

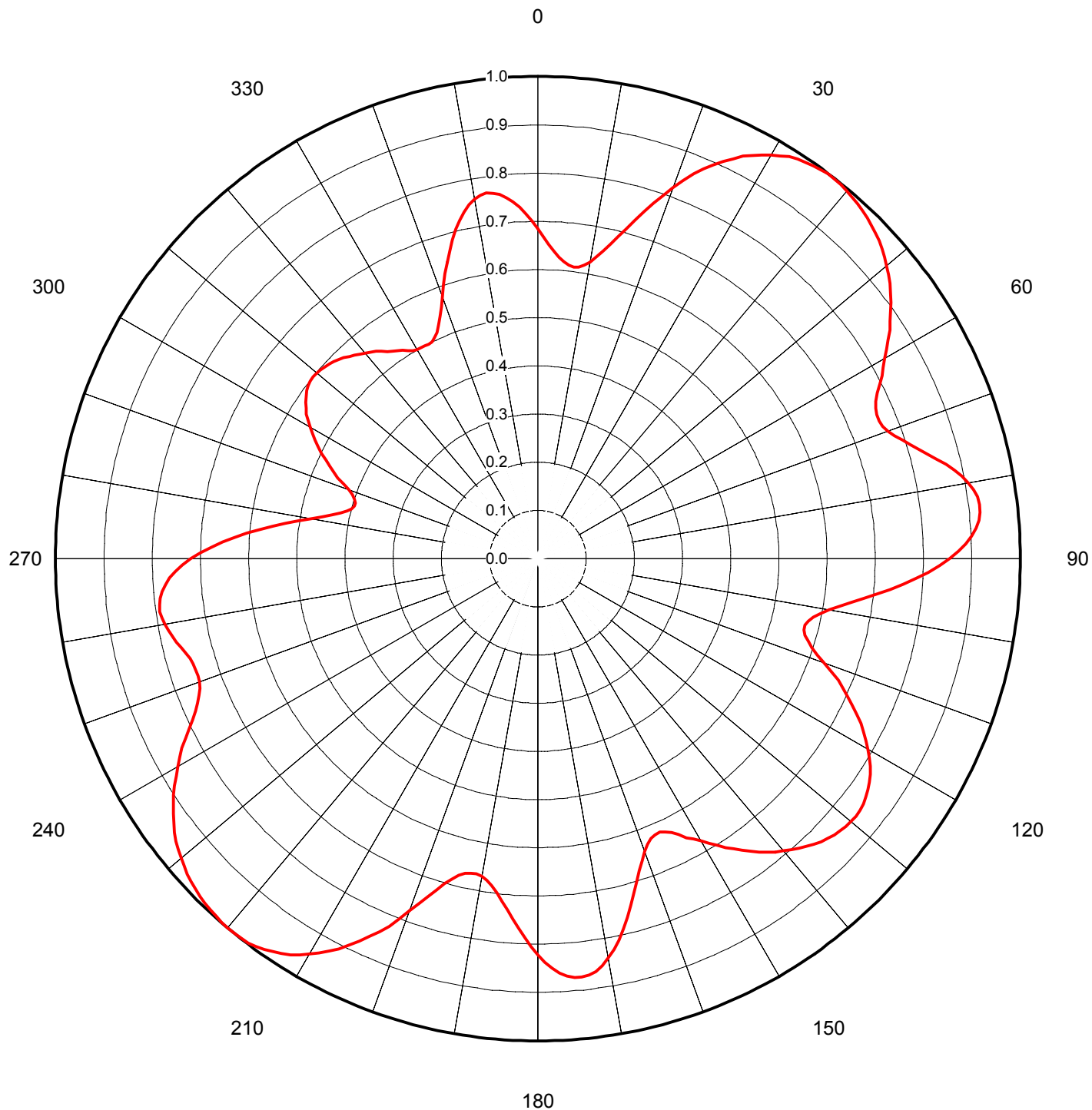


Proposal Number	DCA-9660	Revision:	1
Date	13-Nov-02		
Call Letters	KPLO	Channel	13
Location	Reliance, SD		
Customer			
Antenna Type	THA-P4SP-2H/8HD-1-R		

AZIMUTH PATTERN

Gain	1.71	(2.34 dB)
Calculated / Measured	Calculated	

Frequency	213.00 MHz
Drawing #	THA-P4SP-213





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Customer			
Antenna Type	THA-P4SP-2H/8HD-1-R		

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **THA-P4SP-213**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.684	45	0.978	90	0.853	135	0.829	180	0.822	225	0.990	270	0.719	315	0.584
1	0.667	46	0.973	91	0.832	136	0.823	181	0.804	226	0.986	271	0.699	316	0.579
2	0.651	47	0.967	92	0.809	137	0.815	182	0.785	227	0.982	272	0.677	317	0.573
3	0.638	48	0.960	93	0.785	138	0.808	183	0.767	228	0.977	273	0.655	318	0.568
4	0.627	49	0.952	94	0.759	139	0.800	184	0.749	229	0.972	274	0.631	319	0.562
5	0.618	50	0.944	95	0.733	140	0.791	185	0.731	230	0.965	275	0.606	320	0.556
6	0.612	51	0.936	96	0.706	141	0.782	186	0.714	231	0.959	276	0.580	321	0.551
7	0.609	52	0.927	97	0.679	142	0.773	187	0.698	232	0.952	277	0.553	322	0.545
8	0.610	53	0.915	98	0.655	143	0.762	188	0.685	233	0.943	278	0.528	323	0.538
9	0.615	54	0.904	99	0.633	144	0.750	189	0.675	234	0.932	279	0.502	324	0.531
10	0.624	55	0.892	100	0.613	145	0.738	190	0.668	235	0.922	280	0.478	325	0.525
11	0.637	56	0.881	101	0.596	146	0.726	191	0.665	236	0.911	281	0.456	326	0.519
12	0.653	57	0.870	102	0.584	147	0.715	192	0.666	237	0.901	282	0.436	327	0.515
13	0.670	58	0.856	103	0.575	148	0.701	193	0.670	238	0.888	283	0.420	328	0.509
14	0.688	59	0.843	104	0.571	149	0.688	194	0.677	239	0.874	284	0.408	329	0.504
15	0.709	60	0.830	105	0.571	150	0.675	195	0.688	240	0.861	285	0.399	330	0.501
16	0.730	61	0.819	106	0.576	151	0.665	196	0.702	241	0.848	286	0.395	331	0.499
17	0.753	62	0.809	107	0.586	152	0.655	197	0.719	242	0.836	287	0.396	332	0.500
18	0.774	63	0.795	108	0.597	153	0.642	198	0.736	243	0.820	288	0.399	333	0.499
19	0.796	64	0.782	109	0.612	154	0.632	199	0.756	244	0.804	289	0.406	334	0.500
20	0.818	65	0.773	110	0.630	155	0.624	200	0.777	245	0.790	290	0.417	335	0.506
21	0.840	66	0.766	111	0.650	156	0.621	201	0.800	246	0.777	291	0.431	336	0.514
22	0.862	67	0.763	112	0.671	157	0.622	202	0.823	247	0.766	292	0.448	337	0.526
23	0.878	68	0.763	113	0.687	158	0.626	203	0.841	248	0.757	293	0.460	338	0.541
24	0.894	69	0.766	114	0.703	159	0.634	204	0.858	249	0.750	294	0.472	339	0.559
25	0.909	70	0.773	115	0.719	160	0.646	205	0.875	250	0.746	295	0.485	340	0.579
26	0.923	71	0.782	116	0.735	161	0.662	206	0.892	251	0.745	296	0.498	341	0.600
27	0.936	72	0.795	117	0.751	162	0.681	207	0.908	252	0.747	297	0.512	342	0.622
28	0.947	73	0.807	118	0.765	163	0.700	208	0.922	253	0.748	298	0.523	343	0.643
29	0.957	74	0.821	119	0.777	164	0.722	209	0.934	254	0.750	299	0.534	344	0.664
30	0.966	75	0.836	120	0.790	165	0.744	210	0.946	255	0.755	300	0.545	345	0.684
31	0.975	76	0.852	121	0.802	166	0.766	211	0.958	256	0.761	301	0.555	346	0.703
32	0.983	77	0.868	122	0.813	167	0.788	212	0.969	257	0.769	302	0.565	347	0.720
33	0.987	78	0.882	123	0.821	168	0.808	213	0.976	258	0.775	303	0.573	348	0.735
34	0.991	79	0.895	124	0.828	169	0.826	214	0.983	259	0.780	304	0.580	349	0.747
35	0.995	80	0.906	125	0.835	170	0.841	215	0.989	260	0.785	305	0.586	350	0.756
36	0.997	81	0.914	126	0.840	171	0.854	216	0.994	261	0.789	306	0.592	351	0.762
37	1.000	82	0.921	127	0.845	172	0.864	217	0.998	262	0.792	307	0.597	352	0.765
38	0.999	83	0.923	128	0.847	173	0.870	218	0.999	263	0.790	308	0.599	353	0.764
39	0.998	84	0.922	129	0.848	174	0.872	219	1.000	264	0.787	309	0.599	354	0.759
40	0.996	85	0.918	130	0.847	175	0.871	220	1.000	265	0.782	310	0.599	355	0.752
41	0.993	86	0.911	131	0.846	176	0.867	221	0.999	266	0.774	311	0.597	356	0.742
42	0.990	87	0.900	132	0.843	177	0.860	222	0.997	267	0.764	312	0.594	357	0.730
43	0.987	88	0.888	133	0.840	178	0.850	223	0.995	268	0.752	313	0.592	358	0.716
44	0.983	89	0.872	134	0.835	179	0.837	224	0.993	269	0.737	314	0.588	359	0.700

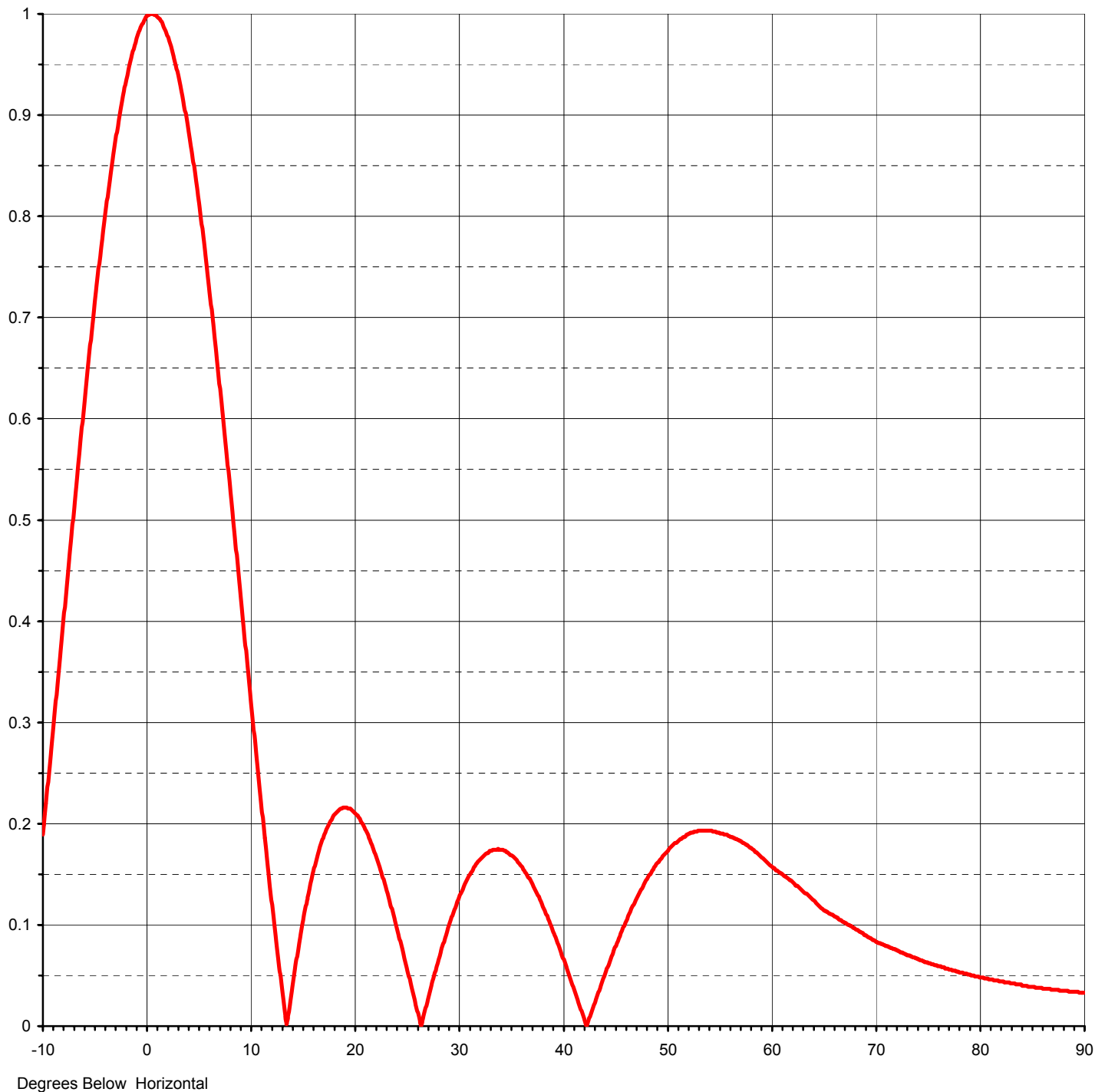


Proposal Number	DCA-9660	Revision:	1
Date	13-Nov-02		
Call Letters	KPLO	Channel	13
Location	Reliance, SD		
Customer			
Antenna Type	THA-P4SP-2H/8HD-1-R		

ELEVATION PATTERN

RMS Gain at Main Lobe	4.82	(6.83 dB)
RMS Gain at Horizontal	4.80	(6.81 dB)
Calculated / Measured	Calculated	

Beam Tilt	0.40 deg
Frequency	213.00 MHz
Drawing #	02H048000-S213-90





Proposal Number **DCA-9660** Revision: **1**
 Date **13-Nov-02**
 Call Letters **KPLO** Channel **13**
 Location **Reliance, SD**
 Customer
 Antenna Type **THA-P4SP-2H/8HD-1-R**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **02H048000-S213-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.189	2.4	0.964	10.6	0.266	30.5	0.138	51.0	0.182	71.5	0.077
-9.5	0.241	2.6	0.956	10.8	0.246	31.0	0.148	51.5	0.186	72.0	0.075
-9.0	0.294	2.8	0.948	11.0	0.226	31.5	0.157	52.0	0.189	72.5	0.073
-8.5	0.349	3.0	0.939	11.5	0.177	32.0	0.164	52.5	0.191	73.0	0.070
-8.0	0.403	3.2	0.929	12.0	0.129	32.5	0.169	53.0	0.193	73.5	0.068
-7.5	0.458	3.4	0.919	12.5	0.084	33.0	0.173	53.5	0.193	74.0	0.066
-7.0	0.512	3.6	0.907	13.0	0.041	33.5	0.174	54.0	0.193	74.5	0.064
-6.5	0.565	3.8	0.896	13.5	0.002	34.0	0.174	54.5	0.192	75.0	0.062
-6.0	0.617	4.0	0.883	14.0	0.035	34.5	0.173	55.0	0.191	75.5	0.061
-5.5	0.668	4.2	0.870	14.5	0.069	35.0	0.169	55.5	0.189	76.0	0.059
-5.0	0.717	4.4	0.857	15.0	0.100	35.5	0.165	56.0	0.188	76.5	0.058
-4.5	0.761	4.6	0.843	15.5	0.127	36.0	0.158	56.5	0.186	77.0	0.056
-4.0	0.803	4.8	0.828	16.0	0.150	36.5	0.151	57.0	0.183	77.5	0.055
-3.5	0.842	5.0	0.813	16.5	0.170	37.0	0.142	57.5	0.180	78.0	0.053
-3.0	0.877	5.2	0.796	17.0	0.186	37.5	0.132	58.0	0.176	78.5	0.052
-2.8	0.889	5.4	0.779	17.5	0.198	38.0	0.121	58.5	0.172	79.0	0.051
-2.6	0.902	5.6	0.762	18.0	0.208	38.5	0.109	59.0	0.168	79.5	0.049
-2.4	0.913	5.8	0.744	18.5	0.213	39.0	0.096	59.5	0.163	80.0	0.048
-2.2	0.924	6.0	0.726	19.0	0.216	39.5	0.082	60.0	0.158	80.5	0.047
-2.0	0.935	6.2	0.708	19.5	0.215	40.0	0.068	60.5	0.154	81.0	0.046
-1.8	0.944	6.4	0.689	20.0	0.211	40.5	0.054	61.0	0.151	81.5	0.045
-1.6	0.953	6.6	0.670	20.5	0.205	41.0	0.039	61.5	0.147	82.0	0.044
-1.4	0.961	6.8	0.650	21.0	0.196	41.5	0.024	62.0	0.143	82.5	0.043
-1.2	0.969	7.0	0.630	21.5	0.184	42.0	0.009	62.5	0.139	83.0	0.042
-1.0	0.976	7.2	0.610	22.0	0.170	42.5	0.006	63.0	0.134	83.5	0.041
-0.8	0.982	7.4	0.590	22.5	0.155	43.0	0.021	63.5	0.130	84.0	0.040
-0.6	0.987	7.6	0.570	23.0	0.138	43.5	0.035	64.0	0.125	84.5	0.040
-0.4	0.991	7.8	0.549	23.5	0.119	44.0	0.049	64.5	0.119	85.0	0.039
-0.2	0.995	8.0	0.528	24.0	0.100	44.5	0.063	65.0	0.114	85.5	0.038
0.0	0.998	8.2	0.508	24.5	0.080	45.0	0.077	65.5	0.111	86.0	0.037
0.2	0.999	8.4	0.487	25.0	0.059	45.5	0.089	66.0	0.108	86.5	0.037
0.4	1.000	8.6	0.466	25.5	0.038	46.0	0.102	66.5	0.105	87.0	0.036
0.6	1.000	8.8	0.444	26.0	0.017	46.5	0.113	67.0	0.102	87.5	0.036
0.8	0.999	9.0	0.423	26.5	0.004	47.0	0.124	67.5	0.099	88.0	0.035
1.0	0.997	9.2	0.402	27.0	0.024	47.5	0.134	68.0	0.096	88.5	0.034
1.2	0.995	9.4	0.381	27.5	0.044	48.0	0.144	68.5	0.093	89.0	0.034
1.4	0.992	9.6	0.360	28.0	0.062	48.5	0.152	69.0	0.090	89.5	0.033
1.6	0.987	9.8	0.350	28.5	0.080	49.0	0.160	69.5	0.087	90.0	0.033
1.8	0.983	10.0	0.329	29.0	0.097	49.5	0.166	70.0	0.083		
2.0	0.977	10.2	0.308	29.5	0.112	50.0	0.172	70.5	0.081		
2.2	0.971	10.4	0.287	30.0	0.125	50.5	0.178	71.0	0.079		