

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

The calculation was done to check safe distance for **5 MHz CBW** of the approved device with 7 & 10 MHz CBW.

Limit for power density for general population/uncontrolled exposure is 1 mW/cm² 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 maximum equivalent isotropically radiated power (EIRP).

SISO mode:

The peak output power of 19.37 dBm with 17.5 dBi antenna assembly gain corresponds to the equivalent isotropically radiated power (EIRP) of

$$19.37 \text{ dBm} + 17.5 \text{ dBi} = 36.87 \text{ dBm, which is equal to } 4864 \text{ mW.}$$

The minimum safe distance "r", where RF exposure does not exceed FCC permissible limit, is

$$r = \sqrt{P_T / (P \times 4\pi)} = \sqrt{4864 / 12.56} = 19.7 \text{ cm.}$$

MIMO mode:

The peak output power of 22.37 dBm (3 dB higher than 19.37 dBm single RF chain power) with 17.5 dBi antenna assembly gain corresponds to the equivalent isotropically radiated power (EIRP) of

$$22.37 \text{ dBm} + 17.5 \text{ dBi} = 39.87 \text{ dBm, which is equal to } 9705 \text{ mW.}$$

The minimum safe distance "r", where RF exposure does not exceed FCC permissible limit, is

$$r = \sqrt{P_T / (P \times 4\pi)} = \sqrt{9705 / 12.56} = 27.8 \text{ cm.}$$

The obtained values of minimum safe distance for device operating with 5 MHz CBW are less than recorded in original grant. No corrections in the user manual required.

General public cannot be exposed to dangerous RF level.