

## Section 15.247(i) – Radio Frequency Hazard Information

As per Section 15.247 (i) spread spectrum transmitters operating in the 902 – 928 MHz band are required to be operated in a manner that ensures that the public is not exposed to RF energy levels in accordance with CFR 47, Section 1.1307(b)(1).

The device when in operation is fixed and a safe distance could be maintained when events are undertaken.

In accordance with Section 1.1310 the Maximum Permissible Exposure (MPE) limits for the General Population / Uncontrolled Exposure of  $0.615 \text{ mW/cm}^2$  ( $f/1500 = 922/1500$ ) has been applied.

$$\text{Power density, mW/cm}^2 = E^2/3770$$

$$E \text{ for MPE: } 0.615 = E^2/3770$$

$$E = \sqrt{0.615 \times 3770}$$

$$E = 48.1 \text{ V/m}$$

The maximum distance from the antenna at which the MPE is met or exceeded is calculated from the equation relating field strength in V/m, transmit power in watts, transmit antenna gain and separation distance in metres.

The highest radiated power has been measured to be +0.3 dBm or 0.00107 watts EIRP.

Therefore:

$$E = \sqrt{(30 \times P \times G) / d}$$

$$d = \sqrt{(30 \times P \times G) / E^2}$$

$$d = \sqrt{(30 \times 0.00107) / 48.1^2}$$

$$d = 0.004 \text{ m or } 0.4 \text{ cm}$$

**Result:** Complies if a minimum safe distance of 20 cm is specified in the set up instructions for this system.