

## RF Exposure information

The AT57-7 is classified as mobile.

The AT57-7 includes BLE, LoRa FHSS and LoRa Hybrid transmitters operating according to FCC part 15 subpart C section 15.247 (DTS, FHSS, Hybrid).

The RF technologies: LoRaWAN, BLE is not transmitting simultaneously.

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

Limit for power density for general population/uncontrolled exposure is 1 mW/cm<sup>2</sup> for 1500 -100000 MHz frequency range.

The FCC power density limit for general population/uncontrolled exposure is 0.609 mW/cm<sup>2</sup> for 914.9 MHz for LoRa transmitter.

Limit for power density for general population/uncontrolled exposure is f/1500 mW/cm<sup>2</sup> for 300-1500 MHz frequency range.

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

### BLE transmitter

$P_T$  is the transmitted power, which is equal to the peak transmitter output power 4.92 dBm plus maximum antenna gain 2.5 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 7.11 \text{ dBm} + 0 \text{ dBi} = 7.11 \text{ dBm} = 5.14 \text{ mW.}$$

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

$$5.14 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.001 \text{ mW/cm}^2 \ll 1 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.

**LoRa transmitter**

$P_T$  is the transmitted power, which is equal to the peak transmitter output power 27.94 dBm plus maximum antenna gain 0 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 29.75 \text{ dBm} + 0 \text{ dBi} = 29.75 \text{ dBm} = 944.1 \text{ mW.}$$

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

$$944.1 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.18 \text{ mW/cm}^2 \ll 0.609 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.