Technical Summary
Request for Special Temporary Authority
Engineering Exhibit

WPXD-TV – Ann Arbor, MI

Facility ID: 5800

Licensee “ION MEDIA LICENSE COMPANY, LLC” is currently authorized to operate on Post-Repack DTV channel 24 (0000034355). The Antenna Structure Registration Number is 1007996 with a Latitude of 042° 29’ 01.0” N+ and a Longitude of 083° 18’ 44.0” W-. WPXD-TV has been assigned Repack Phase 8 with a transition completion date of 3/13/2020.

This application is to request authority to operate on Post-Repack DTV channel 24 from the same location (ASR 1007996). The HAAT is 252.0 m (AGL 271.3 m) with an AMSL of 483.8 m. An ERP of 69 kW will be utilized.

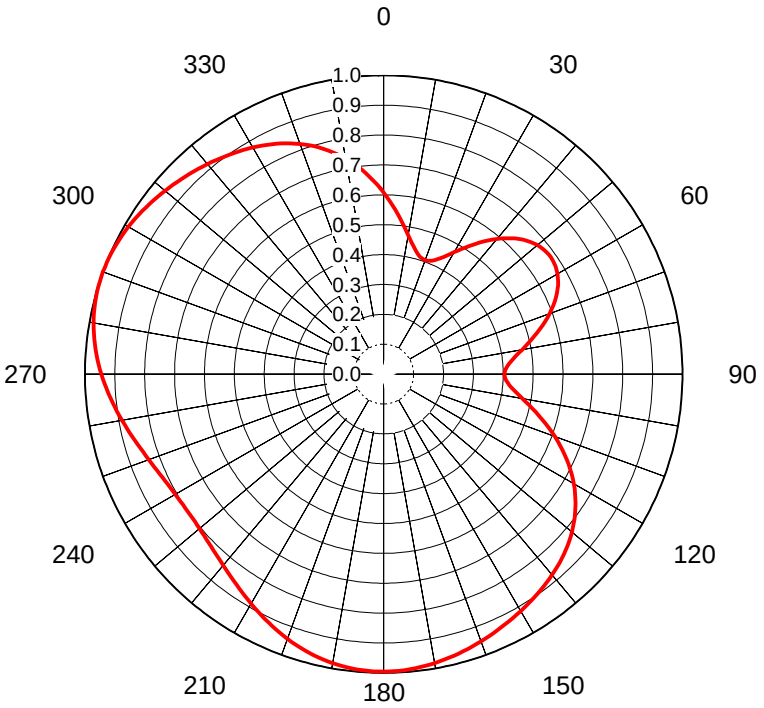
Antenna System

A directional side mounted antenna will be utilized. It will be affixed to an existing guyed tower structure and will not increase the overall height of the structure. Elevation and Azimuth patterns are attached. The proposed STA operation will not expand the station’s noise limited contour.

RF Hazard (Environmental)

Compliance with RF Hazard (Environmental) is provided in the attached RF Hazard Statement.

Dielectric®



AZIMUTH PATTERN
Horizontal Polarization

Proposal No.	
Date	**31-Jan-20**
Call Letters	**WPXD**
Channel	**24**
Frequency	**533 MHz**
Antenna Type	**TFU-8WB-R C160**
Gain	**1.57 (1.96dB)**
	Calculated
Pattern Number	**WB-C160-24 Hpol**

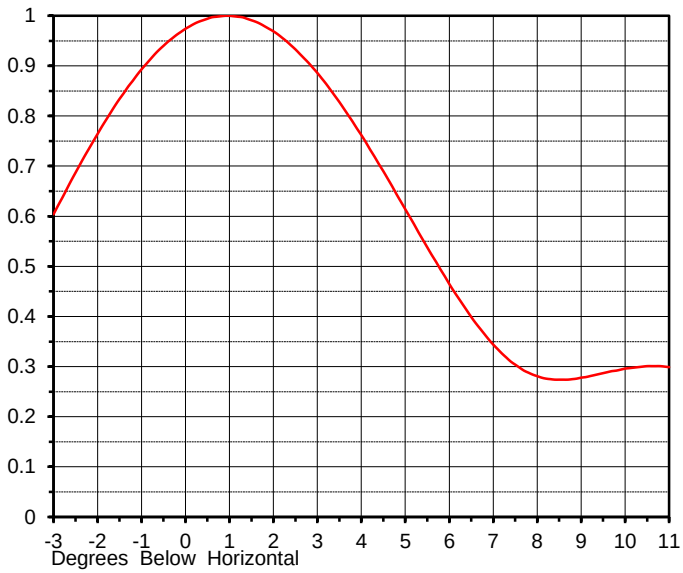
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.607	36	0.544	72	0.567	108	0.580	144	0.894	180	0.996	216	0.855	252	0.846	288	1.000	324	0.902
1	0.593	37	0.556	73	0.555	109	0.595	145	0.897	181	0.996	217	0.850	253	0.851	289	1.000	325	0.898
2	0.579	38	0.568	74	0.543	110	0.609	146	0.901	182	0.996	218	0.845	254	0.856	290	1.000	326	0.894
3	0.565	39	0.580	75	0.531	111	0.623	147	0.905	183	0.995	219	0.840	255	0.862	291	1.000	327	0.889
4	0.551	40	0.591	76	0.518	112	0.636	148	0.909	184	0.994	220	0.836	256	0.867	292	0.999	328	0.885
5	0.537	41	0.602	77	0.506	113	0.650	149	0.912	185	0.993	221	0.831	257	0.873	293	0.999	329	0.881
6	0.524	42	0.612	78	0.494	114	0.663	150	0.916	186	0.991	222	0.827	258	0.878	294	0.998	330	0.876
7	0.510	43	0.622	79	0.482	115	0.676	151	0.920	187	0.990	223	0.824	259	0.884	295	0.996	331	0.871
8	0.497	44	0.631	80	0.470	116	0.688	152	0.923	188	0.988	224	0.820	260	0.890	296	0.995	332	0.866
9	0.484	45	0.640	81	0.459	117	0.701	153	0.927	189	0.985	225	0.817	261	0.895	297	0.993	333	0.861
10	0.472	46	0.648	82	0.449	118	0.712	154	0.931	190	0.983	226	0.814	262	0.901	298	0.991	334	0.856
11	0.460	47	0.655	83	0.439	119	0.724	155	0.934	191	0.980	227	0.811	263	0.907	299	0.989	335	0.851
12	0.450	48	0.661	84	0.430	120	0.735	156	0.938	192	0.977	228	0.809	264	0.913	300	0.987	336	0.845
13	0.440	49	0.667	85	0.423	121	0.745	157	0.941	193	0.973	229	0.807	265	0.918	301	0.984	337	0.839
14	0.431	50	0.672	86	0.416	122	0.755	158	0.945	194	0.970	230	0.805	266	0.924	302	0.981	338	0.833
15	0.423	51	0.675	87	0.411	123	0.765	159	0.948	195	0.966	231	0.803	267	0.930	303	0.979	339	0.827
16	0.417	52	0.679	88	0.407	124	0.775	160	0.952	196	0.962	232	0.802	268	0.935	304	0.976	340	0.820
17	0.412	53	0.681	89	0.405	125	0.783	161	0.955	197	0.957	233	0.801	269	0.940	305	0.972	341	0.813
18	0.408	54	0.682	90	0.404	126	0.792	162	0.959	198	0.953	234	0.801	270	0.946	306	0.969	342	0.805
19	0.406	55	0.682	91	0.405	127	0.800	163	0.962	199	0.948	235	0.801	271	0.951	307	0.966	343	0.797
20	0.406	56	0.682	92	0.407	128	0.808	164	0.965	200	0.943	236	0.801	272	0.955	308	0.962	344	0.789
21	0.406	57	0.681	93	0.411	129	0.815	165	0.968	201	0.938	237	0.802	273	0.960	309	0.959	345	0.781
22	0.409	58	0.678	94	0.416	130	0.822	166	0.971	202	0.933	238	0.802	274	0.964	310	0.955	346	0.772
23	0.413	59	0.675	95	0.422	131	0.829	167	0.974	203	0.927	239	0.804	275	0.969	311	0.952	347	0.762
24	0.418	60	0.671	96	0.430	132	0.835	168	0.977	204	0.922	240	0.805	276	0.973	312	0.948	348	0.753
25	0.424	61	0.667	97	0.439	133	0.841	169	0.980	205	0.916	241	0.807	277	0.976	313	0.944	349	0.743
26	0.432	62	0.661	98	0.449	134	0.847	170	0.982	206	0.910	242	0.809	278	0.980	314	0.941	350	0.732
27	0.440	63	0.655	99	0.460	135	0.853	171	0.985	207	0.905	243	0.812	279	0.983	315	0.937	351	0.721
28	0.450	64	0.647	100	0.471	136	0.858	172	0.987	208	0.899	244	0.815	280	0.986	316	0.933	352	0.710
29	0.460	65	0.640	101	0.484	137	0.863	173	0.989	209	0.893	245	0.818	281	0.989	317	0.929	353	0.698
30	0.471	66	0.631	102	0.497	138	0.868	174	0.990	210	0.888	246	0.821	282	0.991	318	0.925	354	0.686
31	0.483	67	0.622	103	0.510	139	0.872	175	0.992	211	0.882	247	0.825	283	0.993	319	0.922	355	0.674
32	0.494	68	0.612	104	0.524	140	0.877	176	0.993	212	0.876	248	0.828	284	0.995	320	0.918	356	0.661
33	0.507	69	0.601	105	0.538	141	0.881	177	0.994	213	0.871	249	0.833	285	0.997	321	0.914	357	0.648
34	0.519	70	0.590	106	0.552	142	0.885	178	0.995	214	0.865	250	0.837	286	0.998	322	0.910	358	0.635
35	0.531	71	0.579	107	0.566	143	0.890	179	0.996	215	0.860	251	0.842	287	0.999	323	0.906	359	0.621

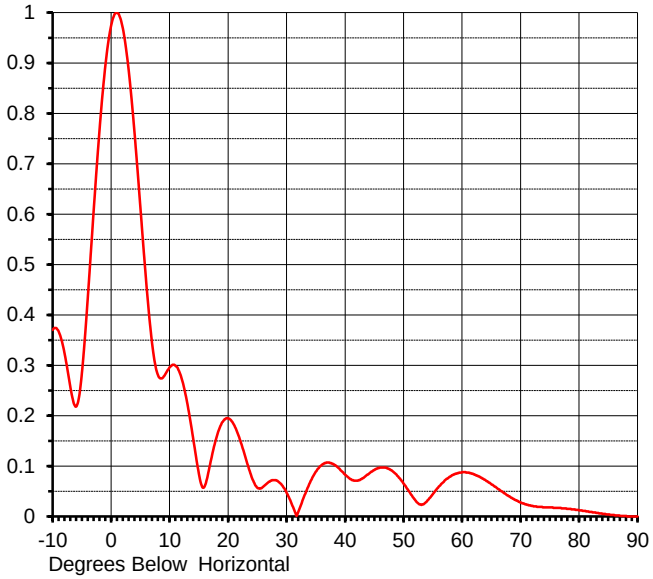
ELEVATION PATTERN

Proposal No.	
Date	**31-Jan-20**
Call Letters	**WPXD**
Channel	**24**
Frequency	**533 MHz**
Antenna Type	**TFU-8WB-R C160**

RMS Directivity at Main Lobe	**7.9 (8.96 dB)**	Beam Tilt	**1.05 deg**
RMS Directivity at Horizontal	**7.5 (8.75 dB)**	Pattern Number	**08W079105-24**

Calculated





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.370	10.0	0.296	30.0	0.047	50.0	0.065	70.0	0.028
-9.0	0.368	11.0	0.299	31.0	0.021	51.0	0.049	71.0	0.024
-8.0	0.326	12.0	0.276	32.0	0.009	52.0	0.032	72.0	0.021
-7.0	0.259	13.0	0.226	33.0	0.040	53.0	0.023	73.0	0.019
-6.0	0.218	14.0	0.157	34.0	0.067	54.0	0.030	74.0	0.018
-5.0	0.284	15.0	0.085	35.0	0.089	55.0	0.044	75.0	0.018
-4.0	0.432	16.0	0.060	36.0	0.102	56.0	0.059	76.0	0.017
-3.0	0.604	17.0	0.108	37.0	0.107	57.0	0.071	77.0	0.016
-2.0	0.764	18.0	0.156	38.0	0.104	58.0	0.079	78.0	0.015
-1.0	0.893	19.0	0.187	39.0	0.095	59.0	0.085	79.0	0.014
0.0	0.974	20.0	0.195	40.0	0.083	60.0	0.088	80.0	0.012
1.0	1.000	21.0	0.182	41.0	0.074	61.0	0.087	81.0	0.011
2.0	0.969	22.0	0.153	42.0	0.071	62.0	0.084	82.0	0.009
3.0	0.886	23.0	0.116	43.0	0.076	63.0	0.079	83.0	0.007
4.0	0.762	24.0	0.079	44.0	0.084	64.0	0.072	84.0	0.005
5.0	0.614	25.0	0.057	45.0	0.092	65.0	0.064	85.0	0.004
6.0	0.465	26.0	0.059	46.0	0.097	66.0	0.056	86.0	0.003
7.0	0.344	27.0	0.069	47.0	0.097	67.0	0.048	87.0	0.001
8.0	0.281	28.0	0.072	48.0	0.091	68.0	0.040	88.0	0.001
9.0	0.278	29.0	0.065	49.0	0.080	69.0	0.033	89.0	0.000
								90.0	0.000

WPXD-STA
Latitude: 42-29-01 N
Longitude: 083-18-44 W
ERP: 69.00 kW
Channel: 24
Frequency: 533.0 MHz
AGL: 271.3 m
HAAT: 252.0 m
AMSL: 483.8 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 1.05
Prop Model: None

Saginaw
Gratiot
Clinton
Shiawassee
Flint
Lapeer
St. Clair
Sarnia
Lansing
Barry
Eaton
Ingham
Livingston
Waterford
Oakland
Macomb
COL
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WPXD-STA
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Chatham
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Jackson
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