

* Maximum Permissible Exposure(MPE)

1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

a) Limits for Occupational / Controlled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm ²) | Averaging Times E 2, H 2 or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|---|
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0-30 | 1842/f | 4.89/f | (900/f)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | | | F/300 | 6 |
| 1500-10000 | | | 5 | 6 |

b) Limits for General Population / Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm ²) | Averaging Times E 2, H 2 or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|---|
| 0.3-3.0 | 614 | 1.63 | (100)* | 30 |
| 3.0-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | F/1500 | 30 |
| 1500-10000 | | | 1.0 | 30 |

Note : f=frequency in MHz

***=Plane-wave equivalent power density**

2. MPE Calculation Method

S = power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

3. Calculated Result and Limit

| Mode | Frequency (MHz) | Maximum conducted power | | Antenna Gain | | Distance | Power Density | Limit |
|-----------------------|-----------------|-------------------------|-------|--------------|-------|----------|---------------|-------|
| | | dBm | mW | dBi | mW | | | |
| Bluetooth LE 1Mbps | 2402 | 5.67 | 3.690 | 1.950 | 1.567 | 20 | 0.0012 | 1 |
| | 2442 | 5.08 | 3.221 | 1.950 | 1.567 | 20 | 0.0010 | 1 |
| | 2480 | 4.56 | 2.858 | 1.950 | 1.567 | 20 | 0.0009 | 1 |
| Bluetooth LE 2Mbps | 2402 | 5.66 | 3.681 | 1.950 | 1.567 | 20 | 0.0011 | 1 |
| | 2442 | 5.16 | 3.281 | 1.950 | 1.567 | 20 | 0.0010 | 1 |
| | 2480 | 4.64 | 2.911 | 1.950 | 1.567 | 20 | 0.0009 | 1 |