

RF exposure information for BSR-2.4 and SPR-2.4 frequency hopping transceivers, operating in 2.402 – 2.480 GHz frequency band

MPE limit for power density for general population/uncontrolled exposure according to FCC §1.1310 is 1 mW/cm².

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

P_T - transmitted power.

For SPR-2.4:

P_T is equal to transmitter output power 18.67 dBm plus maximum antenna gain 15 dBi, the maximum equivalent isotropically radiated power (e.i.r.p.) is 34 dBm = 2512 mW.

$$1(\text{mW/cm}^2) = 2512 \text{ mW} / 4\pi r^2$$

Allowed distance “r”, where RF exposure limits may not be exceeded, is 14.1 cm:

$$r = \sqrt{P_T / 4\pi} = \sqrt{2512 / 4 \times 3.14} = 14.1 \text{ (cm)}.$$

Public cannot be exposed to dangerous RF level.

For BSR-2.4:

P_T is equal to transmitter output power 23.33 dBm plus maximum antenna gain 11 dBi, the maximum equivalent isotropically radiated power (e.i.r.p.) is 34.33 dBm = 2710 mW.

$$1(\text{mW/cm}^2) = 2710 \text{ mW} / 4\pi r^2$$

Allowed distance “r”, where RF exposure limits may not be exceeded, is 14.7 cm:

$$r = \sqrt{P_T / 4\pi} = \sqrt{2710 / 4 \times 3.14} = 14.7(\text{cm}).$$

Public cannot be exposed to dangerous RF level.