



# TEST REPORT

**Reference No.**..... : WTZ21F11126549E002  
**FCC ID**..... : 2A3SYMBL01  
**Applicant**..... : Hesung Innovation Limited  
**Address**..... : Room 803, Chevalier House, 45-51 Chatham Road South, Tsim Sha Tsui, Kowloon, Hong Kong, 999077  
**Manufacturer**..... : Guangdong Migair Electric Science and Technology Industrial Company Limited Beijiao First Branch  
**Address**..... : No.6 Huancun Road, Guangjiao,Beijiao Town, Shunde, Foshan, Guangdong, 528311  
**Product Name**..... : WiFi Module  
**Model No.**..... : MBL01  
**Standards**..... : FCC CFR47 Part 15 Subpart C (Section 15.247): 2020  
**Date of Receipt sample** .... : 2021-10-30  
**Date of Test** ..... : 2021-11-04 to 2021-11-23  
**Date of Issue**..... : 2021-12-08  
**Test Result**..... : **Pass**

**Remarks:**

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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## 1 Revision History

Test Report No.	Date of Issue	Description	Status
WTZ21F11126549E002	2021-12-08	Original	Valid

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### 3 General Information

#### 3.1 General Description of E.U.T

Product Name .....	: WiFi Module
Model No. ....	: MBL01
Model Description .....	: ---
Rated Voltage.....	: DC 3.3V
Battery Capacity .....	: ---
Power Adapter .....	: ---

#### 3.2 Technical Characteristics of EUT

Bluetooth Version .....	: V4.0(BLE mode)
Frequency Range .....	: 2402-2480MHz
RF Output Power .....	: 3.6dBm (Conducted )
Modulation .....	: GFSK
Data Rate .....	: 1Mbps
Quantity of Channels .....	: 40
Channel Separation.....	: 2MHz
Type of Antenna .....	: FPC Antenna
Antenna Gain .....	: 1.9dBi
Lowest Oscillation.....	: 26MHz



## 4 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### 4.1 Standard Applicable

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

#### (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 Times   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)*	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 <sup>2</sup> )	Averaging Times   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)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

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



## 4.2 MPE Calculation Method

$$S = (30 \cdot P \cdot G) / (377 \cdot R^2)$$

S = power density (in appropriate units, e.g., mW/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)

## 4.3 MPE Calculation Result

Prediction distance (mm)	Prediction frequency (MHz)	Antenna Gain (dBi)	Numeric gain	Maximum Tune-up output power (dBm)	Maximum peak output power (mW)	PD (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
>200	2402	1.9	1.55	3.6	2.291	0.0007059	1.0

Result: Pass

=====End of Report=====

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