



Maximum Permissible Exposure

FCC, Part 15 Subpart C §15.407(f)

Industry Canada RSS-Gen §5.6

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

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 = 1mW / cm² 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	±1.33 dB
-------------------------	----------



5250 – 5350 MHz

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)
MT0128930	Sector Dual Pole Integrated 120 Deg	11	13	18.99	79.25	8.91	0.20
RW-9061-5004	Sector Dual Pole 120 Deg	11	13	18.99	79.25	8.91	0.20
AM0135060	Sector Dual Pole Integrated 95 Deg	12	16	17.98	62.81	8.90	0.20
RW-9061-5001	Sector Dual Pole 90 Deg	14	25	15.49	35.40	8.41	0.18
RW-9061-5002	Sector Dual Pole 60 Deg	15.5	35	15.49	35.40	10.00	0.25
MT0125250	Sector Dual Pole Integrated 90 Deg	13	20	15.49	35.40	7.50	0.14
AM0119960	Flat Panel Dual Pole Integrated	16	40	13.99	25.06	8.91	0.20
AM0111760	Flat Panel Dual Pole Integrated	16	40	13.99	25.06	8.91	0.20
RW-9612-5001	Flat Panel Dual Pole External	23	200	6.45	4.42	8.37	0.18
MT0070760	Flat Panel Dual Pole Integrated	23.5	224	6.45	4.42	8.87	0.20
RW-9622-5001	Flat Panel Dual Pole External	29	794	1.73	1.49	9.70	0.24
RW-9721-5158	Dual Pole Dish	28	631	1.73	1.49	8.65	0.19
RW-9732-4958	Dual Pole Dish	32	1585	-1.01	0.79	10.00	0.25

5470 – 5725 MHz

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)
MT0128930	Sector Dual Pole Integrated 120 Deg	11	13	18.99	79.25	8.91	0.20
RW-9061-5004	Sector Dual Pole 120 Deg	11	13	18.99	79.25	8.91	0.20
AM0135060	Sector Dual Pole Integrated 95 Deg	12	16	17.99	62.95	8.91	0.20
RW-9061-5001	Sector Dual Pole 90 Deg	14	25	14.37	27.35	7.39	0.14
RW-9061-5002	Sector Dual Pole 60 Deg	16.5	45	14.37	27.35	9.86	0.24
MT0125250	Sector Dual Pole Integrated 90 Deg	13	20	14.37	27.35	6.59	0.11
AM0119960	Flat Panel Dual Pole Integrated	16	40	13.46	22.18	8.38	0.18
AM0111760	Flat Panel Dual Pole Integrated	16.5	45	13.46	22.18	8.88	0.20
RW-9612-5001	Flat Panel Dual Pole External	23	200	6.48	4.45	8.40	0.18
MT0070760	Flat Panel Dual Pole Integrated	23.5	224	6.48	4.45	8.90	0.20
RW-9622-5001	Flat Panel Dual Pole External	29	794	1.73	1.49	9.70	0.24
RW-9721-5158	Dual Pole Dish	29	794	1.73	1.49	9.70	0.24
RW-9732-4958	Dual Pole Dish	32	1585	-1.05	0.79	9.95	0.25