Exposure limit according to §15.247(i) and RSS-102, Safety Code 6

The PIR detector is classified as a mobile device.

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

$$P = 912.75/1500 = 0.61 \text{ mW/cm}^2$$

The RSS-102 limit for power density for general population/uncontrolled exposure in 300 – 6000 MHz frequency range is 0.02619 x f $^{0.6834}$ W/m^2 = 0.02619 x 912.75 $^{0.6834}$ W/m^2 =0.276 mW/cm^2

The power density **P (mW/cm^2) = P$_T$ / 4π r^2**

P$_T$ is the transmitted power, which is equal to the peak transmitter output power 14.86 dBm plus maximum antenna gain (-1) dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 14.86 \text{ dBm} + (-1) \text{ dBi} = 13.86 \text{ dBm} = 24.3 \text{ mW}.$$

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

Compliance with FCC limit: 24.3 mW / 4π (20 cm)^2 = 0.005 mW/cm^2 << 0.61 mW/cm^2
Compliance with IC RSS-102 limit: 24.3 mW / 4π(20 cm)^2 = 0.005 mW/cm^2 << 0.276 mW/cm^2

General public cannot be exposed to dangerous RF level.