

## MPE Calculation : Bluetooth

| RF function or Mode | Frequency range (MHz) |   |         | Max. Target Power (dBm) | ANT Gain (dBi) | Maximum EIRP (dBm) | Maximum EIRP (mW) | Maximum power density (mW/cm <sup>2</sup> ) | Requirement (mW/cm <sup>2</sup> ) |
|---------------------|-----------------------|---|---------|-------------------------|----------------|--------------------|-------------------|---------------------------------------------|-----------------------------------|
| Bluetooth(2,3Mbps)  | 2402.00               | ~ | 2480.00 | 7.00                    | -0.17          | 6.83               | 4.820             | 0.0010                                      | 1.000                             |
|                     |                       | ~ |         |                         |                |                    |                   |                                             |                                   |
|                     |                       | ~ |         |                         |                |                    |                   |                                             |                                   |
|                     |                       | ~ |         |                         |                |                    |                   |                                             |                                   |
|                     |                       | ~ |         |                         |                |                    |                   |                                             |                                   |
|                     |                       | ~ |         |                         |                |                    |                   |                                             |                                   |
|                     |                       | ~ |         |                         |                |                    |                   |                                             |                                   |
|                     |                       | ~ |         |                         |                |                    |                   |                                             |                                   |

Note: Please refer to the operation description for Max tune-up power.

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 sample calculation for this exposure is shown below.

$$\begin{aligned}
 S &= \text{EIRP} / (4 R^2 \pi) \\
 &= 4.82 / (4 \times 20^2 \times \pi) \\
 &= 0.001 \text{ mW/cm}^2
 \end{aligned}$$

## - Note

S= Maximum power density(mW/cm<sup>2</sup>)

EIRP= Equivalent Isotropic Radiated Power(mW)

R= Distance to the center of the radiation of the antenna

## ▪ Limits for Maximum Permissible Exposure (MPE)

| Frequency range (MHz) |   |         | Electric Field strength (V/m) | Magnetic field strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Averageing time (minutes) |
|-----------------------|---|---------|-------------------------------|-------------------------------|-------------------------------------|---------------------------|
| 0.3                   | ~ | 1.34    | 614                           | 1.63                          | *100                                | 30                        |
| 1.34                  | ~ | 30      | 824/f                         | 2.19 / f                      | *180 / f <sup>2</sup>               | 30                        |
| 30                    | ~ | 300     | 27.5                          | 0.073                         | 0.2                                 | 30                        |
| 300                   | ~ | 1,500   |                               |                               | f / 1500                            | 30                        |
| 1,500                 | ~ | 100,000 |                               |                               | 1.0                                 | 30                        |

**Conclusion :** The exposure condition of this device is compliant with FCC