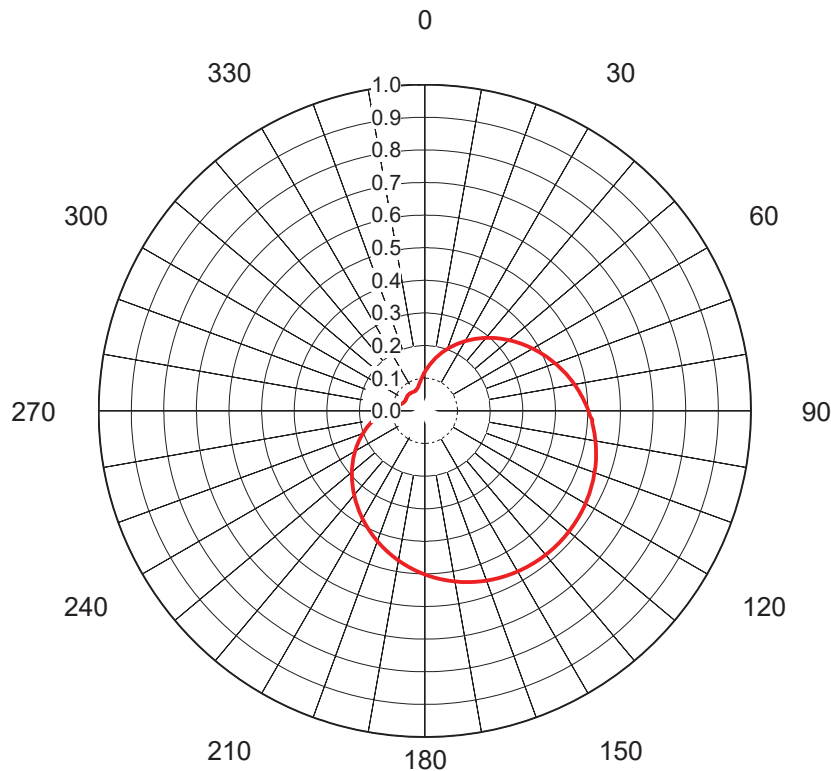


## AZIMUTH PATTERN Horizontal Polarization In Free Space

Proposal No. **C-70346-1**  
 Date **28-Feb-17**  
 Call Letters **WYPX** 19  
 Frequency **503 MHz**  
 Antenna Type **TFU-18DSC/VP-R S180**  
 Gain **1.81 (2.57dB)**  
**Calculated**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.335	36	0.706	72	0.898	108	0.974	144	0.997	180	0.939	216	0.834	252	0.509	288	0.359
1	0.340	37	0.715	73	0.901	109	0.976	145	0.996	181	0.937	217	0.829	253	0.497	289	0.366
2	0.346	38	0.724	74	0.903	110	0.977	146	0.995	182	0.934	218	0.823	254	0.485	290	0.372
3	0.353	39	0.733	75	0.906	111	0.979	147	0.994	183	0.932	219	0.818	255	0.474	291	0.378
4	0.361	40	0.741	76	0.908	112	0.980	148	0.993	184	0.930	220	0.812	256	0.462	292	0.384
5	0.369	41	0.750	77	0.910	113	0.982	149	0.992	185	0.928	221	0.806	257	0.450	293	0.391
6	0.378	42	0.758	78	0.913	114	0.983	150	0.991	186	0.926	222	0.800	258	0.439	294	0.397
7	0.387	43	0.765	79	0.915	115	0.985	151	0.990	187	0.924	223	0.793	259	0.428	295	0.403
8	0.397	44	0.773	80	0.917	116	0.986	152	0.989	188	0.922	224	0.787	260	0.417	296	0.410
9	0.407	45	0.780	81	0.920	117	0.988	153	0.988	189	0.920	225	0.780	261	0.407	297	0.416
10	0.417	46	0.787	82	0.922	118	0.989	154	0.986	190	0.917	226	0.773	262	0.397	298	0.421
11	0.428	47	0.793	83	0.924	119	0.990	155	0.985	191	0.915	227	0.765	263	0.387	299	0.427
12	0.439	48	0.800	84	0.926	120	0.991	156	0.983	192	0.913	228	0.758	264	0.378	300	0.432
13	0.450	49	0.806	85	0.928	121	0.992	157	0.982	193	0.910	229	0.750	265	0.369	301	0.438
14	0.462	50	0.812	86	0.930	122	0.993	158	0.980	194	0.908	230	0.741	266	0.361	302	0.442
15	0.474	51	0.818	87	0.932	123	0.994	159	0.979	195	0.906	231	0.733	267	0.353	303	0.447
16	0.485	52	0.823	88	0.934	124	0.995	160	0.977	196	0.903	232	0.724	268	0.346	304	0.451
17	0.497	53	0.829	89	0.937	125	0.996	161	0.976	197	0.901	233	0.715	269	0.340	305	0.455
18	0.509	54	0.834	90	0.939	126	0.997	162	0.974	198	0.898	234	0.706	270	0.335	306	0.459
19	0.521	55	0.839	91	0.941	127	0.997	163	0.972	199	0.896	235	0.697	271	0.330	307	0.462
20	0.533	56	0.843	92	0.943	128	0.998	164	0.970	200	0.893	236	0.687	272	0.326	308	0.465
21	0.545	57	0.848	93	0.945	129	0.999	165	0.968	201	0.890	237	0.677	273	0.323	309	0.468
22	0.556	58	0.852	94	0.947	130	0.999	166	0.967	202	0.887	238	0.667	274	0.320	310	0.470
23	0.568	59	0.856	95	0.949	131	0.999	167	0.965	203	0.884	239	0.657	275	0.319	311	0.472
24	0.580	60	0.860	96	0.951	132	1.000	168	0.963	204	0.881	240	0.647	276	0.318	312	0.473
25	0.591	61	0.864	97	0.953	133	1.000	169	0.961	205	0.878	241	0.636	277	0.318	313	0.474
26	0.603	62	0.868	98	0.955	134	1.000	170	0.959	206	0.875	242	0.625	278	0.319	314	0.475
27	0.614	63	0.871	99	0.957	135	1.000	171	0.957	207	0.871	243	0.614	279	0.320	315	0.475
28	0.625	64	0.875	100	0.959	136	1.000	172	0.955	208	0.868	244	0.603	280	0.323	316	0.475
29	0.636	65	0.878	101	0.961	137	1.000	173	0.953	209	0.864	245	0.591	281	0.326	317	0.474
30	0.647	66	0.881	102	0.963	138	1.000	174	0.951	210	0.860	246	0.580	282	0.329	318	0.473
31	0.657	67	0.884	103	0.965	139	0.999	175	0.949	211	0.856	247	0.568	283	0.333	319	0.472
32	0.667	68	0.887	104	0.967	140	0.999	176	0.947	212	0.852	248	0.556	284	0.338	320	0.470
33	0.677	69	0.890	105	0.968	141	0.999	177	0.945	213	0.848	249	0.545	285	0.343	321	0.468
34	0.687	70	0.893	106	0.970	142	0.998	178	0.943	214	0.843	250	0.533	286	0.348	322	0.465
35	0.697	71	0.896	107	0.972	143	0.997	179	0.941	215	0.839	251	0.521	287	0.354	323	0.462

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## AZIMUTH PATTERN Vertical Polarization

In Free Space

Proposal No. **C-70346-1**  
 Date **28-Feb-17**  
 Call Letters **WYPX** **19**  
 Frequency **503 MHz**  
 Antenna Type **TFU-18DSC/VP-R S180**  
 Gain **2.5 (3.98dB)**  
**Calculated**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.119	36	0.274	72	0.434	108	0.550	144	0.574	180	0.502	216	0.355	252	0.193	288	0.073	324	0.069
1	0.122	37	0.278	73	0.438	109	0.552	145	0.574	181	0.498	217	0.350	253	0.189	289	0.072	325	0.069
2	0.126	38	0.283	74	0.442	110	0.554	146	0.573	182	0.495	218	0.346	254	0.184	290	0.071	326	0.069
3	0.130	39	0.287	75	0.446	111	0.556	147	0.572	183	0.491	219	0.341	255	0.180	291	0.070	327	0.068
4	0.134	40	0.292	76	0.450	112	0.557	148	0.571	184	0.488	220	0.337	256	0.176	292	0.069	328	0.068
5	0.138	41	0.296	77	0.454	113	0.559	149	0.570	185	0.484	221	0.332	257	0.171	293	0.069	329	0.068
6	0.142	42	0.301	78	0.458	114	0.561	150	0.569	186	0.481	222	0.328	258	0.167	294	0.068	330	0.068
7	0.146	43	0.305	79	0.462	115	0.562	151	0.568	187	0.477	223	0.323	259	0.163	295	0.068	331	0.068
8	0.150	44	0.310	80	0.466	116	0.564	152	0.566	188	0.473	224	0.319	260	0.158	296	0.068	332	0.068
9	0.154	45	0.314	81	0.470	117	0.565	153	0.565	189	0.470	225	0.314	261	0.154	297	0.068	333	0.068
10	0.158	46	0.319	82	0.473	118	0.566	154	0.564	190	0.466	226	0.310	262	0.150	298	0.068	334	0.068
11	0.163	47	0.323	83	0.477	119	0.568	155	0.562	191	0.462	227	0.305	263	0.146	299	0.068	335	0.068
12	0.167	48	0.328	84	0.481	120	0.569	156	0.561	192	0.458	228	0.301	264	0.142	300	0.068	336	0.068
13	0.171	49	0.332	85	0.484	121	0.570	157	0.559	193	0.454	229	0.296	265	0.138	301	0.068	337	0.069
14	0.176	50	0.337	86	0.488	122	0.571	158	0.557	194	0.450	230	0.292	266	0.134	302	0.068	338	0.069
15	0.180	51	0.341	87	0.491	123	0.572	159	0.556	195	0.446	231	0.287	267	0.130	303	0.068	339	0.070
16	0.184	52	0.346	88	0.495	124	0.573	160	0.554	196	0.442	232	0.283	268	0.126	304	0.069	340	0.071
17	0.189	53	0.350	89	0.498	125	0.574	161	0.552	197	0.438	233	0.278	269	0.122	305	0.069	341	0.072
18	0.193	54	0.355	90	0.502	126	0.574	162	0.550	198	0.434	234	0.274	270	0.119	306	0.069	342	0.073
19	0.197	55	0.359	91	0.505	127	0.575	163	0.548	199	0.429	235	0.269	271	0.115	307	0.069	343	0.074
20	0.202	56	0.364	92	0.508	128	0.576	164	0.546	200	0.425	236	0.265	272	0.112	308	0.069	344	0.076
21	0.206	57	0.368	93	0.514	129	0.576	165	0.543	201	0.421	237	0.260	273	0.108	309	0.070	345	0.077
22	0.211	58	0.373	94	0.514	130	0.576	166	0.541	202	0.417	238	0.256	274	0.105	310	0.070	346	0.079
23	0.215	59	0.377	95	0.517	131	0.577	167	0.539	203	0.412	239	0.251	275	0.102	311	0.070	347	0.081
24	0.220	60	0.382	96	0.520	132	0.577	168	0.536	204	0.408	240	0.247	276	0.099	312	0.070	348	0.083
25	0.224	61	0.386	97	0.523	133	0.577	169	0.534	205	0.404	241	0.242	277	0.096	313	0.070	349	0.085
26	0.229	62	0.391	98	0.526	134	0.577	170	0.531	206	0.399	242	0.238	278	0.093	314	0.070	350	0.088
27	0.233	63	0.395	99	0.529	135	0.577	171	0.529	207	0.395	243	0.233	279	0.090	315	0.070	351	0.090
28	0.238	64	0.399	100	0.531	136	0.577	172	0.526	208	0.391	244	0.229	280	0.088	316	0.070	352	0.093
29	0.242	65	0.404	101	0.534	137	0.577	173	0.523	209	0.386	245	0.224	281	0.085	317	0.070	353	0.096
30	0.247	66	0.408	102	0.536	138	0.577	174	0.520	210	0.382	246	0.220	282	0.083	318	0.070	354	0.099
31	0.251	67	0.412	103	0.539	139	0.577	175	0.517	211	0.377	247	0.215	283	0.081	319	0.070	355	0.102
32	0.256	68	0.417	104	0.541	140	0.576	176	0.514	212	0.373	248	0.211	284	0.079	320	0.070	356	0.105
33	0.260	69	0.421	105	0.543	141	0.576	177	0.511	213	0.368	249	0.206	285	0.077	321	0.070	357	0.108
34	0.265	70	0.425	106	0.546	142	0.576	178	0.508	214	0.364	250	0.202	286	0.076	322	0.069	358	0.112
35	0.269	71	0.429	107	0.548	143	0.575	179	0.505	215	0.359	251	0.197	287	0.074	323	0.069	359	0.115

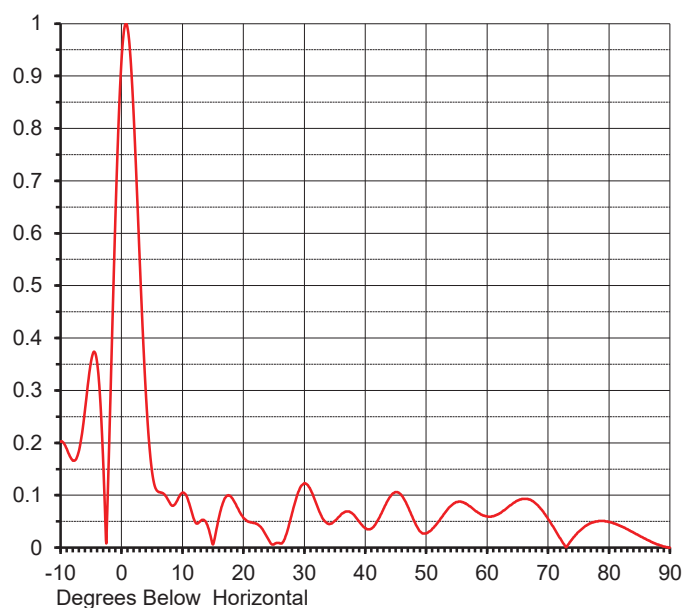
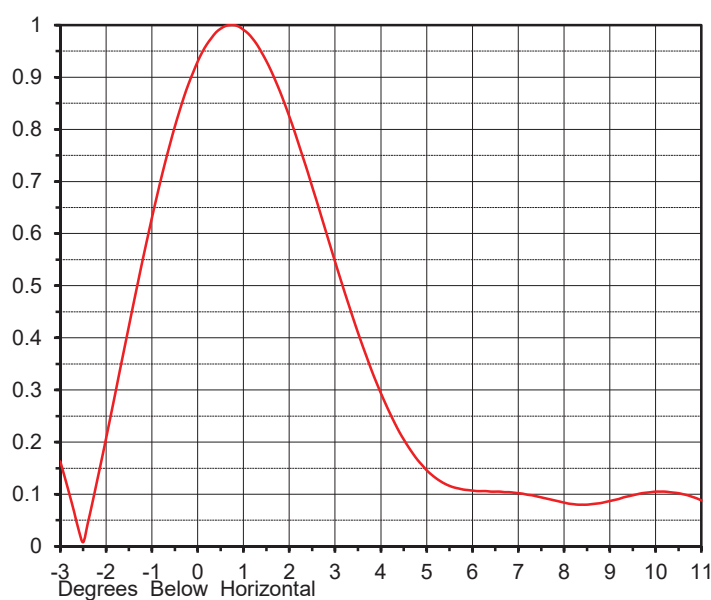
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## ELEVATION PATTERN

Proposal No. **C-70346-1**  
 Date **28-Feb-17**  
 Call Letters **WYPX 19**  
 Frequency **503 MHz**  
 Antenna Type **TFU-18DSC/VP-R S180**

RMS Directivity at Main Lobe **15.00 ( 11.76 dB )**  
 RMS Directivity at Horizontal **13.00 ( 11.14 dB )**  
**Calculated**

Beam Tilt **0.75 deg**  
 Drawing Number **18Q150075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.202	10.0	0.105	30.0	0.123	50.0	0.027	70.0	0.055
-9.0	0.189	11.0	0.088	31.0	0.111	51.0	0.036	71.0	0.037
-8.0	0.166	12.0	0.051	32.0	0.083	52.0	0.049	72.0	0.018
-7.0	0.184	13.0	0.051	33.0	0.056	53.0	0.065	73.0	0.001
-6.0	0.262	14.0	0.045	34.0	0.045	54.0	0.079	74.0	0.017
-5.0	0.355	15.0	0.006	35.0	0.051	55.0	0.087	75.0	0.030
-4.0	0.353	16.0	0.058	36.0	0.063	56.0	0.087	76.0	0.040
-3.0	0.163	17.0	0.095	37.0	0.069	57.0	0.080	77.0	0.047
-2.0	0.207	18.0	0.097	38.0	0.064	58.0	0.071	78.0	0.050
-1.0	0.630	19.0	0.077	39.0	0.050	59.0	0.063	79.0	0.051
0.0	0.930	20.0	0.057	40.0	0.037	60.0	0.060	80.0	0.049
1.0	0.991	21.0	0.049	41.0	0.036	61.0	0.060	81.0	0.046
2.0	0.825	22.0	0.046	42.0	0.051	62.0	0.065	82.0	0.041
3.0	0.546	23.0	0.037	43.0	0.074	63.0	0.073	83.0	0.035
4.0	0.294	24.0	0.018	44.0	0.096	64.0	0.082	84.0	0.029
5.0	0.146	25.0	0.006	45.0	0.106	65.0	0.090	85.0	0.023
6.0	0.107	26.0	0.008	46.0	0.099	66.0	0.093	86.0	0.017
7.0	0.102	27.0	0.024	47.0	0.078	67.0	0.092	87.0	0.011
8.0	0.084	28.0	0.066	48.0	0.052	68.0	0.084	88.0	0.006
9.0	0.087	29.0	0.106	49.0	0.031	69.0	0.072	89.0	0.002
								90.0	0.000

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