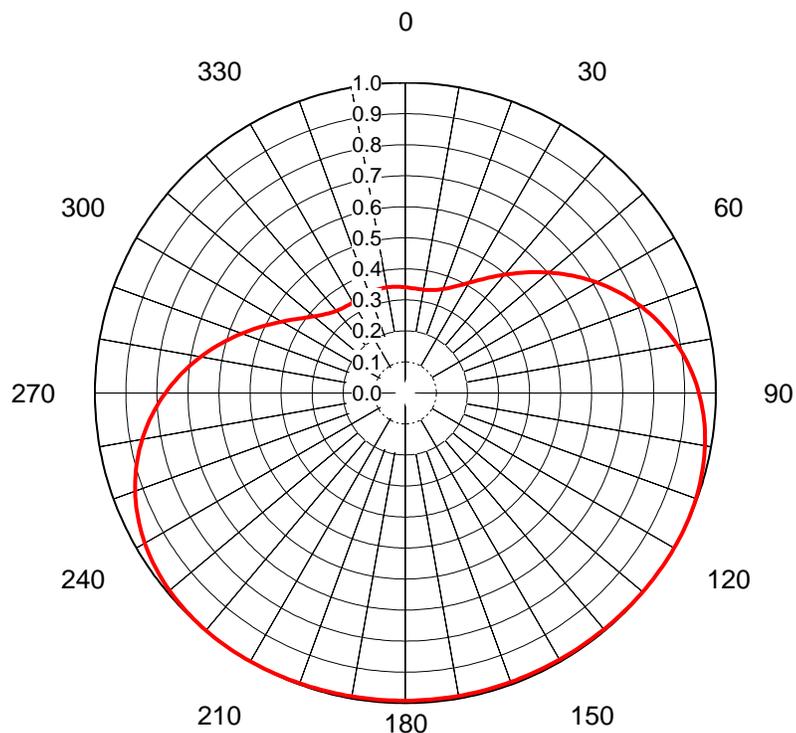


AZIMUTH PATTERN Horizontal Polarization

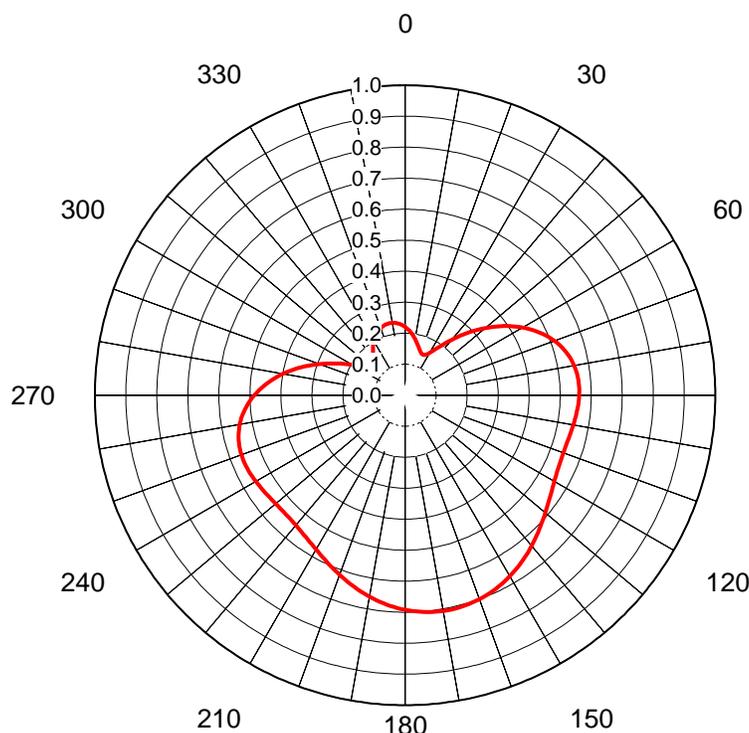


Proposal No. **C-70982**
 Date **29-Aug-17**
 Call Letters **WOIO**
 Channel **10**
 Frequency **195 MHz**
 Antenna Type **THV-5A10/VP-R C160**
 Gain **1.6 (2.03dB)**
 Calculated

Deg	Value																		
0	0.341	36	0.459	72	0.828	108	0.994	144	0.994	180	0.992	216	1.000	252	0.915	288	0.582	324	0.339
1	0.340	37	0.469	73	0.836	109	0.995	145	0.994	181	0.992	217	1.000	253	0.909	289	0.571	325	0.339
2	0.339	38	0.478	74	0.845	110	0.996	146	0.993	182	0.992	218	1.000	254	0.903	290	0.560	326	0.338
3	0.339	39	0.488	75	0.853	111	0.997	147	0.993	183	0.992	219	1.000	255	0.896	291	0.549	327	0.338
4	0.338	40	0.497	76	0.860	112	0.998	148	0.993	184	0.993	220	0.999	256	0.890	292	0.539	328	0.337
5	0.338	41	0.508	77	0.868	113	0.998	149	0.993	185	0.993	221	0.999	257	0.883	293	0.528	329	0.338
6	0.338	42	0.518	78	0.875	114	0.999	150	0.993	186	0.993	222	0.999	258	0.875	294	0.518	330	0.338
7	0.338	43	0.528	79	0.883	115	0.999	151	0.993	187	0.993	223	0.998	259	0.868	295	0.508	331	0.338
8	0.337	44	0.539	80	0.890	116	0.999	152	0.993	188	0.993	224	0.998	260	0.860	296	0.497	332	0.338
9	0.338	45	0.549	81	0.896	117	1.000	153	0.992	189	0.993	225	0.997	261	0.853	297	0.488	333	0.339
10	0.338	46	0.560	82	0.903	118	1.000	154	0.992	190	0.993	226	0.996	262	0.845	298	0.478	334	0.339
11	0.339	47	0.571	83	0.909	119	1.000	155	0.992	191	0.994	227	0.995	263	0.836	299	0.469	335	0.340
12	0.339	48	0.582	84	0.915	120	1.000	156	0.992	192	0.994	228	0.994	264	0.828	300	0.459	336	0.341
13	0.340	49	0.593	85	0.921	121	1.000	157	0.992	193	0.994	229	0.993	265	0.819	301	0.450	337	0.341
14	0.342	50	0.604	86	0.926	122	1.000	158	0.992	194	0.994	230	0.992	266	0.810	302	0.442	338	0.342
15	0.343	51	0.615	87	0.931	123	1.000	159	0.992	195	0.995	231	0.990	267	0.801	303	0.433	339	0.342
16	0.345	52	0.626	88	0.937	124	1.000	160	0.992	196	0.995	232	0.988	268	0.792	304	0.425	340	0.343
17	0.347	53	0.637	89	0.941	125	0.999	161	0.992	197	0.995	233	0.987	269	0.782	305	0.418	341	0.344
18	0.350	54	0.648	90	0.946	126	0.999	162	0.992	198	0.995	234	0.985	270	0.773	306	0.410	342	0.344
19	0.353	55	0.658	91	0.950	127	0.999	163	0.992	199	0.996	235	0.982	271	0.763	307	0.403	343	0.344
20	0.356	56	0.669	92	0.955	128	0.999	164	0.992	200	0.996	236	0.980	272	0.753	308	0.396	344	0.345
21	0.360	57	0.680	93	0.958	129	0.998	165	0.992	201	0.996	237	0.978	273	0.743	309	0.390	345	0.345
22	0.364	58	0.691	94	0.962	130	0.998	166	0.992	202	0.997	238	0.975	274	0.733	310	0.384	346	0.345
23	0.368	59	0.702	95	0.966	131	0.998	167	0.992	203	0.997	239	0.972	275	0.723	311	0.379	347	0.345
24	0.373	60	0.712	96	0.969	132	0.997	168	0.992	204	0.997	240	0.969	276	0.712	312	0.373	348	0.345
25	0.379	61	0.723	97	0.972	133	0.997	169	0.992	205	0.998	241	0.966	277	0.702	313	0.368	349	0.345
26	0.384	62	0.733	98	0.975	134	0.997	170	0.992	206	0.998	242	0.962	278	0.691	314	0.364	350	0.345
27	0.390	63	0.743	99	0.978	135	0.996	171	0.992	207	0.998	243	0.958	279	0.680	315	0.360	351	0.345
28	0.396	64	0.753	100	0.980	136	0.996	172	0.992	208	0.999	244	0.955	280	0.669	316	0.356	352	0.345
29	0.403	65	0.763	101	0.982	137	0.996	173	0.992	209	0.999	245	0.950	281	0.658	317	0.353	353	0.344
30	0.410	66	0.773	102	0.985	138	0.995	174	0.992	210	0.999	246	0.946	282	0.648	318	0.350	354	0.344
31	0.418	67	0.782	103	0.987	139	0.995	175	0.992	211	0.999	247	0.941	283	0.637	319	0.347	355	0.344
32	0.425	68	0.792	104	0.988	140	0.995	176	0.992	212	1.000	248	0.937	284	0.626	320	0.345	356	0.343
33	0.433	69	0.801	105	0.990	141	0.995	177	0.992	213	1.000	249	0.931	285	0.615	321	0.343	357	0.342
34	0.442	70	0.810	106	0.992	142	0.994	178	0.992	214	1.000	250	0.926	286	0.604	322	0.342	358	0.342
35	0.450	71	0.819	107	0.993	143	0.994	179	0.992	215	1.000	251	0.921	287	0.593	323	0.340	359	0.341

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AZIMUTH PATTERN Vertical Polarization



Proposal No. **C-70982**
 Date **29-Aug-17**
 Call Letters **WOIO**
 Channel **10**
 Frequency **195 MHz**
 Antenna Type **THV-5A10/VP-R C160**
 Gain **2.16 (3.35dB)**
 Calculated

Deg	Value																		
0	0.221	36	0.197	72	0.523	108	0.543	144	0.652	180	0.692	216	0.556	252	0.560	288	0.316	324	0.176
1	0.218	37	0.205	73	0.528	109	0.543	145	0.656	181	0.690	217	0.553	253	0.559	289	0.305	325	0.181
2	0.215	38	0.214	74	0.533	110	0.543	146	0.660	182	0.687	218	0.551	254	0.557	290	0.294	326	0.185
3	0.211	39	0.224	75	0.537	111	0.543	147	0.664	183	0.684	219	0.549	255	0.555	291	0.284	327	0.189
4	0.208	40	0.233	76	0.541	112	0.544	148	0.668	184	0.681	220	0.548	256	0.553	292	0.273	328	0.193
5	0.204	41	0.243	77	0.545	113	0.544	149	0.671	185	0.678	221	0.546	257	0.551	293	0.263	329	0.197
6	0.201	42	0.253	78	0.548	114	0.545	150	0.675	186	0.675	222	0.545	258	0.548	294	0.253	330	0.201
7	0.197	43	0.263	79	0.551	115	0.546	151	0.678	187	0.671	223	0.544	259	0.545	295	0.243	331	0.204
8	0.193	44	0.273	80	0.553	116	0.548	152	0.681	188	0.668	224	0.544	260	0.541	296	0.233	332	0.208
9	0.189	45	0.284	81	0.555	117	0.549	153	0.684	189	0.664	225	0.543	261	0.537	297	0.223	333	0.211
10	0.185	46	0.294	82	0.557	118	0.551	154	0.687	190	0.660	226	0.543	262	0.533	298	0.214	334	0.215
11	0.181	47	0.305	83	0.559	119	0.553	155	0.690	191	0.656	227	0.543	263	0.528	299	0.205	335	0.218
12	0.176	48	0.316	84	0.560	120	0.556	156	0.692	192	0.652	228	0.543	264	0.523	300	0.197	336	0.221
13	0.172	49	0.326	85	0.561	121	0.558	157	0.695	193	0.648	229	0.544	265	0.518	301	0.189	337	0.223
14	0.168	50	0.337	86	0.561	122	0.561	158	0.697	194	0.643	230	0.544	266	0.512	302	0.181	338	0.226
15	0.164	51	0.348	87	0.562	123	0.564	159	0.699	195	0.639	231	0.545	267	0.506	303	0.174	339	0.228
16	0.160	52	0.358	88	0.562	124	0.567	160	0.700	196	0.635	232	0.546	268	0.500	304	0.168	340	0.230
17	0.157	53	0.368	89	0.562	125	0.571	161	0.702	197	0.630	233	0.547	269	0.493	305	0.162	341	0.232
18	0.153	54	0.379	90	0.561	126	0.574	162	0.703	198	0.626	234	0.548	270	0.486	306	0.157	342	0.233
19	0.150	55	0.389	91	0.561	127	0.578	163	0.705	199	0.621	235	0.549	271	0.478	307	0.153	343	0.235
20	0.148	56	0.399	92	0.560	128	0.582	164	0.705	200	0.617	236	0.551	272	0.471	308	0.149	344	0.236
21	0.146	57	0.409	93	0.559	129	0.586	165	0.706	201	0.612	237	0.552	273	0.463	309	0.146	345	0.237
22	0.144	58	0.418	94	0.558	130	0.590	166	0.707	202	0.608	238	0.553	274	0.454	310	0.144	346	0.237
23	0.143	59	0.428	95	0.557	131	0.594	167	0.707	203	0.603	239	0.555	275	0.446	311	0.143	347	0.237
24	0.143	60	0.437	96	0.556	132	0.599	168	0.707	204	0.599	240	0.556	276	0.437	312	0.143	348	0.238
25	0.143	61	0.446	97	0.555	133	0.603	169	0.707	205	0.594	241	0.557	277	0.428	313	0.143	349	0.237
26	0.144	62	0.454	98	0.553	134	0.608	170	0.707	206	0.590	242	0.558	278	0.418	314	0.144	350	0.237
27	0.146	63	0.463	99	0.552	135	0.612	171	0.706	207	0.586	243	0.559	279	0.409	315	0.146	351	0.237
28	0.149	64	0.471	100	0.551	136	0.617	172	0.705	208	0.582	244	0.560	280	0.399	316	0.148	352	0.236
29	0.153	65	0.478	101	0.549	137	0.621	173	0.705	209	0.578	245	0.561	281	0.389	317	0.150	353	0.235
30	0.157	66	0.486	102	0.548	138	0.626	174	0.703	210	0.574	246	0.561	282	0.379	318	0.153	354	0.233
31	0.162	67	0.493	103	0.547	139	0.630	175	0.702	211	0.571	247	0.562	283	0.368	319	0.157	355	0.232
32	0.168	68	0.500	104	0.546	140	0.635	176	0.700	212	0.567	248	0.562	284	0.358	320	0.160	356	0.230
33	0.174	69	0.506	105	0.545	141	0.639	177	0.699	213	0.564	249	0.562	285	0.348	321	0.164	357	0.228
34	0.181	70	0.512	106	0.544	142	0.643	178	0.697	214	0.561	250	0.561	286	0.337	322	0.168	358	0.226
35	0.189	71	0.518	107	0.544	143	0.648	179	0.695	215	0.558	251	0.561	287	0.326	323	0.172	359	0.223

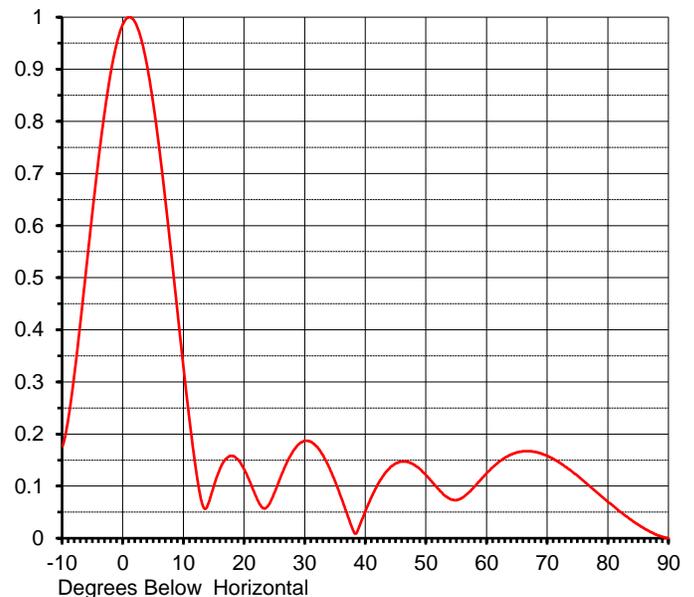
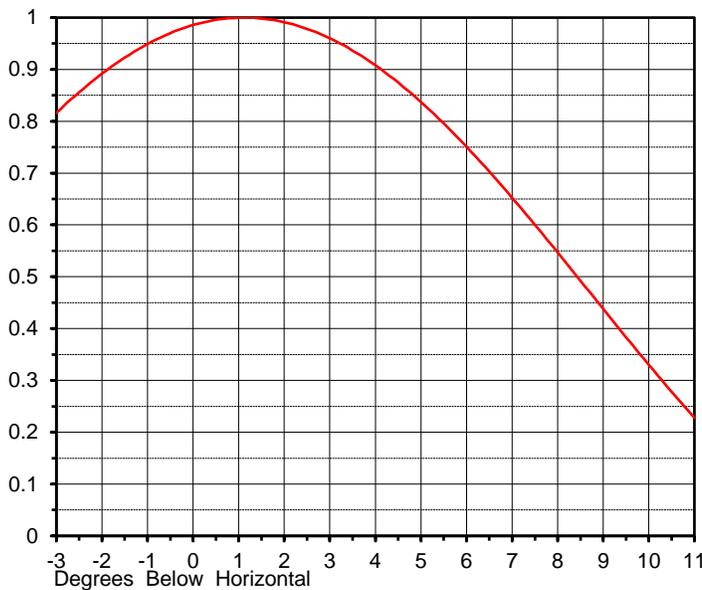
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ELEVATION PATTERN

Proposal No. **C-70982**
 Date **29-Aug-17**
 Call Letters **WOIO**
 Channel **10**
 Frequency **195 MHz**
 Antenna Type **THV-5A10/VP-R C160**

RMS Directivity at Main Lobe **5.0 (6.99 dB)**
 RMS Directivity at Horizontal **4.9 (6.90 dB)**
Calculated

Beam Tilt **1.00 deg**
 Pattern Number **05V050100**



Angle	Field								
-10.0	0.177	10.0	0.320	30.0	0.187	50.0	0.120	70.0	0.158
-9.0	0.235	11.0	0.219	31.0	0.185	51.0	0.107	71.0	0.152
-8.0	0.321	12.0	0.130	32.0	0.175	52.0	0.094	72.0	0.145
-7.0	0.422	13.0	0.066	33.0	0.158	53.0	0.082	73.0	0.137
-6.0	0.529	14.0	0.066	34.0	0.135	54.0	0.075	74.0	0.128
-5.0	0.636	15.0	0.103	35.0	0.107	55.0	0.073	75.0	0.119
-4.0	0.736	16.0	0.135	36.0	0.076	56.0	0.078	76.0	0.109
-3.0	0.824	17.0	0.153	37.0	0.043	57.0	0.088	77.0	0.099
-2.0	0.898	18.0	0.158	38.0	0.013	58.0	0.100	78.0	0.089
-1.0	0.954	19.0	0.150	39.0	0.025	59.0	0.113	79.0	0.079
0.0	0.988	20.0	0.131	40.0	0.054	60.0	0.126	80.0	0.069
1.0	1.000	21.0	0.105	41.0	0.081	61.0	0.137	81.0	0.060
2.0	0.989	22.0	0.077	42.0	0.104	62.0	0.147	82.0	0.050
3.0	0.956	23.0	0.058	43.0	0.122	63.0	0.155	83.0	0.042
4.0	0.902	24.0	0.064	44.0	0.136	64.0	0.161	84.0	0.033
5.0	0.829	25.0	0.089	45.0	0.144	65.0	0.165	85.0	0.025
6.0	0.741	26.0	0.119	46.0	0.147	66.0	0.167	86.0	0.018
7.0	0.642	27.0	0.146	47.0	0.146	67.0	0.167	87.0	0.012
8.0	0.536	28.0	0.167	48.0	0.141	68.0	0.165	88.0	0.006
9.0	0.427	29.0	0.181	49.0	0.132	69.0	0.162	89.0	0.002
								90.0	0.000

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