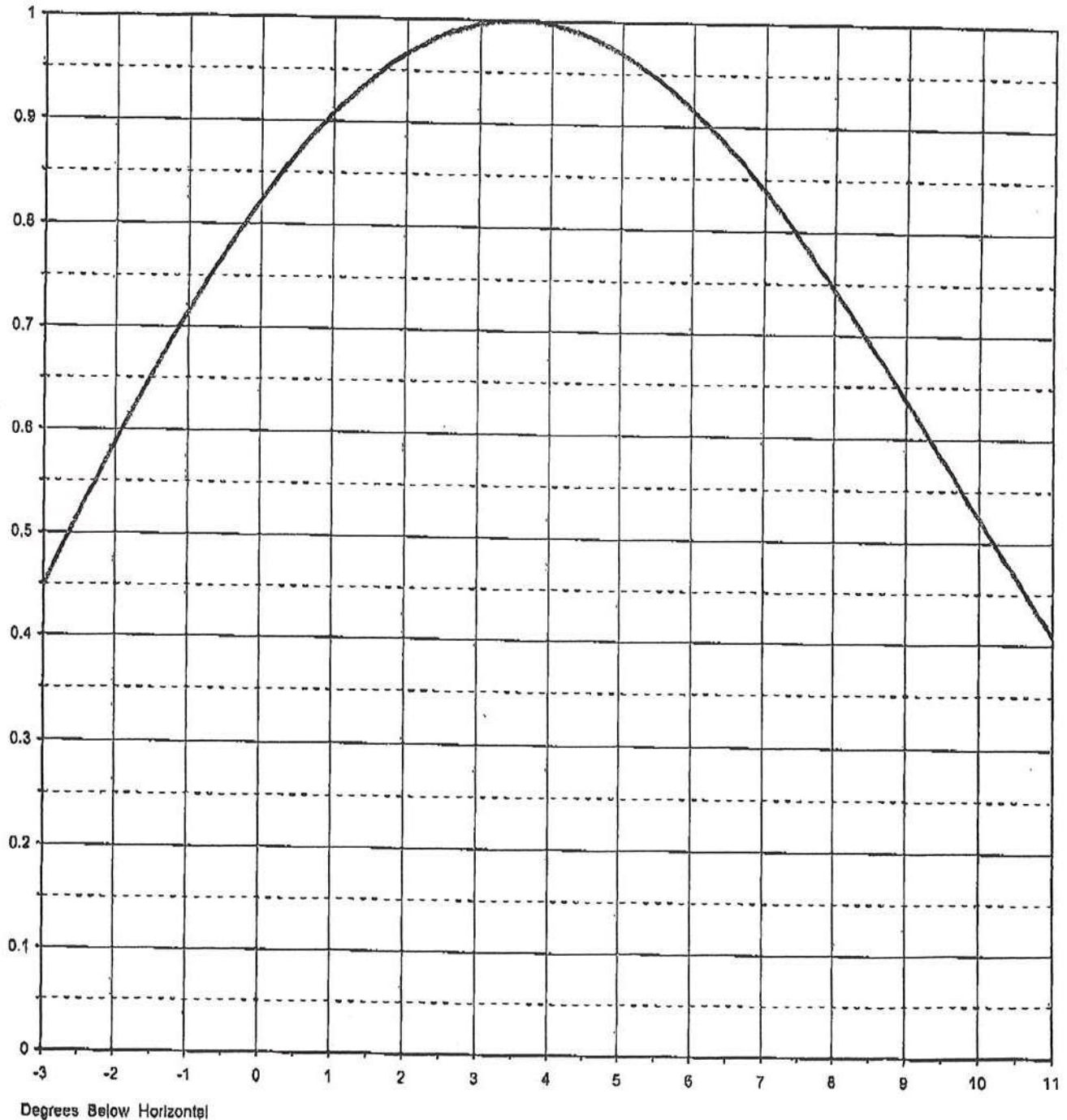




Proposal Number	DCA-10534	
Date	12-Apr-04	
Call Letters	KWSD-DT	Channel 51
Location	Souix Falls, SD	
Customer	KNBN	
Antenna Type	TUP-04-2-1	

ELEVATION PATTERN

RMS Gain at Main Lobe	5.20	(7.16 dB)	Beam Tilt	3.50 deg
RMS Gain at Horizontal	3.50	(5.44 dB)	Frequency	695.00 MHz
Calculated / Measured	Calculated		Drawing #	02U052350

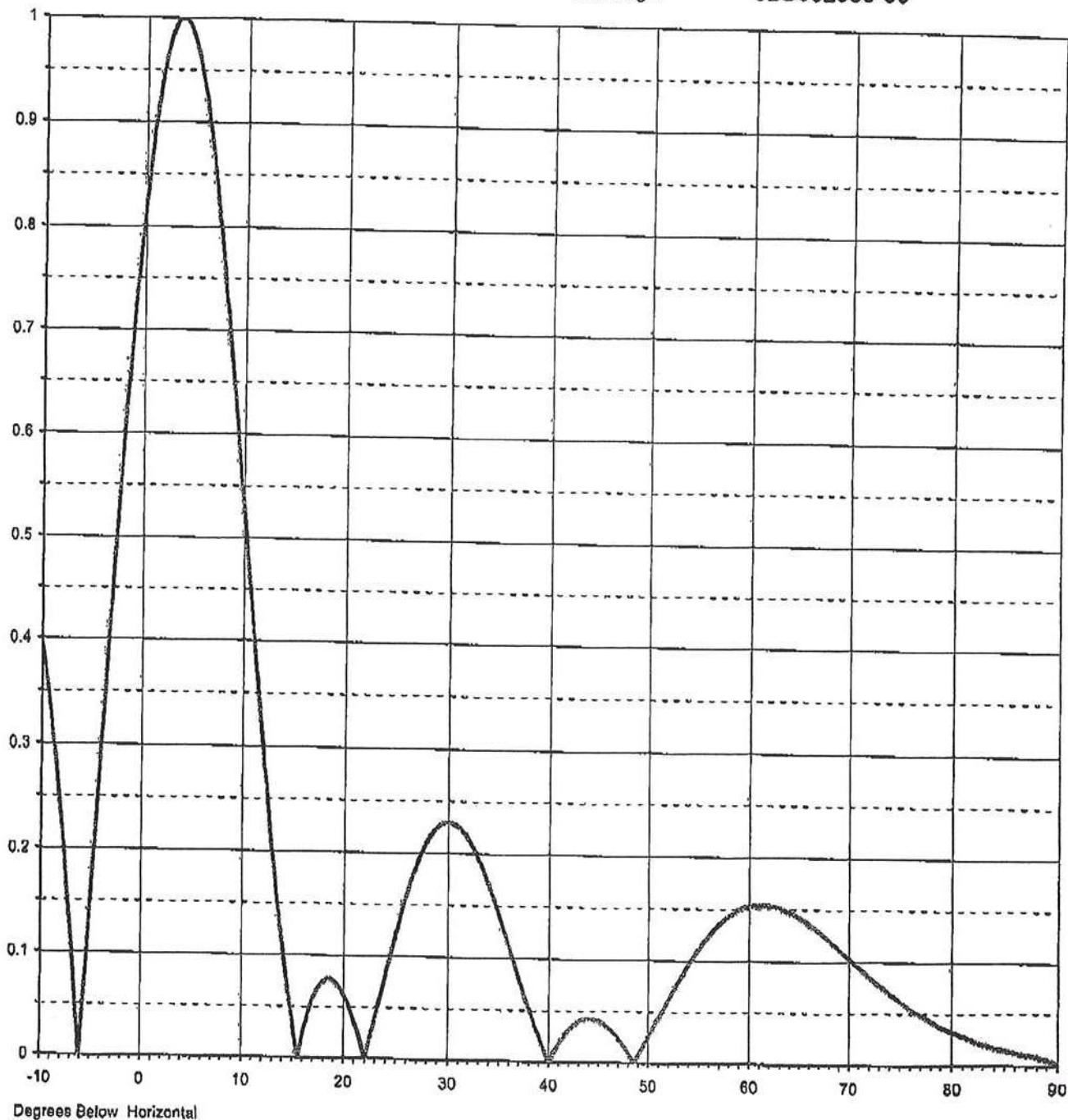




Proposal Number	DCA-10534	
Date	12-Apr-04	
Call Letters	KWSD-DT	Channel 51
Location	Souix Falls, SD	
Customer	KNBN	
Antenna Type	TUP-O4-2-1	

ELEVATION PATTERN

RMS Gain at Main Lobe	5.20 (7.16 dB)	Beam Tilt	3.50 deg
RMS Gain at Horizontal	3.50 (5.44 dB)	Frequency	695.00 MHz
Calculated / Measured	Calculated	Drawing #	02U052350-90





Proposal Number **DCA-10534**
 Date **12-Apr-04**
 Call Letters **KWSD-DT** Channel **51**
 Location **Souix Falls, SD**
 Customer **KNBN**
 Antenna Type **TUP-04-2-1**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **02U052350-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.393	2.4	0.982	10.6	0.466	30.5	0.229	51.0	0.041	71.5	0.090
-9.5	0.361	2.6	0.988	10.8	0.443	31.0	0.226	51.5	0.051	72.0	0.085
-9.0	0.323	2.8	0.992	11.0	0.420	31.5	0.222	52.0	0.060	72.5	0.081
-8.5	0.279	3.0	0.996	11.5	0.363	32.0	0.215	52.5	0.069	73.0	0.077
-8.0	0.230	3.2	0.999	12.0	0.308	32.5	0.206	53.0	0.078	73.5	0.073
-7.5	0.175	3.4	1.000	12.5	0.255	33.0	0.196	53.5	0.086	74.0	0.069
-7.0	0.117	3.6	1.000	13.0	0.205	33.5	0.185	54.0	0.094	74.5	0.065
-6.5	0.054	3.8	0.999	13.5	0.158	34.0	0.172	54.5	0.102	75.0	0.062
-6.0	0.013	4.0	0.997	14.0	0.115	34.5	0.159	55.0	0.110	75.5	0.058
-5.5	0.083	4.2	0.993	14.5	0.076	35.0	0.144	55.5	0.116	76.0	0.055
-5.0	0.154	4.4	0.989	15.0	0.041	35.5	0.129	56.0	0.123	76.5	0.051
-4.5	0.227	4.6	0.983	15.5	0.010	36.0	0.114	56.5	0.128	77.0	0.048
-4.0	0.301	4.8	0.977	16.0	0.016	36.5	0.099	57.0	0.134	77.5	0.045
-3.5	0.375	5.0	0.969	16.5	0.037	37.0	0.083	57.5	0.138	78.0	0.042
-3.0	0.448	5.2	0.960	17.0	0.054	37.5	0.068	58.0	0.142	78.5	0.039
-2.8	0.476	5.4	0.950	17.5	0.066	38.0	0.054	58.5	0.146	79.0	0.037
-2.6	0.505	5.6	0.940	18.0	0.073	38.5	0.040	59.0	0.149	79.5	0.034
-2.4	0.533	5.8	0.928	18.5	0.077	39.0	0.027	59.5	0.151	80.0	0.032
-2.2	0.560	6.0	0.915	19.0	0.076	39.5	0.014	60.0	0.152	80.5	0.030
-2.0	0.587	6.2	0.901	19.5	0.071	40.0	0.003	60.5	0.154	81.0	0.028
-1.8	0.614	6.4	0.887	20.0	0.063	40.5	0.007	61.0	0.154	81.5	0.026
-1.6	0.640	6.6	0.872	20.5	0.052	41.0	0.016	61.5	0.154	82.0	0.024
-1.4	0.665	6.8	0.856	21.0	0.038	41.5	0.023	62.0	0.154	82.5	0.022
-1.2	0.690	7.0	0.839	21.5	0.022	42.0	0.030	62.5	0.153	83.0	0.020
-1.0	0.714	7.2	0.821	22.0	0.004	42.5	0.035	63.0	0.151	83.5	0.019
-0.8	0.737	7.4	0.803	22.5	0.015	43.0	0.038	63.5	0.150	84.0	0.017
-0.6	0.760	7.6	0.784	23.0	0.035	43.5	0.041	64.0	0.148	84.5	0.016
-0.4	0.782	7.8	0.764	23.5	0.056	44.0	0.042	64.5	0.145	85.0	0.015
-0.2	0.802	8.0	0.744	24.0	0.077	44.5	0.042	65.0	0.142	85.5	0.013
0.0	0.822	8.2	0.724	24.5	0.098	45.0	0.040	65.5	0.139	86.0	0.012
0.2	0.841	8.4	0.703	25.0	0.118	45.5	0.037	66.0	0.135	86.5	0.011
0.4	0.859	8.6	0.681	25.5	0.137	46.0	0.034	66.5	0.132	87.0	0.010
0.6	0.877	8.8	0.660	26.0	0.155	46.5	0.029	67.0	0.128	87.5	0.009
0.8	0.893	9.0	0.637	26.5	0.172	47.0	0.024	67.5	0.124	88.0	0.008
1.0	0.908	9.2	0.615	27.0	0.186	47.5	0.017	68.0	0.120	88.5	0.007
1.2	0.921	9.4	0.592	27.5	0.199	48.0	0.010	68.5	0.116	89.0	0.005
1.4	0.934	9.6	0.570	28.0	0.210	48.5	0.003	69.0	0.111	89.5	0.004
1.6	0.946	9.8	0.558	28.5	0.218	49.0	0.006	69.5	0.107	90.0	0.000
1.8	0.957	10.0	0.535	29.0	0.224	49.5	0.014	70.0	0.103		
2.0	0.966	10.2	0.512	29.5	0.228	50.0	0.023	70.5	0.098		
2.2	0.974	10.4	0.489	30.0	0.230	50.5	0.032	71.0	0.094		