

RF Exposure Report

FCC ID: 2A0BMPS3D

The EUT is a Powerspec Ultra 2.0 3D Printer operated in the 2412MHz ~ 2462MHz frequency band.

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

(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 Time 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 |
| 1500-100,000 | | | 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 Time 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/1500 | 30 |
| 1500-100,000 | | | 1.0 | 30 |

Note: f = frequency in MHz

MPE calculation method

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2}$$

S: power density mW/ cm²;

P: power input to the antenna in mW;

g: numeric gain of antenna;

r: distance to centre of radiation in cm

Calculated result

| Mode | Max. Peak output power (dBm) | Max. Peak output power (mW) | Antenna Gain (numeric) | Power Density (S) (mW/ cm ²) | Limit of Power Density (S) (mW/ cm ²) |
|-----------|------------------------------|-----------------------------|------------------------|--|---|
| 802.11b | 16.55 | 45.19 | 1.259 | 0.011324 | 1 |
| 802.11g | 14.23 | 26.49 | 1.259 | 0.006638 | 1 |
| 802.11n20 | 13.73 | 23.6 | 1.259 | 0.005914 | 1 |
| 802.11n40 | 11.26 | 13.37 | 1.259 | 0.003350 | 1 |

Note1: the antenna gain is 1.0dBi;

Note2: Calculated distance is 20cm, which is declared by the manufacture.