	
204B1 Moundsville	WULV	LIC	DCX WV	217.7 37.2	104.09 BMLED20150427AAR	39 50 51.0 80 45 23.0	3.000 181	85.4 498	29.8 Educational Media Foundati	10.9	48.1	
203B Youngstown	WYSU	LIC	DCX OH	314.3 133.9	74.50 BLED20101105AIJ	41 03 23.2 80 38 43.7	50.000 115	46.7 437	29.8 Youngstown State Universit	21.3	35.6	
201A Murrysville	WKGO	LIC	DEX PA	104.6 284.8	30.83 BLED20050413AAM	40 31 12.0 79 39 29.0	1.000 92	0.4 432	9.3 Broadcast Educational Comm	23.5	21.4	
204B1 Beach City	WOFN	LIC	DE OH	270.7 89.7	132.67 BLED20000831ADQ	40 35 41.0 81 34 39.0	22.500 105	101.6 425	35.9 Creative Educational Media	24.2	73.7	
205A New Wilmington	WWNW	LIC	DEX PA	334.6 154.4	64.17 BLED20080915AEH	41 06 41.0 80 20 21.0	4.000 39	30.7 382	20.8 Westminster College Board	27.1	34.4	
203B1 Masontown	WYFU	LIC	DCX PA	178.9 358.9	89.21 BLED20130509AAC	39 47 13.0 79 59 23.0	16.000 106	49.6 439	32.1 Bible Broadcasting Network	32.6	47.2	
201B1 Bethany	WZUM-FM	CP	DCX WV	228.3 48.0	62.39 BPED20140128ADN	40 12 58.0 80 33 31.0	10.000 125	2.6 457	27.5 Pittsburgh Public Media	52.2	34.7	
205A Steubenville	WBJV	LIC	CX OH	247.8 67.4	65.67 BLED20020221AAE	40 21 56.0 80 43 36.0	0.125 78	17.0 403	11.6 American Family Associatio	41.7	44.2	
201A Bethany	WZUM-FM	LIC	CN WV	228.3 48.0	62.39 BLED19850206LM	40 12 58.0 80 33 31.0	1.100 125	1.7 457	19.8 Pittsburgh Public Media	53.1	42.4	
201A Slippery Rock	WSRU	LIC	CN PA	357.0 177.0	52.45 BLED19910415KA	41 03 43.0 80 02 35.0	0.100 24	0.7 413	5.6 Slippery Rock University B	45.3	46.6	

Terrain database is GLOBE 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.  
 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

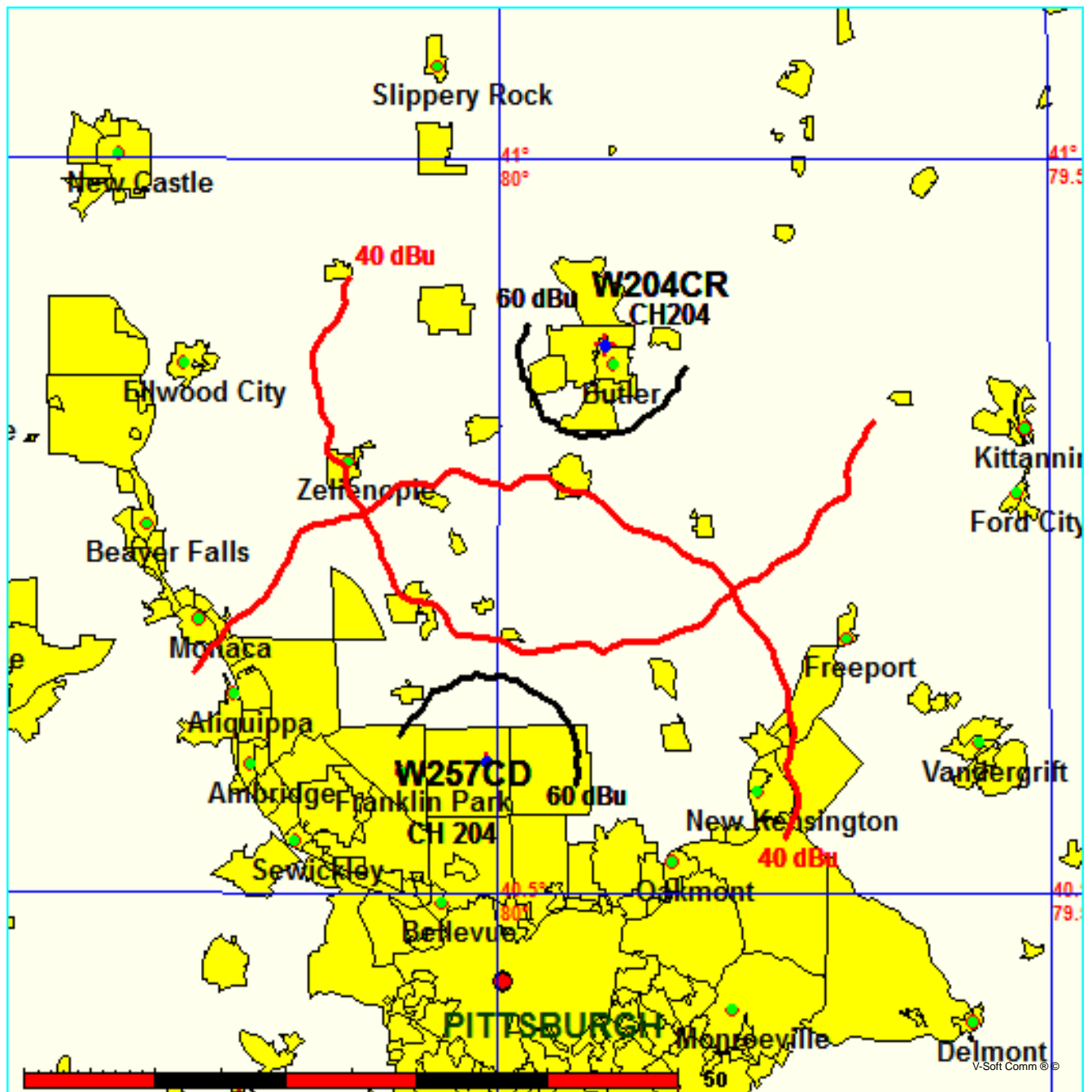
FMCommander Single Allocation Study - 09-29-2016 - GLOBE 30 Sec  
W257CD's Overlaps (In= 2.22 km, Out= 4.26 km)

W257CD CH 204 D

Lat= 40 35 25.0, Lng= 80 00 37.0  
0.01 kW 141.2 m HAAT, 476 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

W204CR CH 204 D BLFT20160405ABN

Lat= 40 52 27.8, Lng= 79 54 10.8  
0.013 kW 0 m HAAT, 480 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



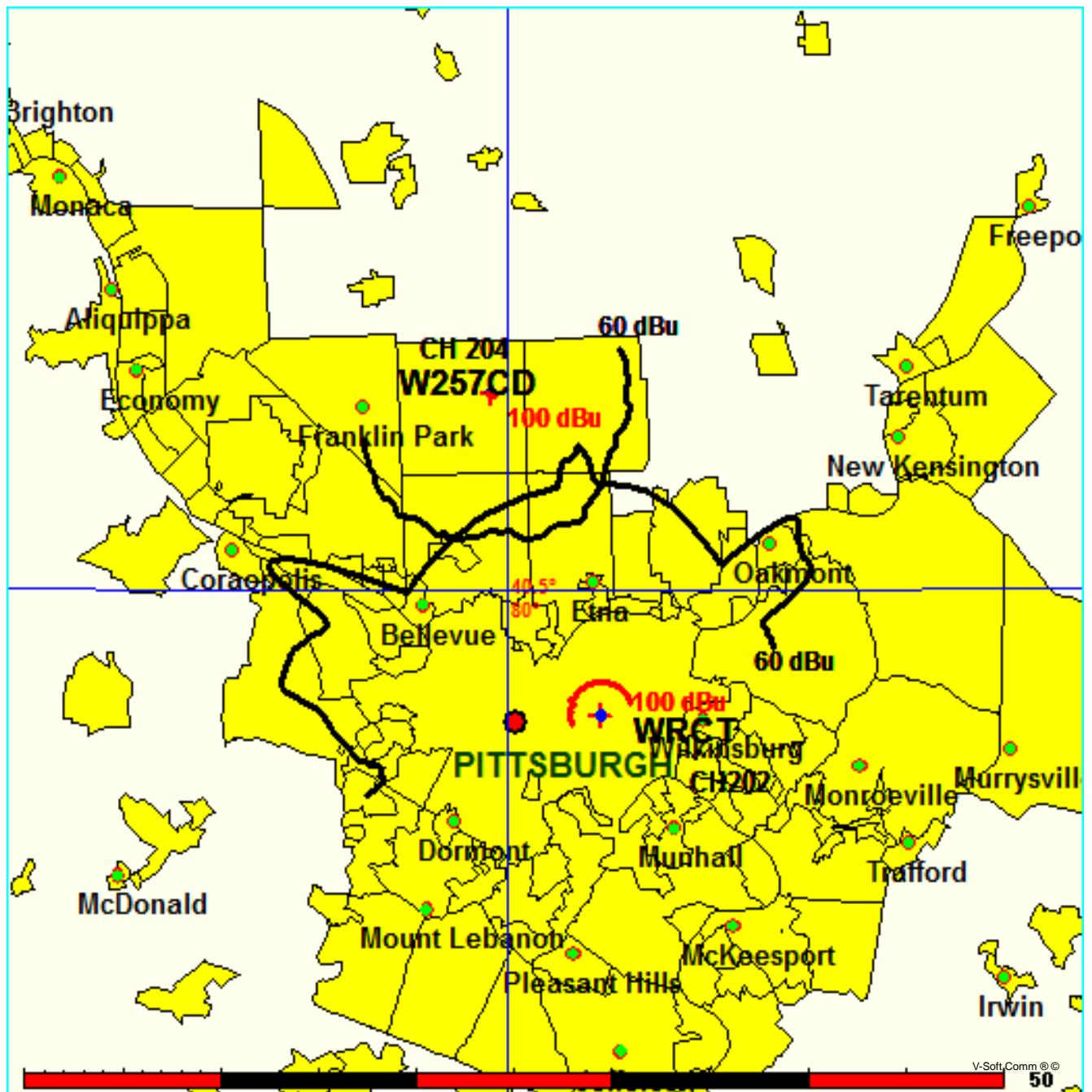
FMCommander Single Allocation Study - 09-29-2016 - GLOBE 30 Sec  
W257CD's Overlaps (In= 7.89 km, Out= 5.33 km)

W257CD CH 204 D

Lat= 40 35 25.0, Lng= 80 00 37.0  
0.01 kW 141.2 m HAAT, 476 m COR  
Prot.= 60 dBu, Intef.= 100 dBu

WRCT CH 202 A DA BLED19931202KB

Lat= 40 26 39.0, Lng= 79 56 37.0  
1.75 kW 22 m HAAT, 324 m COR  
Prot.= 60 dBu, Intef.= 100 dBu



**Educational Media Foundation**

5700 W Oaks Blvd  
Rocklin, CA 95765

*Exhibit 13-A  
Pittsburgh, Pa*

**Compliance with C.F.R. 74.1204**

The proposed FM Translator to operate on channel 204 is located within the protected 60dBu contour of third adjacent channel station WQED-FM, channel 207B, Pittsburgh, Pa. 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 W257CD.P:	10 watts
The proposed COR for W257CD.P:	113 meters
WQED-FM F(50/50) contour at proposed site:	81.7dBu
The F(50/10) contour of proposed W257CD.P:	121.7dBu

The predicted distance to the 121.7dbu interfering contour is 18.24 meters. Taking into account the vertical elevation pattern of the Jampro JLCP single bay antenna and the height above ground of 113M, it has been determined that the interfering contour of 121.7dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 104.6M above ground at a distance of 11m 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 18.24m distance from 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  
W257CD  
Pittsburgh, Pa

ERP (kw): 0.01  
Height of Antenna above Ground (m): 113  
Translator's IX Contour: 121.7  
Antenna Type: JLCP-1BAY

<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	1.000	0.0100	18.2390	113.000
5	0.994	0.0099	18.1295	111.420
10	0.975	0.0095	17.7830	109.912
15	0.940	0.0088	17.1446	108.563
20	0.910	0.0083	16.5975	107.323
25	0.880	0.0077	16.0503	106.217
30	0.840	0.0071	15.3207	105.340
35	0.770	0.0059	14.0440	104.945
40	0.710	0.0050	12.9497	104.676
45	0.650	0.0042	11.8553	104.617
50	0.600	0.0036	10.9434	104.617
55	0.520	0.0027	9.4843	105.231
60	0.450	0.0020	8.2075	105.892
65	0.380	0.0014	6.9308	106.719
70	0.320	0.0010	5.8365	107.516
75	0.250	0.0006	4.5597	108.596
80	0.180	0.0003	3.2830	109.767
85	0.140	0.0002	2.5535	110.456
90	0.010	0.0000	0.1824	112.818

Exhibit 13-A2



Google earth

feet  
meters

1000  
300



Yellow Pin Marker

NAD 27

40 35' 25.0" N 80 00' 37.0" W

Red Line Marker

100m at zero degrees true north