

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

The device is classified as a mobile one.

The booster may be installed indoors as stated in the User's manual page V, the calculation was done to confirm a safe distance.

Limit for power density for general population/uncontrolled exposure in 728 -746 MHz is $f/1500 \text{ mW/cm}^2$ for 300 – 1500 MHz frequency range:

$$P = 728/1500 = 0.485 \text{ mW/cm}^2$$

Limit for power density for general population/uncontrolled exposure in 2110-2180 MHz 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

$$P_T = 23.85 \text{ dBm} + 0.2 \text{ dBi} = 24.05 \text{ dBm} = 254 \text{ mW}, \text{ where}$$

23.85 dBm is the EUT maximum measured output power in 728 -746 MHz;
the output power in 2110-2180 MHz is less: 21.83 dBm;
0.2 dBi – antenna assembly gain.

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

$$254 \text{ mW} / 4\pi (20 \text{ cm})^2 = 0.05 \text{ mW/cm}^2 \ll 0.485 \text{ mW/cm}^2$$

General public cannot be exposed to dangerous RF level.