

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

The transceiver is classified as fixed, the calculation was done to check a safe distance.

Limit for power density for general population/uncontrolled exposure is 1 mW/cm² for 1500 -100000 MHz frequency range.

The power density **P (mW/cm²) = P_T / 4π r²**, 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

$$P_T = 19.48 \text{ dBm} + 16.5 \text{ dBi} = 35.98 \text{ dBm} = 3962.8 \text{ mW}, \text{ where}$$

19.48 dBm is the EUT peak output power,
16.5 dBi – antenna gain.

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

$$r = \sqrt{P_T / (P \times 4\pi)} = \sqrt{3962.8 / 12.56} = 18 \text{ cm}.$$

General public cannot be exposed to dangerous RF level.