



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21912-19559-C-1

FCC ID: WCO-GW101

## **3.2      Equivalent Isotropic Radiated Power (EIRP)**

FCC Rule: 15.247(b)(3)

BT4.0

EIRP = max. conducted output power + antenna gain

EIRP = 4.43 dBm + (2.71 dBi [antenna gain claimed by manufacturer]) = 7.14 dBm = 5.1761 mW

BT5.0

EIRP = max. conducted output power + antenna gain

EIRP = 3.85 dBm + (2.71 dBi [antenna gain claimed by manufacturer]) = 6.56 dBm = 4.5290 mW

WiFi Module

EIRP = max. conducted output power + antenna gain

EIRP = 15.53 dBm + (3.74 dBi [antenna gain claimed by manufacturer]) = 19.27 dBm = 84.5279 mW

## **3.3      Exemption Limits for Routine Evaluation according to 47 CFR FCC Part 2 Subpart J, section 2.1091**

FCC OET Bulletin 65 Edition 97.01 determines the equations for predicting RF fields and applicable limits.

The prediction for power density in the far-field but will over-predict power density in the near field, where it could be used for walking a “worst case” or conservative prediction.

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 levels 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 20 cm normally can be maintained between the user and the device.



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## **MPE Calculation Method**

### **(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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

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

The formula can be changed to

$$Pd \cdot \frac{30 \times P \times G}{377 \times d^2} \text{ mW/cm}^2.$$

## **BLE**

Established separation distance is 20 cm.

Operating frequency band: 2402-2480 MHz

The product meets RF exposure requirement.

Because the power density of 0.001 mW/cm<sup>2</sup> at 2480 MHz is below the power density limit of 1 mW/cm<sup>2</sup>.

## **WiFi Module**

Established separation distance is 20 cm.

Operating frequency band: 2412-2462 MHz

The product meets RF exposure requirement.

Because the power density of 0.0168 mW/cm<sup>2</sup> at 2437 MHz is below the power density limit of 1 mW/cm<sup>2</sup>.

WiFi and BLE technology can't operate simultaneously.