



Proposal #: C-00344

Antenna Type: TFU-31JSC T180

Channel:

48 DTV

Call Letters: WXXV-DT

Location: Gulfport, MS

Electrical Specifications		Value		Remarks
		Ratio	dBd	
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	28.5	14.55	
	Vpol			
RMS Gain at Horizontal over Halfwave Dipole	Hpol	15.6	11.93	
	Vpol			
Peak Directional Gain over Halfwave Dipole	Hpol	51.3	17.10	
	Vpol			
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol	28.2	14.50	
	Vpol			
Circularity	Directional	dB		
Axial Ratio		dB		
Beam Tilt		0.75 deg		
Average Power	DTV	28 kW	14.47 dBk	
Antenna Input:	T/L	4 1/16 in	50.0 ohm	Type: EIA/DCA
Maximum Antenna Input VSWR	Channel		1.08 : 1	Notes:
Patterns	Azimuth	TFU-T180-SP		
	Elevation	31Z285075	31Z285075-90	
Mechanical Specifications		Metric	English	Preliminary
Height with Lightning Protector	H4	m	ft	Side mounted
Height Less Lightning Protector	H2	15.2 m	49.9 ft	
Height of Center of Radiation	H3	7.6 m	25.0 ft	
Basic Wind Speed	V	160.9 km/h	100 mi/h	TIA/EIA-222-F.
Force Coeff. x Projected Area	CaAc	7.48 m ²	80.5 ft ²	Excludes Mounts
Moment Arm	D1	m	ft	
Force Coeff. x Projected Area	CaAc	m ²	ft ²	
Moment Arm	D3	m	ft	
Pole Bury Length	D2	m	ft	
Weight	W	0.5 t	1,110 lbs	Excludes Mounts
Antenna designed in accordance with AISC specifications for design of structural steel for building as prescribed by TIA/EIA-222-F.				

NOTE:

Prepared By :

SWB

Approved By :

JLS

Original Date : 18-May-06



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Channel **48**

Location

Gulfport, MS

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Antenna Type

TFU-31JSC T180

SYSTEM SUMMARY

Antenna:

Type:	TFU-31JSC T180	ERP:	300 kW	(24.77 dBk)
Channel:	48	Peak Gain*:	51.3	(17.10 dB)
Location:	Gulfport, MS	Input Power:	5.8 kW	(7.67 dBk)

H Pol

Transmission Line:

Type:	EIA/DCA *	Attenuation:	2.72 dB
Size:	4-1/16 in	Efficiency:	53.5%
Impedance:	50 ohm		
Length:	1,550 ft		472.6 m

Transmitter:

Power Required: **10.9 kW** (10.39 dBk)

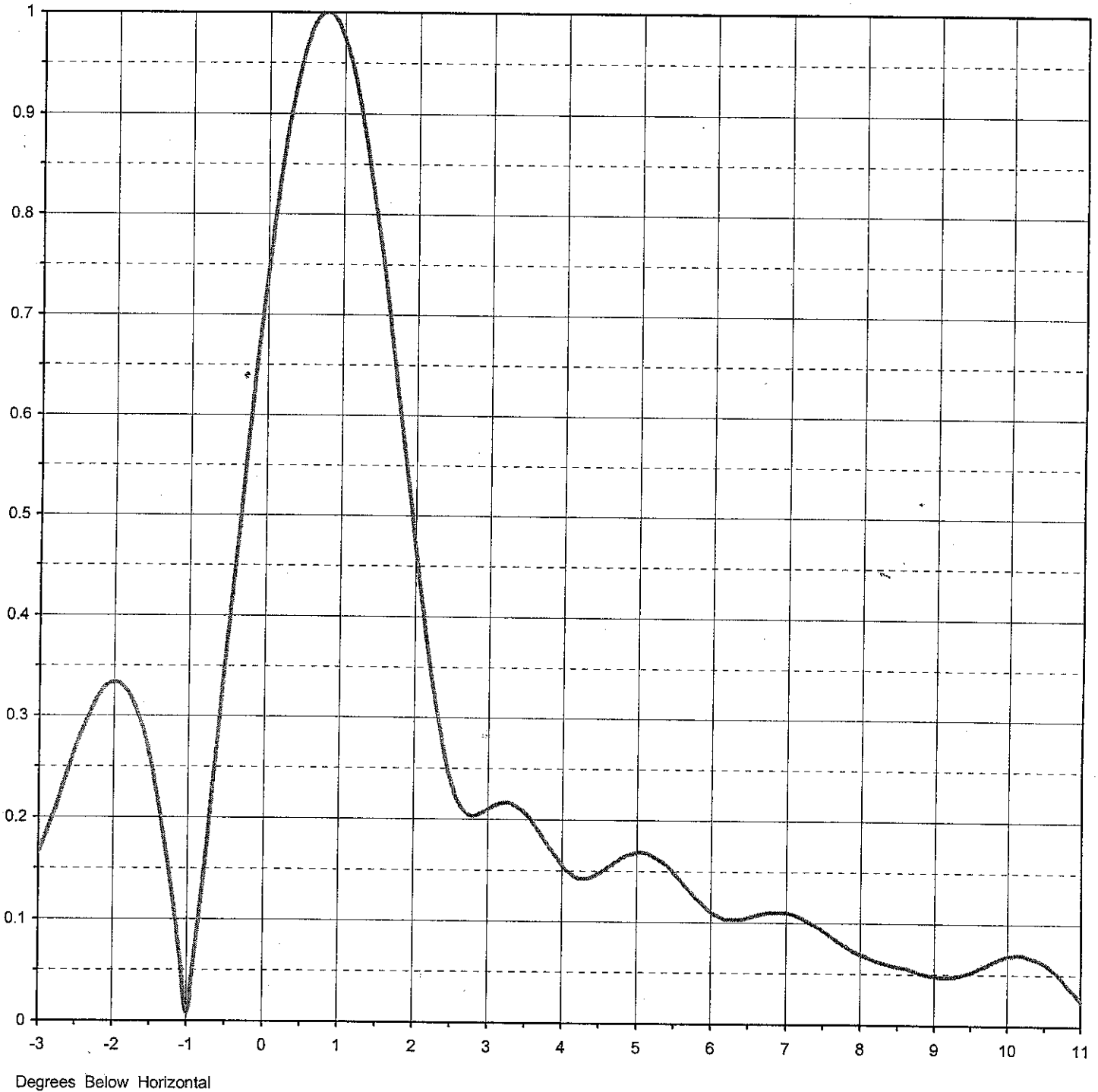
* Gain is with respect to half wave dipole.



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ELEVATION PATTERN

RMS Gain at Main Lobe	28.50	(14.55 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	15.60	(11.93 dB)	Frequency	677.00 MHz
Calculated / Measured	Calculated		Drawing #	31Z285075

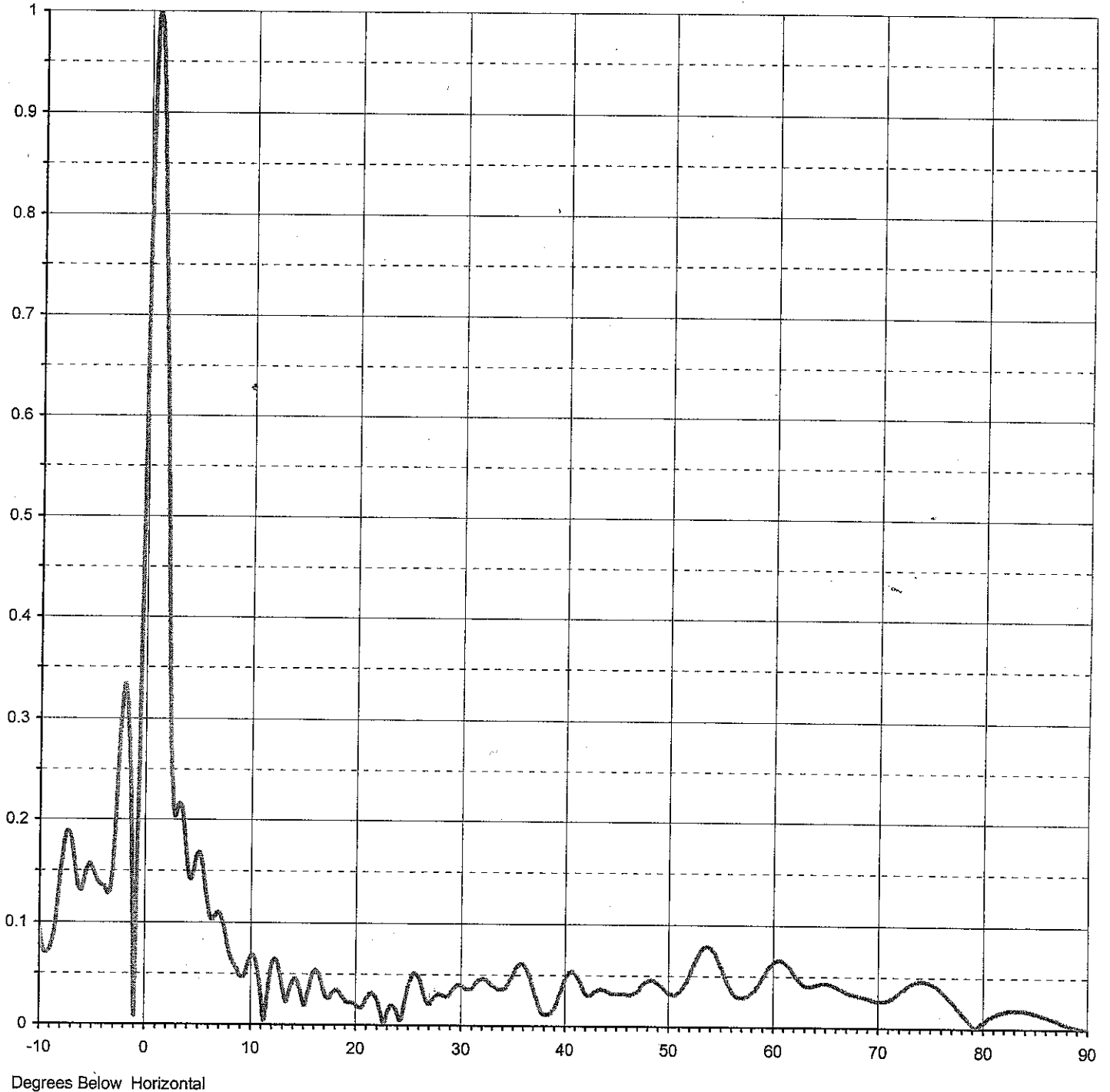




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ELEVATION PATTERN

RMS Gain at Main Lobe	28.50 (14.55 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	15.60 (11.93 dB)	Frequency	677.00 MHz
Calculated / Measured	Calculated	Drawing #	31Z285075-90





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Location **Gulfport, MS**

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Antenna Type **TFU-31JSC T180**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **31Z285075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.094	2.4	0.266	10.6	0.061	30.5	0.037	51.0	0.033	71.5	0.031
-9.5	0.070	2.6	0.216	10.8	0.049	31.0	0.036	51.5	0.039	72.0	0.035
-9.0	0.075	2.8	0.203	11.0	0.033	31.5	0.042	52.0	0.049	72.5	0.039
-8.5	0.102	3.0	0.210	11.5	0.016	32.0	0.046	52.5	0.061	73.0	0.043
-8.0	0.152	3.2	0.216	12.0	0.055	32.5	0.045	53.0	0.072	73.5	0.045
-7.5	0.187	3.4	0.212	12.5	0.064	33.0	0.040	53.5	0.078	74.0	0.046
-7.0	0.179	3.6	0.197	13.0	0.041	33.5	0.037	54.0	0.078	74.5	0.046
-6.5	0.143	3.8	0.176	13.5	0.023	34.0	0.036	54.5	0.072	75.0	0.044
-6.0	0.133	4.0	0.155	14.0	0.042	34.5	0.040	55.0	0.061	75.5	0.041
-5.5	0.153	4.2	0.143	14.5	0.043	35.0	0.049	55.5	0.048	76.0	0.037
-5.0	0.153	4.4	0.144	15.0	0.023	35.5	0.058	56.0	0.037	76.5	0.032
-4.5	0.140	4.6	0.153	15.5	0.031	36.0	0.061	56.5	0.031	77.0	0.026
-4.0	0.136	4.8	0.163	16.0	0.052	36.5	0.053	57.0	0.029	77.5	0.020
-3.5	0.128	5.0	0.168	16.5	0.051	37.0	0.038	57.5	0.030	78.0	0.014
-3.0	0.165	5.2	0.165	17.0	0.034	37.5	0.021	58.0	0.033	78.5	0.008
-2.8	0.204	5.4	0.156	17.5	0.026	38.0	0.012	58.5	0.039	79.0	0.003
-2.6	0.249	5.6	0.140	18.0	0.034	38.5	0.011	59.0	0.047	79.5	0.002
-2.4	0.290	5.8	0.123	18.5	0.033	39.0	0.016	59.5	0.056	80.0	0.006
-2.2	0.321	6.0	0.110	19.0	0.025	39.5	0.029	60.0	0.062	80.5	0.010
-2.0	0.334	6.2	0.103	19.5	0.022	40.0	0.044	60.5	0.066	81.0	0.013
-1.8	0.323	6.4	0.103	20.0	0.021	40.5	0.053	61.0	0.065	81.5	0.015
-1.6	0.285	6.6	0.107	20.5	0.017	41.0	0.052	61.5	0.060	82.0	0.017
-1.4	0.217	6.8	0.110	21.0	0.024	41.5	0.044	62.0	0.053	82.5	0.018
-1.2	0.122	7.0	0.110	21.5	0.031	42.0	0.033	62.5	0.046	83.0	0.018
-1.0	0.008	7.2	0.105	22.0	0.026	42.5	0.030	63.0	0.041	83.5	0.018
-0.8	0.140	7.4	0.097	22.5	0.010	43.0	0.034	63.5	0.040	84.0	0.018
-0.6	0.294	7.6	0.087	23.0	0.010	43.5	0.036	64.0	0.041	84.5	0.017
-0.4	0.451	7.8	0.077	23.5	0.019	44.0	0.035	64.5	0.043	85.0	0.015
-0.2	0.604	8.0	0.069	24.0	0.012	44.5	0.033	65.0	0.043	85.5	0.014
0.0	0.741	8.2	0.063	24.5	0.011	45.0	0.032	65.5	0.042	86.0	0.012
0.2	0.856	8.4	0.059	25.0	0.035	45.5	0.032	66.0	0.040	86.5	0.010
0.4	0.940	8.6	0.056	25.5	0.050	46.0	0.032	66.5	0.037	87.0	0.008
0.6	0.989	8.8	0.051	26.0	0.049	46.5	0.031	67.0	0.035	87.5	0.006
0.8	1.000	9.0	0.048	26.5	0.034	47.0	0.034	67.5	0.033	88.0	0.005
1.0	0.974	9.2	0.047	27.0	0.021	47.5	0.040	68.0	0.031	88.5	0.003
1.2	0.914	9.4	0.050	27.5	0.027	48.0	0.044	68.5	0.030	89.0	0.002
1.4	0.824	9.6	0.056	28.0	0.031	48.5	0.045	69.0	0.029	89.5	0.001
1.6	0.714	9.8	0.059	28.5	0.029	49.0	0.043	69.5	0.027	90.0	0.000
1.8	0.591	10.0	0.066	29.0	0.030	49.5	0.038	70.0	0.026		
2.0	0.467	10.2	0.069	29.5	0.037	50.0	0.033	70.5	0.026		
2.2	0.354	10.4	0.067	30.0	0.040	50.5	0.031	71.0	0.027		

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Gulfport, MS

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AZIMUTH PATTERN

Gain

1.80

(2.55 dB)

Frequency

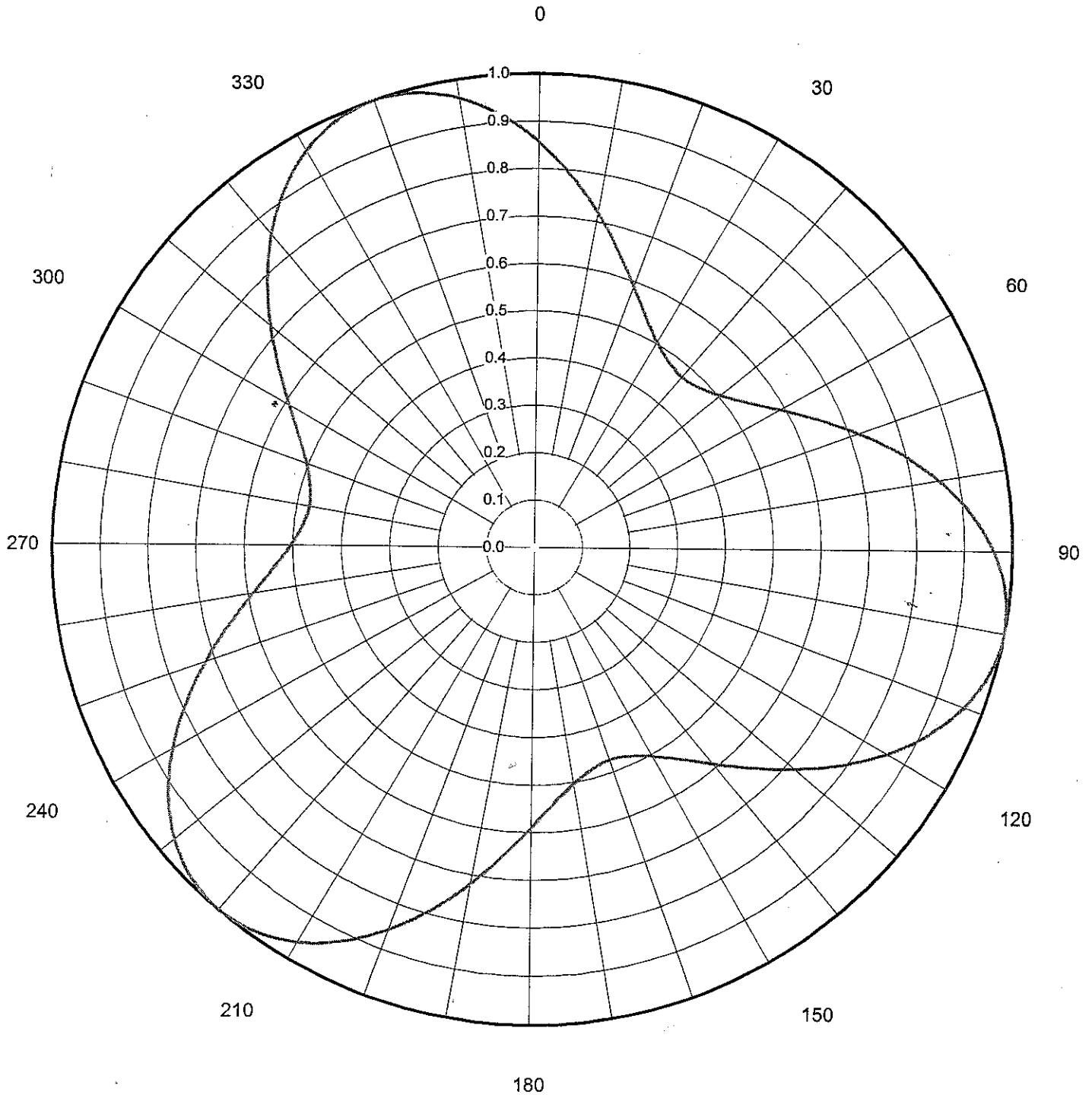
677.00 MHz

Calculated / Measured

Calculated

Drawing #

TFU-T180-SP



TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-T180-SP**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.857	45	0.482	90	0.961	135	0.650	180	0.589	225	0.990	270	0.504	315	0.790
1	0.843	46	0.485	91	0.968	136	0.637	181	0.600	226	0.986	271	0.498	316	0.804
2	0.830	47	0.489	92	0.975	137	0.624	182	0.612	227	0.980	272	0.493	317	0.817
3	0.816	48	0.493	93	0.980	138	0.612	183	0.624	228	0.975	273	0.489	318	0.831
4	0.802	49	0.498	94	0.986	139	0.600	184	0.637	229	0.968	274	0.485	319	0.844
5	0.788	50	0.504	95	0.990	140	0.589	185	0.650	230	0.961	275	0.482	320	0.857
6	0.774	51	0.510	96	0.993	141	0.578	186	0.664	231	0.953	276	0.479	321	0.869
7	0.761	52	0.517	97	0.996	142	0.568	187	0.677	232	0.945	277	0.477	322	0.882
8	0.747	53	0.524	98	0.998	143	0.558	188	0.691	233	0.936	278	0.475	323	0.893
9	0.733	54	0.532	99	1.000	144	0.549	189	0.705	234	0.926	279	0.474	324	0.905
10	0.719	55	0.540	100	1.000	145	0.540	190	0.719	235	0.915	280	0.474	325	0.915
11	0.705	56	0.549	101	1.000	146	0.532	191	0.733	236	0.905	281	0.474	326	0.926
12	0.691	57	0.558	102	0.998	147	0.524	192	0.747	237	0.893	282	0.475	327	0.936
13	0.678	58	0.568	103	0.996	148	0.517	193	0.762	238	0.882	283	0.477	328	0.945
14	0.664	59	0.578	104	0.993	149	0.510	194	0.776	239	0.869	284	0.479	329	0.953
15	0.651	60	0.589	105	0.990	150	0.504	195	0.790	240	0.857	285	0.482	330	0.961
16	0.638	61	0.600	106	0.986	151	0.498	196	0.804	241	0.844	286	0.485	331	0.968
17	0.625	62	0.612	107	0.980	152	0.493	197	0.817	242	0.831	287	0.489	332	0.975
18	0.612	63	0.624	108	0.975	153	0.489	198	0.831	243	0.817	288	0.493	333	0.980
19	0.600	64	0.637	109	0.968	154	0.485	199	0.844	244	0.804	289	0.498	334	0.986
20	0.589	65	0.650	110	0.961	155	0.482	200	0.857	245	0.790	290	0.504	335	0.990
21	0.578	66	0.664	111	0.953	156	0.479	201	0.869	246	0.776	291	0.510	336	0.993
22	0.568	67	0.677	112	0.945	157	0.477	202	0.882	247	0.762	292	0.517	337	0.996
23	0.558	68	0.691	113	0.936	158	0.475	203	0.893	248	0.747	293	0.524	338	0.998
24	0.549	69	0.705	114	0.926	159	0.474	204	0.905	249	0.733	294	0.532	339	1.000
25	0.540	70	0.719	115	0.915	160	0.474	205	0.915	250	0.719	295	0.540	340	1.000
26	0.531	71	0.733	116	0.905	161	0.474	206	0.926	251	0.705	296	0.549	341	1.000
27	0.524	72	0.747	117	0.893	162	0.475	207	0.936	252	0.691	297	0.558	342	0.998
28	0.517	73	0.762	118	0.882	163	0.477	208	0.945	253	0.677	298	0.568	343	0.996
29	0.510	74	0.776	119	0.869	164	0.479	209	0.953	254	0.664	299	0.578	344	0.994
30	0.504	75	0.790	120	0.857	165	0.482	210	0.961	255	0.650	300	0.589	345	0.990
31	0.498	76	0.804	121	0.844	166	0.485	211	0.968	256	0.637	301	0.600	346	0.986
32	0.493	77	0.817	122	0.831	167	0.489	212	0.975	257	0.624	302	0.612	347	0.981
33	0.489	78	0.831	123	0.817	168	0.493	213	0.980	258	0.612	303	0.624	348	0.975
34	0.485	79	0.844	124	0.804	169	0.498	214	0.986	259	0.600	304	0.637	349	0.968
35	0.482	80	0.857	125	0.790	170	0.504	215	0.990	260	0.589	305	0.650	350	0.961
36	0.479	81	0.869	126	0.776	171	0.510	216	0.993	261	0.578	306	0.664	351	0.953
37	0.477	82	0.882	127	0.762	172	0.517	217	0.996	262	0.568	307	0.677	352	0.945
38	0.475	83	0.893	128	0.747	173	0.524	218	0.998	263	0.558	308	0.691	353	0.935
39	0.474	84	0.905	129	0.733	174	0.532	219	1.000	264	0.549	309	0.705	354	0.925
40	0.474	85	0.915	130	0.719	175	0.540	220	1.000	265	0.540	310	0.719	355	0.915
41	0.474	86	0.926	131	0.705	176	0.549	221	1.000	266	0.532	311	0.733	356	0.904
42	0.475	87	0.936	132	0.691	177	0.558	222	0.998	267	0.524	312	0.747	357	0.893
43	0.477	88	0.945	133	0.677	178	0.568	223	0.996	268	0.517	313	0.762	358	0.882
44	0.479	89	0.953	134	0.664	179	0.578	224	0.993	269	0.510	314	0.776	359	0.869