

15.247 (b) (5) RF Exposure Requirements

RF Exposure – MPE Calculations (2400-2483.5 MHz Band)

Transmitter Power: 0.230 mW
 Antenna Gain: 2.3 dB
 Cable loss: 0 dB
 Frequency range: 2400 - 2483.5 MHz

Assumptions

1. A single ¼ wavelength radiating antenna is assumed.
2. Closest exposure distance is assumed to be 0.5 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 ¼ wavelength radiator, a distance of 0.5 cm is considered to be in the far-field for all cases.

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

P is 0.23 mW

G is 2.3 dB (Antenna gain – loss) or $10^{(2.3/10)}$ or 2.3

	R = (Distance in cm)						
	20cm	10cm	5cm	2cm	1cm	0.5cm	
S =	0.000077	0.000307	0.001230	0.007686	0.030742	0.122970	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**

In accordance with FCC requirements for a portable device the following observations are observed:

Maximum E.I.R.P. = 0.39mW

This device is a low power radiator and the RF field which it generates is very low and therefore exposure to the radiated field is minor. Therefore it can be considered to comply with the requirements of FCC and IC to RF exposure in accordance with KDB 447498 v04.

Conclusion: ***Device complies with FCC and IC RF Exposure requirements.***