

**Technical Summary**  
**Request for Special Temporary Authority**  
**Engineering Exhibit**

**WPPX-TV – Wilmington, DE**

Facility ID: 51984

Licensee "ION MEDIA PHILADELPHIA LICENSE, INC" currently has an approved construction permit to operate on Post-Repack DTV channel 34. The Antenna Structure Registration Number is 1023152 with a Latitude of 40° 02' 39.0" N+ and a Longitude of 75° 14' 25.0" W-. WPPX-TV has been assigned Repack Phase 4 with a transition completion date of 8/2/2019.

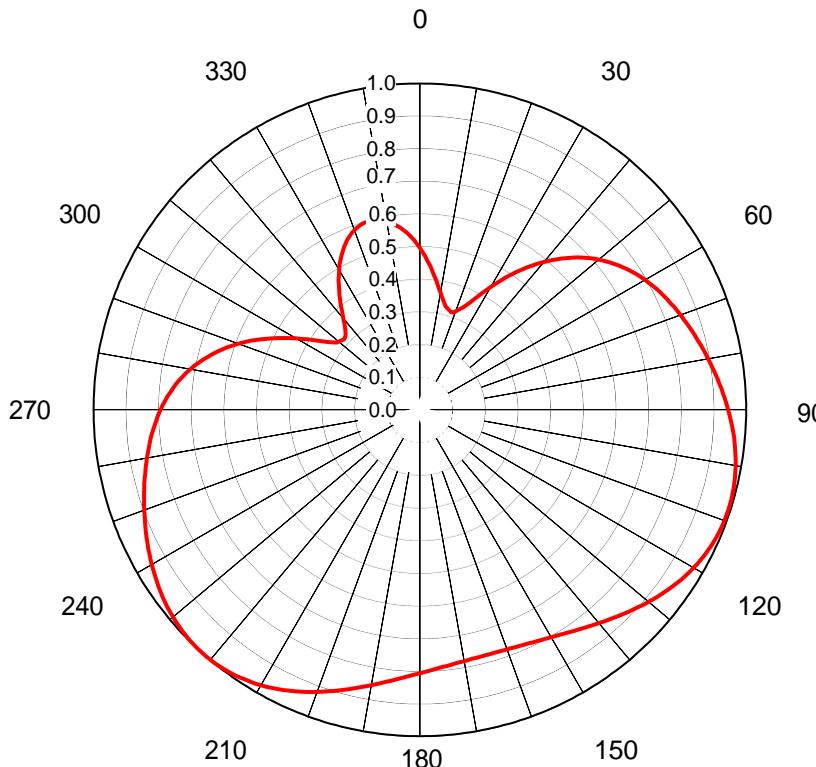
WPPX-TV is currently operating under an approved STA from the same antenna structure (1023152) on its Pre-Repack DTV channel 31. This application is to request authority to operate on Post-Repack DTV channel 34 from the same location. The HAAT is 251 m (AGL 243.8 m) with an AMSL of 320.7 m. An ERP of 131 kW will be utilized.

**Antenna System**

A side mounted directional 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.



## AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No.	<b>C-71031</b>
Date	<b>6-Nov-17</b>
Call Letters	<b>WPPX</b>
Channel	<b>34</b>
Frequency	<b>593 MHz</b>
Antenna Type	<b>TFU-24WB/VP-R C160</b>
Gain	<b>1.69 (2.27dB)</b>
	Calculated

Deg	Value																
0	0.496	36	0.531	72	0.860	108	0.994	144	0.831	180	0.807	216	0.994	252	0.889	288	0.621
1	0.483	37	0.547	73	0.865	109	0.994	145	0.826	181	0.811	217	0.996	253	0.884	289	0.607
2	0.470	38	0.562	74	0.869	110	0.994	146	0.821	182	0.815	218	0.997	254	0.879	290	0.593
3	0.457	39	0.577	75	0.874	111	0.993	147	0.817	183	0.820	219	0.999	255	0.874	291	0.578
4	0.443	40	0.592	76	0.879	112	0.991	148	0.813	184	0.824	220	0.999	256	0.869	292	0.563
5	0.429	41	0.607	77	0.883	113	0.990	149	0.809	185	0.829	221	1.000	257	0.864	293	0.548
6	0.416	42	0.621	78	0.888	114	0.988	150	0.805	186	0.834	222	1.000	258	0.859	294	0.532
7	0.402	43	0.634	79	0.893	115	0.986	151	0.801	187	0.840	223	1.000	259	0.854	295	0.517
8	0.389	44	0.647	80	0.898	116	0.983	152	0.798	188	0.845	224	0.999	260	0.849	296	0.501
9	0.376	45	0.660	81	0.902	117	0.980	153	0.795	189	0.851	225	0.998	261	0.844	297	0.485
10	0.364	46	0.672	82	0.907	118	0.976	154	0.792	190	0.857	226	0.997	262	0.839	298	0.469
11	0.353	47	0.684	83	0.912	119	0.973	155	0.790	191	0.863	227	0.995	263	0.834	299	0.453
12	0.343	48	0.695	84	0.917	120	0.969	156	0.788	192	0.869	228	0.993	264	0.829	300	0.438
13	0.334	49	0.706	85	0.922	121	0.964	157	0.786	193	0.875	229	0.991	265	0.824	301	0.422
14	0.326	50	0.716	86	0.927	122	0.960	158	0.784	194	0.882	230	0.988	266	0.818	302	0.408
15	0.320	51	0.726	87	0.931	123	0.955	159	0.782	195	0.888	231	0.985	267	0.813	303	0.393
16	0.316	52	0.736	88	0.936	124	0.950	160	0.781	196	0.894	232	0.982	268	0.807	304	0.380
17	0.314	53	0.745	89	0.941	125	0.945	161	0.780	197	0.901	233	0.978	269	0.801	305	0.367
18	0.314	54	0.753	90	0.945	126	0.939	162	0.779	198	0.907	234	0.975	270	0.795	306	0.355
19	0.315	55	0.761	91	0.950	127	0.933	163	0.779	199	0.914	235	0.971	271	0.788	307	0.345
20	0.319	56	0.769	92	0.954	128	0.927	164	0.779	200	0.920	236	0.967	272	0.782	308	0.336
21	0.325	57	0.776	93	0.958	129	0.921	165	0.779	201	0.926	237	0.962	273	0.774	309	0.328
22	0.332	58	0.783	94	0.962	130	0.915	166	0.779	202	0.932	238	0.958	274	0.767	310	0.322
23	0.341	59	0.790	95	0.966	131	0.909	167	0.779	203	0.938	239	0.953	275	0.759	311	0.319
24	0.352	60	0.797	96	0.970	132	0.903	168	0.780	204	0.944	240	0.949	276	0.751	312	0.317
25	0.364	61	0.803	97	0.974	133	0.896	169	0.781	205	0.950	241	0.944	277	0.743	313	0.317
26	0.376	62	0.809	98	0.977	134	0.890	170	0.782	206	0.955	242	0.939	278	0.734	314	0.318
27	0.390	63	0.815	99	0.980	135	0.884	171	0.783	207	0.960	243	0.934	279	0.725	315	0.322
28	0.405	64	0.820	100	0.983	136	0.877	172	0.785	208	0.965	244	0.929	280	0.715	316	0.328
29	0.420	65	0.825	101	0.985	137	0.871	173	0.787	209	0.970	245	0.924	281	0.705	317	0.335
30	0.435	66	0.831	102	0.987	138	0.865	174	0.789	210	0.974	246	0.919	282	0.694	318	0.344
31	0.451	67	0.836	103	0.989	139	0.859	175	0.791	211	0.979	247	0.914	283	0.683	319	0.354
32	0.467	68	0.841	104	0.991	140	0.853	176	0.794	212	0.982	248	0.909	284	0.671	320	0.365
33	0.483	69	0.846	105	0.992	141	0.847	177	0.797	213	0.986	249	0.904	285	0.659	321	0.376
34	0.499	70	0.850	106	0.993	142	0.842	178	0.800	214	0.989	250	0.899	286	0.647	322	0.389
35	0.515	71	0.855	107	0.994	143	0.836	179	0.804	215	0.991	251	0.894	287	0.634	323	0.402
																	0.509

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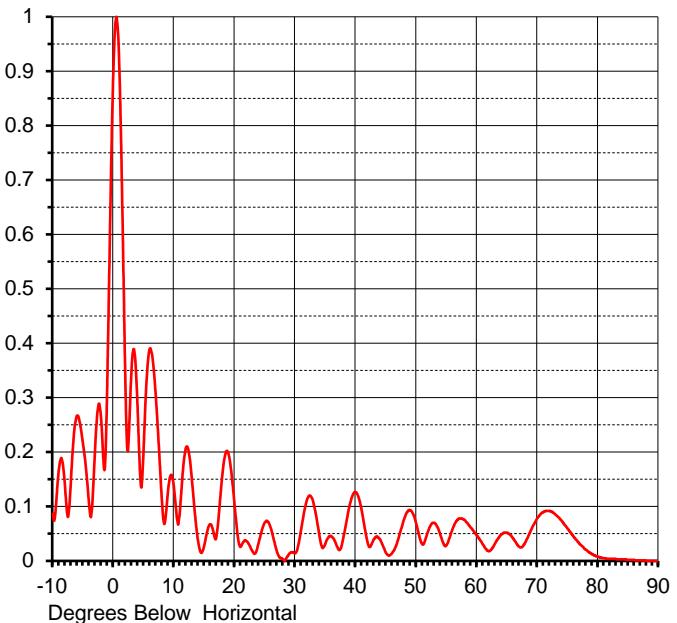
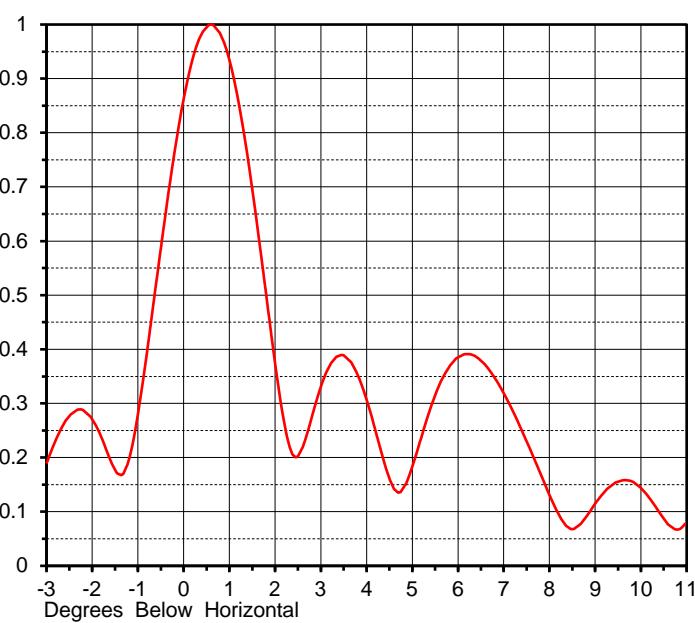
## ELEVATION PATTERN

Proposal No. C-71031  
 Date 6-Nov-17  
 Call Letters WPPX  
 Channel 34  
 Frequency 593 MHz  
 Antenna Type TFU-24WB/VP-R C160

RMS Directivity at Main Lobe  
 RMS Directivity at Horizontal

**21.4 ( 13.30 dB )**  
**17.4 ( 12.41 dB )**  
**Calculated**

Beam Tilt 0.50 deg  
 Pattern Number 24W214050



Angle	Field								
-10.0	0.089	10.0	0.135	30.0	0.014	50.0	0.068	70.0	0.079
-9.0	0.168	11.0	0.095	31.0	0.058	51.0	0.031	71.0	0.090
-8.0	0.138	12.0	0.209	32.0	0.114	52.0	0.056	72.0	0.092
-7.0	0.151	13.0	0.145	33.0	0.108	53.0	0.070	73.0	0.085
-6.0	0.267	14.0	0.035	34.0	0.047	54.0	0.047	74.0	0.074
-5.0	0.214	15.0	0.029	35.0	0.032	55.0	0.029	75.0	0.059
-4.0	0.102	16.0	0.067	36.0	0.045	56.0	0.059	76.0	0.044
-3.0	0.211	17.0	0.044	37.0	0.025	57.0	0.077	77.0	0.031
-2.0	0.256	18.0	0.160	38.0	0.045	58.0	0.075	78.0	0.021
-1.0	0.336	19.0	0.197	39.0	0.102	59.0	0.061	79.0	0.013
0.0	0.903	20.0	0.104	40.0	0.126	60.0	0.047	80.0	0.008
1.0	0.899	21.0	0.026	41.0	0.092	61.0	0.030	81.0	0.005
2.0	0.315	22.0	0.036	42.0	0.032	62.0	0.018	82.0	0.004
3.0	0.354	23.0	0.017	43.0	0.040	63.0	0.032	83.0	0.003
4.0	0.279	24.0	0.034	44.0	0.040	64.0	0.048	84.0	0.003
5.0	0.210	25.0	0.071	45.0	0.015	65.0	0.052	85.0	0.002
6.0	0.390	26.0	0.060	46.0	0.014	66.0	0.041	86.0	0.002
7.0	0.303	27.0	0.017	47.0	0.039	67.0	0.026	87.0	0.001
8.0	0.112	28.0	0.003	48.0	0.077	68.0	0.034	88.0	0.000
9.0	0.126	29.0	0.013	49.0	0.093	69.0	0.058	89.0	0.000
								90.0	0.000

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**WPPX-STA**

Latitude: 40-02-39 N  
Longitude: 075-14-25 W  
ERP: 131.00 kW  
Channel: 34  
Frequency: 593.0 MHz  
AGL: 243.84 m  
HAAT: 251.0 m  
AMSL: 320.74 m  
Horiz. Pattern: Directional  
Vert. Pattern: Yes  
Elec Tilt: 0.5  
Prop Model: None

