

MPE Calculations : (Bluetooth)

- Frequency range : 2402 MHz ~ 2480 MHz
- Measured RF output power : 3.21 dBm
- Target Power & Tolerance : 2.00 dBm \pm 1.5 dB (Max. 3.5 dBm & Min. 0.5 dBm)
- Maximum antenna peak gain : 3.50 dBi
- **Maximum output power for the calculation** 3.50 dBm

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the device. The MPE calculation for this exposure is shown below.

$ \begin{aligned} \text{▪ EIRP} &= P + G \\ &= 3.50 \text{ dBm} + 3.50 \text{ dBi} \\ &= \mathbf{7.00 \text{ dBm} = 5.012 \text{ mW}} \end{aligned} $	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)
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- Power density at the specific separation

$ \begin{aligned} \text{▪ S} &= \text{EIRP} / (4 R^2 \pi) \\ &= \mathbf{5.012} / (4 \times 20^2 \times \pi) \\ &= \mathbf{0.000998} \text{ mW/cm}^2 \end{aligned} $	- Note S = Maximum power density(mW/cm ²) EIRP = Equivalent Isotropic Radiated Power(mW) R = Distance to the center of the radiation of the antenna(20cm)
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Conclusion : The exposure condition of this device is compliant with FCC rules.

The maximum permissible exposure(MPE) of the general population/Uncontrolled for this device is 1.0 mW/cm².