

# COMPREHENSIVE TECHNICAL EXHIBIT

## Discussion

Applicant seeks an LPFM Construction Permit for:

Cusseta, AL

Channel 235 (94.9 Mhz), See **Figure 3** Channel Study

ERP = .018 kW (See **Figure 2**)

Ground Elevation = 237 meters

RCAGL = 45.7 meters

RCAMSL = 282.7 meters

HAAT = 70 meters (Globe terrain data) (See **Figure 1**)

Overall Tower Height = 56.7 meters

ASR: Pass Slope (TOWAIR study), See **Figure 5**

NAD83 Latitude: 32 44 40N; Longitude: 85 17 34W

No AM station notifications required (Closest AM Facility is WZMG, PEPPERELL, AL, L, ND1 at 231.8° at a distance of 15.7 km)

Facility is okay with respect to FCC monitoring stations.

Closest FCC Monitoring Station is 134.8 km= Powder Springs, GA

Facility is okay toward West Virginia Quiet Zone. Distance to center = 816.1 km

Facility is okay toward Table Mountain. Distance to Center = 1967.5 km, Azimuth = 300.5 Degrees True

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## HAAT CALCULATION (FCC HAAT Calculator)

### [Antenna Height Above Average Terrain Calculations -- Results](#)

#### Input Data

Latitude **32° 44' 40"** North

Longitude **85° 17' 34"** West (NAD 83)

Height of antenna radiation center above mean sea level: **282.7** meters AMSL

Number of Evenly Spaced Radials = **360** 0° is referenced to True North

#### Results

Calculated HAAT = **70 meters**

Antenna Height Above Average Terrain calculated  
using 1 km [GLOBE terrain data](#)

#### FIGURE 1

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## Waiver Request of Section 74.1204 and Showing of Compliance

The proposed LPFM is located within the protected 60 dBu F(50,50) contour of 2<sup>nd</sup> adjacent channel WMJB, Valley, AL (see **Figure 3**). The predicted F(50,50) field strength of WMJB at the proposed LPFM site is 74.19 dBu (free space equation).

Using the Undesired-to-Desired method for calculating proposed interference, the proposed interfering contour with respect to WMJB is 114.19 dBu (74.19 + 40) (free space method employed). This interfering signal would, in the worst case, extend 58.12 meters from the proposed antenna and does not reach any occupied structure or four-lane highway (See **FIGURE 4**).

Since no population inhabits the interference area, the Applicant respectfully requests waiver of the FM contour overlap requirements with respect to 2<sup>nd</sup> adjacent station WMJB as permitted in CFR Section 74.1204.



114.19 dBu F(50,10) Interference zone (red circle)

**FIGURE 4**

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**Input protection of any relevant FM Translators or Boosters**

There are no FM Translators or Boosters within a 10 km radius of the proposed facility. Thus the Application complies with the provisions of 73.827(a).

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**TOWAIR study**

**DETERMINATION Results**

**Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.**

**Your Specifications**

**NAD83 Coordinates**

Latitude	32-44-40.0 north
Longitude	085-17-34.0 west

**Measurements (Meters)**

Overall Structure Height (AGL)	57
Support Structure Height (AGL)	0
Site Elevation (AMSL)	237

**Structure Type**

GTOWER - Guyed Structure Used for Communication Purposes

**Figure 5**

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**RF EXPOSURE**

The proposed single bay Type 2 antenna will be mounted 45.7 meters above ground level radiating 18 (eighteen) watts H & V. FMModel predicts a maximum ground level exposure of 0.17 uW/cm<sup>2</sup> at 44.7 meters from the base of the tower, well within limits for uncontrolled access.