

AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70169**
Date **1-Mar-17**
Call Letters **WWHO 23**
Frequency **527 MHz**
Antenna Type **TFU-30DSC/VP-R 3C140**

Gain **1.36 (1.33dB)**
Calculated

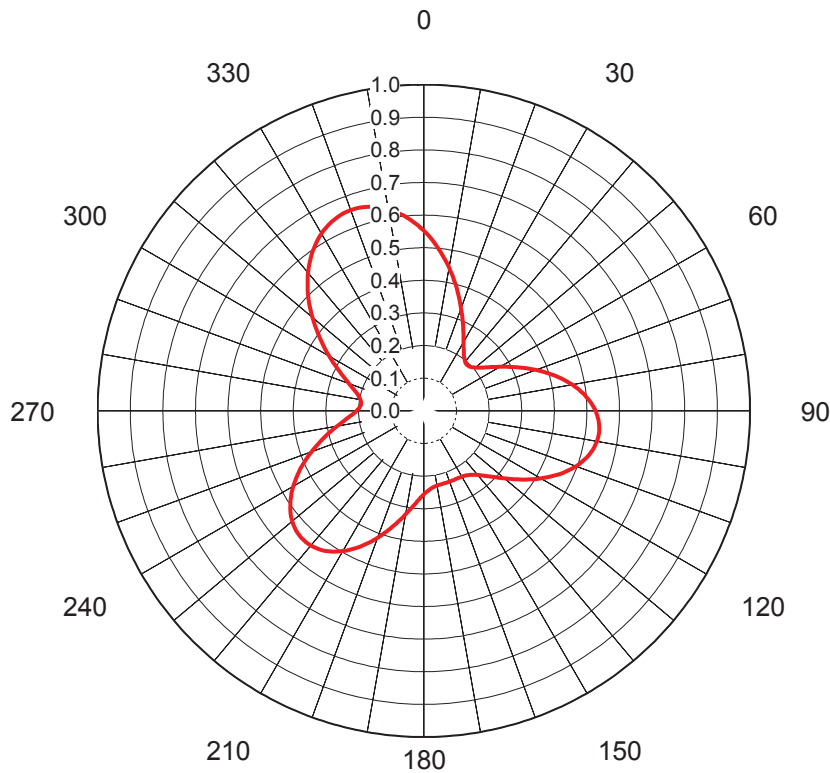
Drawing # **TFU-3C140-46**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.939	36	0.855	72	0.974	108	0.895	144	0.523	180	0.556	216	0.926	252	0.963	288	0.848	324	0.959
1	0.934	37	0.857	73	0.977	109	0.886	145	0.515	181	0.566	217	0.932	253	0.959	289	0.847	325	0.963
2	0.929	38	0.859	74	0.979	110	0.877	146	0.508	182	0.575	218	0.939	254	0.956	290	0.846	326	0.968
3	0.923	39	0.862	75	0.981	111	0.868	147	0.501	183	0.585	219	0.945	255	0.953	291	0.845	327	0.972
4	0.918	40	0.865	76	0.984	112	0.859	148	0.495	184	0.595	220	0.951	256	0.949	292	0.845	328	0.976
5	0.913	41	0.867	77	0.985	113	0.849	149	0.489	185	0.606	221	0.956	257	0.946	293	0.845	329	0.979
6	0.908	42	0.870	78	0.987	114	0.839	150	0.484	186	0.616	222	0.961	258	0.942	294	0.845	330	0.983
7	0.903	43	0.874	79	0.988	115	0.829	151	0.479	187	0.627	223	0.965	259	0.939	295	0.846	331	0.986
8	0.898	44	0.877	80	0.990	116	0.819	152	0.475	188	0.638	224	0.970	260	0.935	296	0.846	332	0.989
9	0.893	45	0.880	81	0.991	117	0.808	153	0.471	189	0.649	225	0.973	261	0.931	297	0.848	333	0.991
10	0.888	46	0.883	82	0.992	118	0.797	154	0.467	190	0.661	226	0.977	262	0.928	298	0.849	334	0.994
11	0.884	47	0.887	83	0.992	119	0.786	155	0.465	191	0.672	227	0.980	263	0.924	299	0.851	335	0.995
12	0.879	48	0.890	84	0.992	120	0.775	156	0.462	192	0.683	228	0.983	264	0.920	300	0.853	336	0.997
13	0.875	49	0.894	85	0.992	121	0.764	157	0.461	193	0.695	229	0.985	265	0.916	301	0.855	337	0.998
14	0.871	50	0.898	86	0.992	122	0.752	158	0.459	194	0.706	230	0.987	266	0.913	302	0.858	338	0.999
15	0.868	51	0.901	87	0.991	123	0.741	159	0.459	195	0.718	231	0.989	267	0.909	303	0.861	339	1.000
16	0.864	52	0.905	88	0.990	124	0.730	160	0.458	196	0.730	232	0.990	268	0.905	304	0.864	340	1.000
17	0.861	53	0.909	89	0.989	125	0.718	161	0.459	197	0.741	233	0.991	269	0.901	305	0.868	341	1.000
18	0.858	54	0.913	90	0.987	126	0.706	162	0.459	198	0.752	234	0.992	270	0.898	306	0.871	342	0.999
19	0.855	55	0.916	91	0.985	127	0.695	163	0.461	199	0.764	235	0.992	271	0.894	307	0.875	343	0.998
20	0.853	56	0.920	92	0.983	128	0.683	164	0.462	200	0.775	236	0.992	272	0.890	308	0.879	344	0.997
21	0.851	57	0.924	93	0.980	129	0.672	165	0.465	201	0.786	237	0.992	273	0.887	309	0.884	345	0.995
22	0.849	58	0.928	94	0.977	130	0.661	166	0.467	202	0.797	238	0.992	274	0.883	310	0.888	346	0.994
23	0.848	59	0.931	95	0.973	131	0.649	167	0.471	203	0.808	239	0.991	275	0.880	311	0.893	347	0.991
24	0.846	60	0.935	96	0.970	132	0.638	168	0.475	204	0.819	240	0.990	276	0.877	312	0.898	348	0.989
25	0.846	61	0.939	97	0.965	133	0.627	169	0.479	205	0.829	241	0.988	277	0.874	313	0.903	349	0.986
26	0.845	62	0.942	98	0.961	134	0.616	170	0.484	206	0.839	242	0.987	278	0.870	314	0.908	350	0.983
27	0.845	63	0.946	99	0.956	135	0.606	171	0.489	207	0.849	243	0.985	279	0.867	315	0.913	351	0.979
28	0.845	64	0.949	100	0.951	136	0.595	172	0.495	208	0.859	244	0.984	280	0.865	316	0.918	352	0.976
29	0.845	65	0.953	101	0.945	137	0.585	173	0.501	209	0.868	245	0.981	281	0.862	317	0.923	353	0.972
30	0.846	66	0.956	102	0.939	138	0.575	174	0.508	210	0.877	246	0.979	282	0.859	318	0.929	354	0.968
31	0.847	67	0.959	103	0.932	139	0.566	175	0.515	211	0.886	247	0.977	283	0.857	319	0.934	355	0.963
32	0.848	68	0.963	104	0.926	140	0.556	176	0.523	212	0.895	248	0.974	284	0.855	320	0.939	356	0.959
33	0.849	69	0.966	105	0.918	141	0.548	177	0.531	213	0.903	249	0.971	285	0.853	321	0.944	357	0.954
34	0.851	70	0.969	106	0.911	142	0.539	178	0.539	214	0.911	250	0.969	286	0.851	322	0.949	358	0.949
35	0.853	71	0.971	107	0.903	143	0.531	179	0.548	215	0.918	251	0.966	287	0.849	323	0.954	359	0.944

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AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70169**
 Date **1-Mar-17**
 Call Letters **WWHO 23**
 Frequency **527 MHz**
 Antenna Type **TFU-30DSC/VP-R 3C140**
 Gain **2.55 (4.07dB)**
Calculated
 Drawing # **TFU-3C140V-23**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.552	36	0.210	72	0.386	108	0.509	144	0.243	180	0.257	216	0.528	252	0.346	288	0.231
1	0.543	37	0.206	73	0.396	109	0.503	145	0.240	181	0.261	217	0.532	253	0.336	289	0.237
2	0.533	38	0.202	74	0.406	110	0.497	146	0.238	182	0.266	218	0.535	254	0.326	290	0.244
3	0.522	39	0.199	75	0.416	111	0.490	147	0.236	183	0.272	219	0.537	255	0.316	291	0.251
4	0.512	40	0.197	76	0.426	112	0.483	148	0.235	184	0.278	220	0.539	256	0.306	292	0.259
5	0.501	41	0.195	77	0.435	113	0.475	149	0.234	185	0.284	221	0.540	257	0.297	293	0.268
6	0.491	42	0.194	78	0.444	114	0.467	150	0.233	186	0.291	222	0.541	258	0.287	294	0.276
7	0.480	43	0.194	79	0.453	115	0.459	151	0.232	187	0.298	223	0.541	259	0.279	295	0.285
8	0.469	44	0.194	80	0.462	116	0.450	152	0.232	188	0.306	224	0.541	260	0.270	296	0.294
9	0.457	45	0.194	81	0.470	117	0.442	153	0.232	189	0.314	225	0.540	261	0.262	297	0.304
10	0.446	46	0.195	82	0.478	118	0.433	154	0.231	190	0.322	226	0.538	262	0.254	298	0.314
11	0.435	47	0.197	83	0.486	119	0.423	155	0.231	191	0.331	227	0.536	263	0.246	299	0.324
12	0.423	48	0.200	84	0.493	120	0.414	156	0.231	192	0.340	228	0.534	264	0.239	300	0.334
13	0.412	49	0.203	85	0.500	121	0.405	157	0.231	193	0.349	229	0.530	265	0.232	301	0.345
14	0.401	50	0.206	86	0.506	122	0.395	158	0.231	194	0.358	230	0.526	266	0.226	302	0.356
15	0.389	51	0.210	87	0.512	123	0.386	159	0.231	195	0.367	231	0.522	267	0.220	303	0.367
16	0.378	52	0.215	88	0.517	124	0.377	160	0.231	196	0.377	232	0.517	268	0.215	304	0.378
17	0.367	53	0.220	89	0.522	125	0.367	161	0.231	197	0.386	233	0.512	269	0.210	305	0.389
18	0.356	54	0.226	90	0.526	126	0.358	162	0.231	198	0.395	234	0.506	270	0.206	306	0.401
19	0.345	55	0.232	91	0.530	127	0.349	163	0.231	199	0.405	235	0.500	271	0.203	307	0.412
20	0.334	56	0.239	92	0.534	128	0.340	164	0.231	200	0.414	236	0.493	272	0.200	308	0.423
21	0.324	57	0.246	93	0.536	129	0.331	165	0.231	201	0.423	237	0.486	273	0.197	309	0.435
22	0.314	58	0.254	94	0.538	130	0.322	166	0.231	202	0.433	238	0.478	274	0.195	310	0.446
23	0.304	59	0.262	95	0.540	131	0.314	167	0.232	203	0.442	239	0.470	275	0.194	311	0.457
24	0.294	60	0.270	96	0.541	132	0.306	168	0.232	204	0.450	240	0.462	276	0.194	312	0.469
25	0.285	61	0.279	97	0.541	133	0.298	169	0.232	205	0.459	241	0.453	277	0.194	313	0.480
26	0.276	62	0.287	98	0.541	134	0.291	170	0.233	206	0.467	242	0.444	278	0.194	314	0.491
27	0.268	63	0.297	99	0.540	135	0.284	171	0.234	207	0.475	243	0.435	279	0.195	315	0.501
28	0.259	64	0.306	100	0.539	136	0.278	172	0.235	208	0.483	244	0.426	280	0.197	316	0.512
29	0.251	65	0.316	101	0.537	137	0.272	173	0.236	209	0.490	245	0.416	281	0.199	317	0.522
30	0.244	66	0.326	102	0.535	138	0.266	174	0.238	210	0.497	246	0.406	282	0.202	318	0.533
31	0.237	67	0.336	103	0.532	139	0.261	175	0.240	211	0.503	247	0.396	283	0.206	319	0.543
32	0.231	68	0.346	104	0.528	140	0.257	176	0.243	212	0.509	248	0.386	284	0.210	320	0.552
33	0.225	69	0.356	105	0.524	141	0.252	177	0.245	213	0.515	249	0.376	285	0.214	321	0.561
34	0.219	70	0.366	106	0.520	142	0.249	178	0.249	214	0.520	250	0.366	286	0.219	322	0.570
35	0.214	71	0.376	107	0.515	143	0.245	179	0.252	215	0.524	251	0.356	287	0.225	323	0.579

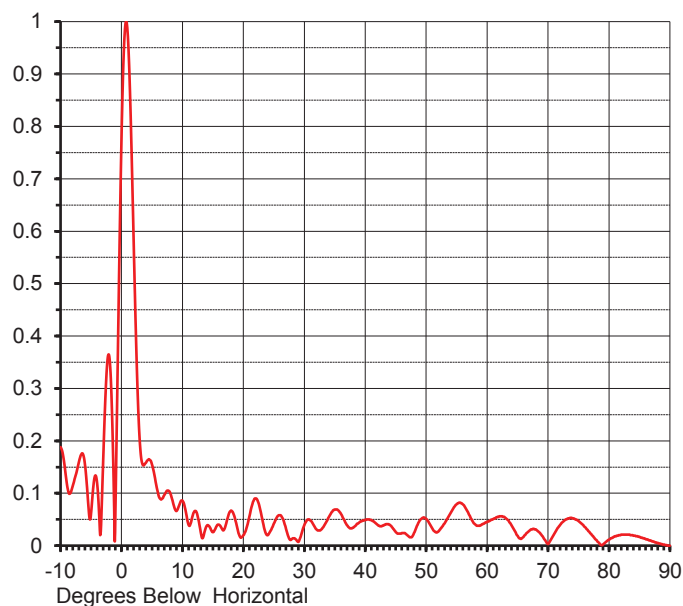
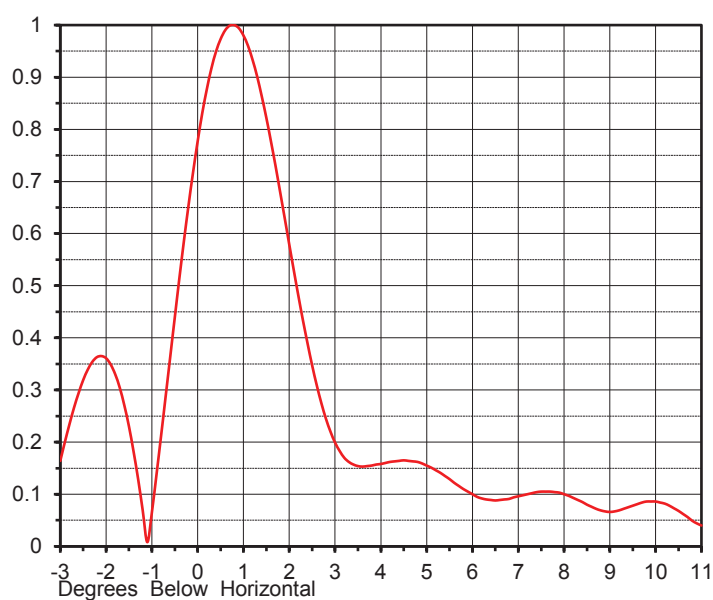
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ELEVATION PATTERN

Proposal No. **C-70169**
 Date **1-Mar-17**
 Call Letters **WWHO 23**
 Frequency **527 MHz**
 Antenna Type **TFU-30DSC/VP-R 3C140**

RMS Directivity at Main Lobe **25.50 (14.07 dB)**
 RMS Directivity at Horizontal **15.40 (11.88 dB)**
Calculated

Beam Tilt **0.75 deg**
 Drawing Number **30Q255075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.188	10.0	0.086	30.0	0.039	50.0	0.051	70.0	0.003
-9.0	0.121	11.0	0.040	31.0	0.048	51.0	0.033	71.0	0.022
-8.0	0.114	12.0	0.066	32.0	0.031	52.0	0.027	72.0	0.040
-7.0	0.159	13.0	0.026	33.0	0.034	53.0	0.042	73.0	0.050
-6.0	0.155	14.0	0.038	34.0	0.054	54.0	0.062	74.0	0.052
-5.0	0.061	15.0	0.026	35.0	0.069	55.0	0.079	75.0	0.047
-4.0	0.119	16.0	0.040	36.0	0.061	56.0	0.079	76.0	0.036
-3.0	0.164	17.0	0.035	37.0	0.039	57.0	0.060	77.0	0.023
-2.0	0.361	18.0	0.067	38.0	0.034	58.0	0.041	78.0	0.010
-1.0	0.065	19.0	0.034	39.0	0.044	59.0	0.039	79.0	0.002
0.0	0.777	20.0	0.020	40.0	0.049	60.0	0.045	80.0	0.011
1.0	0.980	21.0	0.056	41.0	0.049	61.0	0.051	81.0	0.018
2.0	0.579	22.0	0.090	42.0	0.040	62.0	0.056	82.0	0.021
3.0	0.199	23.0	0.056	43.0	0.039	63.0	0.053	83.0	0.021
4.0	0.158	24.0	0.020	44.0	0.040	64.0	0.039	84.0	0.019
5.0	0.155	25.0	0.042	45.0	0.026	65.0	0.019	85.0	0.017
6.0	0.100	26.0	0.058	46.0	0.024	66.0	0.017	86.0	0.013
7.0	0.096	27.0	0.032	47.0	0.019	67.0	0.029	87.0	0.009
8.0	0.100	28.0	0.013	48.0	0.024	68.0	0.031	88.0	0.005
9.0	0.066	29.0	0.007	49.0	0.049	69.0	0.019	89.0	0.002
								90.0	0.000

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