FCC TEST REPORT

FCC ID: 2AP2N-IPR1

On Behalf of

Shenzhen Esorun Technology Co.,LTD

Qi2 Wireless Charging Pad

Model No.: IPR1, PR1, AR1, IAR1, AR2

Prepared for	:	Shenzhen Esorun Technology Co.,LTD
Address	:	Room 226, Building A, B, C, Zone B, Yuanfen Industrial Zone, Taoyuan Community, Dalang Street, Longhua District, Shenzhen

Prepared By	:	Shenzhen Alpha Product Testing Co., Ltd.
Address	:	Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

Report Number	:	A2410149-C01-R08
Date of Receipt	:	October 30, 2024
Date of Test	:	October 30, 2024 - December 10, 2024
Date of Report	:	December 10, 2024
Version Number	:	V0
Test Result	**:**	**Pass**

TABLE OF CONTENTS

1. Test Result Summary 5

2. EUT Description 6

2.1. Description of Device (EUT) 6

2.2. Accessories of Device (EUT) 8

2.3. Tested Supporting System Details 8

2.4. Block Diagram of Connection between EUT and Simulators 8

2.5. Description of Test Modes 8

2.6. Test Conditions 8

2.7. Test Facility 9

2.8. Measurement Uncertainty 9

3. Test Results and Measurement Data 10

3.1. RF Exposure Test 10

3.1.1. Test Specification 10

3.1.2. Test Instruments 11

3.1.3. Test data 11

4. Photos of test setup 13

5. Photographs of EUT 19

TEST REPORT DECLARATION

Applicant	:	Shenzhen Esorun Technology Co.,LTD
Address	:	Room 226, Building A, B, C, Zone B, Yuanfen Industrial Zone, Taoyuan Community, Dalang Street, Longhua District, Shenzhen
Manufacturer	:	Shenzhen Esorun Technology Co.,LTD
Address	:	Room 226, Building A, B, C, Zone B, Yuanfen Industrial Zone, Taoyuan Community, Dalang Street, Longhua District, Shenzhen
EUT Description	:	Qi2 Wireless Charging Pad
		(A) Model No. : IPR1, PR1, AR1, IAR1, AR2
		(B) Trademark : **ESORUN**

Measurement Standard Used:

FCC CFR Title 47 Part 15 Subpart C

FCC KDB 680106 D01 Wireless Power Transfer v04

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness test. Also, this report shows that the EUT is technically compliant with the KDB 680106 D01 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:	Yannis Wen Project Engineer	
Approved by (name + signature).....:	Jack Xu Project Manager	
Date of issue…… ……..:	December 10, 2024	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	December 10, 2024	Initial released Issue	Yannis Wen

1. Test Result Summary

Requirement	CFR 47 Section	Result
RF EXPOSURE	§1.1307(b)(1) & KDB680106	PASS

Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

2. EUT Description

2.1. Description of Device (EUT)

EUT Name	:	Qi2 Wireless Charging Pad
Model No.	:	IPR1, PR1, AR1, IAR1, AR2
DIFF.	:	There is no difference except for the model name and the shape of the bottom shell. All tests were conducted using the IPR1 model.
Trademark	:	**ESORUN**
Power supply	:	Input: 5V⎓ 2A, 9V⎓ 2.22A.
EUT information	:	Input: 5V⎓ 2A, 9V⎓ 2.22A. Output : 5W, 7.5W, 10W, 15W
Radio Technology	:	Wireless power transmission systems
Operation frequency	:	115~205KHz, 360KHz
Modulation	:	MSK
Antenna Type	:	Coil Antenna, Maximum Gain is 0dBi (Antenna information is provided by applicant.).
Software version	:	V1.0
Hardware version	:	V1.1
Intend use environment	:	Residential, commercial and light industrial environment

The EUT does comply with section 5 b) of KDB 680106 D01 Wireless Power Transfer v04.

Conditions requirement	Yes/No	Answers
The power transfer frequency is below 1 MHz.	Yes	The device operate in the frequency range is below 1MHz
The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.	Yes	The maximum output power of the transmitting element is 15W
A client device providing the maximum permitted load is placed in physical contact with the transmitter (i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact)	Yes	Client device is placed directly in contact with the transmitter.
Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions).	No	Mobile and Portable exposure conditions
The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit,	Yes	The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit,
For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded	Yes	The EUT equipped one radiating structure only

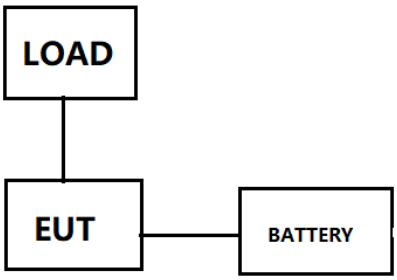
2.2. Accessories of Device (EUT)

Accessories1 : /
Manufacturer : /
Model : /
Input : /
Output : /

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification
1	N/A	N/A	N/A	N/A	N/A

2.4. Block Diagram of Connection between EUT and Simulators



2.5. Description of Test Modes

Channel	Frequency (KHz)
1	128
2	360

2.6. Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	23℃
Humidity range:	25-75%	55%
Pressure range:	86-106kPa	98kPa

2.7. Test Facility

Shenzhen Alpha Product Testing Co., Ltd
Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission
Registration Number: 293961

July 15, 2019 Certificated by IC
Registration Number: CN0085

2.8. Measurement Uncertainty

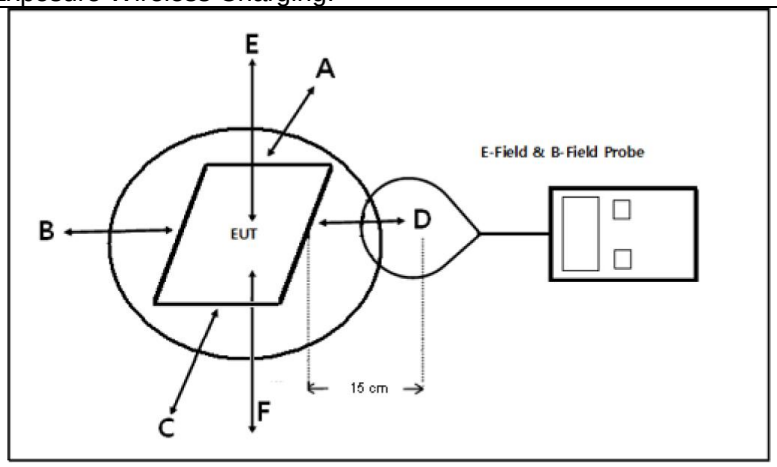
(95% confidence levels, k=2)

Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.74dB(Polarize: V)
	3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10^{-8}GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2℃
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3. Test Results and Measurement Data

3.1. RF Exposure Test

3.1.1. Test Specification

Test Requirement:	**FCC Rules and Regulations KDB680106**
Test Method:	§1.1307(b)(1) & KDB680106
Limits:	According to §1.1307(b)(1), 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 level in excess of the Commission's guidelines. According to §1.1310 and §2.1093 RF exposure is calculated. According KDB 680106 D01 v04: RF Exposure Wireless Charging.
Test Setup:	
Test Mode:	Wireless charging load has been charge at no load, middle load and full load. All test modes were pre-tested, but we only recorded the worse case in this report.
Test Procedure:	1. The RF exposure test was performed in shielded chamber 2. The measurement probe was placed at test distance(15cm) which is between the edge of the charger and the geometric centre of probe. 3. The measurement probe used to search of highest strength. 4. The highest emission level was recorded and compared with limit as soon as measurement of each points (A,B,C,D,E,F) were completed. 5. The EUT were measured according to the dictates of KDB 680106 DR03-44118.
Test Result:	PASS

3.1.2. Test Instruments

Item	Equipment	Manufacturer	Model No.	Firmware version	Serial No.	Last Cal.	Cal Interval
1	Exposure Level Tester	narda	ELT-400	N/A	N-0231	2024.08.14	1Year
2	Magnetic field probe 100cm2	narda	ELT probe 100cm2	N/A	M0675	2024.08.14	1Year
3	Isotropic Electric Field Probe	narda	EP-601	N/A	511WX60706	2024.08.20	1Year

3.1.3. Test data

For Full load mode:

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.115-0.205	4.598	4.643	4.156	4.137	4.205	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.115-0.205	0.549	0.764	0.544	0.625	0.531	0.815	1.63

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.36-0.36	4.576	4.512	4.231	4.155	4.334	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.36-0.36	0.536	0.755	0.521	0.664	0.642	0.815	1.63

For Null load mode:

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.115-0.205	4.782	4.506	4.137	3.862	4.364	307	614

H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.115-0.205	0.622	0.736	0.661	0.624	0.655	0.815	1.63

E-Field Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (V/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (V/m)	Limits Test (V/m)
0.36-0.36	4.641	4.522	4.233	3.742	4.423	307	614

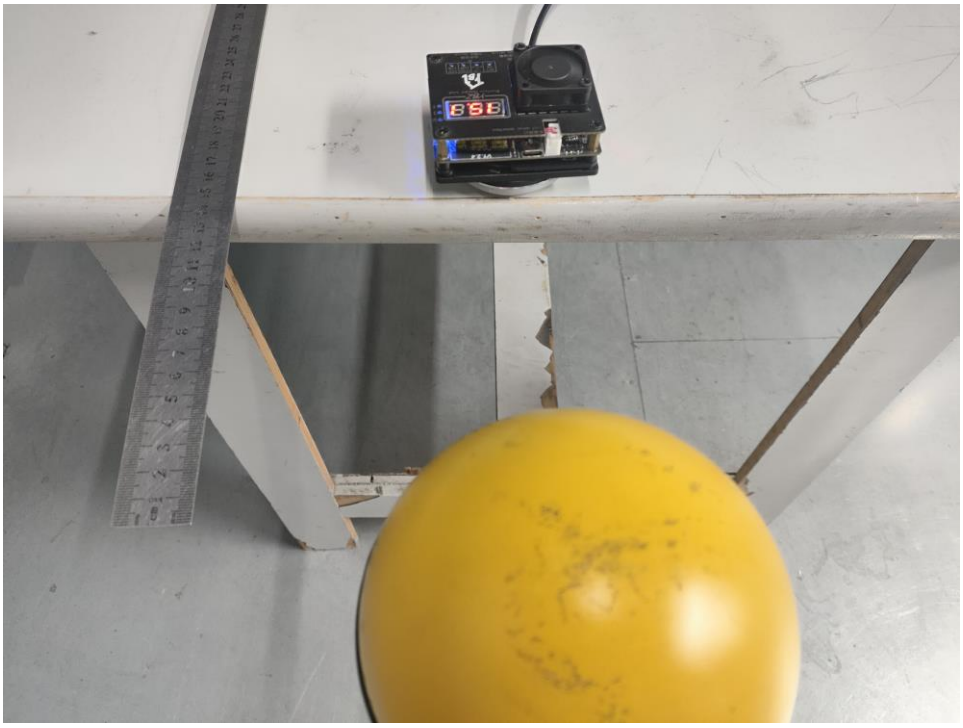
H-Filed Strength at 15 cm for position A,B,C,D 20cm for position E from the edges surrounding the EUT (A/m)

Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit (50%) (A/m)	Limits Test (A/m)
0.36-0.36	0.632	0.774	0.607	0.589	0.574	0.815	1.63

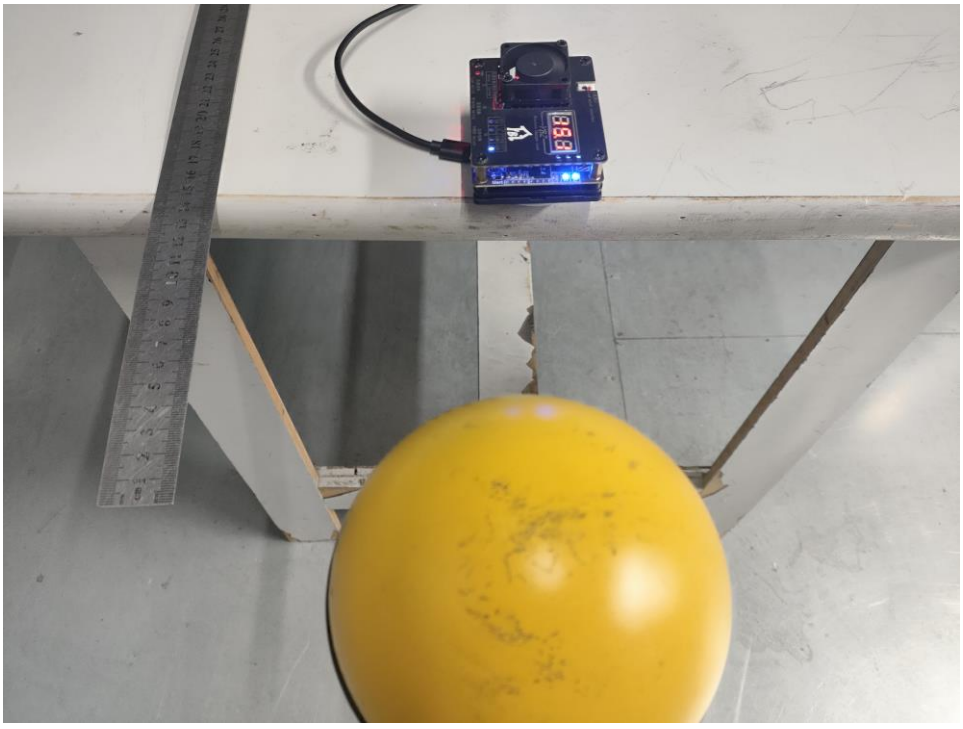
4. Photos of test setup

For Full load mode

Position A



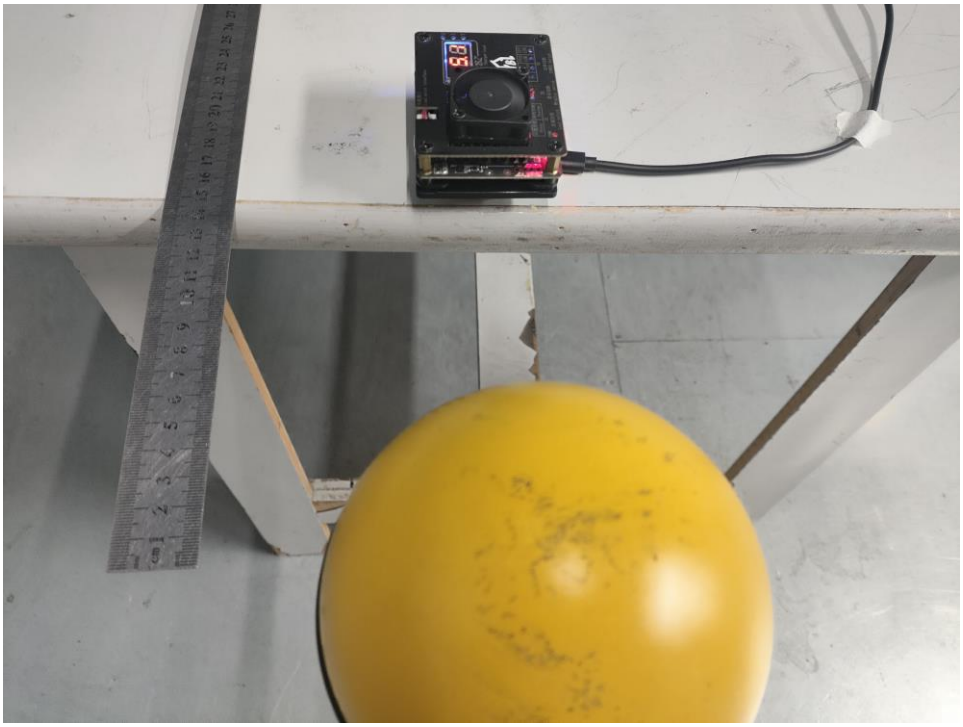
Position B



For Full load mode

Position C

Position D

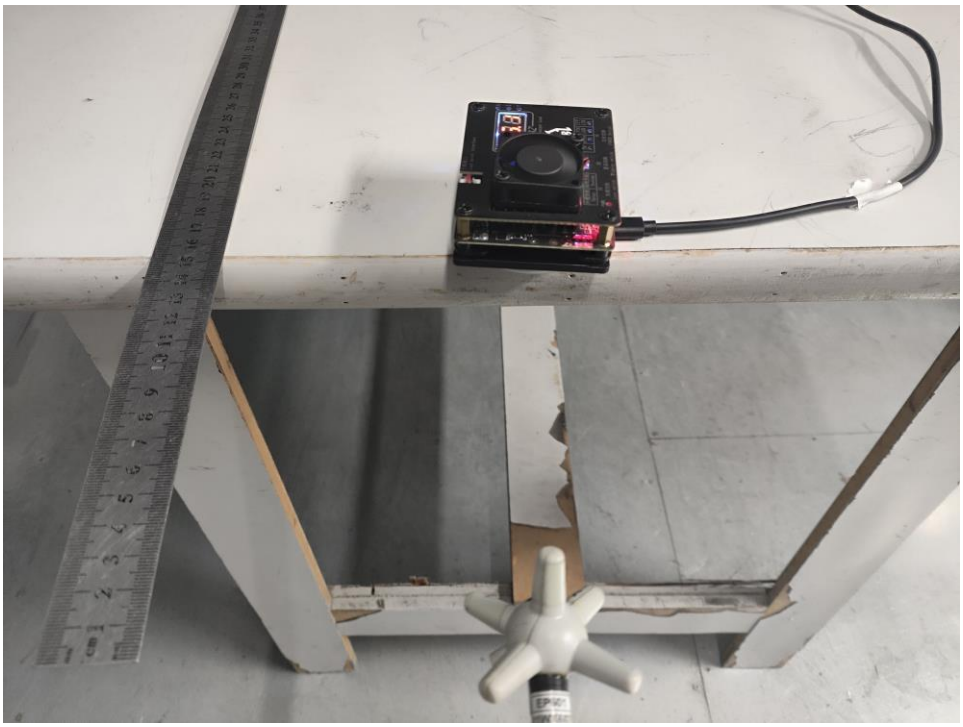


For Full load mode

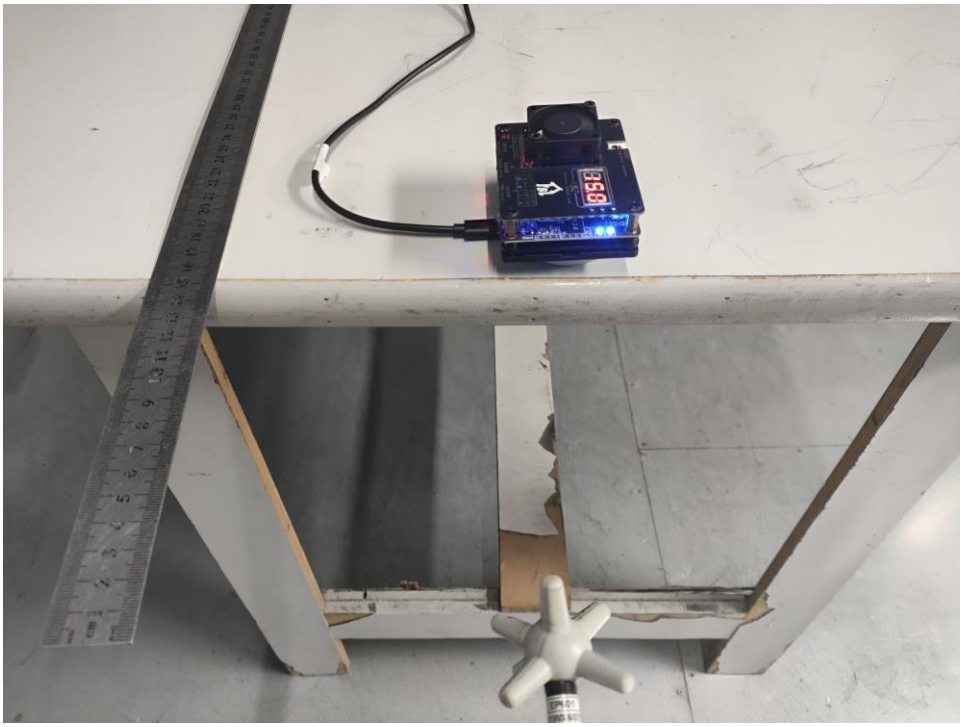
Position E

For Full load mode

Position A

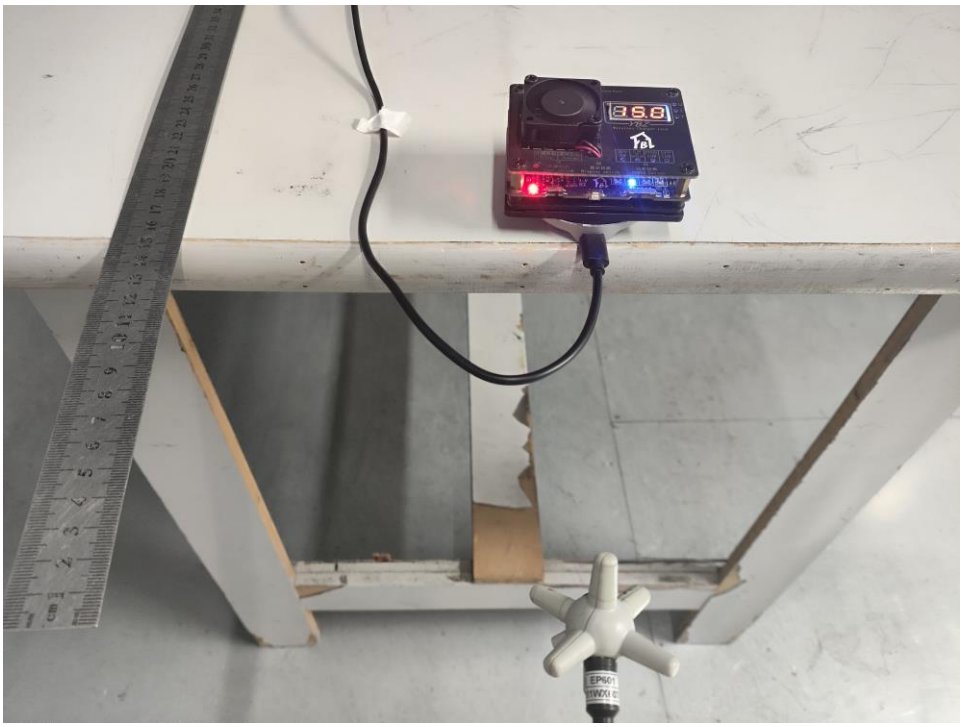


Position B

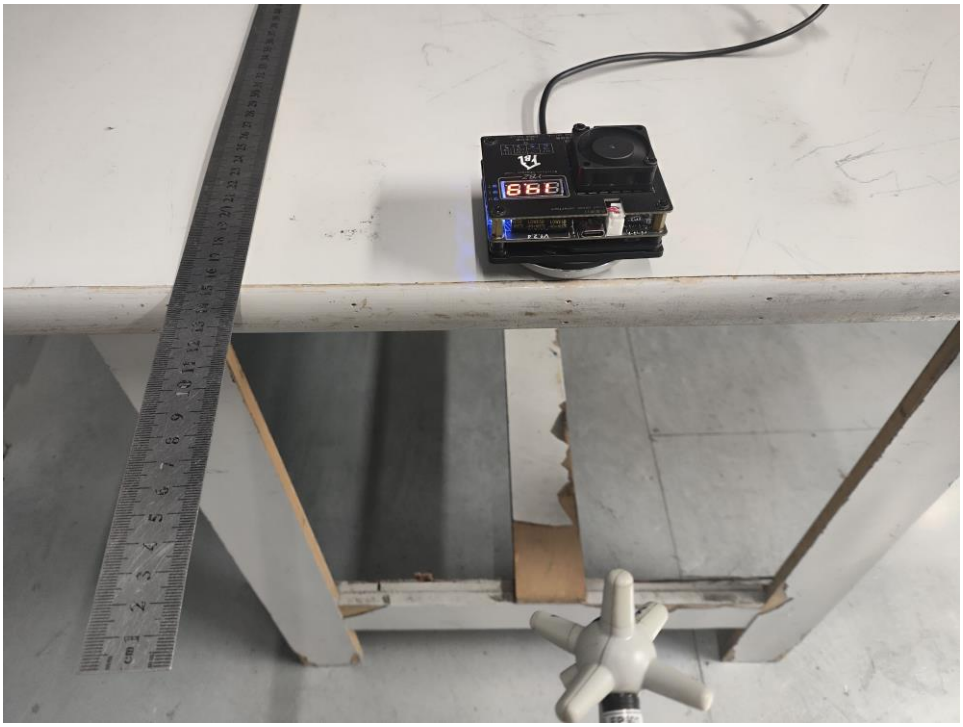


For Full load mode

Position C

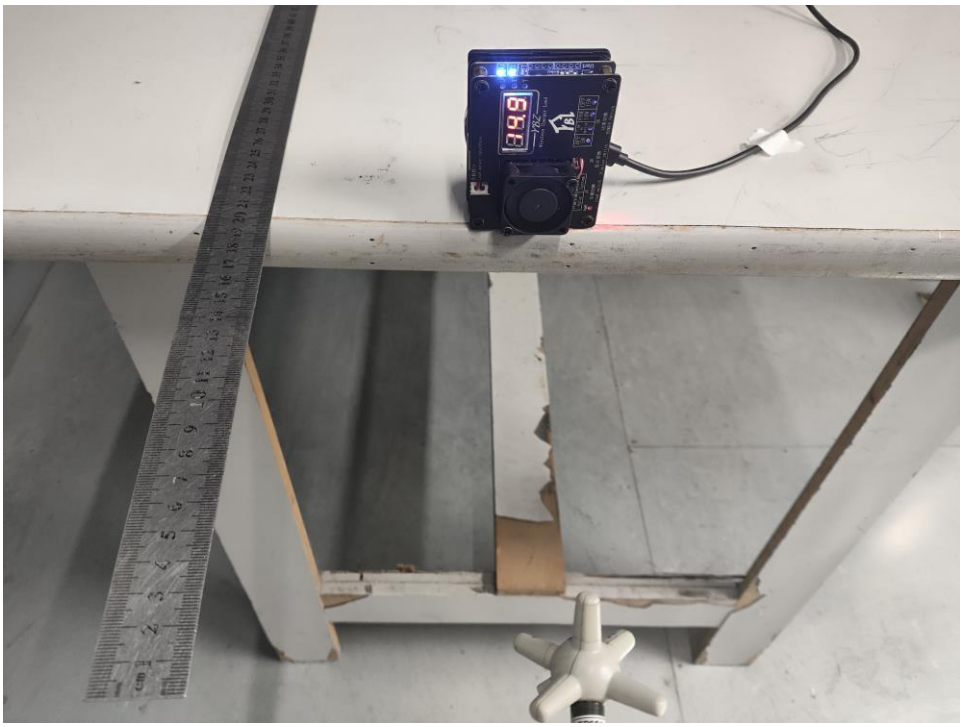


Position D



For Full load mode

Position E



5. Photographs of EUT

Refer to test report A2304005-C01-R03.

------End of Report-----