

Dielectric

Proposal #: **DCA-11268-1** Antenna Type: **TFU-32DSB-R O3**
 Call Letters: **KTAL-DT** Location: **Texarkana, TX**

Channel: **15 DTV**

Electrical Specifications		Value		Remarks	
		Ratio	dB		
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	32.0	15.05		
	Vpol				
RMS Gain at Horizontal over Halfwave Dipole	Hpol	14.2	11.52		
	Vpol				
Peak Directional Gain over Halfwave Dipole	Hpol				
	Vpol				
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol				
	Vpol				
Circularity		+/- 1.0 dB		In free space	
Axial Ratio		dB			
Beam Tilt		0.75 deg			
Average Power	DTV	35 kW	15.44 dBk		
Antenna Input:	T/L	6-1/8 in	75.0 ohm	Type:	EIA/DCA
Maximum Antenna Input VSWR		Channel	1.08 : 1	Notes: Feed system is 3-1/8 FLEXLine®	
Patterns	Azimuth	TFU-O3-4790			
	Elevation	32B320075	32B320075-90		
Mechanical Specifications		Metric	English	Preliminary	1/2 inch ice
Height with Lightning Protector	H4	m	ft	Side mounted	
Height Less Lightning Protector	H2	22.9 m	75.2 ft		
Height of Center of Radiation	H3	11.5 m	37.6 ft		
Basic Wind Speed	V	112.7 km/h	70 mi/h	TIA/EIA-222-F.	
Force Coeff. x Projected Area	CaAc	14.63 m²	157.5 ft²	Excludes Mounts	185.3 ft²
Moment Arm	D1	m	ft		
Force Coeff. x Projected Area	CaAc	m²	ft²		
Moment Arm	D3	m	ft		
Pole Bury Length	D2	m	ft		
Weight	W	0.8 t	1,870 lbs	Excludes Mounts	2,800 lbs
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 :
 Original Date : 9-Nov-05

SWB

Steve
Brower

Revision: 1

Digitally signed by Steve Brower
 DN: CN = Steve Brower, C =
 US, O = Dielectric, OU = Sales
 Reason: I am the author of this
 document
 Date: 2005.11.16 08:20:25 -
 05'00'

Approved By : *PSS 11/16/05*
 Rev. Date: 16-Nov-05

JLS

SWB



DTV SIDE MOUNTED ANTENNA
TFU-32DSB-R O3
KTAL-DT: Texarkana, TX

MECHANICAL DATA

CaAc = 157.5 ft² Excludes Mounts

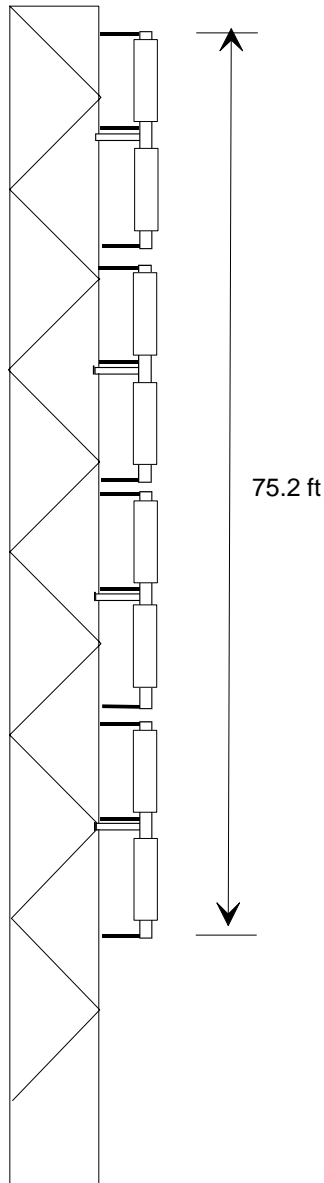
Weight = 1870 lbs Excludes Mounts

TIA/EIA-222-F
(70 mi/h basic wind speed)

With 1/2 inch ice

CaAc = 185.3 ft² Excludes Mounts

Weight = 2,800 lbs Excludes Mounts



CH d15
TFU-32DSB-R O3

SWB-051110-2SK

NOT DRAWN TO SCALE



Proposal Number
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Antenna Type

DCA-11268 Revision: **1**
16-Nov-05
KTAL-DT Channel **15**
Texarkana, TX
TFU-32DSB-R O3

SYSTEM SUMMARY

Antenna:

Type:	TFU-32DSB-R O3	ERP:	1000 kW	H Pol	(30.00 dBk)
Channel:	15	RMS Gain*:	32.0		(15.05 dB)
Location:	Texarkana, TX	Input Power:	31.3 kW		(14.95 dBk)

Transmission Line:

Type:	EIA/DCA	Attenuation:		1.61 dB
Size:	6-1/8 in	Efficiency:	69.0%	
Impedance:	75 ohm			
Length:	1,525 ft		464.8 m	

Transmitter:

Power Required: **45.3 kW** **(16.56 dBk)**

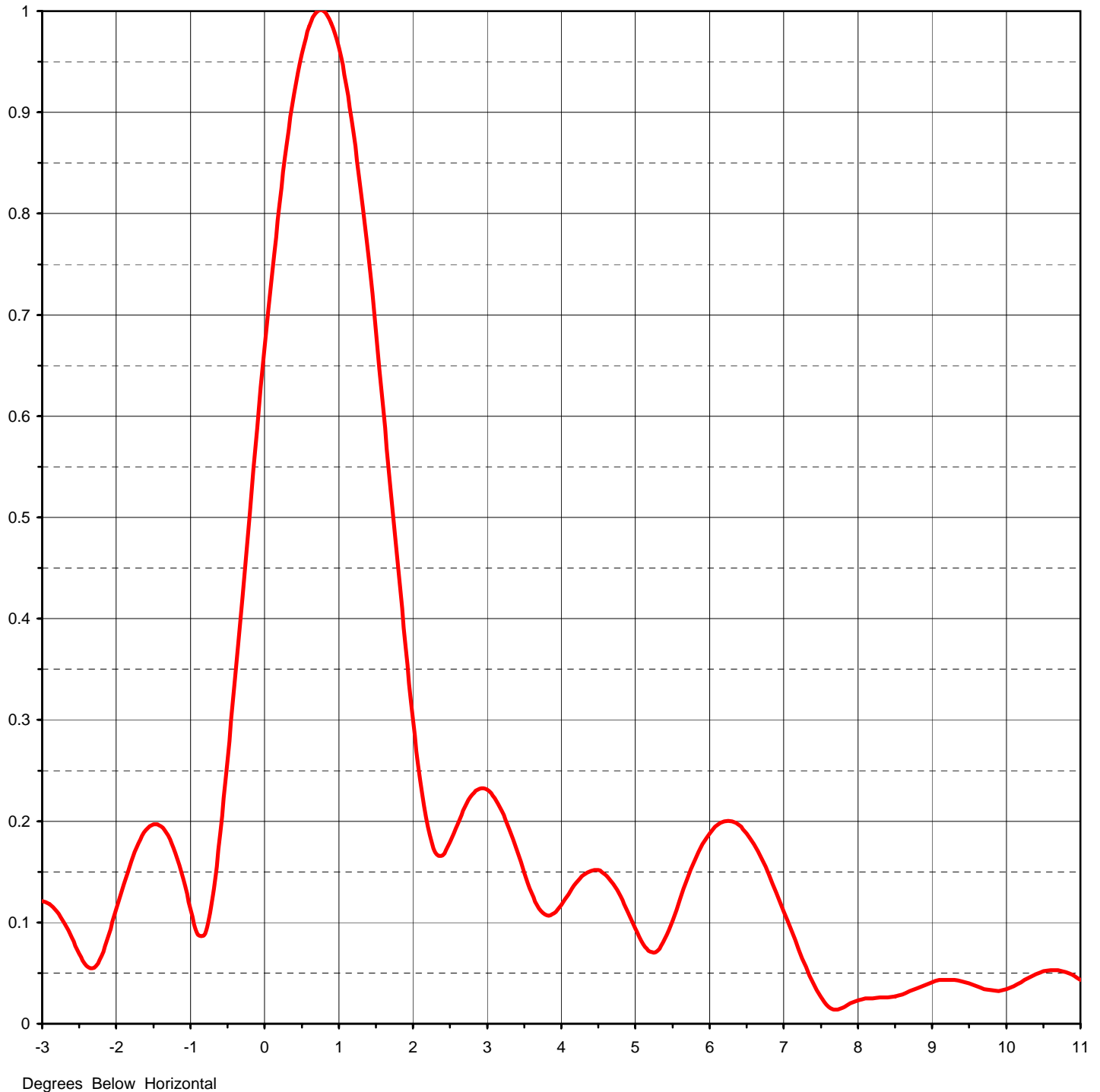
* Gain is with respect to half wave dipole.



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ELEVATION PATTERN

RMS Gain at Main Lobe	32.00 (15.05 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	14.20 (11.52 dB)	Frequency	479.00 MHz
Calculated / Measured	Calculated	Drawing #	32B320075



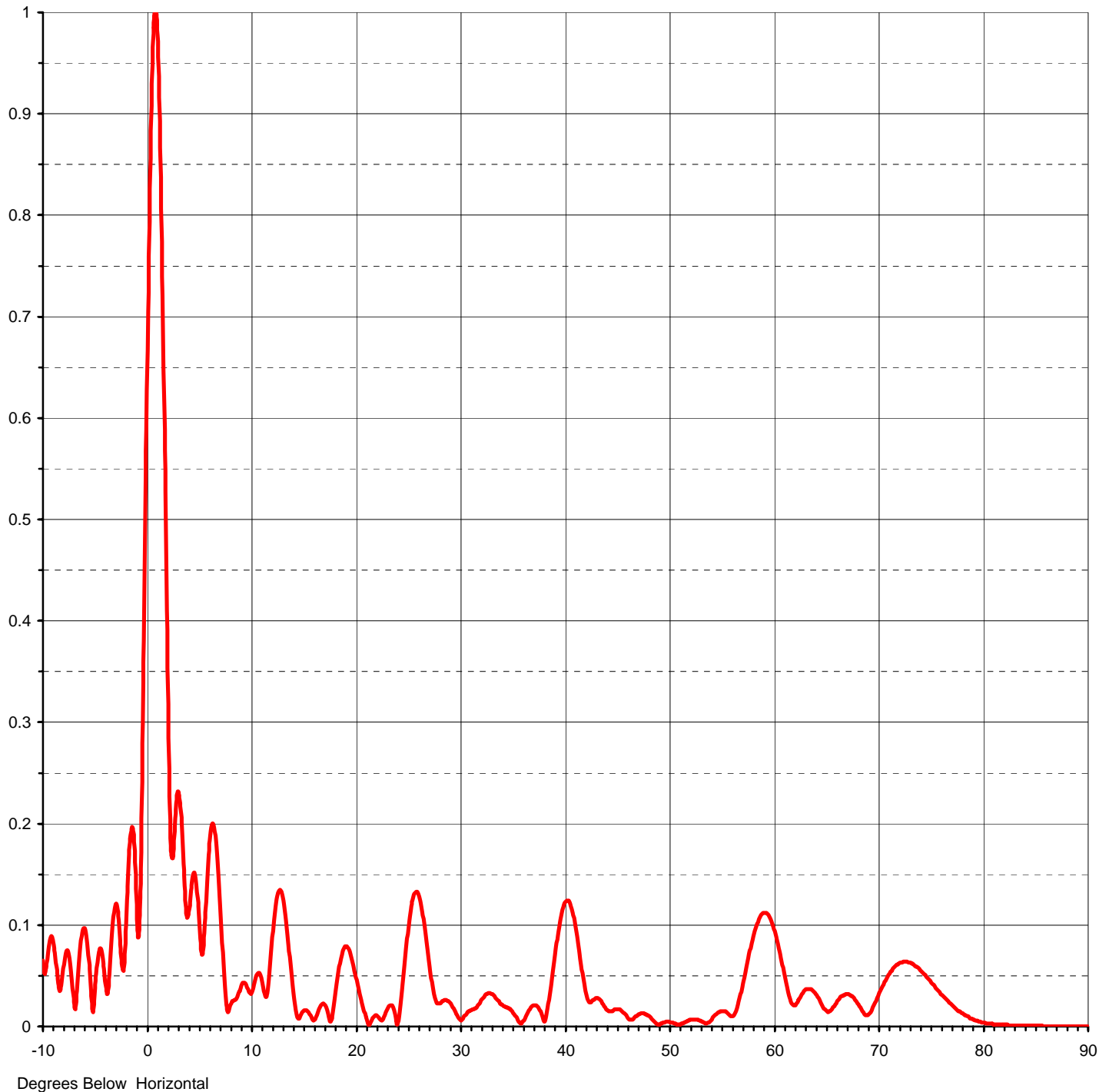


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ELEVATION PATTERN

RMS Gain at Main Lobe	32.00 (15.05 dB)
RMS Gain at Horizontal	14.20 (11.52 dB)
Calculated / Measured	Calculated

Beam Tilt	0.75 deg
Frequency	479.00 MHz
Drawing #	32B320075-90





Proposal Number **DCA-11268** Revision: **1**
 Date **16-Nov-05**
 Call Letters **KTAL-DT** Channel **15**
 Location **Texarkana, TX**
 Customer
 Antenna Type **TFU-32DSB-R 03**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **32B320075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.065	2.4	0.166	10.6	0.052	30.5	0.011	51.0	0.002	71.5	0.059
-9.5	0.075	2.6	0.197	10.8	0.053	31.0	0.016	51.5	0.004	72.0	0.063
-9.0	0.083	2.8	0.226	11.0	0.048	31.5	0.018	52.0	0.007	72.5	0.064
-8.5	0.039	3.0	0.231	11.5	0.030	32.0	0.025	52.5	0.007	73.0	0.063
-8.0	0.061	3.2	0.210	12.0	0.082	32.5	0.032	53.0	0.006	73.5	0.059
-7.5	0.070	3.4	0.171	12.5	0.128	33.0	0.032	53.5	0.003	74.0	0.055
-7.0	0.019	3.6	0.129	13.0	0.129	33.5	0.027	54.0	0.006	74.5	0.049
-6.5	0.069	3.8	0.107	13.5	0.090	34.0	0.022	54.5	0.012	75.0	0.043
-6.0	0.097	4.0	0.117	14.0	0.039	34.5	0.019	55.0	0.015	75.5	0.037
-5.5	0.049	4.2	0.139	14.5	0.008	35.0	0.015	55.5	0.014	76.0	0.031
-5.0	0.038	4.4	0.151	15.0	0.015	35.5	0.007	56.0	0.010	76.5	0.026
-4.5	0.077	4.6	0.147	15.5	0.014	36.0	0.005	56.5	0.018	77.0	0.021
-4.0	0.040	4.8	0.126	16.0	0.006	36.5	0.014	57.0	0.039	77.5	0.016
-3.5	0.075	5.0	0.094	16.5	0.017	37.0	0.021	57.5	0.063	78.0	0.013
-3.0	0.121	5.2	0.071	17.0	0.022	37.5	0.019	58.0	0.086	78.5	0.010
-2.8	0.111	5.4	0.084	17.5	0.008	38.0	0.006	58.5	0.103	79.0	0.007
-2.6	0.085	5.6	0.123	18.0	0.027	38.5	0.026	59.0	0.112	79.5	0.005
-2.4	0.057	5.8	0.161	18.5	0.062	39.0	0.063	59.5	0.110	80.0	0.004
-2.2	0.067	6.0	0.188	19.0	0.079	39.5	0.099	60.0	0.098	80.5	0.003
-2.0	0.113	6.2	0.200	19.5	0.072	40.0	0.121	60.5	0.077	81.0	0.002
-1.8	0.160	6.4	0.196	20.0	0.051	40.5	0.122	61.0	0.053	81.5	0.002
-1.6	0.191	6.6	0.177	20.5	0.028	41.0	0.101	61.5	0.030	82.0	0.002
-1.4	0.195	6.8	0.147	21.0	0.009	41.5	0.067	62.0	0.021	82.5	0.001
-1.2	0.168	7.0	0.111	21.5	0.005	42.0	0.035	62.5	0.028	83.0	0.001
-1.0	0.113	7.2	0.073	22.0	0.011	42.5	0.024	63.0	0.036	83.5	0.001
-0.8	0.089	7.4	0.040	22.5	0.006	43.0	0.028	63.5	0.037	84.0	0.001
-0.6	0.188	7.6	0.017	23.0	0.016	43.5	0.025	64.0	0.033	84.5	0.001
-0.4	0.339	7.8	0.016	23.5	0.021	44.0	0.017	64.5	0.022	85.0	0.001
-0.2	0.505	8.0	0.023	24.0	0.002	44.5	0.015	65.0	0.015	85.5	0.001
0.0	0.667	8.2	0.025	24.5	0.041	45.0	0.017	65.5	0.017	86.0	0.000
0.2	0.810	8.4	0.026	25.0	0.091	45.5	0.015	66.0	0.025	86.5	0.000
0.4	0.919	8.6	0.029	25.5	0.126	46.0	0.009	66.5	0.030	87.0	0.000
0.6	0.985	8.8	0.035	26.0	0.131	46.5	0.007	67.0	0.032	87.5	0.000
0.8	1.000	9.0	0.041	26.5	0.106	47.0	0.011	67.5	0.029	88.0	0.000
1.0	0.964	9.2	0.043	27.0	0.067	47.5	0.013	68.0	0.022	88.5	0.000
1.2	0.880	9.4	0.042	27.5	0.032	48.0	0.011	68.5	0.014	89.0	0.000
1.4	0.757	9.6	0.037	28.0	0.023	48.5	0.006	69.0	0.012	89.5	0.000
1.6	0.608	9.8	0.034	28.5	0.026	49.0	0.002	69.5	0.021	90.0	0.000
1.8	0.449	10.0	0.032	29.0	0.024	49.5	0.004	70.0	0.033		
2.0	0.301	10.2	0.037	29.5	0.016	50.0	0.005	70.5	0.044		
2.2	0.194	10.4	0.045	30.0	0.007	50.5	0.003	71.0	0.052		

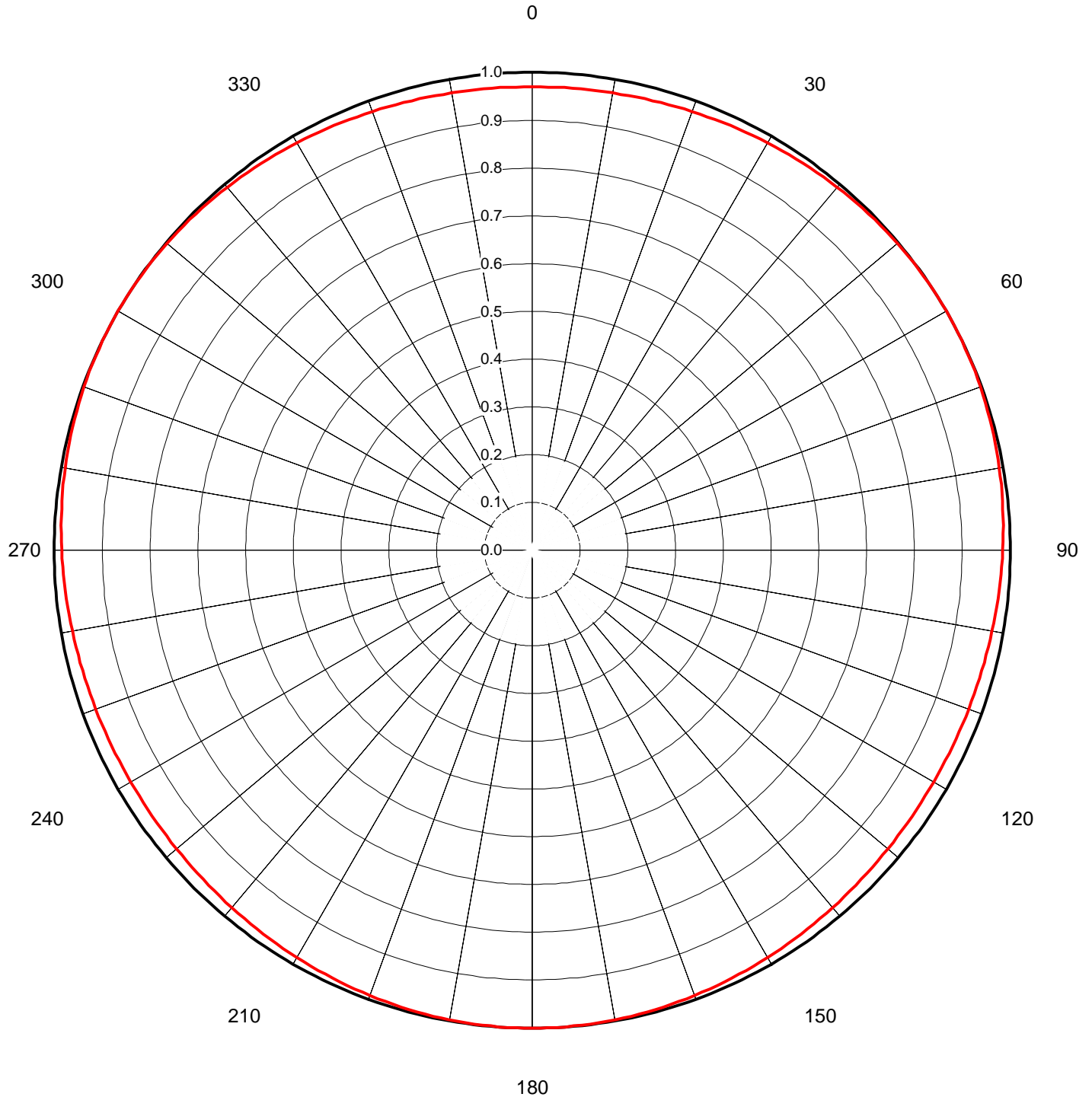


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Date	16-Nov-05		
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Location	Texarkana, TX		
Customer			
Antenna Type	TFU-32DSB-R O3		

AZIMUTH PATTERN

Gain **1.00** **(0.00 dB)**
Calculated / Measured **Calculated**

Frequency **479.00 MHz**
Drawing # **TFU-O3-4790**





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Customer			
Antenna Type	TFU-32DSB-R 03		

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-O3-4790**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.970	45	0.995	90	0.984	135	0.974	180	1.000	225	0.974	270	0.984	315	0.995
1	0.970	46	0.996	91	0.983	136	0.974	181	1.000	226	0.973	271	0.985	316	0.995
2	0.970	47	0.996	92	0.982	137	0.975	182	1.000	227	0.973	272	0.986	317	0.994
3	0.970	48	0.997	93	0.982	138	0.975	183	1.000	228	0.972	273	0.986	318	0.993
4	0.970	49	0.997	94	0.981	139	0.976	184	1.000	229	0.972	274	0.987	319	0.993
5	0.970	50	0.998	95	0.980	140	0.977	185	0.999	230	0.972	275	0.988	320	0.992
6	0.970	51	0.998	96	0.979	141	0.977	186	0.999	231	0.971	276	0.989	321	0.991
7	0.971	52	0.999	97	0.979	142	0.978	187	0.999	232	0.971	277	0.990	322	0.990
8	0.971	53	0.999	98	0.978	143	0.979	188	0.999	233	0.971	278	0.990	323	0.990
9	0.971	54	0.999	99	0.977	144	0.979	189	0.998	234	0.970	279	0.991	324	0.989
10	0.972	55	0.999	100	0.977	145	0.980	190	0.998	235	0.970	280	0.992	325	0.988
11	0.972	56	1.000	101	0.976	146	0.981	191	0.997	236	0.970	281	0.993	326	0.987
12	0.972	57	1.000	102	0.975	147	0.982	192	0.997	237	0.970	282	0.993	327	0.986
13	0.973	58	1.000	103	0.975	148	0.982	193	0.996	238	0.970	283	0.994	328	0.986
14	0.973	59	1.000	104	0.974	149	0.983	194	0.996	239	0.970	284	0.995	329	0.985
15	0.974	60	1.000	105	0.974	150	0.984	195	0.995	240	0.970	285	0.995	330	0.984
16	0.974	61	1.000	106	0.973	151	0.985	196	0.995	241	0.970	286	0.996	331	0.983
17	0.975	62	1.000	107	0.973	152	0.986	197	0.994	242	0.970	287	0.996	332	0.982
18	0.975	63	1.000	108	0.972	153	0.986	198	0.993	243	0.970	288	0.997	333	0.982
19	0.976	64	1.000	109	0.972	154	0.987	199	0.993	244	0.970	289	0.997	334	0.981
20	0.977	65	0.999	110	0.972	155	0.988	200	0.992	245	0.970	290	0.998	335	0.980
21	0.977	66	0.999	111	0.971	156	0.989	201	0.991	246	0.970	291	0.998	336	0.979
22	0.978	67	0.999	112	0.971	157	0.990	202	0.990	247	0.971	292	0.999	337	0.979
23	0.979	68	0.999	113	0.971	158	0.990	203	0.990	248	0.971	293	0.999	338	0.978
24	0.979	69	0.998	114	0.970	159	0.991	204	0.989	249	0.971	294	0.999	339	0.977
25	0.980	70	0.998	115	0.970	160	0.992	205	0.988	250	0.972	295	0.999	340	0.977
26	0.981	71	0.997	116	0.970	161	0.993	206	0.987	251	0.972	296	1.000	341	0.976
27	0.982	72	0.997	117	0.970	162	0.993	207	0.986	252	0.972	297	1.000	342	0.975
28	0.982	73	0.996	118	0.970	163	0.994	208	0.986	253	0.973	298	1.000	343	0.975
29	0.983	74	0.996	119	0.970	164	0.995	209	0.985	254	0.973	299	1.000	344	0.974
30	0.984	75	0.995	120	0.970	165	0.995	210	0.984	255	0.974	300	1.000	345	0.974
31	0.985	76	0.995	121	0.970	166	0.996	211	0.983	256	0.974	301	1.000	346	0.973
32	0.986	77	0.994	122	0.970	167	0.996	212	0.982	257	0.975	302	1.000	347	0.973
33	0.986	78	0.993	123	0.970	168	0.997	213	0.982	258	0.975	303	1.000	348	0.972
34	0.987	79	0.993	124	0.970	169	0.997	214	0.981	259	0.976	304	1.000	349	0.972
35	0.988	80	0.992	125	0.970	170	0.998	215	0.980	260	0.977	305	0.999	350	0.972
36	0.989	81	0.991	126	0.970	171	0.998	216	0.979	261	0.977	306	0.999	351	0.971
37	0.990	82	0.990	127	0.971	172	0.999	217	0.979	262	0.978	307	0.999	352	0.971
38	0.990	83	0.990	128	0.971	173	0.999	218	0.978	263	0.979	308	0.999	353	0.971
39	0.991	84	0.989	129	0.971	174	0.999	219	0.977	264	0.979	309	0.998	354	0.970
40	0.992	85	0.988	130	0.972	175	0.999	220	0.977	265	0.980	310	0.998	355	0.970
41	0.993	86	0.987	131	0.972	176	1.000	221	0.976	266	0.981	311	0.997	356	0.970
42	0.993	87	0.986	132	0.972	177	1.000	222	0.975	267	0.982	312	0.997	357	0.970
43	0.994	88	0.986	133	0.973	178	1.000	223	0.975	268	0.982	313	0.996	358	0.970
44	0.995	89	0.985	134	0.973	179	1.000	224	0.974	269	0.983	314	0.996	359	0.970