



KHQA-TV - HANNIBAL, MISSOURI

FEBRUARY 2021

APPENDIX B

Longley-Rice Interference Analysis

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: KHQA 22 975K OMNI #1076, Model: Longley-Rice
Start: 2021.01.26 12:52:10

Study created: 2021.01.26 12:52:10

Study build station data: LMS TV 2021-01-26

Proposal: KHQA-TV D22 DT APP HANNIBAL, MO
File number: KHQA 22 975K OMNI
Facility ID: 4690
Station data: User record
Record ID: 334
Country: U.S.
Zone: I

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
Yes	KGCW	D21	DT	LIC	BURLINGTON, IA	BLANK0000107917	170.7 km
No	KEFN-CD	D21	DC	BL	ST. LOUIS, MO	DTVBL9375	189.5
Yes	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	262.3
Yes	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908	375.8
Yes	WBUI	D22	DT	LIC	DECATUR, IL	BLCDT20091119ACF	212.6
No	WTVW	D22	DT	LIC	EVANSVILLE, IN	BLANK0000087257	405.5
No	WXIN	D22	DT	LIC	INDIANAPOLIS, IN	BLANK0000093989	437.3
Yes	KRBK	D22	DT	LIC	OSAGE BEACH, MO	BLANK0000063419	336.7
No	WOWT	D22	DT	LIC	OMAHA, NE	BLCDT20110509AAN	422.9
Yes	WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678	169.2
No	WQPT-TV	D23	DT	LIC	MOLINE, IL	BLEDT20030702AAR	169.2
No	KETC	D23	DT	LIC	ST. LOUIS, MO	BLANK0000055432	184.2

No non-directional AM stations found within 0.8 km

Directional AM stations within 3.2 km:
WGEM 1440 L DA2 D QUINCY, IL BL9964
WGEM 1440 L DA2 N QUINCY, IL BL9964

Record parameters as studied:

Channel: D22
Latitude: 39 58 22.00 N (NAD83)
Longitude: 91 19 55.00 W
Height AMSL: 461.4 m
HAAT: 271.0 m
Peak ERP: 975 kW
Antenna: Omnidirectional
Elev Pattern: Generic
Elec Tilt: 1.00

39.6 dBu contour:
Azimuth ERP HAAT Distance
0.0 deg 975 kW 259.2 m 94.2 km

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45.0	975	245.7	92.0
90.0	975	251.7	93.0
135.0	975	259.0	94.2
180.0	975	268.2	95.5
225.0	975	294.2	98.9
270.0	975	304.8	100.1
315.0	975	300.0	99.6

Database HAAT does not agree with computed HAAT
 Database HAAT: 271 m Computed HAAT: 273 m

Distance to Canadian border: 723.4 km

Distance to Mexican border: 1456.9 km

Conditions at FCC monitoring station: Allegan MI
 Bearing: 55.2 degrees Distance: 535.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 275.4 degrees Distance: 1180.8 km

Study cell size: 2.00 km The applicant requests that these parameters be used:
Profile point spacing: 0.50 km

Maximum new IX to full-service and Class A: 0.50%
 Maximum new IX to LPTV: 2.00%

 Interference to BLANK0000107917 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KGCW	D21	DT	LIC	BURLINGTON, IA	BLANK0000107917	
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	170.7 km
	WJYS	D21	DT	LIC	HAMMOND, IN	BLANK0000087539	236.1
	WIFS	D21	DT	LIC	JANESVILLE, WI	BLANK0000090143	204.3
	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	164.8
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	26086.3	949,575	25962.3	940,266	25737.9	933,375	0.02 0.00
Undesired			Total IX		Unique IX, before	Unique IX, after	
KHQA-TV D22 DT APP		4.0	13		28.0	4,263	
WJYS D21 DT LIC		64.2	4,474		148.2	2,353	
WIFS D21 DT LIC		188.4	2,574		8.0	54	
KPXR-TV D22 DT LIC		12.0	64				

 Interference to BLANK0000063428 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	262.3 km
	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908	353.6
	WUCW	D22	DT	LIC	MINNEAPOLIS, MN	BLCDT20060405AAI	323.6
	WOWT	D22	DT	LIC	OMAHA, NE	BLCDT20110509AAN	360.1
	WFRV-TV	D22	DT	LIC	GREEN BAY, WI	BLANK0000086896	388.5
	KCWI-TV	D23	DT	APP	AMES, IA	BPCDT20130205AAY	151.7
	WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678	165.9
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	30686.6	828,915	30450.3	821,068	29973.9	809,418	0.67 0.34
Undesired			Total IX		Unique IX, before	Unique IX, after	
KHQA-TV D22 DT APP		237.5	2,901		201.5	2,722	

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WLS-TV D22 DT CP	84.1	971	80.1	928	52.1	802
WUCW D22 DT LIC	35.9	488	35.9	488	35.9	488
WOWT D22 DT LIC	12.0	325	8.0	325	8.0	325
WFRV-TV D22 DT LIC	4.0	2	4.0	2	4.0	2
KCWI-TV D23 DT APP	344.4	9,864	340.4	9,864	336.3	9,854
WQPT-TV D23 DT CP	4.0	43	0.0	0	0.0	0

Interference to BLANK0000063428 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	262.3 km
	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908	353.6
	WUCW	D22	DT	LIC	MINNEAPOLIS, MN	BLCDT20060405AAI	323.6
	WOWT	D22	DT	LIC	OMAHA, NE	BLCDT20110509AAN	360.1
	WFRV-TV	D22	DT	LIC	GREEN BAY, WI	BLANK0000086896	388.5
	KCWI-TV	D23	DT	APP	AMES, IA	BPCDT20130205AAY	151.7

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
30686.6	828,915	30450.3	821,068	29973.9
		809,418	29772.4	806,696
				0.67
				0.34
Undesired	Total IX	Unique IX, before	Unique IX, after	
KHQA-TV D22 DT APP	237.5	2,901	201.5	2,722
WLS-TV D22 DT CP	84.1	971	84.1	971
WUCW D22 DT LIC	35.9	488	35.9	488
WOWT D22 DT LIC	12.0	325	8.0	325
WFRV-TV D22 DT LIC	4.0	2	4.0	2
KCWI-TV D23 DT APP	344.4	9,864	340.4	9,864
			336.3	9,854

Interference to BLANK0000063428 LIC scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	262.3 km
	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908	353.6
	WUCW	D22	DT	LIC	MINNEAPOLIS, MN	BLCDT20060405AAI	323.6
	WOWT	D22	DT	LIC	OMAHA, NE	BLCDT20110509AAN	360.1
	WFRV-TV	D22	DT	LIC	GREEN BAY, WI	BLANK0000086896	388.5
	KCWI-TV	D23	DT	LIC	AMES, IA	BLCDT20090612AIO	151.7
	WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678	165.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
30686.6	828,915	30450.3	821,068	30238.2
		813,622	30032.7	810,890
				0.68
				0.34
Undesired	Total IX	Unique IX, before	Unique IX, after	
KHQA-TV D22 DT APP	237.5	2,901	205.5	2,732
WLS-TV D22 DT CP	84.1	971	80.1	928
WUCW D22 DT LIC	35.9	488	35.9	488
WOWT D22 DT LIC	12.0	325	8.0	325
WFRV-TV D22 DT LIC	4.0	2	4.0	2
KCWI-TV D23 DT LIC	80.0	5,660	76.0	5,660
WQPT-TV D23 DT CP	4.0	43	0.0	0

Interference to BLANK0000063428 LIC scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	262.3 km
	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908	353.6
	WUCW	D22	DT	LIC	MINNEAPOLIS, MN	BLCDT20060405AAI	323.6
	WOWT	D22	DT	LIC	OMAHA, NE	BLCDT20110509AAN	360.1
	WFRV-TV	D22	DT	LIC	GREEN BAY, WI	BLANK0000086896	388.5

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KCWI-TV	D23	DT	LIC	AMES, IA		BLCDT20090612AIO	151.7		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
30686.6	828,915	30450.3	821,068	30238.2	813,622	30032.7	810,890	0.68	0.34
Undesired		Total IX		Unique IX, before		Unique IX, after			
KHQA-TV D22 DT APP		237.5	2,901			205.5	2,732		
WLS-TV D22 DT CP		84.1	971	84.1	971	52.1	802		
WUCW D22 DT LIC		35.9	488	35.9	488	35.9	488		
WOWT D22 DT LIC		12.0	325	8.0	325	8.0	325		
WFRV-TV D22 DT LIC		4.0	2	4.0	2	4.0	2		
KCWI-TV D23 DT LIC		80.0	5,660	76.0	5,660	76.0	5,660		

Interference to BLANK0000086908 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance		
	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908			
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	375.8 km		
	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	353.6		
	WBUI	D22	DT	LIC	DECATUR, IL	BLCDT20091119ACF	237.1		
	WXIN	D22	DT	LIC	INDIANAPOLIS, IN	BLANK0000093989	251.9		
	WDWO-CD	D22	DC	APP	DETROIT, MI	BLANK0000127531	362.3		
	WLLA	D22	DT	LIC	KALAMAZOO, MI	BLANK0000122579	194.7		
	WFRV-TV	D22	DT	LIC	GREEN BAY, WI	BLANK0000086896	274.3		
	WCIU-TV	D23	DT	LIC	CHICAGO, IL	BLANK0000102906	0.1		
	W23BW-D	D23	DC	CP	MADISON, WI	BLANK0000127546	199.6		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
41896.9	10,276,809	41764.6	10,272,436	40782.7	10,212,982	40782.7	10,212,982	0.00	0.00
Undesired		Total IX		Unique IX, before		Unique IX, after			
KHQA-TV D22 DT APP		72.3	2,481			0.0	0		
KPXR-TV D22 DT LIC		144.3	4,060	12.0	306	8.0	254		
WBUI D22 DT LIC		196.3	6,239	44.1	2,634	31.9	675		
WXIN D22 DT LIC		384.8	18,050	312.7	9,930	312.7	9,930		
WLLA D22 DT LIC		128.3	15,153	112.2	8,810	112.2	8,810		
WFRV-TV D22 DT LIC		412.8	28,953	292.6	25,505	292.6	25,505		
WCIU-TV D23 DT LIC		4.0	395	4.0	395	4.0	395		

Interference to BLCDT20091119ACF LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance		
	WBUI	D22	DT	LIC	DECATUR, IL	BLCDT20091119ACF			
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	212.6 km		
	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908	237.1		
	WTVW	D22	DT	LIC	EVANSVILLE, IN	BLANK0000087257	249.0		
	WXIN	D22	DT	LIC	INDIANAPOLIS, IN	BLANK0000093989	224.7		
	WUSI-TV	D23	DT	LIC	OLNEY, IL	BLANK0000087280	137.5		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX	
26387.9	981,884	26387.9	981,884	25353.1	971,481	25212.5	970,535	0.55	0.10
Undesired		Total IX		Unique IX, before		Unique IX, after			
KHQA-TV D22 DT APP		212.6	1,300			140.6	946		
WLS-TV D22 DT CP		727.8	7,261	671.6	6,832	619.5	6,552		
WTVW D22 DT LIC		266.7	2,769	222.9	2,461	214.9	2,432		
WXIN D22 DT LIC		108.5	838	40.3	373	40.3	373		
WUSI-TV D23 DT LIC		31.9	272	0.0	0	0.0	0		

Interference to BLANK0000063419 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance		
	KRBK	D22	DT	LIC	OSAGE BEACH, MO	BLANK0000063419			

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Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	336.7 km
	KATV	D22	DT	LIC	LITTLE ROCK, AR	BLCDT20090225AAV	272.4
	KOKI-TV	D22	DT	LIC	TULSA, OK	BLCDT20021127AGL	277.2
	KODE-TV	D23	DT	LIC	JOPLIN, MO	BLANK0000071606	143.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
41547.1 983,888	40827.2 971,642	40012.1 945,271	39845.9 944,064	0.42 0.13

Undesired	Total IX	Unique IX, before	Unique IX, after
KHQA-TV D22 DT APP	166.3 1,207	166.3 1,207	
KATV D22 DT LIC	335.4 12,291	315.3 11,933	
KOKI-TV D22 DT LIC	323.8 10,115	107.6 1,746	
KODE-TV D23 DT LIC	384.1 12,505	176.0 4,323	

Interference to BLANK0000035678 CP scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678	

Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	169.2 km
	KCWI-TV	D23	DT	APP	AMES, IA	BPCDT20130205AAY	275.1
	WCIU-TV	D23	DT	LIC	CHICAGO, IL	BLANK00000102906	236.6
	KETC	D23	DT	LIC	ST. LOUIS, MO	BLANK0000055432	314.6
	W23BW-D	D23	DC	CP	MADISON, WI	BLANK00000127546	207.2
	WHOI	D24	DT	LIC	PEORIA, IL	BLANK00000100514	103.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
28882.5 941,381	28690.4 937,618	27512.2 836,592	27512.2 836,592	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KHQA-TV D22 DT APP	4.0 13	0.0 0	
KCWI-TV D23 DT APP	164.8 965	144.8 652	
WCIU-TV D23 DT LIC	518.5 19,641	358.9 10,089	
KETC D23 DT LIC	12.0 77	8.0 77	
W23BW-D D23 DC CP	12.0 285	0.0 0	
WHOI D24 DT LIC	642.4 89,886	498.8 80,382	

Interference to BLANK0000035678 CP scenario 2

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678	

Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	169.2 km
	KCWI-TV	D23	DT	APP	AMES, IA	BPCDT20130205AAY	275.1
	WCIU-TV	D23	DT	LIC	CHICAGO, IL	BLANK00000102906	236.6
	KETC	D23	DT	LIC	ST. LOUIS, MO	BLANK0000055432	314.6
	WHOI	D24	DT	LIC	PEORIA, IL	BLANK00000100514	103.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
28882.5 941,381	28690.4 937,618	27512.2 836,592	27512.2 836,592	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
KHQA-TV D22 DT APP	4.0 13	0.0 0	
KCWI-TV D23 DT APP	164.8 965	148.8 926	
WCIU-TV D23 DT LIC	518.5 19,641	362.9 10,098	
KETC D23 DT LIC	12.0 77	8.0 77	
WHOI D24 DT LIC	642.4 89,886	498.8 80,382	

Interference to BLANK0000035678 CP scenario 3

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678	

Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	169.2 km
	KCWI-TV	D23	DT	LIC	AMES, IA	BLCDT20090612AIO	275.1

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WCIU-TV	D23	DT	LIC	CHICAGO, IL	BLANK0000102906	236.6
KETC	D23	DT	LIC	ST. LOUIS, MO	BLANK0000055432	314.6
W23BW-D	D23	DC	CP	MADISON, WI	BLANK0000127546	207.2
WHOI	D24	DT	LIC	PEORIA, IL	BLANK0000100514	103.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
28882.5 941,381	28690.4 937,618	27624.8 837,114	27624.8 837,114	0.00 0.00
Undesired	Total IX	Unique IX, before	Unique IX, after	
KHQA-TV D22 DT APP	4.0 13		0.0 0	
KCWI-TV D23 DT LIC	48.2 411	32.2 130	32.2 130	
WCIU-TV D23 DT LIC	518.5 19,641	362.9 10,121	362.9 10,121	
KETC D23 DT LIC	12.0 77	8.0 77	4.0 64	
W23BW-D D23 DC CP	12.0 285	0.0 0	0.0 0	
WHOI D24 DT LIC	642.4 89,886	498.8 80,382	498.8 80,382	

Interference to BLANK0000035678 CP scenario 4

	Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired:	WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678				
Undesireds:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI	169.2 km			
	KCWI-TV	D23	DT	LIC	AMES, IA	BLCDT20090612AIO	275.1			
	WCIU-TV	D23	DT	LIC	CHICAGO, IL	BLANK0000102906	236.6			
	KETC	D23	DT	LIC	ST. LOUIS, MO	BLANK0000055432	314.6			
	WHOI	D24	DT	LIC	PEORIA, IL	BLANK0000100514	103.1			
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
28882.5	941,381	28690.4	937,618	27624.8	837,114	27624.8	837,114	0.00	0.00	
Undesired				Total IX	Unique IX, before		Unique IX, after			
KHQA-TV	D22	DT	APP	4.0	13	0.0		0		
KCWI-TV	D23	DT	LIC	48.2	411	36.2	404	36.2	404	
WCIU-TV	D23	DT	LIC	518.5	19,641	366.9	10,130	366.9	10,130	
KETC	D23	DT	LIC	12.0	77	8.0	77	4.0	64	
WHOI	D24	DT	LIC	642.4	89,886	498.8	80,382	498.8	80,382	

Interference to proposal scenario 1
0.57% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	KHQA-TV	D22	DT	APP	HANNIBAL, MO	KHQA 22 975K OMNI			
Undesireds:	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	262.3 km		
	WLS-TV	D22	DT	CP	CHICAGO, IL	BLANK0000086908	375.8		
	WBUI	D22	DT	LIC	DECATUR, IL	BLC DT20091119ACF	212.6		
	KRBK	D22	DT	LIC	OSAGE BEACH, MO	BLANK0000063419	336.7		
	WQPT-TV	D23	DT	CP	MOLINE, IL	BLANK0000035678	169.2		
Service area		Terrain-limited			IX-free	Percent IX			
28982.5	338,756	28835.2	338,423	28301.6	336,487	1.85	0.57		
Undesired				Total IX	Unique IX	Prcnt Unique IX			
KPXR-TV	D22	DT	LIC	28.0	170	20.0	44	0.07	0.01
WLS-TV	D22	DT	CP	4.0	0	0.0	0	0.00	0.00
WBUI	D22	DT	LIC	481.7	1,817	465.7	1,675	1.62	0.49
KRBK	D22	DT	LIC	35.9	91	31.9	75	0.11	0.02

The applicant agrees to accept the predicted received interference.