

AZIMUTH PATTERN Horizontal Polarization

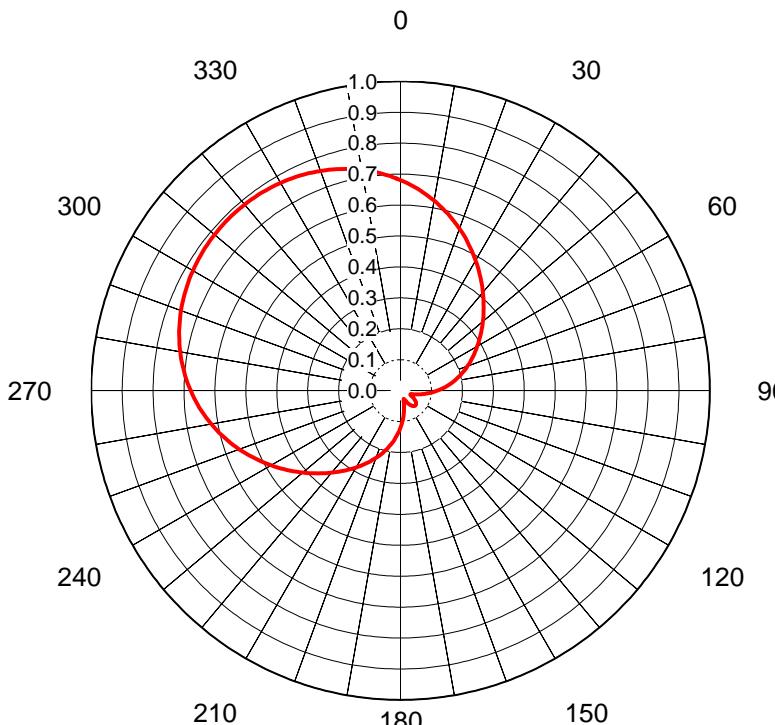
Proposal No. **WTVH Interim**
 Date **16-Mar-20**
 Call Letters **WTVH**
 Channel **18**
 Frequency **497 MHz**
 Antenna Type **TFU-8WB/VP-R C160**
 Gain **1.5 (1.76dB)**
 Calculated

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

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

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.



AZIMUTH PATTERN Vertical Polarization

Proposal No. **WTVH Interim**
 Date **16-Mar-20**
 Call Letters **WTVH**
 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	0.681	36	0.443	72	0.219	108	0.037	144	0.059	180	0.119	216	0.322	252	0.569	288	0.750	324	0.782
1	0.676	37	0.435	73	0.214	109	0.035	145	0.057	181	0.125	217	0.328	253	0.576	289	0.753	325	0.781
2	0.670	38	0.428	74	0.208	110	0.034	146	0.055	182	0.131	218	0.334	254	0.582	290	0.755	326	0.781
3	0.665	39	0.421	75	0.203	111	0.034	147	0.053	183	0.137	219	0.340	255	0.589	291	0.758	327	0.779
4	0.659	40	0.414	76	0.197	112	0.034	148	0.051	184	0.142	220	0.346	256	0.596	292	0.760	328	0.778
5	0.654	41	0.407	77	0.192	113	0.035	149	0.048	185	0.148	221	0.353	257	0.602	293	0.762	329	0.777
6	0.648	42	0.401	78	0.186	114	0.036	150	0.046	186	0.154	222	0.359	258	0.609	294	0.765	330	0.776
7	0.642	43	0.394	79	0.181	115	0.038	151	0.043	187	0.159	223	0.365	259	0.615	295	0.767	331	0.774
8	0.636	44	0.387	80	0.175	116	0.040	152	0.040	188	0.165	224	0.372	260	0.621	296	0.769	332	0.773
9	0.630	45	0.380	81	0.170	117	0.042	153	0.038	189	0.170	225	0.378	261	0.628	297	0.770	333	0.771
10	0.624	46	0.374	82	0.164	118	0.044	154	0.035	190	0.176	226	0.385	262	0.634	298	0.772	334	0.769
11	0.618	47	0.367	83	0.158	119	0.046	155	0.033	191	0.182	227	0.392	263	0.640	299	0.774	335	0.767
12	0.611	48	0.360	84	0.153	120	0.049	156	0.031	192	0.187	228	0.399	264	0.646	300	0.775	336	0.765
13	0.605	49	0.354	85	0.147	121	0.051	157	0.030	193	0.193	229	0.405	265	0.651	301	0.777	337	0.763
14	0.598	50	0.348	86	0.142	122	0.053	158	0.029	194	0.198	230	0.412	266	0.657	302	0.778	338	0.761
15	0.592	51	0.341	87	0.136	123	0.055	159	0.028	195	0.204	231	0.419	267	0.663	303	0.779	339	0.759
16	0.585	52	0.335	88	0.130	124	0.057	160	0.029	196	0.209	232	0.426	268	0.668	304	0.780	340	0.756
17	0.578	53	0.329	89	0.125	125	0.059	161	0.030	197	0.215	233	0.433	269	0.673	305	0.781	341	0.754
18	0.571	54	0.322	90	0.119	126	0.061	162	0.032	198	0.220	234	0.440	270	0.679	306	0.782	342	0.751
19	0.564	55	0.316	91	0.114	127	0.062	163	0.035	199	0.226	235	0.447	271	0.684	307	0.783	343	0.748
20	0.557	56	0.310	92	0.108	128	0.064	164	0.038	200	0.231	236	0.454	272	0.689	308	0.784	344	0.745
21	0.550	57	0.304	93	0.103	129	0.065	165	0.042	201	0.237	237	0.462	273	0.693	309	0.784	345	0.742
22	0.543	58	0.298	94	0.097	130	0.066	166	0.046	202	0.242	238	0.469	274	0.698	310	0.785	346	0.739
23	0.536	59	0.293	95	0.092	131	0.067	167	0.050	203	0.248	239	0.476	275	0.703	311	0.785	347	0.736
24	0.529	60	0.287	96	0.087	132	0.067	168	0.055	204	0.253	240	0.483	276	0.707	312	0.786	348	0.732
25	0.522	61	0.281	97	0.081	133	0.068	169	0.060	205	0.259	241	0.490	277	0.711	313	0.786	349	0.729
26	0.515	62	0.275	98	0.076	134	0.068	170	0.065	206	0.264	242	0.498	278	0.715	314	0.786	350	0.725
27	0.507	63	0.269	99	0.071	135	0.068	171	0.070	207	0.270	243	0.505	279	0.719	315	0.786	351	0.721
28	0.500	64	0.264	100	0.066	136	0.068	172	0.075	208	0.275	244	0.512	280	0.723	316	0.786	352	0.717
29	0.493	65	0.258	101	0.062	137	0.067	173	0.080	209	0.281	245	0.519	281	0.727	317	0.786	353	0.713
30	0.486	66	0.253	102	0.057	138	0.067	174	0.086	210	0.287	246	0.526	282	0.731	318	0.786	354	0.709
31	0.479	67	0.247	103	0.053	139	0.066	175	0.091	211	0.292	247	0.534	283	0.734	319	0.785	355	0.704
32	0.471	68	0.241	104	0.049	140	0.065	176	0.097	212	0.298	248	0.541	284	0.738	320	0.785	356	0.700
33	0.464	69	0.236	105	0.045	141	0.064	177	0.103	213	0.304	249	0.548	285	0.741	321	0.784	357	0.695
34	0.457	70	0.230	106	0.042	142	0.062	178	0.108	214	0.310	250	0.555	286	0.744	322	0.784	358	0.691
35	0.450	71	0.225	107	0.039	143	0.061	179	0.114	215	0.316	251	0.562	287	0.747	323	0.783	359	0.686

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

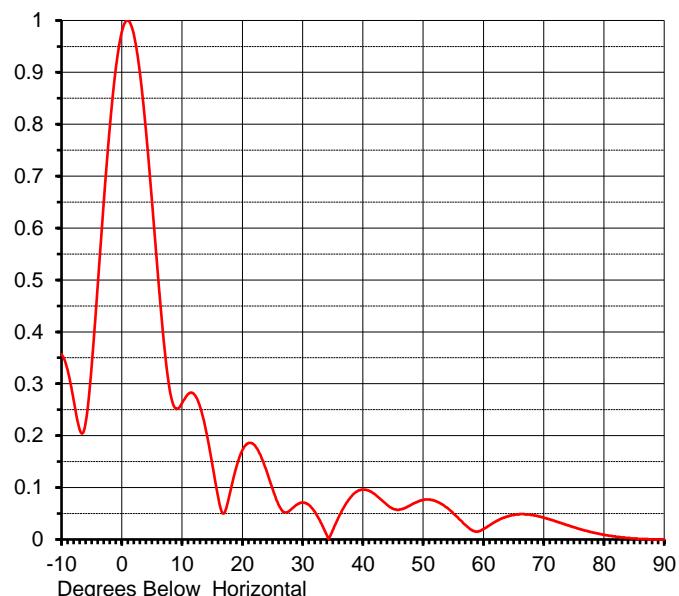
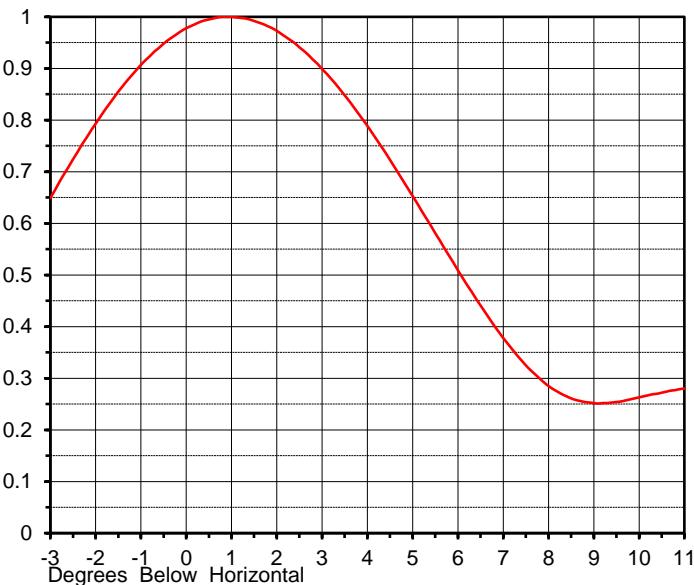
Proposal No. **WTVH Interim**
 Date **16-Mar-20**
 Call Letters **WTVH**
 Channel **18**
 Frequency **497 MHz**
 Antenna Type **TFU-8WB/VP-R C160**

RMS Directivity at Main Lobe
 RMS Directivity at Horizontal

7.6 (8.81 dB)
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

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.