

## AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-71270**  
 Date **1-Feb-19**  
 Call Letters **WPSG**  
 Channel **33**  
 Frequency **587 MHz**  
 Antenna Type **TFU-24WB/VP-R C160**  
 Gain **1.68 (2.25dB)**  
 Calculated

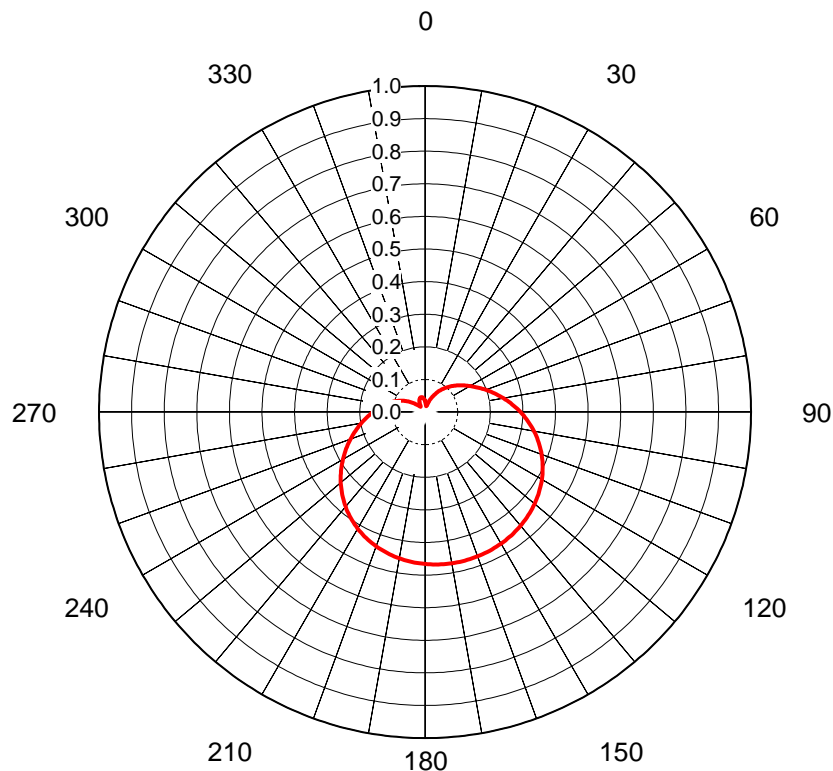
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.505	36	0.531	72	0.861	108	0.994	144	0.833	180	0.805	216	0.994	252	0.891	288	0.618	324	0.426
1	0.492	37	0.547	73	0.865	109	0.994	145	0.828	181	0.809	217	0.996	253	0.886	289	0.604	325	0.439
2	0.479	38	0.562	74	0.870	110	0.993	146	0.823	182	0.813	218	0.997	254	0.881	290	0.590	326	0.453
3	0.466	39	0.577	75	0.875	111	0.992	147	0.818	183	0.818	219	0.998	255	0.876	291	0.575	327	0.466
4	0.452	40	0.592	76	0.879	112	0.991	148	0.814	184	0.823	220	0.999	256	0.871	292	0.560	328	0.480
5	0.438	41	0.606	77	0.884	113	0.990	149	0.809	185	0.828	221	1.000	257	0.866	293	0.545	329	0.493
6	0.425	42	0.620	78	0.889	114	0.988	150	0.805	186	0.833	222	1.000	258	0.861	294	0.530	330	0.505
7	0.411	43	0.634	79	0.893	115	0.986	151	0.802	187	0.838	223	1.000	259	0.856	295	0.514	331	0.518
8	0.398	44	0.647	80	0.898	116	0.983	152	0.798	188	0.844	224	0.999	260	0.851	296	0.499	332	0.529
9	0.385	45	0.659	81	0.903	117	0.980	153	0.795	189	0.850	225	0.998	261	0.846	297	0.483	333	0.540
10	0.373	46	0.672	82	0.907	118	0.977	154	0.792	190	0.856	226	0.997	262	0.841	298	0.468	334	0.551
11	0.362	47	0.683	83	0.912	119	0.974	155	0.789	191	0.862	227	0.995	263	0.835	299	0.452	335	0.560
12	0.352	48	0.695	84	0.917	120	0.970	156	0.787	192	0.868	228	0.993	264	0.830	300	0.437	336	0.569
13	0.343	49	0.705	85	0.922	121	0.966	157	0.784	193	0.874	229	0.991	265	0.825	301	0.422	337	0.577
14	0.335	50	0.716	86	0.926	122	0.961	158	0.782	194	0.881	230	0.989	266	0.819	302	0.407	338	0.584
15	0.329	51	0.726	87	0.931	123	0.957	159	0.781	195	0.887	231	0.986	267	0.813	303	0.394	339	0.590
16	0.324	52	0.735	88	0.936	124	0.952	160	0.779	196	0.894	232	0.983	268	0.807	304	0.381	340	0.596
17	0.322	53	0.744	89	0.940	125	0.946	161	0.778	197	0.900	233	0.979	269	0.801	305	0.368	341	0.600
18	0.321	54	0.753	90	0.945	126	0.941	162	0.777	198	0.907	234	0.976	270	0.795	306	0.357	342	0.604
19	0.322	55	0.761	91	0.949	127	0.935	163	0.777	199	0.913	235	0.972	271	0.788	307	0.348	343	0.606
20	0.326	56	0.769	92	0.953	128	0.930	164	0.776	200	0.919	236	0.968	272	0.781	308	0.339	344	0.608
21	0.331	57	0.777	93	0.958	129	0.924	165	0.776	201	0.926	237	0.964	273	0.774	309	0.333	345	0.608
22	0.337	58	0.784	94	0.962	130	0.918	166	0.776	202	0.932	238	0.959	274	0.766	310	0.328	346	0.608
23	0.346	59	0.791	95	0.966	131	0.911	167	0.777	203	0.938	239	0.955	275	0.758	311	0.325	347	0.606
24	0.356	60	0.797	96	0.969	132	0.905	168	0.777	204	0.944	240	0.950	276	0.750	312	0.323	348	0.604
25	0.367	61	0.803	97	0.973	133	0.899	169	0.778	205	0.949	241	0.945	277	0.741	313	0.324	349	0.600
26	0.379	62	0.809	98	0.976	134	0.893	170	0.779	206	0.955	242	0.941	278	0.732	314	0.327	350	0.596
27	0.393	63	0.815	99	0.979	135	0.886	171	0.781	207	0.960	243	0.936	279	0.723	315	0.331	351	0.590
28	0.407	64	0.821	100	0.982	136	0.880	172	0.782	208	0.965	244	0.931	280	0.713	316	0.337	352	0.584
29	0.421	65	0.826	101	0.984	137	0.874	173	0.784	209	0.970	245	0.926	281	0.703	317	0.345	353	0.577
30	0.436	66	0.831	102	0.987	138	0.868	174	0.786	210	0.974	246	0.921	282	0.692	318	0.354	354	0.569
31	0.452	67	0.836	103	0.989	139	0.861	175	0.789	211	0.978	247	0.916	283	0.681	319	0.364	355	0.560
32	0.468	68	0.841	104	0.990	140	0.855	176	0.792	212	0.982	248	0.911	284	0.669	320	0.375	356	0.550
33	0.484	69	0.846	105	0.992	141	0.850	177	0.795	213	0.985	249	0.906	285	0.657	321	0.387	357	0.540
34	0.499	70	0.851	106	0.993	142	0.844	178	0.798	214	0.988	250	0.901	286	0.644	322	0.399	358	0.529
35	0.515	71	0.856	107	0.993	143	0.838	179	0.801	215	0.991	251	0.896	287	0.631	323	0.412	359	0.517

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## AZIMUTH PATTERN Vertical Polarization

In Free Space

Proposal No. **C-71270**  
Date **1-Feb-19**  
Call Letters **WPSG**  
Channel **33**  
Frequency **587 MHz**  
Antenna Type **TFU-24WB/VP-R C160**  
Gain **2.65 (4.23dB)**  
Calculated



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.034	36	0.084	72	0.207	108	0.373	144	0.460	180	0.466	216	0.394	252	0.234	288	0.103
1	0.032	37	0.087	73	0.212	109	0.377	145	0.462	181	0.465	217	0.390	253	0.230	289	0.100
2	0.030	38	0.091	74	0.216	110	0.380	146	0.463	182	0.464	218	0.387	254	0.225	290	0.097
3	0.028	39	0.094	75	0.221	111	0.384	147	0.464	183	0.464	219	0.383	255	0.220	291	0.094
4	0.027	40	0.097	76	0.225	112	0.388	148	0.464	184	0.463	220	0.379	256	0.216	292	0.091
5	0.025	41	0.100	77	0.230	113	0.391	149	0.465	185	0.462	221	0.375	257	0.212	293	0.088
6	0.023	42	0.103	78	0.235	114	0.395	150	0.466	186	0.460	222	0.371	258	0.207	294	0.085
7	0.022	43	0.106	79	0.239	115	0.398	151	0.467	187	0.459	223	0.367	259	0.203	295	0.082
8	0.020	44	0.109	80	0.244	116	0.401	152	0.468	188	0.458	224	0.363	260	0.199	296	0.079
9	0.019	45	0.112	81	0.249	117	0.405	153	0.468	189	0.457	225	0.359	261	0.195	297	0.076
10	0.018	46	0.115	82	0.254	118	0.408	154	0.469	190	0.456	226	0.355	262	0.190	298	0.073
11	0.018	47	0.118	83	0.259	119	0.411	155	0.469	191	0.454	227	0.351	263	0.186	299	0.070
12	0.018	48	0.121	84	0.263	120	0.414	156	0.470	192	0.453	228	0.346	264	0.182	300	0.067
13	0.019	49	0.124	85	0.268	121	0.416	157	0.470	193	0.451	229	0.342	265	0.179	301	0.064
14	0.020	50	0.127	86	0.273	122	0.419	158	0.471	194	0.449	230	0.338	266	0.175	302	0.061
15	0.022	51	0.130	87	0.278	123	0.422	159	0.471	195	0.448	231	0.333	267	0.171	303	0.058
16	0.024	52	0.133	88	0.283	124	0.425	160	0.471	196	0.446	232	0.329	268	0.167	304	0.055
17	0.026	53	0.136	89	0.288	125	0.427	161	0.471	197	0.444	233	0.324	269	0.163	305	0.052
18	0.029	54	0.139	90	0.293	126	0.429	162	0.472	198	0.442	234	0.319	270	0.160	306	0.049
19	0.031	55	0.142	91	0.297	127	0.432	163	0.472	199	0.440	235	0.315	271	0.156	307	0.046
20	0.034	56	0.146	92	0.302	128	0.434	164	0.472	200	0.438	236	0.310	272	0.153	308	0.043
21	0.037	57	0.149	93	0.307	129	0.436	165	0.472	201	0.436	237	0.305	273	0.149	309	0.041
22	0.040	58	0.152	94	0.312	130	0.438	166	0.472	202	0.434	238	0.301	274	0.146	310	0.038
23	0.043	59	0.156	95	0.316	131	0.440	167	0.472	203	0.432	239	0.296	275	0.143	311	0.035
24	0.046	60	0.159	96	0.321	132	0.442	168	0.472	204	0.429	240	0.291	276	0.140	312	0.033
25	0.050	61	0.163	97	0.326	133	0.444	169	0.471	205	0.427	241	0.286	277	0.136	313	0.030
26	0.053	62	0.167	98	0.330	134	0.446	170	0.471	206	0.424	242	0.281	278	0.133	314	0.028
27	0.056	63	0.170	99	0.335	135	0.448	171	0.471	207	0.421	243	0.277	279	0.130	315	0.026
28	0.059	64	0.174	100	0.339	136	0.450	172	0.471	208	0.419	244	0.272	280	0.127	316	0.025
29	0.062	65	0.178	101	0.344	137	0.451	173	0.470	209	0.416	245	0.267	281	0.124	317	0.023
30	0.065	66	0.182	102	0.348	138	0.453	174	0.470	210	0.413	246	0.262	282	0.121	318	0.022
31	0.069	67	0.186	103	0.352	139	0.454	175	0.469	211	0.410	247	0.258	283	0.118	319	0.022
32	0.072	68	0.190	104	0.357	140	0.455	176	0.469	212	0.407	248	0.253	284	0.115	320	0.022
33	0.075	69	0.194	105	0.361	141	0.457	177	0.468	213	0.404	249	0.248	285	0.112	321	0.022
34	0.078	70	0.199	106	0.365	142	0.458	178	0.468	214	0.400	250	0.243	286	0.109	322	0.022
35	0.081	71	0.203	107	0.369	143	0.459	179	0.467	215	0.397	251	0.239	287	0.106	323	0.023

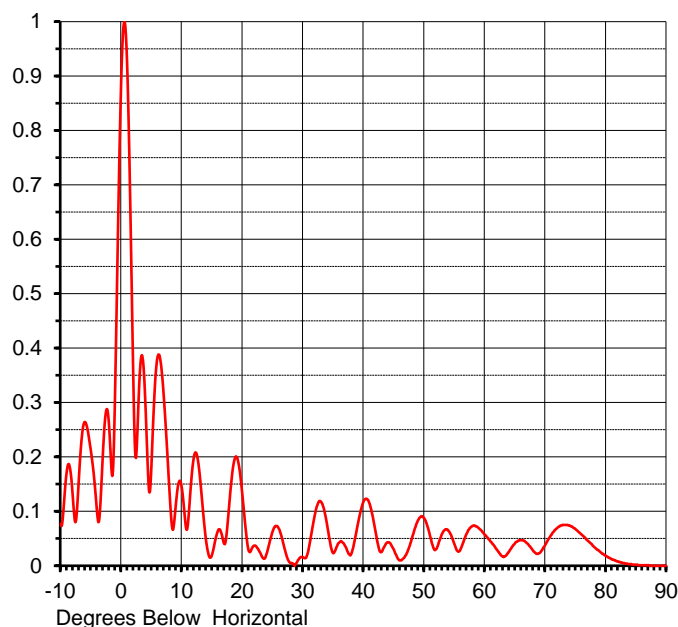
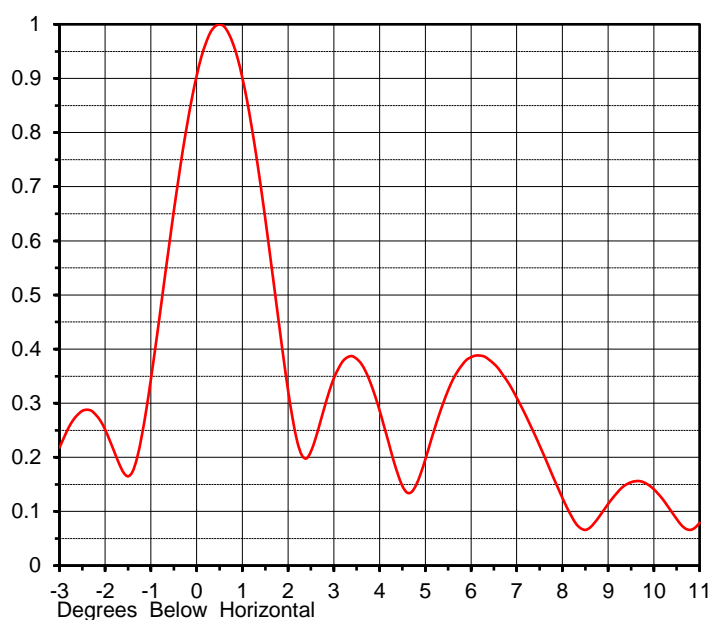
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## ELEVATION PATTERN

Proposal No. **C-71270**  
 Date **1-Feb-19**  
 Call Letters **WPSG**  
 Channel **33**  
 Frequency **587 MHz**  
 Antenna Type **TFU-24WB/VP-R C160**

RMS Directivity at Main Lobe **21.5 ( 13.31 dB )**  
 RMS Directivity at Horizontal **17.6 ( 12.46 dB )**  
**Calculated**

Beam Tilt **0.50 deg**  
 Pattern Number **24W215050**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.077	10.0	0.141	30.0	0.015	50.0	0.087	70.0	0.039
-9.0	0.175	11.0	0.079	31.0	0.036	51.0	0.053	71.0	0.057
-8.0	0.123	12.0	0.202	32.0	0.097	52.0	0.031	72.0	0.070
-7.0	0.164	13.0	0.159	33.0	0.117	53.0	0.060	73.0	0.075
-6.0	0.264	14.0	0.044	34.0	0.072	54.0	0.064	74.0	0.074
-5.0	0.208	15.0	0.022	35.0	0.023	55.0	0.039	75.0	0.067
-4.0	0.096	16.0	0.066	36.0	0.043	56.0	0.031	76.0	0.057
-3.0	0.218	17.0	0.040	37.0	0.035	57.0	0.059	77.0	0.046
-2.0	0.251	18.0	0.138	38.0	0.023	58.0	0.073	78.0	0.035
-1.0	0.345	19.0	0.200	39.0	0.075	59.0	0.069	79.0	0.026
0.0	0.905	20.0	0.127	40.0	0.119	60.0	0.057	80.0	0.018
1.0	0.901	21.0	0.028	41.0	0.113	61.0	0.044	81.0	0.012
2.0	0.323	22.0	0.037	42.0	0.060	62.0	0.029	82.0	0.008
3.0	0.346	23.0	0.022	43.0	0.026	63.0	0.017	83.0	0.005
4.0	0.287	24.0	0.023	44.0	0.043	64.0	0.026	84.0	0.003
5.0	0.196	25.0	0.064	45.0	0.029	65.0	0.042	85.0	0.002
6.0	0.385	26.0	0.068	46.0	0.010	66.0	0.047	86.0	0.001
7.0	0.310	27.0	0.029	47.0	0.020	67.0	0.041	87.0	0.001
8.0	0.125	28.0	0.005	48.0	0.052	68.0	0.027	88.0	0.000
9.0	0.114	29.0	0.007	49.0	0.084	69.0	0.023	89.0	0.000
								90.0	0.000

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