

Exposure limit according to §15.247(b)(4) and §1.1310

Limit for power density for general population/uncontrolled exposure is 1 mW/cm² (for 1500 – 100,000 MHz frequency range).

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

P_T is the transmitted power, which is equal to the transmitter output power 18.4 dBm plus maximum antenna gain 24 dBi, the maximum equivalent isotropically radiated power EIRP is

$$P_T = 18.4 \text{ dBm} + 24 \text{ dBi} = 42.4 \text{ dBm} = 17\,378 \text{ mW.}$$

The minimum safe distance “r”, where RF exposure does not exceed FCC permissible limit, is 37.2 cm.

$$r = \sqrt{P_T / (4\pi)} = \sqrt{17378 / 12.56} = 37.2 \text{ cm}$$

Conclusion: The public cannot be exposed to dangerous RF level. The EUT with the attached antenna are mounted only outside the building on the high level pole or rooftop which are above general public more than 6 - 10 meters, see the manufacturer instructions for installation provided in attached documentation.