

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

Limit for power density for general population/uncontrolled exposure is 0.21 mW/cm².

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

P_T is the maximum equivalent isotropically radiated power (EIRP).

In our case P_T is -19.64 dBm = 0.01 mW.

$$0.21(\text{mW/cm}^2) = 0.01 \text{ mW} / 4\pi r^2$$

The minimum safe distance “r”, where RF exposure does not exceed FCC permissible limit, is 0.06 cm.

$$r = \sqrt{P_T / (P \times 4\pi)} = \sqrt{0.01 / (0.21 \times 4 \times 3.14)} = 0.06 \text{ (cm)}.$$

Hence, no safety hazard exists for human being.