

4.3 Safe distance calculation and RF exposure limit according to FCC CFR 47 part 1, §1.1307, §1.1310

Power density limit for 5250 –5350 MHz range is 1 mW/cm^2 for general population (uncontrolled exposure).

The power density limit $S \text{ (W/m}^2\text{)} = 10 \text{ (W/ m}^2\text{)}$

Pt - The transmitted power EIRP (W)

Pt- the transmitted power which is equal to the maximum output power 8 dBm plus antenna gain - 22 dBi

The maximum EIRP = 30 dBm = 1W

The minimum allowed safe distance for fixed transmitter was calculated from following equation

$r = \sqrt{Pt/4\pi S} = \sqrt{1/4\pi 10} = 0.089 \text{ m}$ or assuming that distance from antenna is 20 cm $S = Pt/4\pi r^2 = 1\text{W}/4\pi \cdot 0.2^2 = 1.99 \text{ W/m}^2 < 10 \text{ W/m}^2$ power density limit.

The minimum allowed distance “r”, where RF exposure limits may not be exceeded, is 8.9 cm from the unit antenna main lobe.

The EUT with the attached antenna are mounted only outside the building on the high level mast or wall, at distance at least 2m from general public, see the manufacturer instructions for installation provided in attached documentation.

EUT found comply with safety requirement.