

## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70503**  
 Date **16-Mar-17**  
 Call Letters **WMBD**  
 Channel **26**  
 Frequency **545 MHz**  
 Antenna Type **TFU-28GTH-R T170 (SP)**  
 Gain **1.74 (2.4dB)**  
 Calculated

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.480	36	0.820	72	0.940	108	0.530	144	0.660	180	1.000	216	0.650	252	0.530	288	0.950	324	0.810
1	0.480	37	0.830	73	0.930	109	0.520	145	0.670	181	1.000	217	0.640	253	0.540	289	0.960	325	0.790
2	0.490	38	0.850	74	0.920	110	0.510	146	0.690	182	0.990	218	0.630	254	0.550	290	0.970	326	0.780
3	0.490	39	0.860	75	0.910	111	0.510	147	0.700	183	0.990	219	0.610	255	0.560	291	0.970	327	0.770
4	0.490	40	0.870	76	0.900	112	0.500	148	0.710	184	0.980	220	0.600	256	0.570	292	0.970	328	0.750
5	0.500	41	0.880	77	0.890	113	0.500	149	0.720	185	0.980	221	0.590	257	0.580	293	0.980	329	0.740
6	0.500	42	0.890	78	0.880	114	0.500	150	0.740	186	0.980	222	0.580	258	0.590	294	0.980	330	0.730
7	0.500	43	0.900	79	0.870	115	0.490	151	0.750	187	0.970	223	0.570	259	0.600	295	0.980	331	0.720
8	0.510	44	0.910	80	0.860	116	0.490	152	0.760	188	0.970	224	0.570	260	0.610	296	0.990	332	0.700
9	0.510	45	0.920	81	0.850	117	0.490	153	0.780	189	0.960	225	0.560	261	0.620	297	0.990	333	0.690
10	0.520	46	0.930	82	0.830	118	0.480	154	0.790	190	0.960	226	0.550	262	0.640	298	0.990	334	0.680
11	0.530	47	0.940	83	0.820	119	0.480	155	0.800	191	0.950	227	0.540	263	0.650	299	1.000	335	0.670
12	0.540	48	0.950	84	0.810	120	0.480	156	0.820	192	0.940	228	0.530	264	0.660	300	1.000	336	0.650
13	0.550	49	0.960	85	0.790	121	0.480	157	0.830	193	0.930	229	0.520	265	0.670	301	1.000	337	0.640
14	0.560	50	0.970	86	0.780	122	0.490	158	0.840	194	0.920	230	0.510	266	0.690	302	0.990	338	0.630
15	0.570	51	0.970	87	0.770	123	0.490	159	0.860	195	0.910	231	0.510	267	0.700	303	0.990	339	0.610
16	0.570	52	0.970	88	0.750	124	0.490	160	0.870	196	0.900	232	0.500	268	0.710	304	0.980	340	0.600
17	0.580	53	0.980	89	0.740	125	0.500	161	0.880	197	0.890	233	0.500	269	0.720	305	0.980	341	0.590
18	0.590	54	0.980	90	0.730	126	0.500	162	0.890	198	0.880	234	0.500	270	0.740	306	0.980	342	0.580
19	0.600	55	0.980	91	0.720	127	0.500	163	0.900	199	0.870	235	0.490	271	0.750	307	0.970	343	0.570
20	0.610	56	0.990	92	0.700	128	0.510	164	0.910	200	0.860	236	0.490	272	0.760	308	0.970	344	0.570
21	0.630	57	0.990	93	0.690	129	0.510	165	0.920	201	0.850	237	0.490	273	0.780	309	0.960	345	0.560
22	0.640	58	0.990	94	0.680	130	0.520	166	0.930	202	0.830	238	0.480	274	0.790	310	0.960	346	0.550
23	0.650	59	1.000	95	0.670	131	0.530	167	0.940	203	0.820	239	0.480	275	0.800	311	0.950	347	0.540
24	0.660	60	1.000	96	0.650	132	0.530	168	0.950	204	0.810	240	0.480	276	0.820	312	0.940	348	0.530
25	0.680	61	1.000	97	0.640	133	0.540	169	0.960	205	0.790	241	0.480	277	0.830	313	0.930	349	0.520
26	0.690	62	0.990	98	0.630	134	0.550	170	0.970	206	0.780	242	0.490	278	0.840	314	0.920	350	0.510
27	0.700	63	0.990	99	0.610	135	0.560	171	0.970	207	0.770	243	0.490	279	0.860	315	0.910	351	0.510
28	0.710	64	0.980	100	0.600	136	0.570	172	0.970	208	0.750	244	0.490	280	0.870	316	0.900	352	0.500
29	0.730	65	0.980	101	0.590	137	0.580	173	0.980	209	0.740	245	0.500	281	0.880	317	0.890	353	0.500
30	0.740	66	0.980	102	0.580	138	0.590	174	0.980	210	0.730	246	0.500	282	0.890	318	0.880	354	0.500
31	0.750	67	0.970	103	0.570	139	0.600	175	0.980	211	0.720	247	0.500	283	0.900	319	0.870	355	0.490
32	0.770	68	0.970	104	0.570	140	0.610	176	0.990	212	0.700	248	0.510	284	0.910	320	0.860	356	0.490
33	0.780	69	0.960	105	0.560	141	0.620	177	0.990	213	0.690	249	0.510	285	0.920	321	0.850	357	0.490
34	0.790	70	0.960	106	0.550	142	0.640	178	0.990	214	0.680	250	0.520	286	0.930	322	0.830	358	0.480
35	0.810	71	0.950	107	0.540	143	0.650	179	1.000	215	0.670	251	0.530	287	0.940	323	0.820	359	0.480

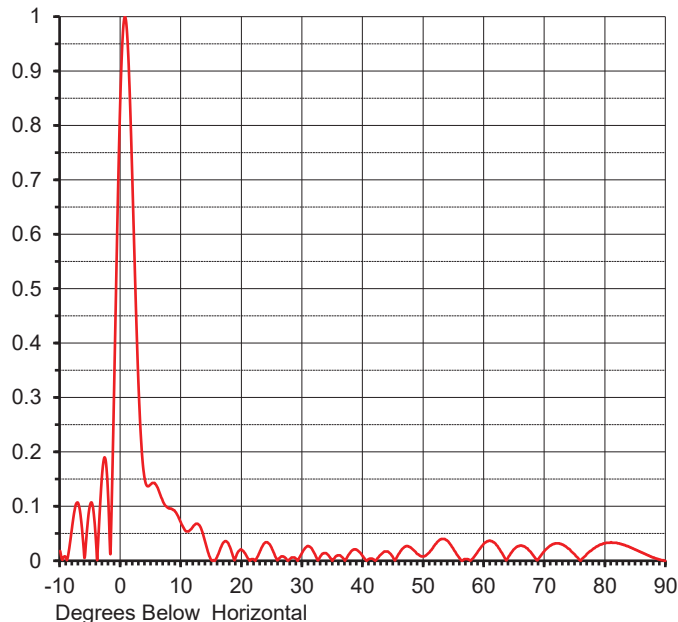
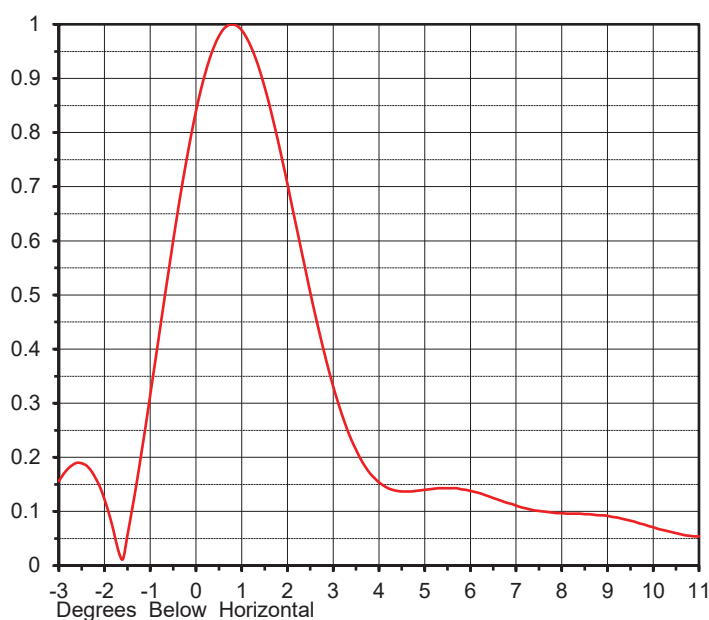
This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

## ELEVATION PATTERN

Proposal No. **C-70503**  
 Date **16-Mar-17**  
 Call Letters **WMBD**  
 Channel **26**  
 Frequency **545 MHz**  
 Antenna Type **TFU-28GTH-R T170 (SP)**

RMS Directivity at Main Lobe **26.5 ( 14.24 dB )**  
 RMS Directivity at Horizontal **18.7 ( 12.72 dB )**  
**Calculated**

Beam Tilt **0.70 deg**  
 Pattern Number **28G255070**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.018	10.0	0.068	30.0	0.016	50.0	0.008	70.0	0.019
-9.0	0.004	11.0	0.054	31.0	0.027	51.0	0.016	71.0	0.028
-8.0	0.065	12.0	0.064	32.0	0.013	52.0	0.031	72.0	0.032
-7.0	0.105	13.0	0.065	33.0	0.009	53.0	0.040	73.0	0.029
-6.0	0.005	14.0	0.032	34.0	0.013	54.0	0.036	74.0	0.022
-5.0	0.105	15.0	0.001	35.0	0.001	55.0	0.020	75.0	0.011
-4.0	0.019	16.0	0.010	36.0	0.010	56.0	0.004	76.0	0.001
-3.0	0.169	17.0	0.034	37.0	0.000	57.0	0.003	77.0	0.013
-2.0	0.095	18.0	0.026	38.0	0.017	58.0	0.003	78.0	0.022
-1.0	0.373	19.0	0.007	39.0	0.020	59.0	0.018	79.0	0.029
0.0	0.877	20.0	0.020	40.0	0.008	60.0	0.032	80.0	0.032
1.0	0.976	21.0	0.004	41.0	0.003	61.0	0.037	81.0	0.034
2.0	0.664	22.0	0.002	42.0	0.000	62.0	0.029	82.0	0.032
3.0	0.303	23.0	0.018	43.0	0.012	63.0	0.013	83.0	0.029
4.0	0.148	24.0	0.034	44.0	0.017	64.0	0.007	84.0	0.025
5.0	0.141	25.0	0.021	45.0	0.005	65.0	0.022	85.0	0.020
6.0	0.136	26.0	0.002	46.0	0.014	66.0	0.028	86.0	0.015
7.0	0.108	27.0	0.007	47.0	0.026	67.0	0.023	87.0	0.010
8.0	0.096	28.0	0.004	48.0	0.023	68.0	0.011	88.0	0.006
9.0	0.090	29.0	0.003	49.0	0.012	69.0	0.004	89.0	0.002
						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.



## MECHANICAL SPECIFICATIONS

Proposal No.	<b>C-70503</b>
Date	<b>16-Mar-17</b>
Call Letters	<b>WMBD</b>
Channel	<b>26</b>
Frequency	<b>545 MHz</b>
Antenna Type	<b>TFU-28GTH-R T170 (S</b>

### Preliminary Specifications

#### Top Mounted

##### Without ice TIA/EIA-222-F

Height AGL	522 ft (159.1 m)
Basic Wind Speed	70 m/h (112.7 km/h)

#### Mechanical Specifications

Height with Lightning Protector	H4	58 ft (17.7m)
Height less Lightning Protector	H2	54 ft (16.5m)
Height of Center of Radiation	H3	27 ft (8.2m)
Force Coeff. x Projected Area	CaAc	53.4 ft <sup>2</sup> (5m <sup>2</sup> )
Moment Arm	D1	29 ft (8.8m)

Weight	W	6900 lb (3.1t)
--------	---	----------------

Antenna designed in accordance with AISC specifications for design of structural steel as prescribed by TIA/EIA-222-F

Prepared by:	bam	Date:	16-Mar-17	ME:		EE:	
--------------	-----	-------	-----------	-----	--	-----	--

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. Mechanical data is based on listed criteria and should be verified by the tower engineer.

**Trusted for Decades. Ready for Tomorrow.**