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AMENDMENT TO THE PFRM FOR THE DIGITAL TELEVISION BROADCAST STATION WVAN-DT TO OPERATE ON DTV CHANNEL 13 WITH AN ERP OF 10 KW AT AN ANTENNA HEIGHT RADIATION CENTER OF 293.4 METERS ABOVE AVERAGE TERRAIN SAVANNAH, GEORGIA

(GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION)

KESSLER & GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20011210

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ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH AN AMENDMENT TO THE GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION'S (GPTC) PETITION FOR RULE MAKING ON FILE WITH THE FCC TO AMEND THE DTV TABLE OF ALLOTMENTS IN ORDER TO SUBSTITUTE THE PROPOSED DTV VHF CHANNEL 13 FOR THE ALLOTTED WVAN-DT UHF CHANNEL 46 AT THE LICENSED SITE LOCATED IN PEMBROKE, GEORGIA.

The firm Kessler and Gehman Associates, Inc. has been retained by the Georgia Public Telecommunications Commission ("GPTC"), Atlanta, Georgia in order to amend the WVAN-DT Petition for Rule Making ("PFRM") on file with the FCC. The PFRM currently on file with the FCC respectfully requested authorization for an amendment of the DTV Table of Allotments by substituting the proposed DTV VHF Channel 13 for the allotted DTV UHF Channel 46 at the licensed site located in Pembroke, GA.

After reviewing the PFRM, the FCC determined that the parameters of the proposed WVAN-DT Channel 13 station would cause approximately 2.3% interference to the WTLV-DT construction permit (0.3% above de minimis). Therefore, this amendment corrects the de minimis overshoot by changing antenna systems and by shifting the main beam orientation from N115°E to N060°E. The change in antenna systems results in a change in azimuth patterns. The initial azimuth pattern was a cardioid with one of its main lobes oriented toward WTLV-DT, Jacksonville, FL. The new azimuth pattern is a skull which basically eliminates the main beam toward WTLV-DT, thus, eliminates a great deal of interference toward WTLV-DT. The change in main beam orientation also results in less interference to WTLV-DT. Therefore, the only changes contained in this amendment are: 1) change in antenna system; and 2) change in main beam orientation. All other parameters encompassed within the original PFRM shall remain the same.

With the amended parameters in place, the proposed WVAN-DT station will still meet the existing principal community requirements as well as the upcoming 2005 principal community requirements (see Exhibit 11).

Discussion

The GPTC is the licensee of nine NTSC broadcast stations and has been assigned a paired DTV channel for each of the nine stations. The enclosed WVAN-DT application for the GPTC is just one of six PFRM applications requesting a change from its assigned UHF channel to a desired VHF channel. Kessler and Gehman Associates, Inc. initially conducted a detailed spacing study and determined that two of the nine GPTC stations presently would not be able to convert to VHF without causing above *de minimis*[1] interference to one or more applicable surrounding station(s). Of the nine DTV channels allotted to the GPTC, one station was assigned a VHF channel. Therefore, the GPTC is requesting a VHF Conversion of six of its nine broadcast stations in order to utilize improved signal coverage, heavily reduce support

[1] *De minimis* interference is defined as interference to such stations affecting less than two percent of the population they serve. Where a station is receiving interference to between eight and ten percent of the population it would otherwise serve, additional interference is considered *de minimis* if it does not cause interference to the station to exceed the ten-percent threshold.

structure upgrade expenses, save on equipment and operational costs and continue digital VHF operation on the proposed channels after the DTV transition has ceased.

Authorization of the "*Fleet VHF conversion*[2]" will equip the GPTC with as many as seven VHF stations and will serve the public interest significantly with huge savings in tax dollars ranging from the substantial amount of money saved during the DTV purchasing/building phase to the magnitude of electrical savings that low power VHF transmitters offer over high power UHF transmitters. Conversion of the two remaining UHF channels to VHF shall be pursued after the DTV transition when spectrum becomes available so that the GPTC can simulcast efficiently on all nine VHF stations to the entire state of Georgia and beyond.

The objective of the enclosed DTV PFRM is to amend the DTV Table of Allotments as follows: (1) substitute DTV Channel 13 for assigned DTV Channel 46; (2) change effective radiated power ("ERP") from assigned 958.3 kW to 10 kW using a directional antenna (skull) with the main lobe oriented toward N065°E; and (3) change the antenna radiation center (R/C) height above average terrain ("HAAT") from the assigned 320.0 meters to 293.4 meters.

The GPTC is licensed to operate WVAN-TV on VHF, NTSC Channel 9(-) with an ERP of 316 kW at an antenna height R/C of 320.0 meters AAT using a nondirectional antenna. The assigned principal community for WVAN is Savannah, Georgia and the file number for WVAN-TV is BLET-85.

According to the initial allotment plan and reference coordinates (DTV Table of Allotments) set forth in Appendix B of the *Sixth Report and Order* in MM Docket 87-268, FCC 97-115, adopted April 3, 1997, WVAN is allotted UHF, DTV Channel 46 at an antenna height R/C of 320.0 meters AAT and an ERP of 958.3 kW in order to replicate its licensed VHF, Channel 9 Grade B Contour.

The GPTC has been granted a construction permit for DTV Channel 46 (file number BPEDT-20000425AAT), which authorizes WVAN to operate with an ERP of 917.5 kW at an antenna height radiation of 299.8 meters AAT using a nondirectional antenna. Specifically, the GPTC requests authorization to substitute WVAN-DT Channel 13 in lieu of the WVAN-DT Channel 46 construction permit, and to take any other steps necessary to enable WVAN to construct and ultimately operate its digital facilities on Channel 13.

Transmitter

It is proposed to side-mount a Dielectric model THA-S4-12/48-1 circularly polarized, directional (skull oriented at N065E°), VHF, DTV antenna on the existing WVAN-TV support structure owned by the GPTC. The tower is registered with the FCC and has a registration number of 1018799. The support structure is located 0.8 miles NNE of Pembroke, GA. The antenna height radiation center is 289.5 meters above ground level (AGL). The antenna's highest point will extend to 299.0 meters AGL and the overall height of the structure will extend to 331.0 meters AGL as depicted in Exhibit 3's elevation view of the support structure

[2] Fleet VHF Conversion is defined as a UHF to VHF conversion for the following GPTC stations: 1) WABW-DT; 2) WACS-DT; 3) WCES-DT; 4) WVAN-DT; and 5) WXGA-DT. WGTV-DT also seeks VHF conversion but is not considered part of the "Fleet" due to mutually exclusive issues.

Interference Studies

The enclosed interference studies were computed using a Pentium Pro, 1 GHz, 512-megabyte, Pentium III processor. The calculations were performed using V-Soft Communication's Probe II, professional signal propagation software and interference studies program, which complies with the FCC-mandated application-processing guidelines for digital television. This software is in accordance with the standards established in the FCC Public Notice #3060-0841 pertaining to DTV studies and DTV application preparation dated August 10, 1998.

Initial spacing studies, which considered DTV allotments ("ALLOT"), DTV/NTSC licenses ("LIC"), DTV/NTSC construction permits ("CP"), DTV/NTSC applications ("APP") and Class A/Class A-eligible low power television ("LPTV") stations in the applicable areas surrounding Pembroke, GA revealed that VHF Channel 13 was a possible option for the GPTC station. After the spacing studies were completed additional studies were conducted to verify that the proposed station met the principal community coverage requirements of §73.625(a) in the Federal Communications Commission's (FCC) rules. Exhibit 11 depicts the proposed WVAN-DT F(50,90) 36dBuV/m noise limited contour and verifies that the proposed station's noise limited contour fully encompasses the assigned principal community of Savannah, GA. After it was determined that the principal community coverage requirement was met, we performed detailed interference studies on all applicable surrounding stations using the terrain dependent Longley-Rice, point-to-point propagation algorithm detailed in the FCC's Office of Engineering and Technology Bulletin Number 69 (OET 69).

The initial interference studies predicted that the proposed WVAN-DT may cause interference to the stations listed below (Exhibit 12) and therefore, are the stations we performed detailed interference studies on to verify that all interference remains within the *de minimis* standard:

- WTLV-DT (CP)
- WMAZ-TV (LIC)
- WRDW-TV (LIC)
- WBTW-TV (LIC)

Exhibit 12 is a pictorial view of all applicable surrounding stations that are predicted to receive interference from WVAN-DT using the proposed azimuth pattern with an ERP of 10 kW at an antenna R/C HAAT of 293.4 meters. Exhibit 12A is a tabular exhibit which identifies the potential stations that may receive interference from the proposed WVAN-DT, including Class A and Class A-eligible LPTV stations. Since this study did not take masking into account, each station was studied in detail in order to determine the exact amount of *unique interference*[3] caused to each station from the proposed WVAN-DT.

NOTE: Starting from Exhibit 12, each pictorial exhibit will also be followed by a tabulation exhibit. For example, Exhibit 12 will be a pictorial exhibit and Exhibit 12A will be a tabulation exhibit.

Exhibits 13 and 14 are studies showing interference from all stations to the WTLV-DT (CP) with the WVAN-DT initial PFRM parameters and with the WVAN-DT amendment parameters respectively. Exhibit 13 shows that with WVAN-DT (initial), the unique interference population is 22,031 people. Exhibit 14 shows that with WVAN-DT (amended), the unique interference population is 13,269 people. The DTV table of Allotments shows that the baseline population for WTLV-DT is 1,084,000. Therefore, the total amount of unique interference caused by WVAN-DT (amended) is only [13,269/1,084,000] 1.2%

[3] Unique interference is defined as the predicted interference a DTV station would cause beyond the amount of interference "built into" the DTV allotment table.

≤ 2.0% and thus, all requirements under the definition of *de minimis* have been met. Exhibit 14 concludes that the total interference caused to WTLV-DT from all stations including WVAN-DT (amended) is [13,269/1,084,000] 1.2% ≤ 10% and thus, all requirements under the definition of the *10% de-minimis* standard have been met. As you can see, this PFRM amendment significantly reduces the interference from the proposed WVAN-DT Channel 13 station to the WTLV-DT Channel 13 construction permit.

Exhibits 15 and 16 are studies showing interference from all stations to the WMAZ-TV (LIC) with the WVAN-DT initial PFRM parameters and with the WVAN-DT amendment parameters respectively. Exhibit 15 shows that with WVAN-DT (initial), the unique interference population is 509 people. Exhibit 14 shows that with WVAN-DT (amended), the unique interference population is 4,481 people. The DTV table of Allotments shows that the NTSC baseline population for WMAZ-TV (LIC) is 590,000. Therefore, the total amount of unique interference caused by WVAN-DT (amended) is [4,481/590,000] 0.8% ≤ 2.0% and thus, all requirements under the definition of *de minimis* have been met. Exhibit 16 concludes that the total interference caused to WMAZ-TV (LIC) from all stations including WVAN-DT (amended) is [14,378/590,000] 2.4% ≤ 10% and thus, all requirements under the definition of the *10% de-minimis* standard have been met.

Exhibits 17 and 18 are studies showing interference from all stations to the WRDW-TV (LIC) with the WVAN-DT initial PFRM parameters and with the WVAN-DT amendment parameters respectively. Exhibit 17 shows that with WVAN-DT (initial), the unique interference population is zero (0.0) people. Exhibit 18 shows that with WVAN-DT (amended), the unique interference population is also zero (0.0) people. The DTV table of Allotments shows that the NTSC baseline population for WRDW-TV (LIC) is 921,000. Therefore, the total amount of unique interference caused by WVAN-DT (amended) is [0.0/590,000] 0.0% ≤ 2.0% and thus, all requirements under the definition of *de minimis* have been met. Exhibit 18 concludes that the total interference caused to WRDW-TV (LIC) from all stations including WVAN-DT (amended) is [46,411/921,000] 5.0% ≤ 10% and thus, all requirements under the definition of the *10% de-minimis* standard have been met.

Exhibits 19 and 20 are studies showing interference from all stations to the WBTW-TV (LIC) with the WVAN-DT initial PFRM parameters and with the WVAN-DT amendment parameters respectively. Exhibit 19 shows that with WVAN-DT (initial), the unique interference population is 279 people. Exhibit 20 shows that with WVAN-DT (amended), the unique interference population is also zero (0.0) people. The DTV table of Allotments shows that the NTSC baseline population for WBTW-TV (LIC) is 1,320,000. Therefore, the total amount of unique interference caused by WVAN-DT (amended) is [0.0/1,320,000] 0.0% ≤ 2.0% and thus, all requirements under the definition of *de minimis* have been met. Exhibit 20 concludes that the total interference caused to WBTW-TV (LIC) from all stations including WVAN-DT (amended) is [1,123/1,320,000] 0.1% ≤ 10% and thus, all requirements under the definition of the *10% de-minimis* standard have been met.

Exhibits

Exhibit A is a listing by Section and Question Number of the portions of the pending PFRM that are being revised as required in FCC Form 340, Section I number 4d.

Exhibits 1 and 2 represent WVAN-DT's administration data, antenna and antenna structure specifications as per §VII item 10 in the DTV Engineering Technical Specifications portion of the application regarding directional antennas and beam tilt.

Exhibit 3 depicts the profile view of the proposed antenna on the antenna structure with all the appropriate elevations as per §VII item 10 in the DTV Engineering Technical Specifications portion of the application regarding supporting structures and elevations.

Exhibits 4 and 5 display the azimuth pattern and the elevation pattern tabulation respectively.

Exhibits 6 and 7 display the elevation pattern and the elevation pattern tabulation respectively.

Exhibits 8 and 9 display the ERP/dBk pattern and the ERP/dBk pattern tabulation respectively.

Exhibit 10 depicts the site location of the proposed WVAN-DT site on a 7.5-Minute (Series) Topographic Map as per §VII item 10 in the DTV Engineering Technical Specifications portion of the application regarding topographic maps.

Exhibit 11 depicts the proposed WVAN-DT coverage contour, boundaries of the principal community to be served, and the proposed transmitting location with radials every 45° as per §VII item 10 in the DTV Engineering Technical Specifications portion of the application regarding Sectional Aeronautical Charts.

Exhibits 12 through 20 are detailed interference studies and demographic results as required.

Environmental Impact

The proposed construction will have no significant environmental impact as defined in §1.1307 of the FCC Rules. The DTV transmitter, 3-1/8 inch (50-ohm) transmission line and antenna system will produce an ERP of 10 kW. Assuming that the maximum lobe of radiation is oriented at the base of the tower, it will produce a power density six feet above the ground of 0.004 mW/cm^2. This is only 0.45% of the maximum permissible exposure (MPE) authorized by the American National Standards Institute (ANSI). Since the proposed operation of WVAN-DT Channel 13 will not exceed 5.0% of the MPE limit for population/uncontrolled at any point on the ground, WVAN-DT is not considered to be a "significant contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions will be insignificant and well within the maximum allowable requirements.

If other antennas are placed on the tower in the future, the applicant will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna. The tower will be enclosed within a fence with warning signs posted at the locked gate.

Certification

The applicant accepts full responsibility for the elimination of any objectionable interference including that caused by intermodulation to facilities in existence or authorized prior to the grant of this application.

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics and received a Commission in the Aviation Branch of the United States Army in 1993. As a Professional in the field of Telecommunications and as a Captain in the United States Army, he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.

KGA

KESSLER AND GEHMAN ASSOCIATES, INC.

WILLIAM T. GODFREY
Telecommunications Consultant

12 December, 2001

Listing by Section and Question Number of the Portions of the Pending Petition for Rule Making that are being Revised.

1) Tech Box: Number 10.a. – Antenna Specifications (Manufacturer & Model).
10.c. – Directional Antenna Relative Field Values.

2) Exhibits 1 through 9 and 11 through 20.

– END –

WVAN-DT
SAVANNAH, GA

ENGINEERING SPECIFICATIONS

A. ***Transmitter Site:***
Geographic coordinates:

North Latitude	**32° 08' 48"**
West Longitude	**81° 37' 05"**

Transmitter Site Address: **100 Vandiver Street, Pembroke, GA 31321 (0.8 Miles NNE of Pembroke, GA)**

B. ***Main Studio Site Address:*** **260 14th Street N.W., Atlanta, GA 30318.**

C. ***Proposed Facility:***

DTV Channel	Number	**13**
	Frequency	**210-216 MHz**

D. ***Antenna Height:***

Height of Site Above Mean Sea Level (AMSL)	**29.0 M**
Overall Height of Structure Above Ground (including all appurtenances)	**331.0 M**
Overall Height of Structure Above Mean Sea Level (including all appurtenances)	**360.0 M**
Height of Site Above Average Terrain	**4.9 M**
Antenna Height Radiation Center (R/C) Above Ground	**289.5 M**
Antenna Height R/C Above Mean Sea Level	**318.5 M**
Average of All Non-Odd Radials	**25.1 M**
Antenna Height R/C Above Average Terrain	**293.4 M**

E. ***System Parameters – Circular Polarization:***

Transmitter Power Required (Circular)	**1.51 kW**
Maximum Power Input to Antenna	**0.89 kW**
Total System Loss	**2.29 dB**
Transmission Line Efficiency	**59.0%**
Maximum Antenna Gain in Beam Maximum	**13.50 dB**
Maximum Antenna Gain in Horizontal Plane	**13.32 dB**
Maximum Effective Radiated Power	**10.0 dBk**
In Beam Maximum	**10.0 kW**
Maximum Effective Radiated Power	**9.82 dBk**
In Horizontal Plane	**9.59 kW**

WVAN-DT
SAVANNAH, GA

DATA FOR PROPOSED DTV DIRECTIONAL TRANSMITTING ANTENNA

A. ***Antenna:*** Dielectric THA-S4-12/48-1, Circularly Polarized, Directional (Skull), Side-mount Antenna.

B. ***Electrical Beam Tilt:*** 0.60°

C. ***Mechanical Beam Tilt:*** None

D. ***Maximum Power Gain*** — **Horizontal Polarization**

Maximum:	22.4 (13.50 dB)
Horizontal:	21.5 (13.32 dB)

E. ***Length:*** 62.4 feet (19.0 meters) not including appurtenances.

F. ***Average Power DTV:*** 1.51 kW

G. ***Null Fill:*** 13.8%

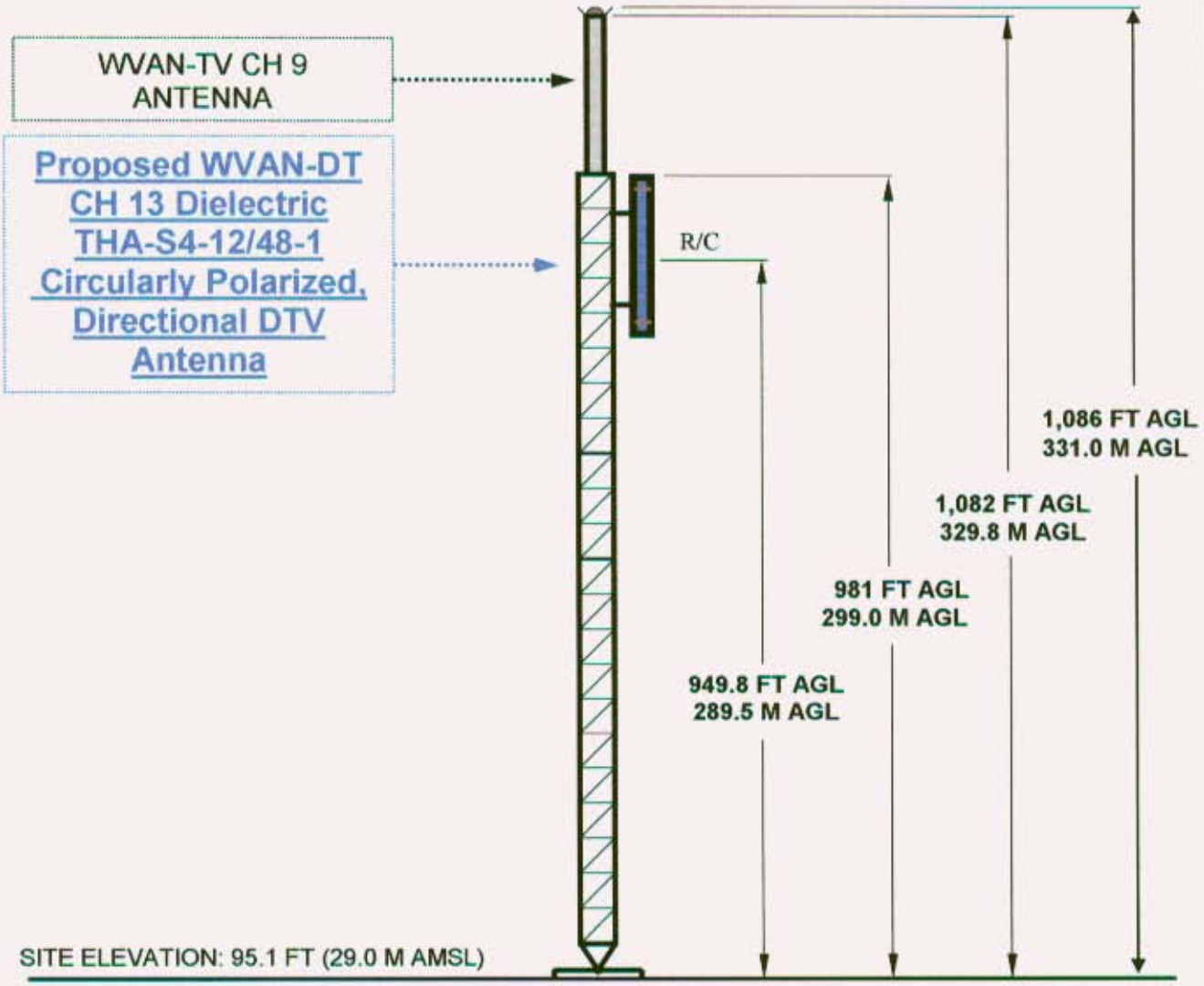
H. ***Transmission Line:*** 3-1/8" 50-ohm Heliax.

I. ***Transmission Line Loss:*** 0.220 dB/100-feet

J. ***Total Transmission Line:*** 1,040 feet

K. ***Transmission Line Attenuation:*** 2.29 dB

ANTENNA STRUCTURE ELEVATION VIEW



OVERALL HEIGHT AGL:	331.0 M
OVERALL HEIGHT AMSL:	360.0 M
RADIATION CENTER AGL:	289.5 M
RADIATION CENTER AMSL:	318.5 M
RADIATION CENTER HAAT:	293.4 M
AVG OF ALL NON-ODD RADIALS:	25.1 M

COORDINATES (NAD 27):

N. LATITUDE 32° 08' 48"

W. LONGITUDE 81° 37' 05"

Antenna Structure Registration Number:
1018799

NOTE: NOT TO SCALE

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WVAN-DT CHANNEL 13

SAVANNAH, GEORGIA

20011210 EXHIBIT 3

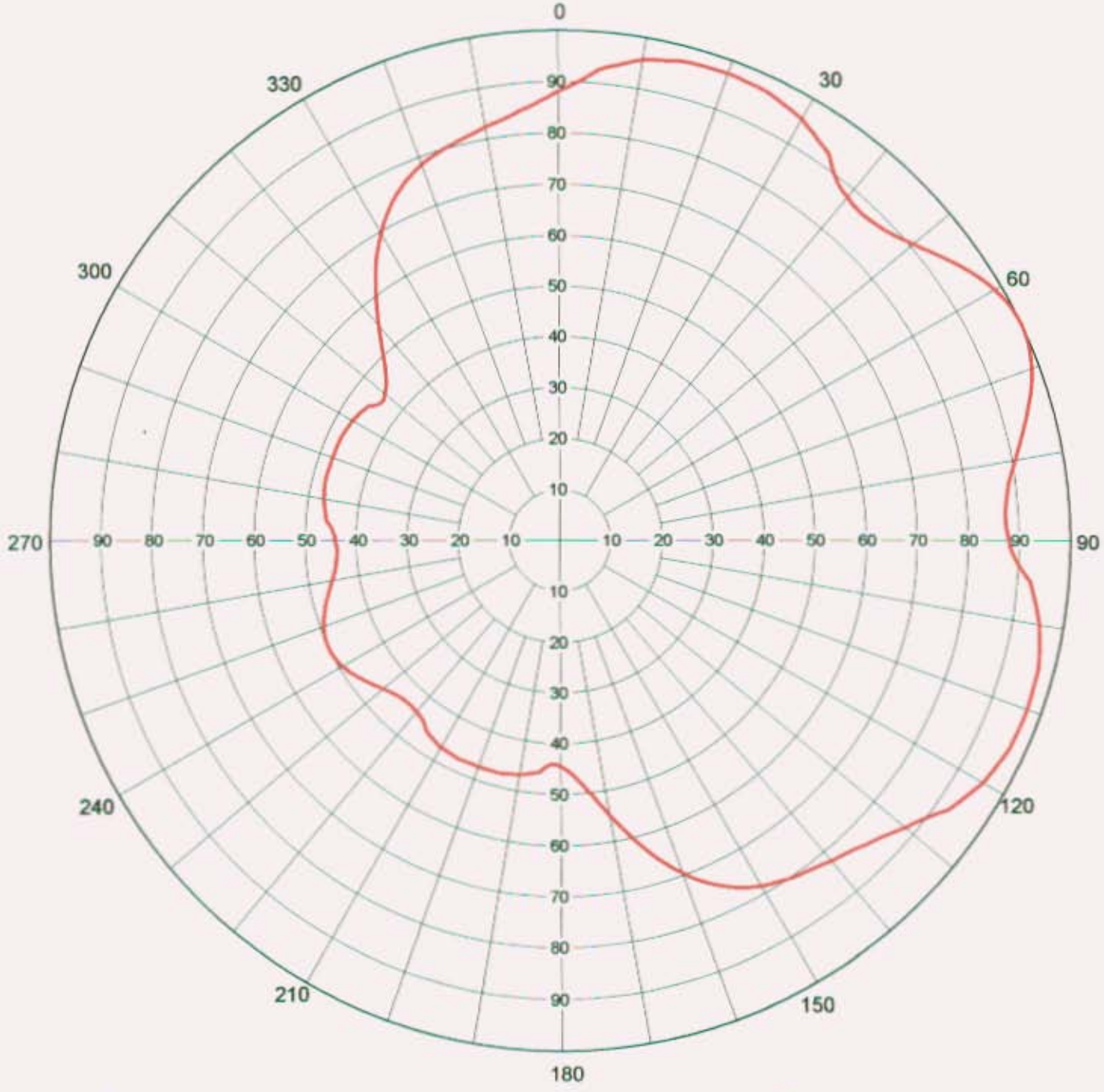
Exhibit No.
Exhibit 4

Dielectric

Date	**10 Dec 2001**		
Call Letters	**WVAN-DT**	Channel	**13**
Location	**SAVANNAH, GA**		
Customer	**GPTC**		
Antenna Type	**THA-S4-12/48-1**		

AZIMUTH PATTERN

RMS Gain at Main Lobe	**1.90 (2.79 dB)**	Frequency	**213 MHz**
Calculated / Measured	**Calculated**	Drawing #	**THA-S4**



Remarks:

Exhibit 4

Exhibit No.

Dielectric

Date 10 Dec 2001
Call Letters WVAN-DT Channel 13
Location SAVANNAH, GA
Customer GPTC
Antenna Type THA-S4-12/48-1

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # THA-S4

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.881	45	0.878	90	0.880	135	0.846	180	0.446	225	0.439	270	0.440	315	0.482
1	0.887	46	0.882	91	0.884	136	0.840	181	0.441	226	0.441	271	0.441	316	0.494
2	0.895	47	0.886	92	0.890	137	0.835	182	0.440	227	0.443	272	0.443	317	0.506
3	0.904	48	0.892	93	0.899	138	0.831	183	0.443	228	0.446	273	0.447	318	0.520
4	0.915	49	0.899	94	0.910	139	0.827	184	0.449	229	0.449	274	0.452	319	0.534
5	0.926	50	0.906	95	0.925	140	0.823	185	0.457	230	0.453	275	0.459	320	0.548
6	0.932	51	0.914	96	0.931	141	0.819	186	0.460	231	0.457	276	0.461	321	0.564
7	0.938	52	0.923	97	0.936	142	0.815	187	0.462	232	0.461	277	0.463	322	0.579
8	0.944	53	0.931	98	0.942	143	0.812	188	0.464	233	0.466	278	0.465	323	0.595
9	0.950	54	0.940	99	0.948	144	0.808	189	0.466	234	0.470	279	0.467	324	0.610
10	0.956	55	0.949	100	0.954	145	0.805	190	0.468	235	0.474	280	0.470	325	0.625
11	0.959	56	0.957	101	0.957	146	0.801	191	0.469	236	0.479	281	0.470	326	0.641
12	0.962	57	0.965	102	0.960	147	0.798	192	0.470	237	0.483	282	0.471	327	0.656
13	0.965	58	0.973	103	0.964	148	0.794	193	0.471	238	0.486	283	0.472	328	0.670
14	0.968	59	0.980	104	0.967	149	0.789	194	0.472	239	0.490	284	0.473	329	0.683
15	0.971	60	0.986	105	0.970	150	0.785	195	0.473	240	0.493	285	0.474	330	0.696
16	0.971	61	0.991	106	0.971	151	0.779	196	0.473	241	0.495	286	0.473	331	0.709
17	0.972	62	0.995	107	0.971	152	0.773	197	0.473	242	0.497	287	0.473	332	0.720
18	0.972	63	0.998	108	0.972	153	0.766	198	0.473	243	0.499	288	0.473	333	0.731
19	0.973	64	0.999	109	0.973	154	0.758	199	0.473	244	0.500	289	0.473	334	0.741
20	0.974	65	1.000	110	0.974	155	0.750	200	0.473	245	0.500	290	0.473	335	0.750
21	0.973	66	0.999	111	0.973	156	0.741	201	0.473	246	0.500	291	0.473	336	0.758
22	0.972	67	0.998	112	0.972	157	0.731	202	0.473	247	0.499	292	0.473	337	0.766
23	0.971	68	0.995	113	0.972	158	0.720	203	0.473	248	0.497	293	0.473	338	0.773
24	0.971	69	0.991	114	0.971	159	0.709	204	0.473	249	0.495	294	0.473	339	0.779
25	0.970	70	0.986	115	0.971	160	0.696	205	0.474	250	0.493	295	0.473	340	0.785
26	0.967	71	0.980	116	0.968	161	0.683	206	0.473	251	0.490	296	0.472	341	0.789
27	0.964	72	0.973	117	0.965	162	0.670	207	0.472	252	0.486	297	0.471	342	0.794
28	0.960	73	0.965	118	0.962	163	0.656	208	0.471	253	0.483	298	0.470	343	0.798
29	0.957	74	0.957	119	0.959	164	0.641	209	0.470	254	0.479	299	0.469	344	0.801
30	0.954	75	0.949	120	0.956	165	0.625	210	0.470	255	0.474	300	0.468	345	0.805
31	0.948	76	0.940	121	0.950	166	0.610	211	0.467	256	0.470	301	0.466	346	0.808
32	0.942	77	0.931	122	0.944	167	0.595	212	0.465	257	0.466	302	0.464	347	0.812
33	0.936	78	0.923	123	0.938	168	0.579	213	0.463	258	0.461	303	0.462	348	0.815
34	0.931	79	0.914	124	0.932	169	0.564	214	0.461	259	0.457	304	0.460	349	0.819
35	0.925	80	0.906	125	0.926	170	0.548	215	0.459	260	0.453	305	0.457	350	0.823
36	0.910	81	0.899	126	0.915	171	0.534	216	0.452	261	0.449	306	0.449	351	0.827
37	0.899	82	0.892	127	0.904	172	0.520	217	0.447	262	0.446	307	0.443	352	0.831
38	0.890	83	0.886	128	0.895	173	0.506	218	0.443	263	0.443	308	0.440	353	0.835
39	0.884	84	0.882	129	0.887	174	0.494	219	0.441	264	0.441	309	0.441	354	0.840
40	0.880	85	0.878	130	0.881	175	0.482	220	0.440	265	0.439	310	0.446	355	0.846
41	0.877	86	0.876	131	0.872	176	0.472	221	0.438	266	0.438	311	0.450	356	0.852
42	0.875	87	0.874	132	0.864	177	0.463	222	0.437	267	0.437	312	0.456	357	0.858
43	0.874	88	0.875	133	0.858	178	0.456	223	0.437	268	0.437	313	0.463	358	0.864
44	0.876	89	0.877	134	0.852	179	0.450	224	0.438	269	0.438	314	0.472	359	0.872

Remarks:

Exhibit 5

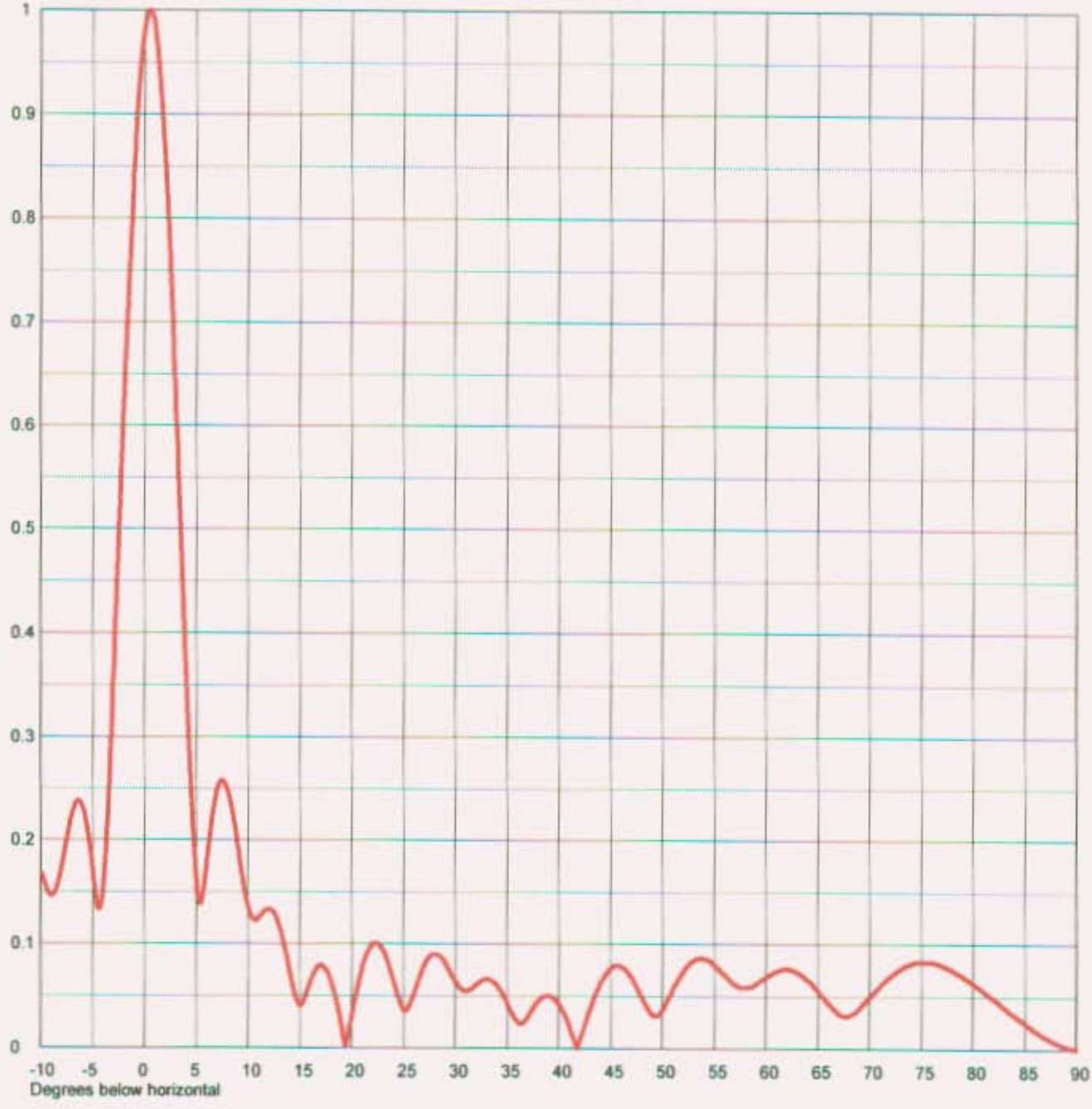
Exhibit No.
Exhibit 6

Dielectric

Date	**10 Dec 2001**		
Call Letters	**WVAN-DT**	Channel	**13**
Location	**SAVANNAH, GA**		
Customer	**GPTC**		
Antenna Type	**THA-S4-12/48-1**		

ELEVATION PATTERN

RMS Gain at Main Lobe	**11.8 (10.72 dB)**	Beam Tilt	**0.60 Degrees**
RMS Gain at Horizontal	**11.3 (10.53 dB)**	Frequency	**213.00 MHz**
Calculated / Measured	**Calculated**	Drawing #	**12H118060-90**



Remarks:

Exhibit 6

Exhibit No.
Exhibit 7

Dielectric

Date	**10 Dec 2001**
Call Letters	**WVAN-DT** Channel **13**
Location	**SAVANNAH, GA**
Customer	**GPTC**
Antenna Type	**THA-S4-12/48-1**

TABULATION OF ELEVATION PATTERN

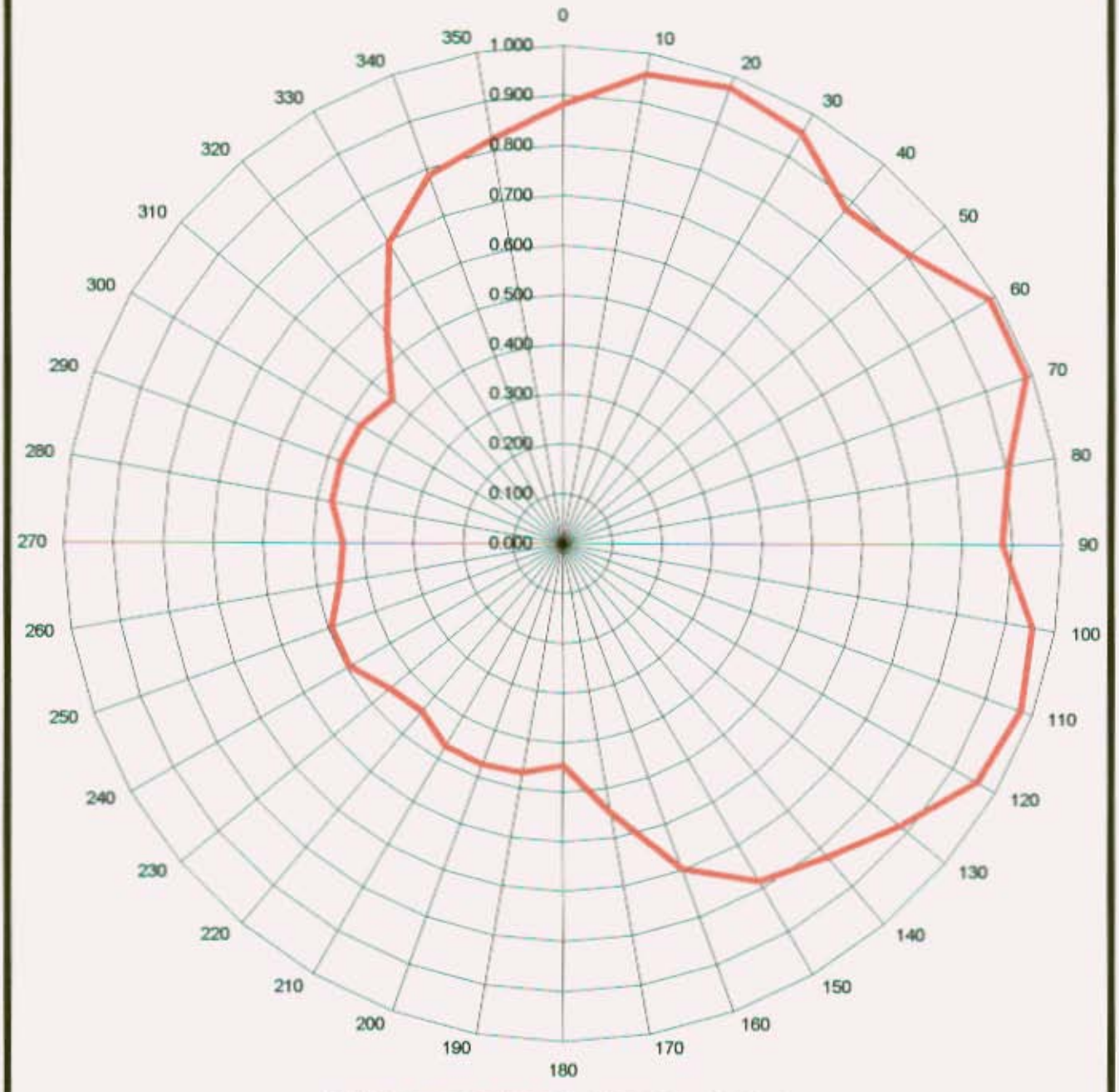
Elevation Pattern Drawing # **12H118060-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.170	2.4	0.781	10.6	0.123	30.5	0.058	51.0	0.055	71.5	0.064
-9.5	0.155	2.6	0.735	10.8	0.122	31.0	0.055	51.5	0.064	72.0	0.069
-9.0	0.146	2.8	0.687	11.0	0.124	31.5	0.056	52.0	0.072	72.5	0.073
-8.5	0.152	3.0	0.637	11.5	0.130	32.0	0.060	52.5	0.079	73.0	0.076
-8.0	0.173	3.2	0.585	12.0	0.133	32.5	0.064	53.0	0.083	73.5	0.079
-7.5	0.200	3.4	0.532	12.5	0.130	33.0	0.066	53.5	0.085	74.0	0.080
-7.0	0.224	3.6	0.479	13.0	0.118	33.5	0.065	54.0	0.085	74.5	0.082
-6.5	0.237	3.8	0.426	13.5	0.100	34.0	0.061	54.5	0.084	75.0	0.082
-6.0	0.233	4.0	0.373	14.0	0.076	34.5	0.054	55.0	0.080	75.5	0.082
-5.5	0.211	4.2	0.323	14.5	0.053	35.0	0.044	55.5	0.076	76.0	0.082
-5.0	0.172	4.4	0.275	15.0	0.041	35.5	0.034	56.0	0.071	76.5	0.081
-4.5	0.136	4.6	0.231	15.5	0.047	36.0	0.026	56.5	0.066	77.0	0.079
-4.0	0.150	4.8	0.193	16.0	0.061	36.5	0.024	57.0	0.061	77.5	0.077
-3.5	0.232	5.0	0.163	16.5	0.073	37.0	0.029	57.5	0.059	78.0	0.075
-3.0	0.350	5.2	0.144	17.0	0.079	37.5	0.037	58.0	0.058	78.5	0.072
-2.8	0.401	5.4	0.138	17.5	0.076	38.0	0.044	58.5	0.059	79.0	0.069
-2.6	0.454	5.6	0.144	18.0	0.065	38.5	0.049	59.0	0.061	79.5	0.066
-2.4	0.507	5.8	0.157	18.5	0.048	39.0	0.050	59.5	0.064	80.0	0.063
-2.2	0.561	6.0	0.175	19.0	0.025	39.5	0.048	60.0	0.068	80.5	0.059
-2.0	0.613	6.2	0.193	19.5	0.002	40.0	0.043	60.5	0.071	81.0	0.055
-1.8	0.664	6.4	0.210	20.0	0.028	40.5	0.034	61.0	0.074	81.5	0.052
-1.6	0.713	6.6	0.226	20.5	0.053	41.0	0.023	61.5	0.075	82.0	0.048
-1.4	0.760	6.8	0.238	21.0	0.074	41.5	0.009	62.0	0.076	82.5	0.044
-1.2	0.803	7.0	0.248	21.5	0.090	42.0	0.006	62.5	0.075	83.0	0.040
-1.0	0.843	7.2	0.254	22.0	0.099	42.5	0.021	63.0	0.073	83.5	0.036
-0.8	0.880	7.4	0.258	22.5	0.100	43.0	0.036	63.5	0.070	84.0	0.032
-0.6	0.912	7.6	0.258	23.0	0.095	43.5	0.049	64.0	0.066	84.5	0.028
-0.4	0.939	7.8	0.255	23.5	0.083	44.0	0.061	64.5	0.062	85.0	0.025
-0.2	0.962	8.0	0.250	24.0	0.067	44.5	0.070	65.0	0.056	85.5	0.021
0.0	0.980	8.2	0.243	24.5	0.050	45.0	0.076	65.5	0.050	86.0	0.018
0.2	0.992	8.4	0.233	25.0	0.037	45.5	0.079	66.0	0.044	86.5	0.015
0.4	0.999	8.6	0.222	25.5	0.038	46.0	0.078	66.5	0.039	87.0	0.012
0.6	1.000	8.8	0.210	26.0	0.050	46.5	0.075	67.0	0.034	87.5	0.009
0.8	0.996	9.0	0.197	26.5	0.065	47.0	0.069	67.5	0.032	88.0	0.006
1.0	0.986	9.2	0.183	27.0	0.078	47.5	0.060	68.0	0.031	88.5	0.004
1.2	0.971	9.4	0.170	27.5	0.086	48.0	0.050	68.5	0.034	89.0	0.002
1.4	0.951	9.6	0.157	28.0	0.089	48.5	0.040	69.0	0.038	89.5	0.001
1.6	0.926	9.8	0.146	28.5	0.088	49.0	0.033	69.5	0.043	90.0	0.000
1.8	0.896	10.0	0.137	29.0	0.082	49.5	0.031	70.0	0.048		
2.0	0.861	10.2	0.130	29.5	0.074	50.0	0.036	70.5	0.054		
2.2	0.823	10.4	0.125	30.0	0.065	50.5	0.045	71.0	0.059		

Remarks:

Exhibit 7

RELATIVE FIELD AZIMUTH PATTERN



DIELECTRIC MODEL THA-S4-12/48-1
DIRECTIONAL ANTENNA
ORIENTED WITH BEAM MAXIMUM TOWARD 065 DEGREES
0.60 DEGREES ELECTRICAL BEAM TILT
MAXIMUM ANTENNA GAIN IN BEAM MAXIMUM 13.50 dB

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WVAN-DT CHANNEL 13
SAVANNAH, GEORGIA

20011210 EXHIBIT 8

WVAN-DT CHANNEL 13

SAVANNAH, GEORGIA

TABULATION OF RELATIVE FIELDS FOR PROPOSED DIRECTIONAL ANTENNA

AZIMUTH	RELATIVE FIELD	AZIMUTH	RELATIVE FIELD
N000°E	0.881	N180°E	0.446
N010°E	0.956	N190°E	0.468
N020°E	0.974	N200°E	0.473
N030°E	0.954	N210°E	0.470
N040°E	0.880	N220°E	0.440
N050°E	0.906	N230°E	0.453
N060°E	0.986	N240°E	0.493
N070°E	0.986	N250°E	0.493
N080°E	0.906	N260°E	0.453
N090°E	0.880	N270°E	0.440
N100°E	0.954	N280°E	0.470
N110°E	0.974	N290°E	0.473
N120°E	0.956	N300°E	0.468
N130°E	0.881	N310°E	0.446
N140°E	0.823	N320°E	0.548
N150°E	0.785	N330°E	0.696
N160°E	0.696	N340°E	0.785
N170°E	0.548	N350°E	0.823

MINIMUM OF 0.437 AT N222°E AND N267°E

MAXIMA OF 1.000 AT N065°E

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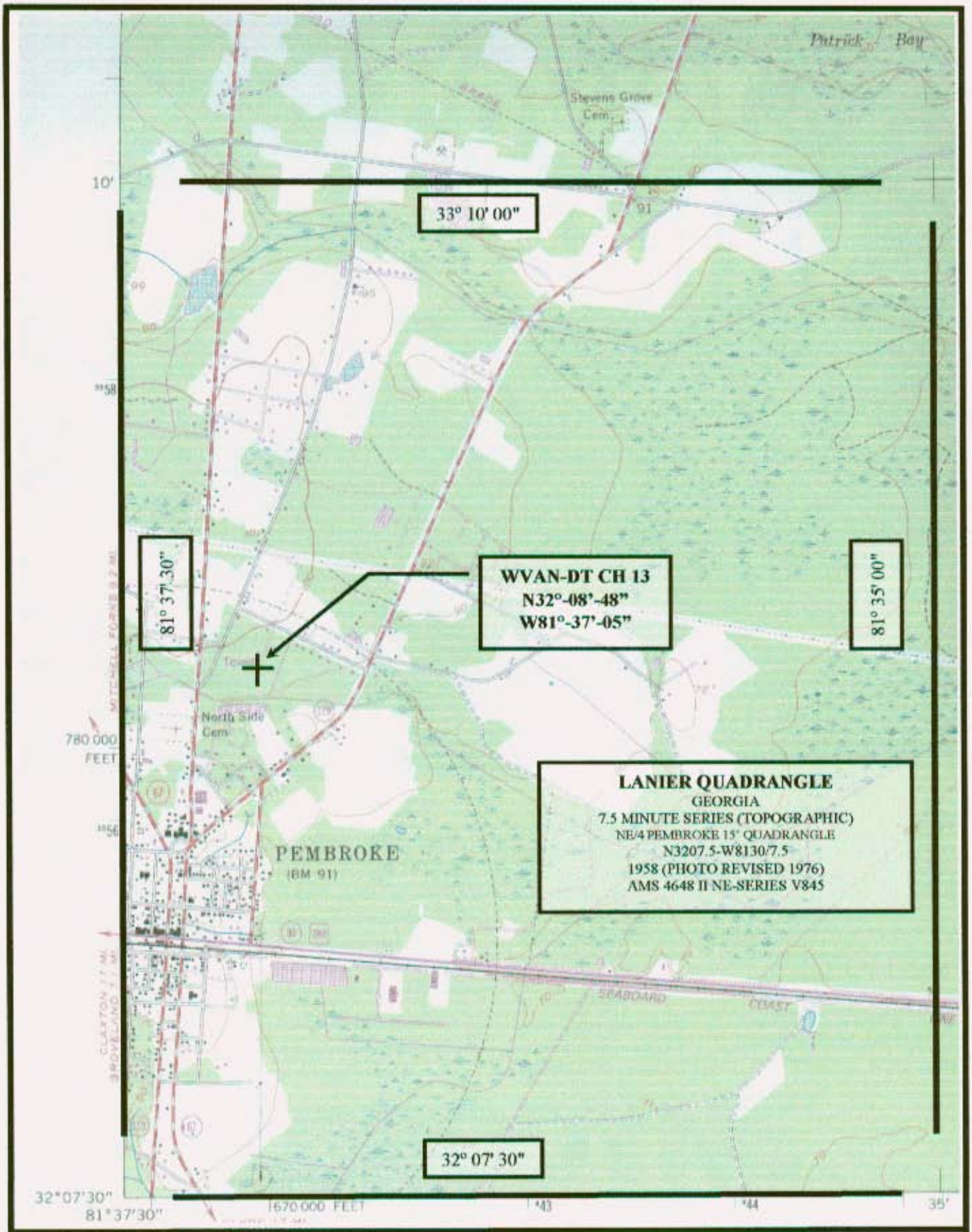

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EXHIBIT 10

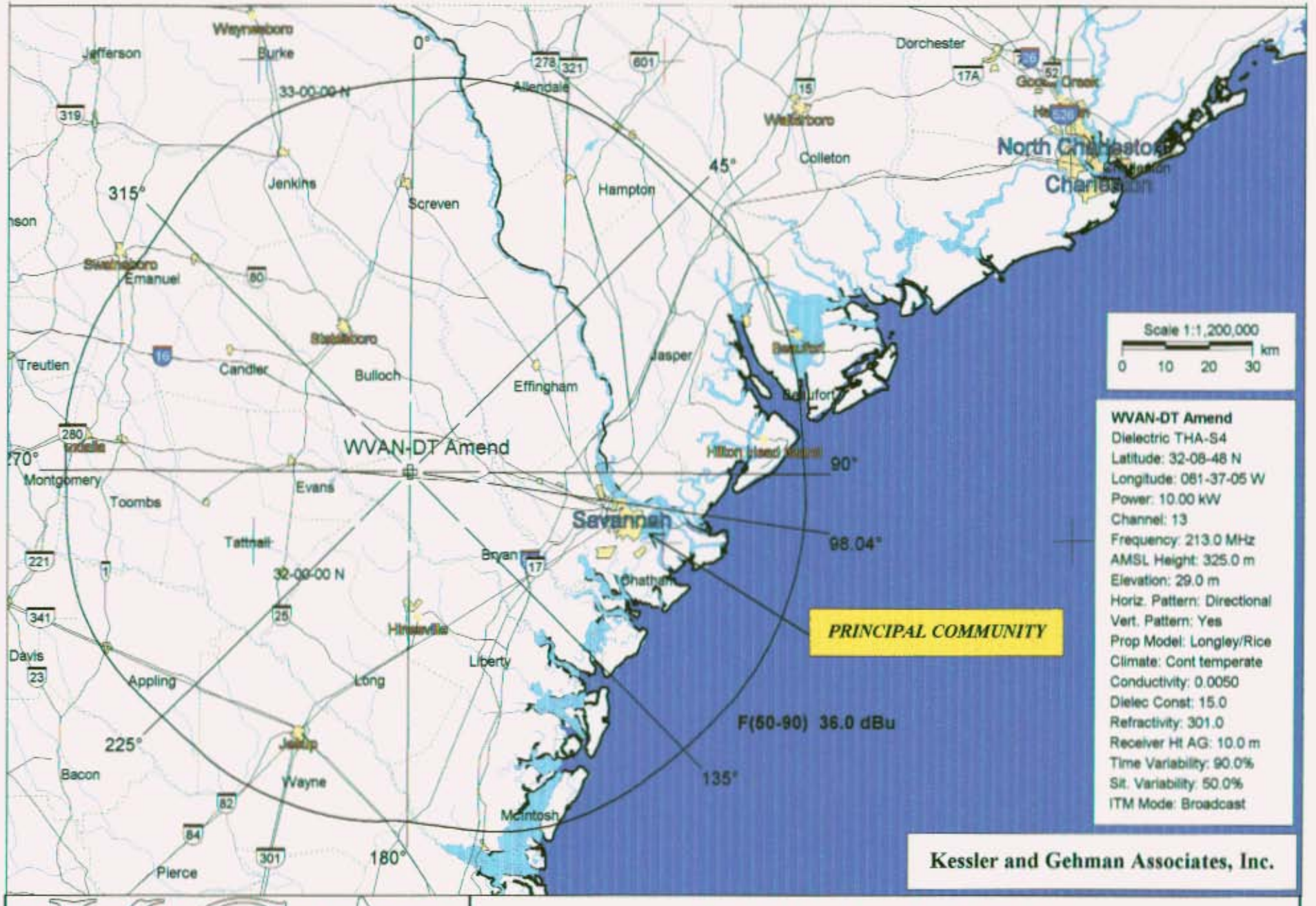

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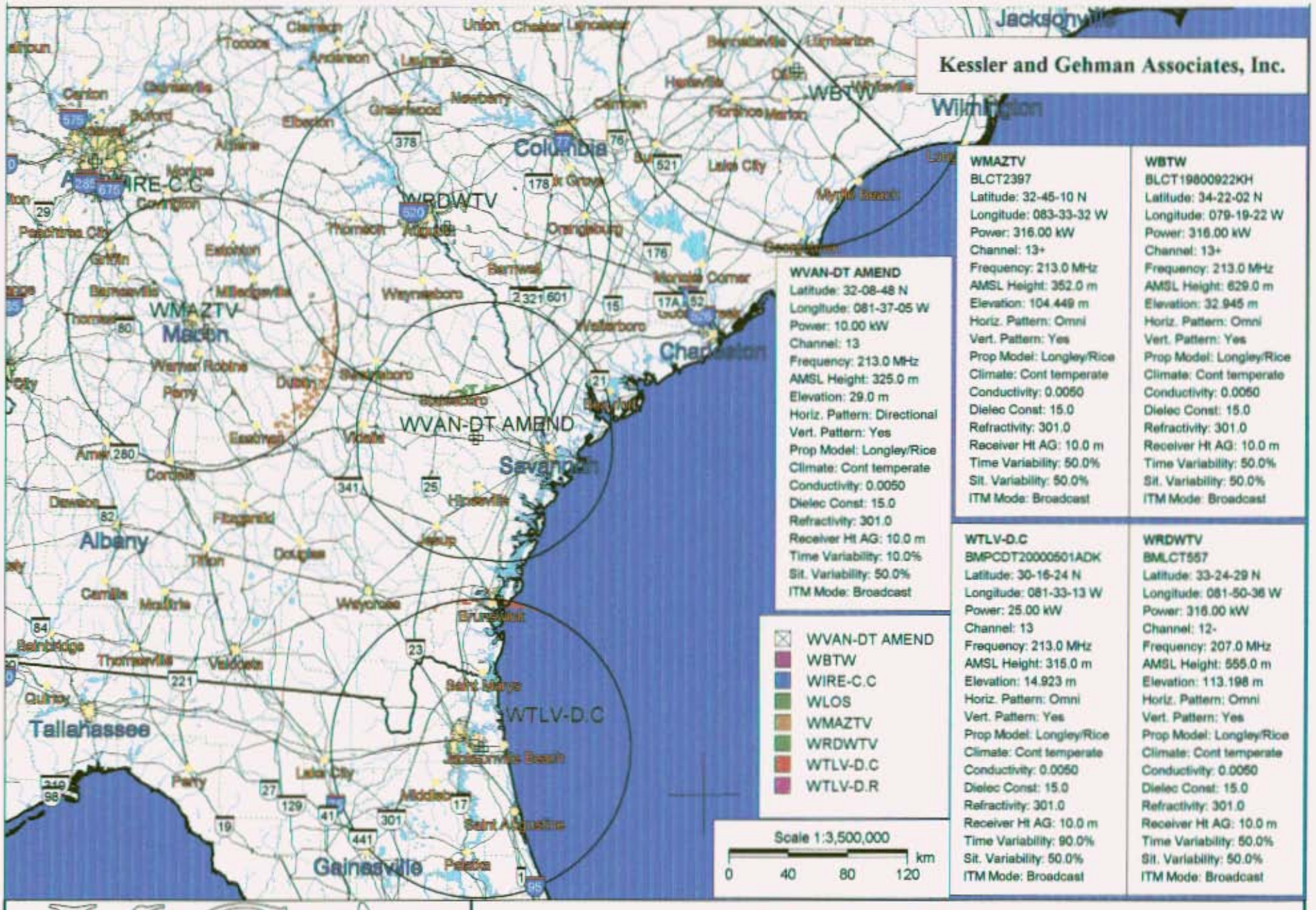
EXHIBIT 11



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SAVANNAH, GEORGIA

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EXHIBIT 12

V-Soft Communications Population Report

WVAN-DT AMEND (13) Savannah, GA
TV Outgoing Interference Study
Signal Resolution: 2 km
Consider NTSC Taboo: Yes
KWX error points are considered to be interference free coverage.
# of radials computed for contours: 72
Contours calculated using 8 radial HAAT.
LR Profile Spacing Increment: 1.0 km
Masked interference points are being counted as interference.
Using NTSC lptv/translators D/U rules.

Study Date: 12/10/2001
TV Database Date: 12-08-01

Population Database: 1990 US Census

Stations which receive interference:

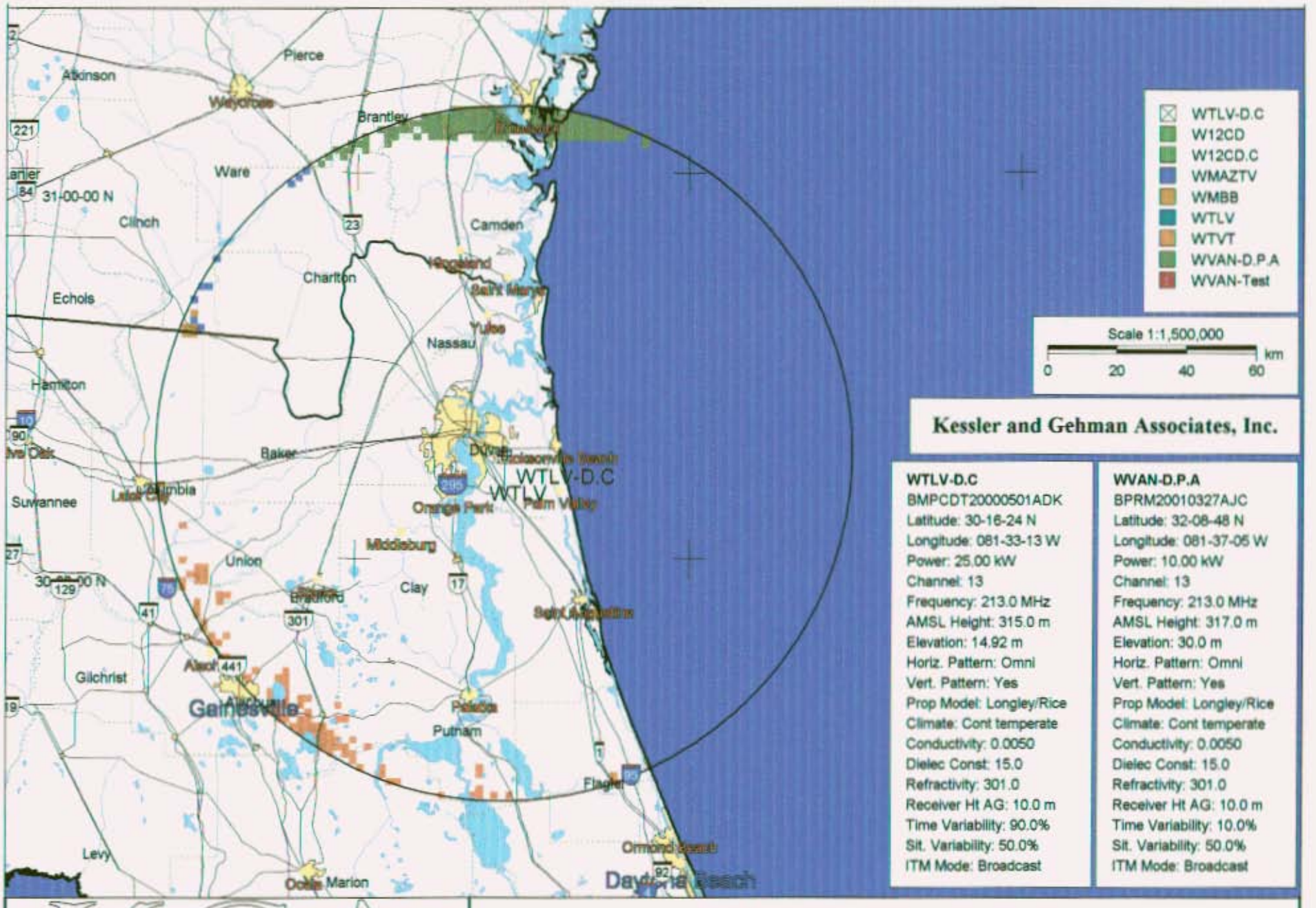
Call Letters	H Units	Population	Area (sq. km)
WBTW	366	1123	24.30
WMAZTV	2232	5253	572.50
WRDWTV	794	2083	102.99
WTLV-D.C	6965	13269	162.92
WTLV-D.R	0	0	29.25

Totals for WVAN-DT AMEND
Total population to which interference is caused: 21728
Total number of housing units to which interference is caused: 10357

	Housing Units	Population
Georgia		
Brantley County		
WTLV-D.C	30	88
Bulloch County		
WRDWTV	766	2,022
Dodge County		
WMAZTV	210	509
Effingham County		
WRDWTV	28	61
Glynn County		
WTLV-D.C	6,935	13,181
Johnson County		
WMAZTV	1,232	2,995
Laurens County		
WMAZTV	634	1,377
Treutlen County		
WMAZTV	8	8

	Housing Units	Population
Washington County		
WMAZTV	139	350
Wheeler County		
WMAZTV	9	14

	Housing Units	Population
South Carolina		
Kershaw County		
WBTW	49	161
Sumter County		
WBTW	317	962



Kessler and Gehman Associates, Inc.

WTLV-D.C	WVAN-D.P.A
BMPCDT20000501ADK	BPRM20010327AJC
Latitude: 30-16-24 N	Latitude: 32-08-48 N
Longitude: 081-33-13 W	Longitude: 081-37-05 W
Power: 25.00 kW	Power: 10.00 kW
Channel: 13	Channel: 13
Frequency: 213.0 MHz	Frequency: 213.0 MHz
AMSL Height: 315.0 m	AMSL Height: 317.0 m
Elevation: 14.92 m	Elevation: 30.0 m
Horiz. Pattern: Omni	Horiz. Pattern: Omni
Vert. Pattern: Yes	Vert. Pattern: Yes
Prop Model: Longley/Rice	Prop Model: Longley/Rice
Climate: Cont temperate	Climate: Cont temperate
Conductivity: 0.0050	Conductivity: 0.0050
Dielec Const: 15.0	Dielec Const: 15.0
Refractivity: 301.0	Refractivity: 301.0
Receiver Ht AG: 10.0 m	Receiver Ht AG: 10.0 m
Time Variability: 90.0%	Time Variability: 10.0%
Sit. Variability: 50.0%	Sit. Variability: 50.0%
ITM Mode: Broadcast	ITM Mode: Broadcast

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WVAN-DT CHANNEL 13

SAVANNAH, GEORGIA

20011210

EXHIBIT 13

V-Soft Communications Population Report

WTLV-D.C (13) Jacksonville, FL
TV Incoming Interference Study
Signal Resolution: 2 km
Consider NTSC Taboo: Yes
KWX error points are considered to be interference free coverage.
# of radials computed for contours: 72
Contours calculated using 8 radial HAAT.
LR Profile Spacing Increment: 1.0 km
Interference considered within the reference station's noise limited contour.
Using NTSC lptv/translators D/U rules.
Threshold for reception: 36.0

Study Date: 12/10/2001
TV Database Date: 12-08-01

Population Database: 1990 US Census

Percentages calculated using a baseline population of 1,084,000.

Stations which cause interference:

Call Letters	H Units	Population	%	Area (sq. km)
WMAZTV (13+)	103	257	0.024	62.95
WMBB (13Z)	1271	2827	0.261	113.94
WTVT (13-)	10339	21326	1.967	436.70
WVAN-D.P.A (13)	12828	26002	2.399	665.24

Masking Summary:

	Total Interference		Unique Interference	
Call Letters	Population	%	Population	%
WMAZTV (13+)	257	0.024	0	0.000
WMBB (13Z)	2827	0.261	0	0.000
WTVT (13-)	21326	1.967	14528	1.340
WVAN-D.P.A (13)	26002	2.399	22031	2.032

Stations considered which do not cause interference:

W12CD (12-)
WTLV (12+)

Stations which were not considered:

W12CD.C (12-)
WVAN-Amend (13)

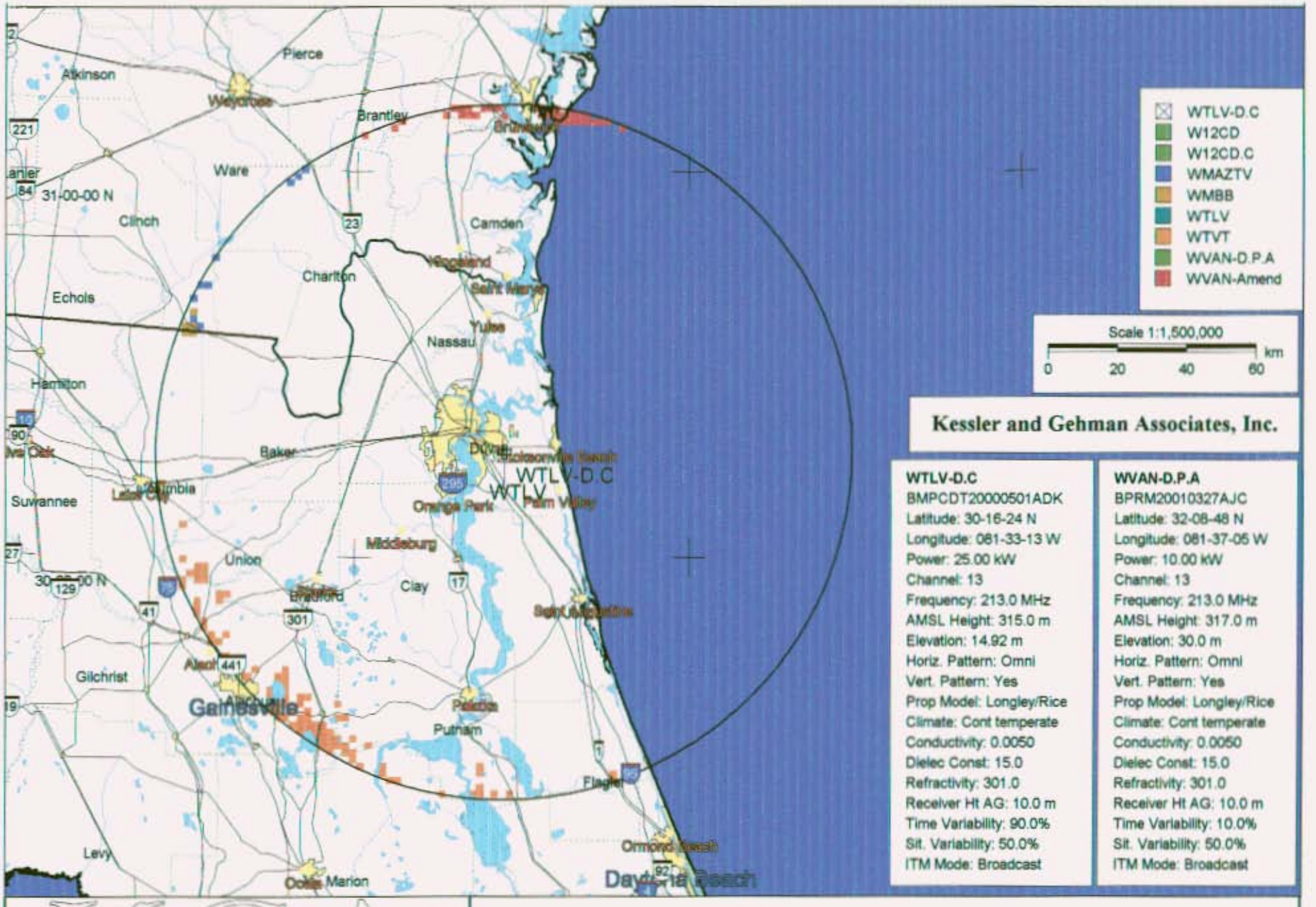
Call Letters	City	State	Dist	Bear
W12CD (12-)	Altamonte Springs	FL	151.6	171.3
W12CD.C (12-)	Altamonte Springs	FL	151.6	171.3
WMAZTV (13+)	Macon	GA	334.4	325.8
WMBB (13Z)	Panama City	FL	369.1	272.3
WTLV (12+)	Jacksonville	FL	0.0	180.0
WTVT (13-)	Tampa	FL	280.1	194.0
WVAN-D.P.A (13)	Savannah	GA	207.8	358.3
WVAN-Amend (13)	Savannah	GA	207.8	358.3

Totals for WTLV-D.C (13)

Calculation Area Population:	1,152,207	(31472.6	sq. km)
Not Affected by Terrain Loss:	1,151,929	(31443.0	sq. km)
Total NTSC Interference:	21,326	(495.4	sq. km)
DTV Only Interference:	22,031	(576.6	sq. km)
Total DTV Interference:	26,002	(665.2	sq. km)
Interfered Population:	43,357	(1072.0	sq. km)
Interference Free:	1,108,572	(30371.0	sq. km)

Percent Interference:	4.00
Percent Total DTV Interference:	2.40

Terrain Blocked Population:	278	(29.6	sq. km)
Contour Area Population:	1,155,221		



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WVAN-DT CHANNEL 13

SAVANNAH, GEORGIA

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EXHIBIT 14

V-Soft Communications Population Report

WTLV-D.C (13) Jacksonville, FL
TV Incoming Interference Study
Signal Resolution: 2 km
Consider NTSC Taboo: Yes
KWX error points are considered to be interference free coverage.
# of radials computed for contours: 72
Contours calculated using 8 radial HAAT.
LR Profile Spacing Increment: 1.0 km
Interference considered within the reference station's noise limited contour.
Using NTSC lptv/translators D/U rules.
Threshold for reception: 36.0

Study Date: 12/10/2001
TV Database Date: 12-08-01

Population Database: 1990 US Census

Percentages calculated using a baseline population of 1,084,000.

Stations which cause interference:

Call Letters	H Units	Population	%	Area (sq. km)
WMAZTV (13+)	103	257	0.024	62.95
WMBB (13Z)	1271	2827	0.261	113.94
WTVT (13-)	10339	21326	1.967	436.70
WVAN-Amend (13)	6965	13269	1.224	162.92

Masking Summary:

	Total Interference		Unique Interference	
Call Letters	Population	%	Population	%
WMAZTV (13+)	257	0.024	0	0.000
WMBB (13Z)	2827	0.261	0	0.000
WTVT (13-)	21326	1.967	18499	1.707
WVAN-Amend (13)	13269	1.224	13269	1.224

Stations considered which do not cause interference:

W12CD (12-)
WTLV (12+)

Stations which were not considered:

W12CD.C (12-)
WVAN-D.P.A (13)

Call Letters	City	State	Dist	Bear
W12CD (12-)	Altamonte Springs	FL	151.6	171.3
W12CD.C (12-)	Altamonte Springs	FL	151.6	171.3
WMAZTV (13+)	Macon	GA	334.4	325.8
WMBB (13Z)	Panama City	FL	369.1	272.3
WTLV (12+)	Jacksonville	FL	0.0	180.0
WTVT (13-)	Tampa	FL	280.1	194.0
WVAN-D.P.A (13)	Savannah	GA	207.8	358.3
WVAN-Amend (13)	Savannah	GA	207.8	358.3

Totals for WTLV-D.C (13)

Calculation Area Population:	1,152,207	(31472.6	sq. km)
Not Affected by Terrain Loss:	1,151,929	(31443.0	sq. km)
Total NTSC Interference:	21,326	(495.4	sq. km)
DTV Only Interference:	13,269	(158.7	sq. km)
Total DTV Interference:	13,269	(162.9	sq. km)
Interfered Population:	34,595	(654.1	sq. km)
Interference Free:	1,117,334	(30788.8	sq. km)
Percent Interference:	3.19		
Terrain Blocked Population:	278	(29.6	sq. km)
Contour Area Population:	1,155,221		

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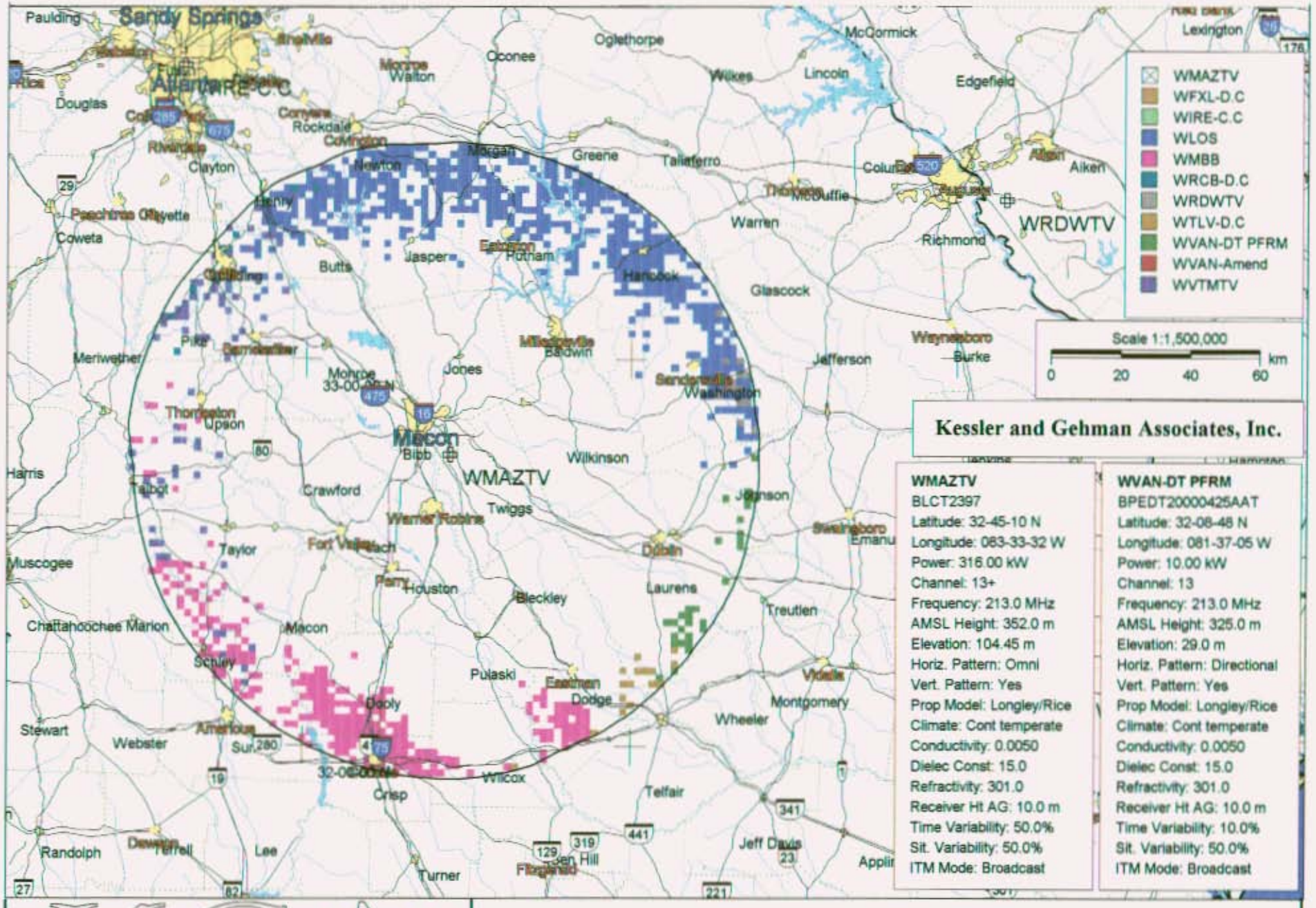
WVAN-DT CHANNEL 13

SAVANNAH, GA

20011210 EXHIBIT 14A



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WVAN-DT CHANNEL 13

SAVANNAH, GEORGIA

20011210

EXHIBIT 15