

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

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

ERP CALCULATION (FCC FM Power Calculator)

Choose a U.S. State or Possession:

AL - Alabama

Station Class:

100 watt LPFM

70

 meters Antenna Height Above Average Terrain (HAAT)

Results:

Calculated ERP (rounded per Section 73.212) = **0.018 kW**
Unrounded ERP = 0.017714 kW

FIGURE 2

CHANNEL STUDY

channel 235 study

REFERENCE
32 44 40.00 N.
85 17 34.00 W.

CLASS = L1
Current Spacings to 2nd Adj.
----- channel 235 - 94.9 MHz -----

DISPLAY DATES
DATA 09-15-23
SEARCH 09-15-23

Call	Channel	Location		Azi	Dist	FCC	Margin
WMJB	LIC-N 237C3	valley	AL	94.2	13.55	39.5	-26.0*
W234BX	LIC 234D	Highland Pines	GA	134.3	36.86	27.5	9.4
WXFX	LIC-N 236C2	Prattville	AL	246.1	92.87	79.5	13.4
WFDR-FM	LIC-N 233A	Woodbury	GA	77.6	56.64	28.5	28.1
W234BQ	LIC 234D	Auburn	AL	348.1	49.99	20.5	29.5
WUBL	LIC 235C1	Atlanta	GA	36.6	147.60	110.5	37.1
W234DL	LIC-D 234D	Tallassee	AL	239.3	84.95	20.5	64.5
WDEC-FM	LIC 234C3	Americus	GA	135.4	131.51	66.5	65.0
WTBF-FM	LIC 234C3	Brundidge	AL	207.5	133.20	66.5	66.7
WMGB	LIC-N 236C2	Montezuma	GA	97.8	147.44	79.5	67.9
WJOX-FM	LIC-N 233C0	Birmingham	AL	299.3	165.72	83.5	82.2
W236CQ	LIC 236D	Anniston	AL	331.3	111.33	27.5	83.8
WHMA-FM	LIC-Z 237A	Alexandria	AL	330.6	112.65	28.5	84.2

All separation margins include rounding
*2nd adjacent waiver requested

FIGURE 3

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 2nd 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 2nd adjacent station WMJB as permitted in CFR Section 74.1204.



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

FIGURE 4

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).

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

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/cm² at 44.7 meters from the base of the tower, well within limits for uncontrolled access.