



Proposal Number
Date
Call Letters
Location
Customer
Antenna Type

DCA-11174
13-Sep-05
WVEA-DT
Tampa, FL
Entravision
TFU-26DSC-R BP220

Revision: 1
Channel 25

SYSTEM SUMMARY

Antenna:

Type:	TFU-26DSC-R BP220	ERP:	750 kW	(28.75 dBk)
Channel:	25	Peak Gain*:	49.5	(16.95 dB)
Location:	Tampa, FL	Input Power:	15.2 kW	(11.80 dBk)

H Pol

Transmission Line:

Type:	EIA/DCA	Attenuation:	1.884 dB
Size:	6-1/8 in	Efficiency:	64.8%
Impedance:	75 ohm		
Length:	1,670 ft	509 M	

Transmitter:

Power Required: 23.46 kW (13.684 dBk)

* Gain is with respect to half wave dipole.

Dielectric

Proposal #: DCA-11174-1 Antenna Type: TFU-26DSC-R BP220
Call Letters: WVEA-DT Location: Tampa, FL

Channel: 25 DTV

Electrical Specifications		Value		Remarks
		Ratio	dB	
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	22.5	13.52	
	Vpol			
RMS Gain at Horizontal over Halfwave Dipole	Hpol	16.1	12.07	
	Vpol			
Peak Directional Gain over Halfwave Dipole	Hpol	49.5	16.95	
	Vpol			
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol	35.4	15.49	
	Vpol			
Circularity		dB		
Axial Ratio		dB		
Beam Tilt		0.75 deg		
Average Power	DTV	40 kW	16.02 dBk	
Antenna Input:	T/L	6-1/8 in	75.0 ohm	Type: EIA/DCA
Maximum Antenna Input VSWR		Channel	1.08 : 1	
Patterns	Azimuth	TFU-BP220		
	Elevation	26Q225075	26Q225075-90	
Mechanical Specifications		Metric	English	Preliminary
Height with Lightning Protector	H4	m	ft	Side mounted
Height Less Lightning Protector	H2	16.2 m	53.1 ft	
Height of Center of Radiation	H3	8.1 m	26.6 ft	
Basic Wind Speed	V	169.0 km/h	105 mi/h	TIA/EIA-222-F.
Force Coeff. x Projected Area	CaAc	9.57 m ²	103.0 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	0.7 t	1,590 lbs	Excludes Mounts
Radome				
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
Original Date : 12-Sep-05

Approved By : JLS
Revision: 1 Rev. Date: 13-Sep-05

SWB



SIDE MOUNTED ANTENNA
TFU-26DSC-R BP220
WVEA-DT: Tampa, FL

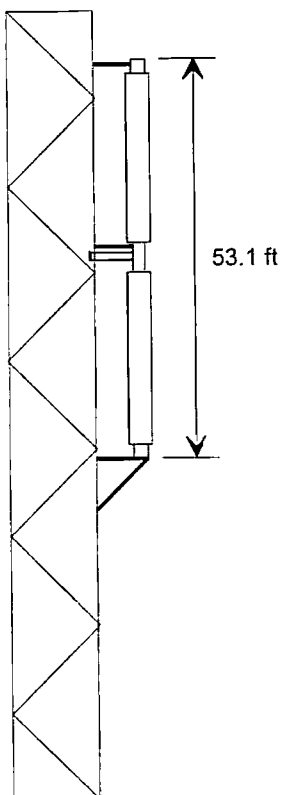
MECHANICAL DATA

CaAc = 103.0 ft² Excludes Mounts

Center of Radiation = 26.6 ft

Weight = 1590 lbs Excludes Mounts

EIA-222-F Specification
(105 mph basic wind speed)



CH d25
TFU-26DSC-R BP220

SWB-050913-01SK

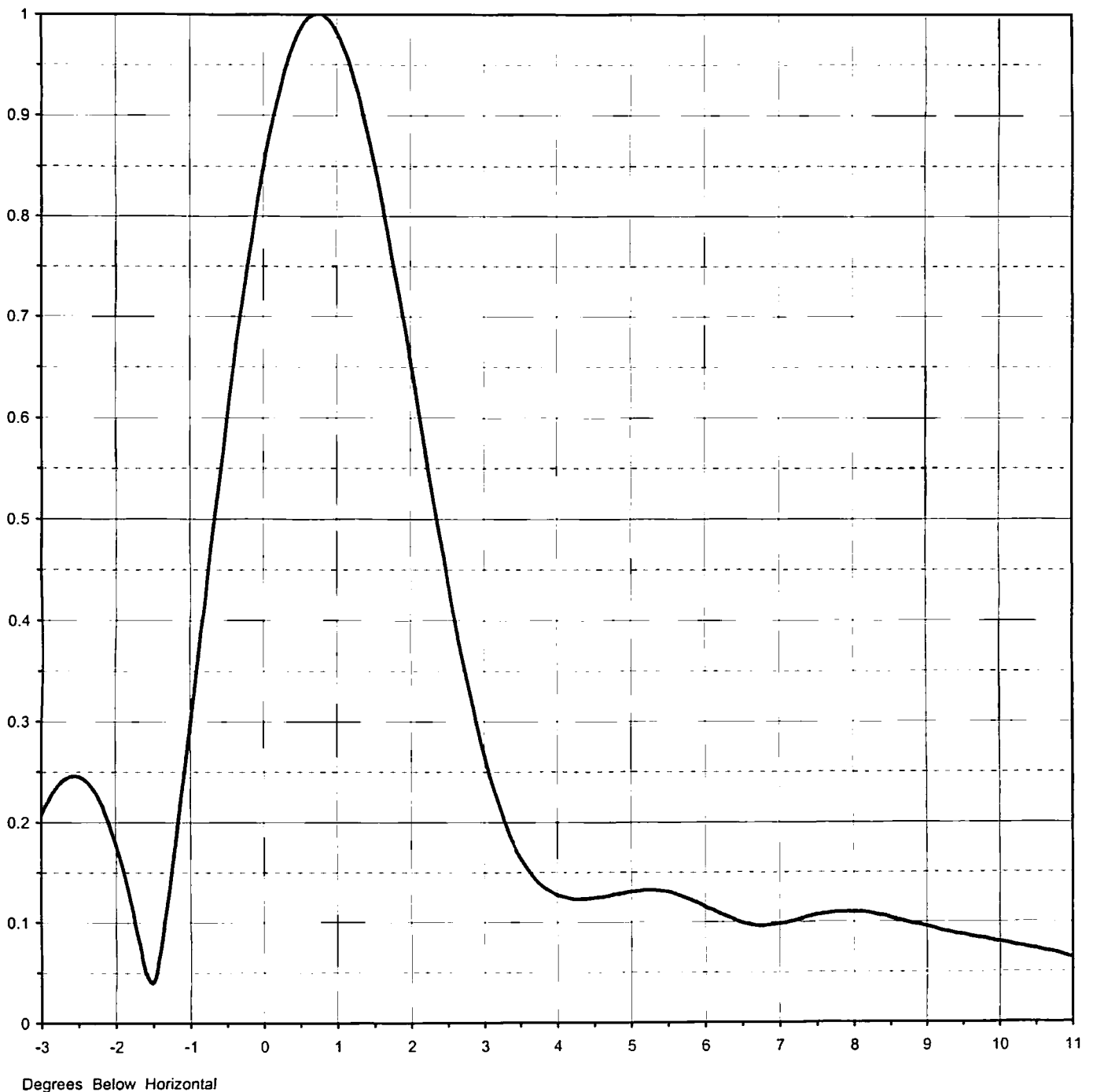
NOT DRAWN TO SCALE



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ELEVATION PATTERN

RMS Gain at Main Lobe	22.50 (13.52 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	16.10 (12.07 dB)	Frequency	539.00 MHz
Calculated / Measured	Calculated	Drawing #	26Q225075

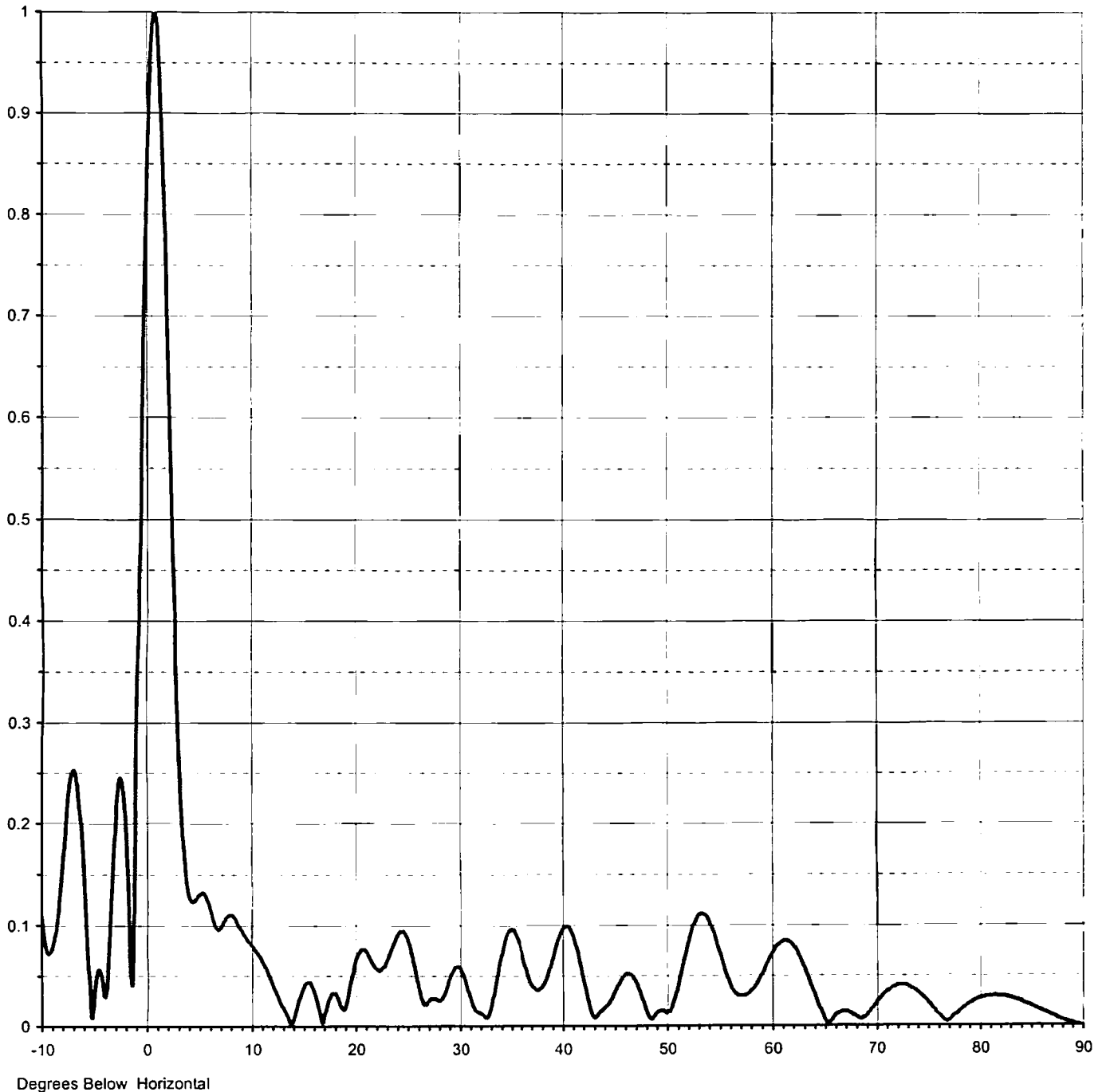




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ELEVATION PATTERN

RMS Gain at Main Lobe	22.50 (13.52 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	16.10 (12.07 dB)	Frequency	539.00 MHz
Calculated / Measured	Calculated	Drawing #	26Q225075-90



Degrees Below Horizontal



Proposal Number **DCA-11174** Revision: **1**
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TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **26Q225075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.110	2.4	0.482	10.6	0.073	30.5	0.048	51.0	0.035	71.5	0.038
-9.5	0.074	2.6	0.401	10.8	0.070	31.0	0.031	51.5	0.058	72.0	0.040
-9.0	0.077	2.8	0.329	11.0	0.066	31.5	0.017	52.0	0.080	72.5	0.040
-8.5	0.106	3.0	0.267	11.5	0.056	32.0	0.013	52.5	0.098	73.0	0.039
-8.0	0.163	3.2	0.217	12.0	0.044	32.5	0.008	53.0	0.109	73.5	0.036
-7.5	0.225	3.4	0.179	12.5	0.031	33.0	0.015	53.5	0.111	74.0	0.032
-7.0	0.253	3.6	0.153	13.0	0.020	33.5	0.040	54.0	0.105	74.5	0.027
-6.5	0.225	3.8	0.136	13.5	0.010	34.0	0.066	54.5	0.093	75.0	0.022
-6.0	0.146	4.0	0.127	14.0	0.004	34.5	0.087	55.0	0.076	75.5	0.016
-5.5	0.046	4.2	0.123	14.5	0.021	35.0	0.096	55.5	0.058	76.0	0.010
-5.0	0.034	4.4	0.123	15.0	0.037	35.5	0.091	56.0	0.043	76.5	0.005
-4.5	0.055	4.6	0.125	15.5	0.043	36.0	0.076	56.5	0.033	77.0	0.005
-4.0	0.029	4.8	0.128	16.0	0.037	36.5	0.057	57.0	0.030	77.5	0.010
-3.5	0.109	5.0	0.130	16.5	0.018	37.0	0.042	57.5	0.030	78.0	0.014
-3.0	0.207	5.2	0.132	17.0	0.007	37.5	0.036	58.0	0.034	78.5	0.018
-2.8	0.233	5.4	0.131	17.5	0.026	38.0	0.038	58.5	0.040	79.0	0.022
-2.6	0.245	5.6	0.128	18.0	0.032	38.5	0.047	59.0	0.049	79.5	0.025
-2.4	0.241	5.8	0.122	18.5	0.024	39.0	0.063	59.5	0.060	80.0	0.027
-2.2	0.219	6.0	0.115	19.0	0.017	39.5	0.081	60.0	0.071	80.5	0.028
-2.0	0.178	6.2	0.108	19.5	0.038	40.0	0.095	60.5	0.079	81.0	0.029
-1.8	0.118	6.4	0.102	20.0	0.062	40.5	0.099	61.0	0.084	81.5	0.030
-1.6	0.049	6.6	0.097	20.5	0.075	41.0	0.092	61.5	0.085	82.0	0.029
-1.4	0.076	6.8	0.096	21.0	0.075	41.5	0.074	62.0	0.081	82.5	0.028
-1.2	0.178	7.0	0.098	21.5	0.066	42.0	0.050	62.5	0.073	83.0	0.027
-1.0	0.295	7.2	0.101	22.0	0.057	42.5	0.026	63.0	0.062	83.5	0.025
-0.8	0.416	7.4	0.105	22.5	0.056	43.0	0.009	63.5	0.049	84.0	0.024
-0.6	0.537	7.6	0.108	23.0	0.063	43.5	0.012	64.0	0.034	84.5	0.021
-0.4	0.652	7.8	0.110	23.5	0.076	44.0	0.017	64.5	0.018	85.0	0.019
-0.2	0.756	8.0	0.110	24.0	0.089	44.5	0.022	65.0	0.006	85.5	0.017
0.0	0.846	8.2	0.109	24.5	0.094	45.0	0.032	65.5	0.004	86.0	0.014
0.2	0.917	8.4	0.106	25.0	0.088	45.5	0.042	66.0	0.010	86.5	0.012
0.4	0.967	8.6	0.102	25.5	0.069	46.0	0.050	66.5	0.013	87.0	0.010
0.6	0.995	8.8	0.098	26.0	0.043	46.5	0.051	67.0	0.014	87.5	0.007
0.8	1.000	9.0	0.095	26.5	0.024	47.0	0.045	67.5	0.012	88.0	0.005
1.0	0.983	9.2	0.091	27.0	0.024	47.5	0.033	68.0	0.008	88.5	0.004
1.2	0.945	9.4	0.088	27.5	0.027	48.0	0.018	68.5	0.007	89.0	0.002
1.4	0.890	9.6	0.085	28.0	0.025	48.5	0.007	69.0	0.010	89.5	0.001
1.6	0.821	9.8	0.084	28.5	0.030	49.0	0.012	69.5	0.017	90.0	0.000
1.8	0.741	10.0	0.081	29.0	0.045	49.5	0.015	70.0	0.024		
2.0	0.656	10.2	0.079	29.5	0.056	50.0	0.013	70.5	0.030		
2.2	0.568	10.4	0.076	30.0	0.058	50.5	0.018	71.0	0.035		

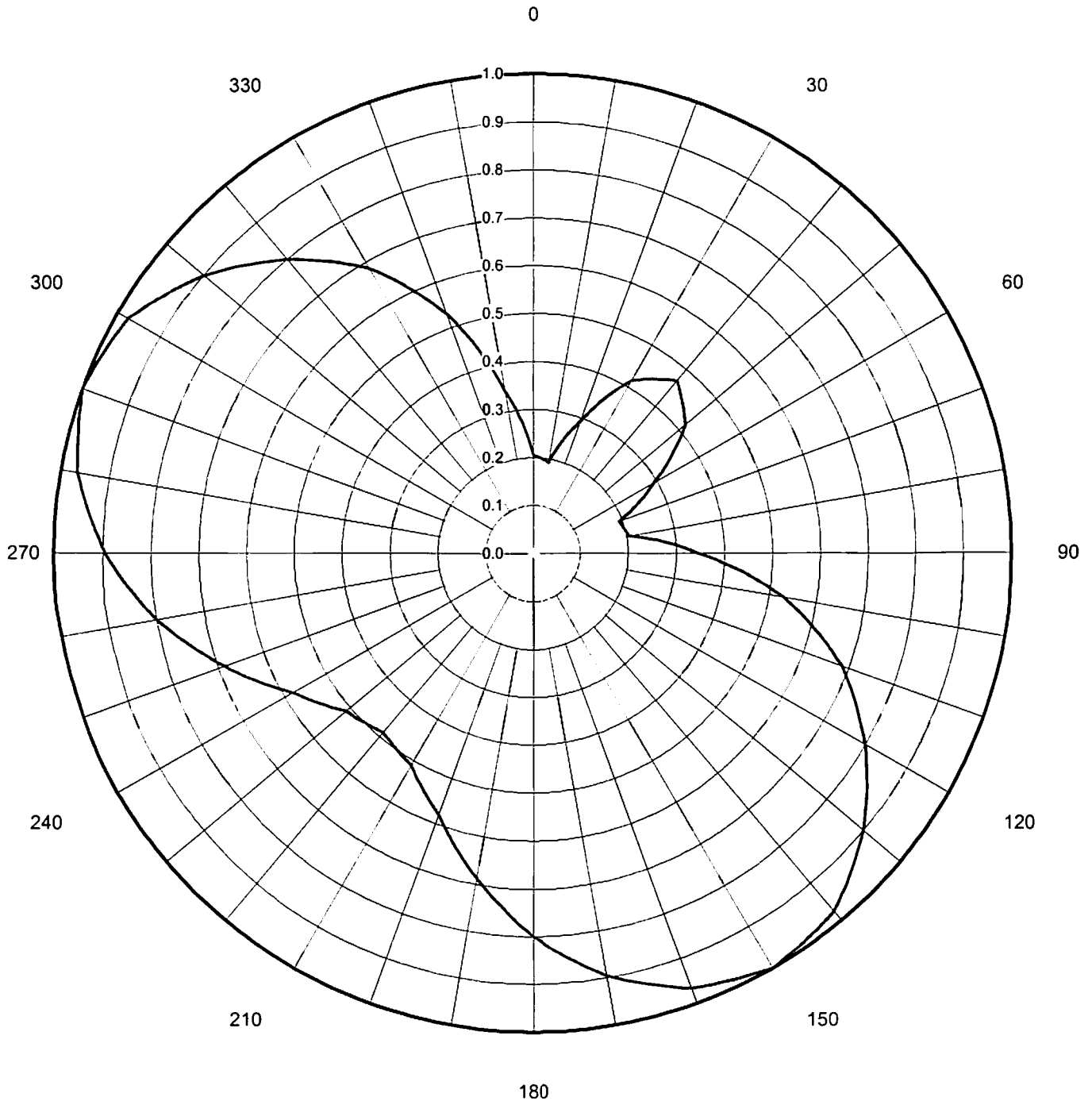


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AZIMUTH PATTERN

Gain	2.20	(3.42 dB)
Calculated / Measured	Calculated	

Frequency	539.00 MHz
Drawing #	TFU-BP220





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TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-BP220**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.205	45	0.442	90	0.344	135	0.937	180	0.799	225	0.500	270	0.895	315	0.848
1	0.204	46	0.437	91	0.363	136	0.945	181	0.788	226	0.502	271	0.902	316	0.838
2	0.202	47	0.432	92	0.381	137	0.953	182	0.776	227	0.504	272	0.909	317	0.828
3	0.201	48	0.427	93	0.400	138	0.960	183	0.765	228	0.506	273	0.916	318	0.818
4	0.200	49	0.421	94	0.418	139	0.968	184	0.754	229	0.509	274	0.923	319	0.808
5	0.199	50	0.416	95	0.437	140	0.976	185	0.743	230	0.511	275	0.930	320	0.798
6	0.197	51	0.404	96	0.456	141	0.978	186	0.731	231	0.518	276	0.938	321	0.787
7	0.196	52	0.392	97	0.474	142	0.981	187	0.720	232	0.525	277	0.945	322	0.775
8	0.195	53	0.379	98	0.493	143	0.983	188	0.709	233	0.532	278	0.952	323	0.764
9	0.193	54	0.367	99	0.511	144	0.986	189	0.697	234	0.539	279	0.959	324	0.752
10	0.192	55	0.355	100	0.530	145	0.988	190	0.686	235	0.545	280	0.966	325	0.741
11	0.202	56	0.343	101	0.545	146	0.990	191	0.675	236	0.552	281	0.969	326	0.730
12	0.212	57	0.331	102	0.561	147	0.993	192	0.665	237	0.559	282	0.973	327	0.718
13	0.223	58	0.318	103	0.576	148	0.995	193	0.654	238	0.566	283	0.976	328	0.707
14	0.233	59	0.306	104	0.592	149	0.998	194	0.644	239	0.573	284	0.980	329	0.695
15	0.243	60	0.294	105	0.607	150	1.000	195	0.633	240	0.580	285	0.983	330	0.684
16	0.253	61	0.284	106	0.622	151	0.997	196	0.622	241	0.591	286	0.986	331	0.669
17	0.263	62	0.274	107	0.638	152	0.993	197	0.612	242	0.601	287	0.990	332	0.653
18	0.274	63	0.263	108	0.653	153	0.990	198	0.601	243	0.612	288	0.993	333	0.638
19	0.284	64	0.253	109	0.669	154	0.986	199	0.591	244	0.622	289	0.997	334	0.622
20	0.294	65	0.243	110	0.684	155	0.983	200	0.580	245	0.633	290	1.000	335	0.607
21	0.306	66	0.233	111	0.695	156	0.980	201	0.573	246	0.644	291	0.998	336	0.592
22	0.318	67	0.223	112	0.707	157	0.976	202	0.566	247	0.654	292	0.995	337	0.576
23	0.331	68	0.212	113	0.718	158	0.973	203	0.559	248	0.665	293	0.993	338	0.561
24	0.343	69	0.202	114	0.730	159	0.969	204	0.552	249	0.675	294	0.990	339	0.545
25	0.355	70	0.192	115	0.741	160	0.966	205	0.545	250	0.686	295	0.988	340	0.530
26	0.367	71	0.193	116	0.752	161	0.959	206	0.539	251	0.697	296	0.986	341	0.511
27	0.379	72	0.195	117	0.764	162	0.952	207	0.532	252	0.709	297	0.983	342	0.493
28	0.392	73	0.196	118	0.775	163	0.945	208	0.525	253	0.720	298	0.981	343	0.474
29	0.404	74	0.197	119	0.787	164	0.938	209	0.518	254	0.731	299	0.978	344	0.456
30	0.416	75	0.199	120	0.798	165	0.930	210	0.511	255	0.743	300	0.976	345	0.437
31	0.421	76	0.200	121	0.808	166	0.923	211	0.509	256	0.754	301	0.968	346	0.418
32	0.427	77	0.201	122	0.818	167	0.916	212	0.506	257	0.765	302	0.960	347	0.400
33	0.432	78	0.202	123	0.828	168	0.909	213	0.504	258	0.776	303	0.953	348	0.381
34	0.437	79	0.204	124	0.838	169	0.902	214	0.502	259	0.788	304	0.945	349	0.363
35	0.442	80	0.205	125	0.848	170	0.895	215	0.500	260	0.799	305	0.937	350	0.344
36	0.448	81	0.219	126	0.858	171	0.885	216	0.497	261	0.809	306	0.929	351	0.330
37	0.453	82	0.233	127	0.868	172	0.876	217	0.495	262	0.818	307	0.921	352	0.316
38	0.458	83	0.247	128	0.878	173	0.866	218	0.493	263	0.828	308	0.914	353	0.302
39	0.464	84	0.261	129	0.888	174	0.857	219	0.490	264	0.837	309	0.906	354	0.288
40	0.469	85	0.275	130	0.898	175	0.847	220	0.488	265	0.847	310	0.898	355	0.275
41	0.464	86	0.288	131	0.906	176	0.837	221	0.490	266	0.857	311	0.888	356	0.261
42	0.458	87	0.302	132	0.914	177	0.828	222	0.493	267	0.866	312	0.878	357	0.247
43	0.453	88	0.316	133	0.921	178	0.818	223	0.495	268	0.876	313	0.868	358	0.233
44	0.448	89	0.330	134	0.929	179	0.809	224	0.497	269	0.885	314	0.858	359	0.219