

AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-70545-1**
 Date **28-Mar-17**
 Call Letters **KTFD**
 Channel **32**
 Frequency **581 MHz**
 Antenna Type **TFU-24WB/VP-R S230**
 Gain **2.23 (3.48dB)**
 Calculated

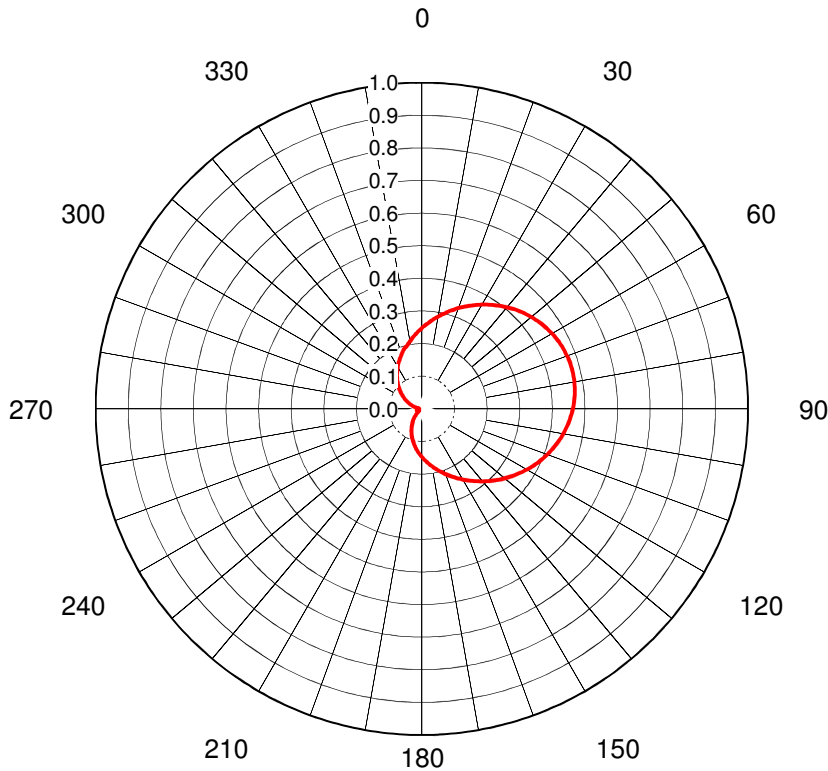
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.739	36	0.891	72	0.999	108	0.919	144	0.770	180	0.508	216	0.204	252	0.402	288	0.231
1	0.744	37	0.895	73	0.999	109	0.915	145	0.765	181	0.498	217	0.206	253	0.403	289	0.226
2	0.749	38	0.900	74	1.000	110	0.911	146	0.760	182	0.487	218	0.209	254	0.404	290	0.220
3	0.754	39	0.904	75	1.000	111	0.907	147	0.755	183	0.477	219	0.213	255	0.404	291	0.216
4	0.759	40	0.908	76	1.000	112	0.903	148	0.750	184	0.466	220	0.218	256	0.404	292	0.212
5	0.764	41	0.912	77	1.000	113	0.899	149	0.745	185	0.455	221	0.223	257	0.403	293	0.208
6	0.769	42	0.916	78	0.999	114	0.894	150	0.740	186	0.444	222	0.229	258	0.402	294	0.206
7	0.773	43	0.920	79	0.998	115	0.890	151	0.735	187	0.433	223	0.236	259	0.401	295	0.205
8	0.778	44	0.924	80	0.998	116	0.886	152	0.729	188	0.422	224	0.242	260	0.399	296	0.204
9	0.782	45	0.928	81	0.997	117	0.882	153	0.724	189	0.410	225	0.250	261	0.397	297	0.205
10	0.787	46	0.932	82	0.995	118	0.878	154	0.718	190	0.399	226	0.257	262	0.394	298	0.207
11	0.791	47	0.936	83	0.994	119	0.874	155	0.712	191	0.388	227	0.264	263	0.391	299	0.209
12	0.795	48	0.939	84	0.993	120	0.870	156	0.706	192	0.376	228	0.272	264	0.387	300	0.213
13	0.799	49	0.943	85	0.991	121	0.866	157	0.700	193	0.365	229	0.280	265	0.384	301	0.217
14	0.803	50	0.947	86	0.989	122	0.862	158	0.694	194	0.353	230	0.288	266	0.379	302	0.223
15	0.807	51	0.951	87	0.987	123	0.857	159	0.687	195	0.342	231	0.295	267	0.375	303	0.229
16	0.811	52	0.954	88	0.985	124	0.853	160	0.680	196	0.331	232	0.303	268	0.370	304	0.236
17	0.815	53	0.958	89	0.983	125	0.849	161	0.673	197	0.320	233	0.311	269	0.365	305	0.244
18	0.819	54	0.961	90	0.980	126	0.845	162	0.666	198	0.309	234	0.318	270	0.359	306	0.252
19	0.823	55	0.964	91	0.978	127	0.841	163	0.659	199	0.299	235	0.325	271	0.353	307	0.261
20	0.827	56	0.967	92	0.975	128	0.837	164	0.652	200	0.288	236	0.332	272	0.347	308	0.270
21	0.831	57	0.970	93	0.972	129	0.833	165	0.644	201	0.278	237	0.339	273	0.340	309	0.280
22	0.835	58	0.973	94	0.969	130	0.829	166	0.636	202	0.268	238	0.346	274	0.334	310	0.290
23	0.839	59	0.976	95	0.966	131	0.825	167	0.628	203	0.259	239	0.352	275	0.327	311	0.300
24	0.843	60	0.979	96	0.963	132	0.821	168	0.620	204	0.250	240	0.358	276	0.319	312	0.311
25	0.847	61	0.981	97	0.960	133	0.817	169	0.612	205	0.242	241	0.364	277	0.312	313	0.322
26	0.851	62	0.984	98	0.957	134	0.813	170	0.603	206	0.234	242	0.369	278	0.305	314	0.333
27	0.855	63	0.986	99	0.953	135	0.809	171	0.595	207	0.227	243	0.374	279	0.297	315	0.344
28	0.859	64	0.988	100	0.950	136	0.805	172	0.586	208	0.221	244	0.379	280	0.289	316	0.355
29	0.863	65	0.990	101	0.946	137	0.800	173	0.577	209	0.215	245	0.383	281	0.282	317	0.367
30	0.867	66	0.992	102	0.942	138	0.796	174	0.568	210	0.210	246	0.387	282	0.274	318	0.378
31	0.871	67	0.993	103	0.939	139	0.792	175	0.558	211	0.207	247	0.390	283	0.266	319	0.389
32	0.875	68	0.995	104	0.935	140	0.788	176	0.549	212	0.204	248	0.393	284	0.259	320	0.401
33	0.879	69	0.996	105	0.931	141	0.783	177	0.539	213	0.202	249	0.396	285	0.252	321	0.412
34	0.883	70	0.997	106	0.927	142	0.779	178	0.529	214	0.202	250	0.399	286	0.245	322	0.423
35	0.887	71	0.998	107	0.923	143	0.774	179	0.519	215	0.202	251	0.400	287	0.238	323	0.435

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AZIMUTH PATTERN Vertical Polarization

In Free Space

Proposal No. **C-70545-1**
Date **28-Mar-17**
Call Letters **KTFD**
Channel **32**
Frequency **581 MHz**
Antenna Type **TFU-24WB/VP-R S230**
Gain **3.11 (4.92dB)**
Calculated



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.247	36	0.392	72	0.475	108	0.416	144	0.274	180	0.147	216	0.046	252	0.016	288	0.029	324	0.129
1	0.251	37	0.396	73	0.476	109	0.413	145	0.270	181	0.144	217	0.043	253	0.016	289	0.032	325	0.132
2	0.255	38	0.399	74	0.476	110	0.410	146	0.266	182	0.141	218	0.041	254	0.016	290	0.034	326	0.135
3	0.259	39	0.403	75	0.476	111	0.406	147	0.262	183	0.138	219	0.038	255	0.016	291	0.036	327	0.138
4	0.263	40	0.406	76	0.476	112	0.402	148	0.258	184	0.136	220	0.036	256	0.016	292	0.039	328	0.141
5	0.267	41	0.410	77	0.476	113	0.399	149	0.254	185	0.133	221	0.034	257	0.016	293	0.041	329	0.144
6	0.271	42	0.413	78	0.476	114	0.395	150	0.250	186	0.130	222	0.031	258	0.016	294	0.044	330	0.148
7	0.275	43	0.417	79	0.475	115	0.391	151	0.246	187	0.127	223	0.029	259	0.015	295	0.046	331	0.151
8	0.279	44	0.420	80	0.475	116	0.388	152	0.242	188	0.124	224	0.027	260	0.015	296	0.049	332	0.154
9	0.283	45	0.423	81	0.474	117	0.384	153	0.239	189	0.121	225	0.025	261	0.015	297	0.052	333	0.157
10	0.287	46	0.426	82	0.473	118	0.380	154	0.235	190	0.118	226	0.023	262	0.014	298	0.054	334	0.160
11	0.291	47	0.429	83	0.473	119	0.376	155	0.231	191	0.115	227	0.021	263	0.014	299	0.057	335	0.163
12	0.295	48	0.432	84	0.472	120	0.372	156	0.227	192	0.112	228	0.019	264	0.013	300	0.060	336	0.166
13	0.300	49	0.435	85	0.470	121	0.368	157	0.224	193	0.109	229	0.017	265	0.013	301	0.062	337	0.170
14	0.304	50	0.438	86	0.469	122	0.364	158	0.220	194	0.106	230	0.016	266	0.012	302	0.065	338	0.173
15	0.308	51	0.441	87	0.468	123	0.360	159	0.216	195	0.104	231	0.014	267	0.011	303	0.068	339	0.176
16	0.312	52	0.444	88	0.466	124	0.356	160	0.213	196	0.101	232	0.013	268	0.011	304	0.071	340	0.179
17	0.316	53	0.446	89	0.465	125	0.352	161	0.209	197	0.098	233	0.012	269	0.010	305	0.074	341	0.183
18	0.320	54	0.449	90	0.463	126	0.348	162	0.206	198	0.095	234	0.011	270	0.009	306	0.076	342	0.186
19	0.324	55	0.451	91	0.461	127	0.344	163	0.202	199	0.092	235	0.010	271	0.009	307	0.079	343	0.189
20	0.328	56	0.453	92	0.459	128	0.340	164	0.199	200	0.089	236	0.010	272	0.008	308	0.082	344	0.193
21	0.333	57	0.455	93	0.457	129	0.336	165	0.195	201	0.086	237	0.009	273	0.008	309	0.085	345	0.196
22	0.337	58	0.458	94	0.455	130	0.332	166	0.192	202	0.084	238	0.009	274	0.008	310	0.088	346	0.196
23	0.341	59	0.460	95	0.453	131	0.328	167	0.189	203	0.081	239	0.010	275	0.008	311	0.091	347	0.200
24	0.345	60	0.461	96	0.451	132	0.323	168	0.185	204	0.078	240	0.010	276	0.009	312	0.094	348	0.203
25	0.349	61	0.463	97	0.448	133	0.319	169	0.182	205	0.075	241	0.010	277	0.010	313	0.097	349	0.207
26	0.353	62	0.465	98	0.446	134	0.315	170	0.179	206	0.072	242	0.011	278	0.011	314	0.100	350	0.210
27	0.357	63	0.466	99	0.443	135	0.311	171	0.175	207	0.070	243	0.012	279	0.012	315	0.103	351	0.214
28	0.361	64	0.468	100	0.441	136	0.307	172	0.172	208	0.067	244	0.012	280	0.014	316	0.105	352	0.217
29	0.365	65	0.469	101	0.438	137	0.303	173	0.169	209	0.064	245	0.013	281	0.015	317	0.108	353	0.221
30	0.369	66	0.470	102	0.435	138	0.298	174	0.166	210	0.061	246	0.013	282	0.017	318	0.111	354	0.225
31	0.373	67	0.472	103	0.432	139	0.294	175	0.163	211	0.059	247	0.014	283	0.019	319	0.114	355	0.228
32	0.377	68	0.473	104	0.429	140	0.290	176	0.160	212	0.056	248	0.014	284	0.021	320	0.117	356	0.232
33	0.381	69	0.473	105	0.426	141	0.286	177	0.157	213	0.054	249	0.015	285	0.023	321	0.120	357	0.236
34	0.385	70	0.474	106	0.423	142	0.282	178	0.154	214	0.051	250	0.015	286	0.025	322	0.123	358	0.240
35	0.388	71	0.475	107	0.420	143	0.278	179	0.150	215	0.048	251	0.015	287	0.027	323	0.126	359	0.243

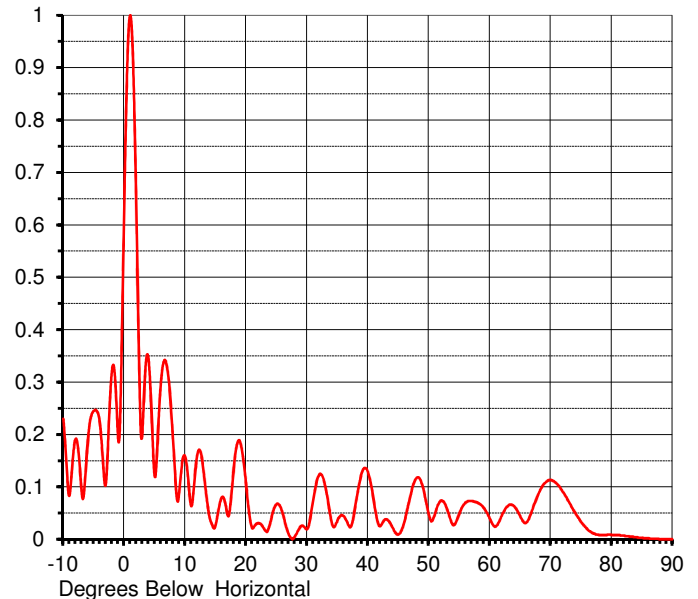
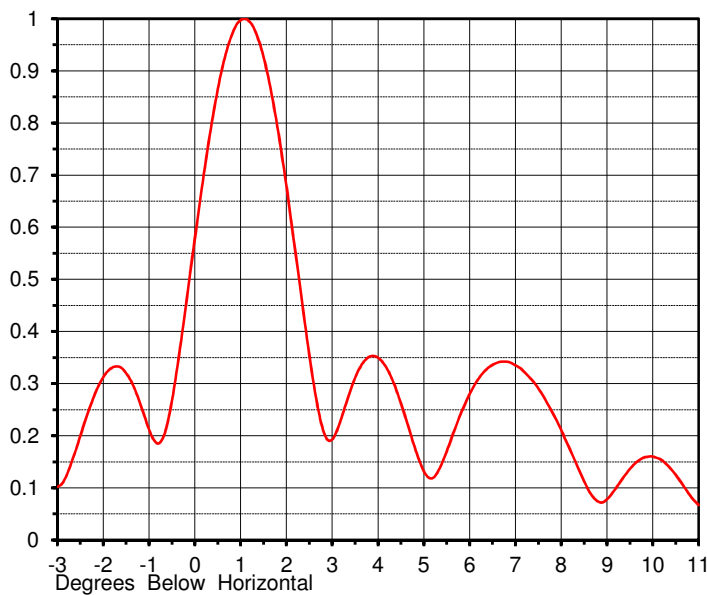
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ELEVATION PATTERN

Proposal No. **C-70545-1**
 Date **28-Mar-17**
 Call Letters **KTFD**
 Channel **32**
 Frequency **581 MHz**
 Antenna Type **TFU-24WB/VP-R S230**

RMS Directivity at Main Lobe **20.7 (13.16 dB)**
 RMS Directivity at Horizontal **8.5 (9.29 dB)**
Calculated

Beam Tilt **1.00 deg**
 Pattern Number **24W207100**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.230	10.0	0.157	30.0	0.019	50.0	0.046	70.0	0.113
-9.0	0.083	11.0	0.063	31.0	0.074	51.0	0.049	71.0	0.106
-8.0	0.191	12.0	0.161	32.0	0.123	52.0	0.074	72.0	0.090
-7.0	0.092	13.0	0.132	33.0	0.100	53.0	0.057	73.0	0.071
-6.0	0.184	14.0	0.043	34.0	0.035	54.0	0.027	74.0	0.051
-5.0	0.245	15.0	0.027	35.0	0.036	55.0	0.049	75.0	0.033
-4.0	0.221	16.0	0.080	36.0	0.044	56.0	0.070	76.0	0.019
-3.0	0.108	17.0	0.045	37.0	0.023	57.0	0.073	77.0	0.011
-2.0	0.324	18.0	0.138	38.0	0.069	58.0	0.070	78.0	0.008
-1.0	0.193	19.0	0.187	39.0	0.127	59.0	0.060	79.0	0.008
0.0	0.642	20.0	0.103	40.0	0.128	60.0	0.039	80.0	0.008
1.0	1.000	21.0	0.021	41.0	0.070	61.0	0.025	81.0	0.008
2.0	0.615	22.0	0.031	42.0	0.025	62.0	0.046	82.0	0.007
3.0	0.209	23.0	0.019	43.0	0.038	63.0	0.064	83.0	0.005
4.0	0.341	24.0	0.034	44.0	0.023	64.0	0.063	84.0	0.004
5.0	0.120	25.0	0.067	45.0	0.009	65.0	0.044	85.0	0.003
6.0	0.296	26.0	0.049	46.0	0.035	66.0	0.032	86.0	0.002
7.0	0.330	27.0	0.009	47.0	0.085	67.0	0.057	87.0	0.001
8.0	0.191	28.0	0.005	48.0	0.117	68.0	0.087	88.0	0.000
9.0	0.088	29.0	0.025	49.0	0.100	69.0	0.107	89.0	0.000
								90.0	0.000

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