

EXHIBIT A - ANALYSIS OF NON-IONIZING RADIATION, 4.2 Meters

HARMFUL LEVELS OF RADIATION WILL NOT EXIST IN REGIONS NORMALLY OCCUPIED BY PERSONNEL.

CRITERIA: ANSI SPECIFICATIONS REQUIRE THAT PERSONNEL NOT BE EXPOSED TO LEVELS OF NON-IONIZING RADIATION EXCEEDING 5 mW / cm².

THE FOLLOWING ANALYSES SUPPORT THIS DETERMINATION:

FAR FIELD ANALYSIS:

ANTENNA (AVG) DIAMETER = 4.2 Meters (Average Diameter)
ANTENNA GAIN = 45.9 dBi (lin 38,905)
LAMBDA = 3×10^8 Meters / 6.175×10^9 Hz = 0.048583
EFFICIENCY = $\eta = G / (\pi \cdot D / \lambda)^2 = 0.53$
POWER MAX AT FLANGE = 450 Watts (26.5 dBW)
DISTANCE TO FAR FIELD = $2 \cdot D^2 / \lambda$
= 42.32 / 0.048583
= 726 Meters
ON-AXIS POWER DENSITY = $G \cdot P / 4 \cdot \pi \cdot \text{Far Field Distance}^2$
= $38,905 \cdot 450 / 12.56637 \cdot 527,076$
= 2.643 W/m²
= 0.264 mW/cm²

LEVEL IS LESS THAN THE 5 mW/cm² MAXIMUM ANSI LEVEL PERMITTED

NEAR FIELD ANALYSIS (Parallel Beam Region & Transition Region):

PARALLEL BEAM REGION ANALYSIS:

DISTANCE TO END OF PARALLEL BEAM (CYLINDER) REGION:

$$\begin{aligned} &= \text{DIAMETER}^2 / 2.5 \cdot \lambda \\ &= 17.64 / 0.12146 \\ &= 145 \text{ Meters} \end{aligned}$$

POWER DENSITY AT END OF PARALLEL BEAM REGION

$$\begin{aligned} &= P / \text{CYLINDRICAL PARALLEL BEAM AREA} \\ &= 450 / 13.85 \\ &= 32.48 \text{ W / m}^2 \\ &= 3.25 \text{ mW / cm}^2 \end{aligned}$$

LEVEL IS LESS THAN THE 5 mW/m² MAXIMUM ANSI LEVEL PERMITTED

ANTENNA IS MOUNTED 6' IN THE AIR. NO PERSONNEL WILL OCCUPY THE PARALLEL BEAM REGION DURING OPERATION.

TRANSITION REGION ANALYSIS:

THIS REGION WILL DECREASE INVERSELY WITH DISTANCE BEGINNING AT THE END OF THE PARALLEL BEAM REGION AND WILL NOT EXCEED 2.71 mW / cm²

MAIN REFLECTOR ANALYSIS:

$$= P / \text{REFLECTOR AREA}$$

$$= 450 / 13.85$$

$$= 32.49 \text{ W / m}^2$$

$$= 3.25 \text{ mW/cm}^2$$

LEVEL IS LESS THAN THE 5 mW/m² MAXIMUM ANSI LEVEL PERMITTED
ANTENNA IS MOUNTED 6' IN THE AIR.

NO PERSONNEL WILL OCCUPY THE MAIN REFLECTOR OR THE FEED TO
REFLECTOR REGION DURING OPERATION.

**RF POWER WILL BE TURNED OFF DURING ANY ANTENNA MAINTENANCE
REQUIRING PERSONNEL TO OCCUPY ANY HAZARDOUS REGION BETWEEN
THE FEED HORN, SUB-REFLECTOR, REFLECTOR, AND TRANSITION ZONE.**

**AS A TRANSPORTABLE UNIT, PRECAUTIONS WILL BE TAKEN TO VERIFY THAT
THE ANTENNA IS NOT POINTING TOWARD ANY POPULATED AREA.**

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Exhibit B - Frequency Coordination

Application is for a Temporary Fixed Earth Station Licensee.

The earth station consists of a transportable trailer with a C-Band antenna available for service.

As such, Frequency Coordination for the various temporary locations will be conducted prior to any transmissions in accordance with Part 25 of the FCC Rules & Regulations.

If as a result of any frequency coordination to prevent interference, the coordination restrictions of any operating parameter are different than those granted in the temporary fixed earth station license, the more stringent transmission restrictions will be complied with.