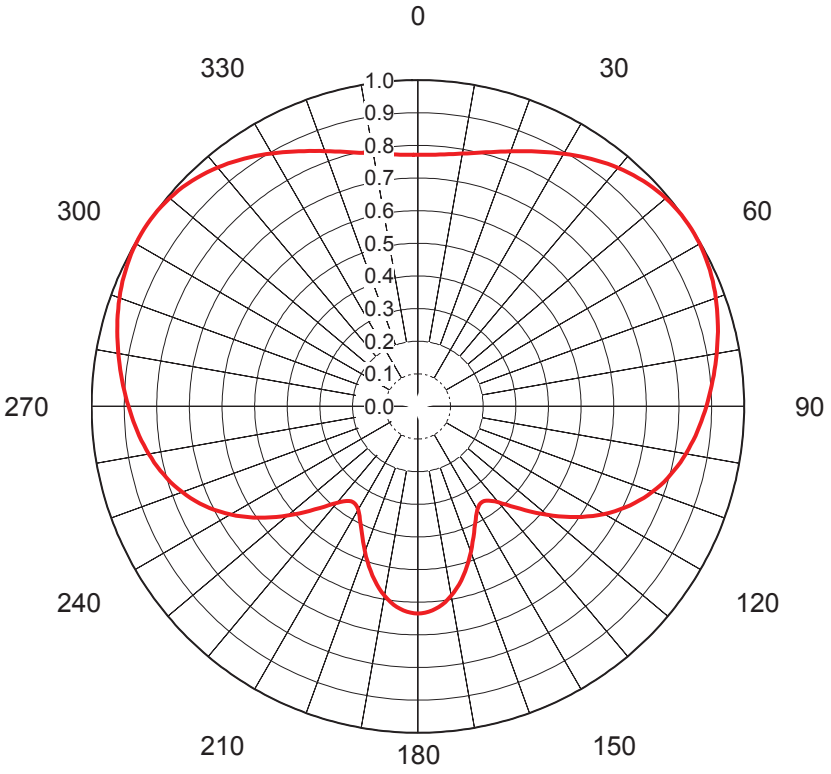
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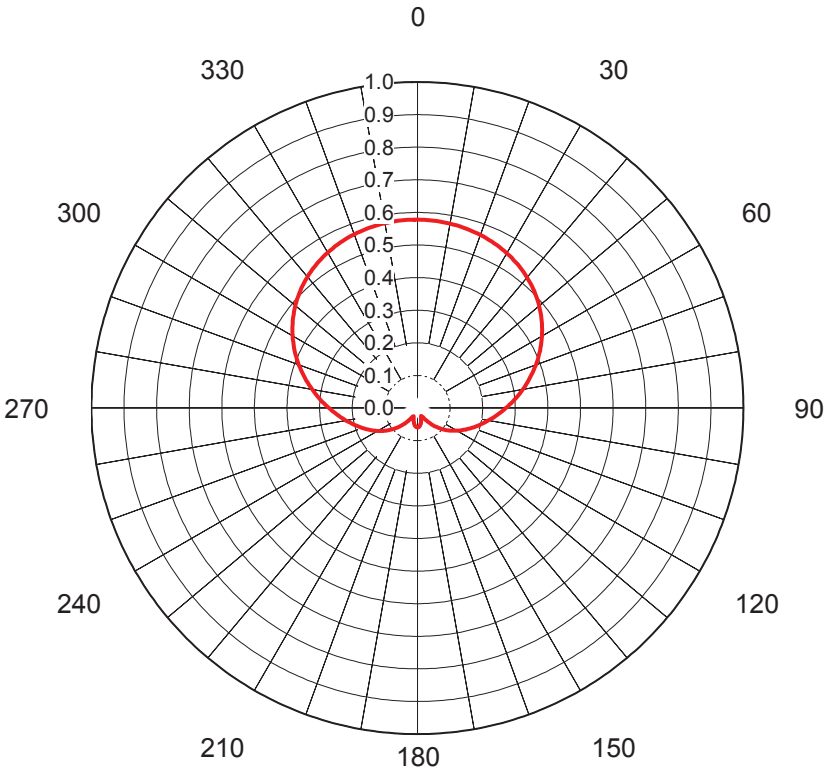


AZIMUTH PATTERN
Horizontal Polarization

Proposal No.	**C-06523**
Date	**8-Feb-17**
Call Letters	**29**
Frequency	**563 MHz**
Antenna Type	**TFU-16WB/VP-R C160**
Gain	**1.64 (2.16dB) Calculated**
Directional Drawing #	**WB-C160H**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.771	36	0.932	72	0.964	108	0.781	144	0.357	180	0.635	216	0.358	252	0.785	288	0.966	324	0.933
1	0.771	37	0.938	73	0.960	109	0.773	145	0.354	181	0.634	217	0.363	253	0.792	289	0.970	325	0.927
2	0.772	38	0.944	74	0.956	110	0.765	146	0.353	182	0.633	218	0.369	254	0.800	290	0.973	326	0.921
3	0.772	39	0.949	75	0.952	111	0.756	147	0.353	183	0.630	219	0.377	255	0.807	291	0.977	327	0.915
4	0.773	40	0.955	76	0.948	112	0.747	148	0.356	184	0.627	220	0.386	256	0.813	292	0.980	328	0.908
5	0.775	41	0.960	77	0.943	113	0.738	149	0.360	185	0.623	221	0.396	257	0.820	293	0.983	329	0.902
6	0.777	42	0.964	78	0.939	114	0.728	150	0.365	186	0.618	222	0.408	258	0.826	294	0.986	330	0.895
7	0.779	43	0.969	79	0.934	115	0.717	151	0.372	187	0.612	223	0.420	259	0.832	295	0.988	331	0.889
8	0.781	44	0.973	80	0.930	116	0.707	152	0.381	188	0.605	224	0.433	260	0.837	296	0.991	332	0.882
9	0.784	45	0.977	81	0.925	117	0.695	153	0.390	189	0.597	225	0.446	261	0.843	297	0.993	333	0.876
10	0.787	46	0.981	82	0.921	118	0.684	154	0.400	190	0.589	226	0.461	262	0.848	298	0.995	334	0.869
11	0.790	47	0.984	83	0.916	119	0.672	155	0.412	191	0.580	227	0.475	263	0.853	299	0.997	335	0.863
12	0.794	48	0.987	84	0.912	120	0.659	156	0.423	192	0.570	228	0.490	264	0.859	300	0.998	336	0.857
13	0.798	49	0.990	85	0.907	121	0.646	157	0.436	193	0.560	229	0.505	265	0.863	301	0.999	337	0.850
14	0.802	50	0.992	86	0.903	122	0.633	158	0.448	194	0.549	230	0.520	266	0.868	302	1.000	338	0.844
15	0.806	51	0.994	87	0.898	123	0.619	159	0.461	195	0.537	231	0.535	267	0.873	303	1.000	339	0.838
16	0.811	52	0.996	88	0.893	124	0.605	160	0.474	196	0.525	232	0.550	268	0.878	304	1.000	340	0.833
17	0.816	53	0.997	89	0.889	125	0.591	161	0.487	197	0.513	233	0.565	269	0.882	305	1.000	341	0.827
18	0.821	54	0.998	90	0.884	126	0.577	162	0.500	198	0.500	234	0.580	270	0.887	306	0.999	342	0.822
19	0.826	55	0.999	91	0.879	127	0.562	163	0.513	199	0.487	235	0.594	271	0.892	307	0.998	343	0.816
20	0.832	56	0.999	92	0.875	128	0.547	164	0.525	200	0.474	236	0.609	272	0.896	308	0.997	344	0.811
21	0.838	57	0.999	93	0.870	129	0.532	165	0.537	201	0.461	237	0.623	273	0.901	309	0.995	345	0.807
22	0.843	58	0.999	94	0.865	130	0.517	166	0.549	202	0.448	238	0.636	274	0.905	310	0.993	346	0.802
23	0.849	59	0.998	95	0.860	131	0.502	167	0.560	203	0.436	239	0.650	275	0.910	311	0.991	347	0.798
24	0.856	60	0.997	96	0.855	132	0.487	168	0.570	204	0.423	240	0.662	276	0.914	312	0.988	348	0.794
25	0.862	61	0.996	97	0.850	133	0.472	169	0.580	205	0.412	241	0.675	277	0.919	313	0.985	349	0.791
26	0.868	62	0.994	98	0.845	134	0.458	170	0.589	206	0.400	242	0.687	278	0.923	314	0.982	350	0.787
27	0.875	63	0.992	99	0.840	135	0.444	171	0.598	207	0.390	243	0.699	279	0.928	315	0.978	351	0.784
28	0.881	64	0.990	100	0.834	136	0.430	172	0.605	208	0.381	244	0.710	280	0.932	316	0.974	352	0.781
29	0.888	65	0.987	101	0.829	137	0.417	173	0.612	209	0.373	245	0.721	281	0.936	317	0.970	353	0.779
30	0.894	66	0.985	102	0.823	138	0.405	174	0.618	210	0.366	246	0.731	282	0.941	318	0.965	354	0.777
31	0.901	67	0.982	103	0.816	139	0.394	175	0.623	211	0.361	247	0.741	283	0.945	319	0.961	355	0.775
32	0.907	68	0.979	104	0.810	140	0.384	176	0.627	212	0.357	248	0.751	284	0.949	320	0.955	356	0.774
33	0.914	69	0.975	105	0.803	141	0.375	177	0.630	213	0.355	249	0.760	285	0.954	321	0.950	357	0.772
34	0.920	70	0.972	106	0.796	142	0.367	178	0.633	214	0.354	250	0.768	286	0.958	322	0.945	358	0.772
35	0.926	71	0.968	107	0.789	143	0.361	179	0.634	215	0.355	251	0.777	287	0.962	323	0.939	359	0.771

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AZIMUTH PATTERN
Vertical Polarization

Proposal No.	**C-06523**
Date	**8-Feb-17**
Call Letters	**29**
Frequency	**563 MHz**
Antenna Type	**TFU-16WB/VP-R C160**
Gain	**2.64 (4.21dB) Calculated**
Directional Drawing #	**WB C160V**

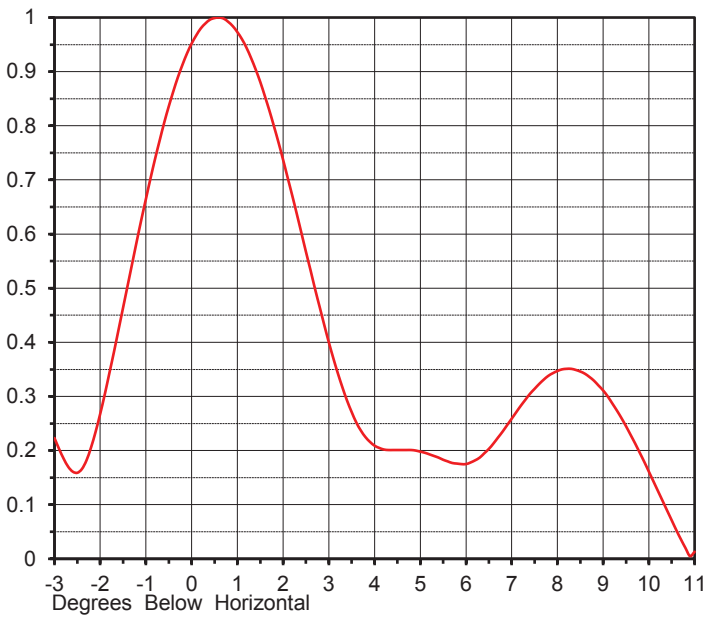
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.578	36	0.534	72	0.375	108	0.186	144	0.048	180	0.059	216	0.049	252	0.187	288	0.375	324	0.537
1	0.578	37	0.532	73	0.369	109	0.182	145	0.045	181	0.059	217	0.052	253	0.191	289	0.381	325	0.539
2	0.578	38	0.529	74	0.363	110	0.178	146	0.042	182	0.059	218	0.056	254	0.195	290	0.387	326	0.542
3	0.578	39	0.526	75	0.357	111	0.174	147	0.039	183	0.059	219	0.060	255	0.200	291	0.393	327	0.544
4	0.577	40	0.523	76	0.351	112	0.170	148	0.036	184	0.058	220	0.063	256	0.204	292	0.398	328	0.546
5	0.577	41	0.520	77	0.345	113	0.166	149	0.033	185	0.058	221	0.067	257	0.208	293	0.404	329	0.549
6	0.577	42	0.517	78	0.340	114	0.162	150	0.031	186	0.057	222	0.071	258	0.213	294	0.410	330	0.551
7	0.576	43	0.513	79	0.334	115	0.158	151	0.029	187	0.056	223	0.075	259	0.217	295	0.415	331	0.553
8	0.576	44	0.510	80	0.328	116	0.154	152	0.028	188	0.055	224	0.079	260	0.222	296	0.421	332	0.555
9	0.575	45	0.507	81	0.322	117	0.150	153	0.027	189	0.053	225	0.083	261	0.226	297	0.426	333	0.556
10	0.574	46	0.503	82	0.316	118	0.147	154	0.027	190	0.052	226	0.087	262	0.231	298	0.432	334	0.558
11	0.574	47	0.499	83	0.310	119	0.143	155	0.027	191	0.051	227	0.090	263	0.236	299	0.437	335	0.560
12	0.573	48	0.495	84	0.305	120	0.139	156	0.028	192	0.049	228	0.094	264	0.241	300	0.442	336	0.561
13	0.572	49	0.491	85	0.299	121	0.135	157	0.029	193	0.047	229	0.098	265	0.246	301	0.447	337	0.563
14	0.571	50	0.487	86	0.293	122	0.132	158	0.030	194	0.045	230	0.102	266	0.251	302	0.452	338	0.564
15	0.570	51	0.483	87	0.288	123	0.128	159	0.031	195	0.044	231	0.106	267	0.256	303	0.457	339	0.566
16	0.569	52	0.479	88	0.282	124	0.124	160	0.033	196	0.042	232	0.110	268	0.261	304	0.462	340	0.567
17	0.568	53	0.475	89	0.277	125	0.120	161	0.035	197	0.040	233	0.114	269	0.266	305	0.467	341	0.568
18	0.567	54	0.470	90	0.271	126	0.116	162	0.037	198	0.038	234	0.118	270	0.272	306	0.471	342	0.569
19	0.566	55	0.465	91	0.266	127	0.113	163	0.039	199	0.036	235	0.122	271	0.277	307	0.476	343	0.570
20	0.565	56	0.461	92	0.261	128	0.109	164	0.041	200	0.034	236	0.125	272	0.282	308	0.480	344	0.571
21	0.564	57	0.456	93	0.255	129	0.105	165	0.043	201	0.032	237	0.129	273	0.288	309	0.485	345	0.572
22	0.562	58	0.451	94	0.250	130	0.101	166	0.045	202	0.031	238	0.133	274	0.294	310	0.489	346	0.573
23	0.561	59	0.446	95	0.245	131	0.097	167	0.047	203	0.030	239	0.137	275	0.299	311	0.493	347	0.574
24	0.559	60	0.441	96	0.240	132	0.094	168	0.048	204	0.029	240	0.141	276	0.305	312	0.497	348	0.575
25	0.558	61	0.436	97	0.235	133	0.090	169	0.050	205	0.028	241	0.144	277	0.311	313	0.501	349	0.575
26	0.556	62	0.431	98	0.230	134	0.086	170	0.052	206	0.028	242	0.148	278	0.316	314	0.505	350	0.576
27	0.554	63	0.425	99	0.225	135	0.082	171	0.053	207	0.028	243	0.152	279	0.322	315	0.508	351	0.576
28	0.552	64	0.420	100	0.221	136	0.078	172	0.054	208	0.029	244	0.156	280	0.328	316	0.512	352	0.577
29	0.550	65	0.415	101	0.216	137	0.074	173	0.056	209	0.030	245	0.160	281	0.334	317	0.515	353	0.577
30	0.548	66	0.409	102	0.212	138	0.070	174	0.057	210	0.032	246	0.164	282	0.340	318	0.519	354	0.577
31	0.546	67	0.403	103	0.207	139	0.067	175	0.057	211	0.034	247	0.167	283	0.346	319	0.522	355	0.578
32	0.544	68	0.398	104	0.203	140	0.063	176	0.058	212	0.037	248	0.171	284	0.352	320	0.525	356	0.578
33	0.542	69	0.392	105	0.198	141	0.059	177	0.059	213	0.039	249	0.175	285	0.358	321	0.528	357	0.578
34	0.539	70	0.386	106	0.194	142	0.055	178	0.059	214	0.042	250	0.179	286	0.364	322	0.531	358	0.578
35	0.537	71	0.381	107	0.190	143	0.052	179	0.059	215	0.046	251	0.183	287	0.369	323	0.534	359	0.578

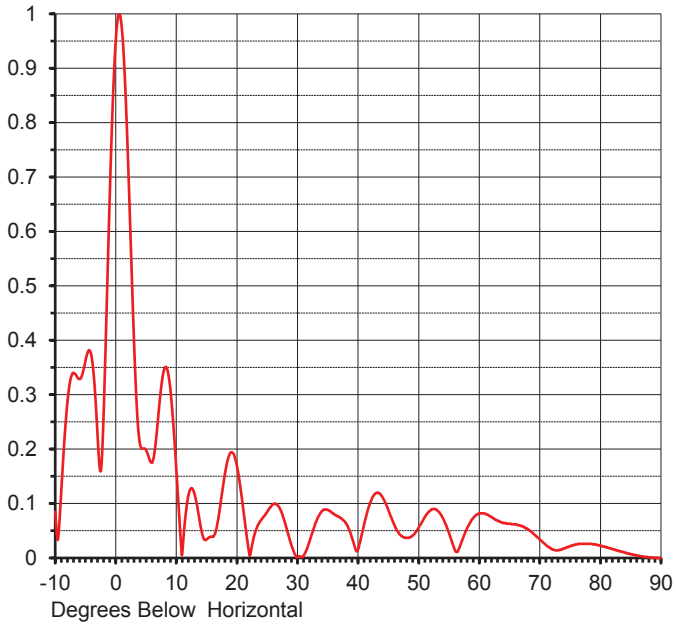
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ELEVATION PATTERN

Proposal No.	**C-06523**
Date	**8-Feb-17**
Call Letters	**29**
Frequency	**563 MHz**
Antenna Type	**TFU-16WB/VP-R C160**

RMS Directivity at Main Lobe	**14.49 (11.61 dB)**	Beam Tilt	**0.55 deg**
RMS Directivity at Horizontal	**13.10 (11.17 dB)**	Drawing Number	**16W145055**
	Calculated		





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.085	10.0	0.161	30.0	0.001	50.0	0.056	70.0	0.034
-9.0	0.123	11.0	0.013	31.0	0.004	51.0	0.075	71.0	0.024
-8.0	0.285	12.0	0.116	32.0	0.031	52.0	0.088	72.0	0.016
-7.0	0.340	13.0	0.117	33.0	0.065	53.0	0.088	73.0	0.014
-6.0	0.329	14.0	0.058	34.0	0.086	54.0	0.073	74.0	0.017
-5.0	0.363	15.0	0.034	35.0	0.088	55.0	0.046	75.0	0.022
-4.0	0.370	16.0	0.039	36.0	0.081	56.0	0.014	76.0	0.025
-3.0	0.223	17.0	0.078	37.0	0.074	57.0	0.027	77.0	0.026
-2.0	0.268	18.0	0.154	38.0	0.064	58.0	0.055	78.0	0.026
-1.0	0.665	19.0	0.194	39.0	0.037	59.0	0.073	79.0	0.025
0.0	0.952	20.0	0.169	40.0	0.016	60.0	0.082	80.0	0.023
1.0	0.973	21.0	0.093	41.0	0.062	61.0	0.081	81.0	0.020
2.0	0.737	22.0	0.010	42.0	0.102	62.0	0.075	82.0	0.016
3.0	0.400	23.0	0.047	43.0	0.119	63.0	0.069	83.0	0.013
4.0	0.209	24.0	0.070	44.0	0.112	64.0	0.064	84.0	0.010
5.0	0.198	25.0	0.085	45.0	0.088	65.0	0.063	85.0	0.007
6.0	0.175	26.0	0.099	46.0	0.060	66.0	0.062	86.0	0.005
7.0	0.259	27.0	0.093	47.0	0.042	67.0	0.059	87.0	0.003
8.0	0.347	28.0	0.062	48.0	0.037	68.0	0.053	88.0	0.001
9.0	0.311	29.0	0.023	49.0	0.041	69.0	0.044	89.0	0.000
								90.0	0.000

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