

Channel Study

REFERENCE		CH# 204D - 88.7 MHz, Pwr= 0.01 kW, HAAT= 200.5 M, COR= 510 M								DISPLAY DATES	
40 28 19.0 N.		Average Protected F(50-50)= 8.2 km								DATA 01-27-17	
79 59 40.0 W.		Omni-directional								SEARCH 01-30-17	
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*
207B Pittsburgh	WQED-FM	LIC	C PA	138.3	3.85	40 26 46.0	28.000	5.6	50.5	-10.2*<	-46.9*<
				318.3	BLED20010209AAG	79 57 51.0	199	505	Wqed Multimedia		
06 D Weirton	WBPA-LD	CPM	N WV	318.5	3.29	40 29 39.0	3.000	6.9	29.7	36.6R	-33.3M
				138.5	BMPDVL20120810ABQ	80 01 13.0	242	491			
06-T Pittsburgh	WBPA-LP	AP	N PA	318.5	3.29	40 29 39.0	3.000	6.9	29.7	36.6R	-33.3M
				138.5	BDISTVL20090122ABF	80 01 13.0	242	491			
204D Pittsburgh	W204CT!	LIC	C PA	354.2	13.20	40 35 25.0	0.010	23.1	6.9	-17.5	-19.3
				174.2	BLFT20170109ACF	80 00 37.0		468	Educational Media Foundati		
202A Pittsburgh	WRCT	LIC	DCN PA	125.7	5.30	40 26 39.0	1.750	1.6	11.6	-5.2*<	-6.6*<
				305.7	BLED19931202KB	79 56 37.0	22	324	Wrct Radio, Inc.		
205B Johnstown	WFRJ	LIC	DVX PA	97.1	86.62	40 22 17.0	5.500	81.2	54.4	-2.6<	20.9
				277.8	BMLED20130530AMH	78 58 56.0	370	897	Family Stations, Inc.		
204B1 Moundsville	WULV	LIC	DCX WV	223.2	94.98	39 50 51.0	3.000	86.1	30.2	0.1	35.4
				42.8	BMLED20150427AAR	80 45 23.0	181	498	Educational Media Foundati		
204D Butler	W204CR	LIC	C PA	9.7	45.35	40 52 27.8	0.013	23.5	7.0	13.8	11.1
				189.8	BLFT20160405ABN	79 54 10.8		480	Family Life Ministries, In		
203B1 Masontown	WYFU	LIC	DCX PA	179.7	76.05	39 47 13.0	16.000	49.6	32.1	18.4	32.4
				359.7	BLED20130509AAC	79 59 23.0	106	439	Bible Broadcasting Network		
201A Murrysville	WKGO	LIC	DEX PA	79.3	29.01	40 31 12.0	1.000	0.6	9.2	19.3	19.6
				259.5	BLED20050413AAM	79 39 29.0	92	432	Broadcast Educational Comm		
204B1 Beach City	WOFN	LIC	DE OH	276.3	134.82	40 35 41.0	22.500	99.3	34.3	27.0	71.9
				95.3	BLED20000831ADQ	81 34 39.0	105	425	Creative Educational Media		
203B Youngstown	WYSU	LIC	DCX OH	320.1	85.05	41 03 23.2	50.000	50.2	32.0	27.2	42.1
				139.6	BLED20101105AIJ	80 38 43.7	115	437	Youngstown State Universit		
201B1 Bethany	WZUM-FM	CP	DCX WV	239.4	55.72	40 12 58.0	10.000	2.2	24.0	44.8	31.5
				59.1	BPED20140128ADN	80 33 31.0	125	457	Pittsburgh Public Media		
201A Bethany	WZUM-FM	LIC	CN WV	239.4	55.72	40 12 58.0	1.100	1.7	19.3	45.3	36.2
				59.1	BLED19850206LM	80 33 31.0	125	457	Pittsburgh Public Media		
205A Steubenville	WBJV	LIC	CX OH	259.4	63.25	40 21 56.0	0.125	17.3	11.8	37.4	39.4
				79.0	BLED20020221AAE	80 43 36.0	78	403	American Family Associatio		
205A New Wilmington	WNNW	LIC	DEX PA	337.9	76.73	41 06 41.0	4.000	31.5	21.3	37.8	44.9
				157.7	BLED20080915AEH	80 20 21.0	39	382	Westminster College Board		
201A Slippery Rock	WSRU	LIC	CN PA	356.4	65.64	41 03 43.0	0.100	0.7	5.6	57.4	59.8
				176.4	BLED19910415KA	80 02 35.0	24	413	Slippery Rock University B		

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
 Reference station has protected zone issue: AM tower

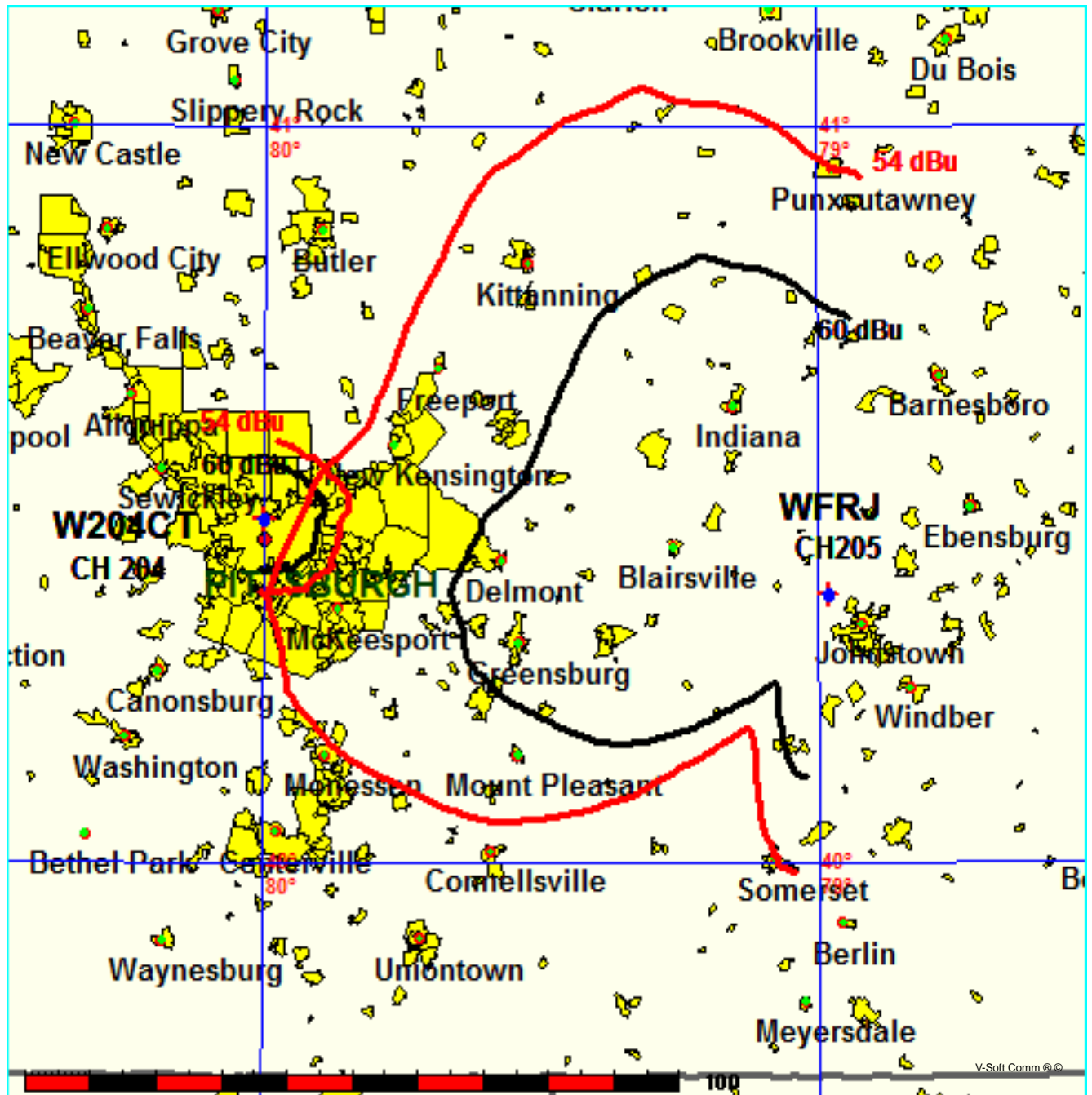
FMCommander Single Allocation Study - 01-30-2017 - GLOBE 30 Sec
W204CT's Overlaps (In= -2.62 km, Out= 20.88 km)

W204CT CH 204 D

Lat= 40 28 19.0, Lng= 79 59 40.0
0.01 kW 200.5 m HAAT, 510 m COR
Prot.= 60 dBu, Intef.= 54 dBu

WFRJ CH 205 B DA BMLED20130530AMH

Lat= 40 22 17.0, Lng= 78 58 56.0
5.5 kW 370 m HAAT, 897 m COR
Prot.= 60 dBu, Intef.= 54 dBu



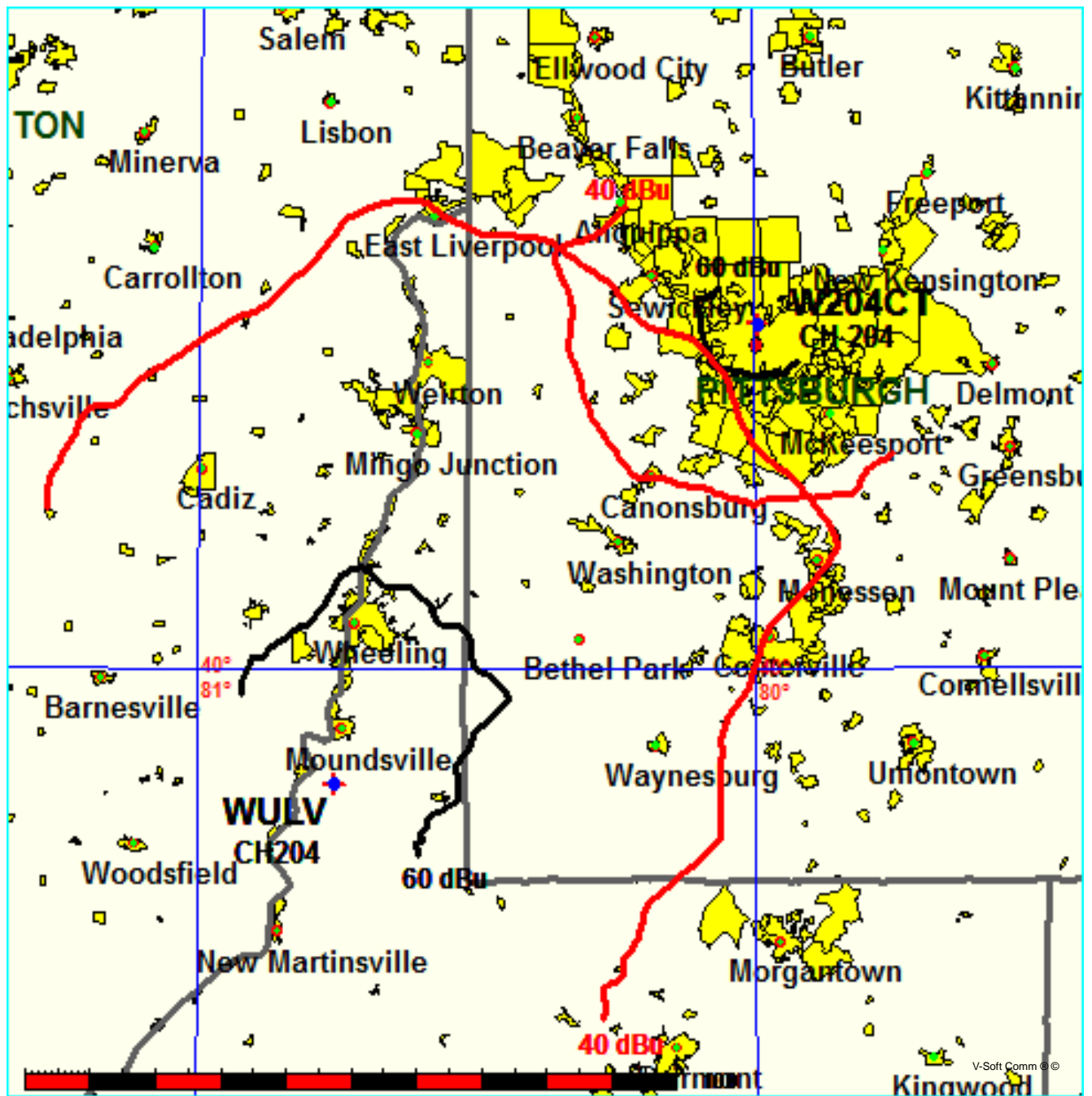
FMCommander Single Allocation Study - 01-30-2017 - GLOBE 30 Sec
W204CT's Overlaps (In= 0.11 km, Out= 35.41 km)

W204CT CH 204 D

Lat= 40 28 19.0, Lng= 79 59 40.0
0.01 kW 200.5 m HAAT, 510 m COR
Prot.= 60 dBu, Intef.= 40 dBu

WULV CH 204 B1 DA BMLED20150427AAR

Lat= 39 50 51.0, Lng= 80 45 23.0
3.0 kW 181 m HAAT, 498 m COR
Prot.= 60 dBu, Intef.= 40 dBu



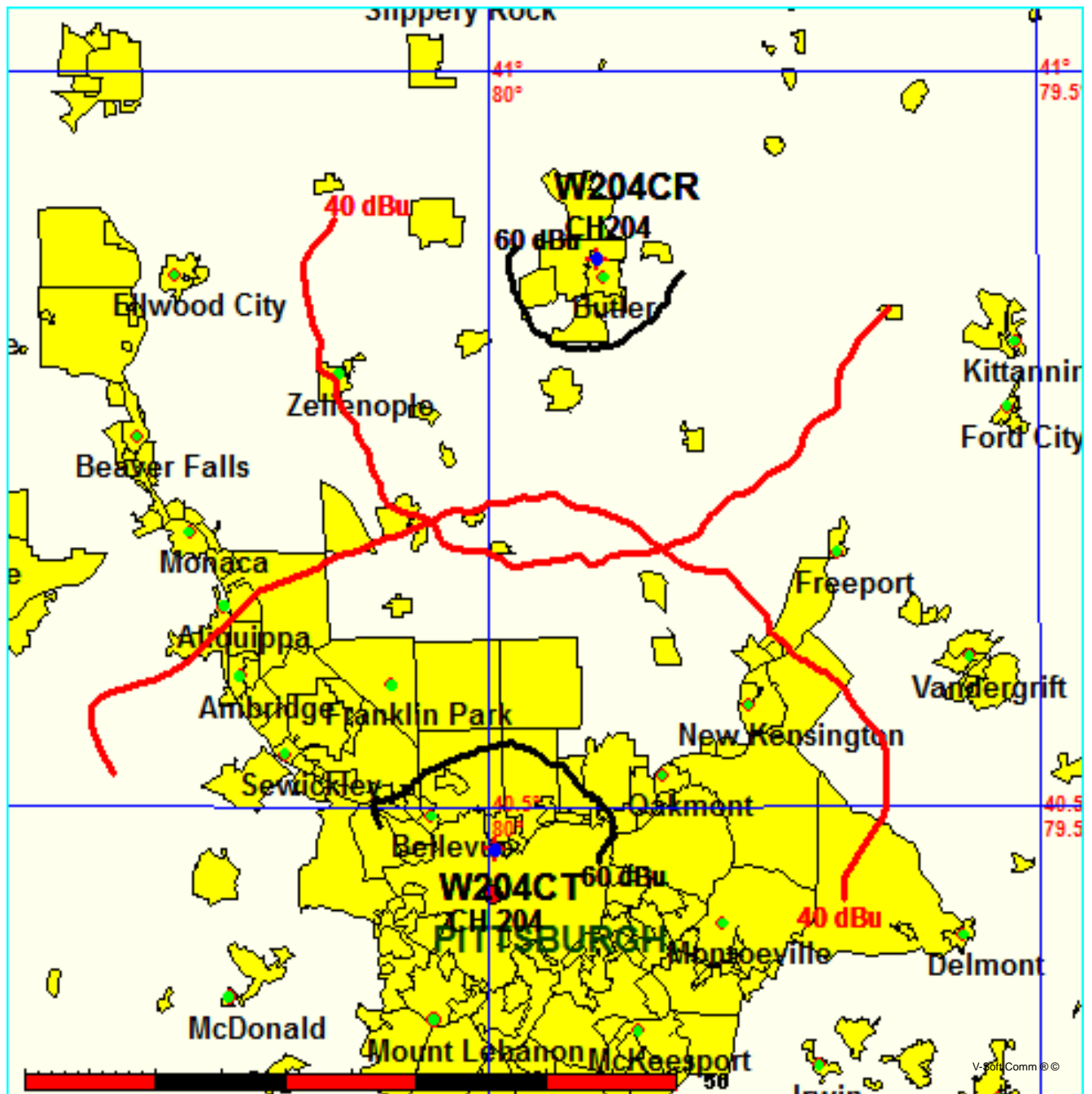
FMCommander Single Allocation Study - 01-30-2017 - GLOBE 30 Sec
W204CT's Overlaps (In= 13.8 km, Out= 11.14 km)

W204CT CH 204 D

Lat= 40 28 19.0, Lng= 79 59 40.0
0.01 kW 200.5 m HAAT, 510 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



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 W204CT.P:	10 watts
The proposed COR for W204CT.P:	149 meters
WQED-FM F(50/50) contour at proposed site:	105.4dBu
The F(50/10) contour of proposed W204CT.P:	145.4dBu

The predicted distance to the 145.4dbu interfering contour is 1.2 meters. Taking into account the vertical elevation pattern of the single bay Nicom BKG77 circularly polarized antenna and the height above ground of 149m, it has been determined that the interfering contour of 145.4dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 148.5m above ground.

As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 1.2m 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 11 - C1
74.1204(d) Showing
W204CT
Pittsburgh, Pa

ERP (kw): 0.01
Height of Antenna Above Ground (m): 149
Translator's IX Contour: 145.4
Antenna Type: Nic BKG77-1

<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	1.1912	149.000
5	0.999	0.0100	1.1901	148.896
10	0.982	0.0096	1.1698	148.797
15	0.954	0.0091	1.1364	148.706
20	0.918	0.0084	1.0936	148.626
25	0.872	0.0076	1.0388	148.561
30	0.818	0.0067	0.9738	148.513
35	0.758	0.0057	0.9030	148.482
40	0.691	0.0048	0.8231	148.471
45	0.616	0.0038	0.7338	148.481
50	0.538	0.0029	0.6409	148.509
55	0.465	0.0022	0.5539	148.546
60	0.391	0.0015	0.4658	148.597
65	0.313	0.0010	0.3729	148.662
70	0.239	0.0006	0.2847	148.732
75	0.176	0.0003	0.2097	148.797
80	0.129	0.0002	0.1537	148.849
85	0.103	0.0001	0.1227	148.878
90	0.104	0.0001	0.1239	148.876

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 second adjacent channel station WRCT, channel 202A, 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 W204CT.P:	10 watts
The proposed COR for W204CT.P:	149 meters
WRCT F(50/50) contour at proposed site:	73.5dBu
The F(50/10) contour of proposed W204CT.P:	113.5dBu

The predicted distance to the 113.5dbu interfering contour is 46.9 meters. Taking into account the vertical elevation pattern of the single bay Nicom BKG77 circularly polarized antenna and the height above ground of 149m, it has been determined that the interfering contour of 113.5dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 128.2m above ground at a distance of 32.4 meters from the antenna.

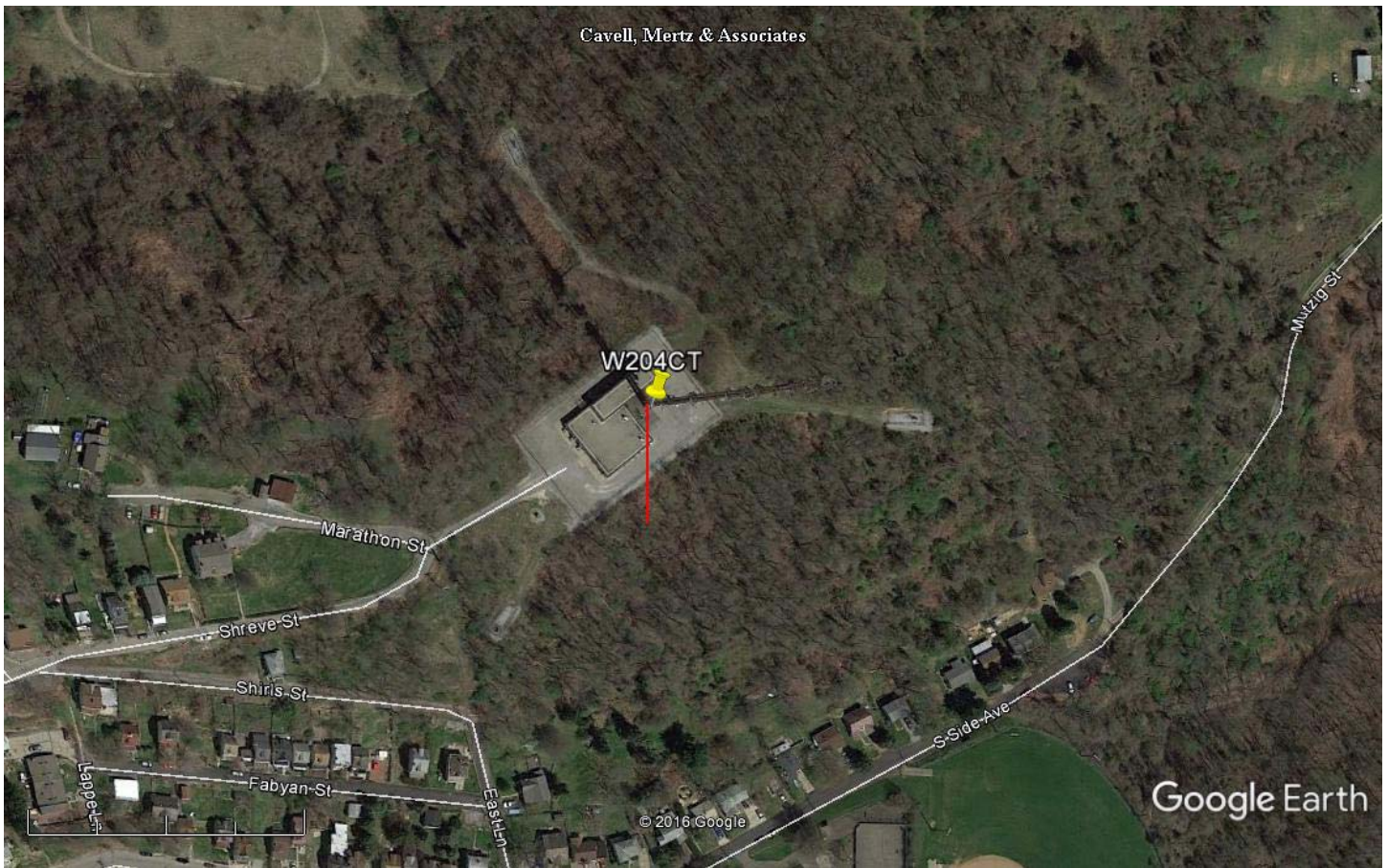
As can be seen in Exhibit 13–A2 there are no surrounding structures which are tall enough to enter the interfering contour within the 46.9m distance from the antenna.

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

EXHIBIT 11 - C1
74.1204(d) Showing
W204CT
Pittsburgh, Pa

ERP (kw): 0.01
Height of Antenna Above Ground (m): 149
Translator's IX Contour: 113.5
Antenna Type: Nic BKG77-1

<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	46.8813	149.000
5	0.999	0.0100	46.8345	144.918
10	0.982	0.0096	46.0375	141.006
15	0.954	0.0091	44.7248	137.424
20	0.918	0.0084	43.0371	134.280
25	0.872	0.0076	40.8805	131.723
30	0.818	0.0067	38.3255	129.837
35	0.758	0.0057	35.5361	128.617
40	0.691	0.0048	32.3950	128.177
45	0.616	0.0038	28.8789	128.580
50	0.538	0.0029	25.2222	129.679
55	0.465	0.0022	21.7998	131.143
60	0.391	0.0015	18.3306	133.125
65	0.313	0.0010	14.6739	135.701
70	0.239	0.0006	11.2046	138.471
75	0.176	0.0003	8.2511	141.030
80	0.129	0.0002	6.0477	143.044
85	0.103	0.0001	4.8288	144.190
90	0.104	0.0001	4.8757	144.124



Google Earth

feet 900
meters 200



Yellow Pin Marker

NAD 27

40-28-19.0 N 79-59-40.0 W

Red Line Marker: 47m at 180 degrees from true north