

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

The device is classified as mobile.

Limit for power density for general population/uncontrolled exposure is $f/1500$ mW/cm² for 300 – 1500 MHz frequency range:

$$P = 450/1500 = 0.3 \text{ mW/cm}^2$$

The power density **P (mW/cm²)** = $P_T / 4\pi r^2$

P_T is the transmitted power, which is equal to the peak transmitter output power 16.78 dBm plus maximum antenna gain 6 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 16.78 \text{ dBm} + 6 \text{ dBi} = 22.78 \text{ dBm} = 189.67 \text{ mW}, \text{ where}$$

16.78 dBm is the EUT maximum output power on the splitter connector,
6 dBi – antenna gain.

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

$$189.67 \text{ mW} / 4\pi (20 \text{ cm})^2 \approx 0.04 \text{ mW/cm}^2 < 0.3 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.