

## **Environmental evaluation and exposure limit according to FCC CFR 47part 1, §1.1307, §1.1310**

The Wireless PIR Detector, model PMD37M are classified as a mobile device. The Wireless PIR Detector includes transmitter operating according to FCC part 15 subpart C section 15.247 (FHSS)

The FCC limit for power density for general population/uncontrolled exposure is  $f/1500 \text{ mW/cm}^2$  for 300 – 1500 MHz frequency range:

$$P = 902.25/1500 = 0.6 \text{ mW/cm}^2$$

The power density  **$P \text{ (mW/cm}^2\text{)} = P_T / 4\pi r^2$**

$P_T$  is the transmitted power, which is equal to the peak transmitter output power 19.58 dBm plus maximum antenna gain 0 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 19.58 \text{ dBm} + 0 \text{ dBi} = 19.58 \text{ dBm} = 90.78 \text{ mW}.$$

The power density at 20 cm (minimum safe distance, required for mobile devices), calculated as follows:

$$\text{Compliance with FCC limit: } 99.54 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.018 \text{ mW/cm}^2 \ll 0.6 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.

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