

Exposure limit according to §15.247(i)

The RF module is classified as a mobile device.

The FCC limit for power density for general population/uncontrolled exposure is 0.6 mW/cm^2 for 300 – 1500 MHz frequency range:

$$P = 903/1500 = 0.6 \text{ mW/cm}^2$$

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

P_T is the transmitted power, which is equal to the peak transmitter output power 10.45 dBm plus maximum antenna gain 2.5 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 10.45 \text{ dBm} + 2.5 \text{ dBi} = 12.95 \text{ dBm} = 19.72 \text{ mW.}$$

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

$$19.72 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.004 \text{ mW/cm}^2 \ll 0.6 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.