



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION FOR
MODIFICATION OF A
POST REPACK CONSTRUCTION PERMIT
FILE # 0000024782**

**WFMJ-TV - YOUNGSTOWN, OHIO
DTV - CH. 33 - 740 kW - 295 m HAAT**

Prepared for: WFMJ TELEVISION, INC.

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, License No. 7418, and in the State of New York, License No. 63418.

GENERAL

This office has been authorized by WFMJ TELEVISION, INC., licensee of WFMJ-TV, channel 20, facility ID number 72062, licensed to Youngstown, Ohio, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for modification of its post-repack construction permit, #0000024782. The applicant proposes herein to increase its authorized Effective Radiated Power (ERP) to 740 kW and change the authorized antenna from a directional horizontal azimuth pattern to an omni-directional pattern. No other changes are proposed.

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OMNI-DIRECTIONAL ANTENNA

The applicant proposes to install a new Dielectric model TFU-31ETT/VP-R O6 elliptically polarized omni-directional transmitting antenna with its center of radiation located at a height above ground of 301 meters, and a height above average terrain of 295 meters. The antenna manufacturer's omni-directional horizontal plane azimuth radiation pattern for the horizontally polarized component is shown and tabulated in exhibit 2. The manufacturer's horizontal plane azimuth pattern for the vertically polarized component is shown and tabulated in exhibit 3. The manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane is shown and tabulated in Exhibit 4.

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. Exhibit 1 shows the predicted Noise Limited (40.60 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Youngstown, Ohio.

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ALLOCATION CONSIDERATIONS

Post-Transition DTV Considerations

A study was performed, using the FCC's software, tv_study, v. 2.2.3, 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.

International DTV Considerations

The WFMJ-TV site is located 135 kilometers from the nearest point on the US-Canadian border, therefore coordination is necessary. The above study included Canadian facilities for which no new interference was predicted. (See Appendix B)

BLANKETING AND INTERMODULATION INTERFERENCE

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WFMJ-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

The FCC's guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions are generally based on recommendations by the National

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Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or "controlled" situations, and for "uncontrolled" environments that apply in all other cases that might affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance to determine whether FCC-regulated transmitting facilities, operations or devices comply with guidelines for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. OET Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHZ and 300 MHZ is 200 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) for an "uncontrolled" environment, and is 1000 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) for a "controlled" environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHZ and 1500 MHZ, primarily UHF TV stations, is determined for an "uncontrolled" environment by dividing the operating frequency in MHz by 1.5, and is similarly determined for a "controlled" environment by dividing the operating frequency in MHz by 0.3.

The predicted emissions of WFMJ-TV must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WFMJ-TV, which

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will operate on television Channel 33 (584-590 MHZ), the MPE is 391.3 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an "uncontrolled" environment and 1,956.7 $\mu\text{W}/\text{cm}^2$ in a "controlled" environment. The proposed WFMJ-TV facility will operate with a maximum ERP of 740 kW from an elliptically polarized omni-directional transmitting antenna with a centerline height of 301 meters above ground level (AGL). Considering a predicted vertical plane relative field factor of 0.300 the WFMJ-TV facility is predicted to produce a power density at two meters above ground level of 49.778 $\mu\text{W}/\text{cm}^2$, which is 12.72% of the FCC guideline value for an "uncontrolled" environment, and 2.54% of the FCC's guideline value for "controlled" environments. There is one low-power DTV station and one FM station that are located at the WFMJ-TV site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations within the relevant proximity, is 14.68% of the limit applicable to "uncontrolled" environments, and 2.94% of the limit for "controlled" environments. (See Appendix A)

OCCUPATIONAL SAFETY

The licensee of WFMJ-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WFMJ-TV antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

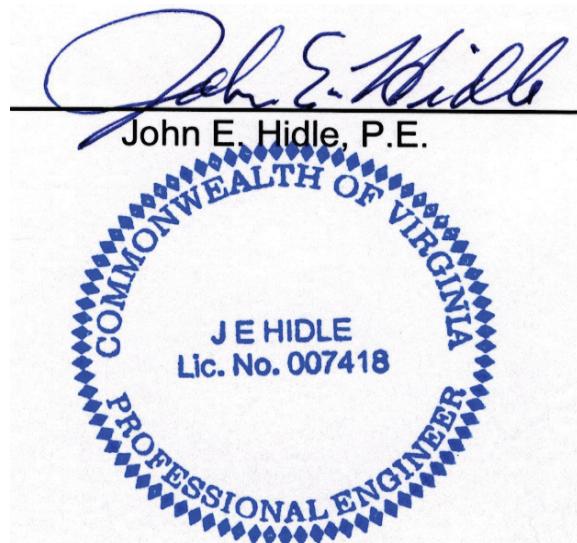
SUMMARY

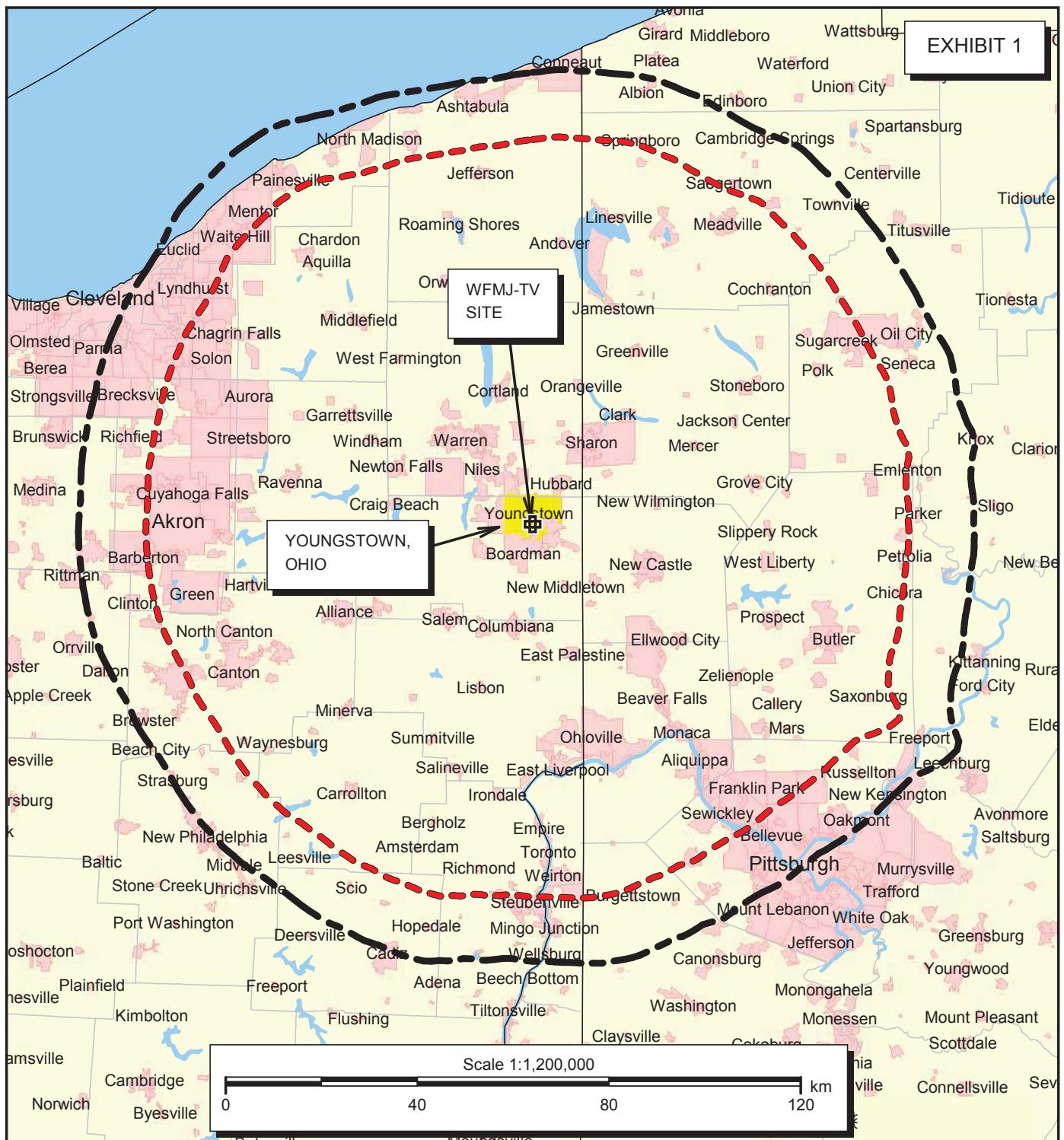
It is submitted that the instant application for modification of construction permit to increase ERP to 740 kW and change the authorized antenna from a directional model to

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a model with an omni-directional horizontal azimuth pattern, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 2100, its technical sections, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: October 6, 2017





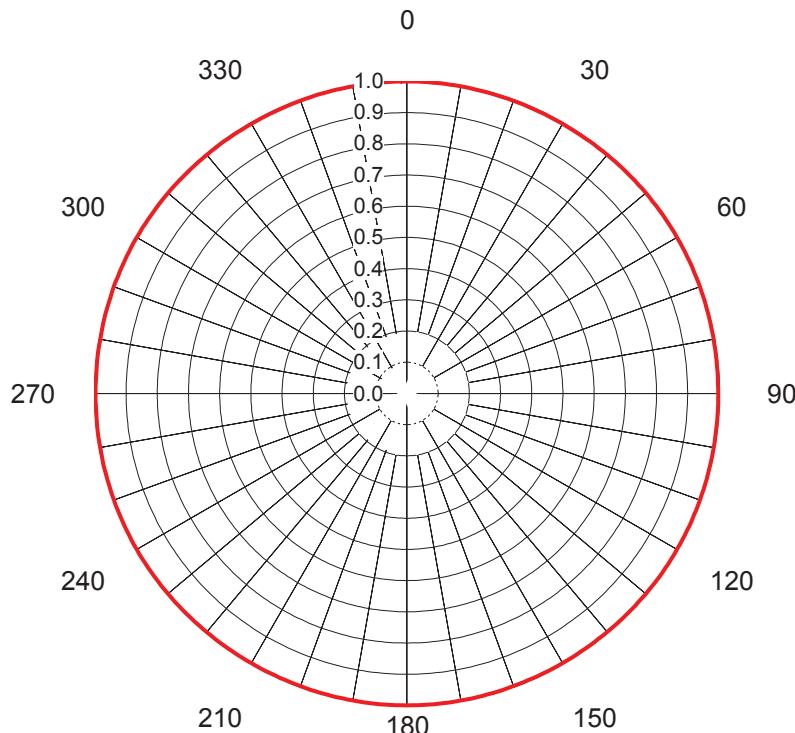
PREDICTED COVERAGE CONTOURS

WFMJ-TV - YOUNGSTOWN, OHIO
DTV Channel 33 - 740 kW ERP - 295 M HAAT
OCTOBER, 2017

Predicted Noise Limited 40.60 dBu
F(50,90) Coverage Contour



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

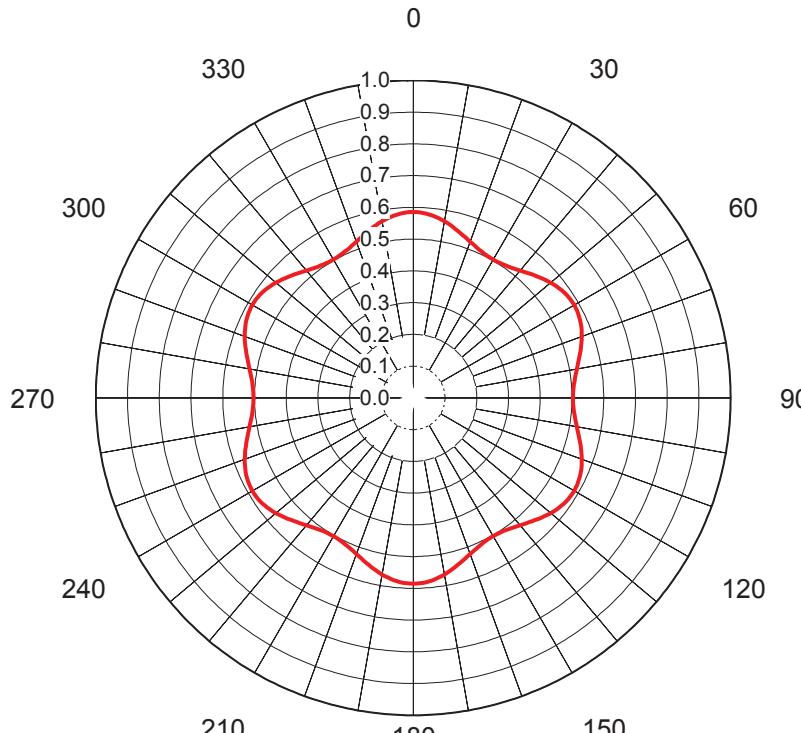


AZIMUTH PATTERN Horizontal Polarization

Proposal No.	C-70765-1
Date	25-Jul-17
Call Letters	WFMJ-TV
Channel	33
Frequency	587 MHz
Antenna Type	TFU-31ETT/VP-R O6
Gain	1 (0.01dB)
Calculated	
Circularity	+/- 1.0 dB

Deg	Value																		
0	1.000	36	0.998	72	0.999	108	0.999	144	0.998	180	1.000	216	0.998	252	0.999	288	0.999	324	0.998
1	1.000	37	0.998	73	0.999	109	0.999	145	0.998	181	1.000	217	0.998	253	0.999	289	0.999	325	0.998
2	1.000	38	0.998	74	0.999	110	1.000	146	0.998	182	1.000	218	0.998	254	0.999	290	1.000	326	0.998
3	1.000	39	0.998	75	0.999	111	1.000	147	0.998	183	1.000	219	0.998	255	0.999	291	1.000	327	0.998
4	1.000	40	0.998	76	0.999	112	1.000	148	0.998	184	1.000	220	0.998	256	0.999	292	1.000	328	0.998
5	1.000	41	0.999	77	0.999	113	1.000	149	0.998	185	1.000	221	0.999	257	0.999	293	1.000	329	0.998
6	1.000	42	0.999	78	0.999	114	1.000	150	0.998	186	1.000	222	0.999	258	0.999	294	1.000	330	0.998
7	1.000	43	0.999	79	0.998	115	1.000	151	0.998	187	1.000	223	0.999	259	0.998	295	1.000	331	0.998
8	1.000	44	0.999	80	0.998	116	1.000	152	0.998	188	1.000	224	0.999	260	0.998	296	1.000	332	0.998
9	1.000	45	0.999	81	0.998	117	1.000	153	0.998	189	1.000	225	0.999	261	0.998	297	1.000	333	0.998
10	0.999	46	0.999	82	0.998	118	1.000	154	0.998	190	0.999	226	0.999	262	0.998	298	1.000	334	0.998
11	0.999	47	0.999	83	0.998	119	1.000	155	0.998	191	0.999	227	0.999	263	0.998	299	1.000	335	0.998
12	0.999	48	0.999	84	0.998	120	1.000	156	0.998	192	0.999	228	0.999	264	0.998	300	1.000	336	0.998
13	0.999	49	0.999	85	0.998	121	1.000	157	0.998	193	0.999	229	0.999	265	0.998	301	1.000	337	0.998
14	0.999	50	1.000	86	0.998	122	1.000	158	0.998	194	0.999	230	1.000	266	0.998	302	1.000	338	0.998
15	0.999	51	1.000	87	0.998	123	1.000	159	0.998	195	0.999	231	1.000	267	0.998	303	1.000	339	0.998
16	0.999	52	1.000	88	0.998	124	1.000	160	0.998	196	0.999	232	1.000	268	0.998	304	1.000	340	0.998
17	0.999	53	1.000	89	0.998	125	1.000	161	0.999	197	0.999	233	1.000	269	0.998	305	1.000	341	0.999
18	0.999	54	1.000	90	0.998	126	1.000	162	0.999	198	0.999	234	1.000	270	0.998	306	1.000	342	0.999
19	0.998	55	1.000	91	0.998	127	1.000	163	0.999	199	0.998	235	1.000	271	0.998	307	1.000	343	0.999
20	0.998	56	1.000	92	0.998	128	1.000	164	0.999	200	0.998	236	1.000	272	0.998	308	1.000	344	0.999
21	0.998	57	1.000	93	0.998	129	1.000	165	0.999	201	0.998	237	1.000	273	0.998	309	1.000	345	0.999
22	0.998	58	1.000	94	0.998	130	0.999	166	0.999	202	0.998	238	1.000	274	0.998	310	0.999	346	0.999
23	0.998	59	1.000	95	0.998	131	0.999	167	0.999	203	0.998	239	1.000	275	0.998	311	0.999	347	0.999
24	0.998	60	1.000	96	0.998	132	0.999	168	0.999	204	0.998	240	1.000	276	0.998	312	0.999	348	0.999
25	0.998	61	1.000	97	0.998	133	0.999	169	0.999	205	0.998	241	1.000	277	0.998	313	0.999	349	0.999
26	0.998	62	1.000	98	0.998	134	0.999	170	1.000	206	0.998	242	1.000	278	0.998	314	0.999	350	1.000
27	0.998	63	1.000	99	0.998	135	0.999	171	1.000	207	0.998	243	1.000	279	0.998	315	0.999	351	1.000
28	0.998	64	1.000	100	0.998	136	0.999	172	1.000	208	0.998	244	1.000	280	0.998	316	0.999	352	1.000
29	0.998	65	1.000	101	0.999	137	0.999	173	1.000	209	0.998	245	1.000	281	0.999	317	0.999	353	1.000
30	0.998	66	1.000	102	0.999	138	0.999	174	1.000	210	0.998	246	1.000	282	0.999	318	0.999	354	1.000
31	0.998	67	1.000	103	0.999	139	0.998	175	1.000	211	0.998	247	1.000	283	0.999	319	0.998	355	1.000
32	0.998	68	1.000	104	0.999	140	0.998	176	1.000	212	0.998	248	1.000	284	0.999	320	0.998	356	1.000
33	0.998	69	0.999	105	0.999	141	0.998	177	1.000	213	0.998	249	1.000	285	0.999	321	0.998	357	1.000
34	0.998	70	0.999	106	0.999	142	0.998	178	1.000	214	0.998	250	0.999	286	0.999	322	0.998	358	1.000
35	0.998	71	0.999	107	0.999	143	0.998	179	1.000	215	0.998	251	0.999	287	0.999	323	0.998	359	1.000

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AZIMUTH PATTERN Vertical Polarization

Proposal No.	C-70765-1
Date	25-Jul-17
Call Letters	WFMJ-TV
Channel	33
Frequency	587 MHz
Antenna Type	TFU-31ETT/VP-R O6
Gain	1.15 (0.62dB)
Calculated	+/- 1.0 dB
Circularity	+/- 1.0 dB

Deg	Value																		
0	0.585	36	0.511	72	0.557	108	0.557	144	0.511	180	0.585	216	0.511	252	0.557	288	0.557	324	0.511
1	0.585	37	0.514	73	0.553	109	0.561	145	0.509	181	0.585	217	0.514	253	0.553	289	0.561	325	0.509
2	0.585	38	0.517	74	0.549	110	0.565	146	0.507	182	0.585	218	0.517	254	0.549	290	0.565	326	0.507
3	0.583	39	0.520	75	0.544	111	0.568	147	0.505	183	0.583	219	0.520	255	0.544	291	0.568	327	0.505
4	0.582	40	0.524	76	0.540	112	0.572	148	0.504	184	0.582	220	0.524	256	0.540	292	0.572	328	0.504
5	0.580	41	0.528	77	0.536	113	0.575	149	0.503	185	0.580	221	0.528	257	0.536	293	0.575	329	0.503
6	0.578	42	0.532	78	0.532	114	0.578	150	0.503	186	0.578	222	0.532	258	0.532	294	0.578	330	0.503
7	0.575	43	0.536	79	0.528	115	0.580	151	0.503	187	0.575	223	0.536	259	0.528	295	0.580	331	0.503
8	0.572	44	0.540	80	0.524	116	0.582	152	0.504	188	0.572	224	0.540	260	0.524	296	0.582	332	0.504
9	0.568	45	0.544	81	0.520	117	0.583	153	0.505	189	0.568	225	0.544	261	0.520	297	0.583	333	0.505
10	0.565	46	0.549	82	0.517	118	0.585	154	0.507	190	0.565	226	0.549	262	0.517	298	0.585	334	0.507
11	0.561	47	0.553	83	0.514	119	0.585	155	0.509	191	0.561	227	0.553	263	0.514	299	0.585	335	0.509
12	0.557	48	0.557	84	0.511	120	0.585	156	0.511	192	0.557	228	0.557	264	0.511	300	0.585	336	0.511
13	0.553	49	0.561	85	0.509	121	0.585	157	0.514	193	0.553	229	0.561	265	0.509	301	0.585	337	0.514
14	0.549	50	0.565	86	0.507	122	0.585	158	0.517	194	0.549	230	0.565	266	0.507	302	0.585	338	0.517
15	0.544	51	0.568	87	0.505	123	0.583	159	0.520	195	0.544	231	0.568	267	0.505	303	0.583	339	0.520
16	0.540	52	0.572	88	0.504	124	0.582	160	0.524	196	0.540	232	0.572	268	0.504	304	0.582	340	0.524
17	0.536	53	0.575	89	0.503	125	0.580	161	0.528	197	0.536	233	0.575	269	0.503	305	0.580	341	0.528
18	0.532	54	0.578	90	0.503	126	0.578	162	0.532	198	0.532	234	0.578	270	0.503	306	0.578	342	0.532
19	0.528	55	0.580	91	0.503	127	0.575	163	0.536	199	0.528	235	0.580	271	0.503	307	0.575	343	0.536
20	0.524	56	0.582	92	0.504	128	0.572	164	0.540	200	0.524	236	0.582	272	0.504	308	0.572	344	0.540
21	0.520	57	0.583	93	0.505	129	0.568	165	0.544	201	0.520	237	0.583	273	0.505	309	0.568	345	0.544
22	0.517	58	0.585	94	0.507	130	0.565	166	0.549	202	0.517	238	0.585	274	0.507	310	0.565	346	0.549
23	0.514	59	0.585	95	0.509	131	0.561	167	0.553	203	0.514	239	0.585	275	0.509	311	0.561	347	0.553
24	0.511	60	0.585	96	0.511	132	0.557	168	0.557	204	0.511	240	0.585	276	0.511	312	0.557	348	0.557
25	0.509	61	0.585	97	0.514	133	0.553	169	0.561	205	0.509	241	0.585	277	0.514	313	0.553	349	0.561
26	0.507	62	0.585	98	0.517	134	0.549	170	0.565	206	0.507	242	0.585	278	0.517	314	0.549	350	0.565
27	0.505	63	0.583	99	0.520	135	0.544	171	0.568	207	0.505	243	0.583	279	0.520	315	0.544	351	0.568
28	0.504	64	0.582	100	0.524	136	0.540	172	0.572	208	0.504	244	0.582	280	0.524	316	0.540	352	0.572
29	0.503	65	0.580	101	0.528	137	0.536	173	0.575	209	0.503	245	0.580	281	0.528	317	0.536	353	0.575
30	0.503	66	0.578	102	0.532	138	0.532	174	0.578	210	0.503	246	0.578	282	0.532	318	0.532	354	0.578
31	0.503	67	0.575	103	0.536	139	0.528	175	0.580	211	0.503	247	0.575	283	0.536	319	0.528	355	0.580
32	0.504	68	0.572	104	0.540	140	0.524	176	0.582	212	0.504	248	0.572	284	0.540	320	0.524	356	0.582
33	0.505	69	0.568	105	0.544	141	0.520	177	0.583	213	0.505	249	0.568	285	0.544	321	0.520	357	0.583
34	0.507	70	0.565	106	0.549	142	0.517	178	0.585	214	0.507	250	0.565	286	0.549	322	0.517	358	0.585
35	0.509	71	0.561	107	0.553	143	0.514	179	0.585	215	0.509	251	0.561	287	0.553	323	0.514	359	0.585

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ELEVATION PATTERN

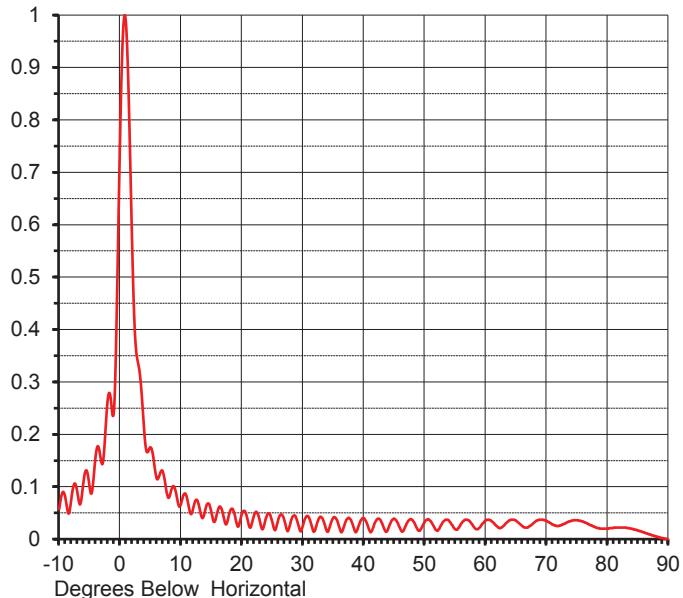
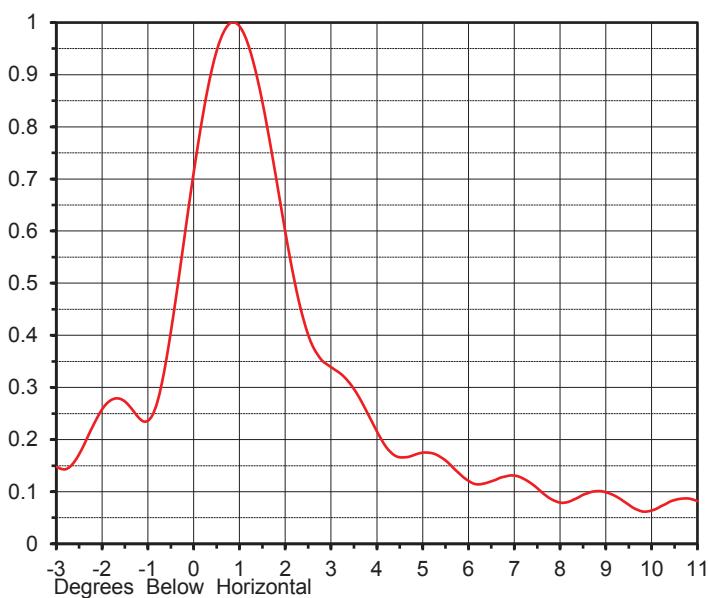
Proposal No. C-70765-1
 Date 25-Jul-17
 Call Letters WFMJ-TV
 Channel 33
 Frequency 587 MHz
 Antenna Type TFU-31ETT/VP-R O6

RMS Directivity at Main Lobe
 RMS Directivity at Horizontal

27.0 (14.31 dB)
16.0 (12.04 dB)

Calculated

Beam Tilt 0.75 deg
 Pattern Number 31E270075



Angle	Field								
-10.0	0.057	10.0	0.067	30.0	0.026	50.0	0.033	70.0	0.035
-9.0	0.080	11.0	0.077	31.0	0.041	51.0	0.034	71.0	0.028
-8.0	0.077	12.0	0.059	32.0	0.017	52.0	0.016	72.0	0.025
-7.0	0.088	13.0	0.061	33.0	0.042	53.0	0.033	73.0	0.030
-6.0	0.110	14.0	0.057	34.0	0.014	54.0	0.035	74.0	0.035
-5.0	0.099	15.0	0.050	35.0	0.041	55.0	0.019	75.0	0.036
-4.0	0.160	16.0	0.053	36.0	0.022	56.0	0.030	76.0	0.033
-3.0	0.144	17.0	0.042	37.0	0.033	57.0	0.037	77.0	0.028
-2.0	0.269	18.0	0.052	38.0	0.033	58.0	0.024	78.0	0.023
-1.0	0.247	19.0	0.036	39.0	0.020	59.0	0.022	79.0	0.020
0.0	0.769	20.0	0.049	40.0	0.040	60.0	0.036	80.0	0.020
1.0	0.978	21.0	0.033	41.0	0.015	61.0	0.034	81.0	0.022
2.0	0.550	22.0	0.046	42.0	0.035	62.0	0.023	82.0	0.022
3.0	0.333	23.0	0.031	43.0	0.030	63.0	0.026	83.0	0.022
4.0	0.200	24.0	0.042	44.0	0.020	64.0	0.036	84.0	0.020
5.0	0.175	25.0	0.032	45.0	0.039	65.0	0.035	85.0	0.016
6.0	0.116	26.0	0.039	46.0	0.019	66.0	0.025	86.0	0.013
7.0	0.129	27.0	0.034	47.0	0.029	67.0	0.023	87.0	0.009
8.0	0.079	28.0	0.033	48.0	0.036	68.0	0.032	88.0	0.005
9.0	0.096	29.0	0.037	49.0	0.016	69.0	0.037	89.0	0.002
									90.0 0.000

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**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**

WFMJ-TV, Youngstown, OH
Channel 33, 740 kW, 295 m HAAT
October, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLAR- IZATION</u>	<u>ANTENNA HEIGHT</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>WORST-CASE PREDICTED POWER DENSITY ($\mu\text{W}/\text{cm}^2$)</u>	<u>FCC UNCONTROLLED LIMIT ($\mu\text{W}/\text{cm}^2$)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WFMJ-TV	DT	33	587	H & V	301	740.000	0.300	49.778	391.33	12.72%
W44CR-D	DT	44	653	H & V	195	1.500	0.300	0.242	435.33	0.06%
WILB-FM	FM	208	89.5	H & V	53.3	0.150	1.000	3.809	200.00	1.90%
TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =										14.68%

* For television stations a very conservative vertical relative field factor of 0.3 was assumed pursuant to OET Bulletin 65.



WFMJ-TV - YOUNGSTOWN, OHIO Longley-Rice Interference Analysis

tvstudy v2.2.3 (Dxtpx3)
Database: localhost, Study: WFMJ-33 OMNI 740K 171006, Model: Longley-Rice
Start: 2017.10.06 08:59:47

Study created: 2017.10.06 08:59:06

Study build station data: LMS TV 2017-10-01 (38)

Proposal: WFMJ-TV D33 DT CP YOUNGSTOWN, OH
File number: WFMJ-33 OMNI 740K 171006
Facility ID: 72062
Station data: User record
Record ID: 1869
Country: U.S.
Zone: I

Search options:

Non-U.S. records included

Stations affected by proposal:

Call	Chan	Svc	Status	City, State	File Number	Distance
WGRZ	D33	DT	LIC	BUFFALO, NY	BLCDT20050705AAG	250.4 km
WHIO-TV	D33	DT	CP	DAYTON, OH	BLANK0000025295	340.0
CIII-DT-22D33	DT	LIC		STEVENSON, ON	BLANKCANADA222	188.2
CKNX-TV	D33	DT	LIC	WINGHAM, ON	BLANKCANADA245	337.8

Non-directional AM stations within 0.8 km:
WBBW 1240 L ND1 U YOUNGSTOWN, OH BL

Directional AM stations within 3.2 km:
WGFT 1330 L DAD D CAMPBELL, OH BMML20141024ADS

Record parameters as studied:

Channel: D33
Latitude: 41 4 48.60 N (NAD83)
Longitude: 80 38 24.40 W
Height AMSL: 615.9 m
HAAT: 295.0 m
Peak ERP: 740 kW
Antenna: Omnidirectional
Elev Pattrn: Generic
Elec Tilt: 0.8

40.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	740 kW	293.3 m	94.0 km
45.0	740	300.0	94.9
90.0	740	280.9	92.2
135.0	740	278.6	91.8
180.0	740	273.5	91.0
225.0	740	287.4	93.2
270.0	740	297.5	94.6
315.0	740	335.5	98.7

Database HAAT does not agree with computed HAAT
Database HAAT: 295 m Computed HAAT: 293 m

**Proposal service area extends beyond baseline plus 1.0%

Appendix B - Interference Analysis
WFMJ-TV - Youngstown, Ohio
Channel 33 - 740 kW - Page 2

Proposal service area population is more than 95.0% of baseline

**Proposal is within coordination distance of Canadian border
Distance to Canadian border: 135.0 km

Distance to Mexican border: 2245.7 km

Conditions at FCC monitoring station: Canandaigua NY
Bearing: 52.7 degrees Distance: 345.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 275.3 degrees Distance: 2070.0 km

Study cell size: 2.00 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 BLCDT20050705AAG LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WGRZ	D33	DT	LIC	BUFFALO, NY	BLCDT20050705AAG	
Undesireds:	WFMJ-TV	D33	DT	BL	YOUNGSTOWN, OH	DTVBL72062	250.4 km
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	WFMJ-33 OMNI 740K 1710	250.4
	WNLO	D32	DT	LIC	BUFFALO, NY	BLCDT20070320AAV	45.3
	WQPX-TV	D33	DT	CP	SCRANTON, PA	BLANK0000026991	274.1
	WKBW-TV	D34	DT	CP	BUFFALO, NY	BLANK0000026789	10.1
	CKNX-TV	D33	DT	LIC	WINGHAM, ON	BLANKCANADA245	262.4

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
21682.9	1,878,725	20466.6	1,812,309	19103.2	1,776,846	19063.2	1,776,296	0.21 0.03
4263.6	438,602	4259.6	433,558	3060.3	267,117	3060.3	267,117	0.00 0.00 (in Canada)

Undesired	Total IX	Unique IX, before	Unique IX, after
WFMJ-TV D33 DT BL	56.0	945	36.0 729
WFMJ-TV D33 DT CP	119.9	1,871	76.0 1,279
WNLO D32 DT LIC	691.1	20,464	671.1 19,597
WNLO D32 DT LIC	1199.3	166,441	1139.6 145,233 (in Canada)
WQPX-TV D33 DT CP	44.0	6,640	44.0 6,640
WKBW-TV D34 DT CP	548.5	7,026	544.5 7,005
WKBW-TV D34 DT CP	31.8	608	0.0 0.0 (in Canada)
CKNX-TV D33 DT LIC	63.9	1,471	27.9 409
CKNX-TV D33 DT LIC	27.8	20,600	0.0 0.0 (in Canada)

Interference to BLANK0000025295 CP, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHIO-TV	D33	DT	CP	DAYTON, OH	BLANK0000025295	
Undesireds:	WFMJ-TV	D33	DT	BL	YOUNGSTOWN, OH	DTVBL72062	340.0 km
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	WFMJ-33 OMNI 740K 1710	340.0
	WOBC-CD	D32	DC	CP	MARION, OH	BLANK0000024957	120.5
	WTIU	D33	DT	CP	BLOOMINGTON, IN	BLANK0000028320	203.8
	WKHA	D33	DT	CP	HAZARD, KY	BLANK0000025297	297.1
	WKAR-TV	D33	DT	CP	EAST LANSING, MI	BLANK0000027882	330.2
	WKEF	D34	DT	CP	DAYTON, OH	BLANK0000025689	1.2

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
32184.7	3,877,520	31913.0	3,868,597	31540.7	3,850,285	31488.6	3,831,770	0.17 0.48

Appendix B - Interference Analysis
WFMJ-TV - Youngstown, Ohio
Channel 33 - 740 kW - Page 3

Undesired	Total IX	Unique IX, before	Unique IX, after
WFMJ-TV D33 DT BL	168.4	2,145	96.2 1,346
WFMJ-TV D33 DT CP	228.5	20,745	148.3 19,861
WOCB-CD D32 DC CP	52.3	1,011	48.3 949 44.2 911
WTIU D33 DT CP	167.8	15,198	131.8 14,696 131.8 14,696
WKHA D33 DT CP	12.0	113	12.0 113
WKAR-TV D33 DT CP	72.1	784	0.0 0 0.0 0
WKEF D34 DT CP	8.0	362	4.0 220 4.0 220

Interference to BLANK0000025295 CP, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHIO-TV	D33	DT	CP	DAYTON, OH	BLANK0000025295	
Undesireds:	WFMJ-TV	D33	DT	BL	YOUNGSTOWN, OH	DTVBL72062	340.0 km
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	WFMJ-33 OMNI 740K 1710	340.0
	WOCB-CD	D32	DC	CP	MARION, OH	BLANK0000024957	120.5
	WTIU	D33	DT	CP	BLOOMINGTON, IN	BLANK0000028320	203.8
	WKHA	D33	DT	APP	HAZARD, KY	BLANK0000029749	297.1
	WKAR-TV	D33	DT	CP	EAST LANSING, MI	BLANK0000027882	330.2
	WKEF	D34	DT	CP	DAYTON, OH	BLANK0000025689	1.2
Service area		Terrain-limited			IX-free, before	IX-free, after	Percent New IX
32184.7	3,877,520	31913.0	3,868,597	31540.7	3,850,285	31488.6	3,831,770
						0.17	0.48

Undesired	Total IX	Unique IX, before	Unique IX, after
WFMJ-TV D33 DT BL	168.4	2,145	96.2 1,346
WFMJ-TV D33 DT CP	228.5	20,745	148.3 19,861
WOCB-CD D32 DC CP	52.3	1,011	48.3 949 44.2 911
WTIU D33 DT CP	167.8	15,198	131.8 14,696 131.8 14,696
WKHA D33 DT APP	12.0	113	12.0 113
WKAR-TV D33 DT CP	72.1	784	0.0 0 0.0 0
WKEF D34 DT CP	8.0	362	4.0 220 4.0 220

Interference to BLANKCANADA222 LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	CIII-DT-22D33	DT	LIC		STEVENSON, ON	BLANKCANADA222	
Undesireds:	WFMJ-TV	D33	DT	BL	YOUNGSTOWN, OH	DTVBL72062	188.2 km
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	WFMJ-33 OMNI 740K 1710	188.2
	WDIV-TV	D32	DT	CP	DETROIT, MI	BLANK0000027872	75.5
	WKBD-TV	D34	DT	CP	DETROIT, MI	BLANK0000026191	82.7
Service area		Terrain-limited			IX-free, before	IX-free, after	Percent New IX
U.S.)	426.2	315,664	426.2	315,664	228.3	141,036	0.00 0.00 (in
	6469.0	462,906	6469.0	462,906	6377.0	388,242	0.06 0.00
Undesired		Total IX			Unique IX, before	Unique IX, after	
	WFMJ-TV D33 DT BL	0.0	0	0.0	0	0	(in U.S.)
	WFMJ-TV D33 DT CP	17.7	15,253			0.0	0 (in U.S.)
	WFMJ-TV D33 DT BL	0.0	0	0.0	0		
	WFMJ-TV D33 DT CP	12.0	12,214		4.0	0	
	WDIV-TV D32 DT CP	189.9	174,628	80.3	53,614	80.3	53,614 (in U.S.)
	WDIV-TV D32 DT CP	92.0	74,664	24.1	4,488	24.1	4,488
	WKBD-TV D34 DT CP	117.6	121,014	8.0	0	8.0	0 (in U.S.)
	WKBD-TV D34 DT CP	68.0	70,176	0.0	0	0.0	0

Interference to BLANKCANADA245 LIC, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	CKNX-TV	D33	DT	LIC	WINGHAM, ON	BLANKCANADA245	

Appendix B - Interference Analysis
WFMJ-TV - Youngstown, Ohio
Channel 33 - 740 kW - Page 4

Undesireds:	WFMJ-TV	D33	DT	BL	YOUNGSTOWN, OH	DTVBL72062	337.8 km
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	WFMJ-33 OMNI 740K 1710	337.8
	WGRZ	D33	DT	LIC	BUFFALO, NY	BLCDT20050705AAG	262.4
U.S.)	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
56.4	56.4	0	0	56.4	0	56.4	0
24441.2	548,517	23461.3	486,093	22777.7	414,918	22777.7	414,918
Undesired			Total IX		Unique IX, before	Unique IX, after	
WFMJ-TV D33 DT BL		0.0		0	0.0	0	
WFMJ-TV D33 DT CP		12.0		0		0.0	0
WGRZ D33 DT LIC		683.6		71,175	683.6	71,175	671.6
71,175							71,175

Interference to proposal, scenario 1
4.14% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	WFMJ-33 OMNI 740K 1710	
Undesireds:	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	384.5 km
	WGRZ	D33	DT	LIC	BUFFALO, NY	BLCDT20050705AAG	250.4
	WHIO-TV	D33	DT	CP	DAYTON, OH	BLANK0000025295	340.0
	WNPB-TV	D34	DT	CP	MORGANTOWN, WV	BLANK0000026236	170.9
	CIII-DT-22D33	DT	LIC		STEVENSON, ON	BLANKCANADA222	188.2
	CKNX-TV	D33	DT	LIC	WINGHAM, ON	BLANKCANADA245	337.8
Service area		Terrain-limited			IX-free	Percent IX	
27722.4	4,328,477	26360.0	3,822,691	25568.3	3,664,499	3.00	4.14
Undesired		Total IX			Unique IX	Prcnt Unique IX	
WGRZ D33 DT LIC	655.1	110,461	241.0	13,349	0.91	0.35	
WHIO-TV D33 DT CP	48.1	18,000	44.0	7,387	0.17	0.19	
WNPB-TV D34 DT CP	4.0	99	4.0	99	0.02	0.00	
CIII-DT-22 D33 DT LIC	112.8	61,943	8.1	533	0.03	0.01	
CKNX-TV D33 DT LIC	490.6	126,211	44.2	8,658	0.17	0.23	