

RFR Engineering Statement

WUBE (FM) Aux Antenna

A power density calculation can be made using the techniques outlined in the V-Soft Ver. 2.4.6 software program:

Data plugged into the program:

Antenna parameters: 9.0 KW Horizontal, 9.0 KW Vertical

Number of bays/spacing: 2 bays at a spacing of 1 full wavelength

COR Meters above ground level: 176 meters

Distance in Meters to tower base: 1 meter to 200 meters

Antenna manufacturer: ERI J8CP Roto-tiller type

In this first calculation, the program reveals that the maximum RFR level at any ground level is **2.72 uW/cm²** at 119 meters from the base of the tower or **1.36%** of allowable RFR in an un-controlled environment. This level is significantly below the 5% of maximum allowable and therefore the WUBE(FM) Aux antenna would not be included as a >5% contributor when added to other transmitters in the area for a total RFR level at the site.

A second calculation is made using the “*RFS, RF Specialties Technical Program Disk*”, Version 2.48. Under section II, *FM Antenna Calculations*. The power density calculations for the proposed ERI 2- Bay “roto” antenna result in a maximum power density at 115 meters from the base of the antenna support structure of **2.14 uW/cm²**. This is just **1.07%** of the 200 uW/cm² (the ANSI standard for un-controlled environments). This calculation level is also significantly below the 5% of maximum allowable and therefore the WUBE(FM) Aux antenna would not be included as a >5% contributor when added to other transmitters in the area for a total RFR level at the site.

Careful measurements using a calibrated meter will be taken after construction and during initial turn-on to prove this facility meets specifications outlined in bulletin O.E.T. 65.

The permit tee/licensee in coordination with other users of the site have a written program in place to reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines.

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