

ENGINEERING EXHIBIT

Digital Class A Television Station Application for Minor Modification of Licensed Facility prepared for

Gray Television Licensee, LLC
WOHZ-CD Mansfield, OH
Facility ID 41892
Ch. 20 4 kW Directional

Gray Television Licensee, LLC (“Gray”) is the licensee of Class A television station WOHZ-CD, Channel 20, Facility ID 41892, Mansfield OH. *Gray* herein seeks a minor modification Construction Permit to relocate WOHZ-CD and to specify changes in effective radiated power, antenna height, and use of a different directional antenna.

As proposed herein, WOHZ-CD will be sited at a location 40.7 km (25.3 miles) distant from the licensed WOHZ-CD site. The proposed WOHZ-CD facility will employ a new antenna system to be side-mounted on a structure having an overall height above ground of 12.2 meters. The structure does not require an FCC Antenna Structure Registration number since its overall height is less than 61 meters above ground and the structure passes the FCC’s “TOWAIR” slope test program.

The proposed WOHZ-CD facility will operate with a directional antenna at 4 kW ERP using a “full service” out of channel emission mask. A plot of the directional antenna’s azimuthal pattern is supplied in Figure 1. Figure 2 depicts the coverage contour of the proposed facility as well as that of the licensed facility. The service area overlap demonstrates compliance with §73.3572 for a minor change.

Interference study per OET Bulletin 69¹ shows that the proposal complies with the FCC’s interference protection requirements toward all digital television, television translator, LPTV, and

¹FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET-69”). This analysis employed the FCC’s current “TVStudy” software with the default application processing template settings, 1 km cell size, and 1.0 km terrain increment.

Class A stations. The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility.

The site is located 102 km from the U.S. – Canada border. For Canada referral purposes, the 24.3 dBμ F(50,10) contour is relevant for digital Class A operations on Channel 20. The 24.3 dBμ F(50,10) contour is depicted in Figure 3 and does not reach Canada. Thus, international coordination is not required.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and considering 20 percent antenna relative field in downward elevations (pattern data shows less than 20 percent relative field at angles 30 to 90 degrees below the antenna), the calculated signal density near the antenna at two meters above ground level attributable to the proposed facility is 70.6 μW/cm², which is 20.8 percent of the general population/uncontrolled maximum permitted exposure limit. No other television or radio broadcast facilities are authorized within sufficient distance to be a significant contributor to RF exposure at this location.

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 will be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, structure, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. Environmental matters covered by this exhibit are limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1	Antenna Azimuthal Pattern
Figure 2	Coverage Contour Comparison
Figure 3	Interfering Contour Towards Canada
Table 1	TVStudy Analysis of Proposal
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	January 22, 2021	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600

**Azimuth Pattern - Relative Field
(True North)**

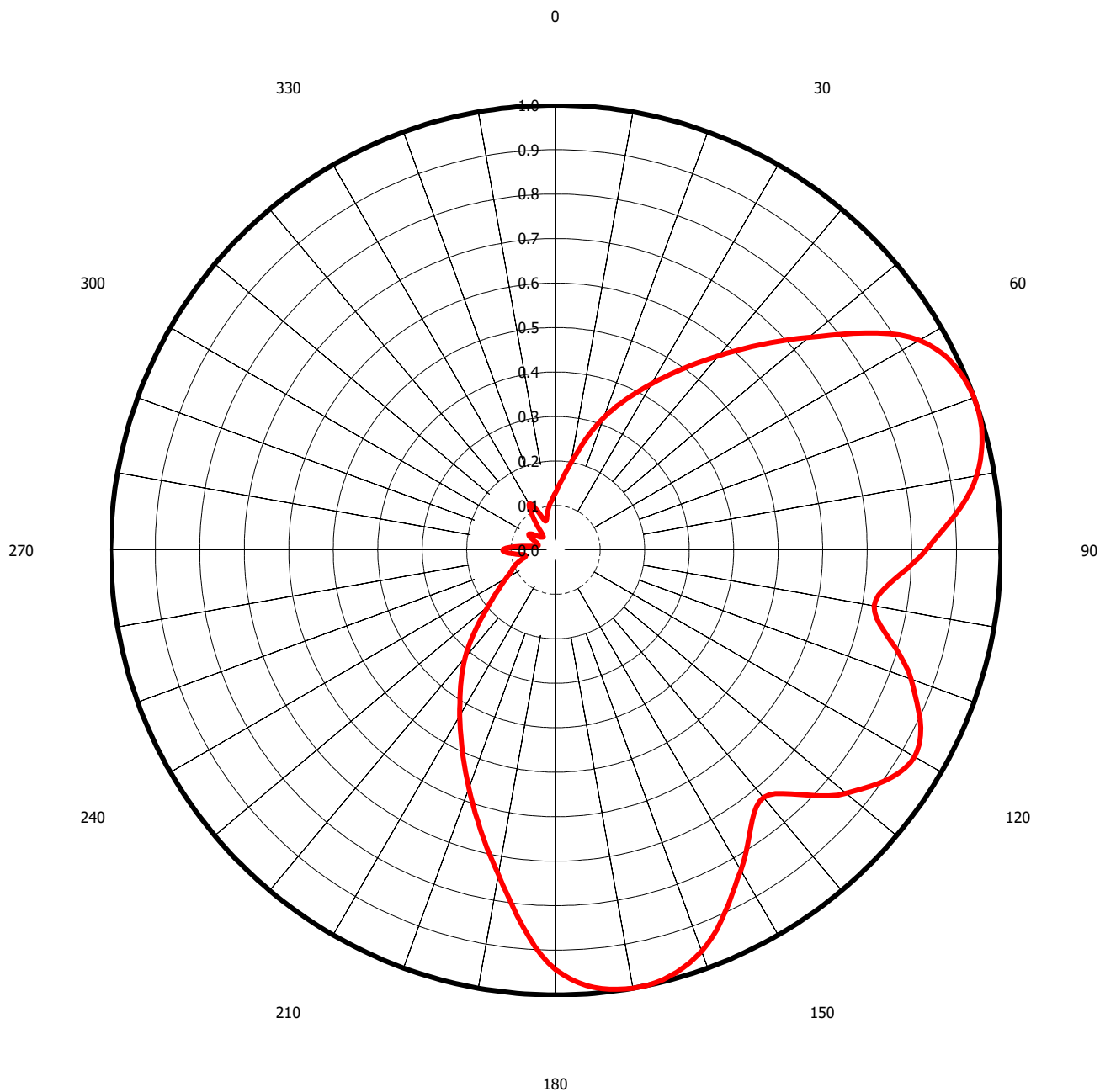


Figure 1
Antenna Azimuthal Pattern
WOHZ-CD Mansfield, OH
Facility ID 41892
Ch. 20 4 kW Directional

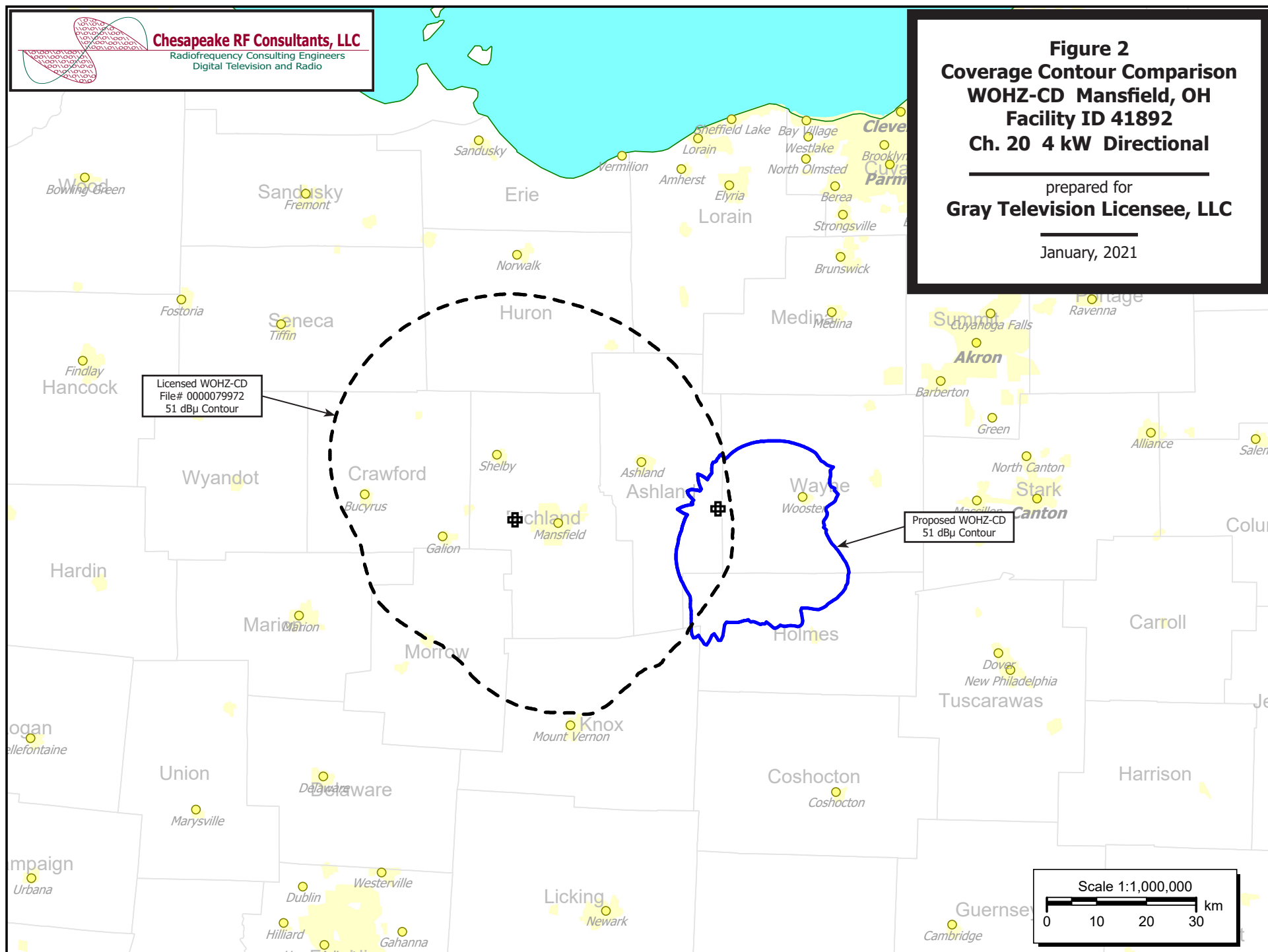
prepared for
Gray Television Licensee, LLC

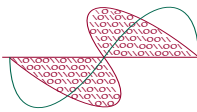
January, 2021



prepared for
Gray Television Licensee, LLC

January, 2021





Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 3
Interfering Contour Towards Canada
WOHZ-CD Mansfield, OH
Facility ID 41892
Ch. 20 4 kW Directional

prepared for
Gray Television Licensee, LLC

January, 2021

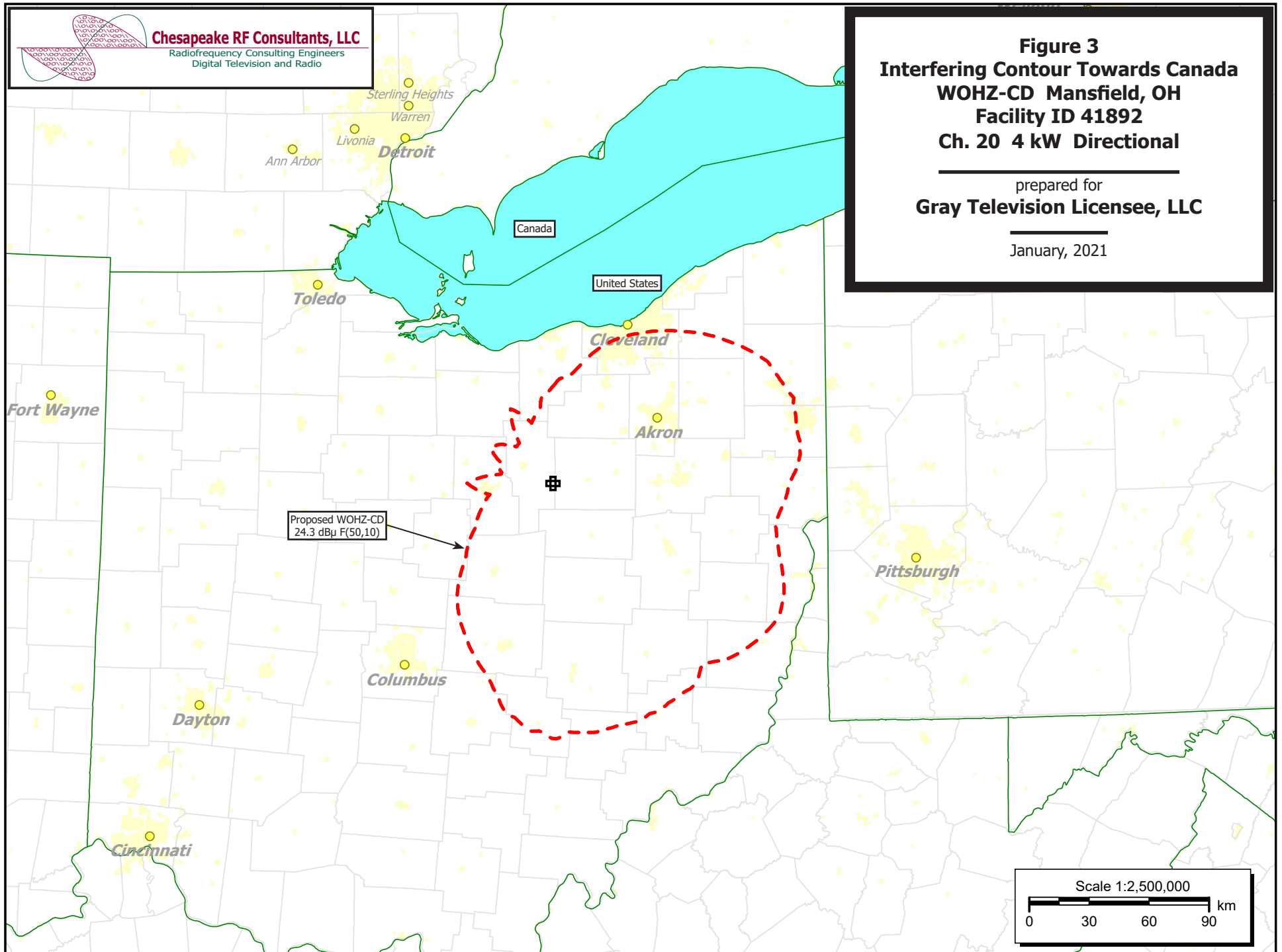


Table 1 WOHz-CD TVStudy Analysis of Proposal (page 1 of 5)



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: WOHz-CD Prop 20210120, Model: Longley-Rice
Start: 2021.01.20 13:20:36

Study created: 2021.01.20 13:20:36

Study build station data: LMS TV 2021-01-20

Proposal: WOHz-CD D20 DC APP MANSFIELD, OH
File number: WOHz-CD Prop 20210120
Facility ID: 41892
Station data: User record
Record ID: 3446
Country: U.S.

Build options:
Protect LPTV records from Class A

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WKYC	D19	DT	LIC	CLEVELAND, OH	BLANK0000087282	76.7 km
No	WCLL-CD	D19	DC	LIC	COLUMBUS, OH	BLANK0000052505	117.7
No	WFND-LD	D19	LD	LIC	FINDLAY, OH	BLANK0000055157	132.0
No	WBYD-CD	D19	DC	LIC	PITTSBURGH, PA	BLANK0000096151	207.5
No	WFFT-TV	D20	DT	LIC	FORT WAYNE, IN	BLANK0000086952	259.3
Yes	WTVS	D20	DT	LIC	DETROIT, MI	BLANK0000117036	204.1
No	WUWB-LD	D20	LD	LIC	WEST BRANCH, MI	BLDTL20140708ABB	423.4
No	WWHC-LD	N20	TX	LIC	OLEAN, NY	BLANK0000022154	340.3
No	WWHC-LD	D20	LD	LIC	OLEAN, NY	BLANK0000118115	350.3
No	WWHC-LD	D20	LD	APP	OLEAN, NY	BLANK0000130608	366.1
No	WWHC-LD	D20	LD	APP	OLEAN, NY	BLANK0000105586	350.3
No	WLWT	D20	DT	LIC	CINCINNATI, OH	BLANK0000087261	274.5
No	WLWT	D20	DT	CP	CINCINNATI, OH	BLANK0000127507	274.5
Yes	WLFM-LD	D20z	LD	LIC	CLEVELAND, OH	BLANK0000118809	75.9
No	WLWD-LD	D20	LD	LIC	SPRINGFIELD, OH	BLANK0000017721	214.8
No	W33CR-D	D20	LD	APP	CHAMBERSBURG, PA	BLANK0000130447	380.2
Yes	WPGH-TV	D20	DT	LIC	PITTSBURGH, PA	BLANK0000112578	182.6
No	WHSV-TV	D20	DT	LIC	Massanutten, VA	BLANK0000063970	378.6
No	WAZT-CD	D20	DC	LIC	VIENNA, VA	BLANK0000081642	409.7
No	WVPB-TV	D20	DT	BL	HUNTINGTON, WV	DTVBL71657	254.5
No	WOVA-LD	D20	LD	LIC	PARKERSBURG, WV	BLANK0000120282	166.6
No	W20DY-D	D20	LD	CP	ROANOKE, WV	BNPDTL20100514AAR	244.6
No	WWJ-TV	D21	DT	LIC	DETROIT, MI	BLANK0000125983	204.1
No	WQDI-LD	D21	LD	LIC	CANTON, OH	BLANK0000079989	86.9
No	WJW	D21	LD	CP	CLEVELAND, OH	BDRTCDT20101123AOJ	103.9
Yes	WBNS-TV	D21	DT	LIC	COLUMBUS, OH	BLCDT20021025ABK	117.7
No	WSSS-LP	D21	LD	CP	STEUBENVILLE, OH	BDISDTL20121022AAR	138.6
No	WSEE-TV	D21	DT	LIC	ERIE, PA	BLANK0000074552	222.1
No	WPNT	D21	DT	LIC	PITTSBURGH, PA	BLANK0000112577	182.6
No	W24DS-D	D21	LD	CP	PARKERSBURG, WV	BLANK0000051781	166.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D20
Mask: Full Service
Latitude: 40 47 1.40 N (NAD83)
Longitude: 82 8 10.10 W
Height AMSL: 357.0 m
HAAT: 0.0 m
Peak ERP: 4.00 kW
Antenna: KAT K723147 1x2 120.0 deg
Elev Pattn: Generic

49.4 dBu contour:
Azimuth ERP HAAT Distance

Table 1 WOHZ-CD TV Study Analysis of Proposal
(page 2 of 5)



0.0 deg	0.067 kW	43.9 m	11.2 km
45.0	1.72	16.7	21.1
90.0	2.77	30.8	23.4
135.0	2.49	62.6	30.5
180.0	3.56	43.6	28.2
225.0	0.266	-7.0	13.2
270.0	0.057	14.6	9.0
315.0	0.009	27.8	5.7

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 29 m

Proposal 24.36 dBu contour does not cross Canadian border
Distance to Canadian border: 101.6 km

Distance to Mexican border: 2120.7 km

Conditions at FCC monitoring station: Allegan MI
Bearing: 303.8 degrees Distance: 376.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 275.5 degrees Distance: 1948.0 km

No land mobile station failures found

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 BLANK0000087282 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WKYC	D19	DT	LIC	CLEVELAND, OH	BLANK0000087282	
Undesireds:	WOHZ-CD	D20	DC	BL	MANSFIELD, OH	DTVBL41892	104.1 km
	WOHZ-CD	D20	DC	APP	MANSFIELD, OH	WOHZ-CD Prop 20210120	76.7
	WIPB	D19	DT	LIC	MUNCIE, IN	BLANK0000087336	343.3
	WCLL-CD	D19	DC	LIC	COLUMBUS, OH	BLANK0000052505	193.6
	WBYD-CD	D19	DC	LIC	PITTSBURGH, PA	BLANK0000096151	196.0
	WPGH-TV	D20	DT	LIC	PITTSBURGH, PA	BLANK0000112578	172.7

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
26497.7	4,180,300	25976.0	4,125,819	25671.7	4,089,890	25678.5 4,096,426	-0.03 -0.16
2734.0	171	2734.0	171	2734.0	171	2734.0 171	0.00 0.00
(in Canada)							

Undesired	Total IX	Unique IX, before	Unique IX, after
WOHZ-CD D20 DC BL	67.5 8,049	65.5 7,895	
WOHZ-CD D20 DC APP	58.6 1,359		58.6 1,359
WIPB D19 DT LIC	5.0 242	3.0 88	5.0 242
WCLL-CD D19 DC LIC	7.0 885	5.0 418	5.0 418
WBYD-CD D19 DC LIC	227.9 27,374	225.9 26,907	225.9 26,907
WPGH-TV D20 DT LIC	1.0 0	1.0 0	1.0 0

Interference to BLANK0000117036 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WTVS	D20	DT	LIC	DETROIT, MI	BLANK0000117036	
Undesireds:	WOHZ-CD	D20	DC	BL	MANSFIELD, OH	DTVBL41892	192.8 km
	WOHZ-CD	D20	DC	APP	MANSFIELD, OH	WOHZ-CD Prop 20210120	204.1
	WFFT-TV	D20	DT	LIC	FORT WAYNE, IN	BLANK0000086952	224.1
	WCMW	D20	DT	LIC	MANISTEE, MI	BLANK0000087364	312.6
	WLWT	D20	DT	LIC	CINCINNATI, OH	BLANK0000087261	386.5

Table 1 WOHz-CD TVStudy Analysis of Proposal
(page 3 of 5)



Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
19582.9	5,506,963	19568.8	5,506,691	19546.8	5,503,575	19546.8	5,503,575	0.00	0.00
7725.5	557,009	7725.5	557,009	7725.5	557,009	7725.5	557,009	0.00	0.00
(in Canada)									

Undesired		Total IX		Unique IX, before		Unique IX, after	
WOHz-CD D20 DC BL	2.0	37	0.0	0			
WOHz-CD D20 DC APP	0.0	0			0.0	0	
WFFT-TV D20 DT LIC	22.0	3,116	19.0	3,068	21.0	3,105	
WCMW D20 DT LIC	1.0	11	0.0	0	0.0	0	

Interference to BLANK0000118809 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WLFM-LD	D20z	LD	LIC	CLEVELAND, OH	BLANK0000118809	
Undesireds:	WOHz-CD	D20	DC	BL	MANSFIELD, OH	DTVBL41892	103.1 km
	WOHz-CD	D20	DC	APP	MANSFIELD, OH	WOHz-CD Prop 20210120	75.9
	WKYC	D19	DT	LIC	CLEVELAND, OH	BLANK0000087282	1.1
	WTVS	D20	DT	LIC	DETROIT, MI	BLANK0000117036	169.8
	WWHC-LD	N20	TX	LIC	OLEAN, NY	BLANK0000022154	282.2
	WPGH-TV	D20	DT	LIC	PITTSBURGH, PA	BLANK0000112578	173.3

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
7686.4	2,562,894	7596.8	2,553,788	6041.2	2,065,173	6041.2	2,064,502	0.00	0.03
Undesired		Total IX		Unique IX, before		Unique IX, after			
WOHz-CD D20 DC BL	28.3	13,336	1.0	6					
WOHz-CD D20 DC APP	11.1	9,933			1.0	677			
WKYC D19 DT LIC	1441.7	478,076	1355.8	450,499	1357.8	451,162			
WTVS D20 DT LIC	133.2	27,519	27.2	3,736	30.2	3,825			
WPGH-TV D20 DT LIC	106.9	6,826	37.3	2,709	38.3	2,854			

Interference to BLANK0000112578 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPGH-TV	D20	DT	LIC	PITTSBURGH, PA	BLANK0000112578	
Undesireds:	WOHz-CD	D20	DC	BL	MANSFIELD, OH	DTVBL41892	222.4 km
	WOHz-CD	D20	DC	APP	MANSFIELD, OH	WOHz-CD Prop 20210120	182.6
	WBVD-CD	D19	DC	LIC	PITTSBURGH, PA	BLANK0000096151	24.9
	WTVS	D20	DT	LIC	DETROIT, MI	BLANK0000117036	341.6
	WHSV-TV	D20	DT	LIC	Massanutten, VA	BLANK0000063970	265.7
	WAZT-CD	D20	DC	LIC	VIENNA, VA	BLANK0000081642	239.0
	WPNT	D21	DT	LIC	PITTSBURGH, PA	BLANK0000112577	0.0

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
27150.8	3,240,087	25534.6	3,112,622	25438.3	3,104,079	25439.3	3,104,079	-0.00	0.00
Undesired		Total IX		Unique IX, before		Unique IX, after			
WOHz-CD D20 DC BL	3.0	53	2.0	53					
WOHz-CD D20 DC APP	2.0	64			1.0	53			
WBVD-CD D19 DC LIC	7.0	147	7.0	147	7.0	147			
WTVS D20 DT LIC	15.1	831	14.1	831	14.1	820			
WHSV-TV D20 DT LIC	66.3	7,495	66.3	7,495	66.3	7,495			
WPNT D21 DT LIC	6.0	17	6.0	17	6.0	17			

Interference to BLCDT20021025ABK LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBNS-TV	D21	DT	LIC	COLUMBUS, OH	BLCDT20021025ABK	
Undesireds:	WOHz-CD	D20	DC	BL	MANSFIELD, OH	DTVBL41892	94.7 km
	WOHz-CD	D20	DC	APP	MANSFIELD, OH	WOHz-CD Prop 20210120	117.7
	WLWT	D20	DT	LIC	CINCINNATI, OH	BLANK0000087261	158.9
	WFYI	D21	DT	LIC	INDIANAPOLIS, IN	BLCDT20100803ADB	270.5
	WKYT-TV	D21	DT	LIC	LEXINGTON, KY	BLANK0000074953	245.3
	WWJ-TV	D21	DT	LIC	DETROIT, MI	BLANK0000125983	275.6
	WSEE-TV	D21	DT	LIC	ERIE, PA	BLANK0000074552	338.6
	WPNT	D21	DT	LIC	PITTSBURGH, PA	BLANK0000112577	263.1

Table 1 WOHz-CD TVStudy Analysis of Proposal
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WBGU-TV	D22	DT	LIC	BOWLING GREEN, OH	BLANK0000063785	149.3
WSAZ-TV	D22	DT	LIC	HUNTINGTON, WV	BLANK0000100249	176.7

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
29762.5 2,836,253	28797.9 2,775,662	27313.0 2,695,862	27354.7 2,701,542	-0.15 -0.21

Undesired	Total IX	Unique IX, before	Unique IX, after
WOHz-CD D20 DC BL	105.3 12,422	41.7 5,680	
WOHz-CD D20 DC APP	0.0 0		0.0 0
WLWT D20 DT LIC	22.7 1,191	9.9 664	9.9 664
WFYI D21 DT LIC	490.6 33,962	209.7 15,486	209.7 15,486
WKYT-TV D21 DT LIC	461.9 21,147	228.4 6,513	228.4 6,513
WWJ-TV D21 DT LIC	390.8 18,232	99.5 2,897	144.2 5,748
WSEE-TV D21 DT LIC	7.0 618	0.0 0	0.0 0
WPNT D21 DT LIC	514.5 26,035	382.2 19,385	385.2 19,487
WBGU-TV D22 DT LIC	36.8 318	6.0 28	6.0 28
WSAZ-TV D22 DT LIC	49.6 873	14.9 485	14.9 485

Interference to BLCDT20021025ABK LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBNS-TV	D21	DT	LIC	COLUMBUS, OH	BLCDT20021025ABK	
Undesireds:	WOHz-CD	D20	DC	BL	MANSFIELD, OH	DTVBL41892	94.7 km
	WOHz-CD	D20	DC	APP	MANSFIELD, OH	WOHz-CD Prop 20210120	117.7
	WLWT	D20	DT	CP	CINCINNATI, OH	BLANK0000127507	158.9
	WFYI	D21	DT	LIC	INDIANAPOLIS, IN	BLCDT20100803ADB	270.5
	WKYT-TV	D21	DT	LIC	LEXINGTON, KY	BLANK0000074953	245.3
	WWJ-TV	D21	DT	LIC	DETROIT, MI	BLANK0000125983	275.6
	WSEE-TV	D21	DT	LIC	ERIE, PA	BLANK0000074552	338.6
	WPNT	D21	DT	LIC	PITTSBURGH, PA	BLANK0000112577	263.1
	WBGU-TV	D22	DT	LIC	BOWLING GREEN, OH	BLANK0000063785	149.3
	WSAZ-TV	D22	DT	LIC	HUNTINGTON, WV	BLANK0000100249	176.7

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
29762.5 2,836,253	28797.9 2,775,662	27309.0 2,695,324	27350.8 2,701,004	-0.15 -0.21

Undesired	Total IX	Unique IX, before	Unique IX, after
WOHz-CD D20 DC BL	105.3 12,422	41.7 5,680	
WOHz-CD D20 DC APP	0.0 0		0.0 0
WLWT D20 DT CP	28.7 1,773	13.8 1,202	13.8 1,202
WFYI D21 DT LIC	490.6 33,962	209.7 15,486	209.7 15,486
WKYT-TV D21 DT LIC	461.9 21,147	227.4 6,469	227.4 6,469
WWJ-TV D21 DT LIC	390.8 18,232	99.5 2,897	144.2 5,748
WSEE-TV D21 DT LIC	7.0 618	0.0 0	0.0 0
WPNT D21 DT LIC	514.5 26,035	382.2 19,385	385.2 19,487
WBGU-TV D22 DT LIC	36.8 318	6.0 28	6.0 28
WSAZ-TV D22 DT LIC	49.6 873	14.9 485	14.9 485

Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOHz-CD	D20	DC	APP	MANSFIELD, OH	WOHz-CD Prop 20210120	
Undesireds:	WTVS	D20	DT	LIC	DETROIT, MI	BLANK0000117036	204.1 km
	WLWT	D20	DT	LIC	CINCINNATI, OH	BLANK0000087261	274.5
	WPGH-TV	D20	DT	LIC	PITTSBURGH, PA	BLANK0000112578	182.6

Service area	Terrain-limited	IX-free	Percent IX
1247.7 71,257	1219.8 70,193	1201.9 70,018	1.47 0.25

Undesired	Total IX	Unique IX	Pront Unique IX
WTVS D20 DT LIC	17.9 175	15.9 172	1.31 0.25
WLWT D20 DT LIC	1.0 0	0.0 0	0.00 0.00
WPGH-TV D20 DT LIC	1.0 3	0.0 0	0.00 0.00

Interference to proposal scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WOHz-CD	D20	DC	APP	MANSFIELD, OH	WOHz-CD Prop 20210120	

Table 1 WOHZ-CD TVStudy Analysis of Proposal
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Undesireds:	WTVS	D20	DT	LIC	DETROIT, MI	BLANK0000117036	204.1 km
	WLWT	D20	DT	CP	CINCINNATI, OH	BLANK0000127507	274.5
	WPGH-TV	D20	DT	LIC	PITTSBURGH, PA	BLANK0000112578	182.6

Service area	Terrain-limited	IX-free	Percent IX
1247.7 71,257	1219.8 70,193	1201.9 70,018	1.47 0.25

Undesired	Total IX	Unique IX	Prcnt Unique IX
WTVS D20 DT LIC	17.9 175	15.9 172	1.31 0.25
WLWT D20 DT CP	1.0 0	0.0 0	0.00 0.00
WPGH-TV D20 DT LIC	1.0 3	0.0 0	0.00 0.00

Channel and Facility Information

Section	Question	Response
Facility ID	41892	
State	Ohio	
City	MANSFIELD	
DCA Channel	20	

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	No
	ASR Number	
Coordinates (NAD83)	Latitude	40° 47' 01.4" N+
	Longitude	082° 08' 10.1" W-
	Structure Type	MAST-Self-support struct
	Overall Structure Height	12.2 meters
	Support Structure Height	12.2 meters
	Ground Elevation (AMSL)	346.3 meters
Antenna Data	Height of Radiation Center Above Ground Level	10.7 meters
	Height of Radiation Center Above Mean Sea Level	357.0 meters
	Effective Radiated Power	4.0 kW

**Antenna
Technical Data**

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	Yes
	Antenna ID	1001019
Antenna Manufacturer and Model	Manufacturer:	KAT
	Model	K723147 1X2
	Rotation	120 degrees
	Electrical Beam Tilt	Not Applicable
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Horizontal
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Full Service

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	.931	90	.431	180	.070	270	.431
10	.852	100	.317	190	.045	280	.570
20	.727	110	.199	200	.048	290	.743
30	.832	120	.129	210	.119	300	.943
40	.960	130	.095	220	.069	310	1.00
50	1.00	140	.069	230	.095	320	.960
60	.943	150	.119	240	.129	330	.832
70	.742	160	.048	250	.199	340	.727
80	.570	170	.045	260	.317	350	.850

Additional Azimuths

Degree	V _A
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