

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

The SPR 2.5GHz TDD transceiver is classified as mobile. The calculation was done for minimum safety distance due to transmitter maximum output power 28.67 dBm.

Limit for power density for general population/uncontrolled exposure is 1 mW/cm^2

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), which is equal to:

transmitter maximum output power 28.67 dBm plus maximum antenna gain 15 dBi, the maximum equivalent isotropically radiated power is 43.67 dBm = 23281 mW.

The minimum safe distance "r", where RF exposure does not exceed FCC permissible limit, is 43 cm.

$$r = \sqrt{P_T / (P \times 4\pi)} = \sqrt{23281 / 12.56} = 43 \text{ cm}$$

The BSR/SPR User Guide contains warning about minimum 50 cm safety distance