Maximum Permissible Exposure

FCC, Part 15 Subpart C §**15.247(i)**
Industry Canada RSS-Gen §5.6

Calculations for Maximum Permissible Exposure Levels

Power Density = Pd (mW/cm^2) = EIRP/(4πd^2)

EIRP = P * G

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain = 10 ^ (G (dBi)/10)

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

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 / cm^2 from 1.310 Table 1
>
> **RSS-Gen §5.6** Category I and Category II equipment shall comply with the applicable requirements of RSS-102.

Laboratory Measurement Uncertainty for Power Measurements

Measurement uncertainty	$\pm$1.33 dB

Antenna Model	Type	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1mW/cm^2 Limit(cm)	Power Density @ 20cm (mW/cm^2)
RW-9462-0827	Sector Dual Pole Cross Polarized 80 Deg	9	7.9	27.0	501.19	17.80	0.79
MT0129070	Omni Directional Antenna	8	6.3	28.0	630.96	17.80	0.79
RW-9463-0825	Omni Directional Antenna	6.3	4.3	29.7	933.25	17.80	0.79
RW-9461-0827	Omni Directional Antenna	4	2.5	30.0	1000.00	14.14	0.50