



Exhibit No.

Date

10 Sep 2005

Call Letters

WVEA-DT

Channel

25

Location

Tampa, FL

Customer

Antenna Type

TFU-30DSC-R 3BP260

**AZIMUTH PATTERN**

Gain

**2.6 (4.15 dB)**

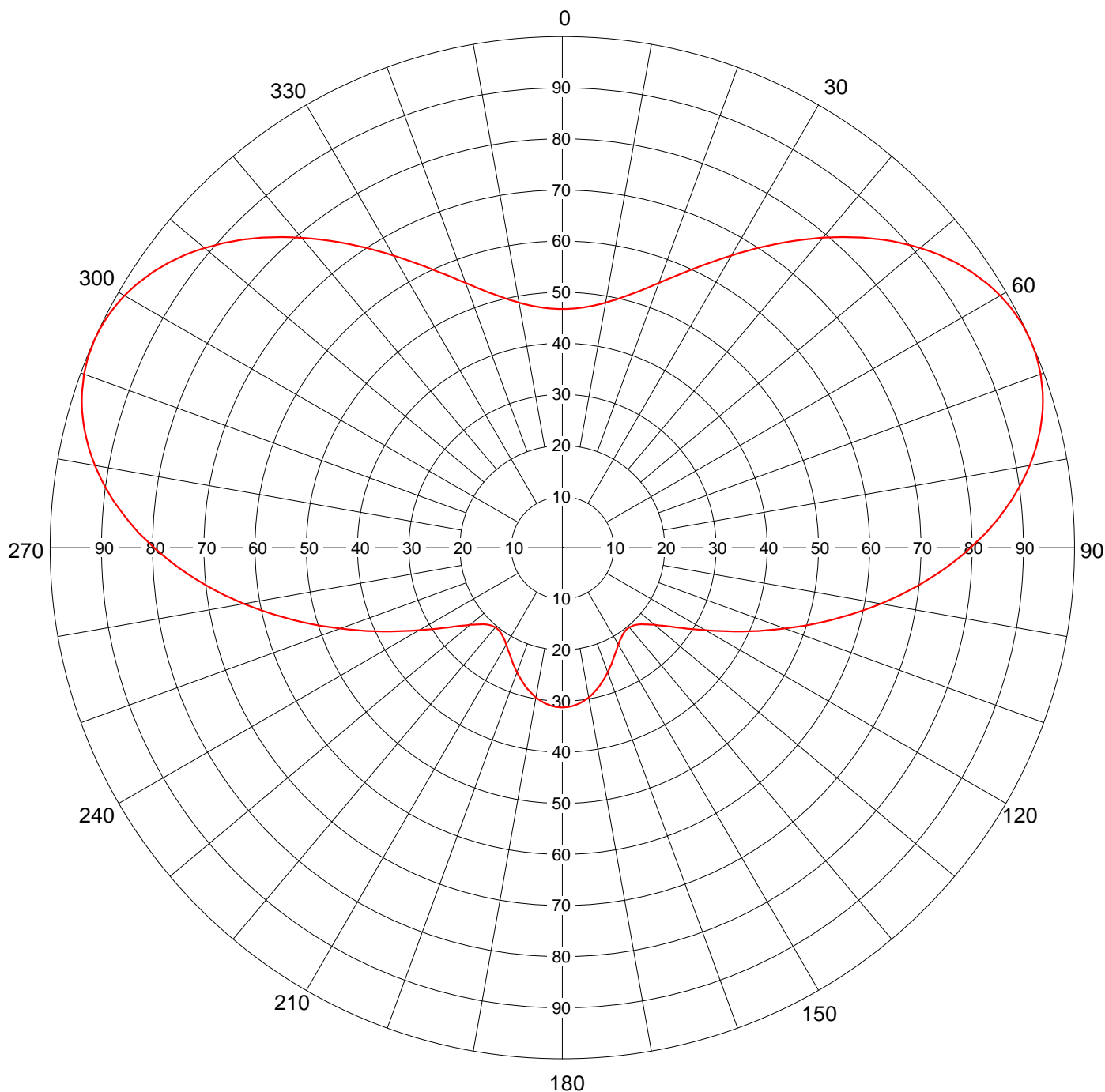
Frequency

**539 MHz**

Calculated / Measured

**Calculated**

Drawing #

**TFU-3BP260**

Remarks:



Date **10 Sep 2005**  
Call Letters **WVEA-DT** Channel **25**  
Location **Tampa, FL**  
Customer  
Antenna Type **TFU-30DSC-R 3BP260**

## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **TFU-3BP260**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.467	45	0.856	90	0.797	135	0.213	180	0.312	225	0.213	270	0.797	315	0.856
1	0.467	46	0.868	91	0.782	136	0.209	181	0.312	226	0.216	271	0.812	316	0.844
2	0.468	47	0.879	92	0.766	137	0.207	182	0.312	227	0.220	272	0.827	317	0.831
3	0.469	48	0.891	93	0.750	138	0.205	183	0.311	228	0.224	273	0.841	318	0.818
4	0.470	49	0.902	94	0.733	139	0.204	184	0.310	229	0.229	274	0.855	319	0.805
5	0.472	50	0.912	95	0.717	140	0.203	185	0.308	230	0.235	275	0.868	320	0.792
6	0.474	51	0.922	96	0.700	141	0.203	186	0.307	231	0.241	276	0.881	321	0.779
7	0.477	52	0.932	97	0.683	142	0.203	187	0.305	232	0.248	277	0.893	322	0.765
8	0.480	53	0.940	98	0.666	143	0.204	188	0.303	233	0.256	278	0.905	323	0.752
9	0.483	54	0.949	99	0.648	144	0.205	189	0.300	234	0.263	279	0.916	324	0.739
10	0.487	55	0.957	100	0.631	145	0.207	190	0.297	235	0.272	280	0.927	325	0.725
11	0.491	56	0.964	101	0.614	146	0.208	191	0.294	236	0.281	281	0.936	326	0.712
12	0.496	57	0.971	102	0.597	147	0.211	192	0.291	237	0.291	282	0.946	327	0.699
13	0.501	58	0.977	103	0.579	148	0.213	193	0.287	238	0.301	283	0.954	328	0.686
14	0.507	59	0.982	104	0.562	149	0.216	194	0.284	239	0.312	284	0.962	329	0.673
15	0.513	60	0.987	105	0.545	150	0.219	195	0.280	240	0.323	285	0.969	330	0.660
16	0.520	61	0.991	106	0.528	151	0.222	196	0.276	241	0.335	286	0.976	331	0.648
17	0.527	62	0.994	107	0.511	152	0.226	197	0.272	242	0.347	287	0.981	332	0.635
18	0.534	63	0.996	108	0.495	153	0.230	198	0.268	243	0.360	288	0.986	333	0.624
19	0.543	64	0.999	109	0.479	154	0.233	199	0.263	244	0.374	289	0.990	334	0.612
20	0.551	65	0.999	110	0.462	155	0.238	200	0.259	245	0.388	290	0.994	335	0.601
21	0.560	66	1.000	111	0.447	156	0.242	201	0.255	246	0.402	291	0.996	336	0.590
22	0.570	67	0.999	112	0.431	157	0.246	202	0.250	247	0.416	292	0.998	337	0.580
23	0.580	68	0.998	113	0.416	158	0.250	203	0.246	248	0.431	293	0.999	338	0.570
24	0.590	69	0.996	114	0.402	159	0.255	204	0.242	249	0.447	294	1.000	339	0.560
25	0.601	70	0.994	115	0.388	160	0.259	205	0.238	250	0.462	295	0.999	340	0.551
26	0.612	71	0.990	116	0.374	161	0.263	206	0.233	251	0.479	296	0.999	341	0.543
27	0.624	72	0.986	117	0.360	162	0.268	207	0.230	252	0.495	297	0.996	342	0.534
28	0.635	73	0.981	118	0.347	163	0.272	208	0.226	253	0.511	298	0.994	343	0.527
29	0.648	74	0.976	119	0.335	164	0.276	209	0.222	254	0.528	299	0.991	344	0.520
30	0.660	75	0.969	120	0.323	165	0.280	210	0.219	255	0.545	300	0.987	345	0.513
31	0.673	76	0.962	121	0.312	166	0.284	211	0.216	256	0.562	301	0.982	346	0.507
32	0.686	77	0.954	122	0.301	167	0.287	212	0.213	257	0.579	302	0.977	347	0.501
33	0.699	78	0.946	123	0.291	168	0.291	213	0.211	258	0.597	303	0.971	348	0.496
34	0.712	79	0.936	124	0.281	169	0.294	214	0.208	259	0.614	304	0.964	349	0.491
35	0.725	80	0.927	125	0.272	170	0.297	215	0.207	260	0.631	305	0.957	350	0.487
36	0.739	81	0.916	126	0.263	171	0.300	216	0.205	261	0.648	306	0.949	351	0.483
37	0.752	82	0.905	127	0.256	172	0.303	217	0.204	262	0.666	307	0.940	352	0.480
38	0.765	83	0.893	128	0.248	173	0.305	218	0.203	263	0.683	308	0.932	353	0.477
39	0.779	84	0.881	129	0.241	174	0.307	219	0.203	264	0.700	309	0.922	354	0.474
40	0.792	85	0.868	130	0.235	175	0.308	220	0.203	265	0.717	310	0.912	355	0.472
41	0.805	86	0.855	131	0.229	176	0.310	221	0.204	266	0.733	311	0.902	356	0.470
42	0.818	87	0.841	132	0.224	177	0.311	222	0.205	267	0.750	312	0.891	357	0.469
43	0.831	88	0.827	133	0.220	178	0.312	223	0.207	268	0.766	313	0.879	358	0.468
44	0.844	89	0.812	134	0.216	179	0.312	224	0.209	269	0.782	314	0.868	359	0.467

Remarks:



Date **10 Sep 2005**  
 Call Letters **WVEA-DT** Channel **25**  
 Location **Tampa, FL**  
 Customer  
 Antenna Type **TFU-30DSC-R 3BP260**

## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **TFU-3BP260**

Angle	Field	ERP (kW)	ERP (dBk)
0	0.467	163.6	22.14
10	0.487	177.9	22.50
20	0.551	227.7	23.57
30	0.660	326.7	25.14
40	0.792	470.4	26.73
50	0.912	623.8	27.95
60	0.987	730.6	28.64
70	0.994	741.0	28.70
80	0.927	644.5	28.09
90	0.797	476.4	26.78
100	0.631	298.6	24.75
110	0.462	160.1	22.04
120	0.323	78.2	18.93
130	0.235	41.4	16.17
140	0.203	30.9	14.90
150	0.219	36.0	15.56
160	0.259	50.3	17.02
170	0.297	66.2	18.21
180	0.312	73.0	18.63
190	0.297	66.2	18.21
200	0.259	50.3	17.02
210	0.219	36.0	15.56
220	0.203	30.9	14.90
230	0.235	41.4	16.17
240	0.323	78.2	18.93
250	0.462	160.1	22.04
260	0.631	298.6	24.75
270	0.797	476.4	26.78
280	0.927	644.5	28.09
290	0.994	741.0	28.70
300	0.987	730.6	28.64
310	0.912	623.8	27.95
320	0.792	470.4	26.73
330	0.660	326.7	25.14
340	0.551	227.7	23.57
350	0.487	177.9	22.50

### Maxima

Angle	Field	ERP (kW)	ERP (dBk)
66	1.000	750.0	28.75
180	0.312	73.0	18.63
294	1.000	750.0	28.75

### Minima

Angle	Field	ERP (kW)	ERP (dBk)
142	0.203	30.9	14.90
218	0.203	30.9	14.90

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Location

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Antenna Type

TFU-30DSC-R 3BP260

**ELEVATION PATTERN**

RMS Gain at Main Lobe

**25.5 (14.07 dB)**

Beam Tilt

**0.75 Degrees**

RMS Gain at Horizontal

**16.6 (12.20 dB)**

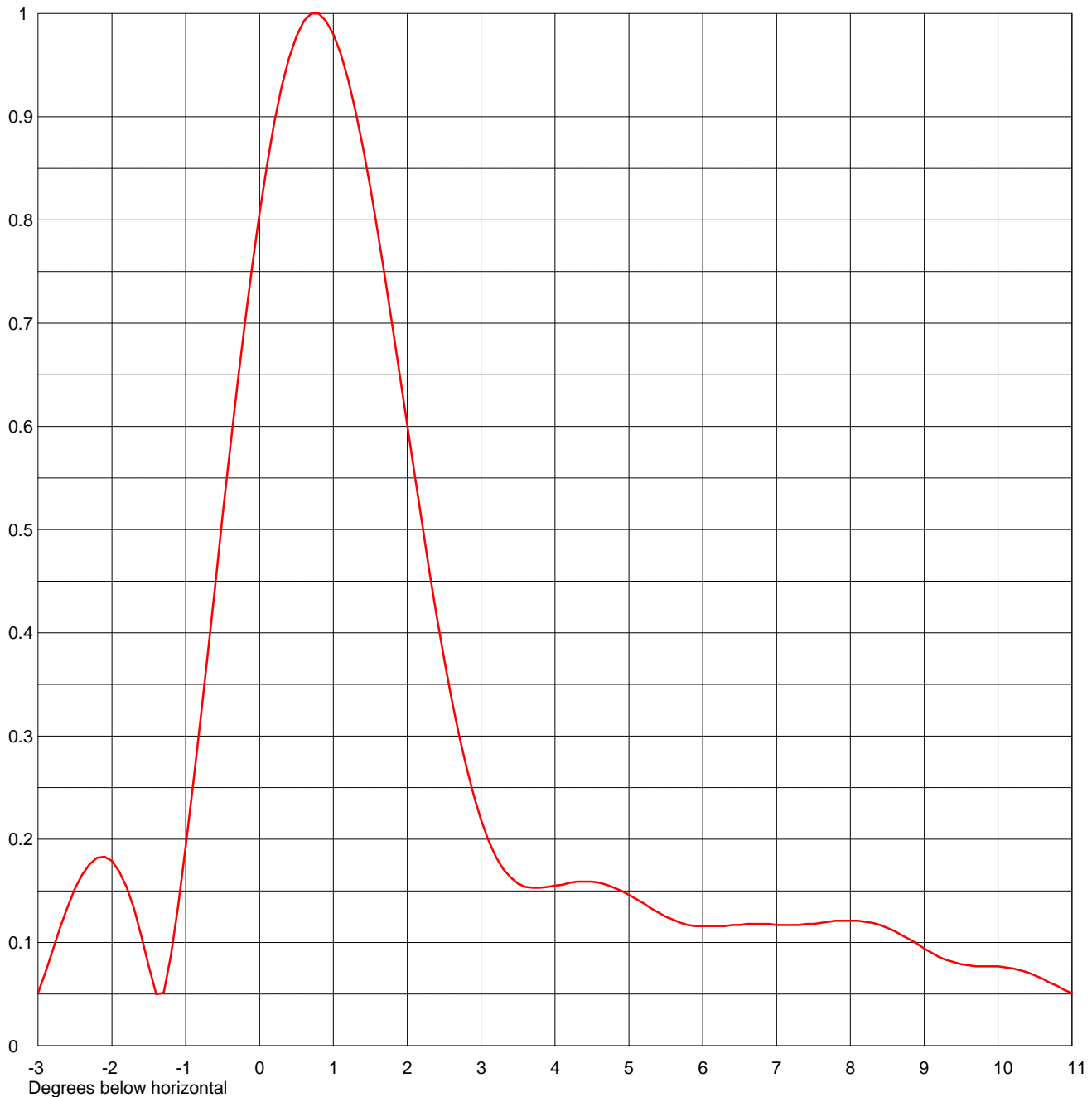
Frequency

**539.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**30Q255075**

Remarks:



Date

10 Sep 2005

Call Letters

WVEA-DT

Channel

25

Location

Tampa, FL

Customer

Antenna Type

TFU-30DSC-R 3BP260

**ELEVATION PATTERN**

RMS Gain at Main Lobe

**25.5 (14.07 dB)**

Beam Tilt

**0.75 Degrees**

RMS Gain at Horizontal

**16.6 (12.20 dB)**

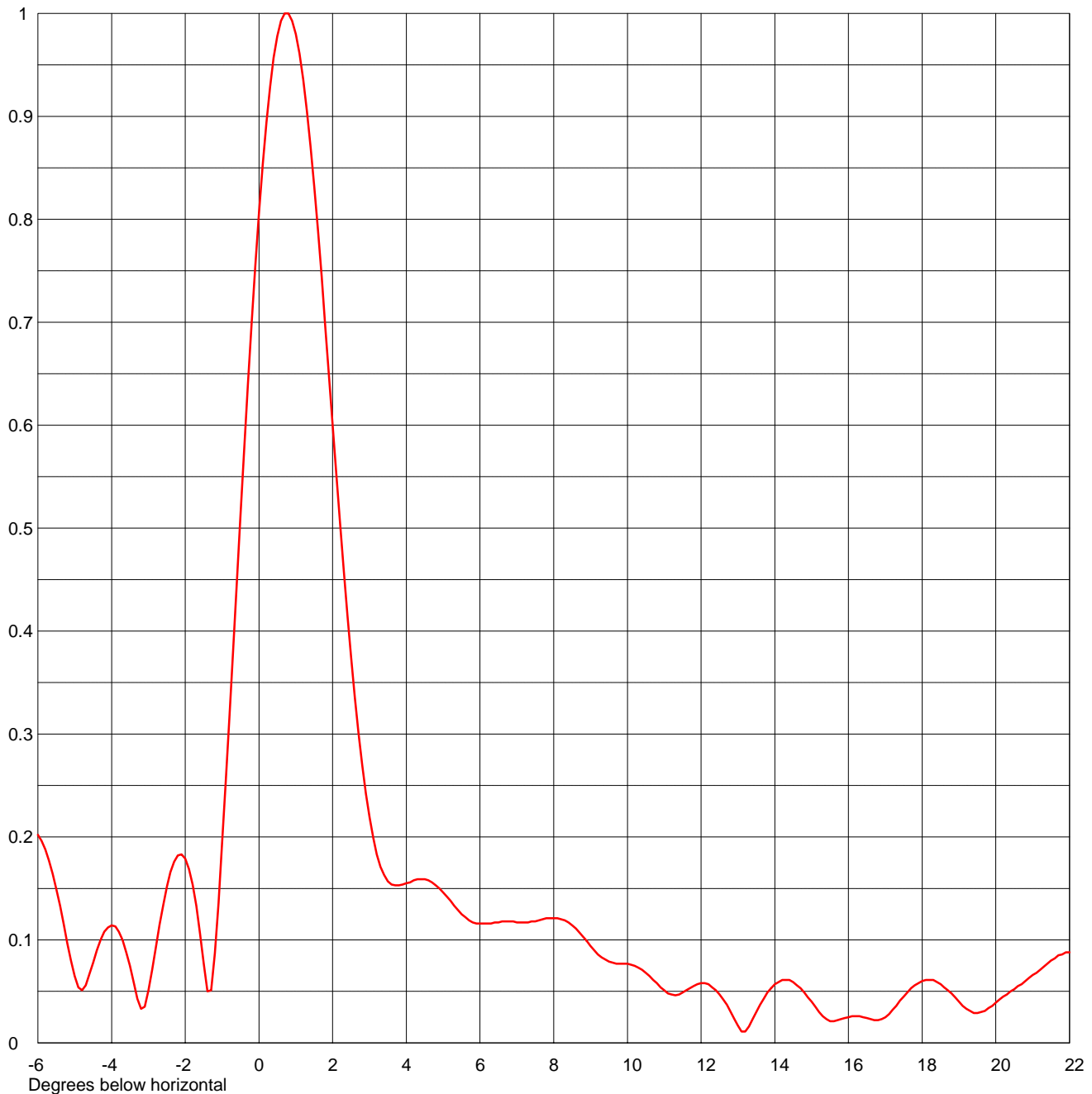
Frequency

**539.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**30Q255075**

Remarks:



Date

10 Sep 2005

Call Letters

WVEA-DT

Channel

25

Location

Tampa, FL

Customer

Antenna Type

TFU-30DSC-R 3BP260

**ELEVATION PATTERN**

RMS Gain at Main Lobe

**25.5 (14.07 dB)**

Beam Tilt

**0.75 Degrees**

RMS Gain at Horizontal

**16.6 (12.20 dB)**

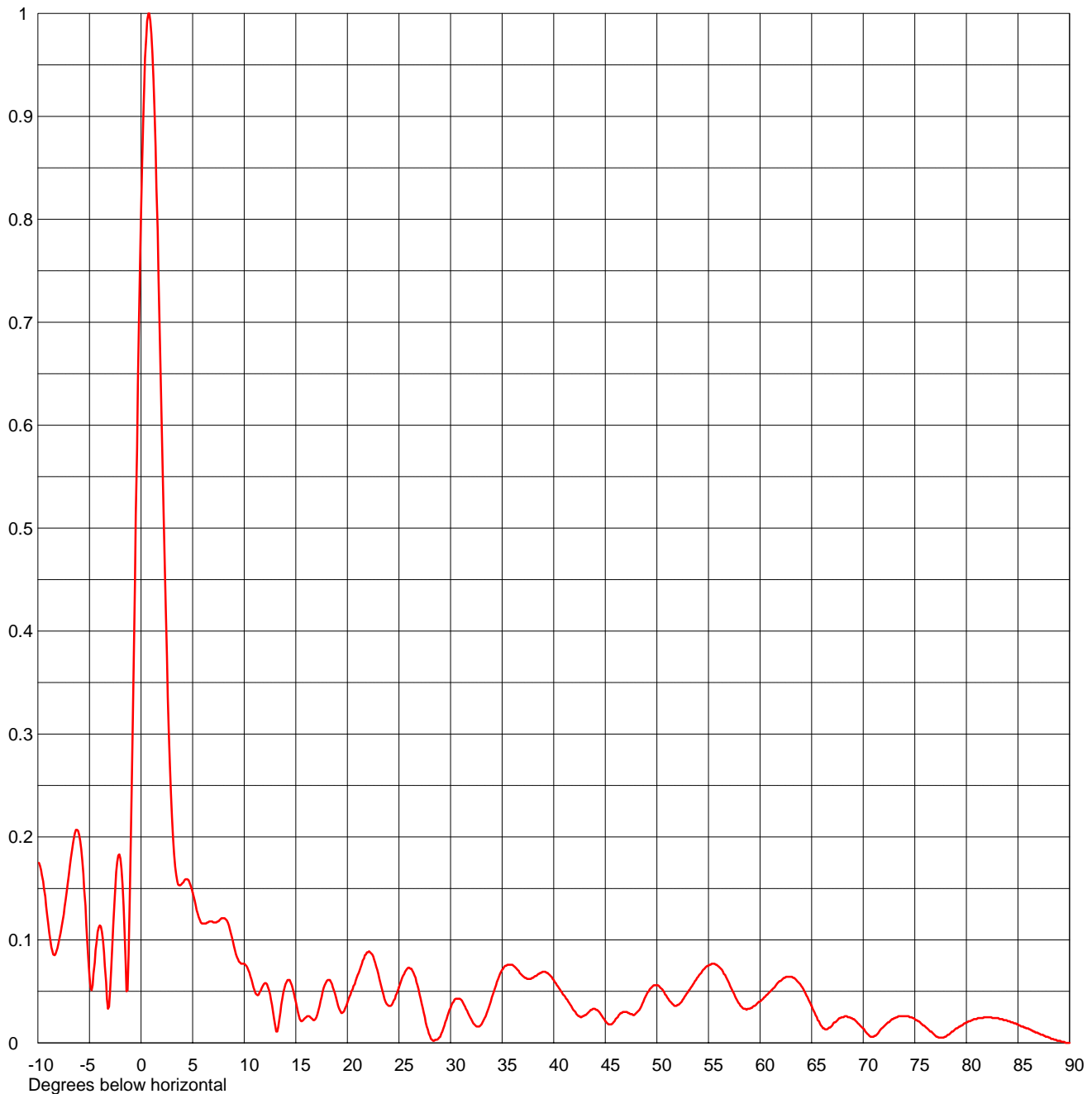
Frequency

**539.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**30Q255075-90**

Remarks:



Date **10 Sep 2005**  
 Call Letters **WVEA-DT** Channel **25**  
 Location **Tampa, FL**  
 Customer  
 Antenna Type **TFU-30DSC-R 3BP260**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **30Q255075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.176	2.4	0.416	10.6	0.065	30.5	0.043	51.0	0.044	71.5	0.010
-9.5	0.157	2.6	0.336	10.8	0.058	31.0	0.042	51.5	0.038	72.0	0.016
-9.0	0.116	2.8	0.270	11.0	0.051	31.5	0.033	52.0	0.037	72.5	0.020
-8.5	0.086	3.0	0.219	11.5	0.049	32.0	0.023	52.5	0.042	73.0	0.024
-8.0	0.097	3.2	0.183	12.0	0.058	32.5	0.016	53.0	0.049	73.5	0.026
-7.5	0.125	3.4	0.163	12.5	0.047	33.0	0.018	53.5	0.057	74.0	0.026
-7.0	0.163	3.6	0.154	13.0	0.017	33.5	0.029	54.0	0.064	74.5	0.025
-6.5	0.200	3.8	0.153	13.5	0.030	34.0	0.044	54.5	0.071	75.0	0.023
-6.0	0.202	4.0	0.155	14.0	0.057	34.5	0.059	55.0	0.075	75.5	0.020
-5.5	0.149	4.2	0.158	14.5	0.059	35.0	0.071	55.5	0.077	76.0	0.016
-5.0	0.065	4.4	0.159	15.0	0.040	35.5	0.076	56.0	0.074	76.5	0.011
-4.5	0.078	4.6	0.158	15.5	0.021	36.0	0.076	56.5	0.067	77.0	0.007
-4.0	0.114	4.8	0.153	16.0	0.025	36.5	0.071	57.0	0.058	77.5	0.005
-3.5	0.075	5.0	0.146	16.5	0.024	37.0	0.065	57.5	0.047	78.0	0.006
-3.0	0.051	5.2	0.138	17.0	0.025	37.5	0.062	58.0	0.038	78.5	0.010
-2.8	0.093	5.4	0.129	17.5	0.045	38.0	0.063	58.5	0.033	79.0	0.014
-2.6	0.134	5.6	0.122	18.0	0.060	38.5	0.067	59.0	0.033	79.5	0.017
-2.4	0.166	5.8	0.117	18.5	0.057	39.0	0.069	59.5	0.036	80.0	0.020
-2.2	0.182	6.0	0.116	19.0	0.040	39.5	0.067	60.0	0.040	80.5	0.022
-2.0	0.179	6.2	0.116	19.5	0.029	40.0	0.061	60.5	0.045	81.0	0.023
-1.8	0.154	6.4	0.117	20.0	0.039	40.5	0.053	61.0	0.050	81.5	0.024
-1.6	0.106	6.6	0.118	20.5	0.052	41.0	0.046	61.5	0.055	82.0	0.025
-1.4	0.050	6.8	0.118	21.0	0.066	41.5	0.039	62.0	0.060	82.5	0.024
-1.2	0.087	7.0	0.117	21.5	0.080	42.0	0.031	62.5	0.064	83.0	0.024
-1.0	0.193	7.2	0.117	22.0	0.088	42.5	0.026	63.0	0.064	83.5	0.023
-0.8	0.316	7.4	0.118	22.5	0.084	43.0	0.027	63.5	0.061	84.0	0.021
-0.6	0.447	7.6	0.119	23.0	0.067	43.5	0.031	64.0	0.055	84.5	0.020
-0.4	0.577	7.8	0.121	23.5	0.046	44.0	0.033	64.5	0.046	85.0	0.018
-0.2	0.699	8.0	0.121	24.0	0.036	44.5	0.029	65.0	0.036	85.5	0.016
0.0	0.807	8.2	0.120	24.5	0.041	45.0	0.021	65.5	0.025	86.0	0.014
0.2	0.894	8.4	0.117	25.0	0.054	45.5	0.018	66.0	0.016	86.5	0.011
0.4	0.957	8.6	0.111	25.5	0.067	46.0	0.023	66.5	0.013	87.0	0.009
0.6	0.993	8.8	0.103	26.0	0.073	46.5	0.029	67.0	0.017	87.5	0.007
0.8	1.000	9.0	0.094	26.5	0.066	47.0	0.030	67.5	0.022	88.0	0.005
1.0	0.980	9.2	0.086	27.0	0.047	47.5	0.028	68.0	0.025	88.5	0.003
1.2	0.936	9.4	0.081	27.5	0.025	48.0	0.029	68.5	0.025	89.0	0.002
1.4	0.870	9.6	0.078	28.0	0.007	48.5	0.036	69.0	0.023	89.5	0.001
1.6	0.789	9.8	0.077	28.5	0.003	49.0	0.047	69.5	0.019	90.0	0.000
1.8	0.697	10.0	0.077	29.0	0.006	49.5	0.054	70.0	0.014		
2.0	0.601	10.2	0.075	29.5	0.020	50.0	0.056	70.5	0.008		
2.2	0.506	10.4	0.071	30.0	0.034	50.5	0.052	71.0	0.006		

Remarks:



## SYSTEM SUMMARY

### Antenna:

Type:	TFU-30DSC-R 3BP260	ERP:	750 kW	H Pol ( 28.75 dBk )
Channel:	25	Peak Gain*:	66.3	( 18.22 dB )
Location:	Tampa, FL	Input Power:	11.31 kW	( 10.54 dBk )

### Transmission Line:

Type:	EIA Style Rigid TL	Attenuation:	2.26 dB
Size:	6-1/8" 75 ohm	Efficiency:	59.5%
Length	2000 ft	610 m	

### Transmitter:

Average Power Required: 19.01 kW ( 12.79 dBk )

\* Gain is with respect to half wave dipole.





## **MECHANICAL SPECIFICATIONS**

### **Antenna:**

Type: **TFU-30DSC-R 3BP260**  
Channel: **25**  
Location: **Tampa, FL**

Antenna Length (H2): **60.4 ft**

Center of Radiation (H3): **30.2 ft**