Dielectric®

TLP-16M/VP

Exhibit No.:
Date: **24 Feb 2017**
Customer: **Maryland Public**
Location: **Oakland, MD**

Antenna Specifications

Antenna Type	**TLP-16M/VP**
Azimuth Pattern	**TLP-M**
Elevation Pattern	**16L160100**

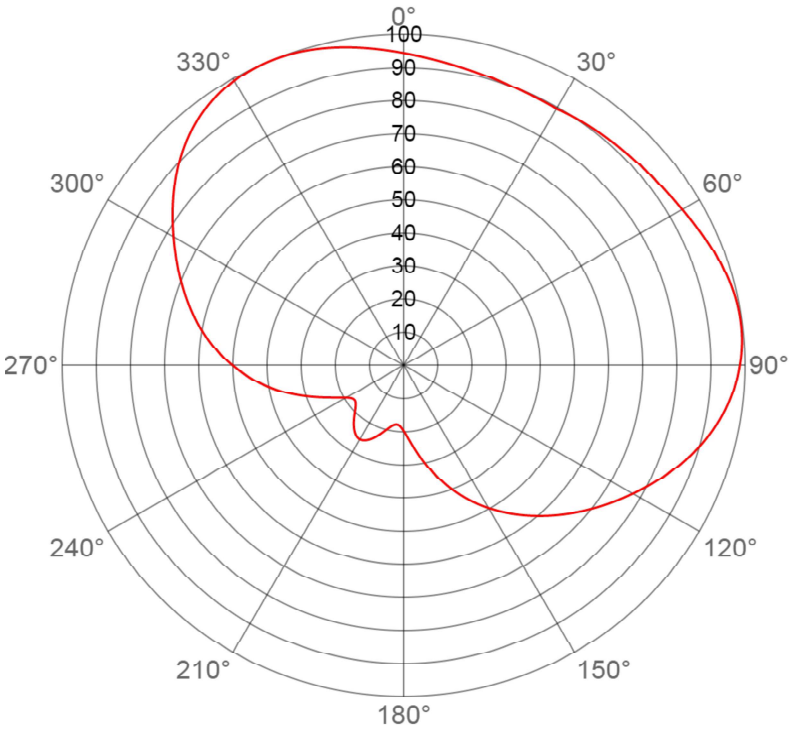
Mechanical Specifications

Mounting	**None Specified**				
Environmental Protection	**No Radome**				
Height	**33.5 ft**	less Lightning Protector	**37.5 ft with Lightning Protector**		
Weight	**300.7 lbs**				
Effective Projected Area	**72.9 ft²**	TIA/EIA-222-G	Basic Wind Speed	**89 mph**	

Channel Specifications

Call	CH	Freq	Hpol ERP	Vpol ERP	TPO	Peak Main Lobe Hpol Gain	Peak Main Lobe Vpol Gain	Peak at Horizontal Hpol Gain	Peak at Horizontal Vpol Gain
WGPT	**26**	**545**	**74.0**	**39.0**	**4.3**	**30.4**	**43.2**	**21.5**	**30.5**

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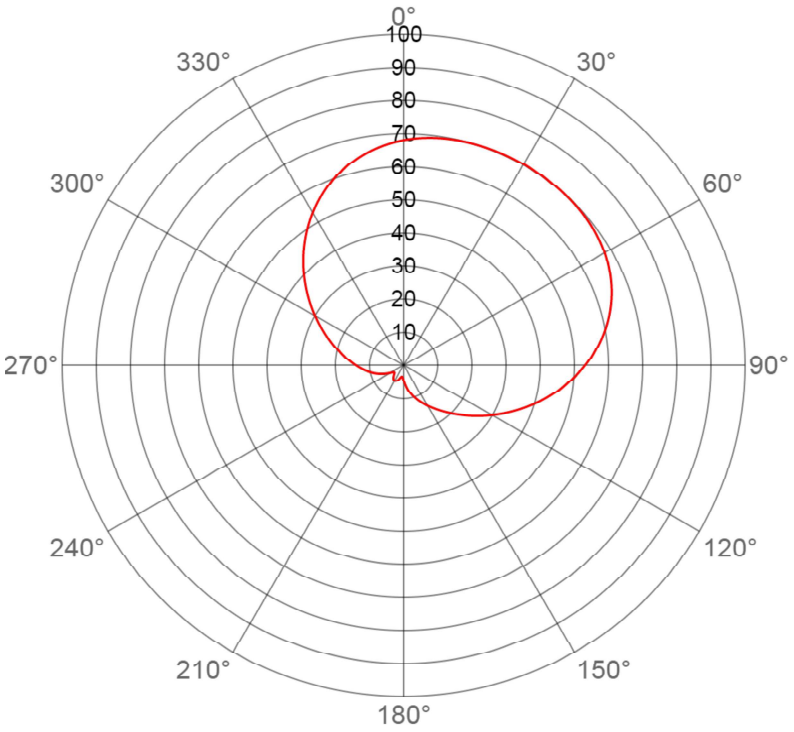


Horizontal Polarization
AZIMUTH PATTERN

Exhibit No.	
Date	**24 Feb 2017**
Call Letters	**WGPT**
Channel	**26**
Antenna Type	**TLP-16M/VP**
Location	**Oakland, MD**
Customer	**Maryland Public**
Gain	**1.9 (2.79 dB)**
	Calculated
Drawing #	**TLP-M**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.895	36	0.961	72	0.927	108	0.611	144	0.241	180	0.257	216	0.238	252	0.617	288	0.938	324	0.964
1	0.897	37	0.964	73	0.920	109	0.602	145	0.232	181	0.256	217	0.248	253	0.626	289	0.945	325	0.960
2	0.898	38	0.967	74	0.913	110	0.593	146	0.224	182	0.255	218	0.257	254	0.635	290	0.951	326	0.957
3	0.900	39	0.971	75	0.906	111	0.583	147	0.216	183	0.253	219	0.267	255	0.644	291	0.957	327	0.954
4	0.901	40	0.974	76	0.898	112	0.574	148	0.209	184	0.251	220	0.278	256	0.653	292	0.963	328	0.951
5	0.902	41	0.977	77	0.890	113	0.565	149	0.203	185	0.248	221	0.289	257	0.662	293	0.968	329	0.947
6	0.904	42	0.980	78	0.882	114	0.555	150	0.197	186	0.245	222	0.300	258	0.671	294	0.972	330	0.944
7	0.905	43	0.983	79	0.874	115	0.546	151	0.192	187	0.241	223	0.311	259	0.680	295	0.977	331	0.941
8	0.906	44	0.985	80	0.865	116	0.536	152	0.188	188	0.236	224	0.322	260	0.688	296	0.981	332	0.938
9	0.907	45	0.988	81	0.857	117	0.527	153	0.184	189	0.232	225	0.334	261	0.697	297	0.984	333	0.935
10	0.908	46	0.990	82	0.848	118	0.517	154	0.182	190	0.227	226	0.346	262	0.706	298	0.987	334	0.933
11	0.910	47	0.992	83	0.839	119	0.507	155	0.180	191	0.222	227	0.357	263	0.715	299	0.990	335	0.930
12	0.911	48	0.993	84	0.830	120	0.497	156	0.179	192	0.217	228	0.369	264	0.724	300	0.993	336	0.927
13	0.912	49	0.994	85	0.821	121	0.487	157	0.179	193	0.212	229	0.381	265	0.733	301	0.995	337	0.925
14	0.913	50	0.995	86	0.812	122	0.477	158	0.180	194	0.207	230	0.393	266	0.742	302	0.996	338	0.922
15	0.914	51	0.996	87	0.803	123	0.467	159	0.182	195	0.202	231	0.404	267	0.751	303	0.998	339	0.920
16	0.916	52	0.996	88	0.794	124	0.457	160	0.184	196	0.198	232	0.415	268	0.760	304	0.999	340	0.918
17	0.917	53	0.996	89	0.784	125	0.446	161	0.187	197	0.194	233	0.427	269	0.769	305	1.000	341	0.916
18	0.918	54	0.996	90	0.775	126	0.436	162	0.190	198	0.190	234	0.438	270	0.778	306	1.000	342	0.914
19	0.920	55	0.995	91	0.766	127	0.425	163	0.194	199	0.186	235	0.449	271	0.788	307	1.000	343	0.912
20	0.921	56	0.993	92	0.757	128	0.414	164	0.198	200	0.183	236	0.460	272	0.797	308	1.000	344	0.910
21	0.923	57	0.992	93	0.748	129	0.403	165	0.202	201	0.181	237	0.470	273	0.807	309	0.999	345	0.908
22	0.925	58	0.990	94	0.739	130	0.392	166	0.207	202	0.179	238	0.481	274	0.816	310	0.998	346	0.907
23	0.926	59	0.988	95	0.730	131	0.381	167	0.211	203	0.178	239	0.491	275	0.826	311	0.997	347	0.905
24	0.928	60	0.985	96	0.720	132	0.370	168	0.216	204	0.178	240	0.502	276	0.835	312	0.996	348	0.904
25	0.930	61	0.982	97	0.711	133	0.358	169	0.221	205	0.178	241	0.512	277	0.845	313	0.994	349	0.903
26	0.932	62	0.979	98	0.702	134	0.347	170	0.226	206	0.180	242	0.522	278	0.854	314	0.992	350	0.901
27	0.935	63	0.975	99	0.693	135	0.335	171	0.231	207	0.182	243	0.532	279	0.863	315	0.990	351	0.900
28	0.937	64	0.971	100	0.684	136	0.324	172	0.235	208	0.185	244	0.542	280	0.873	316	0.987	352	0.899
29	0.940	65	0.967	101	0.675	137	0.313	173	0.240	209	0.189	245	0.552	281	0.882	317	0.985	353	0.899
30	0.942	66	0.962	102	0.666	138	0.302	174	0.244	210	0.194	246	0.561	282	0.890	318	0.982	354	0.898
31	0.945	67	0.957	103	0.657	139	0.291	175	0.247	211	0.200	247	0.571	283	0.899	319	0.979	355	0.897
32	0.948	68	0.952	104	0.648	140	0.280	176	0.250	212	0.206	248	0.580	284	0.907	320	0.976	356	0.897
33	0.951	69	0.946	105	0.639	141	0.270	177	0.253	213	0.214	249	0.590	285	0.916	321	0.973	357	0.896
34	0.954	70	0.940	106	0.630	142	0.260	178	0.255	214	0.221	250	0.599	286	0.923	322	0.970	358	0.896
35	0.958	71	0.934	107	0.620	143	0.250	179	0.256	215	0.229	251	0.608	287	0.931	323	0.967	359	0.896

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Vertical Polarization
AZIMUTH PATTERN

Exhibit No.	
Date	**24 Feb 2017**
Call Letters	**WGPT**
Channel	**26**
Antenna Type	**TLP-16M/VP**
Location	**Oakland, MD**
Customer	**Maryland Public**
Gain	**1.9 (2.79 dB)**
	Calculated
Drawing #	**TLP-M**

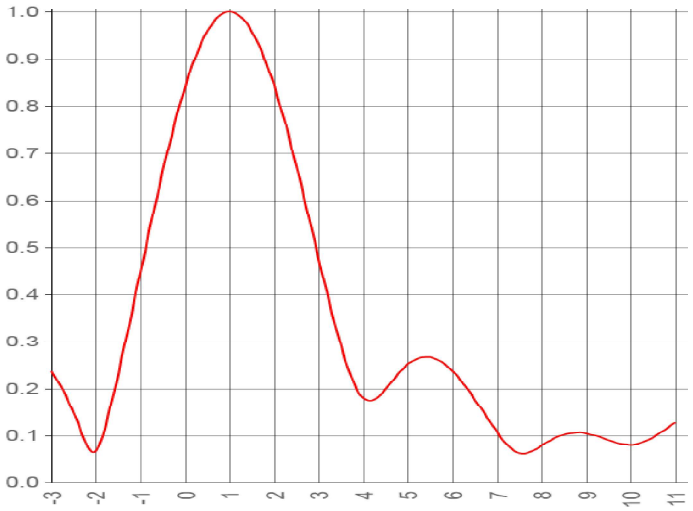
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.702	36	0.663	72	0.438	108	0.190	144	0.062	180	0.053	216	0.063	252	0.191	288	0.439	324	0.664
1	0.702	37	0.660	73	0.430	109	0.185	145	0.059	181	0.053	217	0.066	253	0.196	289	0.447	325	0.667
2	0.702	38	0.656	74	0.422	110	0.181	146	0.056	182	0.053	218	0.069	254	0.201	290	0.455	326	0.670
3	0.702	39	0.653	75	0.414	111	0.176	147	0.054	183	0.053	219	0.072	255	0.206	291	0.463	327	0.673
4	0.702	40	0.649	76	0.406	112	0.172	148	0.051	184	0.052	220	0.075	256	0.211	292	0.471	328	0.676
5	0.702	41	0.644	77	0.398	113	0.167	149	0.048	185	0.051	221	0.078	257	0.217	293	0.479	329	0.678
6	0.701	42	0.640	78	0.390	114	0.163	150	0.046	186	0.051	222	0.081	258	0.222	294	0.487	330	0.681
7	0.701	43	0.635	79	0.382	115	0.159	151	0.043	187	0.050	223	0.084	259	0.228	295	0.495	331	0.683
8	0.701	44	0.631	80	0.374	116	0.155	152	0.041	188	0.049	224	0.087	260	0.234	296	0.503	332	0.685
9	0.701	45	0.626	81	0.367	117	0.151	153	0.039	189	0.047	225	0.091	261	0.240	297	0.510	333	0.687
10	0.701	46	0.621	82	0.359	118	0.147	154	0.038	190	0.046	226	0.094	262	0.246	298	0.518	334	0.688
11	0.700	47	0.615	83	0.351	119	0.144	155	0.037	191	0.045	227	0.097	263	0.252	299	0.525	335	0.690
12	0.700	48	0.610	84	0.343	120	0.140	156	0.035	192	0.044	228	0.100	264	0.259	300	0.533	336	0.691
13	0.700	49	0.604	85	0.336	121	0.136	157	0.035	193	0.042	229	0.103	265	0.265	301	0.540	337	0.693
14	0.699	50	0.598	86	0.328	122	0.133	158	0.034	194	0.041	230	0.107	266	0.272	302	0.547	338	0.694
15	0.699	51	0.592	87	0.321	123	0.129	159	0.034	195	0.040	231	0.110	267	0.279	303	0.554	339	0.695
16	0.698	52	0.586	88	0.313	124	0.126	160	0.035	196	0.038	232	0.113	268	0.285	304	0.561	340	0.696
17	0.698	53	0.580	89	0.306	125	0.123	161	0.035	197	0.037	233	0.116	269	0.292	305	0.568	341	0.697
18	0.697	54	0.573	90	0.299	126	0.119	162	0.036	198	0.036	234	0.120	270	0.300	306	0.574	342	0.697
19	0.696	55	0.567	91	0.292	127	0.116	163	0.037	199	0.035	235	0.123	271	0.307	307	0.581	343	0.698
20	0.695	56	0.560	92	0.285	128	0.113	164	0.038	200	0.035	236	0.126	272	0.314	308	0.587	344	0.699
21	0.694	57	0.553	93	0.278	129	0.109	165	0.040	201	0.035	237	0.130	273	0.321	309	0.593	345	0.699
22	0.693	58	0.546	94	0.271	130	0.106	166	0.041	202	0.035	238	0.133	274	0.329	310	0.599	346	0.700
23	0.692	59	0.539	95	0.265	131	0.103	167	0.042	203	0.035	239	0.137	275	0.336	311	0.605	347	0.700
24	0.691	60	0.532	96	0.258	132	0.100	168	0.044	204	0.036	240	0.140	276	0.344	312	0.611	348	0.700
25	0.689	61	0.524	97	0.252	133	0.097	169	0.045	205	0.037	241	0.144	277	0.352	313	0.616	349	0.701
26	0.688	62	0.517	98	0.246	134	0.094	170	0.046	206	0.038	242	0.148	278	0.359	314	0.621	350	0.701
27	0.686	63	0.509	99	0.239	135	0.090	171	0.047	207	0.040	243	0.151	279	0.367	315	0.627	351	0.701
28	0.684	64	0.502	100	0.233	136	0.087	172	0.049	208	0.041	244	0.155	280	0.375	316	0.632	352	0.701
29	0.682	65	0.494	101	0.228	137	0.084	173	0.050	209	0.044	245	0.159	281	0.383	317	0.636	353	0.701
30	0.680	66	0.486	102	0.222	138	0.081	174	0.051	210	0.046	246	0.164	282	0.391	318	0.641	354	0.702
31	0.678	67	0.478	103	0.216	139	0.078	175	0.051	211	0.048	247	0.168	283	0.399	319	0.645	355	0.702
32	0.675	68	0.470	104	0.211	140	0.075	176	0.052	212	0.051	248	0.172	284	0.407	320	0.649	356	0.702
33	0.672	69	0.462	105	0.205	141	0.072	177	0.053	213	0.054	249	0.177	285	0.415	321	0.653	357	0.702
34	0.670	70	0.454	106	0.200	142	0.068	178	0.053	214	0.057	250	0.181	286	0.423	322	0.657	358	0.702
35	0.667	71	0.446	107	0.195	143	0.065	179	0.053	215	0.060	251	0.186	287	0.431	323	0.661	359	0.702

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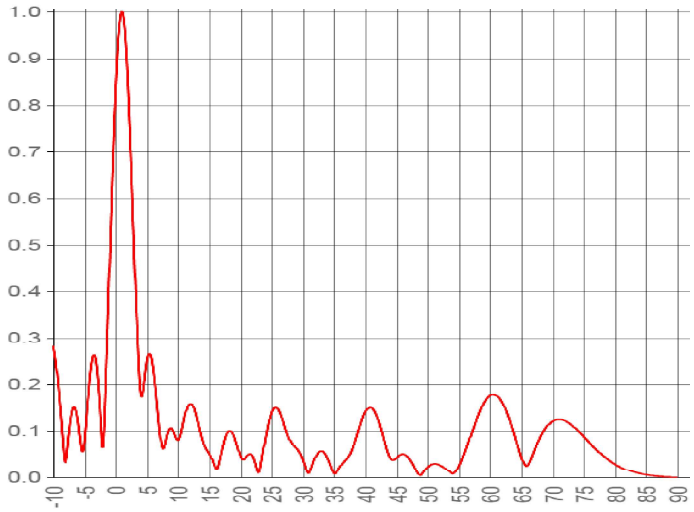
ELEVATION PATTERN

Exhibit No.	
Date	**24 Feb 2017**
Call Letters	**WGPT**
Channel	**26**
Antenna Type	**TLP-16M/VP**
Location	**Oakland, MD**
Customer	**Maryland Public**

RMS Gain at Main Lobe	**16.0 (12.04 dB)**	Beam Tilt	**1 Degrees**
RMS Gain at Horizontal	**11.3 (10.53 dB)**	Drawing #	**16L160100**
	Calculated		



Degrees below horizontal



Degrees below horizontal

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10	0.283	10	0.080	30	0.039	50	0.023	70	0.120
-9	0.167	11	0.127	31	0.010	51	0.030	71	0.124
-8	0.036	12	0.159	32	0.044	52	0.027	72	0.121
-7	0.141	13	0.128	33	0.057	53	0.017	73	0.113
-6	0.119	14	0.077	34	0.040	54	0.008	74	0.101
-5	0.081	15	0.052	35	0.009	55	0.026	75	0.087
-4	0.233	16	0.021	36	0.025	56	0.057	76	0.074
-3	0.237	17	0.057	37	0.041	57	0.094	77	0.060
-2	0.066	18	0.098	38	0.064	58	0.131	78	0.048
-1	0.446	19	0.088	39	0.105	59	0.161	79	0.038
0	0.840	20	0.046	40	0.140	60	0.177	80	0.029
1	1.000	21	0.047	41	0.149	61	0.177	81	0.022
2	0.844	22	0.045	42	0.125	62	0.159	82	0.016
3	0.476	23	0.012	43	0.081	63	0.128	83	0.012
4	0.180	24	0.084	44	0.043	64	0.087	84	0.008
5	0.251	25	0.140	45	0.043	65	0.044	85	0.006
6	0.237	26	0.147	46	0.051	66	0.027	86	0.004
7	0.107	27	0.113	47	0.042	67	0.056	87	0.002
8	0.079	28	0.078	48	0.020	68	0.086	88	0.001
9	0.104	29	0.062	49	0.007	69	0.108	89	0.000

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