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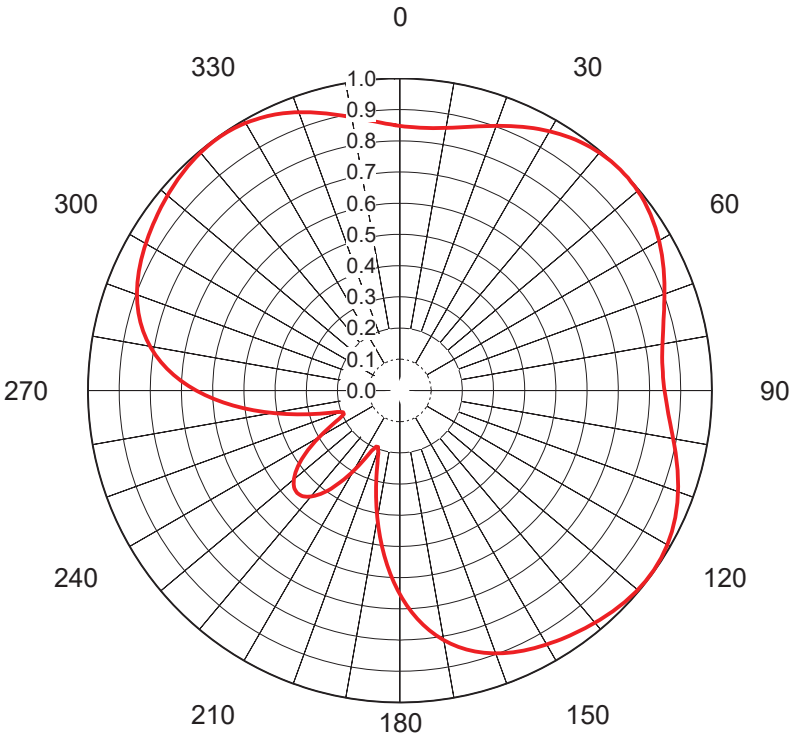

AZIMUTH PATTERN
Horizontal Polarization

Proposal No.	
Date	
Call Letters	**KSPX 21**
Frequency	**515 MHz**
Antenna Type	**TFU-24DSC/VP-R CT150**
Gain	**1.49 (1.74dB)**
	Calculated
Directional	
Drawing #	**TFU-CT150**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.848	36	0.984	72	0.891	108	0.937	144	0.960	180	0.653	216	0.398	252	0.229	288	0.885	324	0.997
1	0.846	37	0.988	73	0.885	109	0.943	145	0.957	181	0.633	217	0.412	253	0.246	289	0.891	325	0.997
2	0.845	38	0.990	74	0.880	110	0.949	146	0.954	182	0.611	218	0.424	254	0.268	290	0.897	326	0.996
3	0.845	39	0.993	75	0.875	111	0.954	147	0.950	183	0.589	219	0.435	255	0.289	291	0.903	327	0.995
4	0.845	40	0.995	76	0.870	112	0.959	148	0.947	184	0.565	220	0.443	256	0.314	292	0.908	328	0.993
5	0.845	41	0.997	77	0.866	113	0.964	149	0.944	185	0.542	221	0.452	257	0.338	293	0.913	329	0.992
6	0.846	42	0.998	78	0.862	114	0.969	150	0.940	186	0.517	222	0.457	258	0.364	294	0.917	330	0.989
7	0.847	43	0.999	79	0.858	115	0.973	151	0.937	187	0.493	223	0.462	259	0.390	295	0.921	331	0.987
8	0.849	44	1.000	80	0.855	116	0.977	152	0.933	188	0.467	224	0.463	260	0.416	296	0.925	332	0.984
9	0.852	45	1.000	81	0.852	117	0.981	153	0.929	189	0.442	225	0.465	261	0.442	297	0.929	333	0.981
10	0.855	46	1.000	82	0.849	118	0.984	154	0.925	190	0.416	226	0.463	262	0.467	298	0.933	334	0.977
11	0.858	47	0.999	83	0.847	119	0.987	155	0.921	191	0.390	227	0.462	263	0.493	299	0.937	335	0.973
12	0.862	48	0.998	84	0.846	120	0.989	156	0.917	192	0.364	228	0.457	264	0.517	300	0.940	336	0.969
13	0.866	49	0.997	85	0.845	121	0.992	157	0.913	193	0.338	229	0.452	265	0.542	301	0.944	337	0.964
14	0.870	50	0.995	86	0.845	122	0.993	158	0.908	194	0.314	230	0.443	266	0.565	302	0.947	338	0.959
15	0.875	51	0.993	87	0.845	123	0.995	159	0.903	195	0.289	231	0.435	267	0.589	303	0.950	339	0.954
16	0.880	52	0.990	88	0.845	124	0.996	160	0.897	196	0.268	232	0.424	268	0.611	304	0.954	340	0.949
17	0.885	53	0.988	89	0.846	125	0.997	161	0.891	197	0.246	233	0.412	269	0.633	305	0.957	341	0.943
18	0.891	54	0.984	90	0.848	126	0.997	162	0.885	198	0.229	234	0.398	270	0.653	306	0.960	342	0.937
19	0.897	55	0.981	91	0.850	127	0.997	163	0.878	199	0.212	235	0.384	271	0.673	307	0.963	343	0.932
20	0.902	56	0.977	92	0.853	128	0.996	164	0.870	200	0.203	236	0.368	272	0.692	308	0.966	344	0.925
21	0.908	57	0.973	93	0.856	129	0.996	165	0.863	201	0.194	237	0.352	273	0.711	309	0.969	345	0.919
22	0.914	58	0.969	94	0.860	130	0.995	166	0.854	202	0.195	238	0.334	274	0.727	310	0.972	346	0.913
23	0.920	59	0.964	95	0.864	131	0.993	167	0.845	203	0.195	239	0.316	275	0.744	311	0.975	347	0.907
24	0.926	60	0.959	96	0.869	132	0.992	168	0.835	204	0.204	240	0.298	276	0.759	312	0.978	348	0.901
25	0.932	61	0.954	97	0.873	133	0.990	169	0.825	205	0.214	241	0.279	277	0.774	313	0.981	349	0.895
26	0.938	62	0.949	98	0.878	134	0.988	170	0.813	206	0.229	242	0.261	278	0.788	314	0.983	350	0.889
27	0.943	63	0.943	99	0.884	135	0.986	171	0.801	207	0.244	243	0.244	279	0.801	315	0.986	351	0.884
28	0.949	64	0.938	100	0.889	136	0.983	172	0.788	208	0.261	244	0.229	280	0.813	316	0.988	352	0.878
29	0.954	65	0.932	101	0.895	137	0.981	173	0.774	209	0.279	245	0.214	281	0.825	317	0.990	353	0.873
30	0.959	66	0.926	102	0.901	138	0.978	174	0.759	210	0.298	246	0.204	282	0.835	318	0.992	354	0.869
31	0.964	67	0.920	103	0.907	139	0.975	175	0.744	211	0.316	247	0.195	283	0.845	319	0.993	355	0.864
32	0.969	68	0.914	104	0.913	140	0.972	176	0.727	212	0.334	248	0.195	284	0.854	320	0.995	356	0.860
33	0.973	69	0.908	105	0.919	141	0.969	177	0.711	213	0.352	249	0.194	285	0.863	321	0.996	357	0.856
34	0.977	70	0.902	106	0.925	142	0.966	178	0.692	214	0.368	250	0.203	286	0.870	322	0.996	358	0.853
35	0.981	71	0.897	107	0.932	143	0.963	179	0.673	215	0.384	251	0.212	287	0.878	323	0.997	359	0.850

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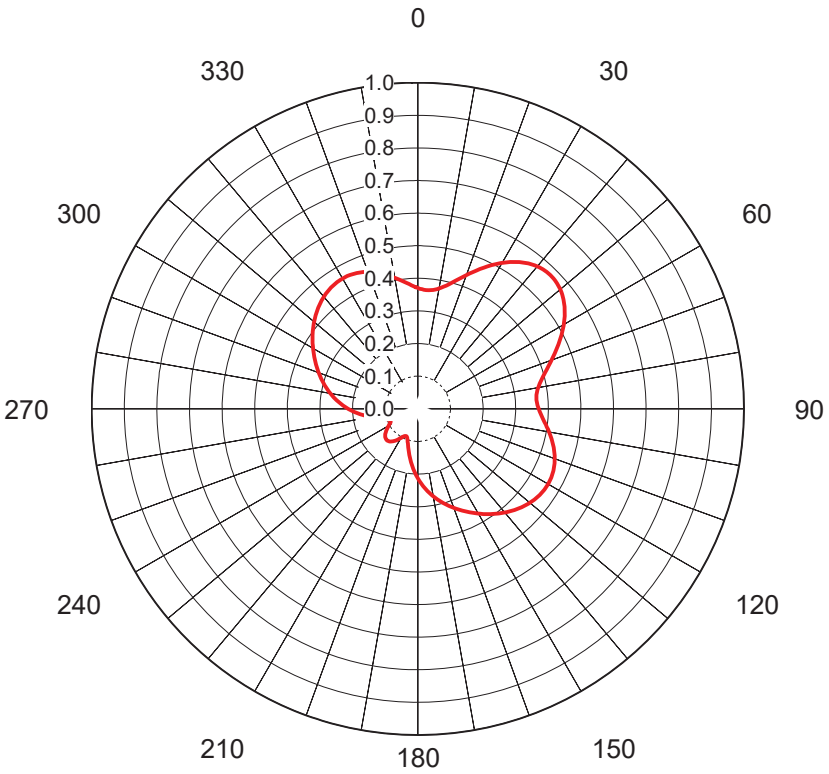


AZIMUTH PATTERN
Vertical Polarization

Proposal No.	
Date	
Call Letters	**KSPX 21**
Frequency	**515 MHz**
Antenna Type	**TFU-24DSC/VP-R CT150**
Gain	**2.47 (3.92dB) Calculated**
Directional Drawing #	**CT150V-21**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.371	36	0.554	72	0.421	108	0.441	144	0.398	180	0.213	216	0.121	252	0.102	288	0.314	324	0.457
1	0.368	37	0.559	73	0.413	109	0.444	145	0.394	181	0.207	217	0.124	253	0.106	289	0.318	325	0.458
2	0.367	38	0.563	74	0.406	110	0.447	146	0.389	182	0.200	218	0.127	254	0.110	290	0.323	326	0.459
3	0.366	39	0.567	75	0.400	111	0.449	147	0.385	183	0.194	219	0.129	255	0.116	291	0.328	327	0.460
4	0.365	40	0.570	76	0.394	112	0.452	148	0.380	184	0.187	220	0.131	256	0.121	292	0.333	328	0.461
5	0.365	41	0.573	77	0.388	113	0.454	149	0.375	185	0.180	221	0.132	257	0.127	293	0.338	329	0.461
6	0.366	42	0.575	78	0.383	114	0.456	150	0.371	186	0.173	222	0.133	258	0.133	294	0.343	330	0.461
7	0.367	43	0.576	79	0.379	115	0.458	151	0.366	187	0.166	223	0.134	259	0.140	295	0.347	331	0.461
8	0.369	44	0.577	80	0.375	116	0.459	152	0.362	188	0.160	224	0.135	260	0.146	296	0.352	332	0.461
9	0.371	45	0.577	81	0.371	117	0.460	153	0.357	189	0.153	225	0.135	261	0.153	297	0.357	333	0.460
10	0.375	46	0.577	82	0.369	118	0.461	154	0.352	190	0.146	226	0.135	262	0.160	298	0.362	334	0.459
11	0.379	47	0.576	83	0.367	119	0.461	155	0.347	191	0.140	227	0.134	263	0.166	299	0.366	335	0.458
12	0.383	48	0.575	84	0.366	120	0.461	156	0.343	192	0.133	228	0.133	264	0.173	300	0.371	336	0.456
13	0.388	49	0.573	85	0.365	121	0.461	157	0.338	193	0.127	229	0.132	265	0.180	301	0.375	337	0.454
14	0.394	50	0.570	86	0.365	122	0.461	158	0.333	194	0.121	230	0.131	266	0.187	302	0.380	338	0.452
15	0.400	51	0.567	87	0.366	123	0.460	159	0.328	195	0.116	231	0.129	267	0.194	303	0.385	339	0.449
16	0.406	52	0.563	88	0.367	124	0.459	160	0.323	196	0.110	232	0.127	268	0.200	304	0.389	340	0.447
17	0.413	53	0.559	89	0.368	125	0.458	161	0.318	197	0.106	233	0.124	269	0.207	305	0.394	341	0.444
18	0.421	54	0.554	90	0.371	126	0.457	162	0.314	198	0.102	234	0.121	270	0.213	306	0.398	342	0.441
19	0.428	55	0.549	91	0.373	127	0.455	163	0.309	199	0.098	235	0.119	271	0.220	307	0.402	343	0.437
20	0.436	56	0.543	92	0.376	128	0.453	164	0.304	200	0.095	236	0.115	272	0.226	308	0.407	344	0.433
21	0.444	57	0.537	93	0.379	129	0.451	165	0.299	201	0.093	237	0.112	273	0.232	309	0.411	345	0.430
22	0.452	58	0.531	94	0.383	130	0.448	166	0.293	202	0.091	238	0.109	274	0.238	310	0.415	346	0.426
23	0.461	59	0.524	95	0.387	131	0.446	167	0.288	203	0.091	239	0.106	275	0.244	311	0.419	347	0.421
24	0.469	60	0.517	96	0.391	132	0.443	168	0.283	204	0.091	240	0.103	276	0.250	312	0.423	348	0.417
25	0.477	61	0.509	97	0.395	133	0.440	169	0.278	205	0.092	241	0.100	277	0.256	313	0.427	349	0.413
26	0.486	62	0.502	98	0.400	134	0.437	170	0.272	206	0.093	242	0.097	278	0.261	314	0.430	350	0.408
27	0.494	63	0.494	99	0.404	135	0.434	171	0.267	207	0.095	243	0.095	279	0.267	315	0.434	351	0.404
28	0.502	64	0.486	100	0.408	136	0.430	172	0.261	208	0.097	244	0.093	280	0.272	316	0.437	352	0.400
29	0.509	65	0.477	101	0.413	137	0.427	173	0.256	209	0.100	245	0.092	281	0.278	317	0.440	353	0.395
30	0.517	66	0.469	102	0.417	138	0.423	174	0.250	210	0.103	246	0.091	282	0.283	318	0.443	354	0.391
31	0.524	67	0.461	103	0.421	139	0.419	175	0.244	211	0.106	247	0.091	283	0.288	319	0.446	355	0.387
32	0.531	68	0.452	104	0.426	140	0.415	176	0.238	212	0.109	248	0.091	284	0.293	320	0.448	356	0.383
33	0.537	69	0.444	105	0.430	141	0.411	177	0.232	213	0.112	249	0.093	285	0.299	321	0.451	357	0.379
34	0.543	70	0.436	106	0.433	142	0.407	178	0.226	214	0.115	250	0.095	286	0.304	322	0.453	358	0.376
35	0.549	71	0.428	107	0.437	143	0.402	179	0.220	215	0.119	251	0.098	287	0.309	323	0.455	359	0.373

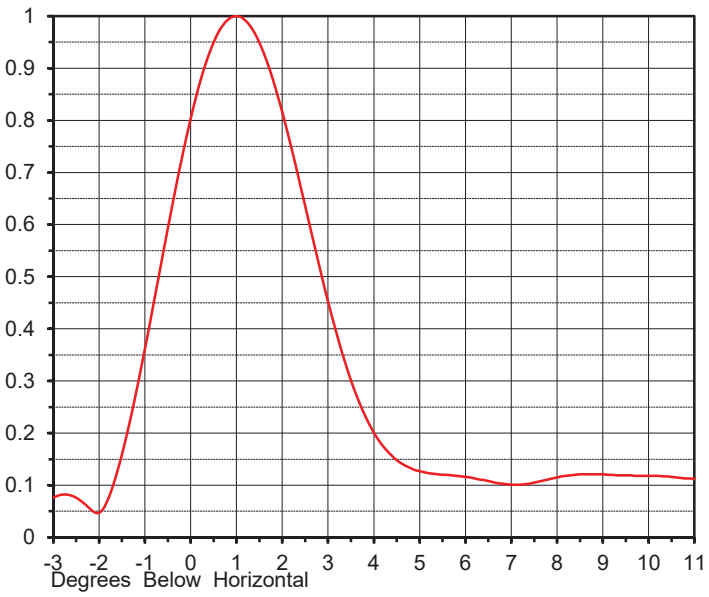
Dielectric®

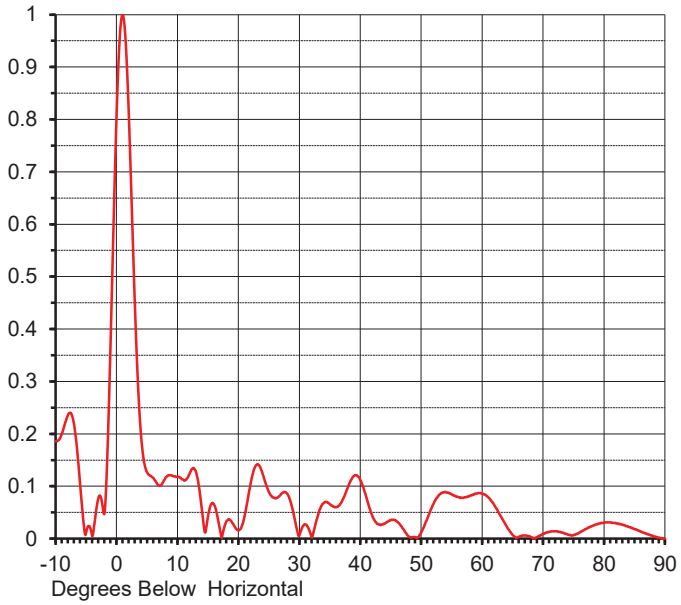
ELEVATION PATTERN

Proposal No.
Date
Call Letters **KSPX 21**
Frequency **515 MHz**
Antenna Type **TFU-24DSC/VP-R CT150**

RMS Directivity at Main Lobe **19.00 (12.79 dB)**
RMS Directivity at Horizontal **12.30 (10.90 dB)**
Calculated

Beam Tilt **1.00 deg**
Drawing Number **24Q190100**





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.186	10.0	0.118	30.0	0.006	50.0	0.012	70.0	0.009
-9.0	0.199	11.0	0.112	31.0	0.027	51.0	0.038	71.0	0.013
-8.0	0.235	12.0	0.124	32.0	0.003	52.0	0.066	72.0	0.014
-7.0	0.220	13.0	0.129	33.0	0.042	53.0	0.084	73.0	0.012
-6.0	0.108	14.0	0.057	34.0	0.068	54.0	0.089	74.0	0.008
-5.0	0.011	15.0	0.041	35.0	0.066	55.0	0.085	75.0	0.007
-4.0	0.005	16.0	0.065	36.0	0.060	56.0	0.080	76.0	0.012
-3.0	0.076	17.0	0.016	37.0	0.071	57.0	0.078	77.0	0.018
-2.0	0.047	18.0	0.032	38.0	0.099	58.0	0.082	78.0	0.024
-1.0	0.361	19.0	0.030	39.0	0.120	59.0	0.086	79.0	0.028
0.0	0.803	20.0	0.016	40.0	0.112	60.0	0.086	80.0	0.030
1.0	1.000	21.0	0.042	41.0	0.079	61.0	0.079	81.0	0.031
2.0	0.816	22.0	0.105	42.0	0.043	62.0	0.064	82.0	0.029
3.0	0.452	23.0	0.141	43.0	0.027	63.0	0.044	83.0	0.027
4.0	0.201	24.0	0.123	44.0	0.029	64.0	0.024	84.0	0.023
5.0	0.127	25.0	0.089	45.0	0.035	65.0	0.007	85.0	0.018
6.0	0.116	26.0	0.077	46.0	0.033	66.0	0.003	86.0	0.014
7.0	0.101	27.0	0.085	47.0	0.019	67.0	0.006	87.0	0.009
8.0	0.115	28.0	0.086	48.0	0.004	68.0	0.003	88.0	0.005
9.0	0.121	29.0	0.051	49.0	0.003	69.0	0.003	89.0	0.002
								90.0	0.000