ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR WITH THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH A MINOR MODIFICATION OF CONSTRUCTION PERMIT APPLICATION TO MAKE CHANGES TO THE ALABAMA EDUCATIONAL TELEVISION COMMISSION (AETC) DIGITAL BROADCAST FACILITY, WFIQ-DT CHANNEL 22 (BMPEDT-20000501AIS), FLORENCE, ALABAMA.

The firm Kessler and Gehman Associates, Inc. has been retained by the Alabama Educational Television Commission (AETC), Birmingham, Alabama in order to prepare engineering studies and the engineering portion of a minor modification of construction permit application for the WFIQ-DT Channel 22 digital television broadcast facility for the purpose of requesting authorization to make changes to the following: 1) effective radiated power (ERP); 2) antenna height radiation center; and 3) overall height of the support structure.

Discussion

The WFIQ-DT Channel 22 facility currently operates under an STA with an ERP of 555.9 kW (BDSTA-20031029AGP) and an antenna height radiation center of 149 meters above ground level (AGL) using a nondirectional antenna. AETC is authorized to operate the WFIQ-DT facility on digital Channel 22 with an ERP of 1,000 kW and an antenna height radiation center of 149 meters AGL using a nondirectional TCI model 888-32-ND antenna (BMPEDT-20000501AIS).

The digital channel allotted for WFIQ-DT, Channel 22, is fourteen channels below the licensed NTSC facility, Channel 36. AETC awarded an antenna contract to procure a TCI model 888-32-ND broadband (D22/N36), nondirectional antenna for the WFIQ analog and digital facilities in order to combine the signals using a common broadband antenna. During this time, Dielectric Communications purchased TCI which resulted in an administrative renaming of the antenna from a TCI model 888-32-ND antenna to a Dielectric model 888-32 O8 antenna; however, the antenna electrical and mechanical parameters did not change.

The WFIQ-DT authorized antenna height radiation center is 149 meters AGL which is based on a side-mount height. The initial plan was to mount the DTV antenna on the side of the support structure and keep the analog antenna top-mounted, and for a period of time, this configuration was used. However, for tower loading purposes, AETC removed the top-mount analog antenna and replaced it with a single broadband antenna to diplex the WFIQ analog and digital transmissions. Therefore, the WFIQ-DT antenna height radiation center must be increased to accommodate the change from side-mount operation to top-mount operation.

AETC proposes to modify the existing WFIQ-DT Channel 22 construction permit by increasing the antenna height radiation center height from the authorized side-mount height of 149 meters AGL to the proposed top-mount height of 154.7 meters AGL. The proposed Dielectric model 888-32 O8 broadband (D22/N36), nondirectional antenna is shorter in length than the previous Harris model TWSC-25 analog top-mount antenna; therefore, it is proposed to decrease the overall height of the support structure by 11 meters. The available transmitter power output (TPO) of the digital transmitter for the WFIQ-DT facility is 21.93 kW. Based on the TPO, the maximum capable ERP for the proposed facility is 418.8 kW which is 581.2 kW less than authorized ERP in the existing construction permit and 137.1 kW less than the authorized ERP in the existing STA. The reduction in ERP will compensate for the proposed antenna height increase; therefore, the proposed F(50,90) 41.0 dBuV/m protected noise limited contour will not exceed the authorized or STA F(50,90) 41.0 dBuV/m protected noise limited contour in any azimuthal direction (Exhibits 8-12).

Accordingly, this minor modification of construction permit application requests authorization to make the following changes: 1) decrease the ERP by 581.2 kW from the authorized 1,000 kW to the proposed 418.8 kW; 2) decrease the overall height of the support structure by 11 meters from the authorized height of 173.7 meters AGL to the proposed height of 162.7 meters AGL; and 3) increase the antenna height radiation center by 5.7 meters from the authorized height of 149 meters AGL to the proposed height of 154.7 meters AGL

Exhibit 8 is a contour map depicting the authorized F(50,90) 41.0 dBuV/m protected noise limited contour (green), the STA F(50,90) 41.0 dBuV/m noise limited contour (blue) and the proposed F(50,90) 41.0 dBuV/m protected noise limited contour (red). Referring to Exhibit 8 it can be seen that the proposed F(50,90) 41.0 dBuV/m noise limited contour would be completely encompassed by the authorized and STA F(50,90) 41.0 dBuV/m noise limited contours in all azimuthal directions. Since the authorized and STA F(50,90) 41.0 dBuV/m noise limited contours fully encompass the proposed F(50,90) 41.0 dBuV/m noise limited contour, it is not required to perform interference studies considering that the proposed facility's potential for causing interference is reduced in all directions and will only improve the overall picture with respect to incoming interference to other stations. For the same reason, a freeze waiver is not required since this proposal would not violate the filing freeze that is currently in effect.

Exhibit 9 is a distance to contour tabulation sheet depicting the distance in kilometers from the WFIQ-DT transmitter site to the edge of the STA F(50,90) 41.0 dBuV/m contour in one-degree increments.

Exhibit 10 is a distance to contour tabulation sheet depicting the distance in kilometers from the WFIQ-DT transmitter site to the edge of the proposed F(50,90) 41.0 dBuV/m contour in one-degree increments.

Exhibit 11 depicts the data extracted from Exhibits 9 and 10 and compares the distances. The second column from the left in Exhibit 11 depicts the distances to the STA F(50,90) 41.0 dBuV/m contour and the third column from the left depicts the distances to the proposed F(50,90) 41.0 dBuV/m contour. The second column from the right is a "PASS/FAIL" column where "PASS" is depicted if the distance to the STA F(50,90) 41.0 dBuV/m contour for each particular radial is greater than or equal to the distance to the proposed F(50,90) 41.0 dBuV/m contour. The word "FAIL" is depicted if the distance to the proposed F(50,90) 41.0 dBuV/m contour exceeds the distance to the STA F(50,90) 41.0 dBuV/m contour. Finally, the last column to the right displays the difference in kilometers between the two facilities. Exhibit 11

demonstrates that the proposed F(50,90) 41.0 dBuV/m contour would be completely encompassed by the STA F(50,90) 41.0 dBuV/m contour in all azimuthal directions.

Exhibit 12 is a chart, created from the tabulation depicted in Exhibit 11, demonstrating pictorially that the distance from the transmitter site to the proposed F(50,90) 41.0 dBuV/m contour (red) is less than the distance from the transmitter site to the STA F(50,90) 41.0 dBuV/m contour (blue) along all radials.

Exhibit 13 is a principal community contour map demonstrating that the proposed F(50,90) 48.0 dBuV/m Principal Community contour would completely encompass the entire community of Florence, AL.

Interference Studies

The authorized and STA F(50,90) 41.0 dBuV/m noise limited contours fully encompass the proposed F(50,90) 41.0 dBuV/m noise limited contour; therefore, it is not required to perform interference studies. The proposed facility's potential for causing interference is reduced in all directions and will only improve the overall picture with respect to incoming interference to other stations. A freeze waiver is not required since this proposal would not violate the filing freeze that is currently in effect.

Transmitter Site

The WFIQ-DT antenna is a top-mount Dielectric model 888-32 O8 broadband (D22/N36), nondirectional antenna. The tower is registered with the FCC and the registration number is 1036418. The support structure is located four miles northeast of Frankfort, AL off of County Road 65. The proposed antenna height radiation center is 154.7 meters AGL. An FAA Form 7460-1 application shall be electronically filed with the FAA and an antenna structure registration modification application shall be filed with the FCC to reflect the 11 meter reduction in the overall height of the support structure.

Exhibits

Exhibits 1 and 2 represent WFIQ-DT's administration data, antenna and antenna structure specifications.

Exhibit 3 depicts the profile view of the proposed antenna on the antenna structure with all the appropriate elevations.

Exhibits 4 and 5 display the antenna elevation pattern and Exhibit 6 displays the antenna elevation pattern tabulation.

Exhibit 7 depicts the location of the WFIQ-DT site on a 7.5-Minute (Series) Topographic map.

Exhibit 8 depicts the WFIQ-DT Channel 22 authorized (CP), STA and proposed F(50,90) 41.0 dBuV/m noise limited contours and demonstrates that the authorized and STA F(50,90) 41.0 dBuV/m noise limited contours would encompass the proposed F(50,90) 41.0 dBuV/m protected noise limited contour in all azimuthal directions.

Exhibit 9 is a distance to contour tabulation sheet depicting the distance in kilometers from the WFIQ-DT transmitter site to the edge of the STA F(50,90) 41.0 dBuV/m noise limited contour in one-degree increments.

Exhibit 10 is a distance to contour tabulation sheet depicting the distance in kilometers from the WFIQ-DT transmitter site to the edge of the proposed F(50,90) 41.0 dBuV/m protected noise limited contour in one-degree increments.

Exhibit 11 depicts the data extracted from Exhibits 9 and 10, compares the distances and demonstrates that the proposed F(50,90) 41.0 dBuV/m protected noise limited contour would be completely encompassed by the STA F(50,90) 41.0 dBuV/m noise limited contour in all azimuthal directions.

Exhibit 12 is a chart, created from the tabulation depicted in Exhibit 11, demonstrating pictorially that the distance from the transmitter site to the proposed F(50,90) 41.0 dBuV/m contour (red) is less than the distance from the transmitter site to the STA F(50,90) 41.0 dBuV/m contour (blue) along all radials.

Exhibit 13 depicts the proposed WFIQ-DT F(50,90) 48.0 dBuV/m Principal Community contour, boundaries of the principal community to be served, and the transmitting location with radials every 45°.

Environmental Impact

The proposed facility would have no significant environmental impact as defined in §1.1307 of the FCC Rules. The DTV transmitter, transmission line and antenna system would produce an ERP of 418.8 kW. It was determined that the maximum lobe of radiation from the base of the tower out to approximately 2,088.5 feet would occur at approximately 1,210.5 feet from the base of the tower (1,310.2-foot radial distance from the antenna center). At approximately 1,210.5 feet from the base of the tower, the depression angle of the main lobe would be 22.5° below the horizontal. At that point, the relative field would be 0.059 and the power density six feet above the ground would be 0.00031 mW/cm². This is only 0.02% of the Maximum Permissible Exposure ("MPE") limits for Occupational/Controlled Exposure and only 0.09% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute ("ANSI"). Since the proposed operation of WFIQ-DT Channel 22 would not exceed 5.0% of the MPE limit for Occupational/Controlled Exposure or General Population/Uncontrolled Exposure at any point on the ground, WFIQ-DT would not be considered 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 would 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.

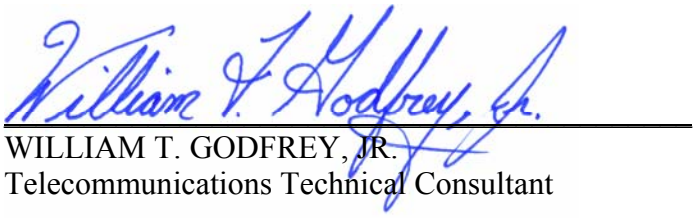
It is understood that additional "future" antennas mounted on the support structure could increase the overall RF exposure levels and it is the responsibility of each licensee to ensure that the total RF exposure resulting from the operation of all antennas on the support structure do not exceed the maximum permissible exposure level at any point on the ground.

Certification

This technical statement was prepared by William T. Godfrey, Jr., Telecommunications Technical 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 in 1993. As a Professional in the field of Telecommunications 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, JR.
Telecommunications Technical Consultant 15 June, 2006

WFIQ-DT
FLORENCE, ALABAMA

ENGINEERING SPECIFICATIONS

A. ***Transmitter Site:***
Geographic coordinates (NAD27):

North Latitude:	**34° 34' 41"**
West Longitude:	**87° 47' 02"**

Transmitter Site Location: **Off of County Road 65**
4 miles northeast of Frankfort, AL

B. ***Main Studio Site Address:*** **2112 11TH Avenue South, Suite 400**
Birmingham, AL 35205

C. ***Existing Facility:***

DTV Channel	Number:	**22**
	Frequency:	**518-524 MHz**
	Offset:	**N/A**

D. ***Antenna Height:***

Height of Site Above Mean Sea Level (AMSL):	**276.1 M**
Overall Height of Structure Above Ground: (including all appurtenances)	**162.7 M**
Overall Height of Structure Above Mean Sea Level: (including all appurtenances)	**438.8 M**
Height of Site Above Average Terrain:	**52.9 M**
Antenna Height Radiation Center (R/C) Above Ground:	**154.7 M**
Antenna Height R/C Above Mean Sea Level:	**430.8 M**
Average of All Non-Odd Radials:	**223.2 M**
Antenna Height R/C Above Average Terrain:	**207.6 M**

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

Transmitter Power Required:	**21.93 kW**
Maximum Power Input to Antenna:	**17.83 kW**
Transmission Line Loss:	**0.65 dB**
Combiner & Splitter Loss:	**0.25 dB**
Total System Loss:	**0.90 dB**
Transmission Line Efficiency:	**86.0%**
Combiner & Splitter Efficiency:	**94.4%**
Total System Efficiency:	**81.3%**
Maximum Antenna Gain in Beam Maximum	**13.71 dB**
Maximum Antenna Gain in Horizontal Plane	**12.50 dB**
Maximum Effective Radiated Power	**26.22 dBk**
In Beam Maximum	**418.8 kW**
Maximum Effective Radiated Power	**25.01 dBk**
In Horizontal Plane	**317.0 kW**

WFIQ-DT
FLORENCE, ALABAMA

DATA FOR PROPOSED NONDIRECTIONAL TRANSMITTING ANTENNA

A. ***Antenna:*** Dielectric Model 888-32 O8, Horizontally Polarized, Nondirectional, Top-mount, Broadband Antenna.

B. ***Electrical Beam Tilt:*** 0.75°

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

D.

Maximum Power Gain	**Horizontal Polarization**
Maximum:	23.50 (13.71 dB)
Horizontal:	17.80 (12.50 dB)

E. ***Length:*** 46.9 feet (14.3 meters) not including lightning protector.

F. ***Transmitter Power Output:*** 21.93 kW

G. ***Null Fill:*** 15.0%

H. ***Transmission Line:*** 6-1/8" 75-ohm EIA/DCA type

I. ***Transmission Line Loss:*** 0.111 dB/100-feet

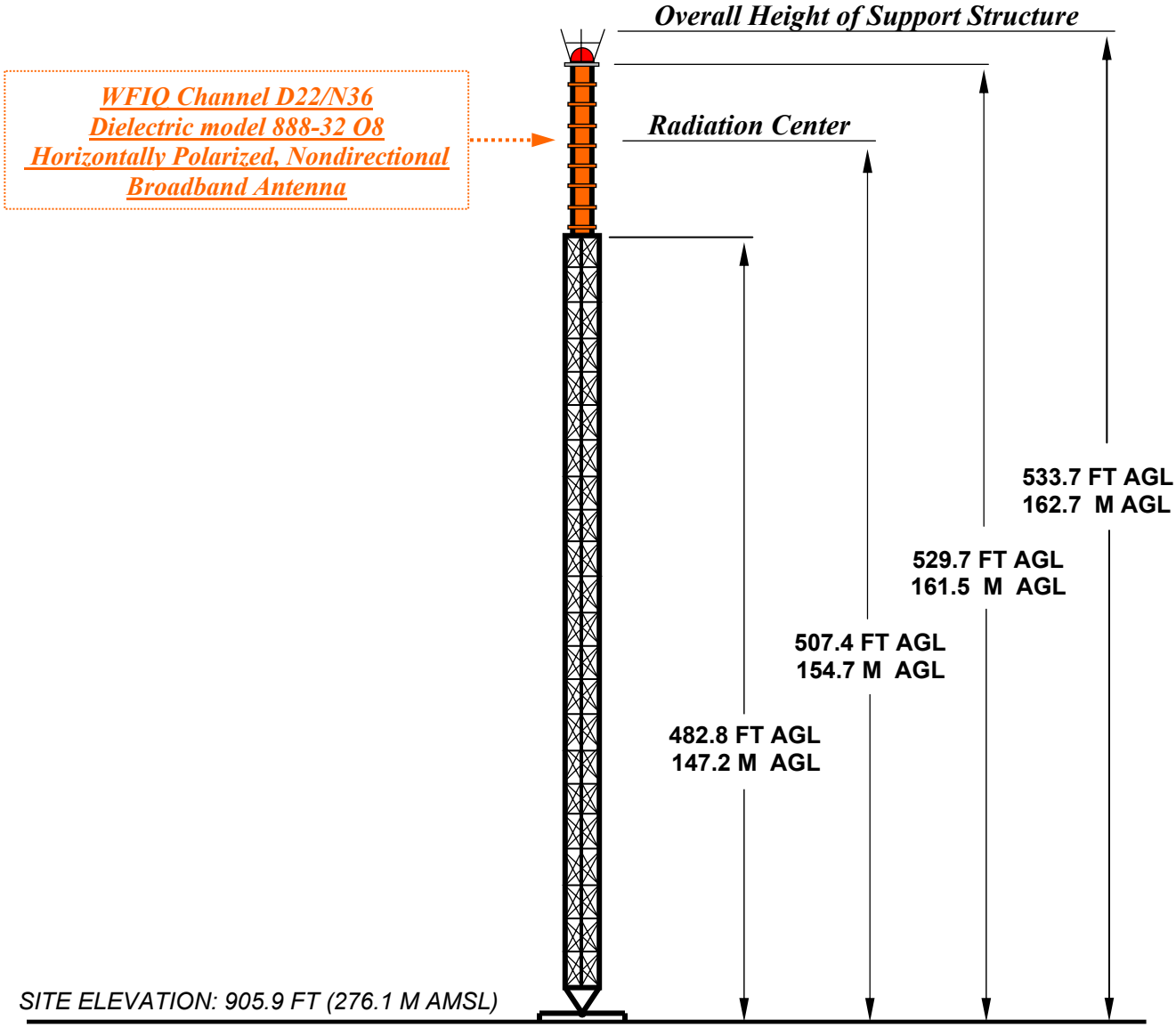
J. ***Transmission Line Length:*** 591 feet (180.1 meters)

K. ***Transmission Line Attenuation:*** 0.65 dB

L. ***Combiner & Splitter Loss:*** 0.25 dB

M. ***Total Antenna System Loss:*** 0.90 dB

ANTENNA STRUCTURE ELEVATION VIEW



OVERALL HEIGHT AGL:	162.7 M
OVERALL HEIGHT AMSL:	438.8 M
RADIATION CENTER AGL:	154.7 M
RADIATION CENTER AMSL:	430.8 M
RADIATION CENTER HAAT:	207.6 M
AVG OF ALL NON-ODD RADIALS:	223.2 M
SITE HAAT:	52.9 M

COORDINATES (NAD27):

N. LATITUDE 34° 34' 41"

W. LONGITUDE 87° 47' 02"

TOWER REGISTRATION NUMBER:
1036418

FAA STUDY NUMBER:
98-ASO-0011-OE

NOTE: NOT TO SCALE

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Gainesville, Florida 32607

WFIQ-DT CHANNEL 22

FLORENCE, ALABAMA

20060615

EXHIBIT 3

Proposal Number	**DCA-10027**		
Date	**2-Aug-02**		
Call Letters	**WFIQ-DT**	Channel	**22**
Location	**Florence, AL**		
Customer	**Alabama ETV**		
Antenna Type	**888-32 O8**		

ELEVATION PATTERN

RMS Gain at Main Lobe	**23.50 (13.71 dB)**	Beam Tilt	**0.75 deg**
RMS Gain at Horizontal	**17.80 (12.50 dB)**	Frequency	**521.00 MHz**
Calculated / Measured	**Calculated**	Drawing #	**32I235075**

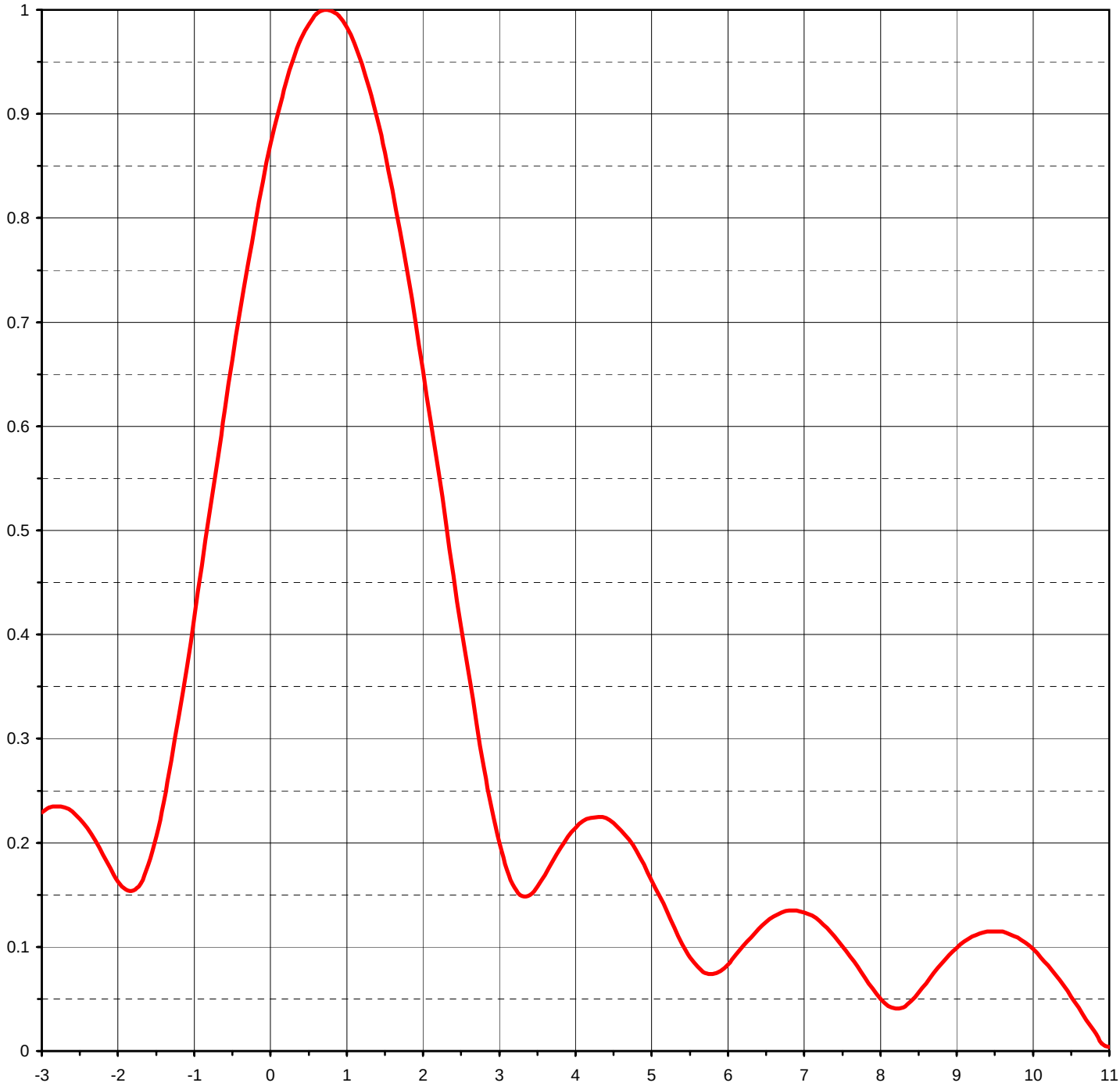


EXHIBIT 4

Proposal Number	**DCA-10027**		
Date	**2-Aug-02**		
Call Letters	**WFIQ-DT**	Channel	**22**
Location	**Florence, AL**		
Customer	**Alabama ETV**		
Antenna Type	**888-32 O8**		

ELEVATION PATTERN

RMS Gain at Main Lobe	**23.50 (13.71 dB)**	Beam Tilt	**0.75 deg**
RMS Gain at Horizontal	**17.80 (12.50 dB)**	Frequency	**521.00 MHz**
Calculated / Measured	**Calculated**	Drawing #	**32I235075-90**

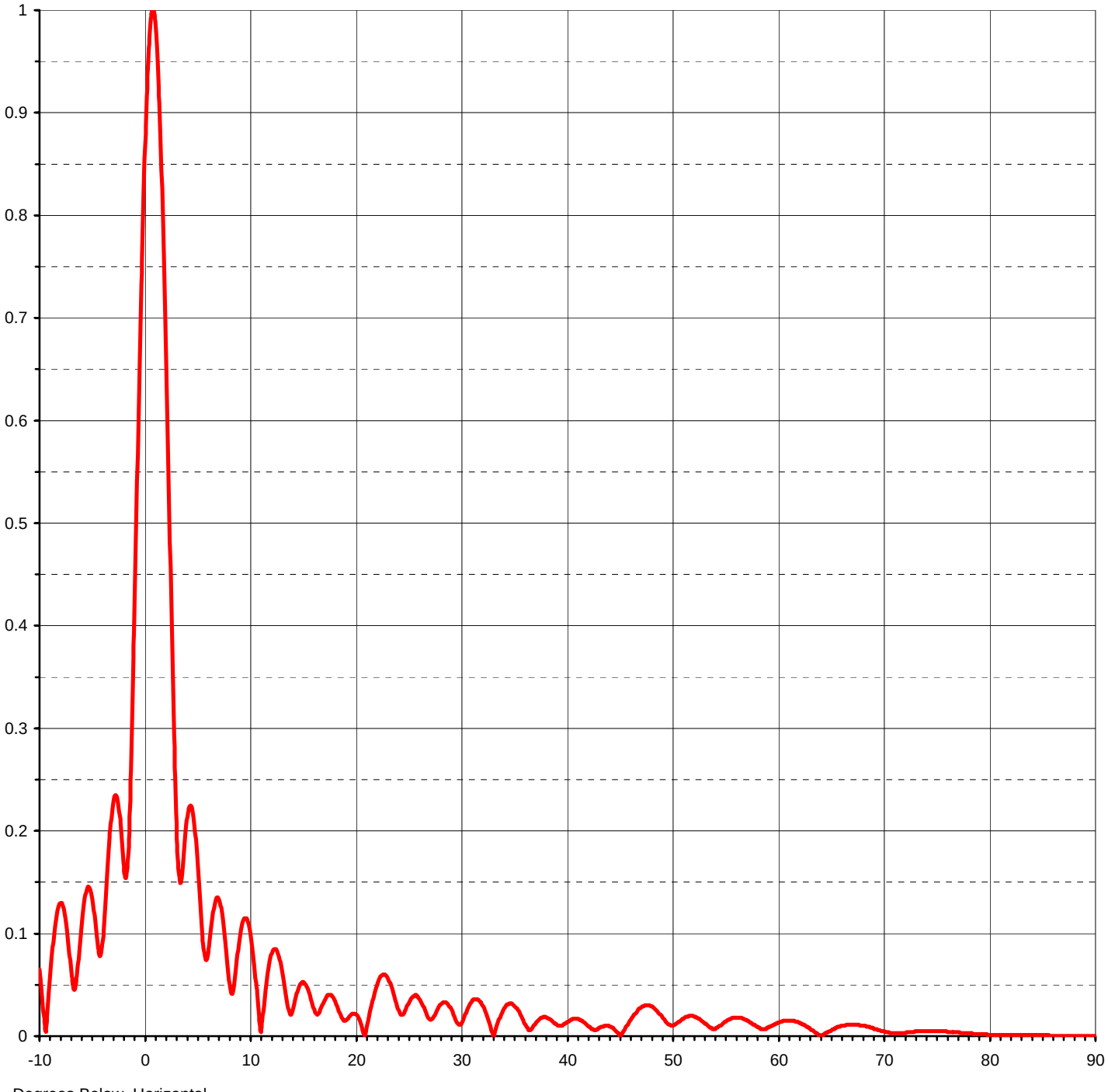


EXHIBIT 5

Dielectric

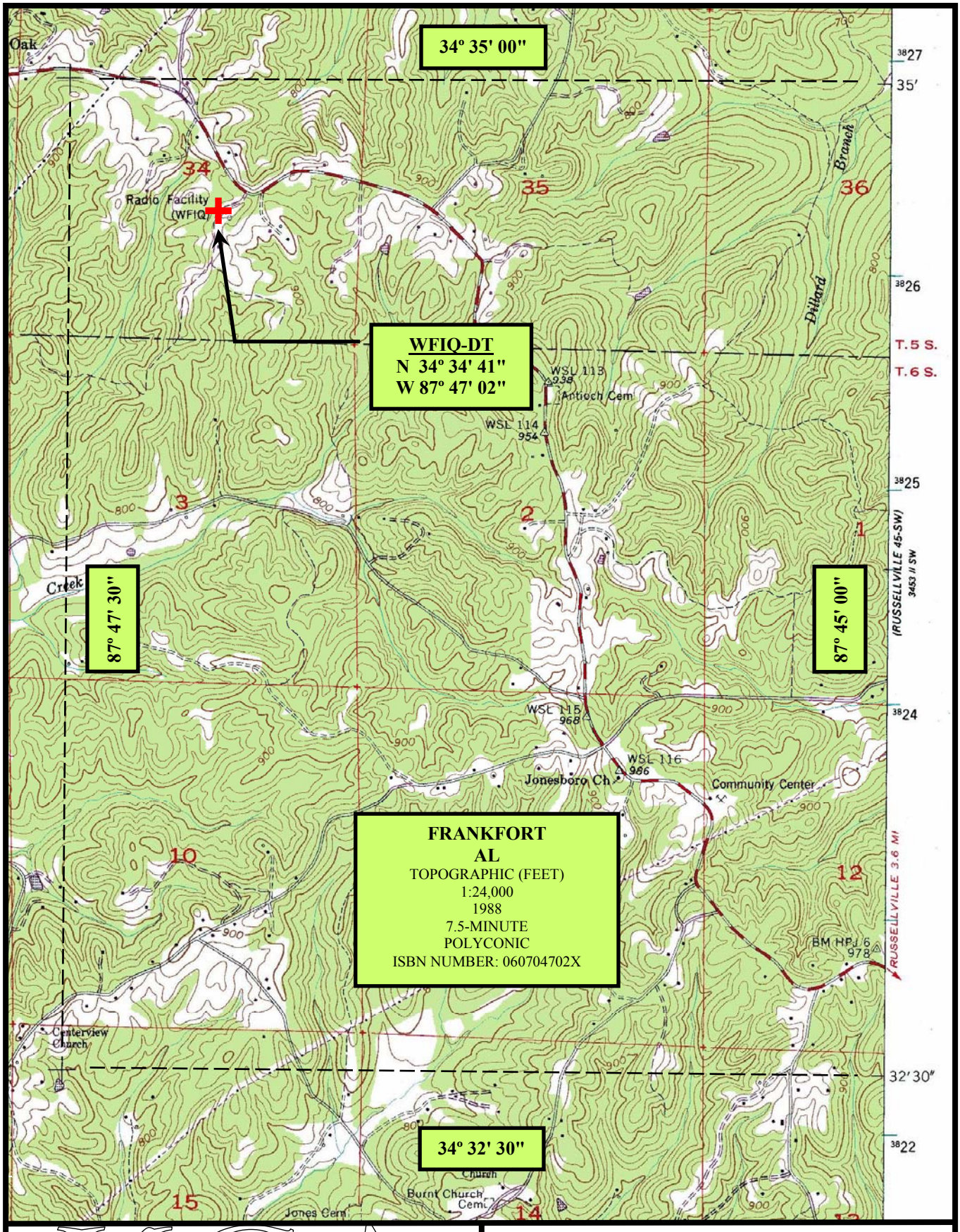
Proposal Number **DCA-10027**
Date **2-Aug-02**
Call Letters **WFIQ-DT** Channel **22**
Location **Florence, AL**
Customer **Alabama ETV**
Antenna Type **888-32 O8**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **32I235075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.065	2.4	0.457	10.6	0.052	30.5	0.023	51.0	0.017	71.5	0.003
-9.5	0.008	2.6	0.361	10.8	0.030	31.0	0.033	51.5	0.019	72.0	0.003
-9.0	0.057	2.8	0.272	11.0	0.007	31.5	0.036	52.0	0.020	72.5	0.004
-8.5	0.109	3.0	0.200	11.5	0.045	32.0	0.031	52.5	0.017	73.0	0.005
-8.0	0.130	3.2	0.157	12.0	0.078	32.5	0.019	53.0	0.013	73.5	0.005
-7.5	0.112	3.4	0.150	12.5	0.085	33.0	0.003	53.5	0.009	74.0	0.005
-7.0	0.064	3.6	0.169	13.0	0.067	33.5	0.013	54.0	0.007	74.5	0.005
-6.5	0.054	3.8	0.195	13.5	0.036	34.0	0.025	54.5	0.010	75.0	0.005
-6.0	0.109	4.0	0.214	14.0	0.023	34.5	0.031	55.0	0.014	75.5	0.005
-5.5	0.144	4.2	0.224	14.5	0.043	35.0	0.030	55.5	0.017	76.0	0.004
-5.0	0.134	4.4	0.224	15.0	0.053	35.5	0.024	56.0	0.018	76.5	0.004
-4.5	0.090	4.6	0.212	15.5	0.046	36.0	0.013	56.5	0.018	77.0	0.004
-4.0	0.095	4.8	0.192	16.0	0.029	36.5	0.006	57.0	0.016	77.5	0.003
-3.5	0.173	5.0	0.164	16.5	0.022	37.0	0.011	57.5	0.013	78.0	0.003
-3.0	0.229	5.2	0.134	17.0	0.033	37.5	0.017	58.0	0.009	78.5	0.002
-2.8	0.235	5.4	0.103	17.5	0.040	38.0	0.019	58.5	0.007	79.0	0.002
-2.6	0.230	5.6	0.081	18.0	0.036	38.5	0.016	59.0	0.008	79.5	0.002
-2.4	0.214	5.8	0.074	18.5	0.023	39.0	0.012	59.5	0.010	80.0	0.001
-2.2	0.189	6.0	0.083	19.0	0.015	39.5	0.010	60.0	0.013	80.5	0.001
-2.0	0.163	6.2	0.101	19.5	0.020	40.0	0.013	60.5	0.015	81.0	0.001
-1.8	0.154	6.4	0.117	20.0	0.022	40.5	0.016	61.0	0.015	81.5	0.001
-1.6	0.179	6.6	0.129	20.5	0.013	41.0	0.017	61.5	0.015	82.0	0.001
-1.4	0.239	6.8	0.135	21.0	0.005	41.5	0.015	62.0	0.013	82.5	0.001
-1.2	0.322	7.0	0.133	21.5	0.028	42.0	0.010	62.5	0.011	83.0	0.001
-1.0	0.417	7.2	0.125	22.0	0.048	42.5	0.007	63.0	0.008	83.5	0.001
-0.8	0.516	7.4	0.110	22.5	0.059	43.0	0.007	63.5	0.004	84.0	0.001
-0.6	0.616	7.6	0.091	23.0	0.058	43.5	0.009	64.0	0.001	84.5	0.001
-0.4	0.710	7.8	0.070	23.5	0.046	44.0	0.010	64.5	0.003	85.0	0.001
-0.2	0.796	8.0	0.050	24.0	0.028	44.5	0.007	65.0	0.006	85.5	0.001
0.0	0.871	8.2	0.041	24.5	0.021	45.0	0.001	65.5	0.008	86.0	0.000
0.2	0.930	8.4	0.048	25.0	0.031	45.5	0.006	66.0	0.010	86.5	0.000
0.4	0.972	8.6	0.065	25.5	0.039	46.0	0.015	66.5	0.011	87.0	0.000
0.6	0.996	8.8	0.084	26.0	0.037	46.5	0.022	67.0	0.011	87.5	0.000
0.8	0.999	9.0	0.099	26.5	0.028	47.0	0.027	67.5	0.011	88.0	0.000
1.0	0.983	9.2	0.110	27.0	0.017	47.5	0.030	68.0	0.010	88.5	0.000
1.2	0.948	9.4	0.115	27.5	0.020	48.0	0.029	68.5	0.009	89.0	0.000
1.4	0.895	9.6	0.115	28.0	0.030	48.5	0.025	69.0	0.007	89.5	0.000
1.6	0.827	9.8	0.112	28.5	0.033	49.0	0.020	69.5	0.006	90.0	0.000
1.8	0.745	10.0	0.104	29.0	0.028	49.5	0.013	70.0	0.005		
2.0	0.654	10.2	0.090	29.5	0.016	50.0	0.010	70.5	0.003		
2.2	0.557	10.4	0.073	30.0	0.011	50.5	0.013	71.0	0.003		

EXHIBIT 6



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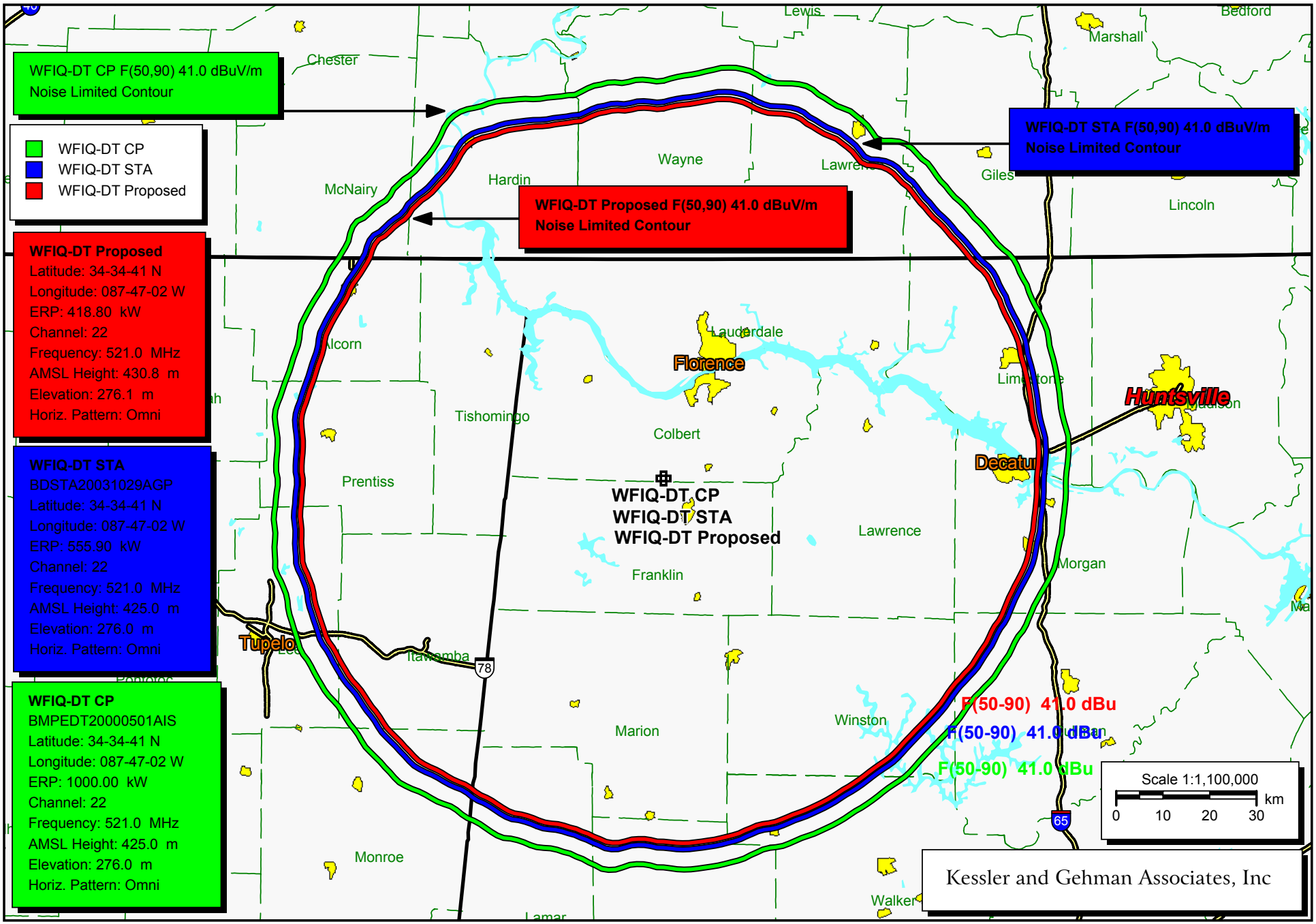
WFIQ-DT CHANNEL 22

FLORENCE, ALABAMA

20060615 **EXHIBIT 7**



WFIQ-DT CP F(50,90) 41.0 dBu (green) vs. WFIQ-DT STA F(50,90) 41.0 dBu (blue) vs. WFIQ-DT Proposed F(50,90) 41.0 dBu (red)

EXHIBIT 8

Call Letters: WFIQ-DT STA
File Number: BDSTA20031029AGP
Latitude: 34-34-41 N
Longitude: 087-47-02 W
ERP: 555.90 kW
Channel: 22
Frequency: 521.0 MHz
AMSL Height: 425.0 m
Elevation: 276.0 m
Horiz. Antenna Pattern: Omni
Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 90.0 %
# of Radials Calculated: 360
Field Strength: 41.00 dBuV/m
Primary Terrain: 3 Second US Terrain

Bearing (deg)	Distance (km)	HAAT (m)
0.0	80.4	209.4
1.0	80.8	213.7
2.0	81.1	217.4
3.0	81.4	220.3
4.0	81.6	222.7
5.0	82.0	226.3
6.0	82.4	230.5
7.0	82.8	234.6
8.0	83.3	239.2
9.0	83.6	241.4
10.0	83.8	243.1
11.0	83.8	243.0
12.0	83.7	242.3
13.0	83.4	239.3
14.0	82.9	235.5
15.0	82.7	233.6
16.0	82.7	233.6
17.0	83.1	236.7
18.0	83.5	240.3
19.0	83.8	242.9
20.0	83.9	244.1
21.0	83.7	242.6
22.0	83.3	238.5
23.0	83.1	237.0
24.0	82.9	234.9
25.0	82.7	233.3
26.0	82.8	234.2
27.0	82.9	235.3
28.0	82.6	232.7
29.0	82.4	230.5
30.0	82.1	227.6
31.0	81.6	222.3
32.0	81.1	216.7
33.0	81.2	218.6
34.0	82.1	227.0
35.0	82.7	233.5
36.0	83.1	236.7
37.0	83.1	237.2

38.0	82.9	235.1
39.0	82.7	233.1
40.0	82.8	233.8
41.0	82.5	231.2
42.0	82.2	228.1
43.0	81.9	225.8
44.0	81.9	225.3
45.0	81.7	223.6
46.0	81.6	222.8
47.0	81.8	224.2
48.0	81.9	224.9
49.0	81.8	224.7
50.0	81.8	224.3
51.0	81.9	225.8
52.0	82.0	226.8
53.0	82.1	227.2
54.0	82.1	227.7
55.0	82.2	228.8
56.0	82.5	231.2
57.0	82.9	235.4
58.0	83.1	237.0
59.0	83.0	236.4
60.0	82.8	234.4
61.0	82.8	234.0
62.0	82.8	234.5
63.0	82.6	232.3
64.0	82.5	231.5
65.0	82.5	231.8
66.0	82.7	232.8
67.0	82.7	233.1
68.0	82.8	233.8
69.0	82.8	233.8
70.0	82.5	231.6
71.0	82.2	228.9
72.0	82.2	228.2
73.0	82.1	227.9
74.0	82.1	227.1
75.0	82.0	226.2
76.0	81.9	225.1
77.0	81.8	224.2
78.0	81.7	223.1
79.0	81.5	221.8
80.0	81.5	220.9
81.0	81.5	221.2
82.0	81.6	222.5
83.0	81.8	224.7
84.0	82.0	226.6
85.0	82.0	225.9
86.0	81.9	225.5
87.0	81.7	223.8
88.0	81.6	222.1
89.0	81.4	219.9
90.0	81.2	218.6
91.0	81.2	218.4
92.0	81.3	219.0
93.0	81.3	219.0
94.0	81.2	218.3

95.0	81.2	217.9
96.0	81.1	217.2
97.0	81.1	217.5
98.0	81.2	218.1
99.0	81.0	216.5
100.0	81.0	216.0
101.0	81.0	216.2
102.0	81.0	216.4
103.0	81.0	215.8
104.0	80.7	213.3
105.0	80.4	210.1
106.0	80.1	206.7
107.0	79.8	203.3
108.0	79.6	200.6
109.0	79.4	198.2
110.0	79.3	197.4
111.0	79.3	196.8
112.0	79.3	196.7
113.0	79.1	194.8
114.0	78.8	190.7
115.0	78.6	189.4
116.0	78.7	189.6
117.0	78.7	189.8
118.0	78.5	187.7
119.0	78.4	186.1
120.0	78.3	185.6
121.0	78.3	185.1
122.0	78.1	182.7
123.0	77.8	179.4
124.0	77.6	176.9
125.0	77.4	174.1
126.0	77.3	173.2
127.0	77.3	173.2
128.0	77.4	174.3
129.0	77.5	175.4
130.0	77.5	175.3
131.0	77.4	174.8
132.0	77.4	174.4
133.0	77.4	173.9
134.0	77.3	173.7
135.0	77.3	173.7
136.0	77.4	174.2
137.0	77.4	175.0
138.0	77.6	176.3
139.0	77.7	178.4
140.0	77.9	180.1
141.0	77.9	180.9
142.0	77.9	180.2
143.0	77.8	179.0
144.0	77.7	178.4
145.0	77.8	178.9
146.0	77.9	179.9
147.0	77.9	181.0
148.0	78.0	181.4
149.0	78.0	181.8
150.0	78.0	181.5
151.0	78.1	182.6

152.0	78.2	184.0
153.0	78.3	184.8
154.0	78.3	185.3
155.0	78.3	185.3
156.0	78.3	185.4
157.0	78.3	185.5
158.0	78.3	184.8
159.0	78.2	184.1
160.0	78.3	185.0
161.0	78.4	186.0
162.0	78.4	186.6
163.0	78.3	184.8
164.0	78.0	182.1
165.0	78.0	181.7
166.0	78.2	184.6
167.0	78.5	187.1
168.0	78.8	191.1
169.0	78.9	192.7
170.0	79.0	193.6
171.0	79.1	195.0
172.0	79.2	196.1
173.0	79.2	196.4
174.0	79.3	196.9
175.0	79.3	197.4
176.0	79.4	198.0
177.0	79.3	197.5
178.0	79.2	196.2
179.0	79.0	193.8
180.0	78.9	192.0
181.0	78.8	191.8
182.0	78.5	188.1
183.0	78.4	186.3
184.0	78.5	187.1
185.0	78.7	189.8
186.0	79.2	196.4
187.0	79.8	202.4
188.0	80.0	204.8
189.0	80.0	204.6
190.0	79.6	200.0
191.0	79.3	196.7
192.0	78.9	192.2
193.0	78.7	190.2
194.0	78.5	187.0
195.0	78.5	187.1
196.0	78.4	186.2
197.0	78.5	187.3
198.0	78.8	190.8
199.0	79.0	194.0
200.0	79.1	194.3
201.0	79.0	193.6
202.0	79.1	194.4
203.0	79.3	196.7
204.0	79.7	201.3
205.0	79.7	202.0
206.0	79.6	200.7
207.0	79.4	198.7
208.0	79.3	196.9

209.0	79.3	196.8
210.0	79.4	198.6
211.0	79.4	198.1
212.0	79.2	195.9
213.0	79.2	196.2
214.0	79.5	199.8
215.0	79.8	203.0
216.0	80.0	204.6
217.0	80.1	206.0
218.0	80.3	208.7
219.0	80.7	213.0
220.0	81.0	216.5
221.0	81.3	219.1
222.0	81.2	218.3
223.0	81.1	216.9
224.0	81.0	216.4
225.0	80.9	215.3
226.0	81.0	215.6
227.0	81.0	215.9
228.0	81.0	216.3
229.0	80.8	214.2
230.0	80.6	211.6
231.0	80.5	210.6
232.0	80.5	211.0
233.0	80.4	210.0
234.0	80.3	208.8
235.0	80.3	208.3
236.0	80.4	209.9
237.0	80.7	212.4
238.0	80.7	213.4
239.0	80.7	213.2
240.0	80.7	213.3
241.0	80.7	213.2
242.0	80.7	212.9
243.0	80.8	213.5
244.0	81.0	216.1
245.0	81.0	216.5
246.0	80.8	214.5
247.0	80.7	213.1
248.0	80.6	212.1
249.0	80.5	211.0
250.0	80.5	210.4
251.0	80.3	208.6
252.0	80.0	205.4
253.0	79.9	204.0
254.0	80.0	205.1
255.0	80.2	206.9
256.0	80.5	210.3
257.0	80.6	211.5
258.0	80.3	208.4
259.0	80.1	206.4
260.0	79.9	204.6
261.0	79.7	201.2
262.0	79.4	198.6
263.0	79.4	198.1
264.0	79.4	198.3
265.0	79.2	195.9

266.0	78.9	192.5
267.0	78.8	190.6
268.0	78.6	188.4
269.0	78.3	185.6
270.0	78.3	185.7
271.0	78.6	188.8
272.0	78.7	189.4
273.0	78.6	189.2
274.0	78.6	188.5
275.0	78.6	188.8
276.0	78.7	190.5
277.0	79.1	194.2
278.0	79.4	198.3
279.0	79.7	201.8
280.0	79.8	202.6
281.0	79.6	201.0
282.0	79.4	198.3
283.0	79.3	197.0
284.0	79.2	195.7
285.0	79.1	194.2
286.0	78.9	192.7
287.0	78.9	192.7
288.0	78.9	192.7
289.0	78.9	192.4
290.0	78.9	192.5
291.0	79.1	194.5
292.0	79.4	198.6
293.0	79.7	201.7
294.0	79.6	201.0
295.0	79.6	200.4
296.0	79.5	199.7
297.0	79.4	198.6
298.0	79.3	197.3
299.0	79.2	196.1
300.0	79.3	196.6
301.0	79.5	199.4
302.0	79.6	200.4
303.0	79.5	199.6
304.0	79.5	199.2
305.0	79.6	200.0
306.0	79.6	201.0
307.0	79.8	203.3
308.0	80.4	209.7
309.0	80.8	214.0
310.0	80.8	214.4
311.0	80.3	208.4
312.0	80.2	206.9
313.0	80.1	206.1
314.0	79.9	203.6
315.0	79.6	200.3
316.0	79.7	201.2
317.0	80.1	205.8
318.0	80.1	205.9
319.0	80.1	206.5
320.0	79.9	204.5
321.0	80.0	204.8
322.0	80.2	207.4

323.0	80.5	210.5
324.0	80.7	212.9
325.0	81.1	217.7
326.0	81.7	223.1
327.0	82.4	230.0
328.0	83.2	238.0
329.0	83.8	243.7
330.0	84.1	246.1
331.0	84.2	246.8
332.0	84.0	245.0
333.0	83.6	241.6
334.0	83.3	238.8
335.0	83.2	238.0
336.0	83.0	235.9
337.0	82.6	232.4
338.0	82.2	228.5
339.0	81.9	224.9
340.0	81.5	221.0
341.0	81.0	215.8
342.0	80.6	212.1
343.0	80.5	210.4
344.0	80.2	207.8
345.0	80.0	205.3
346.0	79.9	204.1
347.0	79.7	201.6
348.0	80.0	205.0
349.0	80.3	209.0
350.0	80.6	211.7
351.0	80.6	211.7
352.0	80.7	213.3
353.0	80.6	212.2
354.0	80.4	209.2
355.0	80.4	210.1
356.0	80.7	212.7
357.0	80.7	212.6
358.0	80.5	210.8
359.0	80.3	208.2

Average HAAT for radials shown: 208.0 m

Call Letters: WFIQ-DT Proposed
Latitude: 34-34-41 N
Longitude: 087-47-02 W
ERP: 418.80 kW
Channel: 22
Frequency: 521.0 MHz
AMSL Height: 430.8 m
Elevation: 276.1 m
Horiz. Antenna Pattern: Omni
Type of contour: FCC
Location Variability: 50.0 %
Time Variability: 90.0 %
# of Radials Calculated: 360
Field Strength: 41.00 dBuV/m
Primary Terrain: 3 Second US Terrain

Bearing (deg)	Distance (km)	HAAT (m)
0.0	79.0	215.2
1.0	79.4	219.5
2.0	79.7	223.2
3.0	79.9	226.1
4.0	80.2	228.5
5.0	80.5	232.1
6.0	80.9	236.3
7.0	81.3	240.4
8.0	81.8	245.0
9.0	82.0	247.2
10.0	82.2	248.9
11.0	82.2	248.8
12.0	82.1	248.1
13.0	81.8	245.1
14.0	81.4	241.3
15.0	81.2	239.4
16.0	81.2	239.4
17.0	81.5	242.5
18.0	81.9	246.1
19.0	82.2	248.7
20.0	82.3	249.9
21.0	82.1	248.4
22.0	81.7	244.3
23.0	81.6	242.8
24.0	81.3	240.7
25.0	81.2	239.1
26.0	81.3	240.0
27.0	81.4	241.1
28.0	81.1	238.5
29.0	80.9	236.3
30.0	80.6	233.4
31.0	80.1	228.1
32.0	79.6	222.5
33.0	79.8	224.4
34.0	80.6	232.8
35.0	81.2	239.3
36.0	81.5	242.5
37.0	81.6	243.0
38.0	81.4	240.9

39.0	81.2	238.9
40.0	81.2	239.6
41.0	81.0	237.0
42.0	80.7	233.9
43.0	80.4	231.6
44.0	80.4	231.1
45.0	80.2	229.4
46.0	80.2	228.6
47.0	80.3	230.0
48.0	80.4	230.7
49.0	80.3	230.5
50.0	80.3	230.1
51.0	80.5	231.6
52.0	80.5	232.6
53.0	80.6	233.0
54.0	80.6	233.5
55.0	80.7	234.6
56.0	81.0	237.0
57.0	81.4	241.2
58.0	81.5	242.8
59.0	81.5	242.2
60.0	81.3	240.2
61.0	81.2	239.8
62.0	81.3	240.3
63.0	81.1	238.1
64.0	81.0	237.3
65.0	81.0	237.6
66.0	81.1	238.6
67.0	81.2	238.9
68.0	81.2	239.6
69.0	81.2	239.6
70.0	81.0	237.4
71.0	80.7	234.7
72.0	80.7	234.0
73.0	80.6	233.7
74.0	80.6	232.9
75.0	80.5	232.0
76.0	80.4	230.9
77.0	80.3	230.0
78.0	80.2	228.9
79.0	80.1	227.6
80.0	80.0	226.7
81.0	80.0	227.0
82.0	80.1	228.3
83.0	80.3	230.5
84.0	80.5	232.4
85.0	80.5	231.7
86.0	80.4	231.3
87.0	80.3	229.6
88.0	80.1	227.9
89.0	79.9	225.7
90.0	79.8	224.4
91.0	79.8	224.2
92.0	79.8	224.8
93.0	79.8	224.8
94.0	79.8	224.1
95.0	79.7	223.7

96.0	79.7	223.0
97.0	79.7	223.3
98.0	79.7	223.9
99.0	79.6	222.3
100.0	79.6	221.8
101.0	79.6	222.0
102.0	79.6	222.2
103.0	79.5	221.6
104.0	79.3	219.1
105.0	79.1	215.9
106.0	78.8	212.5
107.0	78.5	209.1
108.0	78.3	206.4
109.0	78.1	204.0
110.0	78.0	203.2
111.0	78.0	202.6
112.0	78.0	202.5
113.0	77.8	200.6
114.0	77.5	196.5
115.0	77.4	195.2
116.0	77.4	195.4
117.0	77.4	195.6
118.0	77.2	193.5
119.0	77.1	191.9
120.0	77.1	191.4
121.0	77.0	190.9
122.0	76.8	188.5
123.0	76.6	185.2
124.0	76.4	182.7
125.0	76.2	179.9
126.0	76.1	179.0
127.0	76.1	179.0
128.0	76.2	180.1
129.0	76.3	181.2
130.0	76.3	181.1
131.0	76.2	180.6
132.0	76.2	180.2
133.0	76.2	179.7
134.0	76.1	179.5
135.0	76.1	179.5
136.0	76.2	180.0
137.0	76.2	180.8
138.0	76.3	182.1
139.0	76.5	184.2
140.0	76.6	185.9
141.0	76.7	186.7
142.0	76.7	186.0
143.0	76.6	184.8
144.0	76.5	184.2
145.0	76.5	184.7
146.0	76.6	185.7
147.0	76.7	186.8
148.0	76.7	187.2
149.0	76.8	187.6
150.0	76.8	187.3
151.0	76.8	188.4
152.0	76.9	189.8

153.0	77.0	190.6
154.0	77.0	191.1
155.0	77.0	191.1
156.0	77.1	191.2
157.0	77.1	191.3
158.0	77.0	190.6
159.0	77.0	189.9
160.0	77.0	190.8
161.0	77.1	191.8
162.0	77.1	192.4
163.0	77.0	190.6
164.0	76.8	187.9
165.0	76.8	187.5
166.0	77.0	190.4
167.0	77.2	192.9
168.0	77.5	196.9
169.0	77.6	198.5
170.0	77.7	199.4
171.0	77.8	200.8
172.0	77.9	201.9
173.0	77.9	202.2
174.0	78.0	202.7
175.0	78.0	203.2
176.0	78.1	203.8
177.0	78.0	203.3
178.0	77.9	202.0
179.0	77.7	199.6
180.0	77.6	197.8
181.0	77.6	197.6
182.0	77.3	193.9
183.0	77.1	192.1
184.0	77.2	192.9
185.0	77.4	195.6
186.0	77.9	202.2
187.0	78.4	208.2
188.0	78.6	210.6
189.0	78.6	210.4
190.0	78.2	205.8
191.0	77.9	202.5
192.0	77.6	198.0
193.0	77.4	196.0
194.0	77.2	192.8
195.0	77.2	192.9
196.0	77.1	192.0
197.0	77.2	193.1
198.0	77.5	196.6
199.0	77.7	199.8
200.0	77.8	200.1
201.0	77.7	199.4
202.0	77.8	200.2
203.0	78.0	202.5
204.0	78.3	207.1
205.0	78.4	207.8
206.0	78.3	206.5
207.0	78.1	204.5
208.0	78.0	202.7
209.0	78.0	202.6

210.0	78.1	204.4
211.0	78.1	203.9
212.0	77.9	201.7
213.0	77.9	202.0
214.0	78.2	205.6
215.0	78.5	208.8
216.0	78.6	210.4
217.0	78.7	211.8
218.0	78.9	214.5
219.0	79.3	218.8
220.0	79.6	222.3
221.0	79.8	224.9
222.0	79.8	224.1
223.0	79.6	222.7
224.0	79.6	222.2
225.0	79.5	221.1
226.0	79.5	221.4
227.0	79.5	221.7
228.0	79.6	222.1
229.0	79.4	220.0
230.0	79.2	217.4
231.0	79.1	216.4
232.0	79.1	216.8
233.0	79.0	215.8
234.0	78.9	214.6
235.0	78.9	214.1
236.0	79.0	215.7
237.0	79.3	218.2
238.0	79.3	219.2
239.0	79.3	219.0
240.0	79.3	219.1
241.0	79.3	219.0
242.0	79.3	218.7
243.0	79.3	219.3
244.0	79.6	221.9
245.0	79.6	222.3
246.0	79.4	220.3
247.0	79.3	218.9
248.0	79.2	217.9
249.0	79.1	216.8
250.0	79.1	216.2
251.0	78.9	214.4
252.0	78.7	211.2
253.0	78.5	209.8
254.0	78.6	210.9
255.0	78.8	212.7
256.0	79.1	216.1
257.0	79.2	217.3
258.0	78.9	214.2
259.0	78.7	212.2
260.0	78.6	210.4
261.0	78.3	207.0
262.0	78.1	204.4
263.0	78.1	203.9
264.0	78.1	204.1
265.0	77.9	201.7
266.0	77.6	198.3

267.0	77.5	196.4
268.0	77.3	194.2
269.0	77.1	191.4
270.0	77.1	191.5
271.0	77.3	194.6
272.0	77.4	195.2
273.0	77.4	195.0
274.0	77.3	194.3
275.0	77.3	194.6
276.0	77.5	196.3
277.0	77.8	200.0
278.0	78.1	204.1
279.0	78.4	207.6
280.0	78.4	208.4
281.0	78.3	206.8
282.0	78.1	204.1
283.0	78.0	202.8
284.0	77.9	201.5
285.0	77.8	200.0
286.0	77.6	198.5
287.0	77.6	198.5
288.0	77.6	198.5
289.0	77.6	198.2
290.0	77.6	198.3
291.0	77.8	200.3
292.0	78.1	204.4
293.0	78.4	207.5
294.0	78.3	206.8
295.0	78.3	206.2
296.0	78.2	205.5
297.0	78.1	204.4
298.0	78.0	203.1
299.0	77.9	201.9
300.0	77.9	202.4
301.0	78.2	205.2
302.0	78.2	206.2
303.0	78.2	205.4
304.0	78.2	205.0
305.0	78.2	205.8
306.0	78.3	206.8
307.0	78.5	209.1
308.0	79.0	215.5
309.0	79.4	219.8
310.0	79.4	220.2
311.0	78.9	214.2
312.0	78.8	212.7
313.0	78.7	211.9
314.0	78.5	209.4
315.0	78.2	206.1
316.0	78.3	207.0
317.0	78.7	211.6
318.0	78.7	211.7
319.0	78.7	212.3
320.0	78.6	210.3
321.0	78.6	210.6
322.0	78.8	213.2
323.0	79.1	216.3

324.0	79.3	218.7
325.0	79.7	223.5
326.0	80.2	228.9
327.0	80.9	235.8
328.0	81.6	243.8
329.0	82.3	249.5
330.0	82.6	251.9
331.0	82.6	252.6
332.0	82.4	250.8
333.0	82.0	247.4
334.0	81.7	244.6
335.0	81.6	243.8
336.0	81.4	241.7
337.0	81.1	238.2
338.0	80.7	234.3
339.0	80.4	230.7
340.0	80.0	226.8
341.0	79.5	221.6
342.0	79.2	217.9
343.0	79.1	216.2
344.0	78.9	213.6
345.0	78.6	211.1
346.0	78.6	209.9
347.0	78.4	207.4
348.0	78.6	210.8
349.0	79.0	214.8
350.0	79.2	217.5
351.0	79.2	217.5
352.0	79.3	219.1
353.0	79.2	218.0
354.0	79.0	215.0
355.0	79.1	215.9
356.0	79.3	218.5
357.0	79.3	218.4
358.0	79.1	216.6
359.0	78.9	214.0

Average HAAT for radials shown: 213.8 m

WFIQ-DT (STA vs. Proposed) Distance to Contour Comparison Spreadsheet

Radial	WFIQ-DT STA distance to contours (km)	WFIQ-DT Proposed distance to contours (km)	PASS OR FAIL	Difference (km)
0.0	80.4	79.0	PASS	1.4
1.0	80.8	79.4	PASS	1.4
2.0	81.1	79.7	PASS	1.4
3.0	81.4	79.9	PASS	1.5
4.0	81.6	80.2	PASS	1.4
5.0	82.0	80.5	PASS	1.5
6.0	82.4	80.9	PASS	1.5
7.0	82.8	81.3	PASS	1.5
8.0	83.3	81.8	PASS	1.5
9.0	83.6	82.0	PASS	1.6
10.0	83.8	82.2	PASS	1.6
11.0	83.8	82.2	PASS	1.6
12.0	83.7	82.1	PASS	1.6
13.0	83.4	81.8	PASS	1.6
14.0	82.9	81.4	PASS	1.5
15.0	82.7	81.2	PASS	1.5
16.0	82.7	81.2	PASS	1.5
17.0	83.1	81.5	PASS	1.6
18.0	83.5	81.9	PASS	1.6
19.0	83.8	82.2	PASS	1.6
20.0	83.9	82.3	PASS	1.6
21.0	83.7	82.1	PASS	1.6
22.0	83.3	81.7	PASS	1.6
23.0	83.1	81.6	PASS	1.5
24.0	82.9	81.3	PASS	1.6
25.0	82.7	81.2	PASS	1.5
26.0	82.8	81.3	PASS	1.5
27.0	82.9	81.4	PASS	1.5
28.0	82.6	81.1	PASS	1.5
29.0	82.4	80.9	PASS	1.5
30.0	82.1	80.6	PASS	1.5
31.0	81.6	80.1	PASS	1.5
32.0	81.1	79.6	PASS	1.5
33.0	81.2	79.8	PASS	1.4
34.0	82.1	80.6	PASS	1.5
35.0	82.7	81.2	PASS	1.5
36.0	83.1	81.5	PASS	1.6
37.0	83.1	81.6	PASS	1.5
38.0	82.9	81.4	PASS	1.5

39.0	82.7	81.2	**PASS**	1.5
40.0	82.8	81.2	**PASS**	1.6
41.0	82.5	81.0	**PASS**	1.5
42.0	82.2	80.7	**PASS**	1.5
43.0	81.9	80.4	**PASS**	1.5
44.0	81.9	80.4	**PASS**	1.5
45.0	81.7	80.2	**PASS**	1.5
46.0	81.6	80.2	**PASS**	1.4
47.0	81.8	80.3	**PASS**	1.5
48.0	81.9	80.4	**PASS**	1.5
49.0	81.8	80.3	**PASS**	1.5
50.0	81.8	80.3	**PASS**	1.5
51.0	81.9	80.5	**PASS**	1.4
52.0	82.0	80.5	**PASS**	1.5
53.0	82.1	80.6	**PASS**	1.5
54.0	82.1	80.6	**PASS**	1.5
55.0	82.2	80.7	**PASS**	1.5
56.0	82.5	81.0	**PASS**	1.5
57.0	82.9	81.4	**PASS**	1.5
58.0	83.1	81.5	**PASS**	1.6
59.0	83.0	81.5	**PASS**	1.5
60.0	82.8	81.3	**PASS**	1.5
61.0	82.8	81.2	**PASS**	1.6
62.0	82.8	81.3	**PASS**	1.5
63.0	82.6	81.1	**PASS**	1.5
64.0	82.5	81.0	**PASS**	1.5
65.0	82.5	81.0	**PASS**	1.5
66.0	82.7	81.1	**PASS**	1.6
67.0	82.7	81.2	**PASS**	1.5
68.0	82.8	81.2	**PASS**	1.6
69.0	82.8	81.2	**PASS**	1.6
70.0	82.5	81.0	**PASS**	1.5
71.0	82.2	80.7	**PASS**	1.5
72.0	82.2	80.7	**PASS**	1.5
73.0	82.1	80.6	**PASS**	1.5
74.0	82.1	80.6	**PASS**	1.5
75.0	82.0	80.5	**PASS**	1.5
76.0	81.9	80.4	**PASS**	1.5
77.0	81.8	80.3	**PASS**	1.5
78.0	81.7	80.2	**PASS**	1.5
79.0	81.5	80.1	**PASS**	1.4
80.0	81.5	80.0	**PASS**	1.5

81.0	81.5	80.0	**PASS**	1.5
82.0	81.6	80.1	**PASS**	1.5
83.0	81.8	80.3	**PASS**	1.5
84.0	82.0	80.5	**PASS**	1.5
85.0	82.0	80.5	**PASS**	1.5
86.0	81.9	80.4	**PASS**	1.5
87.0	81.7	80.3	**PASS**	1.4
88.0	81.6	80.1	**PASS**	1.5
89.0	81.4	79.9	**PASS**	1.5
90.0	81.2	79.8	**PASS**	1.4
91.0	81.2	79.8	**PASS**	1.4
92.0	81.3	79.8	**PASS**	1.5
93.0	81.3	79.8	**PASS**	1.5
94.0	81.2	79.8	**PASS**	1.4
95.0	81.2	79.7	**PASS**	1.5
96.0	81.1	79.7	**PASS**	1.4
97.0	81.1	79.7	**PASS**	1.4
98.0	81.2	79.7	**PASS**	1.5
99.0	81.0	79.6	**PASS**	1.4
100.0	81.0	79.6	**PASS**	1.4
101.0	81.0	79.6	**PASS**	1.4
102.0	81.0	79.6	**PASS**	1.4
103.0	81.0	79.5	**PASS**	1.5
104.0	80.7	79.3	**PASS**	1.4
105.0	80.4	79.1	**PASS**	1.3
106.0	80.1	78.8	**PASS**	1.3
107.0	79.8	78.5	**PASS**	1.3
108.0	79.6	78.3	**PASS**	1.3
109.0	79.4	78.1	**PASS**	1.3
110.0	79.3	78.0	**PASS**	1.3
111.0	79.3	78.0	**PASS**	1.3
112.0	79.3	78.0	**PASS**	1.3
113.0	79.1	77.8	**PASS**	1.3
114.0	78.8	77.5	**PASS**	1.3
115.0	78.6	77.4	**PASS**	1.2
116.0	78.7	77.4	**PASS**	1.3
117.0	78.7	77.4	**PASS**	1.3
118.0	78.5	77.2	**PASS**	1.3
119.0	78.4	77.1	**PASS**	1.3
120.0	78.3	77.1	**PASS**	1.2
121.0	78.3	77.0	**PASS**	1.3
122.0	78.1	76.8	**PASS**	1.3

123.0	77.8	76.6	**PASS**	1.2
124.0	77.6	76.4	**PASS**	1.2
125.0	77.4	76.2	**PASS**	1.2
126.0	77.3	76.1	**PASS**	1.2
127.0	77.3	76.1	**PASS**	1.2
128.0	77.4	76.2	**PASS**	1.2
129.0	77.5	76.3	**PASS**	1.2
130.0	77.5	76.3	**PASS**	1.2
131.0	77.4	76.2	**PASS**	1.2
132.0	77.4	76.2	**PASS**	1.2
133.0	77.4	76.2	**PASS**	1.2
134.0	77.3	76.1	**PASS**	1.2
135.0	77.3	76.1	**PASS**	1.2
136.0	77.4	76.2	**PASS**	1.2
137.0	77.4	76.2	**PASS**	1.2
138.0	77.6	76.3	**PASS**	1.3
139.0	77.7	76.5	**PASS**	1.2
140.0	77.9	76.6	**PASS**	1.3
141.0	77.9	76.7	**PASS**	1.2
142.0	77.9	76.7	**PASS**	1.2
143.0	77.8	76.6	**PASS**	1.2
144.0	77.7	76.5	**PASS**	1.2
145.0	77.8	76.5	**PASS**	1.3
146.0	77.9	76.6	**PASS**	1.3
147.0	77.9	76.7	**PASS**	1.2
148.0	78.0	76.7	**PASS**	1.3
149.0	78.0	76.8	**PASS**	1.2
150.0	78.0	76.8	**PASS**	1.2
151.0	78.1	76.8	**PASS**	1.3
152.0	78.2	76.9	**PASS**	1.3
153.0	78.3	77.0	**PASS**	1.3
154.0	78.3	77.0	**PASS**	1.3
155.0	78.3	77.0	**PASS**	1.3
156.0	78.3	77.1	**PASS**	1.2
157.0	78.3	77.1	**PASS**	1.2
158.0	78.3	77.0	**PASS**	1.3
159.0	78.2	77.0	**PASS**	1.2
160.0	78.3	77.0	**PASS**	1.3
161.0	78.4	77.1	**PASS**	1.3
162.0	78.4	77.1	**PASS**	1.3
163.0	78.3	77.0	**PASS**	1.3
164.0	78.0	76.8	**PASS**	1.2

165.0	78.0	76.8	**PASS**	1.2
166.0	78.2	77.0	**PASS**	1.2
167.0	78.5	77.2	**PASS**	1.3
168.0	78.8	77.5	**PASS**	1.3
169.0	78.9	77.6	**PASS**	1.3
170.0	79.0	77.7	**PASS**	1.3
171.0	79.1	77.8	**PASS**	1.3
172.0	79.2	77.9	**PASS**	1.3
173.0	79.2	77.9	**PASS**	1.3
174.0	79.3	78.0	**PASS**	1.3
175.0	79.3	78.0	**PASS**	1.3
176.0	79.4	78.1	**PASS**	1.3
177.0	79.3	78.0	**PASS**	1.3
178.0	79.2	77.9	**PASS**	1.3
179.0	79.0	77.7	**PASS**	1.3
180.0	78.9	77.6	**PASS**	1.3
181.0	78.8	77.6	**PASS**	1.2
182.0	78.5	77.3	**PASS**	1.2
183.0	78.4	77.1	**PASS**	1.3
184.0	78.5	77.2	**PASS**	1.3
185.0	78.7	77.4	**PASS**	1.3
186.0	79.2	77.9	**PASS**	1.3
187.0	79.8	78.4	**PASS**	1.4
188.0	80.0	78.6	**PASS**	1.4
189.0	80.0	78.6	**PASS**	1.4
190.0	79.6	78.2	**PASS**	1.4
191.0	79.3	77.9	**PASS**	1.4
192.0	78.9	77.6	**PASS**	1.3
193.0	78.7	77.4	**PASS**	1.3
194.0	78.5	77.2	**PASS**	1.3
195.0	78.5	77.2	**PASS**	1.3
196.0	78.4	77.1	**PASS**	1.3
197.0	78.5	77.2	**PASS**	1.3
198.0	78.8	77.5	**PASS**	1.3
199.0	79.0	77.7	**PASS**	1.3
200.0	79.1	77.8	**PASS**	1.3
201.0	79.0	77.7	**PASS**	1.3
202.0	79.1	77.8	**PASS**	1.3
203.0	79.3	78.0	**PASS**	1.3
204.0	79.7	78.3	**PASS**	1.4
205.0	79.7	78.4	**PASS**	1.3
206.0	79.6	78.3	**PASS**	1.3

207.0	79.4	78.1	**PASS**	1.3
208.0	79.3	78.0	**PASS**	1.3
209.0	79.3	78.0	**PASS**	1.3
210.0	79.4	78.1	**PASS**	1.3
211.0	79.4	78.1	**PASS**	1.3
212.0	79.2	77.9	**PASS**	1.3
213.0	79.2	77.9	**PASS**	1.3
214.0	79.5	78.2	**PASS**	1.3
215.0	79.8	78.5	**PASS**	1.3
216.0	80.0	78.6	**PASS**	1.4
217.0	80.1	78.7	**PASS**	1.4
218.0	80.3	78.9	**PASS**	1.4
219.0	80.7	79.3	**PASS**	1.4
220.0	81.0	79.6	**PASS**	1.4
221.0	81.3	79.8	**PASS**	1.5
222.0	81.2	79.8	**PASS**	1.4
223.0	81.1	79.6	**PASS**	1.5
224.0	81.0	79.6	**PASS**	1.4
225.0	80.9	79.5	**PASS**	1.4
226.0	81.0	79.5	**PASS**	1.5
227.0	81.0	79.5	**PASS**	1.5
228.0	81.0	79.6	**PASS**	1.4
229.0	80.8	79.4	**PASS**	1.4
230.0	80.6	79.2	**PASS**	1.4
231.0	80.5	79.1	**PASS**	1.4
232.0	80.5	79.1	**PASS**	1.4
233.0	80.4	79.0	**PASS**	1.4
234.0	80.3	78.9	**PASS**	1.4
235.0	80.3	78.9	**PASS**	1.4
236.0	80.4	79.0	**PASS**	1.4
237.0	80.7	79.3	**PASS**	1.4
238.0	80.7	79.3	**PASS**	1.4
239.0	80.7	79.3	**PASS**	1.4
240.0	80.7	79.3	**PASS**	1.4
241.0	80.7	79.3	**PASS**	1.4
242.0	80.7	79.3	**PASS**	1.4
243.0	80.8	79.3	**PASS**	1.5
244.0	81.0	79.6	**PASS**	1.4
245.0	81.0	79.6	**PASS**	1.4
246.0	80.8	79.4	**PASS**	1.4
247.0	80.7	79.3	**PASS**	1.4
248.0	80.6	79.2	**PASS**	1.4

249.0	80.5	79.1	**PASS**	1.4
250.0	80.5	79.1	**PASS**	1.4
251.0	80.3	78.9	**PASS**	1.4
252.0	80.0	78.7	**PASS**	1.3
253.0	79.9	78.5	**PASS**	1.4
254.0	80.0	78.6	**PASS**	1.4
255.0	80.2	78.8	**PASS**	1.4
256.0	80.5	79.1	**PASS**	1.4
257.0	80.6	79.2	**PASS**	1.4
258.0	80.3	78.9	**PASS**	1.4
259.0	80.1	78.7	**PASS**	1.4
260.0	79.9	78.6	**PASS**	1.3
261.0	79.7	78.3	**PASS**	1.4
262.0	79.4	78.1	**PASS**	1.3
263.0	79.4	78.1	**PASS**	1.3
264.0	79.4	78.1	**PASS**	1.3
265.0	79.2	77.9	**PASS**	1.3
266.0	78.9	77.6	**PASS**	1.3
267.0	78.8	77.5	**PASS**	1.3
268.0	78.6	77.3	**PASS**	1.3
269.0	78.3	77.1	**PASS**	1.2
270.0	78.3	77.1	**PASS**	1.2
271.0	78.6	77.3	**PASS**	1.3
272.0	78.7	77.4	**PASS**	1.3
273.0	78.6	77.4	**PASS**	1.2
274.0	78.6	77.3	**PASS**	1.3
275.0	78.6	77.3	**PASS**	1.3
276.0	78.7	77.5	**PASS**	1.2
277.0	79.1	77.8	**PASS**	1.3
278.0	79.4	78.1	**PASS**	1.3
279.0	79.7	78.4	**PASS**	1.3
280.0	79.8	78.4	**PASS**	1.4
281.0	79.6	78.3	**PASS**	1.3
282.0	79.4	78.1	**PASS**	1.3
283.0	79.3	78.0	**PASS**	1.3
284.0	79.2	77.9	**PASS**	1.3
285.0	79.1	77.8	**PASS**	1.3
286.0	78.9	77.6	**PASS**	1.3
287.0	78.9	77.6	**PASS**	1.3
288.0	78.9	77.6	**PASS**	1.3
289.0	78.9	77.6	**PASS**	1.3
290.0	78.9	77.6	**PASS**	1.3

291.0	79.1	77.8	**PASS**	1.3
292.0	79.4	78.1	**PASS**	1.3
293.0	79.7	78.4	**PASS**	1.3
294.0	79.6	78.3	**PASS**	1.3
295.0	79.6	78.3	**PASS**	1.3
296.0	79.5	78.2	**PASS**	1.3
297.0	79.4	78.1	**PASS**	1.3
298.0	79.3	78.0	**PASS**	1.3
299.0	79.2	77.9	**PASS**	1.3
300.0	79.3	77.9	**PASS**	1.4
301.0	79.5	78.2	**PASS**	1.3
302.0	79.6	78.2	**PASS**	1.4
303.0	79.5	78.2	**PASS**	1.3
304.0	79.5	78.2	**PASS**	1.3
305.0	79.6	78.2	**PASS**	1.4
306.0	79.6	78.3	**PASS**	1.3
307.0	79.8	78.5	**PASS**	1.3
308.0	80.4	79.0	**PASS**	1.4
309.0	80.8	79.4	**PASS**	1.4
310.0	80.8	79.4	**PASS**	1.4
311.0	80.3	78.9	**PASS**	1.4
312.0	80.2	78.8	**PASS**	1.4
313.0	80.1	78.7	**PASS**	1.4
314.0	79.9	78.5	**PASS**	1.4
315.0	79.6	78.2	**PASS**	1.4
316.0	79.7	78.3	**PASS**	1.4
317.0	80.1	78.7	**PASS**	1.4
318.0	80.1	78.7	**PASS**	1.4
319.0	80.1	78.7	**PASS**	1.4
320.0	79.9	78.6	**PASS**	1.3
321.0	80.0	78.6	**PASS**	1.4
322.0	80.2	78.8	**PASS**	1.4
323.0	80.5	79.1	**PASS**	1.4
324.0	80.7	79.3	**PASS**	1.4
325.0	81.1	79.7	**PASS**	1.4
326.0	81.7	80.2	**PASS**	1.5
327.0	82.4	80.9	**PASS**	1.5
328.0	83.2	81.6	**PASS**	1.6
329.0	83.8	82.3	**PASS**	1.5
330.0	84.1	82.6	**PASS**	1.5
331.0	84.2	82.6	**PASS**	1.6
332.0	84.0	82.4	**PASS**	1.6

333.0	83.6	82.0	**PASS**	1.6
334.0	83.3	81.7	**PASS**	1.6
335.0	83.2	81.6	**PASS**	1.6
336.0	83.0	81.4	**PASS**	1.6
337.0	82.6	81.1	**PASS**	1.5
338.0	82.2	80.7	**PASS**	1.5
339.0	81.9	80.4	**PASS**	1.5
340.0	81.5	80.0	**PASS**	1.5
341.0	81.0	79.5	**PASS**	1.5
342.0	80.6	79.2	**PASS**	1.4
343.0	80.5	79.1	**PASS**	1.4
344.0	80.2	78.9	**PASS**	1.3
345.0	80.0	78.6	**PASS**	1.4
346.0	79.9	78.6	**PASS**	1.3
347.0	79.7	78.4	**PASS**	1.3
348.0	80.0	78.6	**PASS**	1.4
349.0	80.3	79.0	**PASS**	1.3
350.0	80.6	79.2	**PASS**	1.4
351.0	80.6	79.2	**PASS**	1.4
352.0	80.7	79.3	**PASS**	1.4
353.0	80.6	79.2	**PASS**	1.4
354.0	80.4	79.0	**PASS**	1.4
355.0	80.4	79.1	**PASS**	1.3
356.0	80.7	79.3	**PASS**	1.4
357.0	80.7	79.3	**PASS**	1.4
358.0	80.5	79.1	**PASS**	1.4
359.0	80.3	78.9	**PASS**	1.4

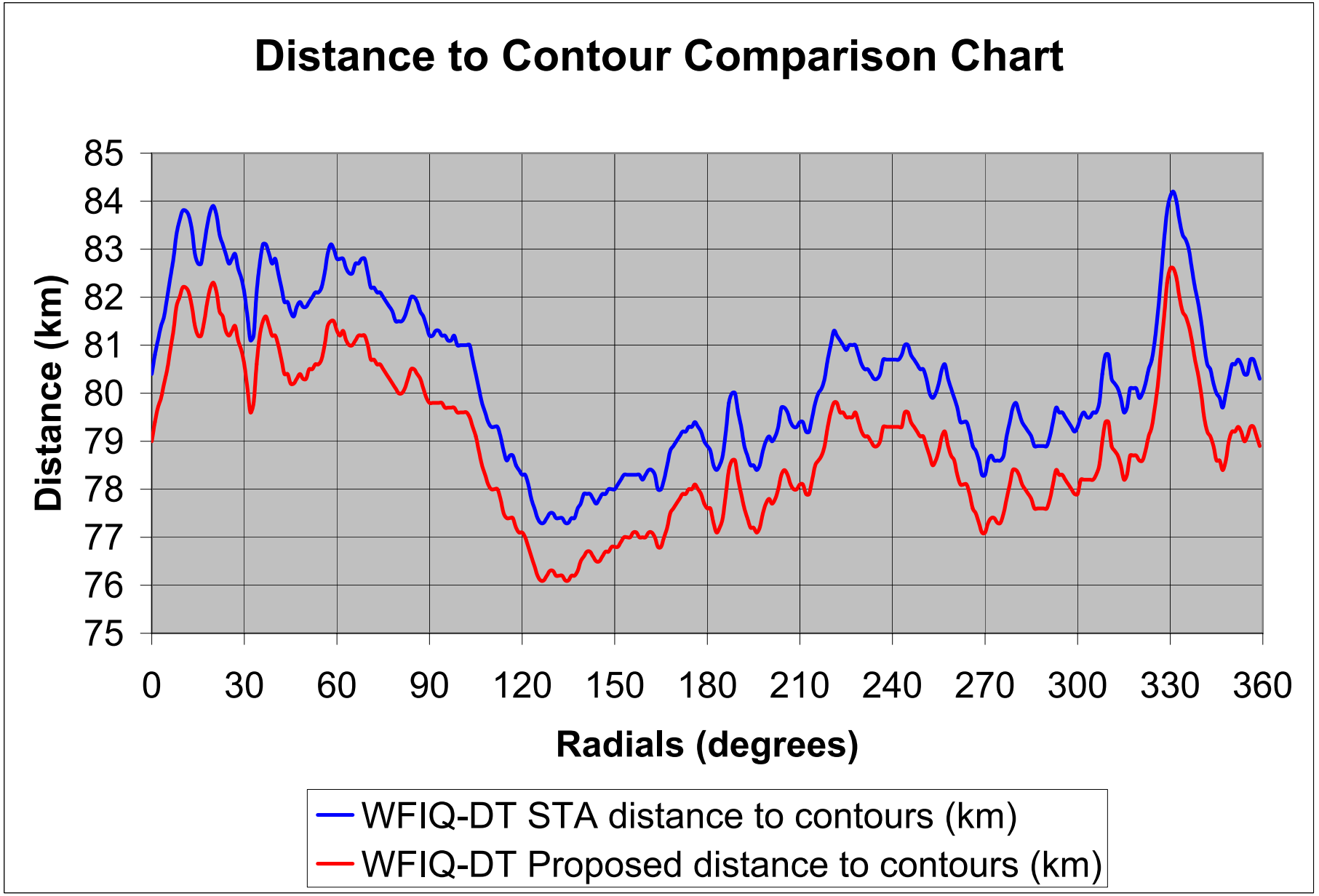
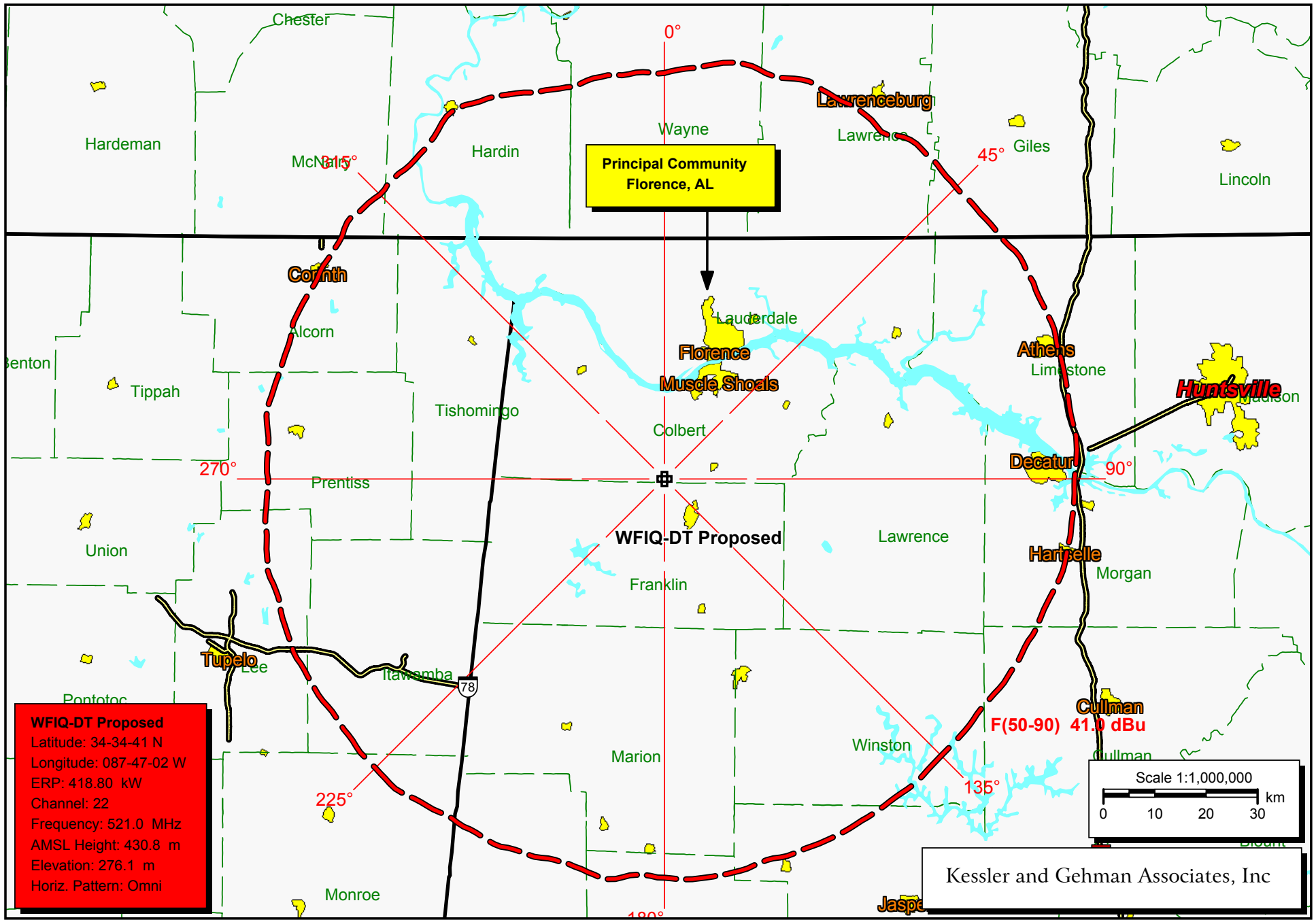

Distance to Contour Comparison Chart
Distance (km)
85
84
83
82
81
80
79
78
77
76
75
0
30
60
90
120
150
180
210
240
270
300
330
360
Radials (degrees)
WFIQ-DT STA distance to contours (km)
WFIQ-DT Proposed distance to contours (km)

EXHIBIT 12



WFIQ-DT Proposed F(50,90) 48.0 dBuV/m Principal Community Contour

EXHIBIT 13