



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION TO AMEND  
AN APPLICATION FOR MODIFICATION OF  
CONSTRUCTION PERMIT BMPCDT-20031029ABD  
960405XK-DT- DESTIN, FLORIDA  
DTV - CH. 48 - 1000 kW - 318.3 M HAAT**

Prepared for: Kaleidoscope Partners

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

**GENERAL**

This office has been authorized by Kaleidoscope Partners, permittee of new NTSC television broadcast station 960405XK, channel 48, Destin, Florida, to prepare this statement, FCC Form 301, Sections III and III-D, and the associated exhibits in support of this application to amend its pending application for modification of construction permit BMPCDT-20031029ABD. The pending application seeks to modify BPCT-19960405XK, to specify initial digital operation in accordance with established Commission policy.<sup>1</sup> The pending application to modify 960405XK's construction permit represents the permittee's desire to directly implement a full service digital facility on channel 48, and commence its initial broadcast service in the digital format. In doing so the permittee will further the

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<sup>1</sup> See *Memorandum Opinion and Order on Reconsideration of the Fifth Report and Order* in MM Docket No. 87-268, adopted February 17, 1998, 13 FCC Rcd 6860 (1998), at paras. 11-16.

Commission's goal of early implementation of DTV service in the United States, and additionally avoid the unnecessary expense of first constructing a soon-to-be obsolete analog NTSC station.

The permittee has secured suitable property in close proximity to other existing broadcast towers. It is proposed herein to construct a new tower support structure at 309 59' 52" N latitude, 869 43' 13" W longitude (NAD 27), and to install a new Dielectric directional antenna, type TFU-28DSC S200, to be used by the proposed new DTV station. The modifications, including maximization of the DTV facility, as proposed herein, will serve to further the Commission's goals in the timely deployment of DTV broadcast service in the United States.

#### **PURPOSE OF PROPOSED AMENDMENT**

The instant application to amend the pending application provides additional technical data and the FCC tower registration number, 1242292. The tower elevation data contained in the FAA's "determination of no hazard to air navigation" is provided in the Form 301 "tech box". Exhibit 1, "Vertical Plan Antenna Sketch", and Appendix A, "Summary of Radiofrequency Radiation Study" are modified to reflect the ground elevation value as determined from the FAA determination. The new ground elevation, 44.2 meters AMSL, is 1.5 meters higher than previously determined.

#### **PROPOSED DIRECTIONAL ANTENNA**

It is proposed to install a new Dielectric model TFU-28DSC S200 directional antenna at a centerline height of 328.4 meters Above Ground Level (AGL) and 372.5

meters Above Mean Sea Level (AMSL). The antenna centerline Height Above Average Terrain (HAAT) is proposed to be 318.3 meters. A vertical plan antenna sketch is shown in exhibit 1. The maximum lobe of the antenna pattern is to be oriented in the direction of 240° True. The antenna manufacturer's horizontal plane azimuth radiation pattern is shown in exhibit 2, and tabulated in exhibit 3. The directional antenna shall employ an electrical beam tilt of 0.2 degrees below the horizontal plane. The manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane, is shown in Exhibit 4, and tabulated in Exhibit 5.

#### **PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation above mean sea level and geographic coordinates were determined from the FAA's "determination of no hazard to air navigation" and the FCC' tower registration database. The predicted principal community (48 dBu) service contour completely encompasses Destin, Florida, the principal community of license, shown in Exhibit 6, as required by Section 73.625(a) of the Commission's rules. The predicted 41 dBu contour is also shown in Exhibit 6.

## **ALLOCATION CONSIDERATIONS**

### **NTSC Allocation Considerations**

An interference study was performed, using the Commission's application analysis program, tv\_process, to ensure that the proposed DTV facility is in compliance with the Commission's *de minimis* interference requirement contained in Section 73.623(c)(2) of the Commission's rules. The study showed that the DTV facility proposed herein is predicted to cause no increase in the interference population in excess of the Commission's *de minimis* criteria to any authorized NTSC television facility, or relevant pending application.

### **DTV Allocation Considerations**

The same study was evaluated to determine if the modifications proposed herein are predicted to cause any level of new prohibited interference to other authorized DTV facilities, including other authorized DTV stations, DTV expansion construction permits, pending DTV expansion applications, or DTV allotments (checklist construction permits and licenses are evaluated as allotments). The study results indicate that the instant proposal is predicted to cause no unacceptable level of new interference to the populations served by any other relevant DTV facility, and thereby is in compliance with the *de minimis* interference criteria contained in Section 73.623(c)(2) of the Commission's Rules.

### **Class A Television Allocation Considerations**

As required in Section 73.623(c)(5) of the FCC's Rules, a study of interference contour overlap was performed, based on the modifications proposed herein, to establish compliance with the protection requirements contained therein. The study shows no class A LPTV stations potentially affected by the instant proposal.

## **BLANKETING AND INTERMODULATION INTERFERENCE**

A number of broadcast and non-broadcast facilities are located within 10 km of the proposed 960405XK-DT transmitter and antenna broadcast site. The permittee recognizes its responsibility to remedy complaints of interference created by this proposal in accordance with applicable Rules.

## **ENVIRONMENTAL CONSIDERATIONS**

### **RADIO FREQUENCY IMPACT**

Effective October 15, 1997, the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986), and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that affect the general public. The FCC Office of Engineering and Technology's bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) when applied to broadcast facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, is derived from the formula,  $(\text{frequency}/1500)$ . The MPE level for "controlled" environments is 1.0 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula,  $(\text{frequency}/300)$ . The predicted emissions of 960405XK-DT, channel 48, must be considered, along with the predicted emissions from other proposed and existing stations at, or very near, the current site. For 960405XK-DT, which will operate on television Channel 48 (674-680 MHz), the MPE is 0.451 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) in an "uncontrolled" environment and 2.255  $\text{mW}/\text{cm}^2$  in a "controlled" environment. The proposed 969495XK-DT facility will operate with a maximum ERP of 1000 kW from a horizontally polarized directional transmitting antenna with a centerline height of 328.4 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3, the 060405XK-DT facility is predicted to produce a power density at two meters above ground level of 0.02822  $\text{mW}/\text{cm}^2$ , which is 6.25% of the FCC guideline value for "uncontrolled" environments, and 1.25% of the FCC guideline value for "controlled" environments (see Appendix A). The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all stations to be located at the site, and those within relevant proximity, is only 35.84% of the limit for "uncontrolled" environments, and 7.17% of the limit for "controlled" environments.

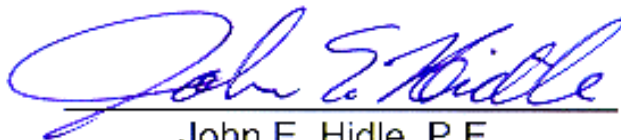
**OCCUPATIONAL SAFETY**

The permittee of 960405XK is committed to the protection of station personnel and/or tower contractors working in the vicinity of the antenna. The permittee is committed to reducing power and/or ceasing operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

**SUMMARY**

It is submitted that the instant proposal to amend BPCDT-20031029ABD, as described herein complies with the Rules, Regulations and Policies of the Federal Communications Commission. This statement, FCC Form 301, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

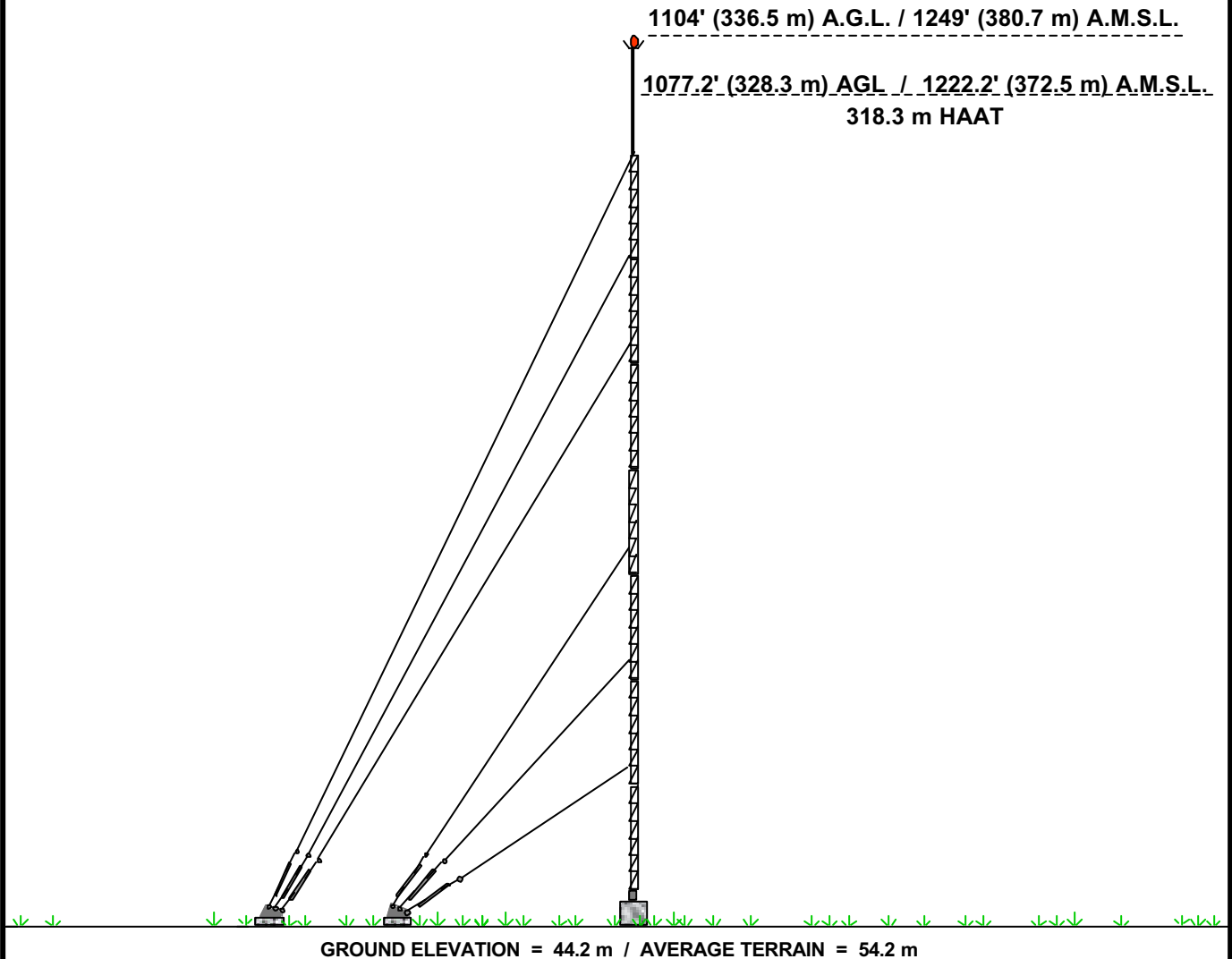
DATED: March 18, 2004

  
John E. Hidle, P.E.



**COORDINATES NAD-27**  
NORTH LATITUDE: 30° 59' 52"  
WEST LONGITUDE: 86° 43' 13"

**EXHIBIT 1**



**VERTICAL PLAN ANTENNA SKETCH**  
**NEW-DT - DESTIN, FLORIDA**  
**Ch. 48 - 1000 kW ERP - 318.5 m HAAT**  
**MARCH, 2004**

**CARL T. JONES**  
CORPORATION

NOT DRAWN TO SCALE





Proposal Number

Date

**23 Oct 2003**

Call Letters

Location

**Destin, FL**

Customer

Antenna Type

**TFU-28DSC S200**

Revision

**Exhibit 2**

Channel

**48**

### AZIMUTH PATTERN

Gain

**2.00 (3.01 dB)**

Frequency

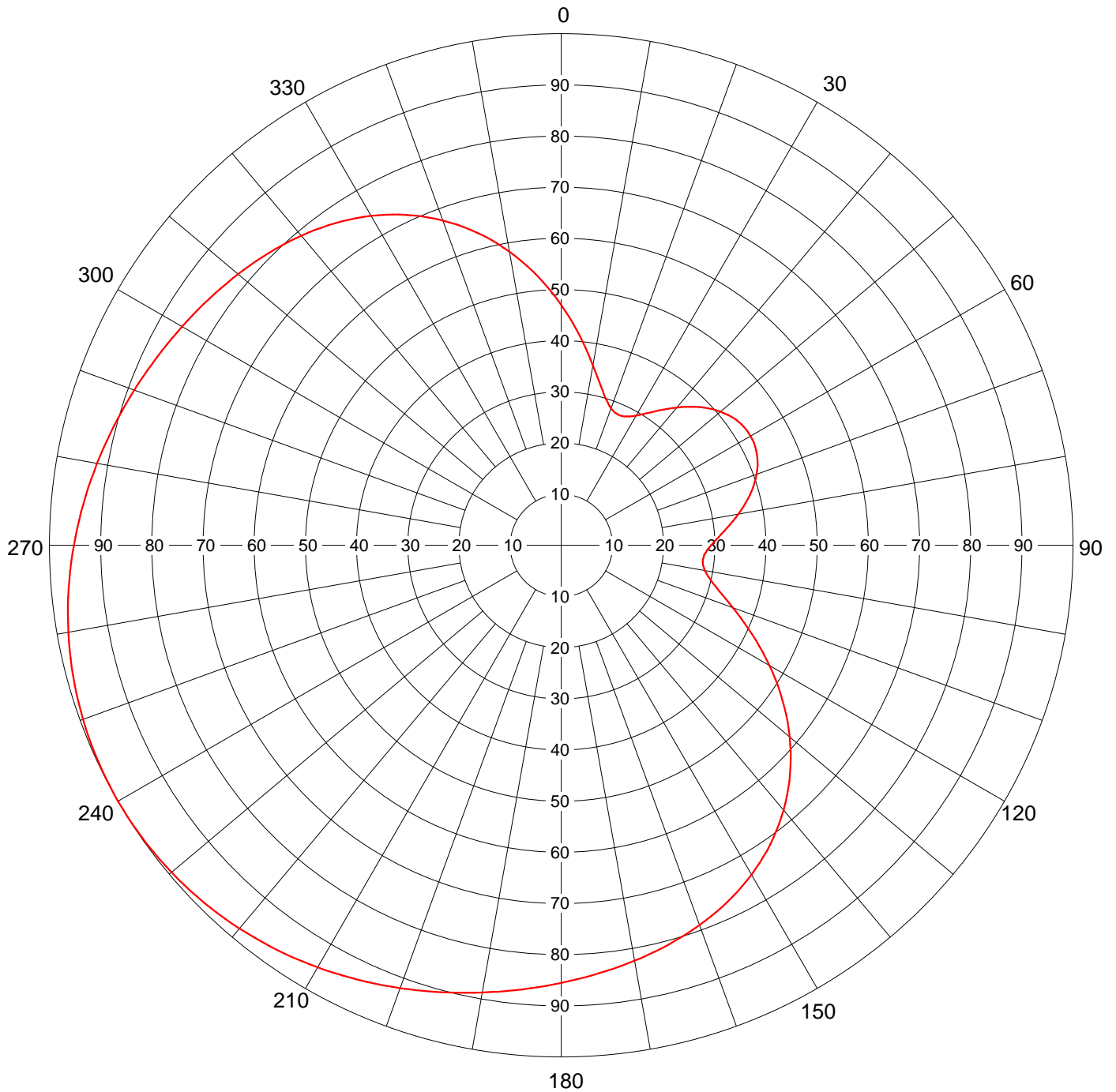
**677 MHz**

Calculated / Measured

**Calculated**

Drawing #

**TFU-S200-6770**



Remarks:



Proposal Number  
 Date **23 Oct 2003**  
 Call Letters  
 Location **Destin, FL**  
 Customer  
 Antenna Type **TFU-28DSC S200**

Revision  
**Exhibit 3**  
 Channel **48**

## TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **TFU-S200-6770**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.470	45	0.382	90	0.293	135	0.632	180	0.855	225	0.987	270	0.952	315	0.808
1	0.458	46	0.387	91	0.289	136	0.641	181	0.858	226	0.989	271	0.949	316	0.805
2	0.446	47	0.392	92	0.285	137	0.650	182	0.862	227	0.990	272	0.946	317	0.801
3	0.435	48	0.397	93	0.282	138	0.659	183	0.865	228	0.992	273	0.943	318	0.798
4	0.423	49	0.402	94	0.280	139	0.667	184	0.868	229	0.993	274	0.940	319	0.794
5	0.411	50	0.406	95	0.279	140	0.676	185	0.871	230	0.994	275	0.937	320	0.790
6	0.400	51	0.410	96	0.278	141	0.683	186	0.874	231	0.995	276	0.934	321	0.786
7	0.389	52	0.414	97	0.279	142	0.691	187	0.878	232	0.996	277	0.931	322	0.782
8	0.378	53	0.417	98	0.280	143	0.698	188	0.881	233	0.997	278	0.927	323	0.778
9	0.367	54	0.420	99	0.282	144	0.706	189	0.884	234	0.998	279	0.924	324	0.773
10	0.357	55	0.422	100	0.285	145	0.712	190	0.887	235	0.999	280	0.921	325	0.769
11	0.347	56	0.424	101	0.289	146	0.719	191	0.891	236	0.999	281	0.918	326	0.764
12	0.337	57	0.425	102	0.293	147	0.725	192	0.894	237	0.999	282	0.914	327	0.759
13	0.329	58	0.426	103	0.299	148	0.732	193	0.898	238	1.000	283	0.911	328	0.754
14	0.320	59	0.427	104	0.305	149	0.738	194	0.901	239	1.000	284	0.908	329	0.749
15	0.313	60	0.427	105	0.313	150	0.743	195	0.904	240	1.000	285	0.904	330	0.743
16	0.305	61	0.427	106	0.320	151	0.749	196	0.908	241	1.000	286	0.901	331	0.738
17	0.299	62	0.426	107	0.329	152	0.754	197	0.911	242	1.000	287	0.898	332	0.732
18	0.293	63	0.425	108	0.337	153	0.759	198	0.914	243	0.999	288	0.894	333	0.725
19	0.289	64	0.424	109	0.347	154	0.764	199	0.918	244	0.999	289	0.891	334	0.719
20	0.285	65	0.422	110	0.357	155	0.769	200	0.921	245	0.999	290	0.887	335	0.712
21	0.282	66	0.420	111	0.367	156	0.773	201	0.924	246	0.998	291	0.884	336	0.706
22	0.280	67	0.417	112	0.378	157	0.778	202	0.927	247	0.997	292	0.881	337	0.698
23	0.279	68	0.414	113	0.389	158	0.782	203	0.931	248	0.996	293	0.878	338	0.691
24	0.278	69	0.410	114	0.400	159	0.786	204	0.934	249	0.995	294	0.874	339	0.683
25	0.279	70	0.406	115	0.411	160	0.790	205	0.937	250	0.994	295	0.871	340	0.676
26	0.280	71	0.402	116	0.423	161	0.794	206	0.940	251	0.993	296	0.868	341	0.667
27	0.282	72	0.397	117	0.435	162	0.798	207	0.943	252	0.992	297	0.865	342	0.659
28	0.285	73	0.392	118	0.446	163	0.801	208	0.946	253	0.990	298	0.862	343	0.650
29	0.289	74	0.387	119	0.458	164	0.805	209	0.949	254	0.989	299	0.858	344	0.641
30	0.293	75	0.382	120	0.470	165	0.808	210	0.952	255	0.987	300	0.855	345	0.632
31	0.297	76	0.376	121	0.482	166	0.812	211	0.955	256	0.986	301	0.852	346	0.623
32	0.302	77	0.370	122	0.493	167	0.815	212	0.958	257	0.984	302	0.849	347	0.613
33	0.308	78	0.364	123	0.505	168	0.818	213	0.961	258	0.982	303	0.846	348	0.603
34	0.314	79	0.358	124	0.516	169	0.821	214	0.963	259	0.980	304	0.843	349	0.593
35	0.320	80	0.352	125	0.528	170	0.824	215	0.966	260	0.978	305	0.840	350	0.583
36	0.326	81	0.345	126	0.539	171	0.828	216	0.969	261	0.976	306	0.837	351	0.572
37	0.332	82	0.339	127	0.550	172	0.831	217	0.971	262	0.973	307	0.834	352	0.561
38	0.339	83	0.332	128	0.561	173	0.834	218	0.973	263	0.971	308	0.831	353	0.550
39	0.345	84	0.326	129	0.572	174	0.837	219	0.976	264	0.969	309	0.828	354	0.539
40	0.352	85	0.320	130	0.583	175	0.840	220	0.978	265	0.966	310	0.824	355	0.528
41	0.358	86	0.314	131	0.593	176	0.843	221	0.980	266	0.963	311	0.821	356	0.516
42	0.364	87	0.308	132	0.603	177	0.846	222	0.982	267	0.961	312	0.818	357	0.505
43	0.370	88	0.302	133	0.613	178	0.849	223	0.984	268	0.958	313	0.815	358	0.493
44	0.376	89	0.297	134	0.623	179	0.852	224	0.986	269	0.955	314	0.812	359	0.482

Remarks:



Proposal Number

Date

**23 Oct 2003**

Call Letters

Location

Customer

Antenna Type

Revision

**Exhibit 4A**

Channel

**48**

**Destin, FL**

**TFU-28DSC S200**

### ELEVATION PATTERN

RMS Gain at Main Lobe

**24.0 (13.80 dB)**

Beam Tilt

**0.20 Degrees**

RMS Gain at Horizontal

**23.4 (13.69 dB)**

Frequency

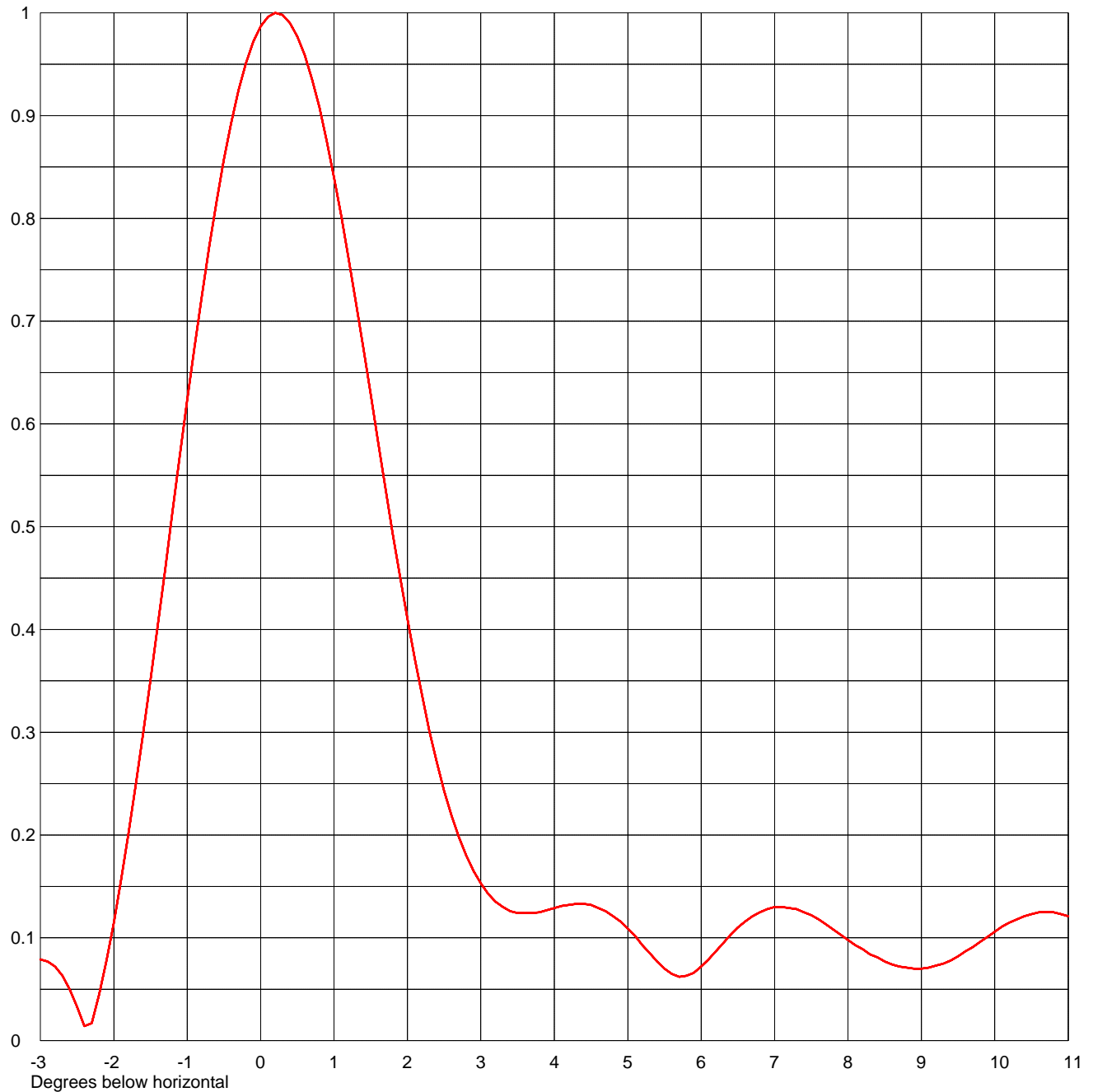
**677.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**24Q240020**



Remarks:



Proposal Number

Date

Call Letters

Location

Customer

Antenna Type

**23 Oct 2003**

**Destin, FL**

**TFU-28DSC S200**

Revision

**Exhibit 4B**

Channel **48**

### ELEVATION PATTERN

RMS Gain at Main Lobe

**24.0 (13.80 dB)**

Beam Tilt

**0.20 Degrees**

RMS Gain at Horizontal

**23.4 (13.69 dB)**

Frequency

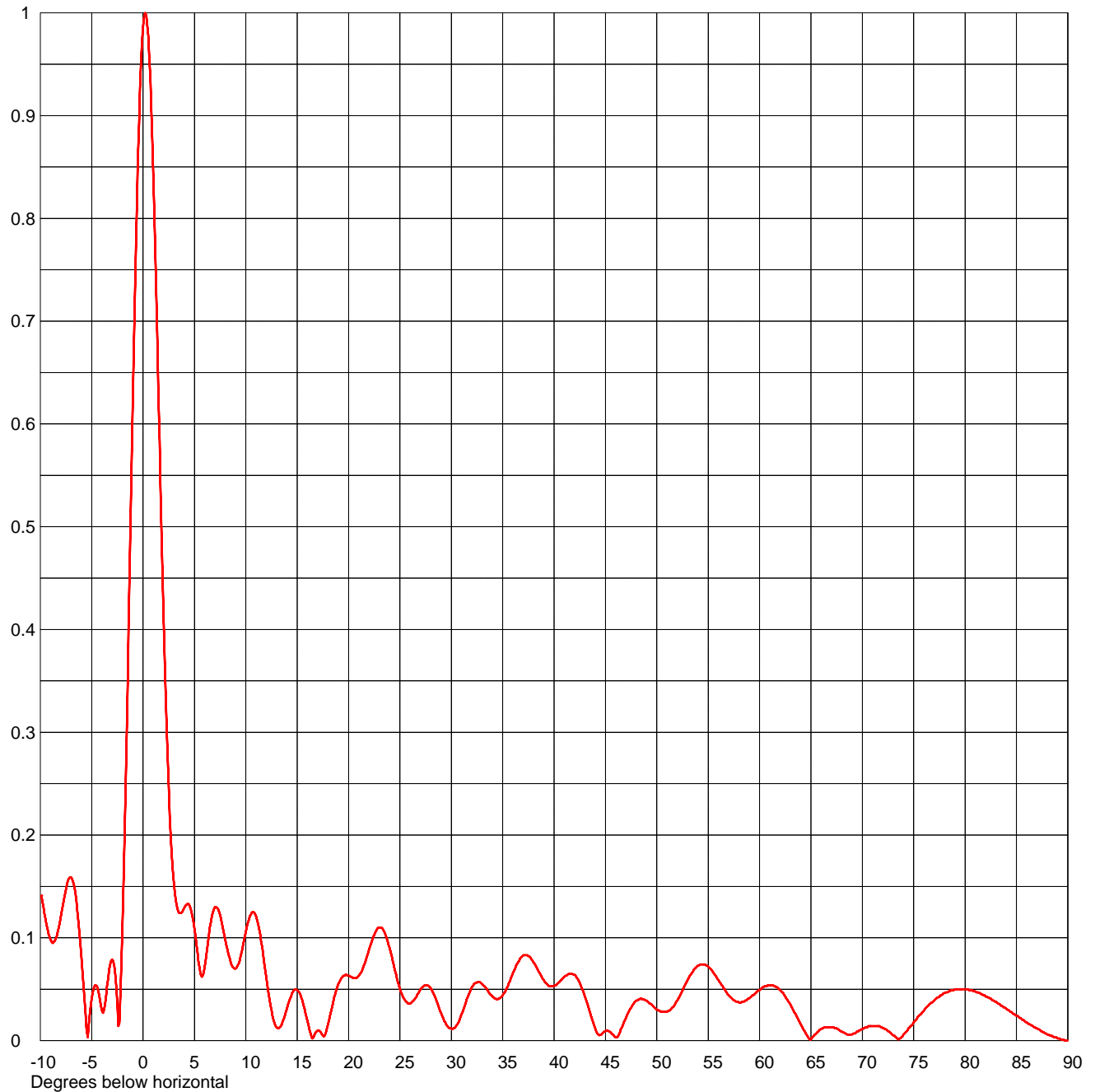
**677.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**24Q240020-90**



Remarks:



Proposal Number  
 Date **23 Oct 2003**  
 Call Letters  
 Location **Destin, FL**  
 Customer  
 Antenna Type **TFU-28DSC S200**

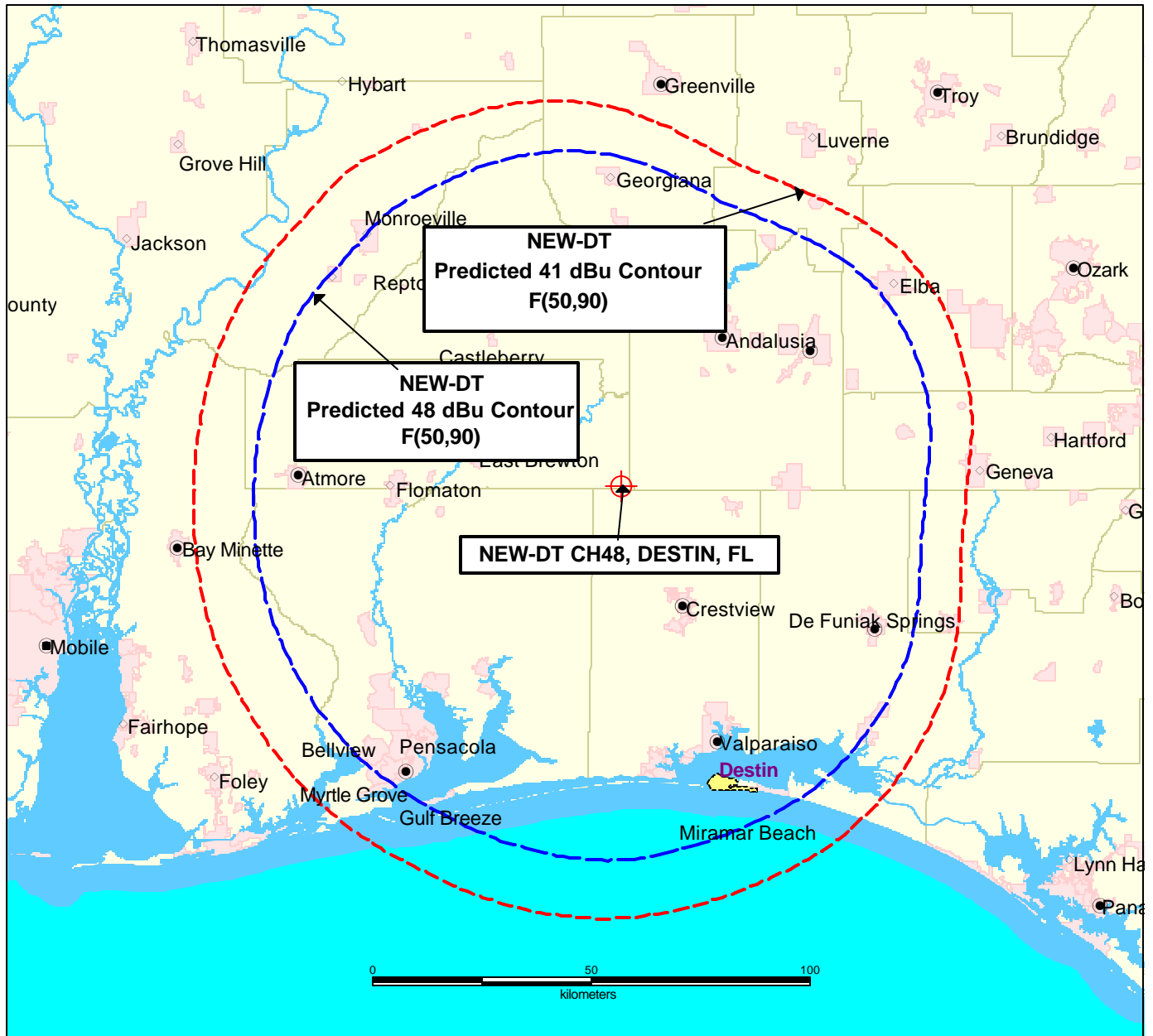
Revision  
**Exhibit 5**  
 Channel **48**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **24Q240020-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.146	2.4	0.271	10.6	0.125	30.5	0.015	51.0	0.028	71.5	0.014
-9.5	0.118	2.6	0.219	10.8	0.125	31.0	0.026	51.5	0.032	72.0	0.012
-9.0	0.098	2.8	0.180	11.0	0.121	31.5	0.040	52.0	0.039	72.5	0.009
-8.5	0.099	3.0	0.153	11.5	0.096	32.0	0.052	52.5	0.049	73.0	0.005
-8.0	0.121	3.2	0.135	12.0	0.061	32.5	0.057	53.0	0.059	73.5	0.001
-7.5	0.148	3.4	0.126	12.5	0.029	33.0	0.055	53.5	0.067	74.0	0.006
-7.0	0.159	3.6	0.124	13.0	0.013	33.5	0.049	54.0	0.073	74.5	0.012
-6.5	0.136	3.8	0.125	13.5	0.016	34.0	0.043	54.5	0.074	75.0	0.018
-6.0	0.081	4.0	0.129	14.0	0.031	34.5	0.040	55.0	0.072	75.5	0.024
-5.5	0.012	4.2	0.132	14.5	0.046	35.0	0.044	55.5	0.066	76.0	0.029
-5.0	0.041	4.4	0.133	15.0	0.049	35.5	0.053	56.0	0.059	76.5	0.035
-4.5	0.053	4.6	0.129	15.5	0.039	36.0	0.066	56.5	0.051	77.0	0.039
-4.0	0.029	4.8	0.121	16.0	0.019	36.5	0.076	57.0	0.044	77.5	0.043
-3.5	0.053	5.0	0.109	16.5	0.002	37.0	0.083	57.5	0.039	78.0	0.046
-3.0	0.079	5.2	0.093	17.0	0.010	37.5	0.082	58.0	0.037	78.5	0.048
-2.8	0.072	5.4	0.077	17.5	0.005	38.0	0.076	58.5	0.038	79.0	0.050
-2.6	0.050	5.6	0.065	18.0	0.016	38.5	0.067	59.0	0.041	79.5	0.050
-2.4	0.014	5.8	0.063	18.5	0.038	39.0	0.059	59.5	0.045	80.0	0.050
-2.2	0.045	6.0	0.072	19.0	0.055	39.5	0.053	60.0	0.049	80.5	0.049
-2.0	0.115	6.2	0.087	19.5	0.063	40.0	0.053	60.5	0.053	81.0	0.048
-1.8	0.201	6.4	0.103	20.0	0.063	40.5	0.057	61.0	0.054	81.5	0.046
-1.6	0.299	6.6	0.116	20.5	0.061	41.0	0.062	61.5	0.053	82.0	0.043
-1.4	0.405	6.8	0.125	21.0	0.063	41.5	0.065	62.0	0.049	82.5	0.041
-1.2	0.514	7.0	0.130	21.5	0.073	42.0	0.064	62.5	0.043	83.0	0.038
-1.0	0.623	7.2	0.129	22.0	0.089	42.5	0.056	63.0	0.035	83.5	0.034
-0.8	0.725	7.4	0.125	22.5	0.103	43.0	0.043	63.5	0.026	84.0	0.031
-0.6	0.817	7.6	0.118	23.0	0.110	43.5	0.027	64.0	0.016	84.5	0.028
-0.4	0.893	7.8	0.108	23.5	0.105	44.0	0.012	64.5	0.007	85.0	0.024
-0.2	0.951	8.0	0.098	24.0	0.090	44.5	0.006	65.0	0.001	85.5	0.021
0.0	0.987	8.2	0.089	24.5	0.069	45.0	0.009	65.5	0.007	86.0	0.018
0.2	1.000	8.4	0.081	25.0	0.050	45.5	0.008	66.0	0.011	86.5	0.015
0.4	0.990	8.6	0.074	25.5	0.039	46.0	0.003	66.5	0.013	87.0	0.012
0.6	0.959	8.8	0.071	26.0	0.036	46.5	0.011	67.0	0.013	87.5	0.009
0.8	0.908	9.0	0.070	26.5	0.041	47.0	0.022	67.5	0.012	88.0	0.006
1.0	0.840	9.2	0.073	27.0	0.050	47.5	0.032	68.0	0.009	88.5	0.004
1.2	0.760	9.4	0.078	27.5	0.054	48.0	0.039	68.5	0.006	89.0	0.002
1.4	0.673	9.6	0.087	28.0	0.051	48.5	0.041	69.0	0.006	89.5	0.001
1.6	0.583	9.8	0.096	28.5	0.040	49.0	0.039	69.5	0.009	90.0	0.000
1.8	0.493	10.0	0.106	29.0	0.027	49.5	0.035	70.0	0.011		
2.0	0.410	10.2	0.115	29.5	0.016	50.0	0.030	70.5	0.013		
2.2	0.335	10.4	0.121	30.0	0.012	50.5	0.028	71.0	0.014		

Remarks:



**PREDICTED COVERAGE CONTOURS**  
**PROPOSED NEW-DT, DESTIN, FLORIDA**  
**CH. 48 - 1000 kW - 318.3 m HAAT**  
**372.5 m RCAMSL- TFU-28DSC S200 D-ANT**

48 dBu - Principal Community Contour

41 dBu - Noise Limited Contour

OCTOBER 2003

**CARL T. JONES**  
**CORPORATION**

**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**  
NEW-DT, DESTIN, FLORIDA  
CHANNEL 48, 1000.0 kW ERP, 318.3 m HAAT  
MARCH, 2004

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm<sup>2</sup>)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
NEW-DT	DT	48	677	H	326.4	1000.000	0.300	0.02822	0.451	6.25%
WTKE-FM*	FM	251	98.1	H & V	317	89.000	1.000	0.05918	0.200	29.59%
<b>TOTAL PERCENTAGE OF ANSI VALUE=</b>										<b>35.84%</b>

\* WTKE-FM is not located precisely at the proposed site. However, it is within relevant proximity and, as such, is included in this study.

\*\* The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.