

Antenna Patterns for Black Mountain Site.



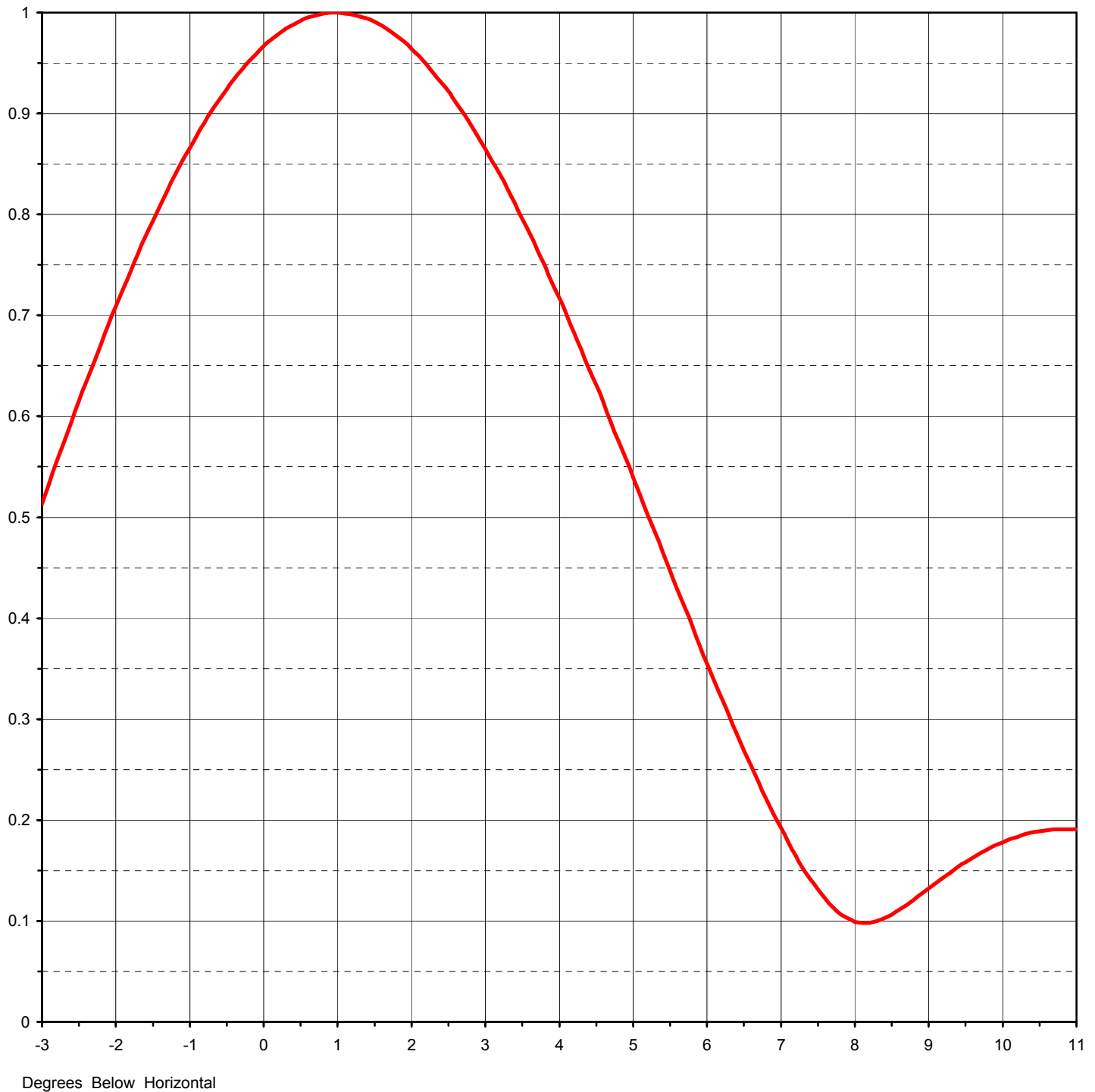
Proposal Number **DCA-10657**
Date **26-Aug-04**
Call Letters
Location **San Diego, CA**
Customer **Qualcomm**
Antenna Type **TLP-8/CP C200 SP**

Channel **53**

ELEVATION PATTERN

RMS Gain at Main Lobe **8.00 (9.03 dB)**
RMS Gain at Horizontal **7.50 (8.75 dB)**
Calculated / Measured **Calculated**

Beam Tilt **1.00 deg**
Frequency **707.00 MHz**
Drawing # **08L080100**





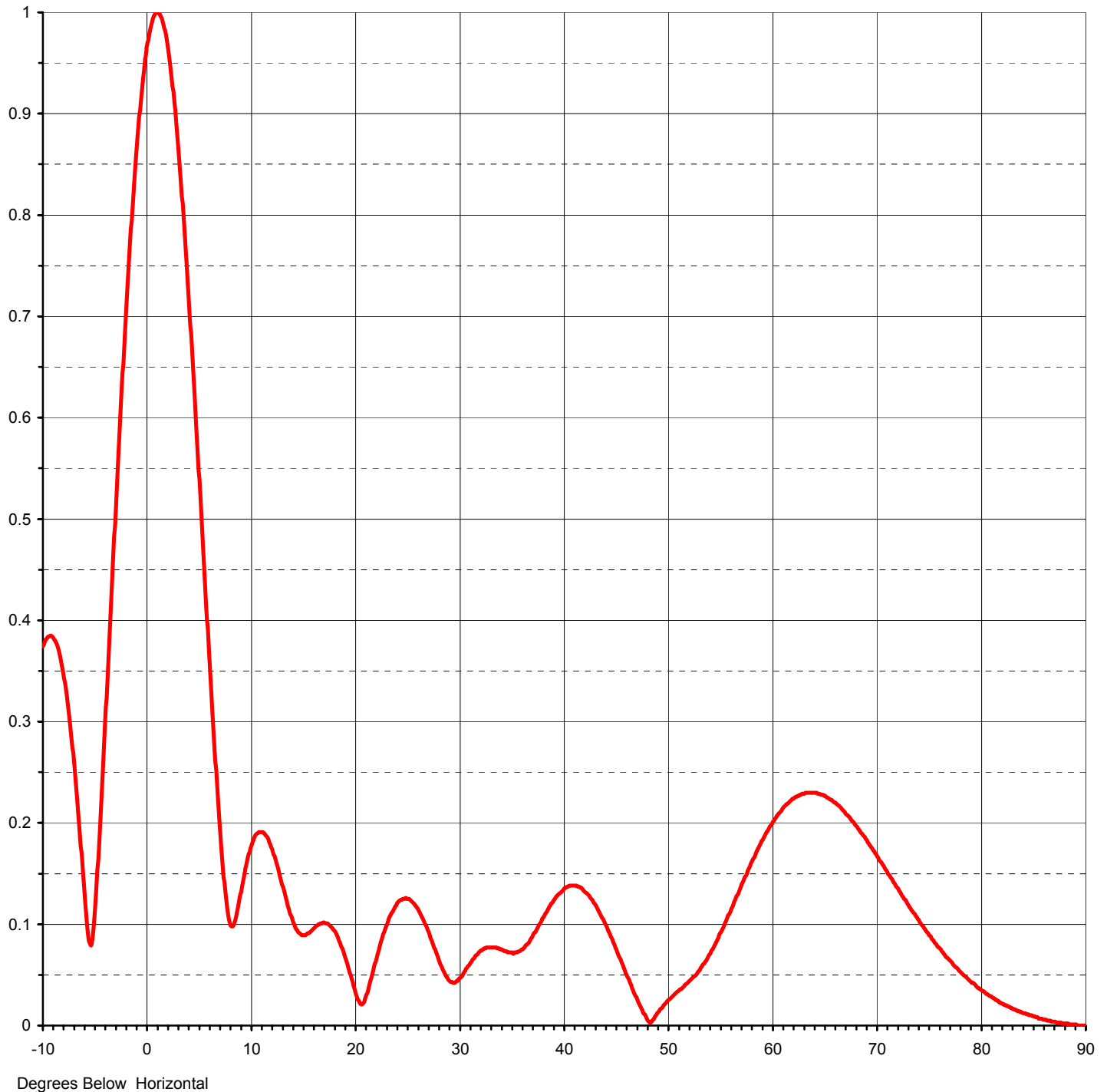
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RMS Gain at Main Lobe **8.00 (9.03 dB)**
RMS Gain at Horizontal **7.50 (8.75 dB)**
Calculated / Measured **Calculated**

Beam Tilt **1.00 deg**
Frequency **707.00 MHz**
Drawing # **08L080100-90**





Proposal Number **DCA-10657**

Date **26-Aug-04**

Call Letters **Channel 53**

Location **San Diego, CA**

Customer **Qualcomm**

Antenna Type **TLP-8/CP C200 SP**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **08L080100-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.374	2.4	0.931	10.6	0.189	30.5	0.053	51.0	0.034	71.5	0.143
-9.5	0.384	2.6	0.911	10.8	0.191	31.0	0.060	51.5	0.038	72.0	0.135
-9.0	0.383	2.8	0.889	11.0	0.191	31.5	0.067	52.0	0.043	72.5	0.127
-8.5	0.371	3.0	0.865	11.5	0.187	32.0	0.073	52.5	0.048	73.0	0.119
-8.0	0.346	3.2	0.839	12.0	0.176	32.5	0.076	53.0	0.054	73.5	0.111
-7.5	0.308	3.4	0.811	12.5	0.160	33.0	0.077	53.5	0.061	74.0	0.104
-7.0	0.258	3.6	0.781	13.0	0.141	33.5	0.077	54.0	0.070	74.5	0.096
-6.5	0.197	3.8	0.750	13.5	0.122	34.0	0.075	54.5	0.079	75.0	0.089
-6.0	0.130	4.0	0.717	14.0	0.105	34.5	0.073	55.0	0.090	75.5	0.082
-5.5	0.081	4.2	0.683	14.5	0.094	35.0	0.072	55.5	0.101	76.0	0.076
-5.0	0.114	4.4	0.648	15.0	0.089	35.5	0.072	56.0	0.112	76.5	0.070
-4.5	0.201	4.6	0.613	15.5	0.091	36.0	0.075	56.5	0.124	77.0	0.064
-4.0	0.303	4.8	0.576	16.0	0.095	36.5	0.080	57.0	0.136	77.5	0.058
-3.5	0.408	5.0	0.539	16.5	0.100	37.0	0.087	57.5	0.148	78.0	0.053
-3.0	0.513	5.2	0.502	17.0	0.102	37.5	0.096	58.0	0.160	78.5	0.048
-2.8	0.555	5.4	0.465	17.5	0.100	38.0	0.105	58.5	0.171	79.0	0.043
-2.6	0.595	5.6	0.428	18.0	0.094	38.5	0.114	59.0	0.181	79.5	0.039
-2.4	0.634	5.8	0.392	18.5	0.084	39.0	0.122	59.5	0.191	80.0	0.035
-2.2	0.672	6.0	0.355	19.0	0.070	39.5	0.129	60.0	0.199	80.5	0.031
-2.0	0.709	6.2	0.320	19.5	0.054	40.0	0.134	60.5	0.207	81.0	0.028
-1.8	0.744	6.4	0.286	20.0	0.036	40.5	0.137	61.0	0.214	81.5	0.025
-1.6	0.778	6.6	0.253	20.5	0.022	41.0	0.138	61.5	0.219	82.0	0.022
-1.4	0.809	6.8	0.221	21.0	0.026	41.5	0.137	62.0	0.224	82.5	0.019
-1.2	0.839	7.0	0.192	21.5	0.044	42.0	0.133	62.5	0.227	83.0	0.017
-1.0	0.866	7.2	0.165	22.0	0.063	42.5	0.128	63.0	0.229	83.5	0.014
-0.8	0.891	7.4	0.141	22.5	0.082	43.0	0.120	63.5	0.230	84.0	0.012
-0.6	0.914	7.6	0.122	23.0	0.098	43.5	0.111	64.0	0.230	84.5	0.011
-0.4	0.934	7.8	0.107	23.5	0.110	44.0	0.101	64.5	0.229	85.0	0.009
-0.2	0.952	8.0	0.099	24.0	0.119	44.5	0.090	65.0	0.227	85.5	0.007
0.0	0.967	8.2	0.098	24.5	0.124	45.0	0.077	65.5	0.223	86.0	0.006
0.2	0.979	8.4	0.103	25.0	0.125	45.5	0.065	66.0	0.220	86.5	0.005
0.4	0.988	8.6	0.111	25.5	0.122	46.0	0.052	66.5	0.215	87.0	0.004
0.6	0.995	8.8	0.121	26.0	0.116	46.5	0.040	67.0	0.209	87.5	0.003
0.8	0.999	9.0	0.132	26.5	0.106	47.0	0.028	67.5	0.203	88.0	0.002
1.0	1.000	9.2	0.143	27.0	0.094	47.5	0.017	68.0	0.197	88.5	0.001
1.2	0.998	9.4	0.154	27.5	0.081	48.0	0.007	68.5	0.190	89.0	0.001
1.4	0.994	9.6	0.163	28.0	0.067	48.5	0.004	69.0	0.183	89.5	0.000
1.6	0.987	9.8	0.167	28.5	0.054	49.0	0.012	69.5	0.175	90.0	0.000
1.8	0.977	10.0	0.175	29.0	0.045	49.5	0.018	70.0	0.167		
2.0	0.964	10.2	0.181	29.5	0.042	50.0	0.024	70.5	0.159		
2.2	0.949	10.4	0.186	30.0	0.046	50.5	0.029	71.0	0.151		



Proposal Number

DCA-10657

Date

26-Aug-04

Call Letters

Channel

53

Location

San Diego, CA

Customer

Qualcomm

Antenna Type

TLP-8/CP C200 SP

AZIMUTH PATTERN

Gain

2.00

(3.01 dB)

Frequency

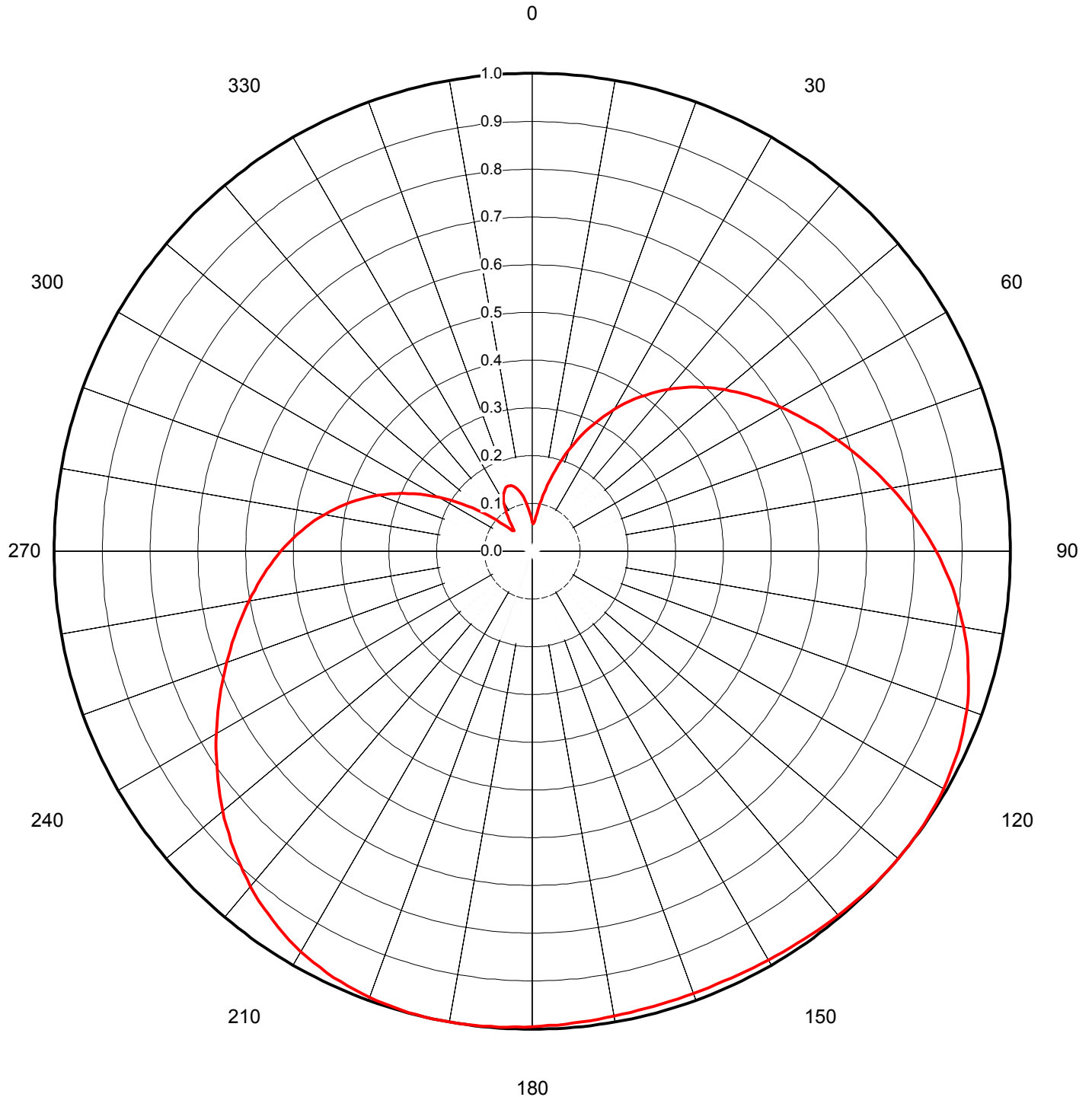
707.00 MHz

Calculated / Measured

Calculated

Drawing #

TLP-C200SP





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Channel **53**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TLP-C200SP**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.061	45	0.485	90	0.845	135	0.998	180	0.995	225	0.883	270	0.525	315	0.066
1	0.059	46	0.493	91	0.853	136	0.998	181	0.996	226	0.875	271	0.518	316	0.060
2	0.057	47	0.502	92	0.860	137	0.997	182	0.996	227	0.868	272	0.510	317	0.059
3	0.059	48	0.510	93	0.868	138	0.996	183	0.997	228	0.860	273	0.502	318	0.057
4	0.060	49	0.518	94	0.875	139	0.996	184	0.998	229	0.853	274	0.493	319	0.059
5	0.066	50	0.526	95	0.883	140	0.995	185	0.998	230	0.845	275	0.485	320	0.061
6	0.072	51	0.533	96	0.890	141	0.994	186	0.999	231	0.837	276	0.477	321	0.066
7	0.080	52	0.541	97	0.897	142	0.993	187	0.999	232	0.829	277	0.468	322	0.071
8	0.089	53	0.549	98	0.903	143	0.992	188	1.000	233	0.821	278	0.460	323	0.077
9	0.099	54	0.556	99	0.910	144	0.992	189	1.000	234	0.813	279	0.451	324	0.083
10	0.109	55	0.564	100	0.916	145	0.991	190	1.000	235	0.805	280	0.442	325	0.089
11	0.120	56	0.572	101	0.922	146	0.990	191	1.000	236	0.796	281	0.433	326	0.096
12	0.131	57	0.579	102	0.928	147	0.990	192	1.000	237	0.788	282	0.423	327	0.102
13	0.142	58	0.587	103	0.934	148	0.989	193	1.000	238	0.780	283	0.414	328	0.108
14	0.154	59	0.594	104	0.939	149	0.988	194	0.999	239	0.771	284	0.404	329	0.113
15	0.166	60	0.602	105	0.944	150	0.988	195	0.999	240	0.763	285	0.394	330	0.119
16	0.178	61	0.609	106	0.950	151	0.987	196	0.998	241	0.754	286	0.384	331	0.123
17	0.190	62	0.617	107	0.954	152	0.987	197	0.997	242	0.746	287	0.374	332	0.128
18	0.202	63	0.625	108	0.959	153	0.986	198	0.996	243	0.738	288	0.364	333	0.132
19	0.214	64	0.632	109	0.963	154	0.986	199	0.995	244	0.729	289	0.353	334	0.136
20	0.226	65	0.640	110	0.967	155	0.985	200	0.994	245	0.721	290	0.342	335	0.138
21	0.238	66	0.648	111	0.971	156	0.985	201	0.992	246	0.713	291	0.331	336	0.141
22	0.250	67	0.656	112	0.974	157	0.985	202	0.990	247	0.704	292	0.320	337	0.143
23	0.262	68	0.664	113	0.977	158	0.985	203	0.988	248	0.696	293	0.309	338	0.144
24	0.274	69	0.672	114	0.981	159	0.985	204	0.986	249	0.688	294	0.297	339	0.145
25	0.286	70	0.680	115	0.983	160	0.985	205	0.983	250	0.680	295	0.286	340	0.145
26	0.297	71	0.688	116	0.986	161	0.985	206	0.981	251	0.672	296	0.274	341	0.145
27	0.309	72	0.696	117	0.988	162	0.985	207	0.977	252	0.664	297	0.262	342	0.144
28	0.320	73	0.704	118	0.990	163	0.985	208	0.974	253	0.656	298	0.250	343	0.143
29	0.331	74	0.713	119	0.992	164	0.985	209	0.971	254	0.648	299	0.238	344	0.141
30	0.342	75	0.721	120	0.994	165	0.985	210	0.967	255	0.640	300	0.226	345	0.138
31	0.353	76	0.729	121	0.995	166	0.986	211	0.963	256	0.632	301	0.214	346	0.136
32	0.364	77	0.738	122	0.996	167	0.986	212	0.959	257	0.625	302	0.202	347	0.132
33	0.374	78	0.746	123	0.997	168	0.987	213	0.954	258	0.617	303	0.190	348	0.128
34	0.384	79	0.754	124	0.998	169	0.987	214	0.950	259	0.609	304	0.178	349	0.123
35	0.394	80	0.763	125	0.999	170	0.988	215	0.944	260	0.602	305	0.166	350	0.119
36	0.404	81	0.771	126	0.999	171	0.988	216	0.939	261	0.594	306	0.154	351	0.113
37	0.414	82	0.780	127	1.000	172	0.989	217	0.934	262	0.587	307	0.142	352	0.108
38	0.423	83	0.788	128	1.000	173	0.990	218	0.928	263	0.579	308	0.131	353	0.102
39	0.433	84	0.796	129	1.000	174	0.990	219	0.922	264	0.571	309	0.120	354	0.096
40	0.442	85	0.805	130	1.000	175	0.991	220	0.916	265	0.564	310	0.109	355	0.089
41	0.451	86	0.813	131	1.000	176	0.992	221	0.910	266	0.556	311	0.099	356	0.083
42	0.460	87	0.821	132	1.000	177	0.993	222	0.903	267	0.549	312	0.089	357	0.077
43	0.468	88	0.829	133	0.999	178	0.993	223	0.897	268	0.541	313	0.080	358	0.071
44	0.477	89	0.837	134	0.999	179	0.994	224	0.890	269	0.533	314	0.072	359	0.066



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Qualcomm

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TLP-8/CP C200 SP

AZIMUTH PATTERN/VERTICAL POLARIZATION

Gain

3.00

(4.77 dB)

Calculated / Measured

Calculated

Frequency

707.00 MHz

Drawing #

TLP-C300SP-VP

