

RF Safety Calculations for Mobile Device:

EIRP = 0.447mW (Using a 3dB Gain Antenna)
Conducted Output Power = 0.224mW

Maximum allowed = $60/f_{\text{GHz}} = 60/2.441.75 = 24.57\text{W}$

Per evaluation above this device is considered as having no quantitative effect on RF Exposure.

RF Exposure – MPE Calculations (2400-2483.5 MHz Band) (Portable Device Information Only)

Transmitter Power: 0.224 mW
Antenna Gain: 3 dB
Cable loss: 0 dB
Frequency range: 2400 - 2483.5 MHz

Assumptions

1. A single $\frac{1}{4}$ wavelength radiating antenna is assumed.
2. Closest exposure distance is assumed to be 20 cm

Calculations

The following results shall be assumed to be accurate for the far-field only. These predictions will over-estimate power density in the near-field. Based on the use of a $\frac{1}{4}$ wavelength radiator, a distance of 20 cm is considered to be in the far-field for all cases.

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

P is 0.224 mW

G is 3 dB (Antenna gain – loss) or $10^{(3/10)}$ or 1.995

R is 20 cm

$$S = 0.000089 \text{ mW/cm}^2$$

For Occupational/Controlled Exposure

From 1,500 to 100,000 MHz, power density limit is **5 mW/cm² for 6 minutes**

For General Population/Uncontrolled Exposure

From 1,500 to 100,000 MHz, power density limit is **1 mW/cm² for 30 minutes**

Conclusion: ***Meets MPE limits***