

AZIMUTH PATTERN Horizontal Polarization

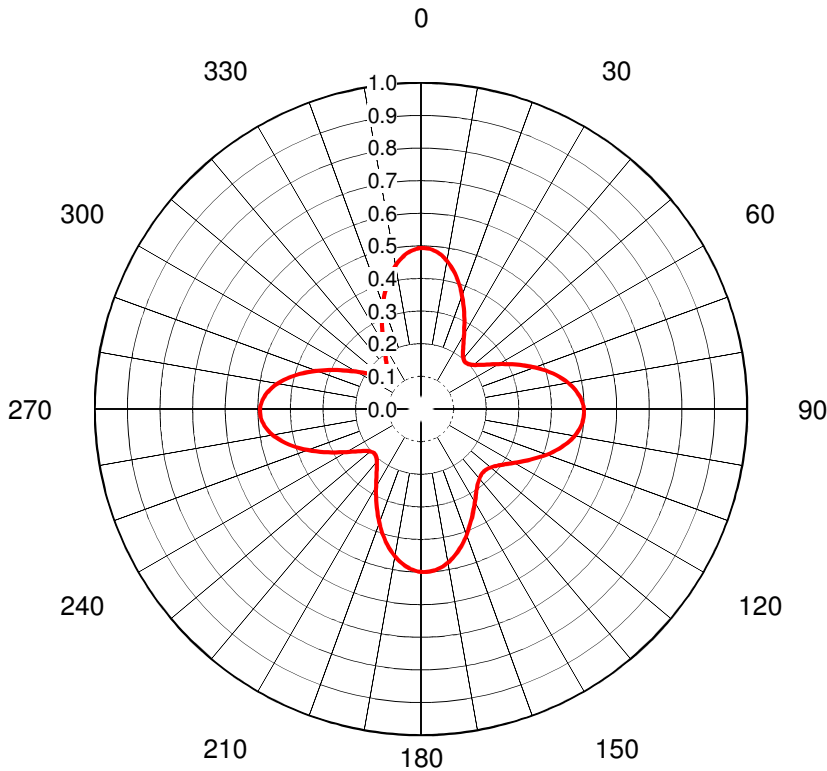
Proposal No. **C-70572**
 Date **24-Mar-17**
 Call Letters **WHIZ**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TFU-19ETT/VP-R B180**
 Gain **1.7 (2.31dB)**
 Calculated

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

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AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70572**
 Date **24-Mar-17**
 Call Letters **WHIZ**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TFU-19ETT/VP-R B180**
 Gain **1.87 (2.73dB)**
 Calculated



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.493	36	0.219	72	0.392	108	0.426	144	0.294	180	0.499	216	0.230	252	0.390	288	0.365	324	0.182
1	0.494	37	0.214	73	0.401	109	0.418	145	0.299	181	0.498	217	0.224	253	0.400	289	0.354	325	0.188
2	0.493	38	0.210	74	0.411	110	0.410	146	0.305	182	0.496	218	0.219	254	0.410	290	0.342	326	0.195
3	0.492	39	0.206	75	0.420	111	0.402	147	0.310	183	0.494	219	0.214	255	0.420	291	0.330	327	0.202
4	0.490	40	0.203	76	0.428	112	0.394	148	0.317	184	0.490	220	0.210	256	0.429	292	0.318	328	0.211
5	0.487	41	0.200	77	0.437	113	0.385	149	0.323	185	0.487	221	0.206	257	0.438	293	0.306	329	0.219
6	0.483	42	0.199	78	0.445	114	0.377	150	0.330	186	0.482	222	0.203	258	0.446	294	0.294	330	0.229
7	0.479	43	0.198	79	0.452	115	0.369	151	0.338	187	0.477	223	0.201	259	0.454	295	0.282	331	0.239
8	0.473	44	0.197	80	0.459	116	0.361	152	0.345	188	0.472	224	0.199	260	0.461	296	0.271	332	0.249
9	0.467	45	0.198	81	0.466	117	0.353	153	0.353	189	0.466	225	0.198	261	0.467	297	0.260	333	0.260
10	0.461	46	0.199	82	0.472	118	0.345	154	0.361	190	0.459	226	0.197	262	0.473	298	0.249	334	0.271
11	0.454	47	0.201	83	0.477	119	0.338	155	0.369	191	0.452	227	0.198	263	0.479	299	0.239	335	0.282
12	0.446	48	0.203	84	0.482	120	0.330	156	0.377	192	0.445	228	0.199	264	0.483	300	0.229	336	0.294
13	0.438	49	0.206	85	0.487	121	0.323	157	0.385	193	0.437	229	0.200	265	0.487	301	0.219	337	0.306
14	0.429	50	0.210	86	0.490	122	0.317	158	0.394	194	0.428	230	0.203	266	0.490	302	0.211	338	0.318
15	0.420	51	0.214	87	0.494	123	0.310	159	0.402	195	0.420	231	0.206	267	0.492	303	0.202	339	0.330
16	0.410	52	0.219	88	0.496	124	0.305	160	0.410	196	0.411	232	0.210	268	0.493	304	0.195	340	0.342
17	0.400	53	0.224	89	0.498	125	0.299	161	0.418	197	0.401	233	0.214	269	0.494	305	0.188	341	0.354
18	0.390	54	0.230	90	0.499	126	0.294	162	0.426	198	0.392	234	0.219	270	0.493	306	0.182	342	0.365
19	0.379	55	0.237	91	0.500	127	0.289	163	0.434	199	0.382	235	0.225	271	0.492	307	0.176	343	0.377
20	0.369	56	0.244	92	0.500	128	0.285	164	0.441	200	0.372	236	0.232	272	0.490	308	0.171	344	0.388
21	0.358	57	0.251	93	0.499	129	0.282	165	0.448	201	0.362	237	0.239	273	0.487	309	0.167	345	0.399
22	0.347	58	0.259	94	0.498	130	0.279	166	0.455	202	0.352	238	0.247	274	0.484	310	0.163	346	0.410
23	0.336	59	0.267	95	0.496	131	0.276	167	0.461	203	0.342	239	0.255	275	0.480	311	0.161	347	0.420
24	0.325	60	0.275	96	0.494	132	0.274	168	0.467	204	0.332	240	0.264	276	0.474	312	0.158	348	0.429
25	0.314	61	0.284	97	0.491	133	0.273	169	0.473	205	0.322	241	0.273	277	0.469	313	0.157	349	0.438
26	0.304	62	0.293	98	0.487	134	0.272	170	0.478	206	0.312	242	0.283	278	0.462	314	0.156	350	0.447
27	0.293	63	0.303	99	0.483	135	0.272	171	0.483	207	0.303	243	0.293	279	0.455	315	0.156	351	0.455
28	0.283	64	0.312	100	0.478	136	0.272	172	0.487	208	0.293	244	0.304	280	0.447	316	0.156	352	0.462
29	0.273	65	0.322	101	0.473	137	0.273	173	0.491	209	0.284	245	0.314	281	0.438	317	0.157	353	0.469
30	0.264	66	0.332	102	0.467	138	0.274	174	0.494	210	0.275	246	0.325	282	0.429	318	0.158	354	0.474
31	0.255	67	0.342	103	0.461	139	0.276	175	0.496	211	0.267	247	0.336	283	0.420	319	0.161	355	0.480
32	0.247	68	0.352	104	0.455	140	0.279	176	0.498	212	0.259	248	0.347	284	0.410	320	0.163	356	0.484
33	0.239	69	0.362	105	0.448	141	0.282	177	0.499	213	0.251	249	0.358	285	0.399	321	0.167	357	0.487
34	0.232	70	0.372	106	0.441	142	0.285	178	0.500	214	0.244	250	0.369	286	0.388	322	0.171	358	0.490
35	0.225	71	0.382	107	0.434	143	0.289	179	0.500	215	0.237	251	0.379	287	0.377	323	0.176	359	0.492

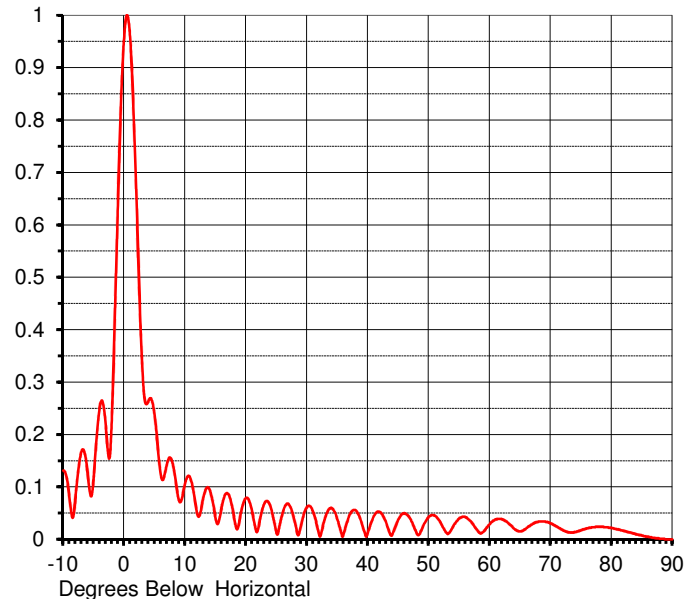
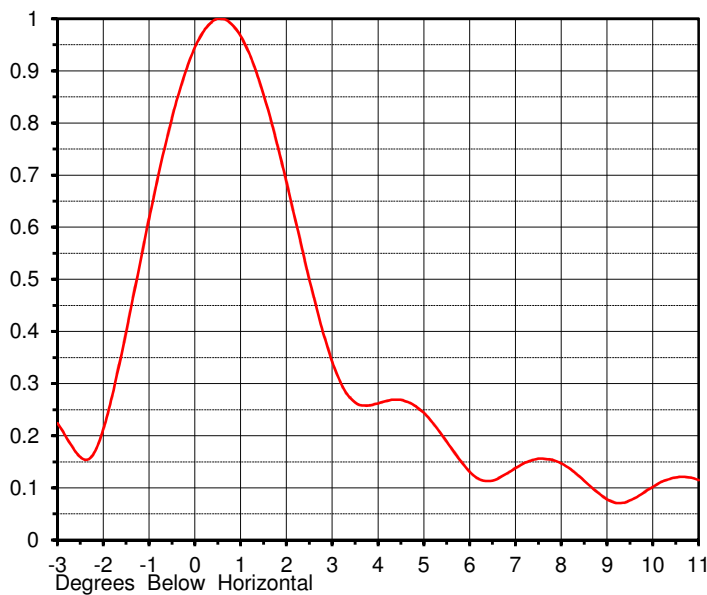
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ELEVATION PATTERN

Proposal No. **C-70572**
 Date **24-Mar-17**
 Call Letters **WHIZ**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TFU-19ETT/VP-R B180**

RMS Directivity at Main Lobe **19.0 (12.79 dB)**
 RMS Directivity at Horizontal **17.6 (12.46 dB)**
Calculated

Beam Tilt **0.45 deg**
 Pattern Number **19E190045**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.131	10.0	0.107	30.0	0.062	50.0	0.043	70.0	0.030
-9.0	0.081	11.0	0.111	31.0	0.052	51.0	0.045	71.0	0.024
-8.0	0.080	12.0	0.048	32.0	0.008	52.0	0.030	72.0	0.017
-7.0	0.168	13.0	0.080	33.0	0.042	53.0	0.011	73.0	0.013
-6.0	0.125	14.0	0.095	34.0	0.060	54.0	0.025	74.0	0.014
-5.0	0.120	15.0	0.040	35.0	0.037	55.0	0.040	75.0	0.017
-4.0	0.254	16.0	0.062	36.0	0.010	56.0	0.042	76.0	0.021
-3.0	0.211	17.0	0.087	37.0	0.047	57.0	0.032	77.0	0.023
-2.0	0.243	18.0	0.043	38.0	0.055	58.0	0.016	78.0	0.024
-1.0	0.657	19.0	0.041	39.0	0.030	59.0	0.015	79.0	0.023
0.0	0.962	20.0	0.079	40.0	0.013	60.0	0.029	80.0	0.021
1.0	0.950	21.0	0.052	41.0	0.045	61.0	0.038	81.0	0.019
2.0	0.650	22.0	0.022	42.0	0.052	62.0	0.038	82.0	0.016
3.0	0.319	23.0	0.068	43.0	0.031	63.0	0.031	83.0	0.013
4.0	0.265	24.0	0.062	44.0	0.009	64.0	0.020	84.0	0.010
5.0	0.235	25.0	0.011	45.0	0.038	65.0	0.015	85.0	0.007
6.0	0.123	26.0	0.051	46.0	0.050	66.0	0.021	86.0	0.005
7.0	0.143	27.0	0.067	47.0	0.038	67.0	0.029	87.0	0.003
8.0	0.142	28.0	0.032	48.0	0.011	68.0	0.034	88.0	0.001
9.0	0.074	29.0	0.026	49.0	0.024	69.0	0.034	89.0	0.000
								90.0	0.000

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