1.1.1. Maximum Permissible Exposure

FCC, Part 90 Subpart C §90.1217

Industry Canada RSS-Gen §5.6

Calculations for Maximum Permissible Exposure Levels

Power Density = Pd (mW/cm^2) = $EIRP/(4\pi d^2)$

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

§90.1217 Licensees and manufacturers are subject to the radiofrequency radiation exposure requirements specified in §§ 1.1307(b), 2.1091 and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of mobile or portable devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request. **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	±1.33dB

4940 – 4990 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	24.6	288.40	17.00	0.72
RW-9061-5004	Sector Dual Pole 120 Deg	11	13	24.6	288.40	17.00	0.72
AM0135060	Sector Dual Pole Integrated 95 Deg	12	16	24.6	288.40	19.07	0.91
RW-9061-5001	Sector Dual Pole 90 Deg	14	25	24.6	288.40	24.01	1.44
RW-9061-5002	Sector Dual Pole 60 Deg	15.5	35	24.6	288.40	28.54	2.04
MT0125250	Sector Dual Pole Integrated 90 Deg	13	20	24.6	288.40	21.40	1.14
AM0119960	Flat Panel Dual Pole Integrated	16	40	24.6	288.40	30.23	2.28
AM0111760	Flat Panel Dual Pole Integrated	16	40	24.6	288.40	30.23	2.28
RW-9612-5001	Flat Panel Dual Pole External	23	200	24.6	288.40	67.67	11.45
MT0070760	Flat Panel Dual Pole Integrated	23.5	224	24.6	288.40	71.68	12.84
RW-9622-5001	Flat Panel Dual Pole External	29	794	21.6	144.54	95.59	22.84
RW-9721-5158	Dual Pole Dish	28	631	22.6	181.97	95.59	22.84
RW-9732-4958	Dual Pole Dish	32	1585	18.6	72.44	95.59	22.84