

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

The Flood family is classified as a mobile device. The Flood family include 915MHz transmitter

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

$$P = 912.75/1500 = 0.61 \text{ mW/cm}^2$$

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

PT is the transmitted power, which is equal to the peak transmitter output power 18.86dBm plus maximum antenna gain (-2)dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 18.86\text{dBm} + (-2)\text{dBi} = 16.86\text{dBm} = 48.52\text{mW}$$

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

$$\text{Compliance with FCC limit: } 48.52 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.009 \text{ mW/cm}^2 \ll 0.61 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.