

Channel Study

REFERENCE		CH# 241A - 96.1 MHz, Pwr= 6 kW, HAAT= 95.2 M, COR= 317 M								DISPLAY DATES	
41 49 43.8 N.		Average Protected F(50-50)= 27.6 km								DATA 12-12-16	
80 49 27.7 W.		73.215 Omni-directional								SEARCH 12-15-16	
CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
241A Ashtabula	WOHA!	LIC	NCX OH	338.0 158.0	2.10 BLH20150715AAD	41 50 47.0 80 50 02.0	0.500 17	28.5 229	8.5 Madison Media Partners, L	-59.4	-99.3
240C1 London	CFPL-FM	OP	DHY ON	344.0 163.7	129.64 3829	42 56 59.0 81 15 52.0	300.000 273	121.9 533	96.0 Cfpl-fm	-25.0<	-32.5<
240C1 London	CFPL-FM-A	AX	DHY ON	344.0 163.7	129.64 3829	42 56 59.0 81 15 52.0	190.000 273	113.1 533	91.2 Cfpl-fm-ax1	-16.2	-27.7<
240C1 London	^	APP	ON	344.0 163.7	129.68	42 56 59.0 81 15 53.0	100.000 299	105.1 559	72.4	-8.4<	7.3
242D Erie	W242CU!	CP	C PA	63.6 244.1	69.65 BMPFT20161017ABK	42 06 14.8 80 04 09.8	0.173	13.2 295	9.5 Kent State University	29.4	18.5
238B Cleveland	WFHM-FM«	LIC	CX OH	232.4 52.0	70.21 BMLH20020812ABY	41 26 32.0 81 29 28.0	31.000 189	5.5 489	62.4 Salem Media Of Massachuset	69.0R	1.2M
240A Sharpsville	WAKZ^	LIC	CX PA	162.1 342.3	71.28 BLH20030723AIK	41 13 05.0 80 33 43.0	6.000 100	45.1 420	29.2 Citicasters Licenses, Inc.	6.4	12.9
241B Pittsburgh	WKST-FM^	LIC	CN PA	155.3 335.9	174.73 BLH19920206KC	40 23 49.0 79 57 43.0	50.000 150	138.8 455	66.1 Capstar Tx, Llc	16.9	6.9
240L1 Erie	WXNM-LP«	LIC	PA	66.2 246.7	70.19 BLL20061218ADF	42 04 50.0 80 02 52.0	0.032 52	319	56.0R Erie Christian Broadcastin	14.2M	
241B Buffalo	WMSX«	LIC	CN NY	53.1 234.4	199.05 BLH19950814KB	42 53 10.0 78 52 25.0	47.000 154	138.2 338	66.2 Townsquare Media Of Buffal	178.0R	21.1M
243B Akron	WAKS«	LIC	NCX OH	227.7 47.2	90.24 BLH20020930ABX	41 16 50.0 81 37 22.0	31.000 189	6.2 491	67.1 Capstar Tx, Llc	69.0R	21.2M
240L1 Cleveland	WOVU-LP«	CP	OH	239.3 58.8	77.42 BMPL20160725AAE	41 28 18.0 81 37 21.0	0.085 33	271	56.0R Burten, Bell, Carr Develop	21.4M	
240A Mina	NEW«	CP	ZCX NY	64.8 245.5	97.73 BNPH20130724ABK	42 11 51.0 79 45 11.0	0.820 200	28.6 556	19.3 Connoisseur Media Of Erie,	72.0R	25.7M
241L1 Cuyahoga Falls	WCFI-LP«	LIC	OH	216.7 36.3	94.75 BLL20141014ABM	41 08 38.0 81 30 03.0	0.018 69	377	67.0R City Of Cuyahoga Falls	27.8M	
238L1 Erie	WUTT-LP«	CP	PA	66.7 247.1	63.14 BMPL20160108ABE	42 03 04.2 80 07 24.8	0.055 41	332	29.0R Hand Up Inc	34.1M	
241A Huron	WKFM«	LIC	CN OH	247.6 66.5	150.61 BLH19960415KF	41 18 05.0 82 29 16.0	3.400 133	81.8 361	27.3 Elyria-lorain Broadcasting	115.0R	35.6M
242A Oil City	WKQW-FM«	LIC	CN PA	116.2 296.9	107.96 BLH19920921KD	41 23 45.0 79 39 53.0	6.000 100	46.7 522	30.4 Clarion County Broadcastin	72.0R	36.0M
240C1 London	CFPL-FM-A	UX	HY ON	345.1 164.8	132.97 3829	42 59 06.0 81 14 40.0	1.400 83	27.2 350	25.7 Cfpl-fm-ax2	73.1	41.2<
244A Mercer	WLLF«	LIC	CN PA	141.5 321.8	73.32 BLH19871130KD	41 18 43.0 80 16 39.0	1.400 148	2.1 523	26.4 Cumulus Licensing Llc	31.0R	42.3M
241B Walkerton	CBC242-FM«	AL	HN ON	353.1 172.8	253.13 0	44 05 26.0 81 12 25.0	50.000 150	166.6 449	65.0 Cbc242-fm	210.0R	43.1M
240C1 London	CFPL-FM-A	AX	HY ON	345.1 164.8	132.97 3829	42 59 06.0 81 14 40.0	0.790 83	23.6 350	22.5 Cfpl-fm-ax2	76.6	44.3<
244L1 Union City	WFSN-LP«	LIC	PA	84.2 264.8	81.62 BLL20150612AAZ	41 53 56.6 79 50 44.7	0.090	410	29.0R Union City Family Support	52.6M	
240B1 Windsor	CJWF-FM«	OP	DHN ON	282.7 101.3	183.48 8991	42 10 15.0 82 59 29.0	11.800 145	65.7 330	49.9 Cjwf-fm	119.0R	64.5M

Educational Media Foundation
5700 West Oaks Boulevard
Rocklin, CA 95765

Exhibit 20
Ashtabula, OH

242C1 CFMZ-FM«	OP	DHN	29.7	234.11	43 38 56.0	60.000	99.5	82.4	168.0R	66.1M
Toronto		ON	210.7	4490	79 22 54.0	284	391	Cfmz-fm		

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= - Zone 1, 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)

« = Station meets FCC minimum distance spacing for its class.

< = Contour Overlap

^ = Power and antenna height 'Max classed' as per Sec 73.215 protection requirements

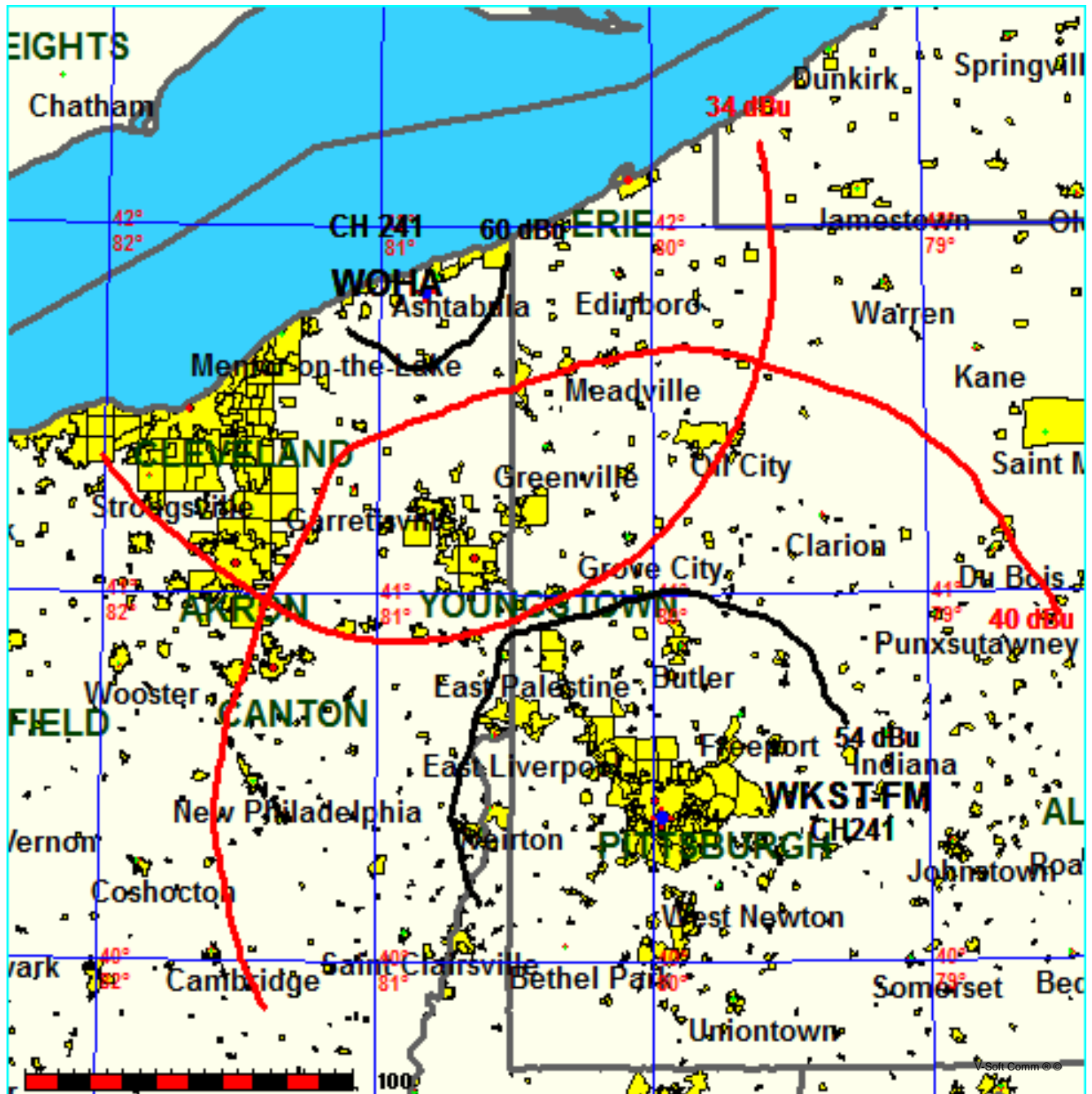
Reference station has protected zone issue: Canada

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FMCommander Single Allocation Study - 12-15-2016 - GLOBE 30 Sec
 WOHA's Overlaps (In= 16.91 km, Out= 6.93 km)

WOHA CH 241 A 73.215 N
 Lat= 41 49 43.8, Lng= 80 49 27.7
 6.0 kW 95.2 m HAAT, 317 m COR
 Prot.= 60 dBu, Intef.= 34 dBu

WKST-FM^ CH 241 B BLH19920206KC
 Lat= 40 23 49.0, Lng= 79 57 43.0
 Max CIs: 50.0 kW 150 m HAAT, 455 m COR
 Prot.= 54 dBu, Intef.= 40 dBu



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FMCommander Single Allocation Study - 12-15-2016 - GLOBE 30 Sec
 WOHA's Overlaps (In= 6.36 km, Out= 12.89 km)

WOHA CH 241 A 73.215 N
 Lat= 41 49 43.8, Lng= 80 49 27.7
 6.0 kW 95.2 m HAAT, 317 m COR
 Prot.= 60 dBu, Intef.= 54 dBu

WAKZ^ CH 240 A BLH20030723AIK
 Lat= 41 13 05.0, Lng= 80 33 43.0
 Max CIs: 6.0 kW 100 m HAAT, 420 m COR
 Prot.= 60 dBu, Intef.= 54 dBu

