

**RF EXPOSUER (F)**

(f) U-NII devices are subject to the radio frequency radiation exposure requirements specified in § 1.1307(b), § 2.1091 and § 2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

**§ 1.1310 Radio Frequency Radiation Exposure**

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency range<br>Averaging time<br>(MHz)<br>(minutes)        | Electric field<br>Strength<br>(V/m) | Magnetic field<br>Strength<br>(A/m) | Power density<br>(mW/cm <sup>2</sup> ) |
|--|-------------------------------------|-------------------------------------|--|
| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                                     |                                     |  |
| 0.3–1.34 .....   | 614                                 | 1.63                                | *(100) 30                              |
| 1.34–30 .....  | 824/f                               | 2.19/f                              | *(180/f <sup>2</sup> ) 30              |
| 30–300 .....   | 27.5                                | 0.073                               | 0.2 30                                 |
| 300–1500 .....   |                                     |                                     | f/1500 30                              |
| 1500–100,000 .....   |                                     |                                     | 1.0 30                                 |

**Test result:**

TABLE 1 (B) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

| <u>F(MHz)</u>  | <u>(POWER DENSITY (mW/cm<sup>2</sup>))</u> |
|----------------|--|
| 1500 - 100,000 | 1  |

Transmitter Output power is **0.049 Watts** and will be used with a **1 dBi (3.98 numerically)** antenna

**Computation method:**

$$P = E^2 / 3770$$

$$\sqrt{E^2} = \sqrt{1 \text{ mW/cm}^2 * 3770}$$

$$E = 61.4 \text{ V/m}$$

$$E = \frac{\sqrt{30 * P * G}}{D}$$

$$D = \frac{\sqrt{30 * 0.049 * 3.98}}{61.4 \text{ V/m}}$$

$$D = 3.93 \text{ cm}$$

$$3.93 / 2.54 = 1.55 \text{ inch}$$

**MPE DISTANCE REQUIREMENT IS 1.55 INCH. A WARNING STATEMENT WITH A MPE DISTANCE REQUIREMENT OF 20CM IS PLACED IN THE MANUAL.**