

MPE Calculations : (Bluetooth LE)

- Frequency range : 2402 MHz ~ 2480 MHz
- Measured RF output power : 2.79 dBm
- Target Power & Tolerance : 2.00 dBm \pm 1 dB (Max. 3 dBm & Min. 1 dBm)
- Maximum antenna peak gain : 2.42 dBi
- **Maximum output power for the calculation** 3.00 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 \\ &= 3.00 \text{ dBm} + 2.42 \text{ dBi} \\ &= \mathbf{5.42 \text{ dBm} = 3.484 \text{ mW}} \end{aligned} $	- Note P = Power input to the antenna(dBm) G = Power gain of the antenna(dBi)
---	--

- Power density at the specific separation

$ \begin{aligned} \text{▪ S} &= \text{EIRP} / (4 R^2 \pi) \\ &= \mathbf{3.484} / (4 \times 20^2 \times \pi) \\ &= \mathbf{0.000694 \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)
---	---

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.