

## AZIMUTH PATTERN Horizontal Polarization

Proposal No. **C-70049**  
 Date **4-Mar-17**  
 Call Letters **KPTH**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TFU-20ETT/VP-R P210**  
 Gain **1.91 (2.81dB)**  
**Calculated**

Drawing # **P210H D30**

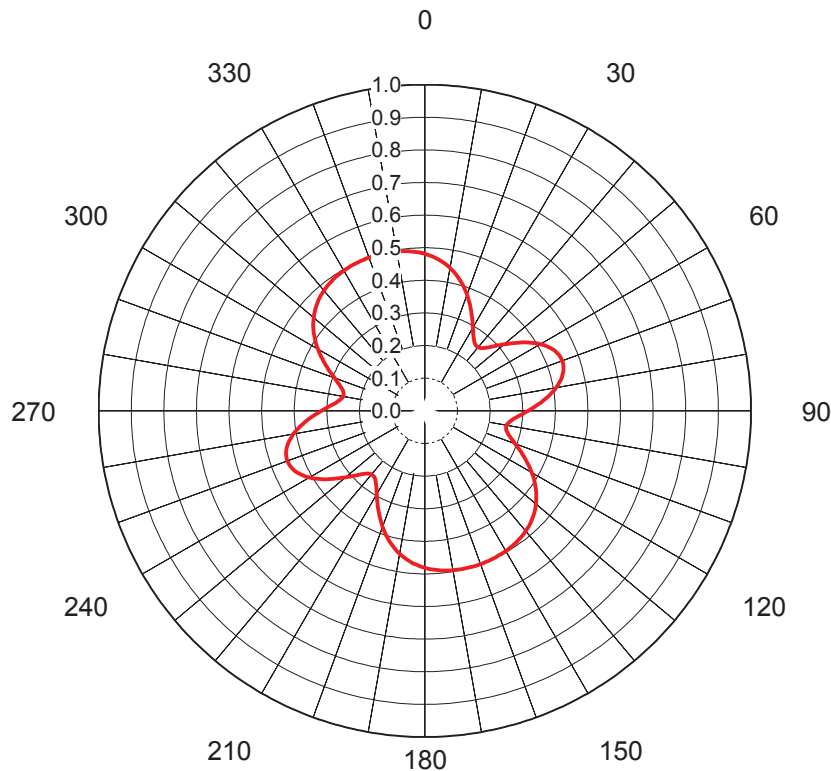
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.700	36	0.580	72	0.990	108	0.520	144	0.740	180	0.700	216	0.580	252	0.990	288	0.520
1	0.690	37	0.590	73	0.990	109	0.510	145	0.750	181	0.690	217	0.590	253	0.990	289	0.510
2	0.670	38	0.610	74	0.980	110	0.490	146	0.760	182	0.670	218	0.610	254	0.980	290	0.490
3	0.660	39	0.620	75	0.980	111	0.490	147	0.770	183	0.660	219	0.620	255	0.980	291	0.490
4	0.650	40	0.640	76	0.970	112	0.490	148	0.770	184	0.650	220	0.640	256	0.970	292	0.490
5	0.630	41	0.650	77	0.970	113	0.490	149	0.780	185	0.630	221	0.650	257	0.970	293	0.490
6	0.620	42	0.670	78	0.960	114	0.480	150	0.790	186	0.620	222	0.670	258	0.960	294	0.480
7	0.610	43	0.690	79	0.960	115	0.480	151	0.800	187	0.610	223	0.690	259	0.960	295	0.480
8	0.590	44	0.710	80	0.950	116	0.480	152	0.800	188	0.590	224	0.710	260	0.950	296	0.480
9	0.580	45	0.730	81	0.940	117	0.480	153	0.800	189	0.580	225	0.730	261	0.940	297	0.480
10	0.570	46	0.750	82	0.930	118	0.470	154	0.810	190	0.570	226	0.750	262	0.930	298	0.470
11	0.560	47	0.760	83	0.910	119	0.470	155	0.810	191	0.560	227	0.760	263	0.910	299	0.470
12	0.550	48	0.780	84	0.900	120	0.470	156	0.810	192	0.550	228	0.780	264	0.900	300	0.470
13	0.540	49	0.800	85	0.890	121	0.480	157	0.810	193	0.540	229	0.800	265	0.890	301	0.480
14	0.530	50	0.820	86	0.870	122	0.490	158	0.820	194	0.530	230	0.820	266	0.870	302	0.490
15	0.520	51	0.830	87	0.860	123	0.500	159	0.820	195	0.520	231	0.830	267	0.860	303	0.500
16	0.510	52	0.850	88	0.850	124	0.510	160	0.820	196	0.510	232	0.850	268	0.850	304	0.510
17	0.500	53	0.860	89	0.830	125	0.520	161	0.820	197	0.500	233	0.860	269	0.830	305	0.520
18	0.490	54	0.870	90	0.820	126	0.530	162	0.820	198	0.490	234	0.870	270	0.820	306	0.530
19	0.480	55	0.890	91	0.800	127	0.540	163	0.810	199	0.480	235	0.890	271	0.800	307	0.540
20	0.470	56	0.900	92	0.780	128	0.550	164	0.810	200	0.470	236	0.900	272	0.780	308	0.550
21	0.470	57	0.910	93	0.760	129	0.560	165	0.810	201	0.470	237	0.910	273	0.760	309	0.560
22	0.470	58	0.930	94	0.750	130	0.570	166	0.810	202	0.470	238	0.930	274	0.750	310	0.570
23	0.480	59	0.940	95	0.730	131	0.580	167	0.800	203	0.480	239	0.940	275	0.730	311	0.580
24	0.480	60	0.950	96	0.710	132	0.590	168	0.800	204	0.480	240	0.950	276	0.710	312	0.590
25	0.480	61	0.960	97	0.690	133	0.610	169	0.800	205	0.480	241	0.960	277	0.690	313	0.610
26	0.480	62	0.960	98	0.670	134	0.620	170	0.790	206	0.480	242	0.960	278	0.670	314	0.620
27	0.490	63	0.970	99	0.650	135	0.630	171	0.780	207	0.490	243	0.970	279	0.650	315	0.630
28	0.490	64	0.970	100	0.640	136	0.650	172	0.770	208	0.490	244	0.970	280	0.640	316	0.650
29	0.490	65	0.980	101	0.620	137	0.660	173	0.770	209	0.490	245	0.980	281	0.620	317	0.660
30	0.490	66	0.980	102	0.610	138	0.670	174	0.760	210	0.490	246	0.980	282	0.610	318	0.670
31	0.510	67	0.990	103	0.590	139	0.690	175	0.750	211	0.510	247	0.990	283	0.590	319	0.690
32	0.520	68	0.990	104	0.580	140	0.700	176	0.740	212	0.520	248	0.990	284	0.580	320	0.700
33	0.540	69	1.000	105	0.560	141	0.710	177	0.730	213	0.540	249	1.000	285	0.560	321	0.710
34	0.550	70	1.000	106	0.550	142	0.720	178	0.720	214	0.550	250	1.000	286	0.550	322	0.720
35	0.560	71	1.000	107	0.540	143	0.730	179	0.710	215	0.560	251	1.000	287	0.540	323	0.730

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## AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70049**  
 Date **4-Mar-17**  
 Call Letters **KPTH**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TFU-20ETT/VP-R P210**  
 Gain **1.54 (1.87dB)**  
**Calculated**

Drawing # **P210V D30**



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.481	36	0.259	72	0.447	108	0.280	144	0.489	180	0.481	216	0.259	252	0.447	288	0.280
1	0.479	37	0.256	73	0.445	109	0.287	145	0.491	181	0.479	217	0.256	253	0.445	289	0.287
2	0.476	38	0.254	74	0.442	110	0.295	146	0.492	182	0.476	218	0.254	254	0.442	290	0.295
3	0.473	39	0.254	75	0.438	111	0.303	147	0.493	183	0.473	219	0.254	255	0.438	291	0.303
4	0.470	40	0.254	76	0.434	112	0.311	148	0.495	184	0.470	220	0.254	256	0.434	292	0.311
5	0.466	41	0.256	77	0.429	113	0.319	149	0.495	185	0.466	221	0.256	257	0.429	293	0.319
6	0.463	42	0.259	78	0.423	114	0.328	150	0.496	186	0.463	222	0.259	258	0.423	294	0.328
7	0.459	43	0.263	79	0.416	115	0.337	151	0.497	187	0.459	223	0.263	259	0.416	295	0.337
8	0.454	44	0.269	80	0.409	116	0.345	152	0.498	188	0.454	224	0.269	260	0.409	296	0.345
9	0.450	45	0.275	81	0.401	117	0.354	153	0.498	189	0.450	225	0.275	261	0.401	297	0.354
10	0.445	46	0.282	82	0.393	118	0.362	154	0.499	190	0.445	226	0.282	262	0.393	298	0.362
11	0.440	47	0.290	83	0.384	119	0.371	155	0.499	191	0.440	227	0.290	263	0.384	299	0.371
12	0.434	48	0.298	84	0.375	120	0.379	156	0.499	192	0.434	228	0.298	264	0.375	300	0.379
13	0.428	49	0.307	85	0.366	121	0.387	157	0.500	193	0.428	229	0.307	265	0.366	301	0.387
14	0.422	50	0.317	86	0.356	122	0.394	158	0.500	194	0.422	230	0.317	266	0.356	302	0.394
15	0.415	51	0.327	87	0.346	123	0.402	159	0.500	195	0.415	231	0.327	267	0.346	303	0.402
16	0.409	52	0.336	88	0.336	124	0.409	160	0.500	196	0.409	232	0.336	268	0.336	304	0.409
17	0.402	53	0.346	89	0.327	125	0.415	161	0.500	197	0.402	233	0.346	269	0.327	305	0.415
18	0.394	54	0.356	90	0.317	126	0.422	162	0.500	198	0.394	234	0.356	270	0.317	306	0.422
19	0.387	55	0.366	91	0.307	127	0.428	163	0.500	199	0.387	235	0.366	271	0.307	307	0.428
20	0.379	56	0.375	92	0.298	128	0.434	164	0.499	200	0.379	236	0.375	272	0.298	308	0.434
21	0.371	57	0.384	93	0.290	129	0.440	165	0.499	201	0.371	237	0.384	273	0.290	309	0.440
22	0.362	58	0.393	94	0.282	130	0.445	166	0.499	202	0.362	238	0.393	274	0.282	310	0.445
23	0.354	59	0.401	95	0.275	131	0.450	167	0.498	203	0.354	239	0.401	275	0.275	311	0.450
24	0.345	60	0.409	96	0.269	132	0.454	168	0.498	204	0.345	240	0.409	276	0.269	312	0.454
25	0.337	61	0.416	97	0.263	133	0.459	169	0.497	205	0.337	241	0.416	277	0.263	313	0.459
26	0.328	62	0.423	98	0.259	134	0.463	170	0.496	206	0.328	242	0.423	278	0.259	314	0.463
27	0.319	63	0.429	99	0.256	135	0.466	171	0.495	207	0.319	243	0.429	279	0.256	315	0.466
28	0.311	64	0.434	100	0.254	136	0.470	172	0.495	208	0.311	244	0.434	280	0.254	316	0.470
29	0.303	65	0.438	101	0.254	137	0.473	173	0.493	209	0.303	245	0.438	281	0.254	317	0.473
30	0.295	66	0.442	102	0.254	138	0.476	174	0.492	210	0.295	246	0.442	282	0.254	318	0.476
31	0.287	67	0.445	103	0.256	139	0.479	175	0.491	211	0.287	247	0.445	283	0.256	319	0.479
32	0.280	68	0.447	104	0.259	140	0.481	176	0.489	212	0.280	248	0.447	284	0.259	320	0.481
33	0.274	69	0.448	105	0.263	141	0.484	177	0.488	213	0.274	249	0.448	285	0.263	321	0.484
34	0.268	70	0.448	106	0.268	142	0.486	178	0.486	214	0.268	250	0.448	286	0.268	322	0.486
35	0.263	71	0.448	107	0.274	143	0.488	179	0.484	215	0.263	251	0.448	287	0.274	323	0.488

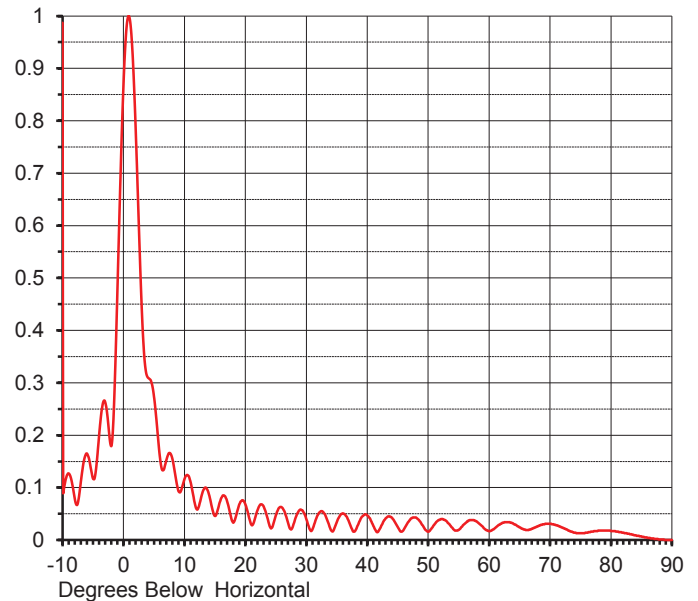
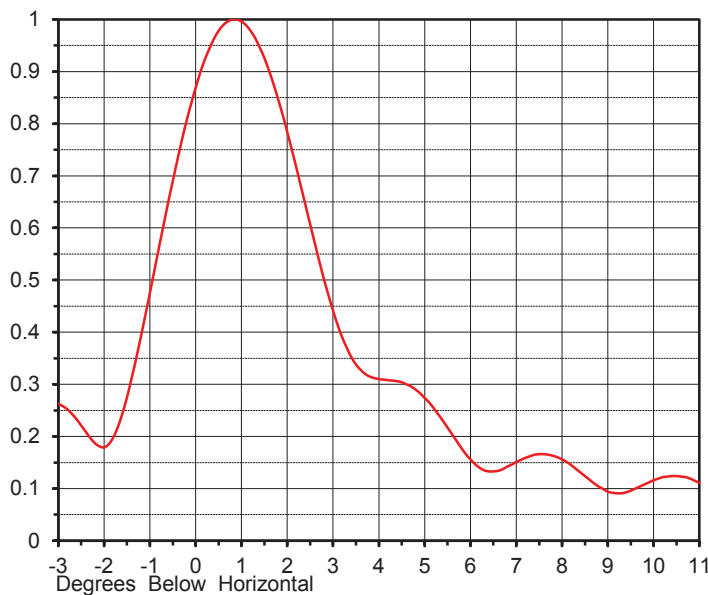
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## ELEVATION PATTERN

Proposal No. **C-70049**  
 Date **4-Mar-17**  
 Call Letters **KPTH**  
 Channel **30**  
 Frequency **569 MHz**  
 Antenna Type **TFU-20ETT/VP-R P210**

RMS Directivity at Main Lobe **18.5 ( 12.67 dB )**  
 RMS Directivity at Horizontal **14.0 ( 11.46 dB )**  
**Calculated**

Beam Tilt **0.75 deg**  
 Drawing Number **20E185075**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.987	10.0	0.116	30.0	0.040	50.0	0.016	70.0	0.031
-9.0	0.127	11.0	0.111	31.0	0.020	51.0	0.029	71.0	0.028
-8.0	0.079	12.0	0.059	32.0	0.050	52.0	0.039	72.0	0.024
-7.0	0.111	13.0	0.092	33.0	0.050	53.0	0.036	73.0	0.018
-6.0	0.165	14.0	0.088	34.0	0.020	54.0	0.023	74.0	0.014
-5.0	0.117	15.0	0.046	35.0	0.034	55.0	0.019	75.0	0.013
-4.0	0.200	16.0	0.079	36.0	0.051	56.0	0.031	76.0	0.014
-3.0	0.263	17.0	0.074	37.0	0.035	57.0	0.038	77.0	0.016
-2.0	0.179	18.0	0.033	38.0	0.017	58.0	0.035	78.0	0.018
-1.0	0.475	19.0	0.068	39.0	0.042	59.0	0.025	79.0	0.018
0.0	0.869	20.0	0.068	40.0	0.047	60.0	0.017	80.0	0.017
1.0	0.996	21.0	0.029	41.0	0.027	61.0	0.023	81.0	0.016
2.0	0.784	22.0	0.057	42.0	0.020	62.0	0.031	82.0	0.014
3.0	0.441	23.0	0.064	43.0	0.041	63.0	0.034	83.0	0.012
4.0	0.310	24.0	0.026	44.0	0.043	64.0	0.031	84.0	0.009
5.0	0.274	25.0	0.047	45.0	0.025	65.0	0.024	85.0	0.007
6.0	0.156	26.0	0.062	46.0	0.020	66.0	0.019	86.0	0.004
7.0	0.151	27.0	0.033	47.0	0.038	67.0	0.021	87.0	0.003
8.0	0.156	28.0	0.033	48.0	0.043	68.0	0.026	88.0	0.001
9.0	0.094	29.0	0.058	49.0	0.029	69.0	0.030	89.0	0.000
								90.0	0.000

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