

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

The transceiver is classified as a mobile device.

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

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

P_T is the transmitted power, which is equal to the peak transmitter output power plus maximum antenna gain. The maximum equivalent isotropically radiated power EIRP is

$$P_T = 27.75 \text{ dBm} + 9 \text{ dBi} = 36.75 \text{ dBm} = 4731 \text{ mW}, \text{ where}$$

27.75 dBm is the EUT maximum output power obtained from antenna array faces forwards (connectors #21 and #22),
9 dBi – antenna gain.

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

$$4731 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.94 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

The maximum output power obtained from antenna array faces outwards (connectors #11 and #12) is 24.12 dBm, EIRP is 33.12 dBm = 2051 mW.

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

$$2051 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.4 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

A warning about a safe distance is contained in the user manual.