

COMPREHENSIVE TECHNICAL EXHIBIT

Discussion

Applicant seeks an LPFM Construction Permit for:

- LaGrange, GA
- Channel 262 (100.3 Mhz), See **Figure 3** Channel Study
- ERP = .092 kW (See **Figure 2**)
- Ground Elevation = 231 meters
- RCAGL = 28.3 meters
- RCAMSL = 259.3 meters
- HAAT = 31 meters (Globe terrain data) (See **Figure 1**)
- Overall Tower Height = 28.4 meters
- FAA (TOWAIR study), See **Figure 4**
- NAD83 Latitude: 33 03 42.65N; Longitude: 84 58 07.68W
- No AM station notifications required (Closest AM Facility is WGST, HOGANSVILLE, GA, L, NDD at 73.1° at a distance of 1.2 km) **SEE: PROTECTION TO AM BROADCAST TOWERS**
- Facility is okay with respect to FCC monitoring stations.
- Closest FCC Monitoring Station is 91.6 km= Powder Springs, GA
- Facility is okay toward West Virginia Quiet Zone. Distance to center = 769.7 km
- Facility is okay toward Table Mountain. Distance to Center = 1976.4 km, Azimuth = 299.4 Degrees True

HAAT CALCULATION (FCC HAAT Calculator)

Antenna Height Above Average Terrain Calculations -- Results

Input Data

Latitude **33° 3' 42.65"** North
Longitude **84° 58' 7.68"** West (NAD 83)

Height of antenna radiation center above mean sea level: **259.3** meters AMSL

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

Results

Calculated HAAT = **31 meters**

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

FIGURE 1

ERP CALCULATION (FCC FMPower Calculator)

Choose a U.S. State or Possession:

GA - Georgia

Station Class:

100 watt LPFM

31 meters Antenna Height Above Average Terrain (HAAT)

Results:

Calculated ERP (rounded per Section 73.212) = **0.092 kW**

Unrounded ERP = 0.092154 kW

FIGURE 2

CHANNEL STUDY

Channel 262 Study

REFERENCE
33 03 42.65 N.
84 58 07.68 W.
CLASS = L1
Current Spacings to 2nd Adj.
Channel 262 - 100.3 MHz
DISPLAY DATES
DATA 09-15-23
SEARCH 09-16-23

| Call | Channel | Location | Azi | Dist | FCC | Margin |
|---------|-------------|--------------|----------|--------|-------|--------|
| WAUE | LIC-N 262A | Waverly | AL 231.3 | 69.79 | 66.5 | 3.3 |
| WGSY | LIC 261A | Phenix City | AL 183.7 | 61.12 | 55.5 | 5.6 |
| WNNX | LIC-Z 263C2 | College Park | GA 34.6 | 94.34 | 79.5 | 14.8 |
| WRHP | LIC-Z 261C3 | Anniston | AL 311.5 | 104.57 | 66.5 | 38.1 |
| WQMJ | LIC 261A | Forsyth | GA 95.1 | 103.39 | 55.5 | 47.9 |
| W261DL | LIC-D 261D | East Point | GA 31.3 | 81.59 | 27.5 | 54.1 |
| WEAM-FM | RSV-A 264A | Buena Vista | GA 159.7 | 85.01 | 28.5 | 56.5 |
| WEAM-FM | LIC 264A | Buena Vista | GA 159.7 | 85.01 | 28.5 | 56.5 |
| WCKF | LIC-N 264A | Ashland | AL 289.4 | 87.99 | 28.5 | 59.5 |
| WQNR | LIC 260A | Tallassee | AL 228.4 | 103.23 | 28.5 | 74.7 |
| W262DI | LIC-D 262D | Sylacauga | AL 273.9 | 123.32 | 38.5 | 84.8 |
| WOBB | LIC 262C0 | Tifton | GA 147.4 | 214.09 | 121.5 | 92.6 |
| W262CD | LIC-D 262D | Cartersville | GA 6.9 | 125.62 | 31.5 | 94.1 |
| W263CA | LIC 263D | Macon | GA 100.4 | 125.21 | 27.5 | 97.7 |
| W261EA | LIC-D 261D | Atlanta | GA 36.6 | 118.67 | 20.5 | 98.2 |

RSV-R = reserved - needs protection, RSV-A = allocation.
All separation margins include rounding

FIGURE 3

LaGRANGE, GA FM TRANSLATORS/BOOSTERS WITHIN 10 KM OF PROPOSED CHANNEL 262

There are three (3) FM translator authorizations within 10 km of the proposed LPFM transmitter site (see **Figure 4**), however, the proposed frequency (channel 262) does not occupy the 3rd adjacent channel to the primary station off-air input of any of the nearby translators. Thus the Application complies with the provisions of 73.827(a).

| FCC | | Translator | Primary |
|--------|------------------|------------|---------|
| ID | DISTANCE (km) | INPUT | CHANNEL |
| W212BL | 4.3 | Satellite | 203 |
| W245AW | 6.88 | Off-Air | AM |
| W255DP | 3.57 | Off-Air | AM |

FIGURE 4

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 | 33-03-42.7 north |
| Longitude | 084-58-07.7 west |
| Measurements (Meters) | |
| Overall Structure Height (AGL) | 28.3 |
| Support Structure Height (AGL) | 0 |
| Site Elevation (AMSL) | 231 |
| Structure Type | |
| GTOWER - Guyed Structure Used for Communication Purposes | |

Figure 4

PROTECTION TO AM BROADCAST TOWERS

Proposed antenna will be mounted on an existing guyed tower (see **Figure 5**) and will not result in a “significant” change.
Closest AM Facility is WGST, HOGANSVILLE, GA, L, NDD at a distance of 1.2 km
Frequency = 720 kHz
Required Distance = 416.7 meters
Actual Distance = 1200 meters
Required Electrical Degrees = 60 degrees
Actual Electrical Degrees = 24.5 degrees



Existing Tower
FIGURE 5

RF EXPOSURE

The proposed single bay Type 2 antenna will be mounted 28.3 meters above ground level. FMModel predicts a maximum ground level exposure of 2.45 uW/cm^2 at 27 meters from the base of the tower, well within limits for uncontrolled access.