

1.1.1. Maximum Permissible Exposure

FCC, Part 15 Subpart C §15.407(f)

Industry Canada RSS-Gen §5.5

Calculations for Maximum Permissible Exposure Levels

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

$\text{EIRP} = P * G$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

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

The Trilliant Gateway has a single transmitter.

Because the EUT belongs to the General Population/Uncontrolled Exposure the limit of power density is $1.0 \text{ mW}/\text{cm}^2$

Freq. Band (MHz)	Antenna Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ $1\text{mW}/\text{cm}^2$ Limit(cm)	Minimum Separation Distance (cm)
5150 - 5250	20.0	100.0	+2.18	1.65	3.6	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

FCC §1.1310 Limit = $1\text{mW} / \text{cm}^2$ from 1.310 Table 1

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

Laboratory Measurement Uncertainty for Power Measurements

Measurement uncertainty	$\pm 1.33 \text{ dB}$
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