

MPE TEST REPORT

Report No.: SHE23070127-02CE

Date: 2023-08-17

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Applicant : Ehong Technology Co.,Ltd
Address of Applicant : Room 501, No.485 Xingmei Road,
Minhang Dis,Shanghai, China.

Product Name : Ehong BLE Module
Brand Name : Ehong
Model Name : EQM100-5B, EQM100-5U
Sample Acquisition Method : Sent by Client
Sample No. : E23070127-01#01(EQM100-5B Model)
E23070127-01#03(EQM100-5U Model)

FCC ID : 2ACCREQM100

Standard : FCC Part 2.1091

Date of Receipt : 2023-07-31
Date of Test : 2023-08-01~ 2023-08-16
Date of Issue : 2023-08-17

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

Prepared by:



(Erik Yang)

Reviewed by:



(Jennifer Zhou)

Approved by:



(Authorized signatory: Echo Mu)

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1 General Information

1.1 Testing Laboratory

Company Name	ICAS Testing Technology Service (Shanghai) Co., Ltd.
Address	No.1298, Pingan Road, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Environmental conditions

Temperature (°C)	18-25
Humidity (%RH)	40-65
Barometric Pressure (mbar)	960-1060
Ambient noise & Reflection (W/kg)	< 0.012

1.3 Details of Application

Applicant Company Name	Ehong Technology Co.,Ltd
Address	Room 501, No.485 Xingmei Road, Minhang Dis,Shanghai, China.
Contact Person	Rik Tang
Telephone	02164769993
Email	rik.tang@ehonglink.com
Manufacturer Company Name	Ehong Technology Co.,Ltd
Address	Room 501, No.485 Xingmei Road, Minhang Dis,Shanghai, China.
Factory Company Name	Ehong Technology Co.,Ltd
Address	Room 501, No.485 Xingmei Road, Minhang Dis,Shanghai, China.

1.4 Details of EUT

Product Name	Ehong BLE Module
Brand Name	Ehong
Test Model Name	EQM100-5B
Series Model Name	EQM100-5U
Difference Description	All the same except for the antenna type EQM100-5B Model is the pcb antenna EQM100-5U Model is the external antenna
FCC ID	2ACCREQM100
Mode of Operation	Bluetooth Version 5.3
Frequency Range	2402MHz ~ 2480MHz
Modulation Type	BLE <input checked="" type="checkbox"/> GFSK 1Mbps <input checked="" type="checkbox"/> GFSK 2Mbps

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RF Output Power	EQM100-5B (6.61dBm) EQM100-5U (6.61dBm)
Antenna Type	EQM100-5B (PCB Antenna) EQM100-5U (External Antenna)
Antenna Gain	EQM100-5B (-0.8dBi) EQM100-5U (3.0dBi)
Hardware Version	V1.0
Software Version	V1.0

2 Maximum Permissible Exposure (MPE)

2.1 Limits

According to FCC Part 1.1307, systems operating under the provisions of this section shall be operated in a manner the ensures that the public is not exposed to radio frequency energy level in excess of the commission's guidelines.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

2.2 Assessment methods

Calculation Formula from FCC OET 65:

$$S = \frac{P * G}{4 * \pi * R^2}$$

Where:

S = Power Density (mW/cm²)

P = Input Power of the Antenna (mW)

G = Antenna Gain Relative to an Isotropic Antenna

R = Distance from the Antenna to the Point of Investigation (cm)

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2.3 Test Result

Model: EQM100-5B

Operation Mode	Frequency Range (MHz)	Max Conducted Power (dBm)	Antenna Gain (dBi)	Max EIRP (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
BLE	2402 ~ 2480	6.61	-0.80	3.81	0.0008	1.0

Model: EQM100-5U

Operation Mode	Frequency Range (MHz)	Max Conducted Power (dBm)	Antenna Gain (dBi)	Max EIRP (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
BLE	2402 ~ 2480	6.61	3.00	9.14	0.0018	1.0

Note(s):

1. For 300 – 1,500MHz: Power Density limit is $f/1500$ mW/cm²
2. For 1,500 – 100,000MHz: Power Density limit is 1.0 mW/cm²

2.4 Conclusion

The Power Density at the position which is 20 cm far from the EUT is smaller than the General Population/Uncontrolled Exposure limit.

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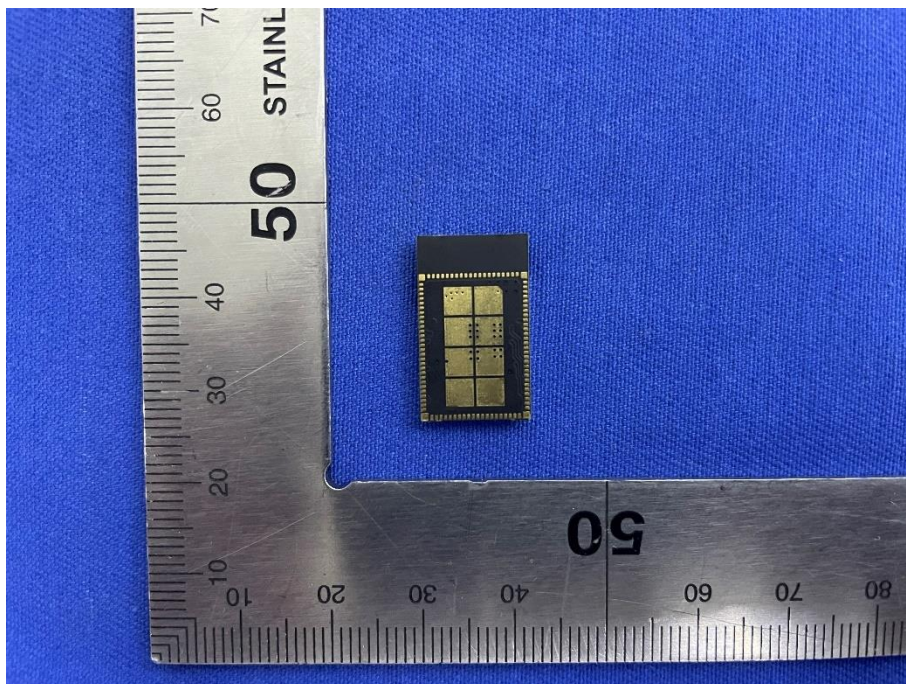
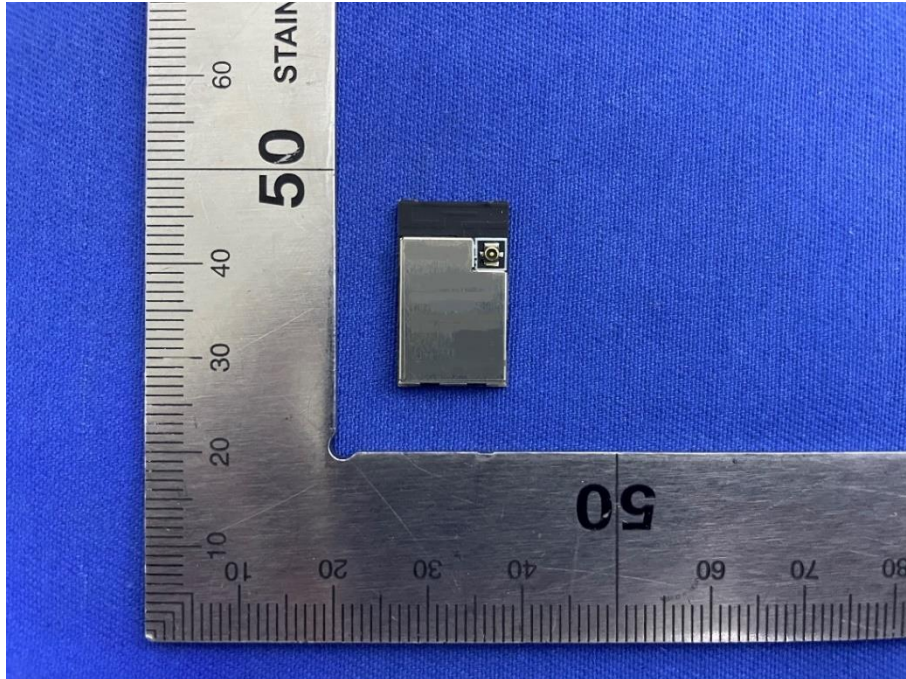
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3 Appendixes

3.1 Sample Photograph

Model: EQM100-5B



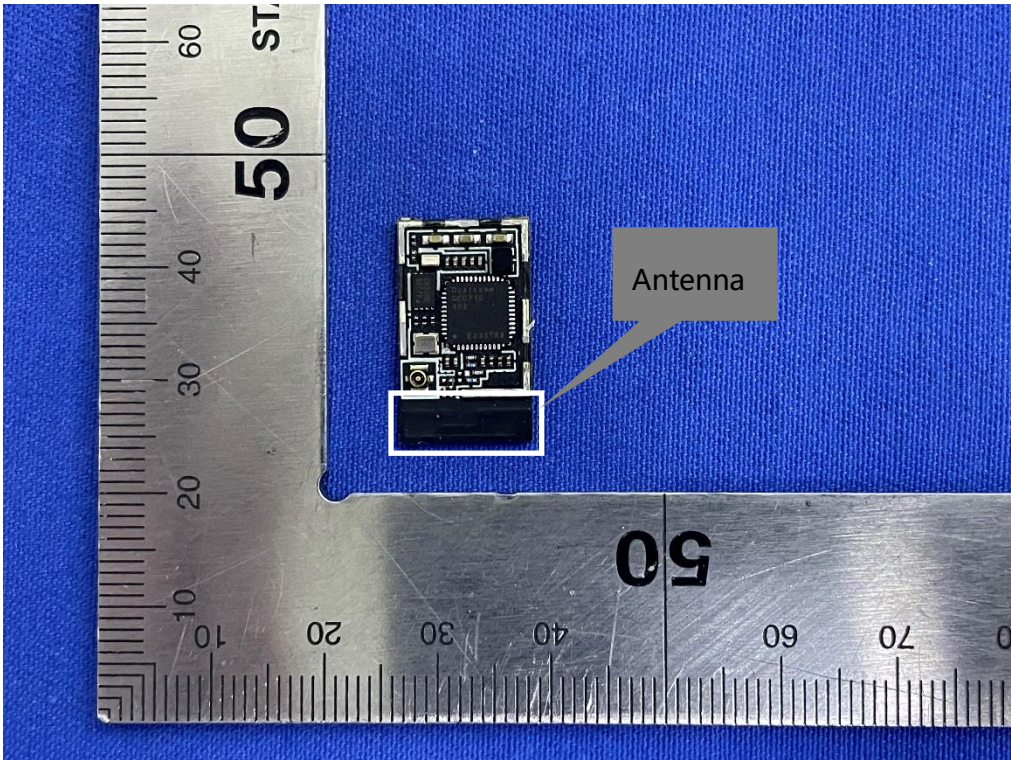
Rear of the sample

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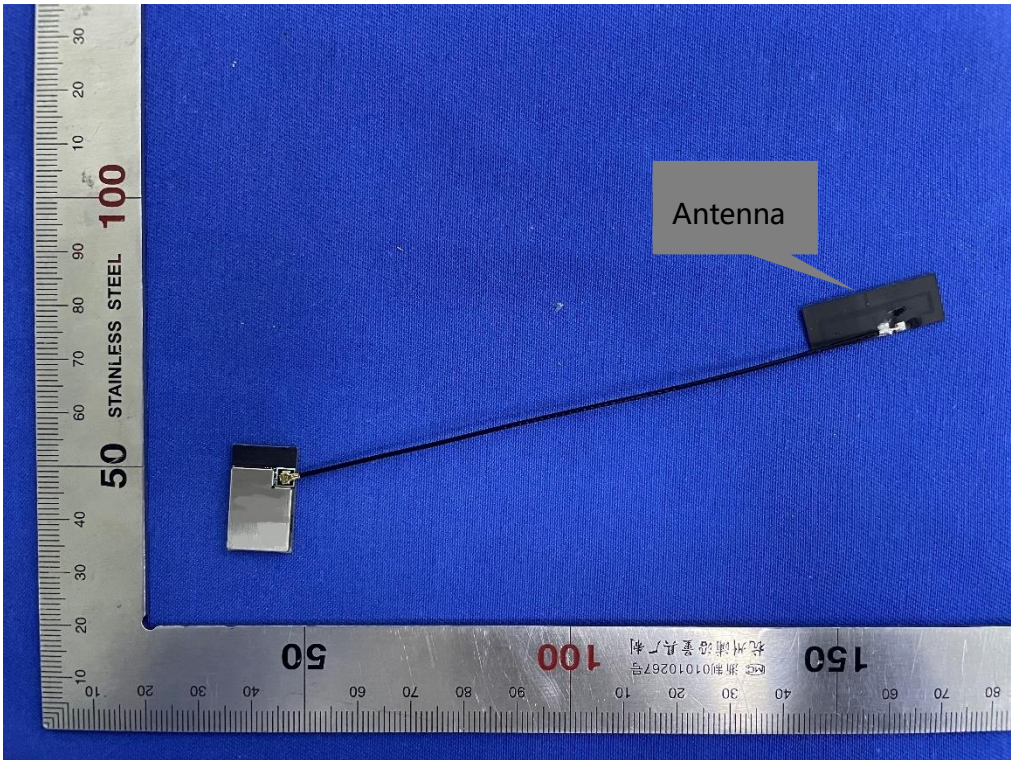
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Remove the shield cover and Antenna Position

Model: EQM100-5U



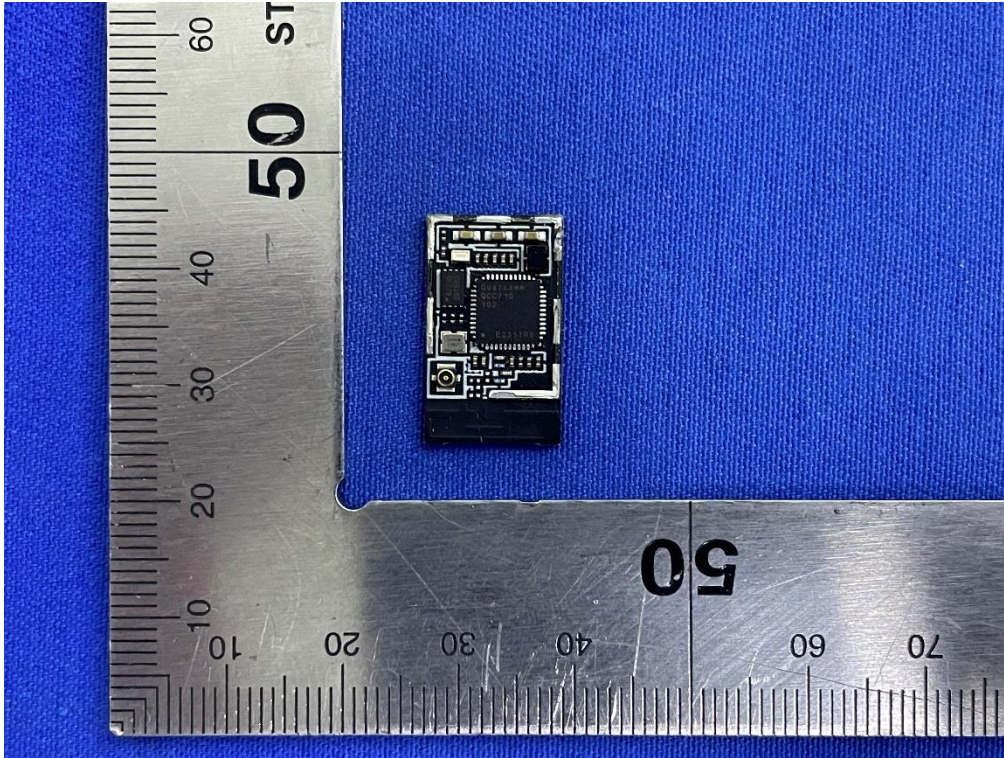
Antenna Position

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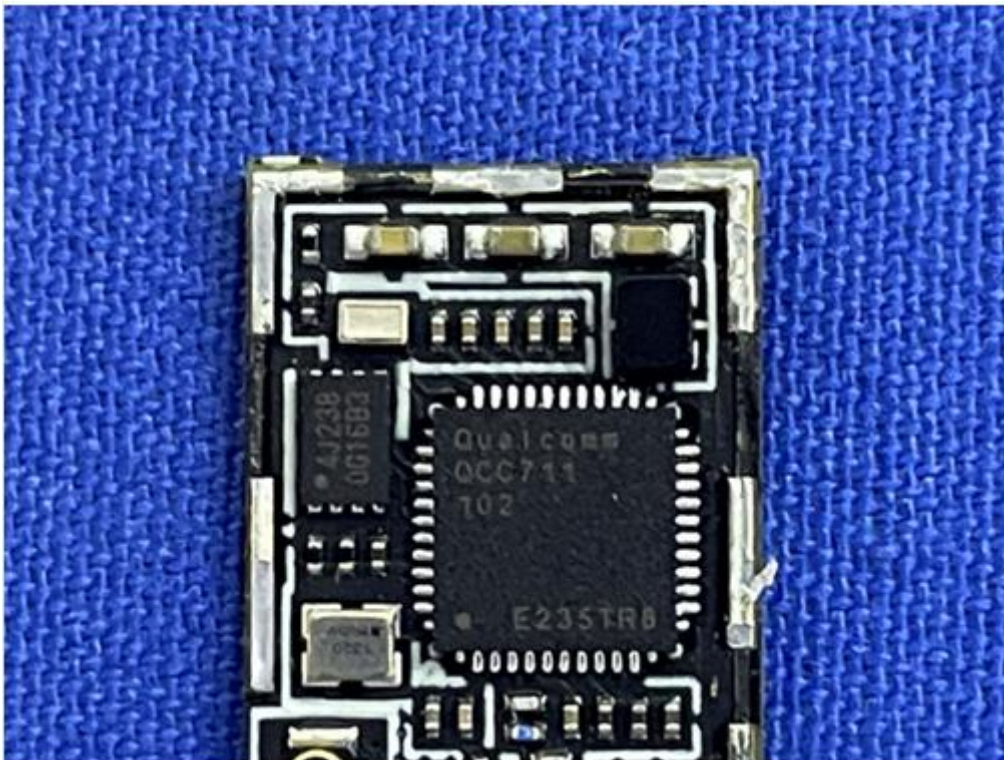
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Remove the shield cover



Chip

End of the report