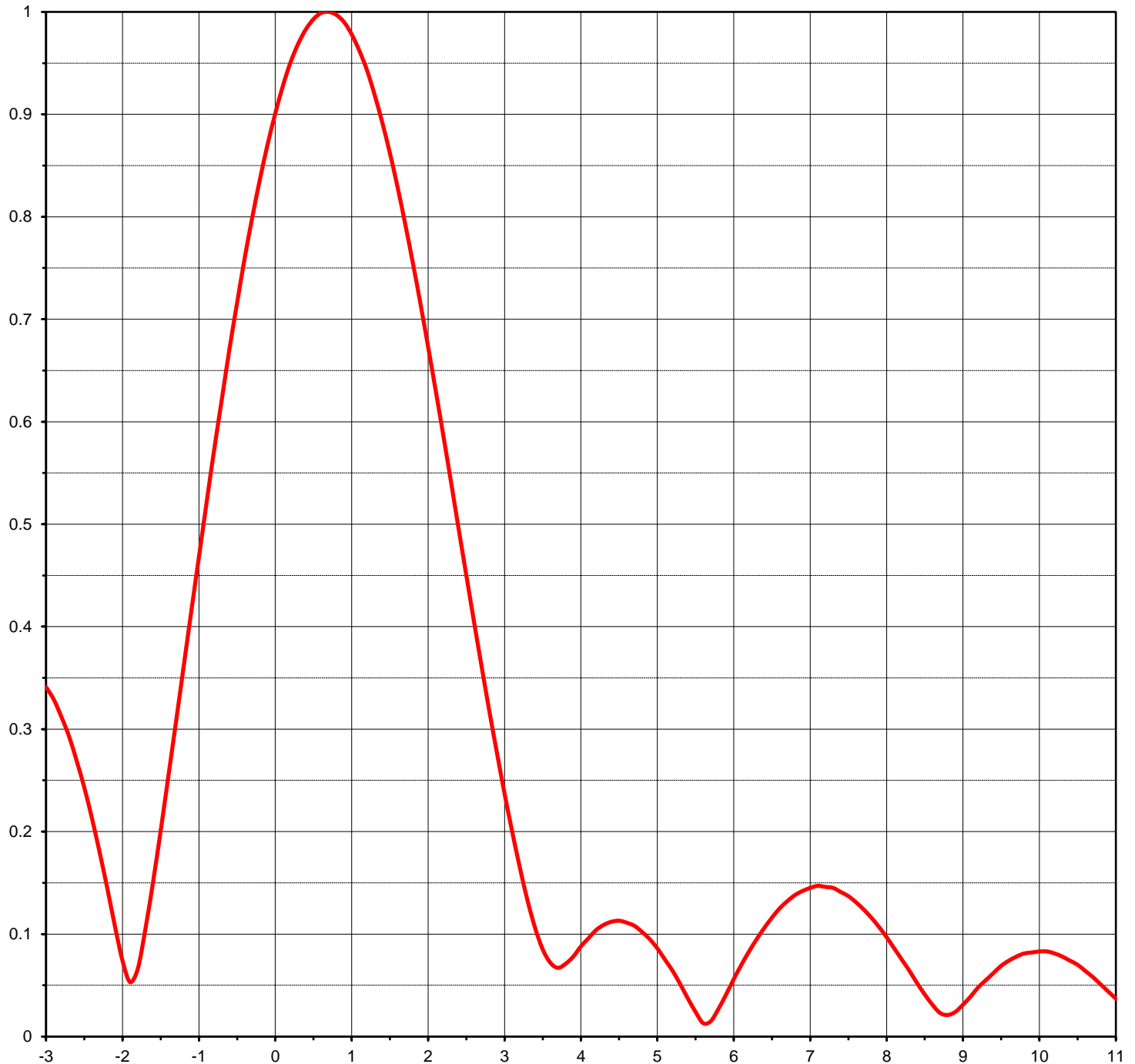




Proposal Number	DCA-####	Revision:	
Date	10/8/1014		
Call Letters	WLAJ	Channel	25
Location	Lansing, MI		
Customer			
Antenna Type	TUF-C4-10/40H-1-T		

ELEVATION PATTERN

RMS Gain at Main Lobe	20.99 (13.22 dB)	Beam Tilt	0.70 deg
RMS Gain at Horizontal	17.00 (12.30 dB)	Frequency	539.00 MHz
Calculated / Measured	Calculated	Drawing #	10U210070

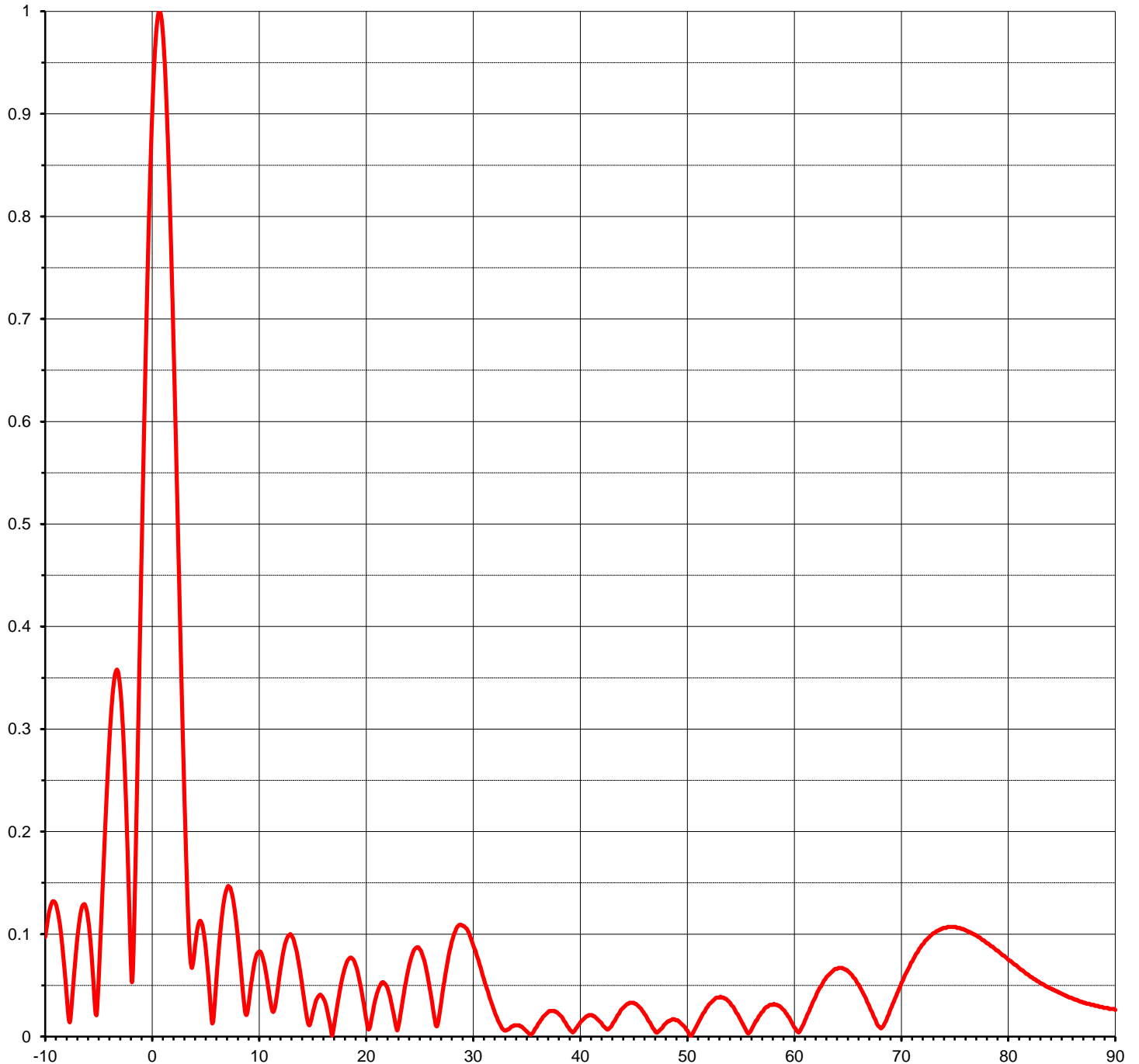




Proposal Number	DCA-####	Revision:	
Date	3-Mar-03		
Call Letters	WLAJ	Channel	25
Location	Lansing, MI		
Customer			
Antenna Type	TUF-C4-10/40H-1-T		

ELEVATION PATTERN

RMS Gain at Main Lobe	20.99 (13.22 dB)	Beam Tilt	0.70 deg
RMS Gain at Horizontal	17.00 (12.30 dB)	Frequency	539.00 MHz
Calculated / Measured	Calculated	Drawing #	10U210070-90



Source: Data from Manufacturer

Proposal Number **DCA-####**

Revision:

Date **3-Mar-03**Call Letters **WLAJ**Channel **25**Location **Lansing, MI**

Customer

Antenna Type **TUF-C4-10/40H-1-T****TABULATION OF ELEVATION PATTERN**Elevation Pattern Drawing #: **10U210070-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.097	2.4	0.495	10.6	0.070	30.5	0.077	51.0	0.011	71.5	0.082
-9.5	0.127	2.6	0.405	10.8	0.058	31.0	0.059	51.5	0.021	72.0	0.090
-9.0	0.129	2.8	0.318	11.0	0.044	31.5	0.043	52.0	0.029	72.5	0.096
-8.5	0.098	3.0	0.237	11.5	0.026	32.0	0.027	52.5	0.035	73.0	0.101
-8.0	0.041	3.2	0.165	12.0	0.060	32.5	0.014	53.0	0.038	73.5	0.104
-7.5	0.035	3.4	0.106	12.5	0.090	33.0	0.006	53.5	0.038	74.0	0.106
-7.0	0.096	3.6	0.072	13.0	0.100	33.5	0.008	54.0	0.034	74.5	0.107
-6.5	0.128	3.8	0.071	13.5	0.087	34.0	0.011	54.5	0.027	75.0	0.107
-6.0	0.115	4.0	0.088	14.0	0.058	34.5	0.010	55.0	0.018	75.5	0.106
-5.5	0.054	4.2	0.104	14.5	0.022	35.0	0.006	55.5	0.008	76.0	0.104
-5.0	0.057	4.4	0.112	15.0	0.018	35.5	0.002	56.0	0.005	76.5	0.101
-4.5	0.178	4.6	0.111	15.5	0.037	36.0	0.009	56.5	0.015	77.0	0.099
-4.0	0.289	4.8	0.102	16.0	0.039	36.5	0.017	57.0	0.023	77.5	0.095
-3.5	0.352	5.0	0.086	16.5	0.023	37.0	0.023	57.5	0.029	78.0	0.091
-3.0	0.341	5.2	0.064	17.0	0.005	37.5	0.025	58.0	0.031	78.5	0.088
-2.8	0.312	5.4	0.037	17.5	0.037	38.0	0.023	58.5	0.031	79.0	0.084
-2.6	0.269	5.6	0.013	18.0	0.063	38.5	0.017	59.0	0.027	79.5	0.079
-2.4	0.213	5.8	0.027	18.5	0.076	39.0	0.009	59.5	0.020	80.0	0.075
-2.2	0.145	6.0	0.056	19.0	0.073	39.5	0.005	60.0	0.011	80.5	0.071
-2.0	0.074	6.2	0.083	19.5	0.053	40.0	0.012	60.5	0.004	81.0	0.067
-1.8	0.066	6.4	0.106	20.0	0.023	40.5	0.018	61.0	0.013	81.5	0.063
-1.6	0.151	6.6	0.125	20.5	0.012	41.0	0.021	61.5	0.025	82.0	0.059
-1.4	0.254	6.8	0.138	21.0	0.038	41.5	0.019	62.0	0.037	82.5	0.056
-1.2	0.361	7.0	0.145	21.5	0.052	42.0	0.014	62.5	0.048	83.0	0.052
-1.0	0.468	7.2	0.146	22.0	0.049	42.5	0.008	63.0	0.056	83.5	0.049
-0.8	0.573	7.4	0.141	22.5	0.030	43.0	0.010	63.5	0.062	84.0	0.047
-0.6	0.671	7.6	0.131	23.0	0.006	43.5	0.019	64.0	0.066	84.5	0.044
-0.4	0.760	7.8	0.116	23.5	0.035	44.0	0.027	64.5	0.067	85.0	0.042
-0.2	0.837	8.0	0.097	24.0	0.064	44.5	0.032	65.0	0.064	85.5	0.039
0.0	0.901	8.2	0.075	24.5	0.083	45.0	0.033	65.5	0.058	86.0	0.037
0.2	0.951	8.4	0.052	25.0	0.087	45.5	0.030	66.0	0.051	86.5	0.035
0.4	0.983	8.6	0.031	25.5	0.075	46.0	0.024	66.5	0.041	87.0	0.033
0.6	0.999	8.8	0.021	26.0	0.049	46.5	0.015	67.0	0.030	87.5	0.032
0.8	0.997	9.0	0.031	26.5	0.017	47.0	0.007	67.5	0.018	88.0	0.031
1.0	0.978	9.2	0.048	27.0	0.026	47.5	0.006	68.0	0.009	88.5	0.029
1.2	0.943	9.4	0.062	27.5	0.061	48.0	0.012	68.5	0.014	89.0	0.028
1.4	0.892	9.6	0.074	28.0	0.088	48.5	0.016	69.0	0.027	89.5	0.027
1.6	0.829	9.8	0.078	28.5	0.105	49.0	0.016	69.5	0.039	90.0	0.026
1.8	0.755	10.0	0.082	29.0	0.109	49.5	0.013	70.0	0.052		
2.0	0.673	10.2	0.083	29.5	0.105	50.0	0.007	70.5	0.063		
2.2	0.586	10.4	0.078	30.0	0.092	50.5	0.001	71.0	0.073		

Proposal Number

DCA-####

Revision:

Date

3-Mar-03

Call Letters

WLAJ

Channel

25

Location

Lansing, MI

Customer

Antenna Type

TUF-C4-10/40H-1-T

AZIMUTH PATTERN

Gain
Calculated / Measured

1.82

(2.60 dB)

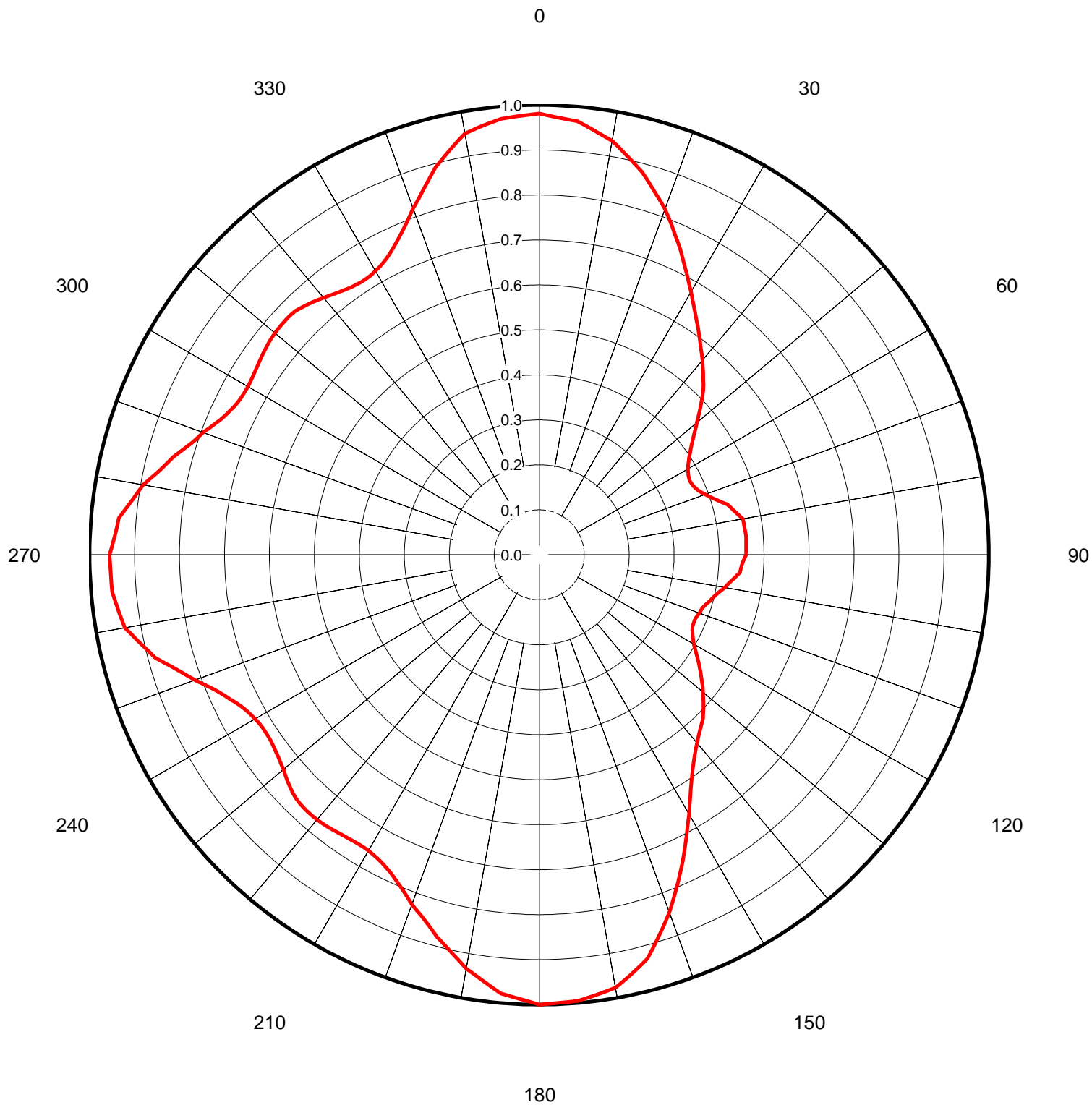
Calculated

Frequency

539.00 MHz

Drawing #

TUF-C4SP-5390





Proposal Number

DCA-####

Revision:

Date

3-Mar-03

Call Letters

WLAJ

Channel

25

Location

Lansing, MI

Customer

Antenna Type

TUF-C4-10/40H-1-T**TABULATION OF AZIMUTH PATTERN**Azimuth Pattern Drawing #: **TUF-C4SP-5390**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.981	45	0.516	90	0.460	135	0.515	180	1.000	225	0.766	270	0.956	315	0.767
1	0.977	46	0.504	91	0.456	136	0.521	181	0.995	226	0.762	271	0.951	316	0.763
2	0.974	47	0.492	92	0.453	137	0.526	182	0.991	227	0.757	272	0.947	317	0.759
3	0.972	48	0.480	93	0.451	138	0.533	183	0.986	228	0.753	273	0.943	318	0.755
4	0.969	49	0.469	94	0.449	139	0.539	184	0.983	229	0.748	274	0.941	319	0.751
5	0.968	50	0.458	95	0.448	140	0.546	185	0.979	230	0.743	275	0.938	320	0.746
6	0.961	51	0.447	96	0.442	141	0.554	186	0.969	231	0.739	276	0.929	321	0.741
7	0.954	52	0.438	97	0.436	142	0.562	187	0.960	232	0.735	277	0.919	322	0.737
8	0.947	53	0.428	98	0.430	143	0.572	188	0.951	233	0.732	278	0.910	323	0.733
9	0.941	54	0.420	99	0.424	144	0.582	189	0.942	234	0.729	279	0.902	324	0.730
10	0.935	55	0.412	100	0.419	145	0.594	190	0.934	235	0.727	280	0.895	325	0.727
11	0.924	56	0.404	101	0.413	146	0.606	191	0.922	236	0.725	281	0.882	326	0.725
12	0.913	57	0.398	102	0.407	147	0.619	192	0.910	237	0.725	282	0.871	327	0.724
13	0.902	58	0.392	103	0.402	148	0.634	193	0.899	238	0.725	283	0.860	328	0.724
14	0.892	59	0.386	104	0.397	149	0.649	194	0.889	239	0.727	284	0.851	329	0.726
15	0.882	60	0.382	105	0.394	150	0.666	195	0.879	240	0.730	285	0.842	330	0.729
16	0.868	61	0.378	106	0.389	151	0.682	196	0.867	241	0.733	286	0.830	331	0.732
17	0.855	62	0.376	107	0.385	152	0.699	197	0.856	242	0.737	287	0.820	332	0.737
18	0.843	63	0.374	108	0.382	153	0.717	198	0.845	243	0.743	288	0.811	333	0.743
19	0.830	64	0.373	109	0.380	154	0.735	199	0.836	244	0.750	289	0.803	334	0.751
20	0.818	65	0.374	110	0.379	155	0.754	200	0.827	245	0.759	290	0.796	335	0.760
21	0.803	66	0.375	111	0.377	156	0.772	201	0.816	246	0.767	291	0.786	336	0.770
22	0.788	67	0.378	112	0.376	157	0.790	202	0.806	247	0.777	292	0.777	337	0.780
23	0.773	68	0.382	113	0.375	158	0.808	203	0.797	248	0.788	293	0.770	338	0.792
24	0.759	69	0.387	114	0.375	159	0.827	204	0.789	249	0.801	294	0.764	339	0.805
25	0.745	70	0.393	115	0.376	160	0.846	205	0.781	250	0.815	295	0.758	340	0.820
26	0.730	71	0.399	116	0.379	161	0.862	206	0.775	251	0.826	296	0.754	341	0.833
27	0.715	72	0.406	117	0.383	162	0.879	207	0.769	252	0.839	297	0.751	342	0.846
28	0.701	73	0.414	118	0.387	163	0.896	208	0.765	253	0.853	298	0.749	343	0.860
29	0.688	74	0.423	119	0.392	164	0.913	209	0.762	254	0.868	299	0.748	344	0.876
30	0.675	75	0.433	120	0.397	165	0.929	210	0.759	255	0.884	300	0.748	345	0.892
31	0.662	76	0.438	121	0.404	166	0.939	211	0.759	256	0.893	301	0.749	346	0.903
32	0.650	77	0.443	122	0.412	167	0.949	212	0.758	257	0.903	302	0.750	347	0.915
33	0.638	78	0.448	123	0.420	168	0.958	213	0.759	258	0.914	303	0.753	348	0.927
34	0.627	79	0.454	124	0.428	169	0.968	214	0.760	259	0.924	304	0.755	349	0.939
35	0.616	80	0.460	125	0.436	170	0.977	215	0.761	260	0.936	305	0.757	350	0.951
36	0.605	81	0.460	126	0.444	171	0.981	216	0.763	261	0.939	306	0.760	351	0.956
37	0.594	82	0.461	127	0.452	172	0.984	217	0.765	262	0.942	307	0.762	352	0.960
38	0.584	83	0.461	128	0.460	173	0.988	218	0.766	263	0.946	308	0.764	353	0.964
39	0.574	84	0.461	129	0.468	174	0.992	219	0.768	264	0.950	309	0.766	354	0.969
40	0.565	85	0.462	130	0.476	175	0.995	220	0.769	265	0.953	310	0.767	355	0.973
41	0.555	86	0.461	131	0.483	176	0.996	221	0.769	266	0.954	311	0.768	356	0.974
42	0.545	87	0.461	132	0.491	177	0.997	222	0.769	267	0.954	312	0.768	357	0.976
43	0.535	88	0.460	133	0.499	178	0.998	223	0.769	268	0.954	313	0.768	358	0.977
44	0.526	89	0.460	134	0.507	179	0.999	224	0.767	269	0.955	314	0.768	359	0.979