



Proposal Number

Date

Call Letters

Location

Customer

Antenna Type

24-Oct-02

KXMC-DT

Minot, ND

Channel **45**

881-24

SYSTEM SUMMARY

Antenna:

Type:	881-24	ERP:	50 kW	H Pol	(16.99 dBk)
Channel:	45	Peak Gain*:	51.5		(17.12 dB)
Location:	Minot, ND	Input Power:	1.0 kW		-(0.13 dBk)

Transmission Line:

Type:	EIA	Attenuation:	2.17 dB
Size:	3-1/8 in	Efficiency:	60.6%
Impedance:	50 ohm		
Length:	800 ft		243.8 m

Combiner:	DCA	Attenuation:	0.25 dB
		Efficiency:	94.4%

Combiner Input:

Power Required:	1.7 kW	(2.30 dBk)
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* Gain is with respect to half wave dipole.



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Minot, ND

881-24

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AZIMUTH PATTERN

RMS Gain at Main Lobe

Calculated / Measured

2.35 (3.71 dB)

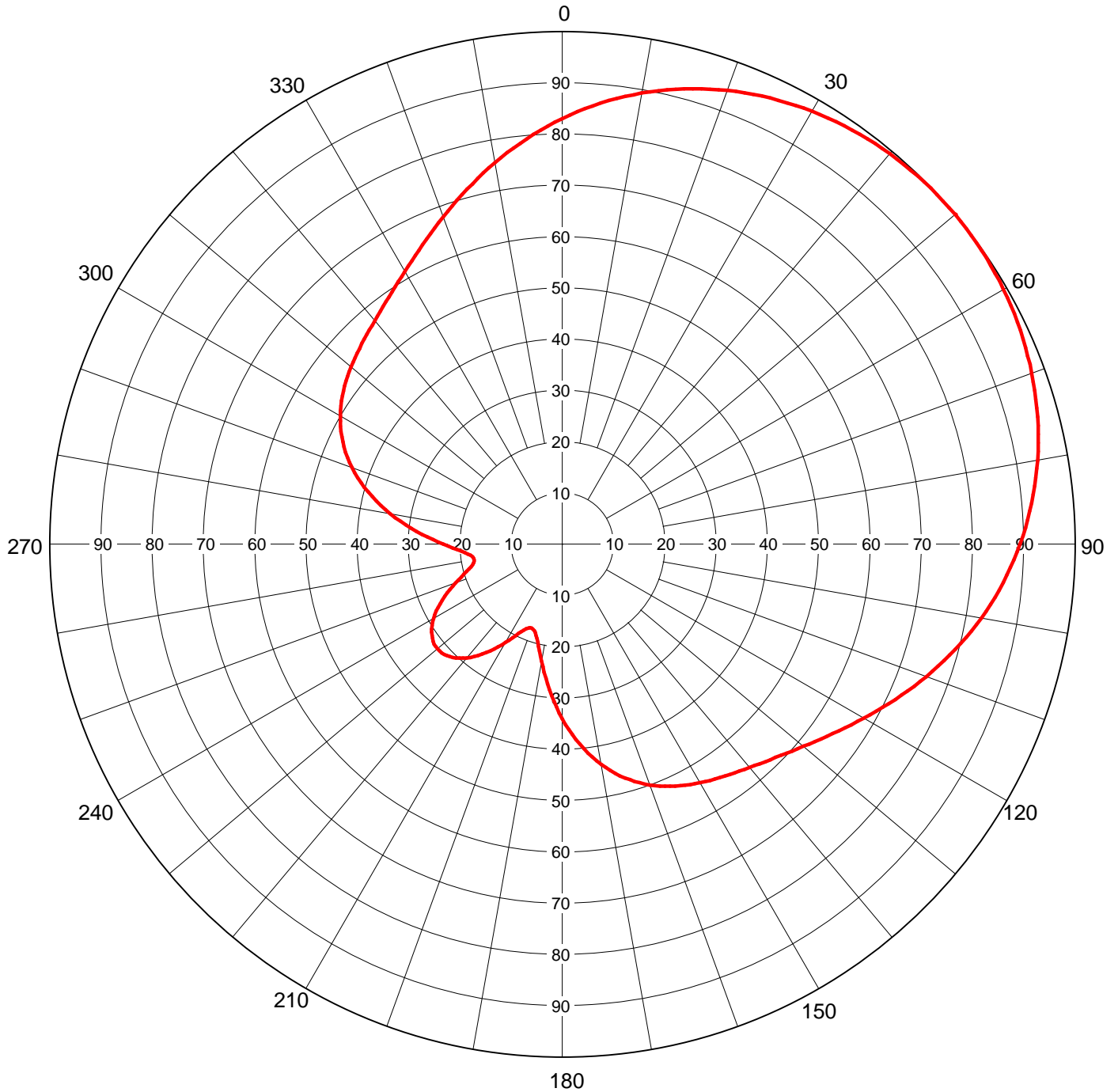
Calculated

Frequency

Drawing #

659 MHz

881-CH.45



Remarks:



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 Date **24 Oct 2002**
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Revision
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TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **881-CH.45**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.830	45	0.998	90	0.893	135	0.589	180	0.341	225	0.311	270	0.232	315	0.553
1	0.837	46	0.999	91	0.887	136	0.584	181	0.330	226	0.313	271	0.242	316	0.556
2	0.844	47	0.999	92	0.882	137	0.580	182	0.319	227	0.315	272	0.253	317	0.559
3	0.850	48	1.000	93	0.876	138	0.576	183	0.308	228	0.317	273	0.263	318	0.562
4	0.857	49	1.000	94	0.870	139	0.572	184	0.296	229	0.318	274	0.274	319	0.565
5	0.863	50	1.000	95	0.863	140	0.569	185	0.285	230	0.318	275	0.285	320	0.569
6	0.870	51	1.000	96	0.857	141	0.565	186	0.274	231	0.318	276	0.296	321	0.572
7	0.876	52	1.000	97	0.850	142	0.562	187	0.263	232	0.317	277	0.308	322	0.576
8	0.882	53	0.999	98	0.844	143	0.559	188	0.253	233	0.315	278	0.319	323	0.580
9	0.887	54	0.999	99	0.837	144	0.556	189	0.242	234	0.313	279	0.330	324	0.584
10	0.893	55	0.998	100	0.830	145	0.553	190	0.232	235	0.311	280	0.341	325	0.589
11	0.899	56	0.998	101	0.823	146	0.549	191	0.222	236	0.308	281	0.351	326	0.593
12	0.904	57	0.997	102	0.816	147	0.547	192	0.213	237	0.304	282	0.362	327	0.598
13	0.909	58	0.996	103	0.808	148	0.544	193	0.205	238	0.300	283	0.372	328	0.603
14	0.914	59	0.995	104	0.801	149	0.541	194	0.197	239	0.295	284	0.382	329	0.608
15	0.919	60	0.994	105	0.794	150	0.538	195	0.191	240	0.290	285	0.392	330	0.614
16	0.924	61	0.992	106	0.786	151	0.534	196	0.185	241	0.284	286	0.401	331	0.620
17	0.929	62	0.991	107	0.778	152	0.531	197	0.180	242	0.278	287	0.411	332	0.625
18	0.933	63	0.989	108	0.771	153	0.528	198	0.177	243	0.272	288	0.419	333	0.631
19	0.937	64	0.988	109	0.763	154	0.525	199	0.175	244	0.265	289	0.428	334	0.638
20	0.941	65	0.986	110	0.755	155	0.521	200	0.174	245	0.258	290	0.436	335	0.644
21	0.945	66	0.984	111	0.748	156	0.517	201	0.175	246	0.251	291	0.444	336	0.651
22	0.949	67	0.982	112	0.740	157	0.513	202	0.177	247	0.244	292	0.452	337	0.658
23	0.953	68	0.979	113	0.732	158	0.509	203	0.180	248	0.236	293	0.459	338	0.665
24	0.956	69	0.977	114	0.724	159	0.505	204	0.184	249	0.229	294	0.466	339	0.672
25	0.960	70	0.975	115	0.717	160	0.500	205	0.188	250	0.221	295	0.472	340	0.679
26	0.963	71	0.972	116	0.709	161	0.495	206	0.194	251	0.214	296	0.478	341	0.686
27	0.966	72	0.969	117	0.701	162	0.490	207	0.200	252	0.207	297	0.484	342	0.694
28	0.969	73	0.966	118	0.694	163	0.484	208	0.207	253	0.200	298	0.490	343	0.701
29	0.972	74	0.963	119	0.686	164	0.478	209	0.214	254	0.194	299	0.495	344	0.709
30	0.975	75	0.960	120	0.679	165	0.472	210	0.221	255	0.188	300	0.500	345	0.717
31	0.977	76	0.956	121	0.672	166	0.466	211	0.229	256	0.184	301	0.505	346	0.724
32	0.979	77	0.953	122	0.665	167	0.459	212	0.236	257	0.180	302	0.509	347	0.732
33	0.982	78	0.949	123	0.658	168	0.452	213	0.244	258	0.177	303	0.513	348	0.740
34	0.984	79	0.945	124	0.651	169	0.444	214	0.251	259	0.175	304	0.517	349	0.748
35	0.986	80	0.941	125	0.644	170	0.436	215	0.258	260	0.174	305	0.521	350	0.755
36	0.988	81	0.937	126	0.638	171	0.428	216	0.265	261	0.175	306	0.525	351	0.763
37	0.989	82	0.933	127	0.631	172	0.419	217	0.272	262	0.177	307	0.528	352	0.771
38	0.991	83	0.929	128	0.625	173	0.411	218	0.278	263	0.180	308	0.531	353	0.778
39	0.992	84	0.924	129	0.620	174	0.401	219	0.284	264	0.185	309	0.534	354	0.786
40	0.994	85	0.919	130	0.614	175	0.392	220	0.290	265	0.191	310	0.538	355	0.794
41	0.995	86	0.914	131	0.608	176	0.382	221	0.295	266	0.197	311	0.541	356	0.801
42	0.996	87	0.909	132	0.603	177	0.372	222	0.300	267	0.205	312	0.544	357	0.808
43	0.997	88	0.904	133	0.598	178	0.362	223	0.304	268	0.213	313	0.547	358	0.816
44	0.998	89	0.899	134	0.593	179	0.351	224	0.308	269	0.222	314	0.549	359	0.823

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ELEVATION PATTERN

RMS Gain at Main Lobe

21.9 (13.40 dB)

Beam Tilt

0.75 Degrees

RMS Gain at Horizontal

17.2 (12.36 dB)

Frequency

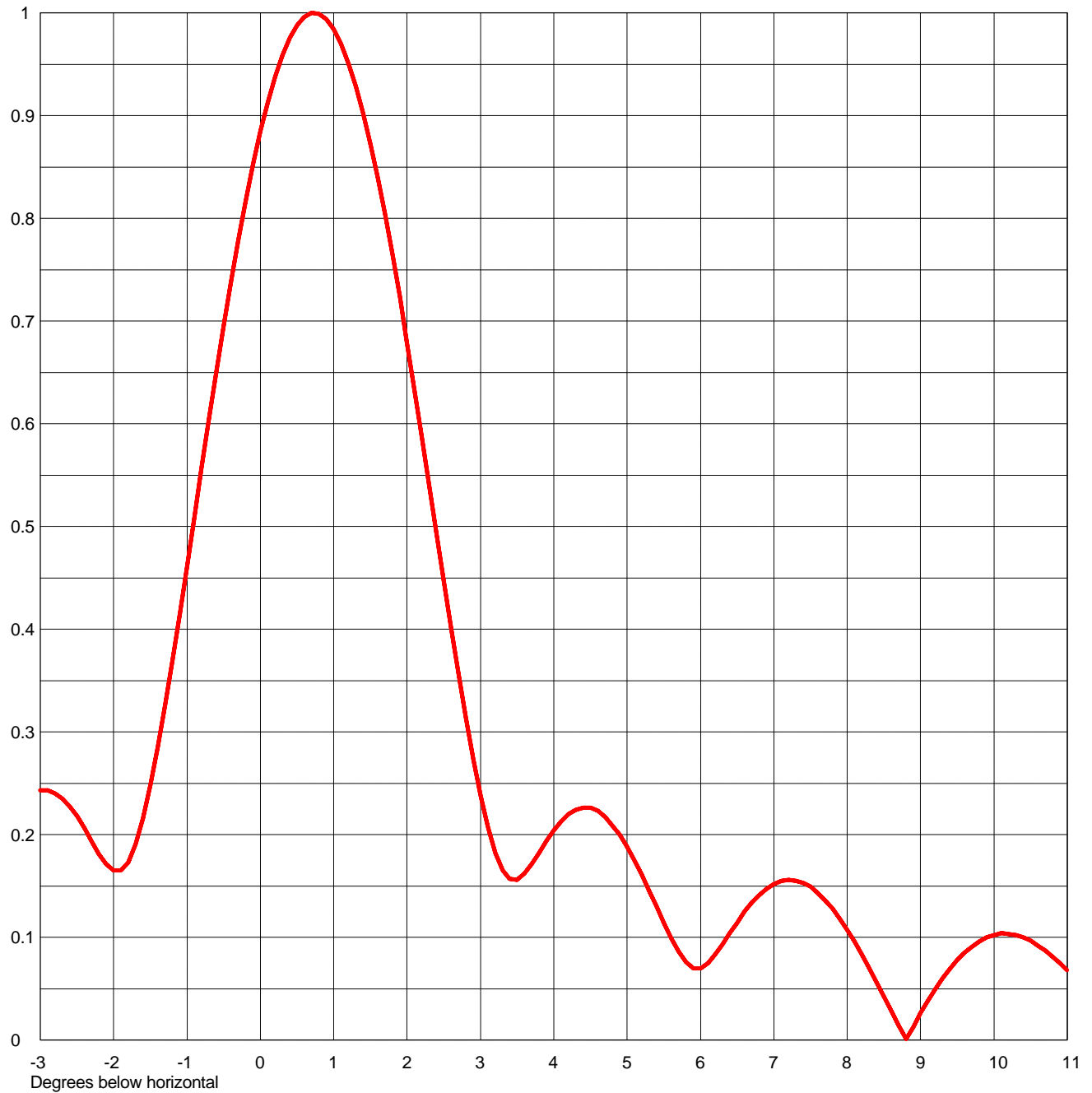
659.00 MHz

Calculated / Measured

Calculated

Drawing #

24I219075



Remarks:



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Call Letters

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Antenna Type

24 Oct 2002**KXMC-DT****Minot, ND****881-24**

Revision

Channel

45**ELEVATION PATTERN**

RMS Gain at Main Lobe

21.9 (13.40 dB)

Beam Tilt

0.75 Degrees

RMS Gain at Horizontal

17.2 (12.36 dB)

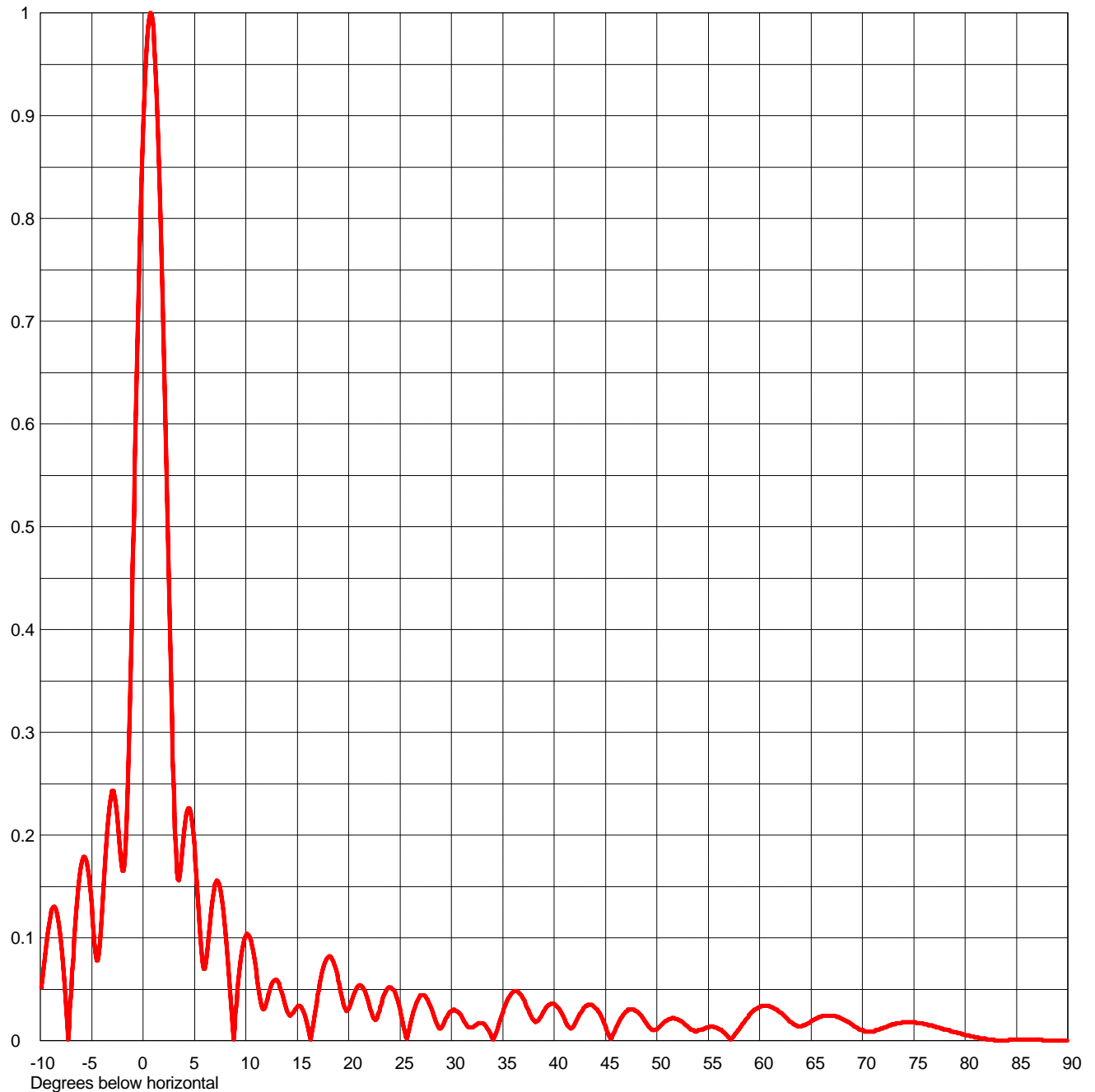
Frequency

659.00 MHz

Calculated / Measured

Calculated

Drawing #

24I219075

Remarks:



Proposal Number

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24 Oct 2002

KXMC-DT

Minot, ND

881-24

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TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **24I219075**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.046	2.4	0.494	10.6	0.092	30.5	0.029	51.0	0.020	71.5	0.010
-9.5	0.087	2.6	0.401	10.8	0.081	31.0	0.023	51.5	0.022	72.0	0.012
-9.0	0.123	2.8	0.314	11.0	0.068	31.5	0.015	52.0	0.021	72.5	0.014
-8.5	0.129	3.0	0.238	11.5	0.036	32.0	0.013	52.5	0.018	73.0	0.016
-8.0	0.097	3.2	0.182	12.0	0.037	32.5	0.016	53.0	0.014	73.5	0.017
-7.5	0.033	3.4	0.157	12.5	0.055	33.0	0.017	53.5	0.010	74.0	0.018
-7.0	0.049	3.6	0.162	13.0	0.059	33.5	0.012	54.0	0.010	74.5	0.018
-6.5	0.125	3.8	0.182	13.5	0.047	34.0	0.002	54.5	0.011	75.0	0.018
-6.0	0.172	4.0	0.204	14.0	0.029	34.5	0.012	55.0	0.013	75.5	0.017
-5.5	0.174	4.2	0.220	14.5	0.026	35.0	0.027	55.5	0.014	76.0	0.016
-5.0	0.130	4.4	0.226	15.0	0.033	35.5	0.040	56.0	0.012	76.5	0.015
-4.5	0.078	4.6	0.223	15.5	0.031	36.0	0.047	56.5	0.008	77.0	0.014
-4.0	0.124	4.8	0.209	16.0	0.015	36.5	0.047	57.0	0.003	77.5	0.013
-3.5	0.204	5.0	0.188	16.5	0.013	37.0	0.041	57.5	0.004	78.0	0.011
-3.0	0.243	5.2	0.161	17.0	0.044	37.5	0.030	58.0	0.011	78.5	0.010
-2.8	0.240	5.4	0.130	17.5	0.069	38.0	0.020	58.5	0.018	79.0	0.008
-2.6	0.227	5.6	0.099	18.0	0.081	38.5	0.020	59.0	0.025	79.5	0.007
-2.4	0.206	5.8	0.076	18.5	0.077	39.0	0.028	59.5	0.030	80.0	0.005
-2.2	0.181	6.0	0.070	19.0	0.059	39.5	0.035	60.0	0.033	80.5	0.004
-2.0	0.165	6.2	0.083	19.5	0.036	40.0	0.036	60.5	0.034	81.0	0.003
-1.8	0.173	6.4	0.104	20.0	0.031	40.5	0.031	61.0	0.033	81.5	0.002
-1.6	0.216	6.6	0.125	20.5	0.045	41.0	0.021	61.5	0.031	82.0	0.002
-1.4	0.285	6.8	0.141	21.0	0.054	41.5	0.013	62.0	0.027	82.5	0.001
-1.2	0.370	7.0	0.152	21.5	0.050	42.0	0.016	62.5	0.023	83.0	0.000
-1.0	0.462	7.2	0.156	22.0	0.035	42.5	0.026	63.0	0.018	83.5	0.000
-0.8	0.557	7.4	0.153	22.5	0.021	43.0	0.033	63.5	0.015	84.0	0.000
-0.6	0.650	7.6	0.143	23.0	0.029	43.5	0.035	64.0	0.014	84.5	0.001
-0.4	0.738	7.8	0.128	23.5	0.045	44.0	0.032	64.5	0.016	85.0	0.001
-0.2	0.817	8.0	0.107	24.0	0.052	44.5	0.025	65.0	0.019	85.5	0.001
0.0	0.885	8.2	0.083	24.5	0.047	45.0	0.014	65.5	0.021	86.0	0.001
0.2	0.938	8.4	0.056	25.0	0.030	45.5	0.002	66.0	0.023	86.5	0.001
0.4	0.976	8.6	0.028	25.5	0.008	46.0	0.012	66.5	0.024	87.0	0.001
0.6	0.996	8.8	0.001	26.0	0.016	46.5	0.022	67.0	0.024	87.5	0.001
0.8	0.999	9.0	0.026	26.5	0.034	47.0	0.028	67.5	0.023	88.0	0.000
1.0	0.984	9.2	0.049	27.0	0.044	47.5	0.030	68.0	0.021	88.5	0.000
1.2	0.951	9.4	0.069	27.5	0.043	48.0	0.029	68.5	0.019	89.0	0.000
1.4	0.902	9.6	0.085	28.0	0.033	48.5	0.024	69.0	0.016	89.5	0.000
1.6	0.839	9.8	0.096	28.5	0.018	49.0	0.017	69.5	0.013	90.0	0.000
1.8	0.764	10.0	0.102	29.0	0.012	49.5	0.011	70.0	0.010		
2.0	0.679	10.2	0.103	29.5	0.022	50.0	0.011	70.5	0.009		
2.2	0.588	10.4	0.100	30.0	0.029	50.5	0.016	71.0	0.009		

Remarks: