



Proposal #: **DCA-10727-4** Antenna Type: **TFU-32DSB-R O3 SP**
 Call Letters: **KARK-DT** Location: **Little Rock, AR**

Channel: **32 DTV**

Electrical Specifications		Value		Remarks	
		Ratio	dB		
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	33.0	15.19		
	Vpol				
RMS Gain at Horizontal over Halfwave Dipole	Hpol	6.9	8.39		
	Vpol				
Peak Directional Gain over Halfwave Dipole	Hpol				
	Vpol				
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol				
	Vpol				
Circularity		+/- 2.0 dB		In free space	
Axial Ratio		dB			
Beam Tilt		1.00 deg			
Average Power	DTV	32 kW	15.05 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 3" FLEXLine®	
Patterns	Azimuth Elevation	TFU-03-5810 32B33100 32B33100-90			
Mechanical Specifications		Metric	English	1/2 inch Ice	
Height with Lightning Protector	H4	m	ft	Side mounted	
Height Less Lightning Protector	H2	19.0 m	62.2 ft		
Height of Center of Radiation	H3	9.5 m	31.1 ft		
Basic Wind Speed	V	112.7 km/h	70 mi/h	TIA/EIA-222-F.	
Force Coeff. x Projected Area	CaAc	11.20 m²	120.6 ft²	Excludes Mounts	143 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	0.7 t	1,460 lbs	Excludes Mounts	2,240 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 : SWB DLD Approved By : JLS
 Original Date : 21-Oct-04 Revision: 4 Rev. Date: 25-Oct-12 SWB



Proposal Number
Date
Call Letters
Location
Customer
Antenna Type

DCA-10727 Revision: **4**
25-Oct-12
KARK-DT Channel **32**
Little Rock, AR
TFU-32DSB-R O3 SP

SYSTEM SUMMARY

Antenna:

Type:	TFU-32DSB-R O3 SP	ERP:	989 kW	H Pol	(29.95 dBk)
Channel:	32	RMS Gain*:	33.0		(15.19 dB)
Location:	Little Rock, AR	Input Power:	30.0 kW		(14.77 dBk)

Transmission Line:

Type:	EIA/DCA	Attenuation:	1.24 dB
Size:	6/18 in	Efficiency:	75.1%
Impedance:	75 ohm		
Length:	1,056 ft		321.9 m

Transmitter:

Power Required: **39.9 kW** **(16.01 dBk)**

* Gain is with respect to half wave dipole.

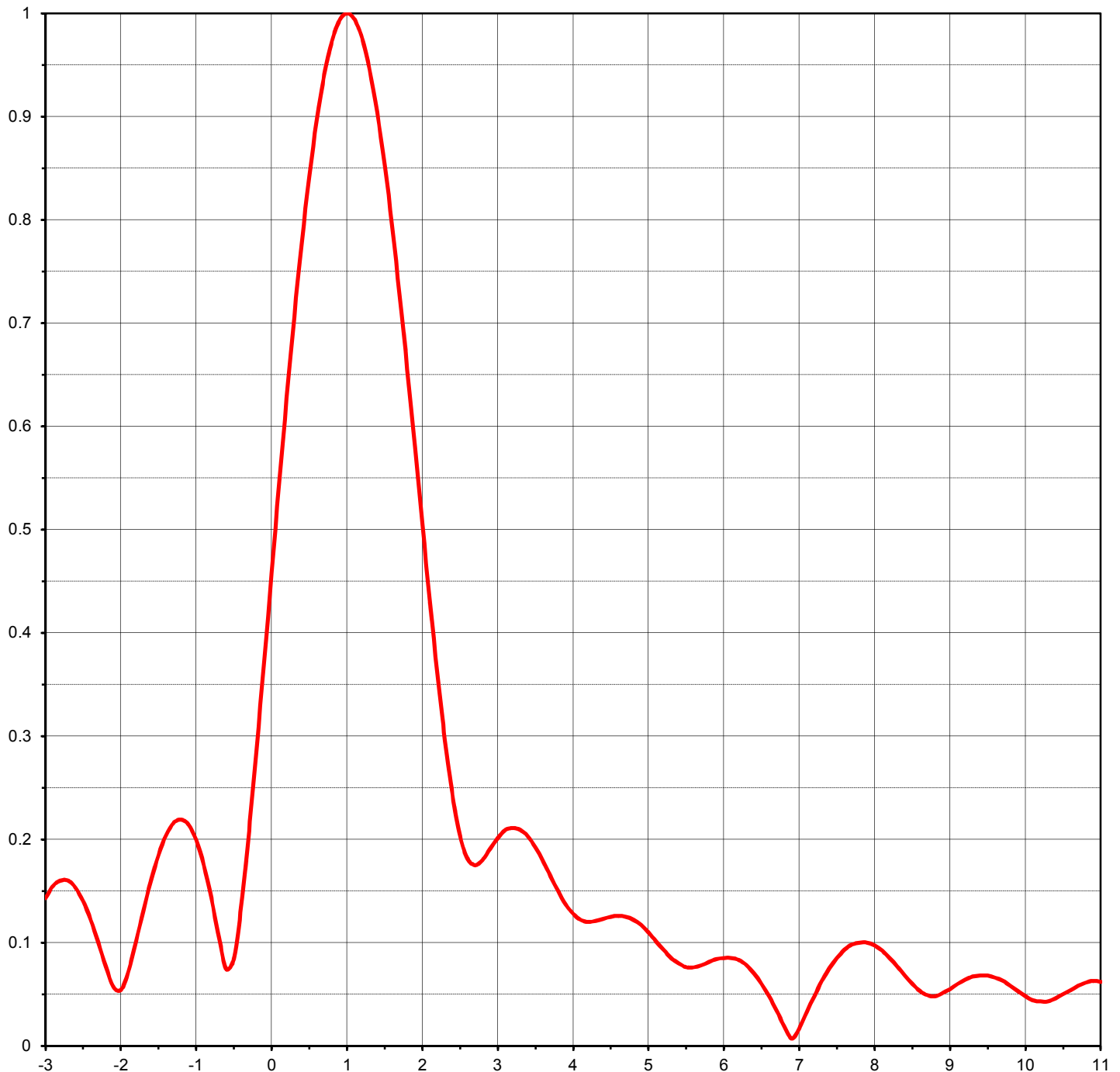


Proposal Number	DCA-10727	Revision:	4
Date	25-Oct-12		
Call Letters	KARK-DT	Channel	32
Location	Little Rock, AR		
Customer			
Antenna Type	TFU-32DSB-R O3 SP		

ELEVATION PATTERN

RMS Gain at Main Lobe	33.00 (15.19 dB)
RMS Gain at Horizontal	6.90 (8.39 dB)
Calculated / Measured	Calculated

Beam Tilt	1.00 deg
Frequency	581.00 MHz
Drawing #	32B33100



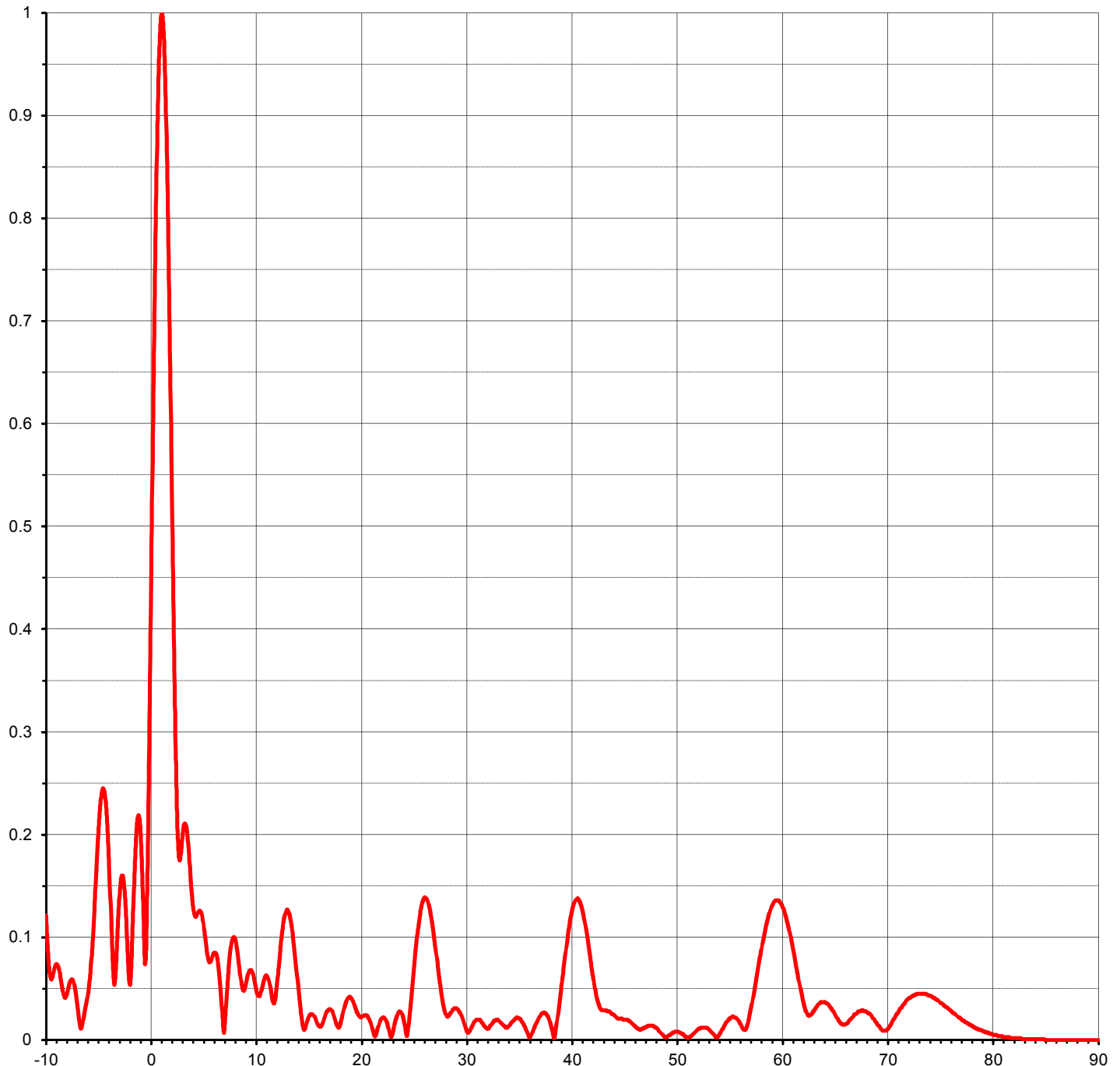


Proposal Number	DCA-10727	Revision:	4
Date	25-Oct-12		
Call Letters	KARK-DT	Channel	32
Location	Little Rock, AR		
Customer			
Antenna Type	TFU-32DSB-R O3 SP		

ELEVATION PATTERN

RMS Gain at Main Lobe	33.00 (15.19 dB)
RMS Gain at Horizontal	6.90 (8.39 dB)
Calculated / Measured	Calculated

Beam Tilt	1.00 deg
Frequency	581.00 MHz
Drawing #	32B33100-90



Source: Data from Manufacturer



Proposal Number **DCA-10727** Revision: **4**
 Date **25-Oct-12**
 Call Letters **KARK-DT** Channel **32**
 Location **Little Rock, AR**
 Customer
 Antenna Type **TFU-32DSB-R O3 SP**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **32B33100-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.121	2.4	0.243	10.6	0.050	30.5	0.012	51.0	0.003	71.5	0.035
-9.5	0.059	2.6	0.181	10.8	0.058	31.0	0.020	51.5	0.005	72.0	0.041
-9.0	0.074	2.8	0.180	11.0	0.063	31.5	0.017	52.0	0.010	72.5	0.044
-8.5	0.054	3.0	0.201	11.5	0.046	32.0	0.011	52.5	0.012	73.0	0.045
-8.0	0.045	3.2	0.211	12.0	0.049	32.5	0.016	53.0	0.011	73.5	0.045
-7.5	0.059	3.4	0.203	12.5	0.102	33.0	0.020	53.5	0.006	74.0	0.043
-7.0	0.032	3.6	0.179	13.0	0.127	33.5	0.015	54.0	0.004	74.5	0.040
-6.5	0.018	3.8	0.150	13.5	0.106	34.0	0.013	54.5	0.013	75.0	0.036
-6.0	0.045	4.0	0.128	14.0	0.058	34.5	0.019	55.0	0.021	75.5	0.032
-5.5	0.109	4.2	0.120	14.5	0.014	35.0	0.021	55.5	0.022	76.0	0.028
-5.0	0.206	4.4	0.123	15.0	0.021	35.5	0.015	56.0	0.017	76.5	0.024
-4.5	0.244	4.6	0.126	15.5	0.024	36.0	0.003	56.5	0.010	77.0	0.020
-4.0	0.169	4.8	0.122	16.0	0.014	36.5	0.012	57.0	0.027	77.5	0.017
-3.5	0.054	5.0	0.110	16.5	0.020	37.0	0.023	57.5	0.055	78.0	0.014
-3.0	0.143	5.2	0.093	17.0	0.030	37.5	0.026	58.0	0.084	78.5	0.011
-2.8	0.160	5.4	0.080	17.5	0.022	38.0	0.017	58.5	0.111	79.0	0.009
-2.6	0.153	5.6	0.076	18.0	0.013	38.5	0.008	59.0	0.129	79.5	0.007
-2.4	0.122	5.8	0.081	18.5	0.034	39.0	0.046	59.5	0.136	80.0	0.005
-2.2	0.077	6.0	0.085	19.0	0.042	39.5	0.088	60.0	0.132	80.5	0.004
-2.0	0.054	6.2	0.083	19.5	0.031	40.0	0.122	60.5	0.116	81.0	0.003
-1.8	0.101	6.4	0.070	20.0	0.022	40.5	0.137	61.0	0.092	81.5	0.003
-1.6	0.160	6.6	0.048	20.5	0.024	41.0	0.129	61.5	0.065	82.0	0.002
-1.4	0.204	6.8	0.019	21.0	0.015	41.5	0.102	62.0	0.039	82.5	0.002
-1.2	0.219	7.0	0.017	21.5	0.007	42.0	0.066	62.5	0.024	83.0	0.001
-1.0	0.199	7.2	0.048	22.0	0.021	42.5	0.038	63.0	0.028	83.5	0.001
-0.8	0.143	7.4	0.075	22.5	0.017	43.0	0.029	63.5	0.035	84.0	0.001
-0.6	0.074	7.6	0.093	23.0	0.006	43.5	0.028	64.0	0.037	84.5	0.001
-0.4	0.137	7.8	0.100	23.5	0.025	44.0	0.025	64.5	0.032	85.0	0.000
-0.2	0.288	8.0	0.097	24.0	0.023	44.5	0.021	65.0	0.024	85.5	0.000
0.0	0.458	8.2	0.085	24.5	0.011	45.0	0.020	65.5	0.016	86.0	0.000
0.2	0.627	8.4	0.068	25.0	0.063	45.5	0.019	66.0	0.016	86.5	0.000
0.4	0.778	8.6	0.053	25.5	0.113	46.0	0.014	66.5	0.021	87.0	0.000
0.6	0.897	8.8	0.048	26.0	0.138	46.5	0.010	67.0	0.026	87.5	0.000
0.8	0.973	9.0	0.055	26.5	0.130	47.0	0.012	67.5	0.029	88.0	0.000
1.0	1.000	9.2	0.064	27.0	0.098	47.5	0.014	68.0	0.027	88.5	0.000
1.2	0.976	9.4	0.068	27.5	0.058	48.0	0.012	68.5	0.022	89.0	0.000
1.4	0.904	9.6	0.066	28.0	0.027	48.5	0.007	69.0	0.015	89.5	0.000
1.6	0.793	9.8	0.063	28.5	0.026	49.0	0.003	69.5	0.009	90.0	0.000
1.8	0.655	10.0	0.053	29.0	0.031	49.5	0.006	70.0	0.011		
2.0	0.505	10.2	0.044	29.5	0.025	50.0	0.008	70.5	0.020		
2.2	0.360	10.4	0.043	30.0	0.011	50.5	0.006	71.0	0.028		

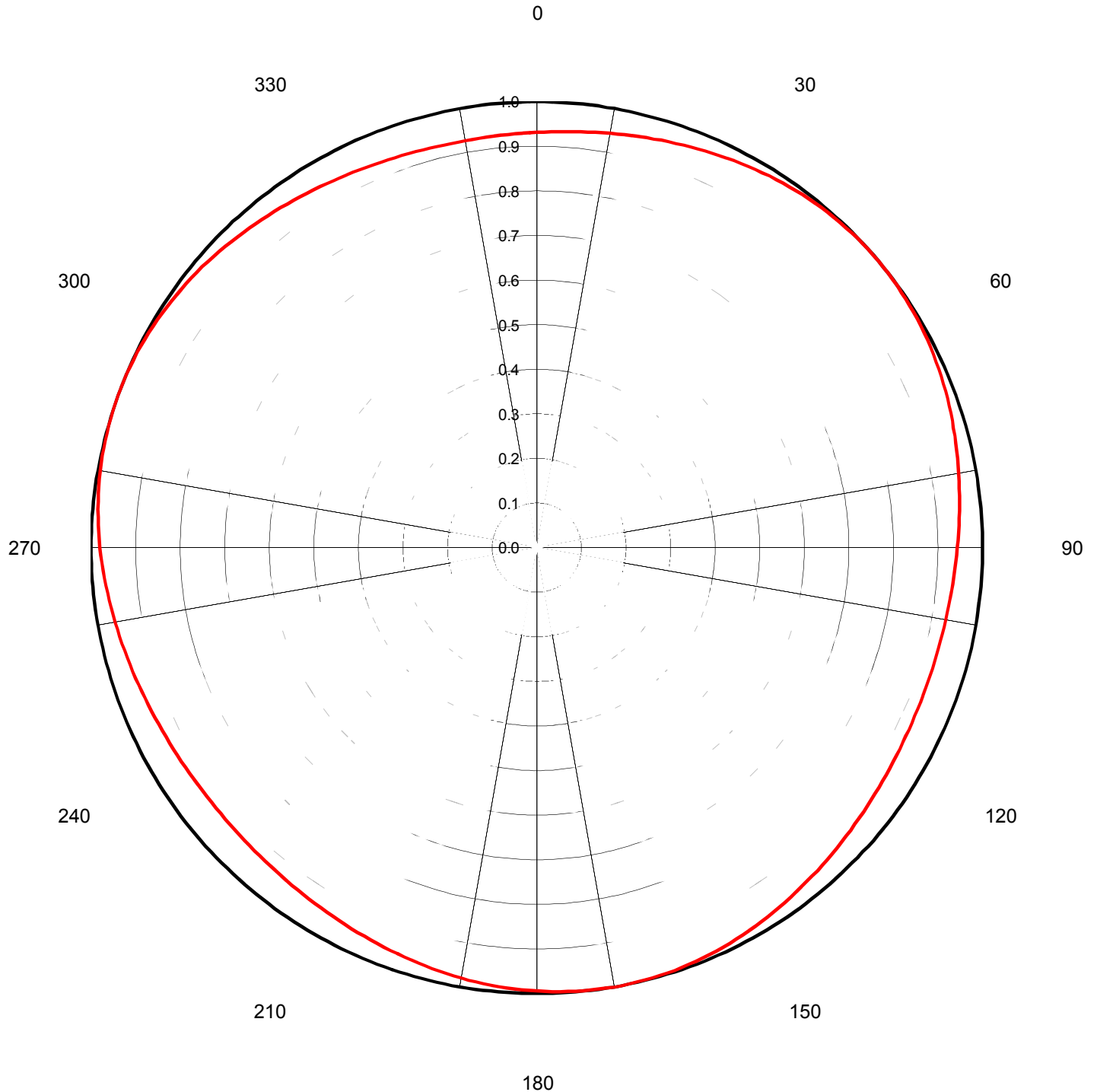


Proposal Number	DCA-10727	Revision:	4
Date	25-Oct-12		
Call Letters	KARK-DT	Channel	32
Location	Little Rock, AR		
Customer			
Antenna Type	TFU-32DSB-R O3 SP		

AZIMUTH PATTERN

Gain	1.10	(0.41 dB)
Calculated / Measured	Calculated	

Frequency	581.00 MHz
Drawing #	TFU-03-5810





Proposal Number **DCA-10727** Revision: **4**
 Date **25-Oct-12**
 Call Letters **KARK-DT** Channel **32**
 Location **Little Rock, AR**
 Customer
 Antenna Type **TFU-32DSB-R O3 SP**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-03-5810**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.931	45	0.999	90	0.943	135	0.952	180	0.994	225	0.928	270	0.980	315	0.971
1	0.932	46	0.999	91	0.942	136	0.953	181	0.993	226	0.928	271	0.982	316	0.969
2	0.933	47	0.999	92	0.940	137	0.955	182	0.992	227	0.927	272	0.983	317	0.967
3	0.934	48	1.000	93	0.939	138	0.957	183	0.991	228	0.927	273	0.985	318	0.965
4	0.935	49	1.000	94	0.938	139	0.959	184	0.990	229	0.927	274	0.987	319	0.963
5	0.936	50	1.000	95	0.936	140	0.961	185	0.988	230	0.927	275	0.988	320	0.961
6	0.938	51	1.000	96	0.935	141	0.963	186	0.987	231	0.927	276	0.990	321	0.959
7	0.939	52	1.000	97	0.934	142	0.965	187	0.985	232	0.927	277	0.991	322	0.957
8	0.940	53	0.999	98	0.933	143	0.967	188	0.983	233	0.927	278	0.992	323	0.955
9	0.942	54	0.999	99	0.932	144	0.969	189	0.982	234	0.928	279	0.993	324	0.953
10	0.943	55	0.999	100	0.931	145	0.971	190	0.980	235	0.928	280	0.994	325	0.952
11	0.945	56	0.998	101	0.930	146	0.973	191	0.978	236	0.928	281	0.995	326	0.950
12	0.946	57	0.997	102	0.930	147	0.974	192	0.976	237	0.929	282	0.996	327	0.948
13	0.948	58	0.996	103	0.929	148	0.976	193	0.974	238	0.930	283	0.997	328	0.946
14	0.950	59	0.995	104	0.928	149	0.978	194	0.973	239	0.930	284	0.998	329	0.945
15	0.952	60	0.994	105	0.928	150	0.980	195	0.971	240	0.931	285	0.999	330	0.943
16	0.953	61	0.993	106	0.928	151	0.982	196	0.969	241	0.932	286	0.999	331	0.942
17	0.955	62	0.992	107	0.927	152	0.983	197	0.967	242	0.933	287	0.999	332	0.940
18	0.957	63	0.991	108	0.927	153	0.985	198	0.965	243	0.934	288	1.000	333	0.939
19	0.959	64	0.990	109	0.927	154	0.987	199	0.963	244	0.935	289	1.000	334	0.938
20	0.961	65	0.988	110	0.927	155	0.988	200	0.961	245	0.936	290	1.000	335	0.936
21	0.963	66	0.987	111	0.927	156	0.990	201	0.959	246	0.938	291	1.000	336	0.935
22	0.965	67	0.985	112	0.927	157	0.991	202	0.957	247	0.939	292	1.000	337	0.934
23	0.967	68	0.983	113	0.927	158	0.992	203	0.955	248	0.940	293	0.999	338	0.933
24	0.969	69	0.982	114	0.928	159	0.993	204	0.953	249	0.942	294	0.999	339	0.932
25	0.971	70	0.980	115	0.928	160	0.994	205	0.952	250	0.943	295	0.999	340	0.931
26	0.973	71	0.978	116	0.928	161	0.995	206	0.950	251	0.945	296	0.998	341	0.930
27	0.974	72	0.976	117	0.929	162	0.996	207	0.948	252	0.946	297	0.997	342	0.930
28	0.976	73	0.974	118	0.930	163	0.997	208	0.946	253	0.948	298	0.996	343	0.929
29	0.978	74	0.973	119	0.930	164	0.998	209	0.945	254	0.950	299	0.995	344	0.928
30	0.980	75	0.971	120	0.931	165	0.999	210	0.943	255	0.952	300	0.994	345	0.928
31	0.982	76	0.969	121	0.932	166	0.999	211	0.942	256	0.953	301	0.993	346	0.928
32	0.983	77	0.967	122	0.933	167	0.999	212	0.940	257	0.955	302	0.992	347	0.927
33	0.985	78	0.965	123	0.934	168	1.000	213	0.939	258	0.957	303	0.991	348	0.927
34	0.987	79	0.963	124	0.935	169	1.000	214	0.938	259	0.959	304	0.990	349	0.927
35	0.988	80	0.961	125	0.936	170	1.000	215	0.936	260	0.961	305	0.988	350	0.927
36	0.990	81	0.959	126	0.938	171	1.000	216	0.935	261	0.963	306	0.987	351	0.927
37	0.991	82	0.957	127	0.939	172	1.000	217	0.934	262	0.965	307	0.985	352	0.927
38	0.992	83	0.955	128	0.940	173	0.999	218	0.933	263	0.967	308	0.983	353	0.927
39	0.993	84	0.953	129	0.942	174	0.999	219	0.932	264	0.969	309	0.982	354	0.928
40	0.994	85	0.952	130	0.943	175	0.999	220	0.931	265	0.971	310	0.980	355	0.928
41	0.995	86	0.950	131	0.945	176	0.998	221	0.930	266	0.973	311	0.978	356	0.928
42	0.996	87	0.948	132	0.946	177	0.997	222	0.930	267	0.974	312	0.976	357	0.929
43	0.997	88	0.946	133	0.948	178	0.996	223	0.929	268	0.976	313	0.974	358	0.930
44	0.998	89	0.945	134	0.950	179	0.995	224	0.928	269	0.978	314	0.973	359	0.930