



ARUB111-U1

### 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/cm<sup>2</sup>

**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 / cm<sup>2</sup> 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
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**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 <sup>2</sup> Limit(cm)	Power Density @ 20cm (mW/cm <sup>2</sup> )
AP-ANT-10	Dipole	6	4	23.29	213.30	8.22	0.17
AP-ANT-86D	Dipole	9	8	21	125.89	8.92	0.20
AP-ANT-89	Directional	14.0	25	16	39.81	8.92	0.20

**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 <sup>2</sup> Limit(cm)	Power Density @ 20cm (mW/cm <sup>2</sup> )
AP-ANT-10	Dipole	6	4	23.37	217.27	8.30	0.17
AP-ANT-86D	Dipole	9	8	21	125.89	8.92	0.20
AP-ANT-89	Directional	13.25	21	16.75	47.32	8.92	0.20