



RF Exposure Compliance Requirement

1. Standard requirement

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 |
| 1500-100000 | | | 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) |
|-----------------------|-----------------------------------|-----------------------------------|--|--|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f)* | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | | | F/500 | 30 |
| 1500-100000 | | | 1.0 | 30 |

Note: f=frequency in MHz; *Plane-wave equivalent power density



2. MPE Calculation Method

E (V/m)=(30*P*G)^0.5/d Power Density: Pd(W/m^2)=E^2/377

E=Electric Field (V/m)

P=Peak RF output Power (W)

G=EUT Antenna numeric gain (numeric)

d= Separation distance between radiator and human body (m)

The formula can be changed to

Pd= (30*P*G)/(377*d^2)

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

3. Calculated Result and Limit

Normal:

Table with 7 columns: Frequency (MHz), Antenna Gain (Numeric), Peak Output Power (dBm), Peak Output Power (mW), Power Density (S) (mW/cm^2), Limit of Power Density (S) (mW/cm^2), Test Result. Rows for frequencies 2402, 2441, and 2480.

EDR:

Table with 7 columns: Frequency (MHz), Antenna Gain (Numeric), Peak Output Power (dBm), Peak Output Power (mW), Power Density (S) (mW/cm^2), Limit of Power Density (S) (mW/cm^2), Test Result. Rows for frequencies 2402, 2441, and 2480.

Remark: Antenna gain is 0 dBi and Antenna Gain (Numeric) is 1.0