

Application for Modification
Post – Repack Construction Permit
Request for Waiver
Engineering Exhibit

WTPX-TV – Antigo, Wisconsin

Facility ID: 86496

Licensee “ION MEDIA WAUSAU LICENSE, INC” is currently authorized to operate on Post-Repack DTV channel 19 with an effective radiated power (ERP) of 24.5 kW at an HAAT of 279 m. The Antenna Structure Registration Number is 1036068 with a Latitude of 45° 03’ 33.0” N+ and a Longitude of 89° 26’ 10.0” W-.

The purpose of this application is to request authority to modify the approved construction permit application (0000027030) to operate utilizing a slightly different antenna pattern. The application will operate from the same Antenna Structure Registration Number 1036068 with a Latitude of 45° 03’ 33.0” N+ and a Longitude of 89° 26’ 10.0” W-. An HAAT of 279 m (AGL 262 m) and an AMSL of 708.5 m with an ERP of 24.5 kW will be utilized.

Antenna System

A directional side mounted antenna will be utilized. It will be attached to an existing guyed tower structure and will not increase the overall height of the structure. Elevation and Azimuth patterns are attached.

RF Hazard (Environmental)

Human Exposure measurements were calculated using the OET- 65 equation and the outcome is compliant with FCC 1.1310. Furthermore, the calculation is under 5% of the limit categorically excluding the application from further environmental evaluations.

Calculated Maximum	Calculated Exposure	Percent of Limit
mW/cm ²	mW/cm ²	
0.335	0.000373	0.11%

The station will coordinate with other(s) to comply with access, antenna and/or tower issues related to RF Exposure

Broadcast Facility

§73.616 Interference Caused

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-03-20 indicates that there is no excessive new interference created. This study used cell spacing of 2 km and a profile spacing of 1 km and baseline records were excluded if the station(s) has a CP.

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§73.622 Maximum ERP and Antenna Height

The application does not exceed the maximum ERP for the specified HAAT.

§73.623 DTV Allotments

The application does not change the DTV Table of Allotments.

§73.625 Coverage of Principal Community

The application's ERP will sufficiently cover Antigo, Wisconsin. RF coverage analysis attached.

§73.1030 Radio, Research and Receiving Locations

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-03-20 indicates that no excessive interference to any "protected" locations. As such, no coordination or notification is required.

§73.1650 International Agreements

The application's transmit location is 324.1 km from Canada and 1995.9 km from Mexico. As such, no coordination or notification is required.

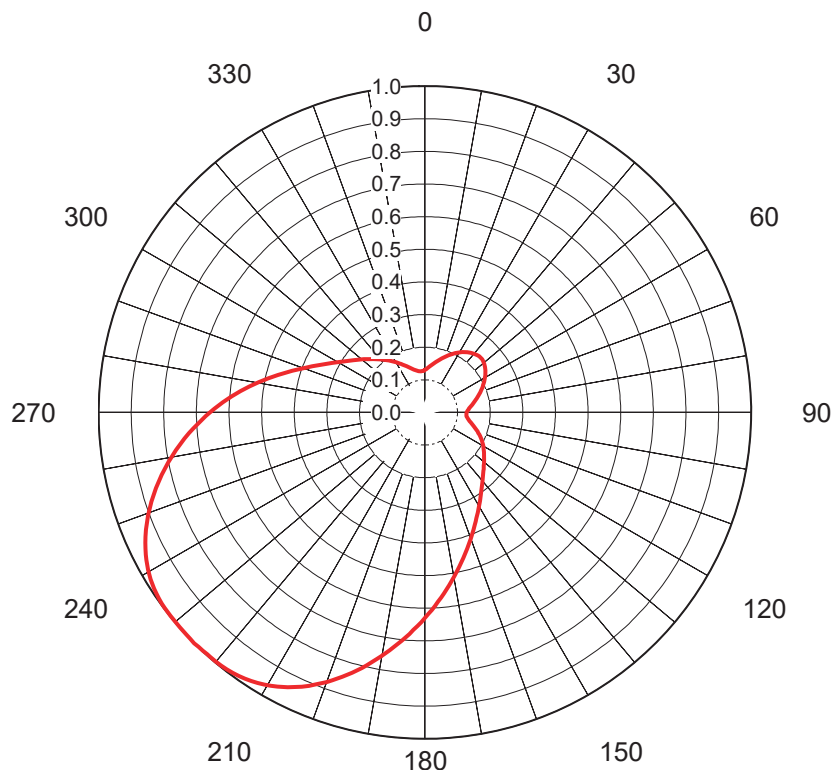
Request for Waiver

Please see attached "Waiver of Phase Assignment" statement regarding early transition request.

AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-70342-5**
Date **19-Mar-18**
Call Letters **WTPX**
Channel **19**
Frequency **503 MHz**
Antenna Type **TLP-16E-R**
Gain **3.87 (5.88dB)**
Calculated



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.130	36	0.227	72	0.174	108	0.164	144	0.295	180	0.630	216	0.991	252	0.880	288	0.420	324	0.198
1	0.131	37	0.229	73	0.171	109	0.168	145	0.301	181	0.643	217	0.993	253	0.870	289	0.408	325	0.195
2	0.133	38	0.231	74	0.167	110	0.172	146	0.306	182	0.655	218	0.995	254	0.859	290	0.397	326	0.191
3	0.135	39	0.233	75	0.164	111	0.175	147	0.312	183	0.668	219	0.996	255	0.848	291	0.386	327	0.188
4	0.137	40	0.235	76	0.161	112	0.179	148	0.319	184	0.680	220	0.996	256	0.836	292	0.375	328	0.185
5	0.139	41	0.236	77	0.158	113	0.183	149	0.325	185	0.693	221	0.997	257	0.825	293	0.365	329	0.181
6	0.141	42	0.238	78	0.155	114	0.187	150	0.332	186	0.706	222	0.997	258	0.813	294	0.356	330	0.178
7	0.143	43	0.239	79	0.152	115	0.190	151	0.339	187	0.719	223	0.998	259	0.801	295	0.346	331	0.175
8	0.146	44	0.239	80	0.149	116	0.194	152	0.346	188	0.731	224	0.998	260	0.789	296	0.338	332	0.172
9	0.149	45	0.240	81	0.146	117	0.197	153	0.354	189	0.744	225	1.000	261	0.776	297	0.330	333	0.168
10	0.151	46	0.240	82	0.143	118	0.201	154	0.361	190	0.757	226	0.999	262	0.764	298	0.322	334	0.165
11	0.154	47	0.239	83	0.141	119	0.204	155	0.369	191	0.770	227	0.999	263	0.751	299	0.315	335	0.162
12	0.157	48	0.239	84	0.138	120	0.207	156	0.377	192	0.783	228	0.999	264	0.738	300	0.308	336	0.159
13	0.160	49	0.238	85	0.136	121	0.210	157	0.385	193	0.795	229	0.999	265	0.725	301	0.301	337	0.156
14	0.163	50	0.236	86	0.134	122	0.213	158	0.394	194	0.808	230	0.998	266	0.712	302	0.295	338	0.153
15	0.166	51	0.235	87	0.132	123	0.216	159	0.402	195	0.820	231	0.998	267	0.699	303	0.289	339	0.151
16	0.169	52	0.233	88	0.131	124	0.219	160	0.411	196	0.833	232	0.998	268	0.685	304	0.283	340	0.148
17	0.172	53	0.231	89	0.129	125	0.222	161	0.420	197	0.845	233	0.997	269	0.672	305	0.277	341	0.146
18	0.175	54	0.229	90	0.128	126	0.225	162	0.430	198	0.856	234	0.996	270	0.659	306	0.272	342	0.143
19	0.179	55	0.226	91	0.128	127	0.228	163	0.439	199	0.868	235	0.995	271	0.645	307	0.267	343	0.141
20	0.182	56	0.224	92	0.127	128	0.231	164	0.449	200	0.879	236	0.993	272	0.631	308	0.262	344	0.139
21	0.185	57	0.221	93	0.127	129	0.234	165	0.459	201	0.890	237	0.990	273	0.618	309	0.257	345	0.137
22	0.188	58	0.219	94	0.127	130	0.237	166	0.469	202	0.900	238	0.986	274	0.604	310	0.253	346	0.135
23	0.191	59	0.216	95	0.128	131	0.240	167	0.480	203	0.910	239	0.982	275	0.590	311	0.248	347	0.133
24	0.194	60	0.213	96	0.129	132	0.243	168	0.490	204	0.919	240	0.978	276	0.577	312	0.244	348	0.132
25	0.198	61	0.210	97	0.131	133	0.247	169	0.501	205	0.928	241	0.972	277	0.563	313	0.240	349	0.130
26	0.201	62	0.207	98	0.133	134	0.250	170	0.512	206	0.937	242	0.966	278	0.549	314	0.235	350	0.129
27	0.204	63	0.204	99	0.135	135	0.254	171	0.523	207	0.945	243	0.960	279	0.536	315	0.231	351	0.128
28	0.207	64	0.200	100	0.137	136	0.258	172	0.535	208	0.952	244	0.953	280	0.522	316	0.227	352	0.128
29	0.210	65	0.197	101	0.140	137	0.262	173	0.546	209	0.959	245	0.945	281	0.509	317	0.223	353	0.127
30	0.212	66	0.194	102	0.143	138	0.266	174	0.558	210	0.965	246	0.937	282	0.495	318	0.220	354	0.127
31	0.215	67	0.191	103	0.146	139	0.270	175	0.570	211	0.971	247	0.929	283	0.482	319	0.216	355	0.127
32	0.218	68	0.187	104	0.149	140	0.275	176	0.581	212	0.976	248	0.920	284	0.469	320	0.212	356	0.127
33	0.220	69	0.184	105	0.153	141	0.279	177	0.593	213	0.980	249	0.910	285	0.457	321	0.209	357	0.127
34	0.223	70	0.181	106	0.156	142	0.284	178	0.606	214	0.984	250	0.901	286	0.444	322	0.205	358	0.128
35	0.225	71	0.177	107	0.160	143	0.289	179	0.618	215	0.988	251	0.891	287	0.432	323	0.202	359	0.129

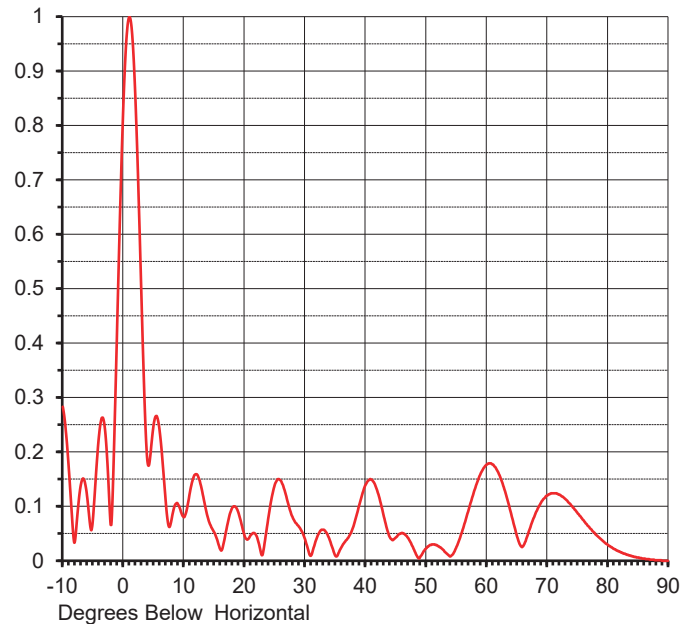
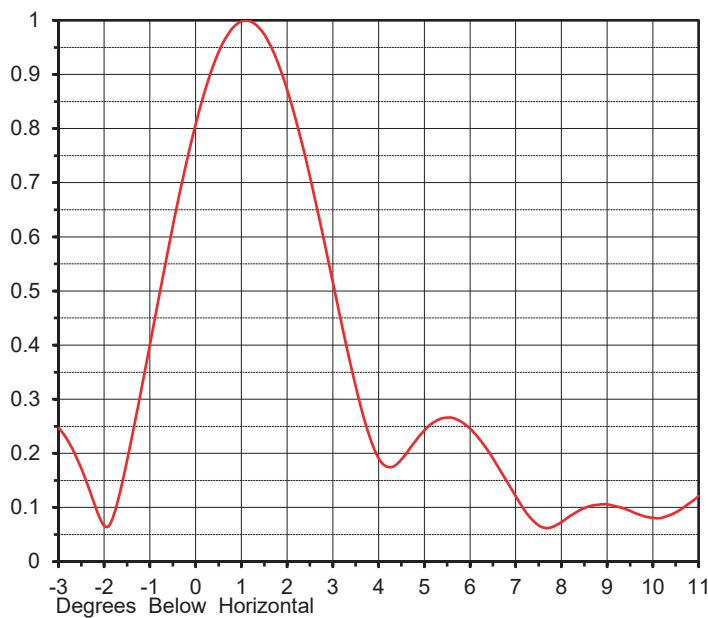
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ELEVATION PATTERN

Proposal No. **C-70342-5**
 Date **19-Mar-18**
 Call Letters **WTPX**
 Channel **19**
 Frequency **503 MHz**
 Antenna Type **TLP-16E-R**

RMS Directivity at Main Lobe **16.0 (12.04 dB)**
 RMS Directivity at Horizontal **11.3 (10.53 dB)**
Calculated

Beam Tilt **1.00 deg**
 Pattern Number **16L160100**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.283	10.0	0.080	30.0	0.039	50.0	0.023	70.0	0.120
-9.0	0.167	11.0	0.127	31.0	0.010	51.0	0.030	71.0	0.124
-8.0	0.036	12.0	0.159	32.0	0.044	52.0	0.027	72.0	0.121
-7.0	0.141	13.0	0.128	33.0	0.057	53.0	0.017	73.0	0.113
-6.0	0.119	14.0	0.077	34.0	0.040	54.0	0.008	74.0	0.101
-5.0	0.081	15.0	0.052	35.0	0.009	55.0	0.026	75.0	0.087
-4.0	0.233	16.0	0.021	36.0	0.025	56.0	0.057	76.0	0.074
-3.0	0.237	17.0	0.057	37.0	0.041	57.0	0.094	77.0	0.060
-2.0	0.066	18.0	0.098	38.0	0.064	58.0	0.131	78.0	0.048
-1.0	0.446	19.0	0.088	39.0	0.105	59.0	0.161	79.0	0.038
0.0	0.840	20.0	0.046	40.0	0.140	60.0	0.177	80.0	0.029
1.0	1.000	21.0	0.047	41.0	0.149	61.0	0.177	81.0	0.022
2.0	0.844	22.0	0.045	42.0	0.125	62.0	0.159	82.0	0.016
3.0	0.476	23.0	0.012	43.0	0.081	63.0	0.128	83.0	0.012
4.0	0.180	24.0	0.084	44.0	0.043	64.0	0.087	84.0	0.008
5.0	0.251	25.0	0.140	45.0	0.043	65.0	0.044	85.0	0.006
6.0	0.237	26.0	0.147	46.0	0.051	66.0	0.027	86.0	0.004
7.0	0.107	27.0	0.113	47.0	0.042	67.0	0.056	87.0	0.002
8.0	0.079	28.0	0.078	48.0	0.020	68.0	0.086	88.0	0.001
9.0	0.104	29.0	0.062	49.0	0.007	69.0	0.108	89.0	0.000
								90.0	0.000

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WTPX-TV
Latitude: 45-03-33 N
Longitude: 089-26-10 W
ERP: 24.50 kW
Channel: 19
Frequency: 503.0 MHz
AMSL Height: 708.5 m
Elevation: 446.5 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.75
Prop Model: None

Calculation by Clark, S.

