



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION FOR  
A CONSTRUCTION PERMIT TO SPECIFY CHANNEL 22  
IN LIEU OF CHANNEL 9 IN THE DIGITAL  
TELEVISION TABLE OF ALLOTMENTS  
KHQA-TV - HANNIBAL, MISSOURI  
DTV - CH. 22 - 975 kW - 271 m HAAT**

Prepared for: KHQA LICENSEE, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, No. 7418, and in New York State, No. 63418.

**GENERAL**

This office has been authorized by KHQA LICENSEE, LLC, licensee of KHQA-TV channel 7, licensed to Hannibal, Missouri, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for a minor change application to specify channel 22 in lieu of channel 7 as ordered in the REPORT AND ORDER in MB Docket No. 21-71, DA 21-601.

**NON-DIRECTIONAL ANTENNA**

The applicant intends to install a Dielectric model TFU-33ETT/VP-R O6 elliptically polarized omni-directional antenna. The antenna's center of radiation will be located at a height above ground of 235 meters, and a height above average terrain of 271 meters. The antenna's horizontal azimuth radiation patterns for both its horizontally and vertically polarized components and its vertical elevation pattern, showing its radiation characteristics above and below the horizontal plane are shown and tabulated in the antenna exhibit.

## **PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with the method described in Section 73.625(b) of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the NED Three Second US Terrain Database as permitted in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. The map exhibit shows the predicted Noise Limited (39.56 dBu) contour, and the principal community (48 dBu) contour which completely encompasses the principal community of license, Hannibal, Missouri.

## **ALLOCATION CONSIDERATIONS**

A study was performed, using the FCC's application processing software, *tvstudy*, v. 2.2.5, to determine if the instant application for construction permit is predicted to cause new prohibited interference to post reassignment DTV stations, construction permits, DTV allotments or Class A DTV stations. The study results, shown in Appendix B, indicate that the instant application for construction permit is predicted to cause no new interference exceeding 0.5% to the populations served by any post reassignment DTV station, construction permit, allotment or Class A DTV stations. (See Appendix B)

***International DTV Considerations***

The KHQA-TV site is located more than 700 kilometers from the nearest point on the US-Canadian border and more than 1400 kilometers from the nearest point on the US-Mexican border. Therefore no international coordination is necessary.

***Class A Television Allocation Considerations***

As required in Section 73.616(f) of the FCC's Rules, the study results in Appendix B shows no Class A station predicted to be affected by the re-allotment of KHQA-TV.

***Land Mobile and FM radio Considerations***

The *tvstudy* results found no Land Mobile violations for this site, and the site is deemed OK toward AM radio stations.

**BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 kilometers of the KHQA-TV site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

**RADIO FREQUENCY IMPACT, SAFETY & COMPLIANCE SHOWING**

The licensee of KHQA-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KHQA-TV antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

As shown in Appendix A the KHQA-TV channel 22 facility as proposed herein will operate with a maximum ERP of 975 kW from an elliptically polarized omni-directional

**STATEMENT OF JOHN E. HIDLE, P.E.**  
**KHQA-TV - Hannibal, Missouri**  
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transmitting antenna with a centerline height of 235 meters above ground level (AGL). Considering the elevation pattern provided elsewhere in this submission, the vertical plane relative field factor is less than 0.100 at all depression angles greater than 8 degrees. The proposed KHQA-TV channel 22 facility is predicted to produce a worst-case power density at two meters above ground level, at 195.5 meters from the tower base, of  $0.552 \mu\text{W}/\text{cm}^2$ , which is 0.16% of the FCC guideline value of  $347.33 \mu\text{W}/\text{cm}^2$  for an "uncontrolled" environment, and 0.032% of the FCC's guideline value for "controlled" environments. Therefore, pursuant to Section 1.1307(b)(3) of the FCC Rules, the proposed facility would not exceed 5% of the uncontrolled and controlled exposure limits, so the proposal's power density contribution is considered insignificant.

Further, the Applicant will continue to cooperate/coordinate with other site users and reduce power and/or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

**SUMMARY**

It is submitted that the instant application for construction permit for KHQA-TV to broadcast on channel 22 in lieu of channel 7, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement was prepared by me, or under my direct supervision, and its contents are believed to be true and correct to the best of my knowledge and belief.

**STATEMENT OF JOHN E. HIDLE, P.E.**  
**KHQA-TV - Hannibal, Missouri**  
**PAGE 5**

DATED: July 7, 2021

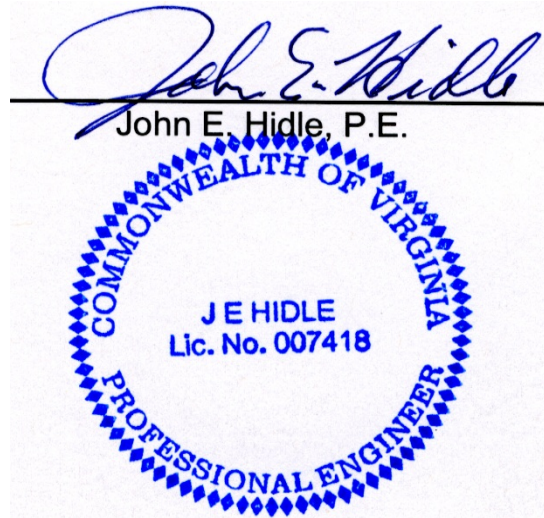


EXHIBIT 1



## PREDICTED COVERAGE CONTOURS

**KHQA.A - HANNIBAL, MO**  
**DTV Channel 22 - 975 kW ERP - 271.0 M HAAT**  
**JULY, 2021**

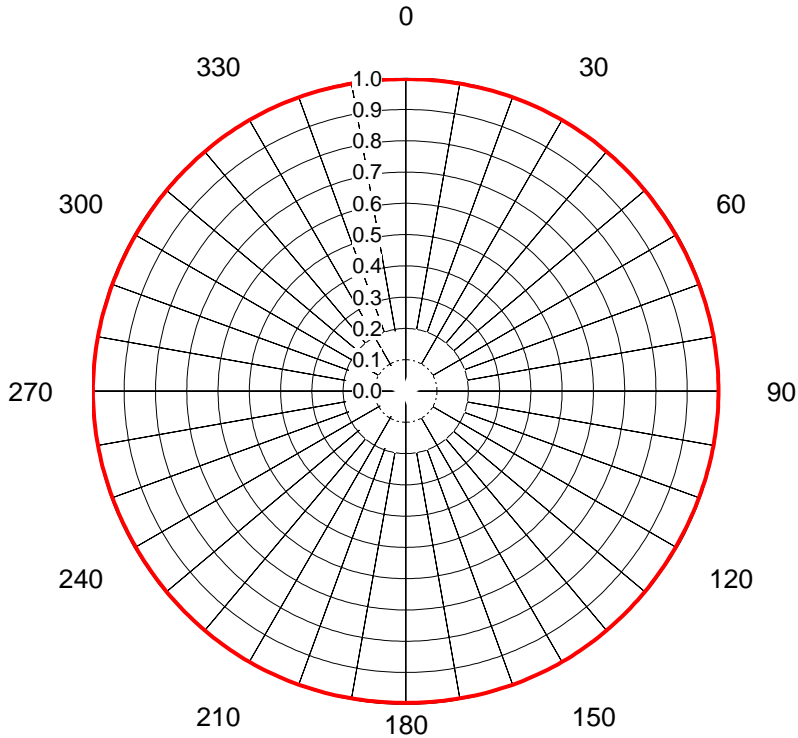
Predicted Noise Limited 39,56 dBu  
 F(50,90) Coverage Contour



Predicted Principal Community 48 dBu  
 F(50,90) Coverage Contour

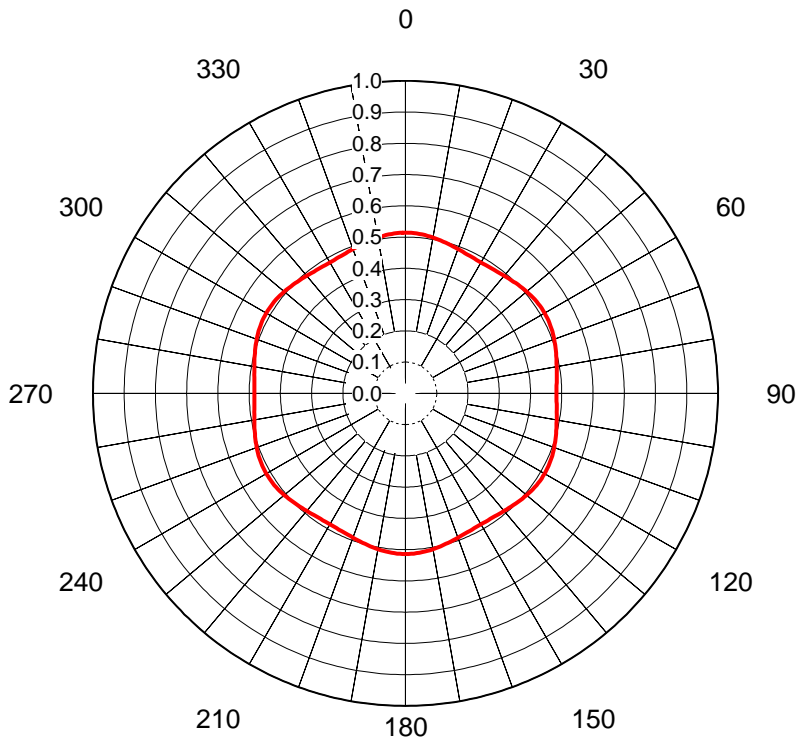
## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-71636**  
 Date **9-Nov-20**  
 Call Letters **KHQA-TV**  
 Channel **22**  
 Frequency **521 MHz**  
 Antenna Type **TFU-33ETT/VP-R O6**  
 Gain **1 (0.01dB)**  
 Calculated  
 Circularity **+/- 1.0 dB**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.997	36	1.000	72	0.998	108	0.998	144	1.000	180	0.997	216	1.000	252	0.998	288	0.998
1	0.997	37	1.000	73	0.998	109	0.998	145	1.000	181	0.997	217	1.000	253	0.998	289	0.998
2	0.997	38	1.000	74	0.998	110	0.998	146	1.000	182	0.997	218	1.000	254	0.998	290	0.998
3	0.997	39	0.999	75	0.999	111	0.998	147	1.000	183	0.997	219	0.999	255	0.999	291	0.998
4	0.997	40	0.999	76	0.999	112	0.998	148	1.000	184	0.997	220	0.999	256	0.999	292	0.998
5	0.997	41	0.999	77	0.999	113	0.998	149	1.000	185	0.997	221	0.999	257	0.999	293	0.998
6	0.997	42	0.999	78	0.999	114	0.997	150	1.000	186	0.997	222	0.999	258	0.999	294	0.997
7	0.998	43	0.999	79	0.999	115	0.997	151	1.000	187	0.998	223	0.999	259	0.999	295	0.997
8	0.998	44	0.999	80	0.999	116	0.997	152	1.000	188	0.998	224	0.999	260	0.999	296	0.997
9	0.998	45	0.999	81	0.999	117	0.997	153	1.000	189	0.998	225	0.999	261	0.999	297	0.997
10	0.998	46	0.998	82	1.000	118	0.997	154	1.000	190	0.998	226	0.998	262	1.000	298	0.997
11	0.998	47	0.998	83	1.000	119	0.997	155	1.000	191	0.998	227	0.998	263	1.000	299	0.997
12	0.998	48	0.998	84	1.000	120	0.997	156	1.000	192	0.998	228	0.998	264	1.000	300	0.997
13	0.998	49	0.998	85	1.000	121	0.997	157	1.000	193	0.998	229	0.998	265	1.000	301	0.997
14	0.998	50	0.998	86	1.000	122	0.997	158	1.000	194	0.998	230	0.998	266	1.000	302	0.997
15	0.999	51	0.998	87	1.000	123	0.997	159	0.999	195	0.999	231	0.998	267	1.000	303	0.997
16	0.999	52	0.998	88	1.000	124	0.997	160	0.999	196	0.999	232	0.998	268	1.000	304	0.997
17	0.999	53	0.998	89	1.000	125	0.997	161	0.999	197	0.999	233	0.998	269	1.000	305	0.997
18	0.999	54	0.997	90	1.000	126	0.997	162	0.999	198	0.999	234	0.997	270	1.000	306	0.997
19	0.999	55	0.997	91	1.000	127	0.998	163	0.999	199	0.999	235	0.997	271	1.000	307	0.998
20	0.999	56	0.997	92	1.000	128	0.998	164	0.999	200	0.999	236	0.997	272	1.000	308	0.998
21	0.999	57	0.997	93	1.000	129	0.998	165	0.999	201	0.999	237	0.997	273	1.000	309	0.998
22	1.000	58	0.997	94	1.000	130	0.998	166	0.998	202	1.000	238	0.997	274	1.000	310	0.998
23	1.000	59	0.997	95	1.000	131	0.998	167	0.998	203	1.000	239	0.997	275	1.000	311	0.998
24	1.000	60	0.997	96	1.000	132	0.998	168	0.998	204	1.000	240	0.997	276	1.000	312	0.998
25	1.000	61	0.997	97	1.000	133	0.998	169	0.998	205	1.000	241	0.997	277	1.000	313	0.998
26	1.000	62	0.997	98	1.000	134	0.998	170	0.998	206	1.000	242	0.997	278	1.000	314	0.998
27	1.000	63	0.997	99	0.999	135	0.999	171	0.998	207	1.000	243	0.997	279	0.999	315	0.999
28	1.000	64	0.997	100	0.999	136	0.999	172	0.998	208	1.000	244	0.997	280	0.999	316	0.999
29	1.000	65	0.997	101	0.999	137	0.999	173	0.998	209	1.000	245	0.997	281	0.999	317	0.999
30	1.000	66	0.997	102	0.999	138	0.999	174	0.997	210	1.000	246	0.997	282	0.999	318	0.999
31	1.000	67	0.998	103	0.999	139	0.999	175	0.997	211	1.000	247	0.998	283	0.999	319	0.999
32	1.000	68	0.998	104	0.999	140	0.999	176	0.997	212	1.000	248	0.998	284	0.999	320	0.999
33	1.000	69	0.998	105	0.999	141	0.999	177	0.997	213	1.000	249	0.998	285	0.999	321	0.999
34	1.000	70	0.998	106	0.998	142	1.000	178	0.997	214	1.000	250	0.998	286	0.998	322	1.000
35	1.000	71	0.998	107	0.998	143	1.000	179	0.997	215	1.000	251	0.998	287	0.998	323	1.000

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## AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-71636**  
 Date **9-Nov-20**  
 Call Letters **KHQA-TV**  
 Channel **22**  
 Frequency **521 MHz**  
 Antenna Type **TFU-33ETT/VP-R O6**  
 Gain **1.06 (0.26dB)**  
 Calculated  
 Circularity **+/- 1.0 dB**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.514	36	0.486	72	0.503	108	0.503	144	0.486	180	0.514	216	0.486	252	0.503	288	0.503	324	0.486
1	0.514	37	0.487	73	0.502	109	0.505	145	0.486	181	0.514	217	0.487	253	0.502	289	0.505	325	0.486
2	0.514	38	0.489	74	0.500	110	0.506	146	0.485	182	0.514	218	0.489	254	0.500	290	0.506	326	0.485
3	0.513	39	0.490	75	0.499	111	0.508	147	0.484	183	0.513	219	0.490	255	0.499	291	0.508	327	0.484
4	0.513	40	0.491	76	0.497	112	0.509	148	0.484	184	0.513	220	0.491	256	0.497	292	0.509	328	0.484
5	0.512	41	0.493	77	0.496	113	0.510	149	0.484	185	0.512	221	0.493	257	0.496	293	0.510	329	0.484
6	0.511	42	0.494	78	0.494	114	0.511	150	0.484	186	0.511	222	0.494	258	0.494	294	0.511	330	0.484
7	0.510	43	0.496	79	0.493	115	0.512	151	0.484	187	0.510	223	0.496	259	0.493	295	0.512	331	0.484
8	0.509	44	0.497	80	0.491	116	0.513	152	0.484	188	0.509	224	0.497	260	0.491	296	0.513	332	0.484
9	0.508	45	0.499	81	0.490	117	0.513	153	0.484	189	0.508	225	0.499	261	0.490	297	0.513	333	0.484
10	0.506	46	0.500	82	0.489	118	0.514	154	0.485	190	0.506	226	0.500	262	0.489	298	0.514	334	0.485
11	0.505	47	0.502	83	0.487	119	0.514	155	0.486	191	0.505	227	0.502	263	0.487	299	0.514	335	0.486
12	0.503	48	0.503	84	0.486	120	0.514	156	0.486	192	0.503	228	0.503	264	0.486	300	0.514	336	0.486
13	0.502	49	0.505	85	0.486	121	0.514	157	0.487	193	0.502	229	0.505	265	0.486	301	0.514	337	0.487
14	0.500	50	0.506	86	0.485	122	0.514	158	0.489	194	0.500	230	0.506	266	0.485	302	0.514	338	0.489
15	0.499	51	0.508	87	0.484	123	0.513	159	0.490	195	0.499	231	0.508	267	0.484	303	0.513	339	0.490
16	0.497	52	0.509	88	0.484	124	0.513	160	0.491	196	0.497	232	0.509	268	0.484	304	0.513	340	0.491
17	0.496	53	0.510	89	0.484	125	0.512	161	0.493	197	0.496	233	0.510	269	0.484	305	0.512	341	0.493
18	0.494	54	0.511	90	0.484	126	0.511	162	0.494	198	0.494	234	0.511	270	0.484	306	0.511	342	0.494
19	0.493	55	0.512	91	0.484	127	0.510	163	0.496	199	0.493	235	0.512	271	0.484	307	0.510	343	0.496
20	0.491	56	0.513	92	0.484	128	0.509	164	0.497	200	0.491	236	0.513	272	0.484	308	0.509	344	0.497
21	0.490	57	0.513	93	0.484	129	0.508	165	0.499	201	0.490	237	0.513	273	0.484	309	0.508	345	0.499
22	0.489	58	0.514	94	0.485	130	0.506	166	0.500	202	0.489	238	0.514	274	0.485	310	0.506	346	0.500
23	0.487	59	0.514	95	0.486	131	0.505	167	0.502	203	0.487	239	0.514	275	0.486	311	0.505	347	0.502
24	0.486	60	0.514	96	0.486	132	0.503	168	0.503	204	0.486	240	0.514	276	0.486	312	0.503	348	0.503
25	0.486	61	0.514	97	0.487	133	0.502	169	0.505	205	0.486	241	0.514	277	0.487	313	0.502	349	0.505
26	0.485	62	0.514	98	0.489	134	0.500	170	0.506	206	0.485	242	0.514	278	0.489	314	0.500	350	0.506
27	0.484	63	0.513	99	0.490	135	0.499	171	0.508	207	0.484	243	0.513	279	0.490	315	0.499	351	0.508
28	0.484	64	0.513	100	0.491	136	0.497	172	0.509	208	0.484	244	0.513	280	0.491	316	0.497	352	0.509
29	0.484	65	0.512	101	0.493	137	0.496	173	0.510	209	0.484	245	0.512	281	0.493	317	0.496	353	0.510
30	0.484	66	0.511	102	0.494	138	0.494	174	0.511	210	0.484	246	0.511	282	0.494	318	0.494	354	0.511
31	0.484	67	0.510	103	0.496	139	0.493	175	0.512	211	0.484	247	0.510	283	0.496	319	0.493	355	0.512
32	0.484	68	0.509	104	0.497	140	0.491	176	0.513	212	0.484	248	0.509	284	0.497	320	0.491	356	0.513
33	0.484	69	0.508	105	0.499	141	0.490	177	0.513	213	0.484	249	0.508	285	0.499	321	0.490	357	0.513
34	0.485	70	0.506	106	0.500	142	0.489	178	0.514	214	0.485	250	0.506	286	0.500	322	0.489	358	0.514
35	0.486	71	0.505	107	0.502	143	0.487	179	0.514	215	0.486	251	0.505	287	0.502	323	0.487	359	0.514

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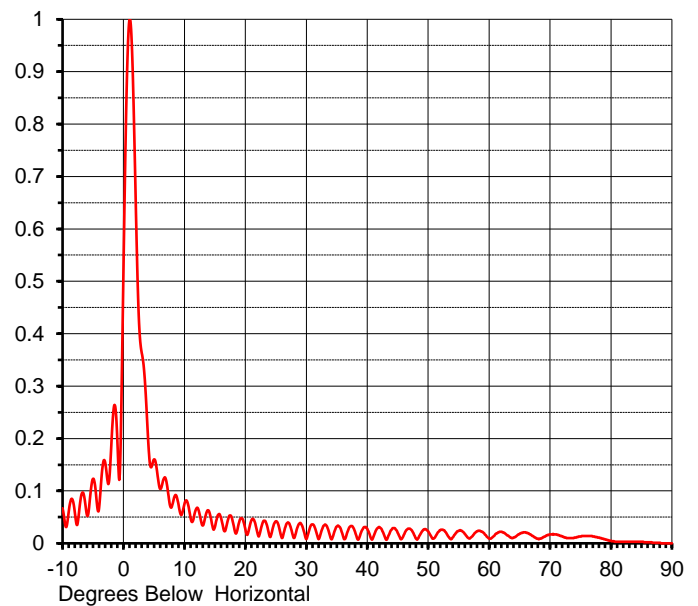
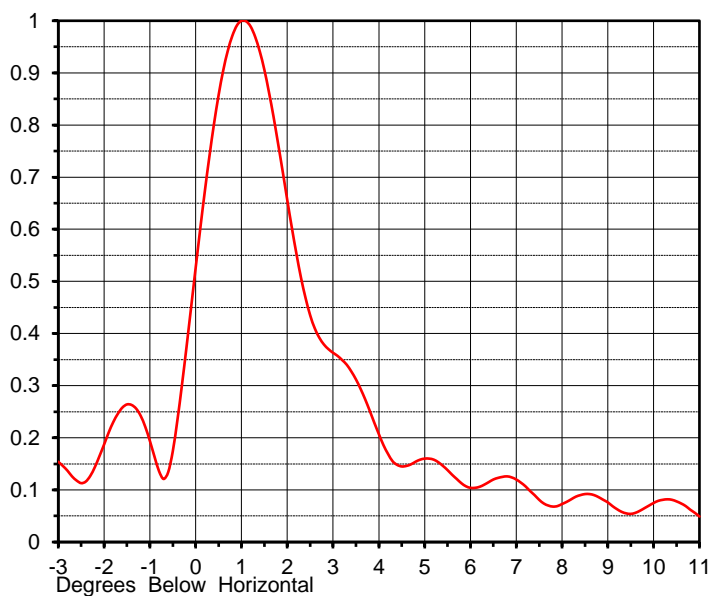


## ELEVATION PATTERN

Proposal No. **C-71636**  
 Date **9-Nov-20**  
 Call Letters **KHQA-TV**  
 Channel **22**  
 Frequency **521 MHz**  
 Antenna Type **TFU-33ETT/VP-R 06**

RMS Directivity at Main Lobe **30.0 ( 14.77 dB )**  
 RMS Directivity at Horizontal **8.3 ( 9.19 dB )**  
**Calculated**

Beam Tilt **1.05 deg**  
 Pattern Number **105**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.067	10.0	0.075	30.0	0.008	50.0	0.023	70.0	0.017
-9.0	0.059	11.0	0.049	31.0	0.036	51.0	0.010	71.0	0.017
-8.0	0.060	12.0	0.067	32.0	0.008	52.0	0.025	72.0	0.013
-7.0	0.087	13.0	0.034	33.0	0.035	53.0	0.019	73.0	0.010
-6.0	0.054	14.0	0.062	34.0	0.010	54.0	0.011	74.0	0.011
-5.0	0.123	15.0	0.031	35.0	0.032	55.0	0.024	75.0	0.013
-4.0	0.068	16.0	0.049	36.0	0.015	56.0	0.018	76.0	0.014
-3.0	0.154	17.0	0.038	37.0	0.029	57.0	0.011	77.0	0.013
-2.0	0.187	18.0	0.038	38.0	0.022	58.0	0.023	78.0	0.011
-1.0	0.194	19.0	0.041	39.0	0.021	59.0	0.021	79.0	0.008
0.0	0.526	20.0	0.027	40.0	0.028	60.0	0.009	80.0	0.005
1.0	1.000	21.0	0.044	41.0	0.012	61.0	0.017	81.0	0.003
2.0	0.656	22.0	0.019	42.0	0.031	62.0	0.022	82.0	0.003
3.0	0.363	23.0	0.043	43.0	0.009	63.0	0.015	83.0	0.003
4.0	0.207	24.0	0.013	44.0	0.026	64.0	0.011	84.0	0.003
5.0	0.160	25.0	0.042	45.0	0.020	65.0	0.018	85.0	0.003
6.0	0.104	26.0	0.010	46.0	0.016	66.0	0.021	86.0	0.002
7.0	0.120	27.0	0.040	47.0	0.028	67.0	0.015	87.0	0.001
8.0	0.073	28.0	0.010	48.0	0.009	68.0	0.009	88.0	0.001
9.0	0.076	29.0	0.039	49.0	0.023	69.0	0.012	89.0	0.000
								90.0	0.000

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**KHQA-TV**  
**Channel 22 - Hannibal MO**  
**ERP = 975000.00 WATTS**

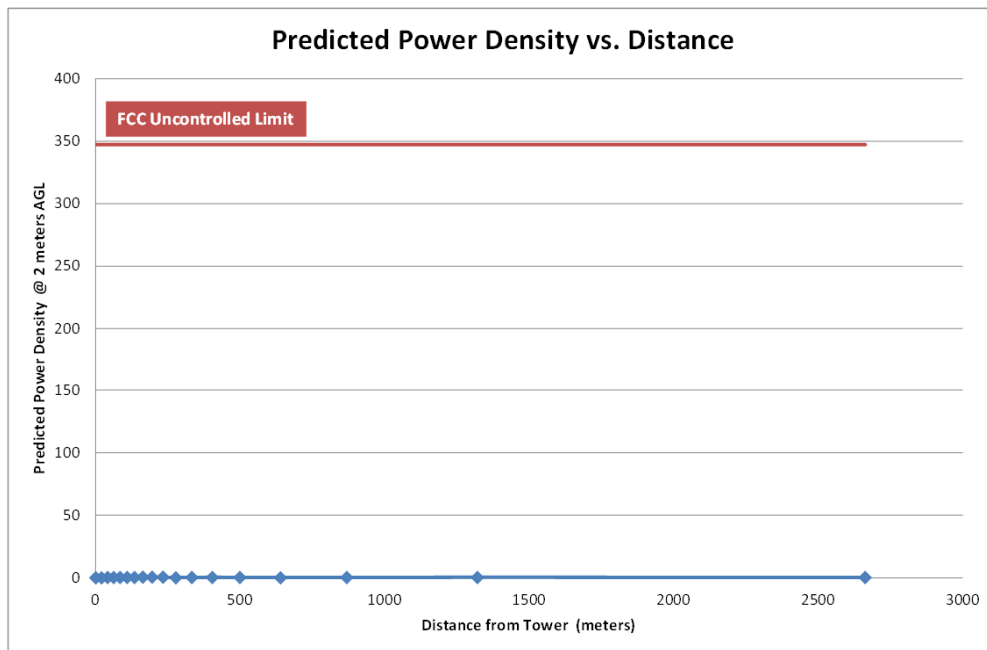
## APPENDIX A

**Maximum ERP 975 kW**

Polarization ----- 2 Circular  
 Antenna Height Above Ground -- 235 meters 771.0 feet  
 FCC Uncontrolled RFR Limit ---- 347.33  $\mu\text{W}/\text{cm}^2$

Maximum Computed Power Density 0.552  $\mu\text{W}/\text{cm}^2$   
 0.16% of limit

Angle Below Horizontal (degrees)	<Point X> Horiz Distance from tower to 2 m AGL (meters)	Slant Distance from antenna to Point X (meters)	Vertical Pattern (REL. FIELD)	KHQA-TV ERP (kW)	KHQA-TV Calculated Power Density $\mu\text{W}/\text{cm}^2$	Percent Limit	Limit Exceeded?
0			1.000	975.0000			
5	2663.2	2673.4	0.145	20.4994	0.192	0.06%	No
10	1321.4	1341.8	0.095	8.7994	0.326	0.09%	No
15	869.6	900.2	0.047	2.1538	0.178	0.05%	No
20	640.2	681.2	0.020	0.3900	0.056	0.02%	No
25	499.7	551.3	0.030	0.8775	0.193	0.06%	No
30	403.6	466.0	0.033	1.0618	0.327	0.09%	No
35	332.8	406.2	0.026	0.6591	0.267	0.08%	No
40	277.7	362.5	0.010	0.0975	0.050	0.01%	No
45	233.0	329.5	0.025	0.6094	0.375	0.11%	No
50	195.5	304.2	0.028	0.7644	0.552	0.16%	No
55	163.1	284.4	0.023	0.5158	0.426	0.12%	No
60	134.5	269.0	0.012	0.1404	0.130	0.04%	No
65	108.6	257.1	0.012	0.1404	0.142	0.04%	No
70	84.8	248.0	0.013	0.1648	0.179	0.05%	No
75	62.4	241.2	0.016	0.2496	0.287	0.08%	No
80	41.1	236.6	0.009	0.0790	0.094	0.03%	No
85	20.4	233.9	0.005	0.0244	0.030	0.01%	No
90	0.0	233.0	0.000	0.0000	0.000	0.00%	No





# 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

**Appendix B - Interference Analysis**  
**KHQA-TV - Hannibal, Missouri**  
**Channel 22- 975 kW - Page 2**

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	

**Appendix B - Interference Analysis**  
**KHQA-TV - Hannibal, Missouri**  
**Channel 22- 975 kW - Page 3**

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

**Appendix B - Interference Analysis**  
**KHQA-TV - Hannibal, Missouri**  
**Channel 22- 975 kW - Page 4**

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		

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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			

**Appendix B - Interference Analysis**  
**KHQA-TV - Hannibal, Missouri**  
**Channel 22- 975 kW - Page 5**

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	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	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	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	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

**Appendix B - Interference Analysis**  
**KHQA-TV - Hannibal, Missouri**  
**Channel 22- 975 kW - Page 6**

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

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

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Interference to proposal scenario 1  
0.57% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	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	BLCDT20091119ACF	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.**