

TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION  
STATION KTRE-DT (FACILITY ID 68541)  
LUFKIN, TEXAS

JUNE 10, 2010

CH 9 23.5 KW 204 M

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Technical Narrative

This Technical Exhibit supports an application for digital television (DTV) station KTRE at Lufkin, Texas. Station KTRE is authorized (license application pending) to operate on channel 9 with a directional antenna maximum effective radiated power (ERP) of 25 kilowatts (kW) and antenna height above average terrain (HAAT) of 204 meters.<sup>1</sup> This application requests to decrease ERP and operate non-directionally.

Proposed Facilities

The antenna structure registration number is 1047439. The transmitter site coordinates remain: 31-25-09 N, 94-48-03 W. Figure 1 is a map showing the DTV predicted coverage contours. The proposed 43 dBu contour will encompass all of Lufkin. The Lufkin city limits were derived from information contained in the 2000 U.S. Census of Population and Housing.

Allocation Considerations

The proposed KTRE operation meets the FCC's 0.5% post-transition interference standards to pertinent Class A and DTV facilities using the procedures outlined in the FCC's OET-69 Bulletin using a **non-standard 1 kilometer cell size and 1 kilometer terrain distance increment**.

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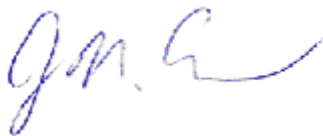
<sup>1</sup> See BMPCDT-20100114ADL and BLCDT-20100609ABP

Radiofrequency Electromagnetic Field Exposure

The proposed KTRE facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna is located 158.4 meters above ground level with a maximum ERP of 23.5 kW. A conservative downward relative field value of 0.15 was assumed for the DIE TF-8HTS-DC antenna (see Appendix). The calculated power density at a point 2 meters above ground level will not exceed  $0.007 \text{ mW/cm}^2$ . This is less than 5% of the FCC's recommended limit of  $0.2 \text{ mW/cm}^2$  for channel 9 for an "uncontrolled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the station is at reduced power or shut down. The proposed KTRE operation appears to be otherwise categorically excluded from environmental processing.

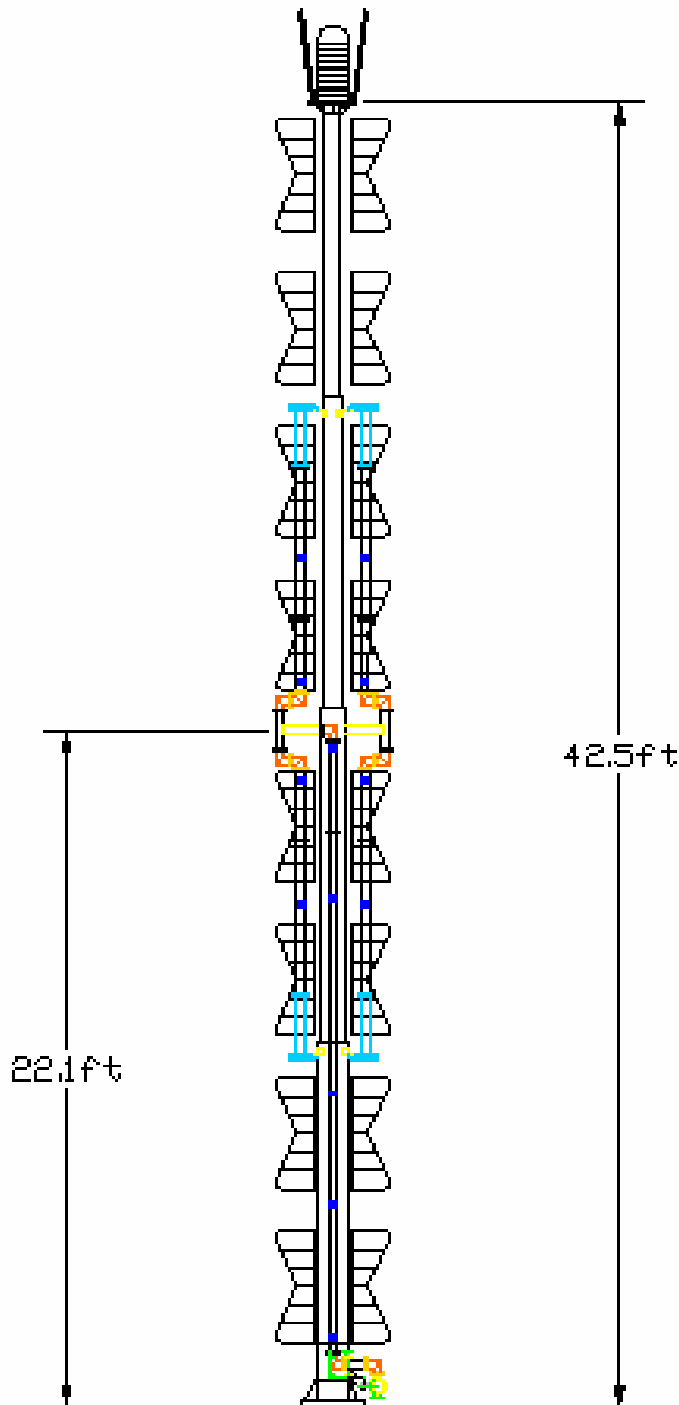
It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.



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## APPENDIX



**Mechanical Specifications**  
**TIA/EIA-222-G @ 95 mi/h**

(EPA)s = 60.8 ft<sup>2</sup>  
D1 = 22.1 ft  
W = 3,370 lbs

**Mechanical Specifications**  
**TIA/EIA-222-G @ 30 mi/h, .75 in Basic Ice**

(EPA)s = 202 ft<sup>2</sup>  
D1 = 22.1 ft  
W = 8,550 lbs

**Notes:**

Structure Class: II  
Topo Cat: 1  
Exp Cat: C  
Angelina County, TX  
Tower Ht : 500 ft

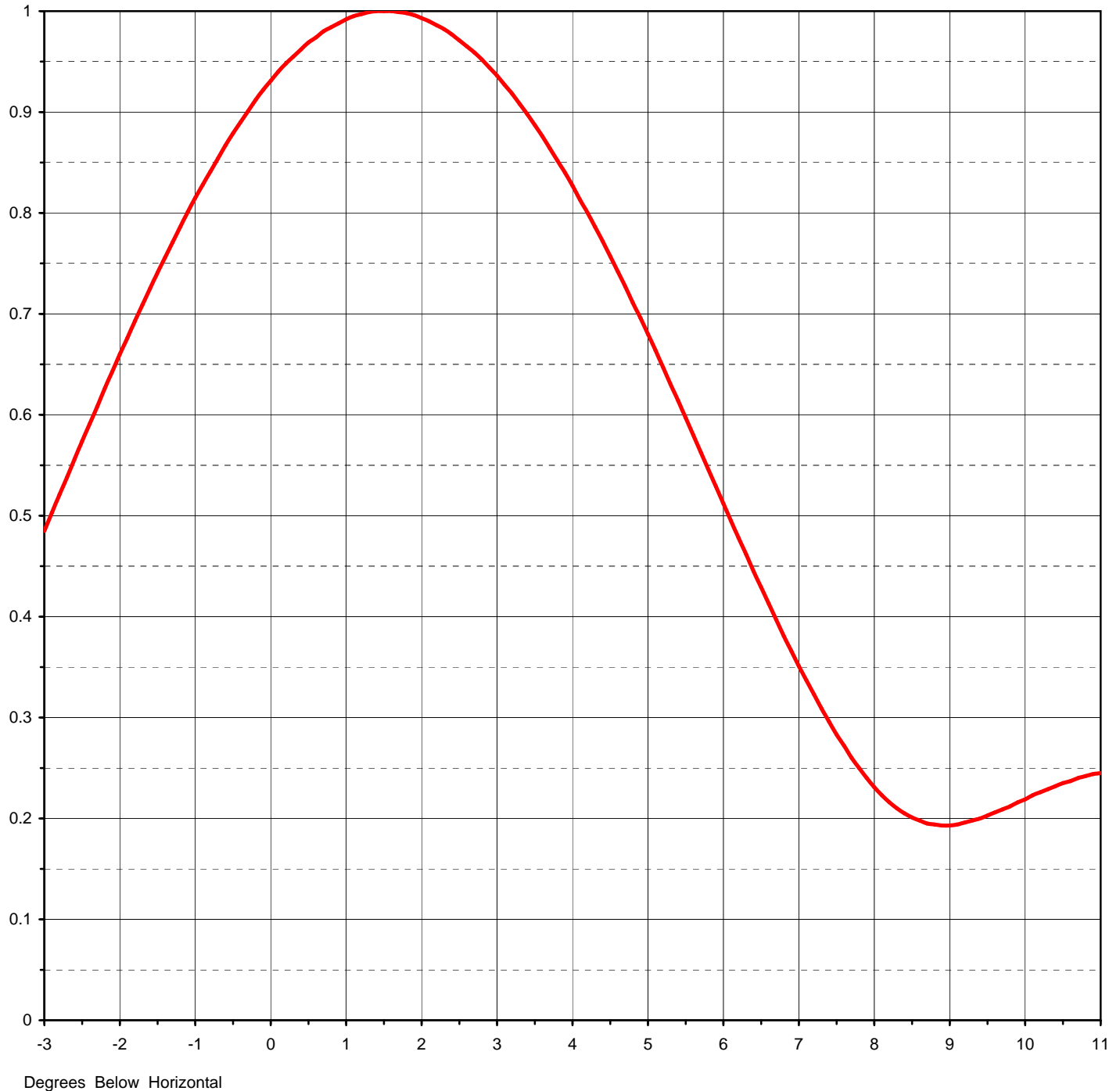


Proposal Number	<b>DCA-11418</b>	Revision:	<b>3</b>
Date	<b>21-Jul-06</b>		
Call Letters	<b>KTRE</b>	Channel	<b>9</b>
Location	<b>Lufkin, TX</b>		
Customer			
Antenna Type	<b>TF-8HTS-DC</b>		

## ELEVATION PATTERN

RMS Gain at Main Lobe	<b>7.40</b>	<b>( 8.69 dB )</b>
RMS Gain at Horizontal	<b>6.40</b>	<b>( 8.06 dB )</b>
Calculated / Measured	<b>Calculated</b>	

Beam Tilt	<b>1.50 deg</b>
Frequency	<b>189.00 MHz</b>
Drawing #	<b>08S074150</b>

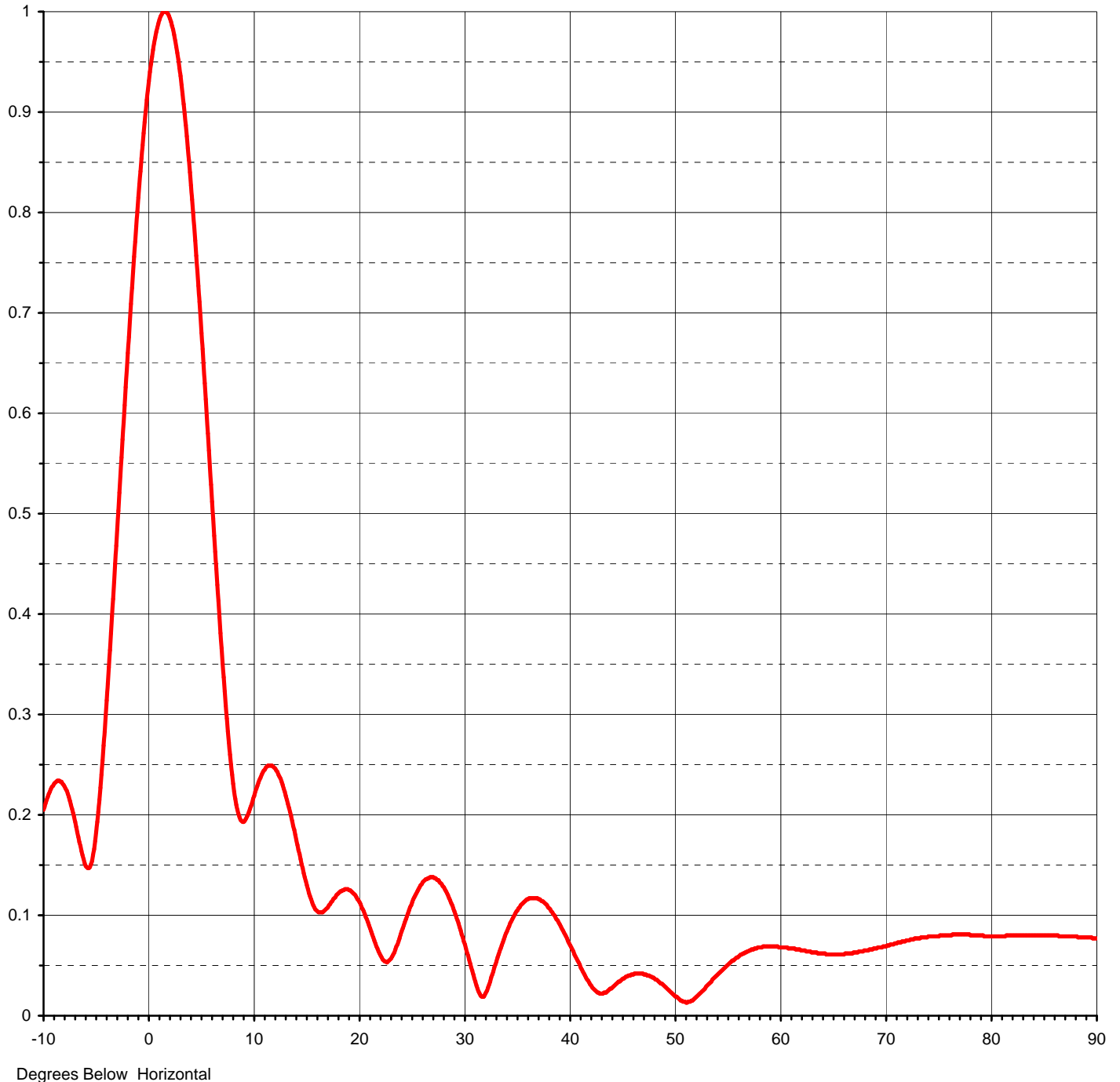




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## ELEVATION PATTERN

RMS Gain at Main Lobe	<b>7.40</b>	<b>( 8.69 dB )</b>	Beam Tilt	<b>1.50 deg</b>
RMS Gain at Horizontal	<b>6.40</b>	<b>( 8.06 dB )</b>	Frequency	<b>189.00 MHz</b>
Calculated / Measured	<b>Calculated</b>		Drawing #	<b>08S074150-90</b>



Proposal Number **DCA-11418**Revision: **3**Date **21-Jul-06**Call Letters **KTRE**Channel **9**Location **Lufkin, TX**

Customer

Antenna Type **TF-8HTS-DC**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **08S074150-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.205	2.4	0.977	10.6	0.235	30.5	0.056	51.0	0.014	71.5	0.074
-9.5	0.221	2.6	0.965	10.8	0.240	31.0	0.037	51.5	0.014	72.0	0.075
-9.0	0.231	2.8	0.952	11.0	0.244	31.5	0.022	52.0	0.018	72.5	0.076
-8.5	0.234	3.0	0.936	11.5	0.249	32.0	0.021	52.5	0.023	73.0	0.077
-8.0	0.228	3.2	0.918	12.0	0.247	32.5	0.034	53.0	0.029	73.5	0.078
-7.5	0.214	3.4	0.898	12.5	0.238	33.0	0.051	53.5	0.034	74.0	0.079
-7.0	0.193	3.6	0.876	13.0	0.223	33.5	0.067	54.0	0.040	74.5	0.079
-6.5	0.169	3.8	0.852	13.5	0.203	34.0	0.082	54.5	0.045	75.0	0.079
-6.0	0.149	4.0	0.827	14.0	0.180	34.5	0.094	55.0	0.050	75.5	0.080
-5.5	0.151	4.2	0.800	14.5	0.156	35.0	0.104	55.5	0.055	76.0	0.080
-5.0	0.183	4.4	0.772	15.0	0.134	35.5	0.111	56.0	0.058	76.5	0.081
-4.5	0.240	4.6	0.742	15.5	0.116	36.0	0.116	56.5	0.062	77.0	0.081
-4.0	0.314	4.8	0.711	16.0	0.105	36.5	0.117	57.0	0.064	77.5	0.081
-3.5	0.398	5.0	0.680	16.5	0.103	37.0	0.117	57.5	0.066	78.0	0.080
-3.0	0.485	5.2	0.647	17.0	0.107	37.5	0.114	58.0	0.068	78.5	0.080
-2.8	0.521	5.4	0.614	17.5	0.114	38.0	0.108	58.5	0.069	79.0	0.080
-2.6	0.556	5.6	0.580	18.0	0.121	38.5	0.101	59.0	0.069	79.5	0.079
-2.4	0.591	5.8	0.546	18.5	0.125	39.0	0.093	59.5	0.069	80.0	0.079
-2.2	0.626	6.0	0.512	19.0	0.126	39.5	0.083	60.0	0.068	80.5	0.079
-2.0	0.660	6.2	0.478	19.5	0.122	40.0	0.072	60.5	0.068	81.0	0.079
-1.8	0.693	6.4	0.445	20.0	0.115	40.5	0.061	61.0	0.067	81.5	0.080
-1.6	0.725	6.6	0.413	20.5	0.104	41.0	0.051	61.5	0.066	82.0	0.080
-1.4	0.756	6.8	0.381	21.0	0.090	41.5	0.040	62.0	0.065	82.5	0.080
-1.2	0.786	7.0	0.351	21.5	0.075	42.0	0.031	62.5	0.064	83.0	0.080
-1.0	0.815	7.2	0.323	22.0	0.062	42.5	0.025	63.0	0.063	83.5	0.080
-0.8	0.841	7.4	0.296	22.5	0.054	43.0	0.022	63.5	0.063	84.0	0.080
-0.6	0.867	7.6	0.272	23.0	0.056	43.5	0.023	64.0	0.062	84.5	0.080
-0.4	0.890	7.8	0.250	23.5	0.066	44.0	0.027	64.5	0.061	85.0	0.080
-0.2	0.912	8.0	0.231	24.0	0.081	44.5	0.032	65.0	0.061	85.5	0.080
0.0	0.931	8.2	0.216	24.5	0.096	45.0	0.036	65.5	0.061	86.0	0.080
0.2	0.948	8.4	0.205	25.0	0.110	45.5	0.039	66.0	0.061	86.5	0.079
0.4	0.962	8.6	0.198	25.5	0.122	46.0	0.041	66.5	0.062	87.0	0.079
0.6	0.974	8.8	0.194	26.0	0.131	46.5	0.042	67.0	0.063	87.5	0.079
0.8	0.984	9.0	0.193	26.5	0.136	47.0	0.042	67.5	0.064	88.0	0.079
1.0	0.992	9.2	0.196	27.0	0.138	47.5	0.040	68.0	0.065	88.5	0.078
1.2	0.997	9.4	0.200	27.5	0.135	48.0	0.038	68.5	0.066	89.0	0.078
1.4	1.000	9.6	0.206	28.0	0.129	48.5	0.034	69.0	0.067	89.5	0.078
1.6	1.000	9.8	0.209	28.5	0.120	49.0	0.030	69.5	0.068	90.0	0.077
1.8	0.998	10.0	0.216	29.0	0.107	49.5	0.025	70.0	0.069		
2.0	0.993	10.2	0.223	29.5	0.092	50.0	0.020	70.5	0.071		
2.2	0.986	10.4	0.229	30.0	0.074	50.5	0.016	71.0	0.072		

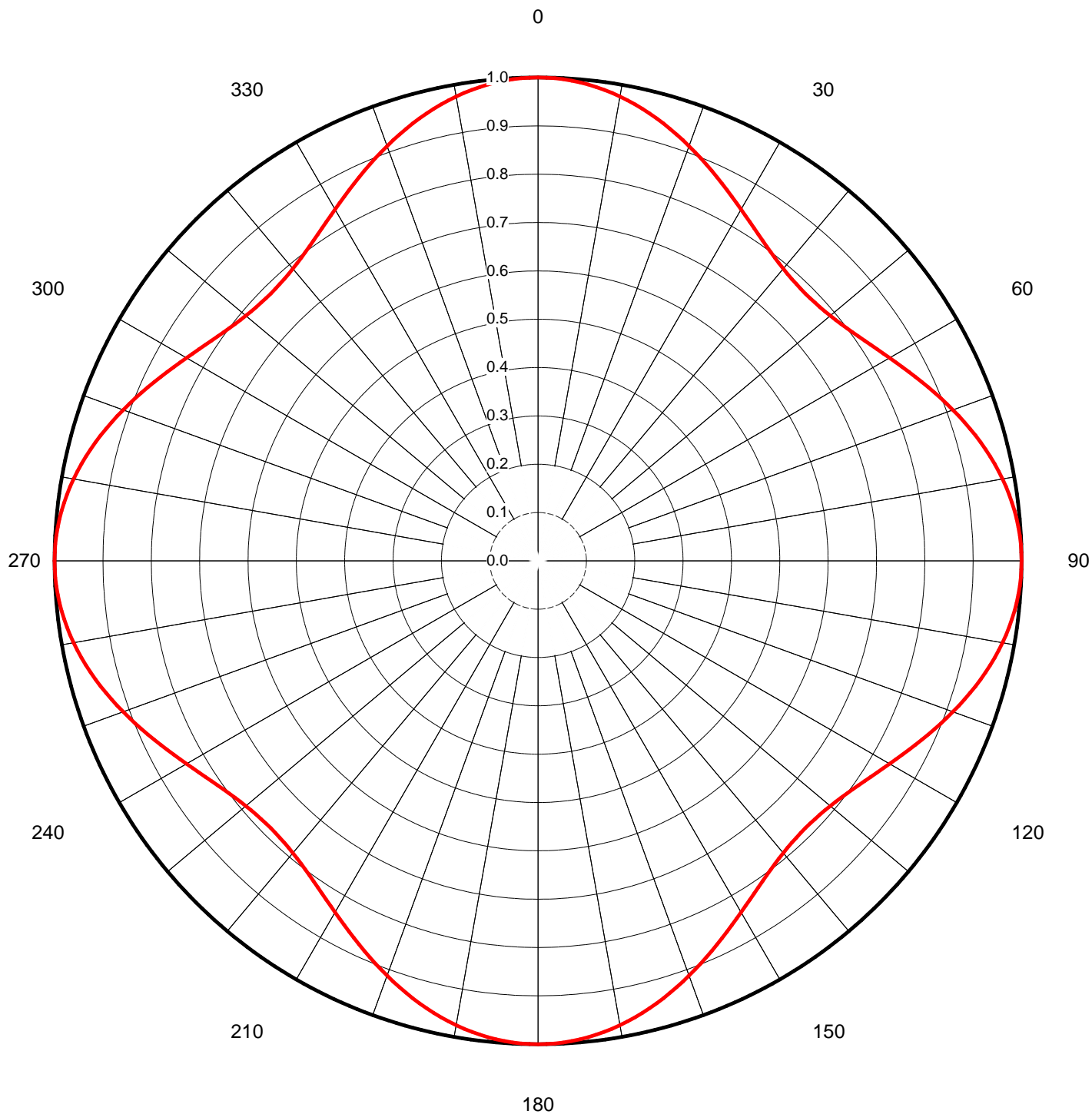


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Customer			
Antenna Type	<b>TF-8HTS-DC</b>		

## AZIMUTH PATTERN

Gain **1.30** **( 1.14 dB)**  
Calculated / Measured **Calculated**

Frequency **189.00 MHz**  
Drawing # **TF-O4-1890**



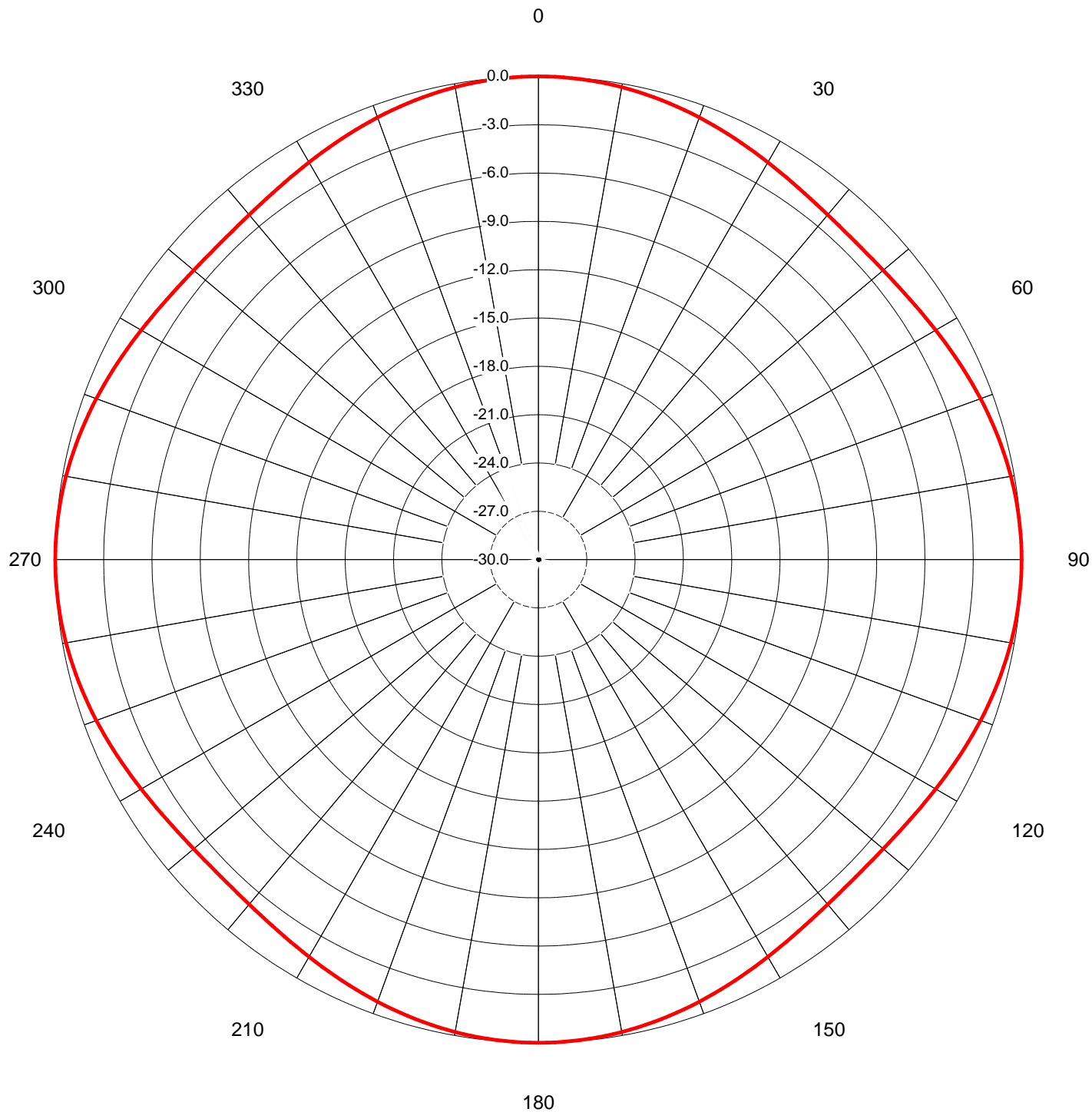


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### AZIMUTH PATTERN (dB)

Gain	<b>1.30</b>	<b>( 1.14 dB)</b>
Calculated / Measured		<b>Calculated</b>

Frequency	<b>189.00 MHz</b>
Drawing #	<b>TF-O4-1890</b>





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Customer			
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## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TF-O4-1890**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	1.000	45	0.782	90	1.000	135	0.782	180	1.000	225	0.782	270	1.000	315	0.782
1	1.000	46	0.782	91	1.000	136	0.782	181	1.000	226	0.782	271	1.000	316	0.782
2	0.999	47	0.783	92	0.999	137	0.783	182	0.999	227	0.783	272	0.999	317	0.783
3	0.998	48	0.784	93	0.998	138	0.784	183	0.998	228	0.784	273	0.998	318	0.784
4	0.996	49	0.786	94	0.996	139	0.786	184	0.996	229	0.786	274	0.996	319	0.786
5	0.994	50	0.789	95	0.994	140	0.789	185	0.994	230	0.789	275	0.994	320	0.789
6	0.991	51	0.792	96	0.991	141	0.792	186	0.991	231	0.792	276	0.991	321	0.792
7	0.988	52	0.796	97	0.988	142	0.796	187	0.988	232	0.796	277	0.988	322	0.796
8	0.984	53	0.800	98	0.984	143	0.800	188	0.984	233	0.800	278	0.984	323	0.800
9	0.980	54	0.804	99	0.980	144	0.804	189	0.980	234	0.804	279	0.980	324	0.804
10	0.975	55	0.809	100	0.975	145	0.809	190	0.975	235	0.809	280	0.975	325	0.809
11	0.971	56	0.815	101	0.971	146	0.815	191	0.971	236	0.815	281	0.971	326	0.815
12	0.965	57	0.820	102	0.965	147	0.820	192	0.965	237	0.820	282	0.965	327	0.820
13	0.960	58	0.826	103	0.960	148	0.826	193	0.960	238	0.826	283	0.960	328	0.826
14	0.954	59	0.833	104	0.954	149	0.833	194	0.954	239	0.833	284	0.954	329	0.833
15	0.948	60	0.840	105	0.948	150	0.840	195	0.948	240	0.840	285	0.948	330	0.840
16	0.941	61	0.846	106	0.941	151	0.846	196	0.941	241	0.846	286	0.941	331	0.846
17	0.934	62	0.854	107	0.934	152	0.854	197	0.934	242	0.854	287	0.934	332	0.854
18	0.928	63	0.861	108	0.928	153	0.861	198	0.928	243	0.861	288	0.928	333	0.861
19	0.920	64	0.868	109	0.920	154	0.868	199	0.920	244	0.868	289	0.920	334	0.868
20	0.913	65	0.876	110	0.913	155	0.876	200	0.913	245	0.876	290	0.913	335	0.876
21	0.906	66	0.883	111	0.906	156	0.883	201	0.906	246	0.883	291	0.906	336	0.883
22	0.898	67	0.891	112	0.898	157	0.891	202	0.898	247	0.891	292	0.898	337	0.891
23	0.891	68	0.898	113	0.891	158	0.898	203	0.891	248	0.898	293	0.891	338	0.898
24	0.883	69	0.906	114	0.883	159	0.906	204	0.883	249	0.906	294	0.883	339	0.906
25	0.876	70	0.913	115	0.876	160	0.913	205	0.876	250	0.913	295	0.876	340	0.913
26	0.868	71	0.920	116	0.868	161	0.920	206	0.868	251	0.920	296	0.868	341	0.920
27	0.861	72	0.928	117	0.861	162	0.928	207	0.861	252	0.928	297	0.861	342	0.928
28	0.854	73	0.934	118	0.854	163	0.934	208	0.854	253	0.934	298	0.854	343	0.934
29	0.846	74	0.941	119	0.846	164	0.941	209	0.846	254	0.941	299	0.846	344	0.941
30	0.840	75	0.948	120	0.840	165	0.948	210	0.840	255	0.948	300	0.840	345	0.948
31	0.833	76	0.954	121	0.833	166	0.954	211	0.833	256	0.954	301	0.833	346	0.954
32	0.826	77	0.960	122	0.826	167	0.960	212	0.826	257	0.960	302	0.826	347	0.960
33	0.820	78	0.965	123	0.820	168	0.965	213	0.820	258	0.965	303	0.820	348	0.965
34	0.815	79	0.971	124	0.815	169	0.971	214	0.815	259	0.971	304	0.815	349	0.971
35	0.809	80	0.975	125	0.809	170	0.975	215	0.809	260	0.975	305	0.809	350	0.975
36	0.804	81	0.980	126	0.804	171	0.980	216	0.804	261	0.980	306	0.804	351	0.980
37	0.800	82	0.984	127	0.800	172	0.984	217	0.800	262	0.984	307	0.800	352	0.984
38	0.796	83	0.988	128	0.796	173	0.988	218	0.796	263	0.988	308	0.796	353	0.988
39	0.792	84	0.991	129	0.792	174	0.991	219	0.792	264	0.991	309	0.792	354	0.991
40	0.789	85	0.994	130	0.789	175	0.994	220	0.789	265	0.994	310	0.789	355	0.994
41	0.786	86	0.996	131	0.786	176	0.996	221	0.786	266	0.996	311	0.786	356	0.996
42	0.784	87	0.998	132	0.784	177	0.998	222	0.784	267	0.998	312	0.784	357	0.998
43	0.783	88	0.999	133	0.783	178	0.999	223	0.783	268	0.999	313	0.783	358	0.999
44	0.782	89	1.000	134	0.782	179	1.000	224	0.782	269	1.000	314	0.782	359	1.000