

## DIGI28 ConnectCard for i.MX28 Maximum Permissible Exposure

FCC, Part 15 §1.1310

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>

Evaluation performed with highest gain antenna PC.11

Mode	Freq. Band (MHz)	Antenna Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1mW/cm <sup>2</sup> Limit(cm)	Minimum Separation Distance (cm)
802.11	2400 – 2483.5	3.0	2.0	24.65	291.7	6.8	20.0*
	5725 - 5850	4.5	2.8	24.60	288.4	8.0	20.0*
Bluetooth	2.400-2483.5	3.0	2.0	8.07	6.4	1.0	20.0*
802.11	5150 - 5250	4.5	2.8	14.55	28.5	2.5	20.0*
802.11	5250 - 5350	4.5	2.8	16.54	45.1	3.2	20.0*
802.11	5470 - 5725	4.5	2.8	17.00	50.0	3.3	20.0*

\*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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