

### Exposure limit according to §15.247(i)

The PIR detector is classified as a mobile device.

The FCC limit for power density for general population/uncontrolled exposure is 1 mW/cm<sup>2</sup> for 2.4 GHz.

The power density  $P$  (mW/cm<sup>2</sup>) =  $P_T / 4\pi r^2$

$P_T$  is the transmitted power, which is equal to the peak transmitter output power 19.2 dBm plus maximum antenna gain 1 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 20.2 \text{ dBm} = 105 \text{ mW}.$$

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

$$105 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.02 \text{ mW/cm}^2 \ll 1 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.