

# MPE Calculations : (Bluetooth)

- Frequency range : 2402 MHz ~ 2480 MHz
- Measured RF output power : 3.54 dBm
- Target Power & Tolerance : 2.60 dBm  $\pm$  1 dB ( Max. 3.6 dBm & Min. 1.6 dBm )
- Maximum antenna peak gain : 3.50 dBi
- **Maximum output power for the calculation** 3.60 dBm

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user.

The MPE calculation for this exposure is shown below.

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|---|--|
| $  \begin{aligned}  \text{▪ EIRP} &= P + G \\  &= 3.60 \text{ dBm} + 3.50 \text{ dBi} \\  &= \mathbf{7.10 \text{ dBm} = 5.129 \text{ mW}}  \end{aligned}  $ | <b>- Note</b><br>P = Power input to the antenna(dBm)<br>G = Power gain of the antenna(dBi) |
|---|--|

## - Power density at the specific separation

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| $  \begin{aligned}  \text{▪ S} &= \text{EIRP} / ( 4 R^2 \pi ) \\  &= \mathbf{5.129} / ( 4 \times 20^2 \times \pi ) \\  &= \mathbf{0.001021 \text{ mW/cm}^2}  \end{aligned}  $ | <b>- Note</b><br>S = Maximum power density(mW/cm <sup>2</sup> )<br>EIRP = Equivalent Isotropic Radiated Power(mW)<br>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/cm<sup>2</sup>.