

**Exhibit to WPGB  
Minor Change Application  
Pittsburgh, Pennsylvania  
Facility ID: 18511**

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This exhibit presents the technical details of a change in antenna location to a location 1.3 km from the existing tower location due to the loss of the tower lease. This relocation is along a bearing of 219.6°T from the presently licensed location. No changes in principal community, class, or channel are proposed.

**Antenna Location**

The proposed antenna for WPGB is to be mounted 176 meters above ground on the tower identified by antenna structure registration number 1032235.

**Spacing Compliance**

Attached as Figure 0 is a spacing study from the proposed antenna location indicating compliance with the Commission's Section 73.207 rules with the exception of the facilities of WOGI, WAYZ, WPDY-FM, WKDY and WQKT.

**Grandfathered Short-spaced Stations**

Spacing to the facilities of WOGI and WAYZ is requested via Section 73.213.

WOGI and WPGB are second-adjacent channel short-spaced stations that have existed continuously since November 16, 1964, therefore no distance separation or interference protection requirements are to be applied.

With respect to WAYZ, attached as Figure 1 and 1a are contour maps which depict the protected and interference contours of WAYZ as well as the licensed and proposed WPGB facilities.

Neither the current WPGB facility nor the proposed facility cause predicted interference to WAYZ, as can be seen in Figure 1.

The current WPGB facility and the proposed facility receive predicted interference from WAYZ. As shown in Figure 1a, all of the predicted interference to the proposed facility lies completely within the area currently predicted to receive co-channel interference from WAYZ with the exception of a 7.73 sq.km. area with a population of 19 persons. The current area of predicted interference is 72.36 sq. km. with a population of 6,184 persons; the proposed area of predicted interference from WAYZ to the proposed WPGB facility contains 33.95 sq. km. and a population of 971 persons. This is a reduction of 38.41 of predicted received interference with 5,213 persons no longer in the area of predicted interference.

The public interest will be well served by the proposed change as the 7.73 sq.km. area with a population of 19 persons that constitutes the new area of interference are is not presently within the protected 54 dBu contour of the licensed facility.

#### **73.215 Spacing and Contour Compliance**

Spacing to the facilities of WPDJ-FM, WKKY and WQKT is requested via Section 73.215. The attached as Figure 0 is a contour overlap and spacing study which is representative of the results of an "FM Over" study of the proposed facility, indicating that no prohibited contour overlap is calculated to result from this proposal. Attached as Figures 3, 4, and 5 are contour maps depicting the material contours of this proposal as well as those of WPDJ-FM, WKKY and WQKT.

#### **Contour Protection**

The proposed facility has a HAAT of 232 meters which exceeds that for a Class B facility: 150 meters. The equivalent class-contour power has been determined by use of the FCC.Gov page "FM Power" to be 21.0 kw. The facility will be operated with a non-directional antenna at power reduced to 14.5 kw to provide the necessary contour protection.

#### **Radio Frequency Radiation Study and Statement**

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance

With FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation."

The proposed antenna system is an ERI SHP-3AE 3 bay array with 1.0 wavelength spacing between elements, which has been evaluated using the program "FM Model" set for this type of radiating element; an EPA type 3 "Rototiller" mounted with its center of radiation 176 meters above ground level, and operated with an effective radiated power of 14.5 kilowatts in both the horizontal and vertical. At 2 meters above ground, at 87.5 meters from the base of the tower, this proposal will contribute worst case, 3.4 microwatts per square centimeter, or 0.34 percent of the allowable ANSI limit for controlled exposure, and 1.7 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for required work.

## **Figures and Attachments**

## Figure 0 - Antenna Location Spacing Study

WPGB as Proposed 73-207 Spacing						
Capstar Tx, Llc, As Debtor In Possession						
REFERENCE						DISPLAY DATES
40 27 47.5 N.	CLASS = B Int = B					DATA 08-14-18
80 00 16.3 W.	Current Spacings to 3rd Adj.					SEARCH 08-14-18
----- Channel 284 - 104.7 MHz -----						
Call	Channel	Location	Azi	Dist	FCC	Margin
WPGB-FM	LIC-N 284B	Pittsburgh	PA 39.6	1.30	240.5	-239.2
WOGI-FM	LIC-N 282B	Moon Township	PA 291.5	37.87	73.5	-35.6
WAYZ	LIC 284B	Hagerstown	MD 111.1	228.93	240.5	-11.6
WPDX-FM	LIC-Z 285B1	Clarksburg	WV 184.0	134.34	144.5	-10.2
WKKY	LIC-N 284A	Geneva	OH 328.7	173.50	177.5	-4.0
WQKT	LIC 283B	Wooster	OH 283.5	164.86	168.5	-3.6
WQXK	LIC 286B	Salem	OH 304.2	84.22	73.5	10.7
WKHJ	LIC 283A	Mountain Lake Park	MD 152.2	132.01	112.5	19.5
WRKY-FM	LIC 285A	Hollidaysburg	PA 84.5	132.90	112.5	20.4
WXMJ	LIC-N 283A	Cambridge Springs	PA 354.5	138.31	112.5	25.8
WPXZ-FM	LIC 281A	Punxsutawney	PA 56.5	101.08	68.5	32.6
WRKT	LIC-N 285B1	North East	PA 1.6	180.77	144.5	36.3
WVRG-FM	LIC 284A	Spencer	WV 211.2	215.80	177.5	38.3
WWKC	LIC 285A	Caldwell	OH 242.6	154.74	112.5	42.2
WFRB-FM	LIC 287B	Frostburg	MD 134.1	123.91	73.5	50.4
WVIW	LIC 281A	Bridgeport	WV 190.8	131.49	68.5	63.0
WIOT	LIC 284B	Toledo	OH 296.2	317.36	240.5	76.9
CIHR-FM	USE-D 284B1	Woodstock	ON 348.0	299.87	223.0	76.9
CIHR-FM	USE-D 284B1	Woodstock	ON 348.0	299.87	223.0	76.9
WSKE	LIC 282A	Everett	PA 110.1	145.84	68.5	77.3
WCLV	LIC 285A	Lorain	OH 304.7	201.42	112.5	88.9
WEKV	LIC-N 286A	Sheffield	PA 30.2	159.99	68.5	91.5

Reference station has protected zone issue: Canada  
 % = Station Fails minimum 73.215 spacings  
 All separation margins include rounding

Figure 1 - 73.213 Contour Map.

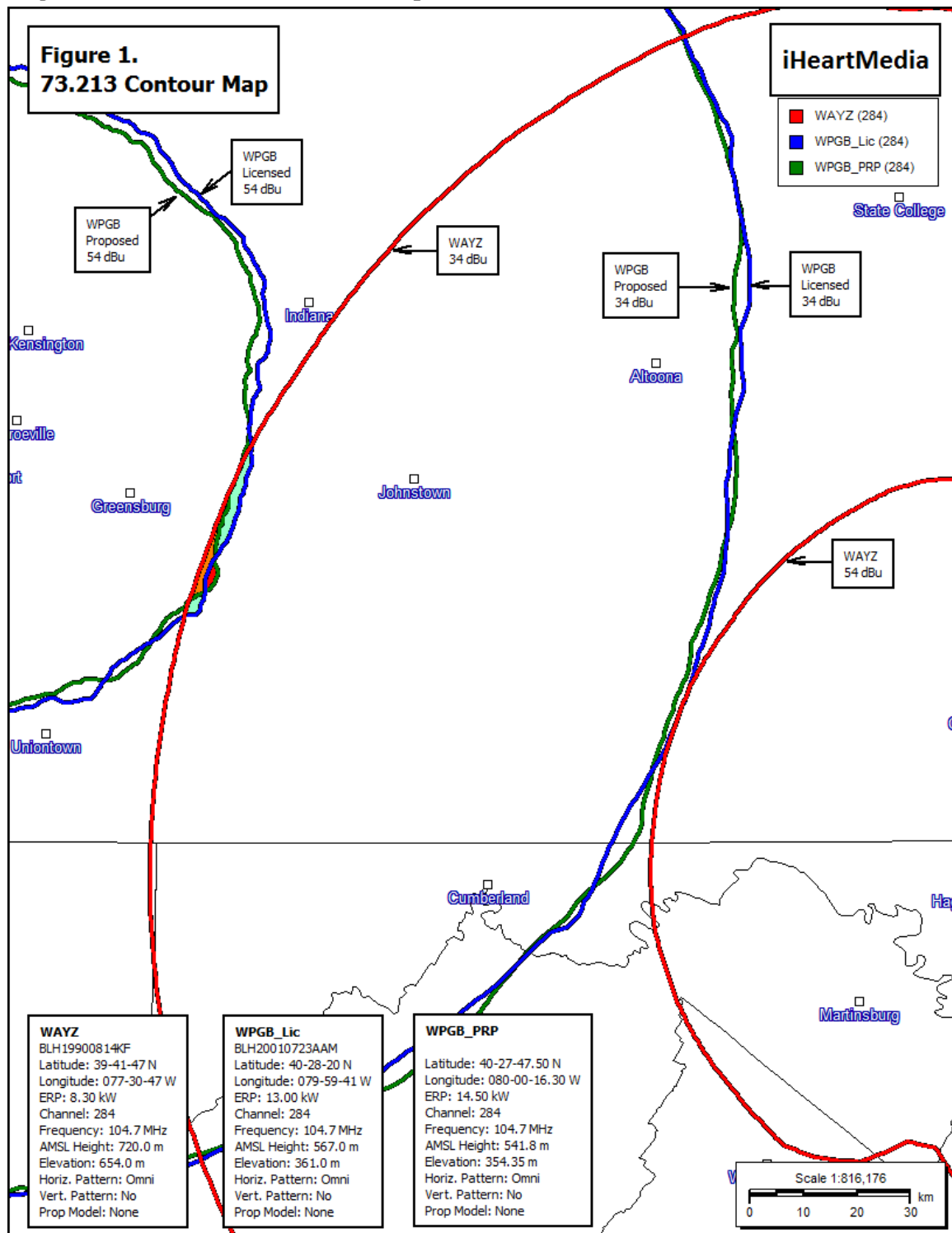


Figure 1a - 73.213 Contour Map.

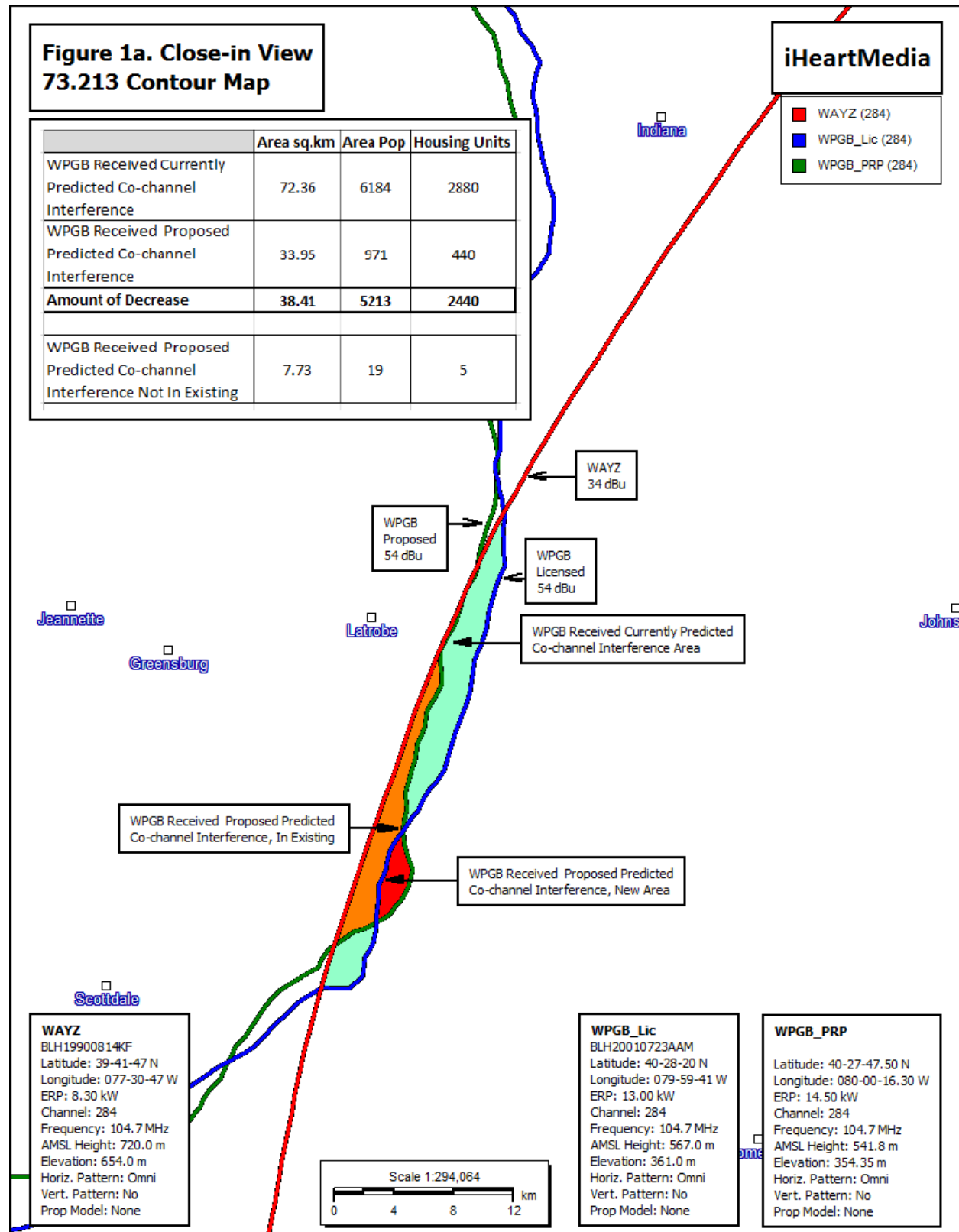


Figure 2 - Antenna Location Contour Study

Long Form 144790 at Nextar Tower CLFM AT 75°T V-POL										
REFERENCE 42 05 04.7 N. 72 42 13.7 W.		CH# 247D - 97.3 MHz, Pwr= 0.25 kW DA, HAAT= 167.9 M, COR= 252.1 M Average Protected F(50-50)= 17.0 km Standard Directional						DISPLAY DATES DATA 08-09-18 SEARCH 08-09-18		
CH CITY	CALL	TYPE ANT STATE	AZI ←	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR (M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT* (km)
247D 637213 Westfield	APP _C_	MA	78.0 258.1	9.57 BNPFT20030317AHB	42 06 09.0 72 35 25.0	0.100 -13	18.6 51	5.6 Capstar Tx Limited Partner	-27.7*<	-54.6*<
247A WZBG Litchfield	LIC _CX CT		230.6 50.3	49.30 BMLH20150701ACV	41 48 09.0 73 09 49.8	3.000 100	81.7 411	27.6 Local Girls And Boys Broad	-34.8*<	13.2
247A WJDF Orange	LIC _C_	MA	24.5 204.7	63.13 BLH19950814KC	42 36 03.0 72 23 01.0	5.800 25	67.5 255	15.6 Deane Brothers Broadcastin	-16.7*<	6.5
246D W246CC Bolton	LIC _C_	CT	145.2 325.4	38.10 BLFT20110125ABH	41 48 10.0 72 26 30.0	0.100 187	24.8 328	16.5 Red Wolf Broadcasting Corp	5.2	10.0
250A WUCS Windsor Locks	LIC ZCX CT		176.4 356.4	35.42 BLH20120123AEO	41 46 00.0 72 40 38.0	3.400 135	2.7 183	29.8 Capstar Tx, LLC, As Debtor	30.1	5.6
247B WJFD-FM New Bedford	LIC _CX MA		107.5 288.8	159.67 BLH20120913AAL	41 38 14.8 70 52 16.7	50.000 152	136.0 161	63.3 Wjfd-fm, Inc.	7.1	26.5
249D W249DP Springfield	CP _DC_	MA	77.7 257.9	29.97 BPFT20180713AAD	42 08 30.0 72 20 55.0	0.250	1.0 356	20.3 Kurt Jackson	10.2	8.6
249D W249DP Springfield	LIC _DC_	MA	77.7 257.9	29.97 BLFT20171205ACE	42 08 30.0 72 20 55.0	0.200	0.9 356	19.4 Kurt Jackson	10.3	9.5
248D W248CR Windsor	LIC _C_	CT	175.4 355.4	25.80 BLFT20171026AAF	41 51 12.0 72 40 43.0	0.250	10.9 78	7.6 Gois Broadcasting Of Conne	12.3	14.1
245D W245BK Amherst	LIC _DC_	MA	4.4 184.4	32.22 BLFT20141003AAT	42 22 25.0 72 40 26.0	0.250	1.1 249	17.5 Saga Communications Of Ne	24.0	14.5
248L1 WNRC-LP Dudley	LIC _C_	MA	93.7 274.3	63.93 BLL20050223ACH	42 02 40.0 71 55 52.0	0.031 53	223	39.8 Nichols College		32.6
246D W246DN Putnam	CP _C_	CT	106.6 287.1	69.78 BNPFT20171201AIN	41 54 09.0 71 53 44.0	0.250	10.1 136	7.1 Osbrej Broadcasting Compan	43.0	37.7
249D W249CW Torrington	LIC _C_	CT	234.6 54.3	46.64 BLFT20170501AAL	41 50 26.0 73 09 46.0	0.010	0.2 399	6.4 Connecticut Public Broadca	44.1	40.3
246D W246DM Pittsfield	CP _V_	MA	313.3 132.9	63.59 BNPFT20171212ABO	42 28 31.0 73 16 07.0	0.250	10.1 437	7.1 Wbrk, Inc.	51.0	52.7
247D W247DE Old Saybrook	CP _DC_	CT	162.6 342.9	88.15 BNPFT20180418AAG	41 19 38.6 72 23 19.7	0.250	33.8 110	10.1 Crossroads Communications	51.7	67.8
249D W249DY Waterbury	CP _DC_	CT	191.5 11.4	59.15 BNPFT20180426AAO	41 33 47.0 72 50 42.0	0.250	0.1 351	5.5 Watr Inc	56.7	53.6
248A WHAZ-FM Hoosick Falls	LIC _CX NY		333.6 153.2	96.87 BLH20070126ADA	42 51 49.0 73 13 59.0	0.420 361	34.6 730	23.1 Capital Media Corporation	59.9	70.1
246L1 WWBW-LP Higganum	LIC _C_	CT	142.2 322.6	79.97 BLL20131216CJX	41 30 52.0 72 06 56.0	0.100	68	62.4 Connecticut River Educatio		61.0
247A WMYT Schoharie	LIC _NC_	NY	295.8 114.8	142.05 BLH20070604AAT	42 37 51.0 74 16 01.0	0.800 273	77.9 659	27.1 Capital Media Corporation	61.9	107.2
249A WCTY Norwich	LIC _CN CT		143.6 324.0	84.12 BLH19920206KD	41 28 28.0 72 06 14.0	1.900 125	2.0 194	21.8 Hall Communications, Inc.	73.2	62.1
249A WSNI Keene	LIC _CX NH		18.2 198.4	97.32 BLH20090901AFG	42 54 57.0 72 19 53.0	2.150 169	2.7 432	34.7 Saga Communications Of New	84.5	62.2
244A WTSR-FM Brattleboro	LIC _CN VT		4.7 184.8	89.75 BLH19910821KF	42 53 21.0 72 36 47.0	5.200 41	2.3 330	23.8 Four Seasons Media, Inc.	80.2	65.8
248B WALK-FM Patchogue	LIC _DCN NY		191.4 11.2	140.56 BLH19910524KA	40 50 41.0 73 02 01.0	39.000 169	72.3 192	61.1 Connoisseur Media Licenses	65.9	74.0
245D W245DK New Haven	CP _DC_	CT	195.7 15.5	76.40 BNPFT20180507ABG	41 25 21.9 72 57 06.5	0.215	0.2 364	10.4 CC Licenses, LLC	73.8	65.9
248D W248CZ Kent	CP _DC_	CT	239.4 58.8	80.20 BNPFT20171206ACK	41 42 50.0 73 32 07.0	0.250	12.0 436	8.5 Tri-state Public Communica	65.9	68.2



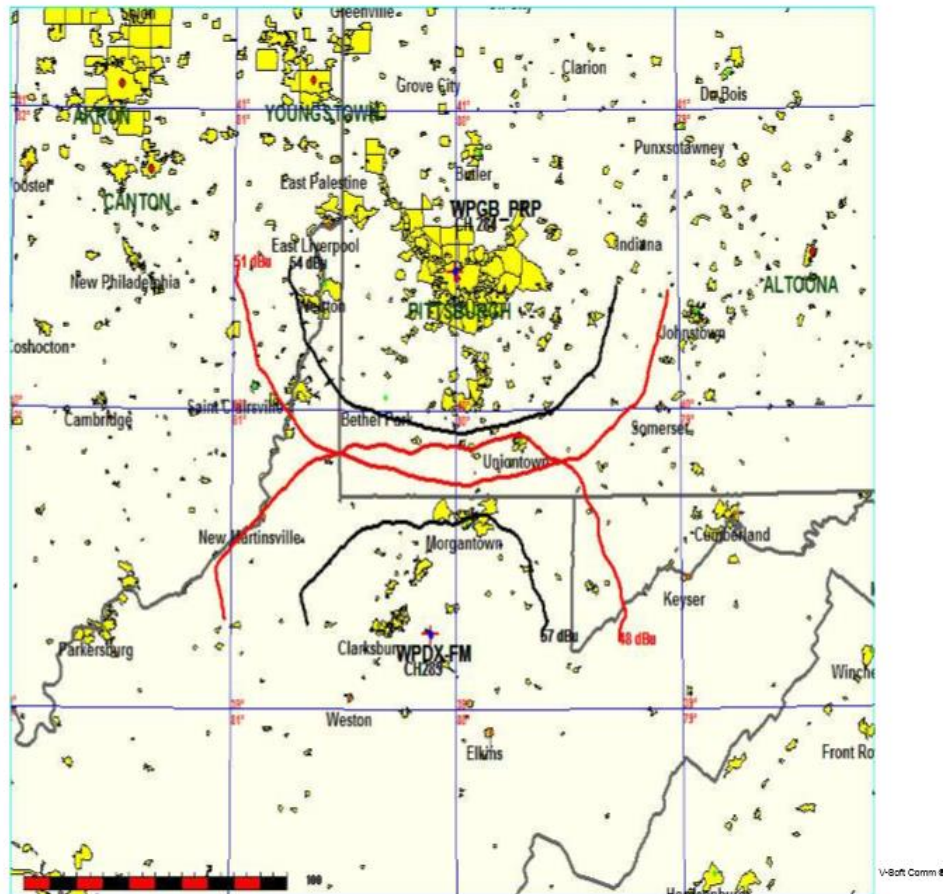
**Figure 3 - WPGB and WPDJ-FM Contour Map**

WPGB as Proposed 73-215 Spacing  
Capstar Tx, Llc, As Debtor In Possession

FMCommander Single Allocation Study - 08-14-2018 - NGDC 30 SEC  
WPGB\_PRP's Overlaps (In= 5.54 km, Out= 14.97 km)

WPGB\_PRP CH 284 B 73.215 N  
Lat= 40 27 47.5, Lng= 80 00 16.3  
14.5 kW 231.8 m HAAT, 541.8 m COR  
Prot.= 54 dBu, Intef.= 51 dBu

WPDJ-FM CH 285 B1 73.215 Z BLH20020201A  
Lat= 39 15 22.0, Lng= 80 06 46.0  
7.4 kW 182 m HAAT, 590 m COR  
Prot.= 57 dBu, Intef.= 48 dBu



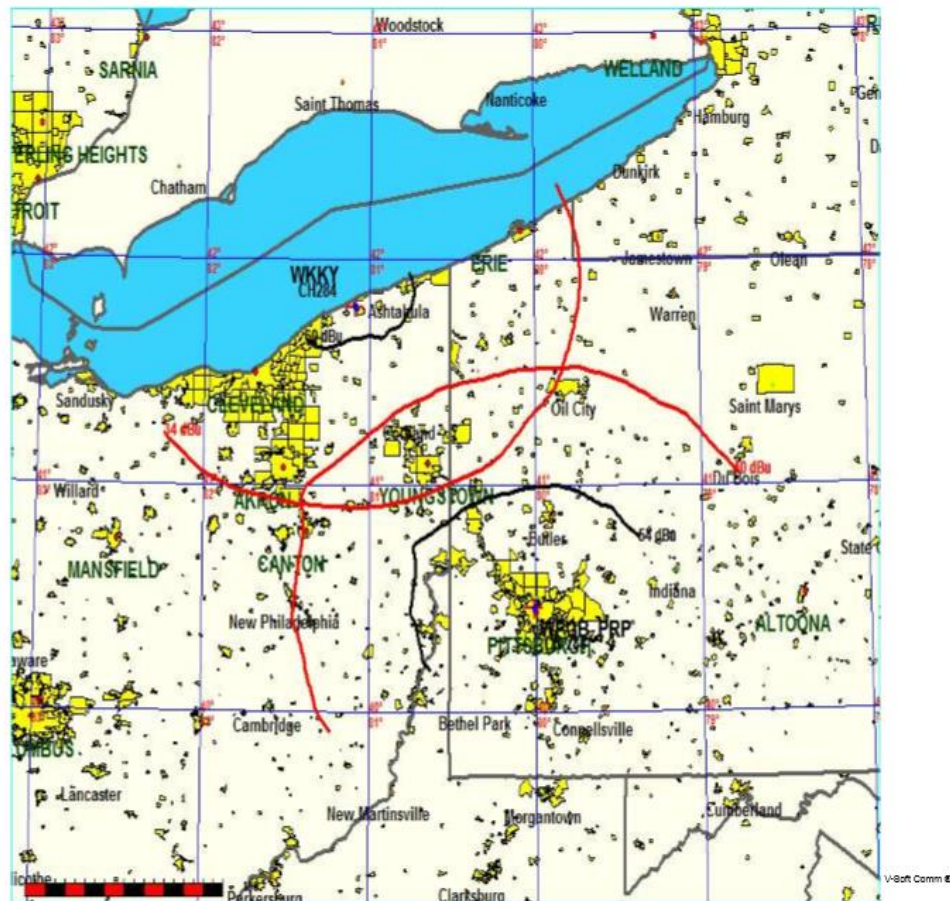
**Figure 4 - WPGB and WKKY Contour Map**

WPGB as Proposed 73-215 Spacing  
Capstar Tx, LLC, As Debtor In Possession

FMCommander Single Allocation Study - 08-14-2018 - NGDC 30 SEC  
WPGB\_PRP's Overlaps (In= 14.05 km, Out= 38.59 km)

WPGB\_PRP CH 284 B 73.215 N  
Lat= 40 27 47.5, Lng= 80 00 16.3  
14.5 kW 231.8 m HAAT, 541.8 m COR  
Prot.= 54 dBu, Intef.= 40 dBu

WKKY CH 284 A 73.215 N BLH19950131KC  
Lat= 41 47 30.0, Lng= 81 05 31.0  
6.0 kW 100 m HAAT, 315 m COR  
Prot.= 60 dBu, Intef.= 34 dBu



**Figure 5 - WPGB and WQKT Contour Map**

WPGB as Proposed 73-215 Spacing  
Capstar Tx, LLC, As Debtor In Possession

FMCommander Single Allocation Study - 08-14-2018 - NGDC 30 SEC  
WPGB\_PRPs Overlaps (In= 5.61 km, Out= 9.81 km)

WPGB\_PRP CH 284 B 73.215 N  
Lat= 40 27 47.5, Lng= 80 00 16.3  
14.5 kW 231.8 m HAAT, 541.8 m COR  
Prot.= 54 dBu, Intef.= 48 dBu

WQKT^ CH 283 B BLH19790215AH  
Lat= 40 47 31.0, Lng= 81 54 17.0  
Max CIs: 50.0 kW 150 m HAAT, 480 m COR  
Prot.= 54 dBu, Intef.= 48 dBu

