## 7.1. Maximum Permissible Exposure

**FCC, Part 15 Subpart C** §**15.247(i)**
**Industry Canada RSS-Gen §5.5**

**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)

The peak power in the table below is calculated by assuming a worst case scenario where all of the EUT transmitters for both the MIMO 3x3 and legacy radio are operating simultaneously in the same band. The Peak Power in mW is the highest transmitter power measured and combined for both radios.

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

| Freq. Band (MHz) | Ant Gain (dBi) | Antenna Numeric Gain (numeric) | Radio1 Pk Power (dBm) | Radio2 Pk Power (dBm) | Peak Output Power (mW) | Calculated Safe Distance @ 1mW/cm$^2$ Limit(cm) | Minimum Separation Distance (cm) |
|---|---|---|---|---|---|---|---|
| 2400 – 2500 | 2.6 | 1.820 | +18.73 | +16.21 | 116.43 | 4.1 | 20.00 |
| 5725 - 5850 | 1.2 | 1.318 | +20.16 | +15.36 | 138.11 | 3.8 | 20.00 |

**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$^2$ from 1.310 Table 1

**RSS-Gen §5.5** Before equipment certification is granted, the application requirements of RSS-102 shall be met.