

**T Z SAWYER TECHNICAL CONSULTANTS**

2130 HUTCHISON GROVE COURT  
FALLS CHURCH, VIRGINIA 22043  
TEL. (703) 848-2130 / (202) 642-2130  
www.tzsawyer.com

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APPLICATION FOR  
DIGITAL LOW POWER TELEVISION STATION

DISPLACEMENT CONSTRUCTION PERMIT  
SPECIAL DISPLACEMENT WINDOW APPLICATION

ROSS COMMUNICATIONS, LTD.

WRCX-LP, Licensed Analog Channel 40+, BLTTL-20090223AAQ  
WRCX-LP, Digital Flash-Cut Channel 40, File Number: 0000004278

Proposes Digital Channel 9

FACILITY ID: 69535

DAYTON, OHIO

MAY 2018

Engineering Statement Narrative

Ross Communications, LTD., (“WRCX”) is the licensee of Low Power Television Station (LPTV) WRCX-LP, Channel 40, Facility ID: 69535, Dayton, Ohio.

Facility Displacement Justification:

WRCX, a licensed low power digital television facility that has been displaced as a result of the incentive auction television channel repack, and qualifies for filing a displacement application during this special filing window as noted below:<sup>1</sup>

Displacement Summary:

The licensed facility (and its flash-cut construction permit) on Channel 40 is “out of core”, i.e., core television channels are now channels 2 to 36. Therefore WRCX is automatically DISPLACED as a result of the television channel repack and no further demonstration of interference to, or from, the licensed Channel 40 facility need be presented to justify its displaced status.

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<sup>1</sup> FCC Public Notice dated February 9, 2018 entitled “Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018 through May 15, 2018 and Make Location and Channel Data Available” (DA 18-124, MB Docket No. 16-306, GN Docket No. 12-268).

Media Bureau Announces Date by Which LPTV and TV Translator Stations Must Be “Operating” In Order to Participate In Post-Incentive Auction Special Displacement Window, Public Notice, 31 FCC Rcd 5383 (MB 2016).

Proposed Technical Facility:

The proposed Channel 9 (186-192 MHZ) operation will employ a “Full Service” RF emission mask and a directional antenna system with an effective maximum radiated power (ERP) of 3.0 kilowatts (3000 watts) with an antenna radiation center above mean sea level (RCAMSL) of 553.1 meters; 280.0 meters above ground level (AGL); and an antenna height above average terrain (HAAT) of 291.3 meters. This is the existing transmission site of WRCX-LP.

The technical proposal is summarized in the table below:

WRCX-LP TECHNICAL PROPOSAL		
ANTENNA LOCATION DATA		
Antenna Structure Registration	1013716	
NAD83 Coordinates	Latitude: 39-43-28.0 N	Longitude: 084-15-18.0 W
Structure Type	GUYED TOWER UNIFORM CROSS SECTION	
Overall Structure Height (AGL)	351.4 METERS	
Support Structure Height (AGL)	335.0 METERS	
Ground Elevation (AMSL)	273.1 METERS	
ANTENNA DATA		
Channel / Frequency	CHANNEL 9 (186-192 MHZ)	
RF Emission Mask	FULL SERVICE	
Height of Radiation Center (AGL)	280.0 METERS	
Height of Radiation Center (HAAT)	291.3 METERS	
Height of Radiation Center (AMSL)	553.1 METERS	
Effective Radiated Power (MAX KW)	3.0 KILOWATTS	
ANTENNA TECHNICAL DATA		
Antenna Type	DIRECTIONAL	
Antenna Manufacture & Model	Manufacture: DIE	Model: THV-5A9-R C170
Beam Tilt	Electrical: 1.5 DEG	Mechanical: NONE
Polarization	HORIZONTAL	

Additional details concerning the antenna; the rotation of the antenna (if any); horizontal pattern graphical polar plot with tabulation of radiated fields; as well as the vertical elevation relative field values are included as an attachment (antenna technical data) to the application form.

No change in the antenna's geographical coordinates, or antenna heights are proposed. The tower specified is the existing tower structure used by WRCX-LP and is shared with multiple facilities.

Modification Compliance:

Pursuant to 47 CFR §74.787(b) the instant application is considered a "minor" change because:

- The change in frequency or channel is related to displacement relief as outlined above.
- There is no change in transmitting antenna location such that the protected contour resulting from the change does not overlap some portion of the protected contour of the authorized facilities of the existing station as illustrated in Figure 1.
- There is no change in transmitting antenna location greater than 30 miles (48km) from the reference coordinates of the existing station's antenna location.

Interference Analysis to other facilities:

An interference analysis to other television facilities is provided as Figure 2. "FCC TVStudy Analysis"

Contingent Application Rule:

No waiver is required, the proposed operation on digital channel 9 is not dependent on spectrum to be vacated.

AM Facilities/International Coordination:

There are no known non-directional AM stations within 0.8 km or directional AM stations within 3.2 km of the proposal. The site location specified is 254.4 kilometers to the nearest point along the Canadian border, however the 21.0 dBu FCC (F50,10) contour from this proposal does not cross the border, no coordination with Canada is required.

Environmental Considerations:

No new construction will occur at the site other than possible minor equipment replacement. Any changes in equipment will not trigger an event with regards to Section 106 of the National Historical Preservation Act (NHPA). This is an existing developed communications site.

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights.

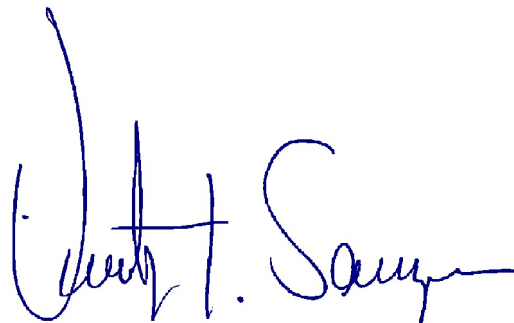
Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

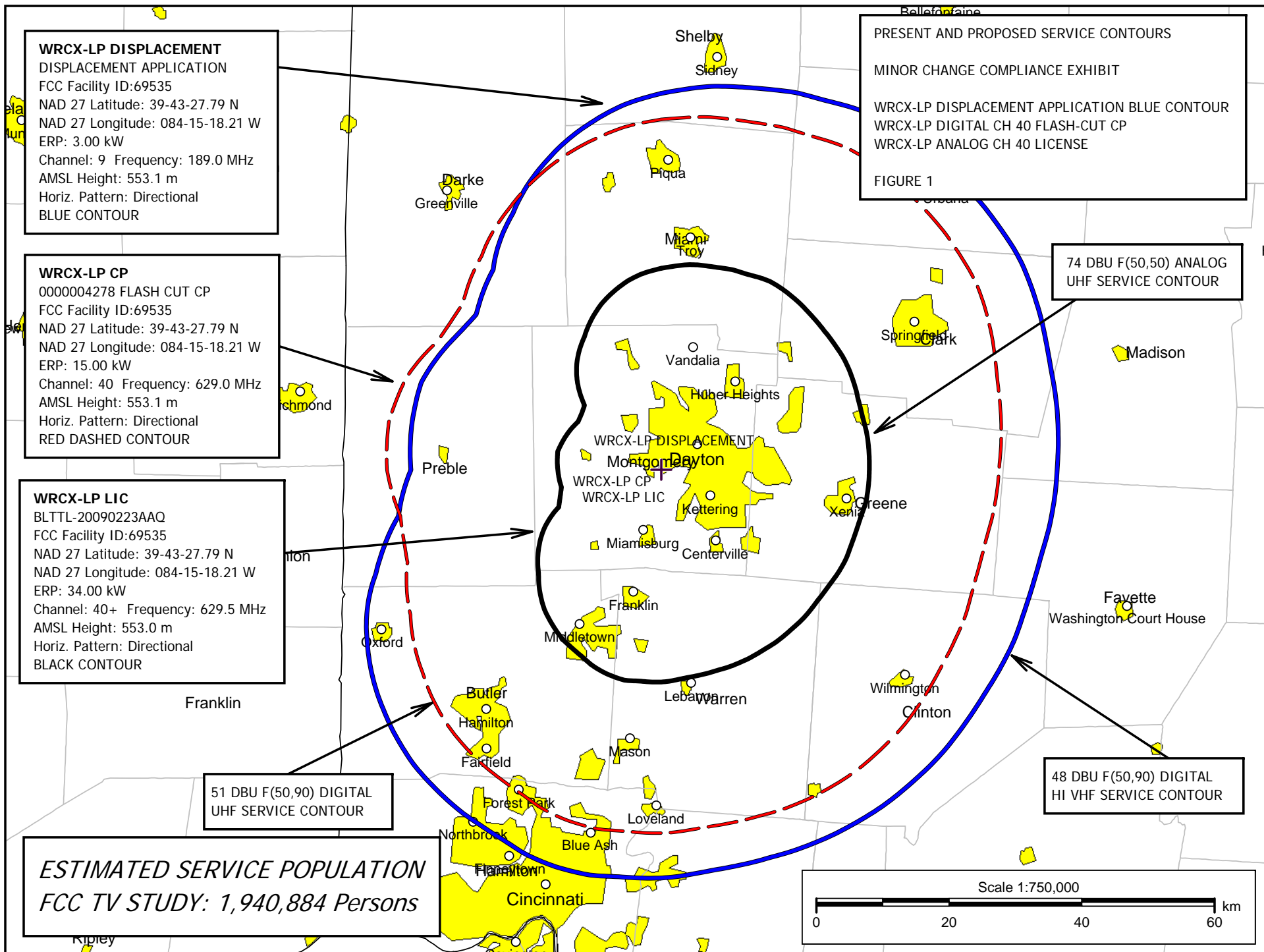
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. A detailed analysis/engineering statement is provided as an attachment (construction permit certifications) to the form.

The proposed operation is fully in compliance with all areas of the Commission's rules and applicable international agreements.

May 30, 2018

Timothy Z. Sawyer, Technical Consultant  
T Z Sawyer Technical Consultants  
2130 Hutchison Grove Court, Suite 100  
Falls Church, VA 22043  
Telephone: (703) 848-2130 / (202) 642-2130  
Email to: [tzsawyer@tzsawyer.com](mailto:tzsawyer@tzsawyer.com)





Displacement Construction Permit Application  
WRCX-LP, Dayton, Ohio

Page 1 of 4

# FCC TVSTUDY ANALYSIS

[PROPOSED OPERATION ON CHANNEL 9]  
EDITED FOR RELEVANT CONTENT

tvstudy v2.2.5 (4uoc83)  
Database: localhost, Study: WRCXFINAL, Model: Longley-Rice  
Study build station data: LMS TV 05-30-2018

Proposal: WRCX-LP D9 LD APP DAYTON, OH  
File number: WRCXFINAL  
Facility ID: 69535  
Station data: User record  
Record ID: 134  
Country: U.S.

## Build options:

Protect pre-transition records not on baseline channel  
Protect baseline records from LPTV

## Search options:

Non-U.S. records included  
Baseline record excluded if station has CP

## Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WIIH-CD	D8	DC	LIC	INDIANAPOLIS, IN	BLDVL20090902ACB	167.6 km
No	WBNA	D8	DT	APP	LOUISVILLE, KY	BLANK0000035747	228.4
No	WBNA	D8	DT	LIC	LOUISVILLE, KY	BLCDDT20021024AAB	228.4
No	WGCT-CD	D8	DC	CP	COLUMBUS, OH	BLANK0000035677	125.3
No	WGCT-CD	D8	DC	LIC	COLUMBUS, OH	BLDVA20131021AAM	114.4
Yes	WLIO	D8	DT	APP	LIMA, OH	BLANK0000035788	117.5
Yes	WLIO	D8	DT	LIC	LIMA, OH	BLCDDT20070305ABB	114.2
No	WILL-TV	D9	DT	APP	URBANA, IL	BPEDT20100406ABJ	378.1
No	WILL-TV	D9	DT	LIC	URBANA, IL	BLEDT20050920AEE	378.1
No	WNIN	D9	DT	APP	EVANSVILLE, IN	BLANK0000035682	324.9
No	WNIN	D9	DT	LIC	EVANSVILLE, IN	BLEDT20090612AGN	324.9
Yes	WISH-TV	D9	DT	LIC	INDIANAPOLIS, IN	BLCDDT20090622ABX	167.6
No	KPDS-LD	D9	LD	APP	WOLCOTT, IN	BLANK0000053829	310.6
No	WOBZ-LD	D9	LD	LIC	EAST BERNSTADT, KY	BLDVL20100520AEE	279.7
Yes	WTOV-TV	D9	DT	LIC	STEUBENVILLE, OH	BLCDDT20111206ACB	316.8
No	WJHL-TV	D9	DT	CP	JOHNSON CITY, TN	BLANK0000027557	410.2
Yes	WVPB-TV	D9	DT	CP	HUNTINGTON, WV	BLANK0000034622	223.8
No	WTHI-TV	D10	DT	LIC	TERRE HAUTE, IN	BLCDDT20090622ACG	273.8
No	WWRD-LP	D10+	LD	APP	DAYTON, OH	BLANK0000053047	15.6
No	WOWK-TV	D10	DT	CP	HUNTINGTON, WV	BLANK0000034807	222.4
No	CBET-DT	D9	DT	LIC	WINDSOR, ON	BLANKCANADA242	291.3

No non-directional AM stations found within 0.8 km  
No directional AM stations found within 3.2 km

## Record parameters as studied:

Channel: D9  
Mask: Full Service  
Latitude: 39 43 28.00 N (NAD83)  
Longitude: 84 15 18.00 W  
Height AMSL: 553.1 m  
HAAT: 0.0 m  
Peak ERP: 3.00 kW  
Antenna: DIE THV-5A9-R C170 0.0 deg  
Elev Pattn: Generic  
Elec Tilt: 1.50

Displacement Construction Permit Application  
WRCX-LP, Dayton, Ohio

Page 2 of 4

48.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1.57 kW	291.3 m	56.9 km
45.0	3.00	316.2	63.0
90.0	2.58	283.6	60.0
135.0	2.63	284.2	60.2
180.0	2.98	292.2	61.5
225.0	1.29	317.4	57.1
270.0	0.112	282.4	37.4
315.0	0.132	263.0	37.6

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m    Computed HAAT: 291 m

Proposal 21.00 dBu contour does not cross Canadian border

Distance to Canadian border: 254.4 km

Distance to Mexican border: 1905.9 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 336.6 degrees    Distance: 350.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 278.3 degrees    Distance: 1783.6 km

Study cell size: 1.00 km

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

Interference to BLANK0000035788 APP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WLIO	D8	DT	APP	LIMA, OH	BLANK0000035788	
Undesireds:	WRCX-LP	D9	LD	APP	DAYTON, OH	WRCXFINAL	117.5 km
	WIIH-CD	D8	DC	LIC	INDIANAPOLIS, IN	BLDVL20090902ACB	202.2
	WBNA	D8	DT	APP	LOUISVILLE, KY	BLANK0000035747	335.6
	WMMT	D8	DT	APP	KALAMAZOO, MI	BLANK0000035795	237.4
	WJW	D8	DT	LIC	CLEVELAND, OH	BLCDT20090612AJC	211.8
	WGCT-CD	D8	DC	CP	COLUMBUS, OH	BLANK0000035677	151.2
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	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	24918.1	1,059,363	24445.1	1,043,790	22633.2	950,786	22629.2    949,747    0.02    0.11
Undesired			Total IX	Unique IX, before		Unique IX, after	
WRCX-LP D9 LD APP			69.3	3,200		4.0	1,039
WIIH-CD D8 DC LIC			1.0	8		0.0	0
WBNA D8 DT APP			184.7	17,857		81.3	11,569
WMMT D8 DT APP			422.2	29,463		265.6	19,317
WJW D8 DT LIC			1128.5	53,299		637.3	35,292
WGCT-CD D8 DC CP			631.9	13,126		254.2	5,107

Displacement Construction Permit Application  
WRCX-LP, Dayton, Ohio

Page 3 of 4

Interference to BLCDT20070305ABB LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WLIO	D8	DT	LIC	LIMA, OH	BLCDT20070305ABB	
Undesireds:	WRCX-LP	D9	LD	APP	DAYTON, OH	WRCXFINAL	114.2 km
	WIIH-CD	D8	DC	LIC	INDIANAPOLIS, IN	BLDVL20090902ACB	199.9
	WBNA	D8	DT	APP	LOUISVILLE, KY	BLANK0000035747	332.4
	WMMT	D8	DT	APP	KALAMAZOO, MI	BLANK0000035795	239.8
	WJW	D8	DT	LIC	CLEVELAND, OH	BLCDT20090612AJC	213.7
	WGCT-CD	D8	DC	CP	COLUMBUS, OH	BLANK0000035677	149.7
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	24026.4	1,074,816	23598.3	1,054,888	21769.9	948,176	21767.9 948,164 0.01 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
WRCX-LP D9 LD APP			50.2	1,066		2.0 12	
WIIH-CD D8 DC LIC			2.0	4		0.0 0	
WBNA D8 DT APP			191.6	10,780		84.3 8,964	
WMMT D8 DT APP			486.9	55,378		239.7 36,086	
WJW D8 DT LIC			1019.0	51,821		446.8 19,692	
WGCT-CD D8 DC CP			768.3	22,202		424.1 8,620	

Interference to BLCDT20090622ABX LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WISH-TV	D9	DT	LIC	INDIANAPOLIS, IN	BLCDT20090622ABX	
Undesireds:	WRCX-LP	D9	LD	APP	DAYTON, OH	WRCXFINAL	167.6 km
	WILL-TV	D9	DT	APP	URBANA, IL	BPEDT20100406ABJ	210.5
	WNIN	D9	DT	APP	EVANSVILLE, IN	BLANK0000035682	231.0
	WVPB-TV	D9	DT	CP	HUNTINGTON, WV	BLANK0000034622	378.2
	WTHI-TV	D10	DT	LIC	TERRE HAUTE, IN	BLCDT20090622ACG	124.0
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	30275.1	2,912,945	29260.1	2,860,981	26628.8	2,759,091	26462.2 2,753,285 0.63 0.21
Undesired			Total IX	Unique IX, before		Unique IX, after	
WRCX-LP D9 LD APP			230.4	7,951		166.6 5,806	
WILL-TV D9 DT APP			2127.3	69,016		1322.2 38,407	
WNIN D9 DT APP			1067.1	54,748		360.2 29,069	
WVPB-TV D9 DT CP			12.0	294		0.0 0	
WTHI-TV D10 DT LIC			644.4	21,557		76.3 2,415	



FIGURE 2

Displacement Construction Permit Application  
WRCX-LP, Dayton, Ohio

Page 4 of 4

Interference to BLCDT20111206ACB LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WTOV-TV	D9	DT	LIC	STEUBENVILLE, OH	BLCDT20111206ACB	
Undesireds:	WRCX-LP	D9	LD	APP	DAYTON, OH	WRCXFINAL	316.8 km
	WJW	D8	DT	LIC	CLEVELAND, OH	BLCDT20090612AJC	146.1
	WGCT-CD	D8	DC	CP	COLUMBUS, OH	BLANK0000035677	192.7
	WWCP-TV	D8	DT	LIC	JOHNSTOWN, PA	BLANK0000001637	125.9
	WUSA	D9	DT	LIC	WASHINGTON, DC	BLANK0000033300	340.2
	WVPB-TV	D9	DT	CP	HUNTINGTON, WV	BLANK0000034622	246.1
	WOIO	D10	DT	APP	SHAKER HEIGHTS, OH	BLANK0000035655	147.7
	CBET-DT	D9	DT	LIC	WINDSOR, ON	BLANKCANADA242	280.2
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	31410.3	3,892,424	28833.8	3,619,499	28522.9	3,575,221	28521.9 3,575,210 0.00 0.00
Undesired	Total IX		Unique IX, before		Unique IX, after		
WRCX-LP D9 LD APP	2.0	11			1.0	11	
WJW D8 DT LIC	11.9	2,881	0.0	0	0.0	0	
WWCP-TV D8 DT LIC	30.0	1,543	30.0	1,543	30.0	1,543	
WUSA D9 DT LIC	7.0	297	4.0	292	4.0	292	
WVPB-TV D9 DT CP	135.8	5,272	132.8	5,267	131.8	5,267	
WOIO D10 DT APP	52.7	17,609	32.8	12,112	32.8	12,112	
CBET-DT D9 DT LIC	108.4	25,059	87.5	19,486	87.5	19,486	

Interference to BLANK0000034622 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WVPB-TV	D9	DT	CP	HUNTINGTON, WV	BLANK0000034622	
Undesireds:	WRCX-LP	D9	LD	APP	DAYTON, OH	WRCXFINAL	223.8 km
	WGCT-CD	D8	DC	CP	COLUMBUS, OH	BLANK0000035677	160.6
	WSPV-TV	D8	DT	CP	GRANDVIEW, WV	BLANK0000026238	125.0
	WISH-TV	D9	DT	LIC	INDIANAPOLIS, IN	BLCDT20090622ABX	378.2
	WTOV-TV	D9	DT	LIC	STEUBENVILLE, OH	BLCDT20111206ACB	246.1
	WJHL-TV	D9	DT	CP	JOHNSON CITY, TN	BLANK0000027557	229.4
	WOWK-TV	D10	DT	CP	HUNTINGTON, WV	BLANK0000034807	1.4
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	29084.3	1,026,237	27346.9	986,496	26193.2	964,045	26180.2 963,947 0.05 0.01
Undesired	Total IX		Unique IX, before		Unique IX, after		
WRCX-LP D9 LD APP	35.9	708			13.0	98	
WSPV-TV D8 DT CP	19.2	16	11.1	3	11.1	3	
WISH-TV D9 DT LIC	1.0	0	1.0	0	0.0	0	
WTOV-TV D9 DT LIC	259.0	6,264	190.2	5,141	183.2	4,960	
WJHL-TV D9 DT CP	328.6	6,600	252.2	5,284	243.1	5,099	
WOWK-TV D10 DT CP	679.2	11,921	570.9	9,816	570.9	9,816	

Interference to proposal (WRCX-LP) scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WRCX-LP	D9	LD	APP	DAYTON, OH	WRCXFINAL	
	Service area	Terrain-limited		IX-free		Percent IX	
	9622.0	1,952,736	9562.4	1,941,837	9556.4	1,940,884	0.06 0.05
Undesired	Total IX		Unique IX		Prct Unique IX		
WISH-TV D9 DT LIC	6.0	953	6.0	953	0.06	0.05	

No IX failures found.