

AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-70482**
Date **15-Mar-17**
Call Letters **WWTI**
Channel **31**
Frequency **575 MHz**
Antenna Type **TLP-16W-R**
Gain **1.57 (1.95dB)**
Calculated

340 deg rotation on FCC site

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	1.000	36	0.927	72	0.993	108	0.775	144	0.465	180	0.241	216	0.465	252	0.775	288	0.993
1	0.999	37	0.928	73	0.990	109	0.767	145	0.454	181	0.242	217	0.476	253	0.784	289	0.995
2	0.997	38	0.928	74	0.988	110	0.758	146	0.442	182	0.243	218	0.487	254	0.793	290	0.997
3	0.996	39	0.929	75	0.986	111	0.750	147	0.431	183	0.245	219	0.499	255	0.802	291	0.996
4	0.994	40	0.929	76	0.984	112	0.742	148	0.420	184	0.246	220	0.510	256	0.810	292	0.996
5	0.993	41	0.932	77	0.982	113	0.735	149	0.408	185	0.247	221	0.520	257	0.819	293	0.995
6	0.991	42	0.935	78	0.979	114	0.727	150	0.397	186	0.248	222	0.529	258	0.828	294	0.994
7	0.990	43	0.938	79	0.977	115	0.719	151	0.388	187	0.249	223	0.539	259	0.836	295	0.994
8	0.988	44	0.941	80	0.975	116	0.711	152	0.378	188	0.251	224	0.548	260	0.845	296	0.993
9	0.987	45	0.944	81	0.970	117	0.703	153	0.369	189	0.252	225	0.558	261	0.853	297	0.992
10	0.985	46	0.947	82	0.964	118	0.696	154	0.359	190	0.253	226	0.567	262	0.860	298	0.991
11	0.982	47	0.950	83	0.959	119	0.688	155	0.350	191	0.258	227	0.577	263	0.868	299	0.991
12	0.978	48	0.953	84	0.954	120	0.680	156	0.340	192	0.263	228	0.586	264	0.876	300	0.990
13	0.975	49	0.956	85	0.949	121	0.673	157	0.331	193	0.268	229	0.596	265	0.884	301	0.987
14	0.971	50	0.959	86	0.943	122	0.665	158	0.321	194	0.273	230	0.605	266	0.891	302	0.984
15	0.968	51	0.962	87	0.938	123	0.658	159	0.312	195	0.278	231	0.613	267	0.899	303	0.981
16	0.965	52	0.965	88	0.933	124	0.650	160	0.302	196	0.282	232	0.620	268	0.907	304	0.978
17	0.961	53	0.968	89	0.927	125	0.643	161	0.297	197	0.287	233	0.628	269	0.914	305	0.975
18	0.958	54	0.971	90	0.922	126	0.635	162	0.292	198	0.292	234	0.635	270	0.922	306	0.971
19	0.954	55	0.975	91	0.914	127	0.628	163	0.287	199	0.297	235	0.643	271	0.927	307	0.968
20	0.951	56	0.978	92	0.907	128	0.620	164	0.282	200	0.302	236	0.650	272	0.933	308	0.965
21	0.948	57	0.981	93	0.899	129	0.613	165	0.278	201	0.312	237	0.658	273	0.938	309	0.962
22	0.946	58	0.984	94	0.891	130	0.605	166	0.273	202	0.321	238	0.665	274	0.943	310	0.959
23	0.943	59	0.987	95	0.884	131	0.596	167	0.268	203	0.331	239	0.673	275	0.949	311	0.956
24	0.941	60	0.990	96	0.876	132	0.586	168	0.263	204	0.340	240	0.680	276	0.954	312	0.953
25	0.938	61	0.991	97	0.868	133	0.577	169	0.258	205	0.350	241	0.688	277	0.959	313	0.950
26	0.935	62	0.991	98	0.860	134	0.567	170	0.253	206	0.359	242	0.696	278	0.964	314	0.947
27	0.933	63	0.992	99	0.853	135	0.558	171	0.252	207	0.369	243	0.703	279	0.970	315	0.944
28	0.930	64	0.993	100	0.845	136	0.548	172	0.251	208	0.378	244	0.711	280	0.975	316	0.941
29	0.928	65	0.994	101	0.836	137	0.539	173	0.249	209	0.388	245	0.719	281	0.977	317	0.938
30	0.925	66	0.994	102	0.828	138	0.529	174	0.248	210	0.397	246	0.727	282	0.979	318	0.935
31	0.925	67	0.995	103	0.819	139	0.520	175	0.247	211	0.408	247	0.735	283	0.982	319	0.932
32	0.926	68	0.996	104	0.810	140	0.510	176	0.246	212	0.420	248	0.742	284	0.984	320	0.929
33	0.926	69	0.996	105	0.802	141	0.499	177	0.245	213	0.431	249	0.750	285	0.986	321	0.929
34	0.927	70	0.997	106	0.793	142	0.487	178	0.243	214	0.442	250	0.758	286	0.988	322	0.928
35	0.927	71	0.995	107	0.784	143	0.476	179	0.242	215	0.454	251	0.767	287	0.990	323	0.928

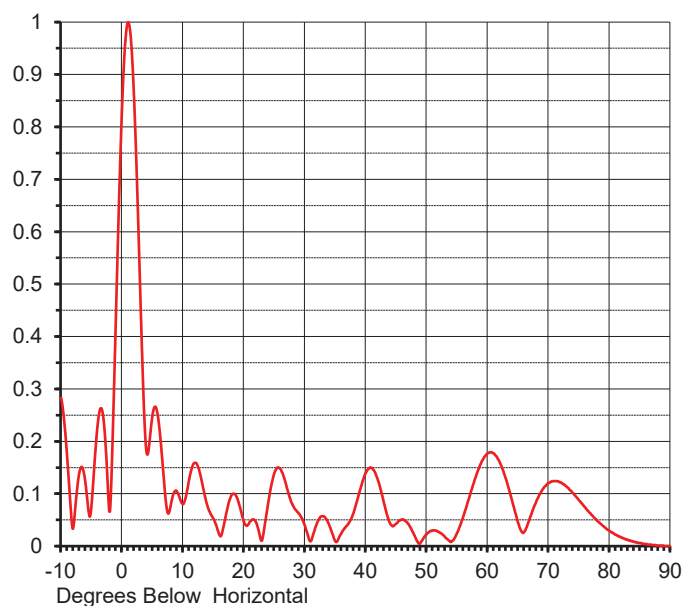
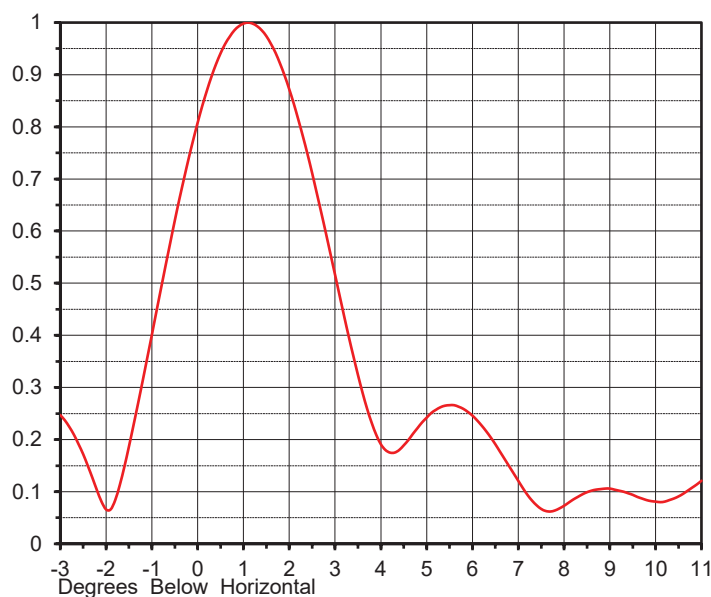
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ELEVATION PATTERN

Proposal No. **C-70482**
 Date **15-Mar-17**
 Call Letters **WWTI**
 Channel **31**
 Frequency **575 MHz**
 Antenna Type **TLP-16W-R**

RMS Directivity at Main Lobe **16.0 (12.04 dB)**
 RMS Directivity at Horizontal **10.4 (10.17 dB)**
Calculated

Beam Tilt **1.00 deg**
 Pattern Number **16L160100**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.283	10.0	0.080	30.0	0.039	50.0	0.023	70.0	0.120
-9.0	0.167	11.0	0.127	31.0	0.010	51.0	0.030	71.0	0.124
-8.0	0.036	12.0	0.159	32.0	0.044	52.0	0.027	72.0	0.121
-7.0	0.141	13.0	0.128	33.0	0.057	53.0	0.017	73.0	0.113
-6.0	0.119	14.0	0.077	34.0	0.040	54.0	0.008	74.0	0.101
-5.0	0.081	15.0	0.052	35.0	0.009	55.0	0.026	75.0	0.087
-4.0	0.233	16.0	0.021	36.0	0.025	56.0	0.057	76.0	0.074
-3.0	0.237	17.0	0.057	37.0	0.041	57.0	0.094	77.0	0.060
-2.0	0.066	18.0	0.098	38.0	0.064	58.0	0.131	78.0	0.048
-1.0	0.446	19.0	0.088	39.0	0.105	59.0	0.161	79.0	0.038
0.0	0.840	20.0	0.046	40.0	0.140	60.0	0.177	80.0	0.029
1.0	1.000	21.0	0.047	41.0	0.149	61.0	0.177	81.0	0.022
2.0	0.844	22.0	0.045	42.0	0.125	62.0	0.159	82.0	0.016
3.0	0.476	23.0	0.012	43.0	0.081	63.0	0.128	83.0	0.012
4.0	0.180	24.0	0.084	44.0	0.043	64.0	0.087	84.0	0.008
5.0	0.251	25.0	0.140	45.0	0.043	65.0	0.044	85.0	0.006
6.0	0.237	26.0	0.147	46.0	0.051	66.0	0.027	86.0	0.004
7.0	0.107	27.0	0.113	47.0	0.042	67.0	0.056	87.0	0.002
8.0	0.079	28.0	0.078	48.0	0.020	68.0	0.086	88.0	0.001
9.0	0.104	29.0	0.062	49.0	0.007	69.0	0.108	89.0	0.000
								90.0	0.000

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MECHANICAL SPECIFICATIONS

Proposal No. **C-70482**
 Date **15-Mar-17**
 Call Letters **WWTI**
 Channel **31**
 Frequency **575 MHz**
 Antenna Type **TLP-16W-R**

Preliminary Specifications

Side Mounted

With ice TIA-222-G

Basic Wind Speed 90 m/h (144.8 km/h)

Structure Class II
Exposure Category C
Topography Category 1

Design Ice 1 in $t_{iz} = 2.56$ in
 Wind Speed w/Ice 40 m/h (64.4 km/h)

Mechanical Specifications		without ice	with ice	
Height	H2	31.3 ft (9.5m)		
Height of Center of Radiation	H3	15.65 ft (4.8m)		
Effective Projected Area	(EPA) _A	22.12 ft ² (2.1m ²)	69.2 ft ² (6.4m ²)	Mounts Excluded
Weight	W	350 lb (0.2t)	2200 lb (1t)	Mounts Excluded

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

Prepared by: KLP **Date:** 15-Mar-17 **ME:** **EE:**
Rev. No.1 by: CAB **Date:** 10-Jul-17

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