

Maximum Permissible Exposure

FCC, Part 15 Subpart C §15.247(i)

Industry Canada RSS-Gen §5.5

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP} / (4\pi d^2)$$

$$\text{EIRP} = P * G$$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

$$\text{Numeric Gain} = 10^{(G \text{ (dBi)} / 10)}$$

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is 1.0 mW/cm²

Freq. Band	Antenna Gain	Peak Output Power	Antenna Gain	EIRP	Distance @ 1mW/cm2	Minimum Separation Distance
(MHz)	(dBi)	(dBm)	(numeric)	(mW)	Limit(cm)	(cm)
2400 - 2483.5	2.15	11.22	1.6405898	21.73	1.32	20

*Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification

Maximum Permissible Exposure Limits

§15.247(i) Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency levels in excess of the Commission's guidelines.

FCC §1.1310 Limit = 1mW / cm² from 1.310 Table 1

RSS-Gen §5.5 Before equipment certification is granted, the applicable requirements of RSS-102 shall be met.

Laboratory Measurement Uncertainty for Power Measurements

Measurement uncertainty	±1.33 dB
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