

**ENGINEERING REPORT**  
**Requesting Construction Permit for Minor Change to**  
**WJTF (FM) – Panama City, Florida**  
**Channel 210C1 (89.9 MHz.)**  
File No. BLED-19981013KD

September 2013

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- Exhibit 24.1 – RF Radiation Study

(Exhibit numbering is in response to FCC Online Form 340, Section VII)

## **DISCUSSION OF REPORT**

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Family Life Broadcasting, Inc., licensee of WJTF (FM), Panama City, Florida, file number BLED-19981013KD, is licensed to operate on Channel 210C1 with 100 kW at 55 meters COR AMSL and 32 meters HAAT utilizing a non-directional antenna. This minor change is for 100 kW at 126 meters COR AMSL and 116 meters HAAT from a site at 340 W Highway 388 and utilizes a directional antenna. The station will remain licensed to Panama City on Channel 210. A summary of the specifications of the proposed facility is shown in **Exhibit 15.1**.

The antenna will be mounted on an existing tower with an Antenna Structure Registration number of 1026396. A copy of this ASR has been included as **Exhibit 15.2**.

The present and proposed service contours have been calculated in accordance with the rules, and the data obtained has been tabulated and plotted in this report. The plotted contours are found as **Exhibit 16** of this report. This exhibit shows the overall service that is provided by the 1.0 mV/m contour of the proposed facility fully encompasses the Panama City, the community of license. The plotted contours shown in **Exhibit 16** are based on the use of a full 360 terrain radials and the FCC NGDC 30 SEC Terrain Database. The tabulation of the distances to the respective contours shown in the end of this discussion is based on the use of the standard eight cardinal bearings, which were also used for the computation of the HAAT.

The proposed site for the Class C1 operation meets all of the contour protection requirements towards other stations in the allocation. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 18.1**. A map showing the proposed WJTF 60-dBu [50:50] Service and the 40-dBu, 54 dBu, and 100-dBu [50:10] Interfering contours is shown in **Exhibit 18.2**. Compliance with 47 CFR §73.316(c) relating to use of a directional transmission antenna is shown in **Exhibit 18.3**.

Clearance between the proposed facility and other existing or applied for facilities where the pertinent service and interfering contours are within 10 km are shown in **Exhibits 18.4 through 18.8**. It is believed there is sufficient clearance to preclude the need for further study with respect to the other protected stations shown in the allocation study.

The transmitter site is not located within 320 km of the common border between the United States and Canada or Mexico. Therefore, international concurrence need not be sought. The transmitter site is located 1,059 km. from the West Virginia Quiet Zone and 2,086 km. from Table Mountain. Thus the signal requirements to both quiet zones are met.

**Exhibit 21** shows that the facility proposed in this application is adequately separated from the single Channel 6 facility in the tabulation. Thus, full protection is provided to the Channel 6 facility according the Commission's rules and regulations.

The remainder of the information in this report and exhibit numbering is responsive to the Rules of the Commission, and provides the data for FCC Form 340.

This FM Broadcast facility proposed in this application will not have a significant environmental impact in that: a) it proposes no change to the antenna support structure; and b) it proposes RF radiation on the ground well below the 200.00  $\mu\text{Wcm}^2$  limit for Un-Controlled areas as shown in **Exhibit 24**. The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

***In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operating during the critical period.***

The table below shows the distances to the 60-dBu contour from the proposed facility using an ERP of 100.0 kW at an HAAT of 116 meters. These distances have been calculated based on the FCC f(50-50) curves.

Bearing (deg)	Distance (km)	HAAT (m)
0.0	30.9	104.2
45.0	39.7	106.1
90.0	51.8	119.1
135.0	54.4	121.2
180.0	54.9	124.3
225.0	55.0	125.0
270.0	43.6	117.8
315.0	33.1	110.3

Average HAAT for radials shown: 116 meters