# MPE Calculations : (Zigbee)

- Frequency range : 2425 MHz ~ 2475 MHz
- Measured RF output power : 2.35 dBm
- Target Power & Tolerance : 3.00 dBm ± 1 dB ( Max. 4 dBm & Min. 2 dBm )
- Maximum antenna peak gain : 4.40 dBi
- **Maximum output power for the calculation : 4.00 dBm**

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

The MPE calculation for this exposure is shown below.

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|---|---|
| ▪ **EIRP** = P + G<br>= 4.00 dBm + 4.40 dBi<br>= **8.40 dBm** = **6.919 mW** | - **Note**<br>P = Power input to the antenna(dBm)<br>G = Power gain of the antenna(dBi) |

- **Power density at the specific separation**

| | |
|---|---|
| ▪ **S** = EIRP / ( 4 $R^2$ π )<br>= **6.919** / ( 4 X $20^2$ X π )<br>= **0.001377** $mW/cm^2$ | - **Note**<br>S = Maximum power dencity($mW/cm^2$)<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 $mW/cm^2$.