

# **Kessler and Gehman Associates, Inc.**

Consultants • Broadcast • Wireless



507 NW 60th Street, Suite C  
Gainesville, FL 32607  
Phone 352-332-3157  
Fax 352-332-6392

July 8, 2014

[www.kesslerandgehman.com](http://www.kesslerandgehman.com)

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Robert Gehman, Jr., PE  
Jeffrey C. Gehman  
Ryan C. Wilhour  
William T. Godfrey, Jr.  
William J. Kessler, PE, Emeritus

Re: **Amendment to Experimental Authorization**  
Georgia Public Telecommunications Commission  
Station WJSP-FM, Warm Springs, Georgia  
Facility Identifier Number: 23927

Dear Ms. Dortch:

Georgia Public Telecommunications Commission (GPTC), licensee of FM broadcast station WJSP-FM, Warm Springs, GA, pursuant to Section 5.203 of the FCC Rules, is operating under an experimental authorization (20130617ACS) to test IBOC operation with asymmetrical power levels in the digital sideband. GPTC recently filed a license application to increase the ERP for the WJSP-FM facility and it is now licensed to operate with an ERP of 100 kW instead of the previous ERP of 42 kW. Accordingly, GPTC hereby requests to amend its existing experimental authorization in order to operate with digital asymmetrical sidebands based on the new operating parameters as depicted in the attached engineering technical statement.

Sincerely,

A handwritten signature in blue ink that reads "William T. Godfrey, Jr." with a stylized flourish at the end.

William T. Godfrey, Jr.  
Engineering Associate  
([bill@kesslerandgehman.com](mailto:bill@kesslerandgehman.com))

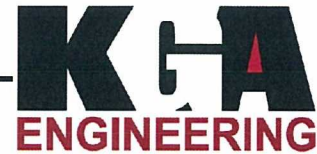


**ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY, JR. WITH THE TELECOMMUNICATIONS CONSULTING ENGINEERING FIRM KESSLER AND GEHMAN ASSOCIATES, INC. (“KGA”) IN CONNECTION WITH A REQUEST FOR EXPERIMENTAL AUTHORITY TO TEST IBOC OPERATION WITH ASYMMETRICAL POWER LEVELS IN THE DIGITAL SIDEBAND PURSUANT TO SECTION 73.1510 OF THE FCC RULES FOR THE WJSP-FM FULL-SERVICE FM BROADCAST FACILITY (BLED-20131101AGM) LICENSED TO GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION (“GPTC”).**

The Commission is currently considering a petition to allow increased asymmetrical digital power where possible on a regular basis (DA 11-1832, released November 1, 2011). At this time, stations requesting increased digital power using asymmetrical sidebands must request such operation by filing for an experimental authorization pursuant to 47 C.F.R. Section 5.203 of the FCC Rules.

Accordingly, Georgia Public Telecommunication Commission (GPTC) respectfully requests authority to test IBOC operation with asymmetrical power levels in the digital sidebands for the WJSP-FM facility. The proposed experimental operation would increase digital power to -10 dBc on the lower sideband (LSB) and up to -14 dBc on the upper sideband (USB). An interference study demonstrated that the WJSP-FM facility's USB is limited to -14 dBc due to surrounding upper first adjacent channel stations. Since WJSP-FM operates on channel 201, there are no lower first adjacent channel issues; therefore, WJSP-FM can operate at -10 dBc on its LSB. The proposed operation complies with the contour nonoverlap provisions of the commission's order (*Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Service, MM Docket No. 99-325, 25 FCC Rcd 1182*).

GPTC is authorized to operate the WJSP-FM full-service broadcast FM facility on Channel 201 (88.1 MHz) with an ERP of 100.0 kW at an antenna height radiation center of 327.7 meters Above Ground Level (“AGL”) using a directional, circularly polarized antenna. GPTC proposes to operate



the WJSP-FM facility in hybrid mode using asymmetrical sidebands using the following Transmitter Power Outputs (TPO)<sup>1</sup>:

Analog.....	<b>23.91 kW</b>
Digital (LSB) - 10 dBc.....	<b>1.20 kW</b>
Digital (USB) - 14 dBc.....	<b>0.48 kW</b>
Combined (analog + digital).....	<b>25.59 kW</b>

It will be necessary to reduce digital power or cease IBOC operation if complaints of interference are received. A report detailing the methodology employed and the results obtained will be submitted within ninety days following the conclusion of the experimental operation pursuant to 47 C.F.R. §73.1510(d). The report will describe the test procedures in detail, identify those adjacent channel stations vulnerable to interference and note any additional interference observed during the tests. The report will also characterize the observed changes in digital coverage.

**Environmental Impact**

The proposed WJSP-FM Channel 201 Class C facility will have no significant environmental impact as defined in §1.1307 of the FCC Rules. The FM transmitter, transmission line and antenna system will produce an ERP of 100 kW (circular polarization). It was determined that the maximum lobe of radiation from the base of the tower will occur at approximately 227.2 feet from the base of the tower (1,092.9-foot radial distance from the antenna center). At approximately 227.2 feet from the base of the tower, the depression angle of the main lobe will be approximately 78° below the horizontal. At that point, the relative field will be 0.133 and the power density six feet above the ground will be 0.0011 mW/cm<sup>2</sup>. This equates to only 0.11% of the Maximum Permissible Exposure (MPE) limits for Occupational/Controlled Exposure and only 0.53% of the MPE limits for General Population/Uncontrolled Exposure authorized by the American National Standards Institute (ANSI). Since operation of the proposed WJSP-FM facility will not exceed 5.0% of the MPE limit for

---

<sup>1</sup> Note that the actual individual sideband powers are 3 dB lower than the nominal power, because of the effect of summing the two sidebands to obtain the overall digital ERP. For example, if a station operates with symmetric sidebands, each -13 dBc (5% of analog carrier level) the total digital power in the upper and lower sidebands is -10 dBc (10% of analog carrier). In the instant case, the upper sideband TPO and ERP are -17 dBc and the lower sideband TPO and ERP are -13 dBc.

Occupational/Controlled Exposure or General Population/Uncontrolled Exposure at any point on the ground, the proposed facility is not 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 licensee 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 also understood that additional antennas 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.

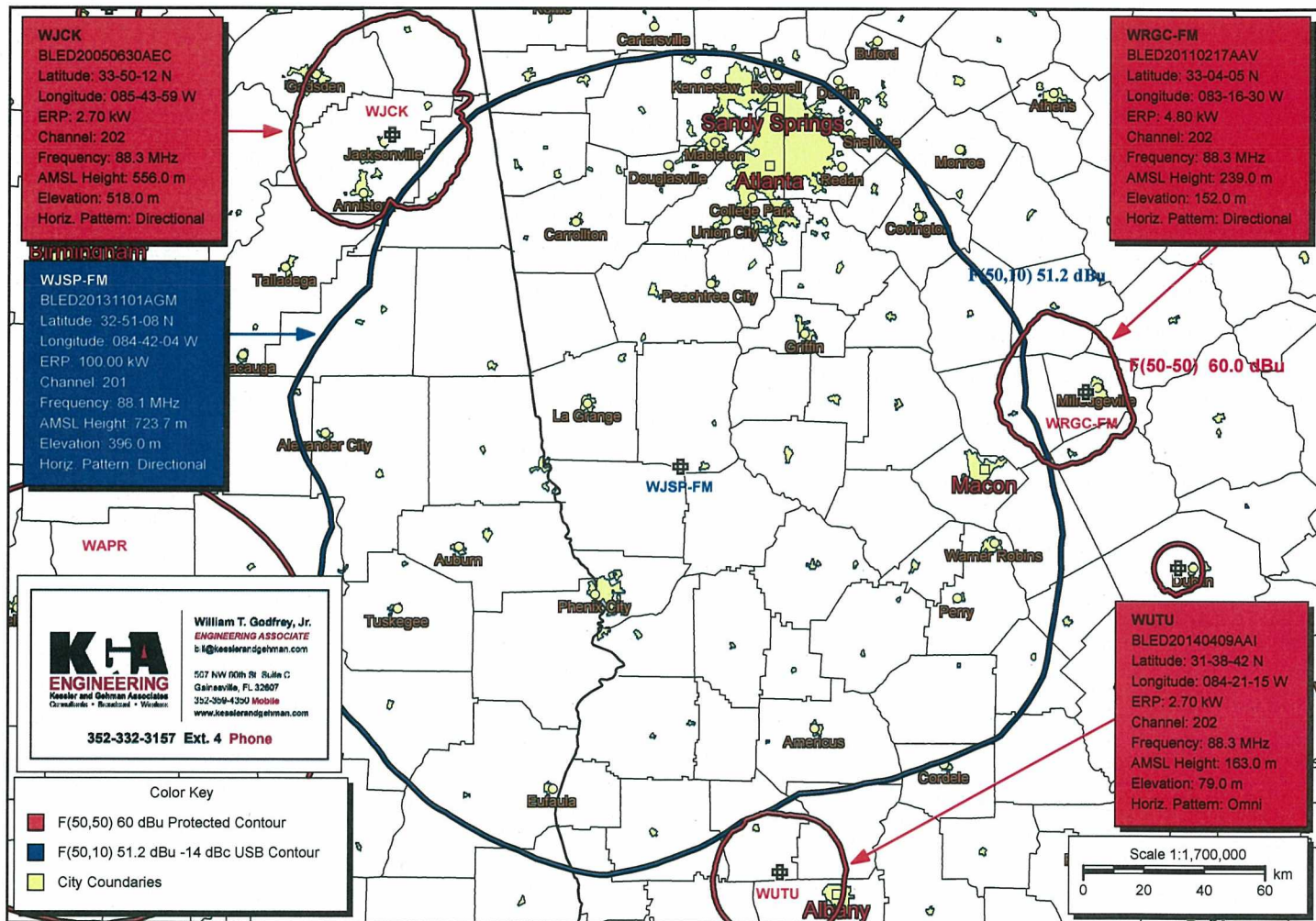
**Certification**

This technical statement was prepared by William T. Godfrey, Jr., Engineering Associate with the firm Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida, and has been working with the firm in the field of radio and television broadcast consulting since 1998. Mr. Godfrey was a graduate from the University of North Florida and a Distinguished Military Graduate from the University of Florida. 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.

A handwritten signature in blue ink that reads 'William T. Godfrey, Jr.' is written over a horizontal line. Below the line, the name and title are printed in black text.

WILLIAM T. GODFREY, JR.  
Engineering Associate

8 July, 2014



Asymmetrical Sideband Showing

EXHIBIT 1