

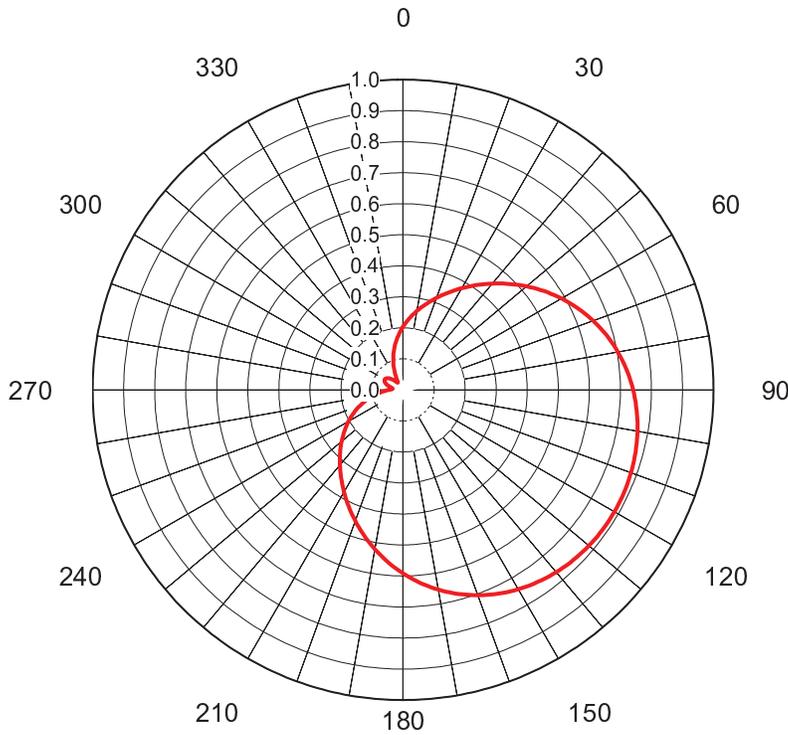
AZIMUTH PATTERN Horizontal Polarization

Proposal No. **WSTR - Interim**
 Date **10-Oct-19**
 Call Letters **WSTR**
 Channel **18**
 Frequency **497 MHz**
 Antenna Type **TFU-8WB/VP-R C160**
 Gain **1.5 (1.76dB)**
 Calculated

Pattern Number **WB-C160-18 Hpol**

Deg	Value																		
0	0.658	36	0.899	72	0.997	108	0.936	144	0.966	180	0.978	216	0.852	252	0.511	288	0.638	324	0.517
1	0.670	37	0.902	73	0.998	109	0.934	145	0.969	181	0.975	217	0.847	253	0.500	289	0.646	325	0.507
2	0.681	38	0.905	74	0.998	110	0.933	146	0.972	182	0.972	218	0.842	254	0.490	290	0.653	326	0.497
3	0.693	39	0.909	75	0.998	111	0.931	147	0.974	183	0.970	219	0.836	255	0.481	291	0.660	327	0.488
4	0.703	40	0.912	76	0.998	112	0.929	148	0.977	184	0.967	220	0.831	256	0.472	292	0.666	328	0.480
5	0.714	41	0.915	77	0.998	113	0.928	149	0.979	185	0.964	221	0.825	257	0.464	293	0.672	329	0.472
6	0.724	42	0.919	78	0.998	114	0.927	150	0.982	186	0.960	222	0.819	258	0.457	294	0.677	330	0.464
7	0.734	43	0.922	79	0.998	115	0.926	151	0.984	187	0.957	223	0.812	259	0.451	295	0.681	331	0.458
8	0.744	44	0.925	80	0.997	116	0.925	152	0.986	188	0.954	224	0.806	260	0.447	296	0.684	332	0.452
9	0.753	45	0.929	81	0.996	117	0.924	153	0.988	189	0.951	225	0.799	261	0.443	297	0.687	333	0.448
10	0.762	46	0.932	82	0.995	118	0.924	154	0.990	190	0.947	226	0.792	262	0.440	298	0.689	334	0.445
11	0.770	47	0.935	83	0.994	119	0.923	155	0.992	191	0.944	227	0.784	263	0.439	299	0.690	335	0.443
12	0.778	48	0.938	84	0.993	120	0.923	156	0.993	192	0.941	228	0.776	264	0.439	300	0.690	336	0.442
13	0.786	49	0.942	85	0.991	121	0.923	157	0.995	193	0.937	229	0.768	265	0.440	301	0.690	337	0.442
14	0.794	50	0.945	86	0.989	122	0.924	158	0.996	194	0.934	230	0.759	266	0.442	302	0.689	338	0.443
15	0.801	51	0.948	87	0.988	123	0.924	159	0.997	195	0.931	231	0.750	267	0.446	303	0.687	339	0.446
16	0.808	52	0.952	88	0.986	124	0.925	160	0.998	196	0.927	232	0.741	268	0.450	304	0.684	340	0.450
17	0.814	53	0.955	89	0.984	125	0.925	161	0.999	197	0.924	233	0.731	269	0.456	305	0.681	341	0.455
18	0.820	54	0.958	90	0.981	126	0.926	162	0.999	198	0.920	234	0.721	270	0.462	306	0.677	342	0.461
19	0.826	55	0.961	91	0.979	127	0.928	163	1.000	199	0.917	235	0.711	271	0.470	307	0.672	343	0.468
20	0.832	56	0.964	92	0.977	128	0.929	164	1.000	200	0.914	236	0.700	272	0.478	308	0.666	344	0.476
21	0.837	57	0.967	93	0.974	129	0.931	165	1.000	201	0.910	237	0.689	273	0.487	309	0.660	345	0.484
22	0.843	58	0.970	94	0.972	130	0.932	166	1.000	202	0.907	238	0.678	274	0.496	310	0.654	346	0.494
23	0.848	59	0.973	95	0.969	131	0.934	167	0.999	203	0.903	239	0.667	275	0.506	311	0.646	347	0.504
24	0.852	60	0.975	96	0.966	132	0.936	168	0.999	204	0.900	240	0.655	276	0.516	312	0.638	348	0.514
25	0.857	61	0.978	97	0.964	133	0.938	169	0.998	205	0.896	241	0.643	277	0.527	313	0.630	349	0.525
26	0.861	62	0.980	98	0.961	134	0.940	170	0.997	206	0.893	242	0.631	278	0.538	314	0.621	350	0.537
27	0.866	63	0.983	99	0.958	135	0.943	171	0.996	207	0.889	243	0.619	279	0.548	315	0.611	351	0.549
28	0.870	64	0.985	100	0.956	136	0.945	172	0.994	208	0.885	244	0.607	280	0.559	316	0.602	352	0.561
29	0.874	65	0.987	101	0.953	137	0.948	173	0.993	209	0.882	245	0.594	281	0.570	317	0.591	353	0.573
30	0.877	66	0.989	102	0.950	138	0.950	174	0.991	210	0.878	246	0.582	282	0.581	318	0.581	354	0.585
31	0.881	67	0.991	103	0.948	139	0.953	175	0.989	211	0.874	247	0.569	283	0.591	319	0.571	355	0.598
32	0.885	68	0.992	104	0.945	140	0.955	176	0.987	212	0.870	248	0.557	284	0.601	320	0.560	356	0.610
33	0.888	69	0.994	105	0.943	141	0.958	177	0.985	213	0.865	249	0.545	285	0.611	321	0.549	357	0.622
34	0.892	70	0.995	106	0.941	142	0.961	178	0.983	214	0.861	250	0.533	286	0.621	322	0.538	358	0.635
35	0.895	71	0.996	107	0.939	143	0.963	179	0.980	215	0.856	251	0.522	287	0.630	323	0.528	359	0.647

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.



AZIMUTH PATTERN Vertical Polarization

Proposal No. **WSTR - Interim**
 Date **10-Oct-19**
 Call Letters **WSTR**
 Channel **18**
 Frequency **497 MHz**
 Antenna Type **TFU-8WB/VP-R C160**
 Gain **2.65 (4.24dB)**
 Calculated

Pattern Number **WB-C160-18 Vpol**

Deg	Value																		
0	0.204	36	0.419	72	0.663	108	0.779	144	0.759	180	0.592	216	0.341	252	0.136	288	0.055	324	0.028
1	0.209	37	0.426	73	0.668	109	0.780	145	0.756	181	0.585	217	0.335	253	0.130	289	0.057	325	0.029
2	0.215	38	0.433	74	0.673	110	0.781	146	0.754	182	0.578	218	0.329	254	0.125	290	0.059	326	0.030
3	0.220	39	0.440	75	0.679	111	0.782	147	0.751	183	0.571	219	0.322	255	0.119	291	0.061	327	0.032
4	0.226	40	0.447	76	0.684	112	0.783	148	0.748	184	0.564	220	0.316	256	0.114	292	0.062	328	0.035
5	0.231	41	0.454	77	0.689	113	0.784	149	0.745	185	0.557	221	0.310	257	0.108	293	0.064	329	0.038
6	0.237	42	0.462	78	0.693	114	0.784	150	0.742	186	0.550	222	0.304	258	0.103	294	0.065	330	0.042
7	0.242	43	0.469	79	0.698	115	0.785	151	0.739	187	0.543	223	0.298	259	0.097	295	0.066	331	0.046
8	0.248	44	0.476	80	0.703	116	0.785	152	0.736	188	0.536	224	0.293	260	0.092	296	0.067	332	0.050
9	0.253	45	0.483	81	0.707	117	0.786	153	0.732	189	0.529	225	0.287	261	0.087	297	0.067	333	0.055
10	0.259	46	0.490	82	0.711	118	0.786	154	0.729	190	0.522	226	0.281	262	0.081	298	0.068	334	0.060
11	0.264	47	0.498	83	0.715	119	0.786	155	0.725	191	0.515	227	0.275	263	0.076	299	0.068	335	0.065
12	0.270	48	0.505	84	0.719	120	0.786	156	0.721	192	0.507	228	0.269	264	0.071	300	0.068	336	0.070
13	0.275	49	0.512	85	0.723	121	0.786	157	0.717	193	0.500	229	0.264	265	0.066	301	0.068	337	0.075
14	0.281	50	0.519	86	0.727	122	0.786	158	0.713	194	0.493	230	0.258	266	0.062	302	0.067	338	0.080
15	0.287	51	0.526	87	0.731	123	0.786	159	0.709	195	0.486	231	0.253	267	0.057	303	0.067	339	0.086
16	0.292	52	0.534	88	0.734	124	0.785	160	0.704	196	0.479	232	0.247	268	0.053	304	0.066	340	0.091
17	0.298	53	0.541	89	0.738	125	0.785	161	0.700	197	0.471	233	0.241	269	0.049	305	0.065	341	0.097
18	0.304	54	0.548	90	0.741	126	0.784	162	0.695	198	0.464	234	0.236	270	0.045	306	0.064	342	0.103
19	0.310	55	0.555	91	0.744	127	0.784	163	0.691	199	0.457	235	0.230	271	0.042	307	0.062	343	0.108
20	0.316	56	0.562	92	0.747	128	0.783	164	0.686	200	0.450	236	0.225	272	0.039	308	0.061	344	0.114
21	0.322	57	0.569	93	0.750	129	0.782	165	0.681	201	0.443	237	0.219	273	0.037	309	0.059	345	0.119
22	0.328	58	0.576	94	0.753	130	0.781	166	0.676	202	0.435	238	0.214	274	0.035	310	0.057	346	0.125
23	0.334	59	0.582	95	0.755	131	0.781	167	0.670	203	0.428	239	0.208	275	0.034	311	0.055	347	0.131
24	0.340	60	0.589	96	0.758	132	0.779	168	0.665	204	0.421	240	0.203	276	0.034	312	0.053	348	0.137
25	0.346	61	0.596	97	0.760	133	0.778	169	0.659	205	0.414	241	0.197	277	0.034	313	0.051	349	0.142
26	0.353	62	0.602	98	0.762	134	0.777	170	0.654	206	0.407	242	0.192	278	0.035	314	0.048	350	0.148
27	0.359	63	0.609	99	0.765	135	0.776	171	0.648	207	0.401	243	0.186	279	0.036	315	0.046	351	0.154
28	0.365	64	0.615	100	0.767	136	0.774	172	0.642	208	0.394	244	0.181	280	0.038	316	0.043	352	0.159
29	0.372	65	0.621	101	0.769	137	0.773	173	0.636	209	0.387	245	0.175	281	0.040	317	0.040	353	0.165
30	0.378	66	0.628	102	0.770	138	0.771	174	0.630	210	0.380	246	0.170	282	0.042	318	0.038	354	0.170
31	0.385	67	0.634	103	0.772	139	0.769	175	0.624	211	0.374	247	0.164	283	0.044	319	0.035	355	0.176
32	0.392	68	0.640	104	0.774	140	0.767	176	0.618	212	0.367	248	0.158	284	0.046	320	0.033	356	0.182
33	0.399	69	0.646	105	0.775	141	0.765	177	0.611	213	0.360	249	0.153	285	0.049	321	0.031	357	0.187
34	0.405	70	0.651	106	0.777	142	0.763	178	0.605	214	0.354	250	0.147	286	0.051	322	0.030	358	0.193
35	0.412	71	0.657	107	0.778	143	0.761	179	0.598	215	0.348	251	0.142	287	0.053	323	0.029	359	0.198

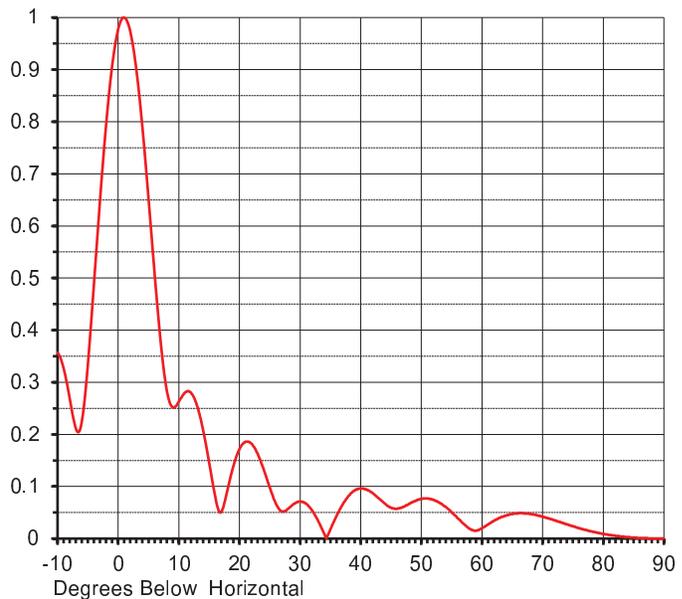
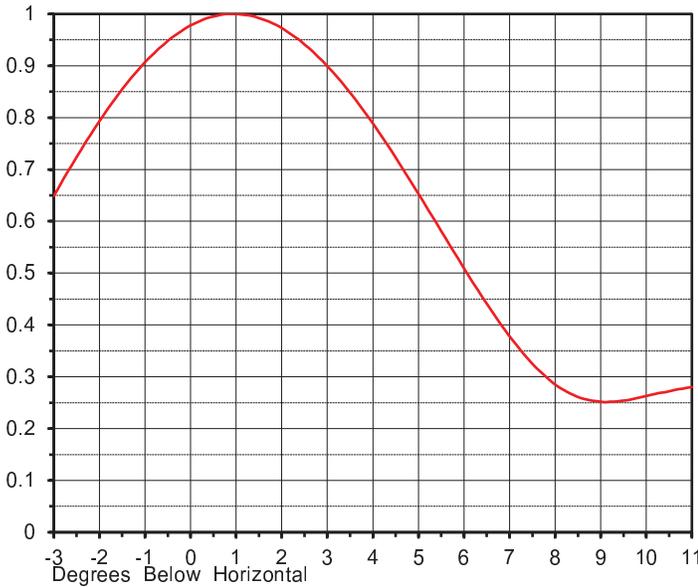
This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

ELEVATION PATTERN

Proposal No. **WSTR - Interim**
 Date **10-Oct-19**
 Call Letters **WSTR**
 Channel **18**
 Frequency **497 MHz**
 Antenna Type **TFU-8WB/VP-R C160**

RMS Directivity at Main Lobe **7.6 (8.81 dB)**
 RMS Directivity at Horizontal **7.3 (8.63 dB)**
Calculated

Beam Tilt **1.05 deg**
 Pattern Number **08W076105-18**



Angle	Field								
-10.0	0.357	10.0	0.263	30.0	0.071	50.0	0.076	70.0	0.042
-9.0	0.327	11.0	0.280	31.0	0.067	51.0	0.077	71.0	0.039
-8.0	0.269	12.0	0.280	32.0	0.054	52.0	0.074	72.0	0.035
-7.0	0.212	13.0	0.255	33.0	0.033	53.0	0.069	73.0	0.031
-6.0	0.225	14.0	0.208	34.0	0.009	54.0	0.061	74.0	0.027
-5.0	0.334	15.0	0.146	35.0	0.018	55.0	0.050	75.0	0.024
-4.0	0.488	16.0	0.081	36.0	0.043	56.0	0.039	76.0	0.020
-3.0	0.649	17.0	0.051	37.0	0.065	57.0	0.028	77.0	0.017
-2.0	0.793	18.0	0.092	38.0	0.082	58.0	0.019	78.0	0.014
-1.0	0.907	19.0	0.139	39.0	0.092	59.0	0.015	79.0	0.011
0.0	0.978	20.0	0.172	40.0	0.096	60.0	0.020	80.0	0.009
1.0	1.000	21.0	0.186	41.0	0.094	61.0	0.027	81.0	0.007
2.0	0.973	22.0	0.182	42.0	0.087	62.0	0.034	82.0	0.005
3.0	0.899	23.0	0.163	43.0	0.077	63.0	0.040	83.0	0.004
4.0	0.789	24.0	0.133	44.0	0.067	64.0	0.044	84.0	0.003
5.0	0.653	25.0	0.098	45.0	0.059	65.0	0.047	85.0	0.002
6.0	0.509	26.0	0.067	46.0	0.057	66.0	0.049	86.0	0.001
7.0	0.378	27.0	0.052	47.0	0.061	67.0	0.048	87.0	0.001
8.0	0.285	28.0	0.057	48.0	0.067	68.0	0.047	88.0	0.000
9.0	0.252	29.0	0.067	49.0	0.072	69.0	0.045	89.0	0.000
						90.0	0.000	90.0	0.000

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.