BCTC

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TEST REPORT

Report No.:	BCTC2410722918-2E
Applicant:	Ugreen Group Limited
Product Name:	5000mAh Magnetic Wireless Power Bank
Test Model:	PB571
Tested Date:	2024-05-16 to 2024-05-24
Issued Date:	2024-11-05

Shenzhen BCTC Testing Co., Ltd.

FCC ID:2AQI5-PB571

Product Name:	5000mAh Magnetic Wireless Power Bank
Trademark:	UGREEN
Model/Type Reference:	PB571
Prepared For:	Ugreen Group Limited
Address:	Ugreen Building, Longcheng Industrial Park, Longguanxi Road, Longhua, ShenZhen, China
Manufacturer:	Ugreen Group Limited
Address:	Ugreen Building, Longcheng Industrial Park, Longguanxi Road, Longhua, ShenZhen, China
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China.
Sample Received Date:	2024-05-16
Sample Tested Date:	2024-05-16 to 2024-05-24
Issue Date:	2024-11-05
Report No.:	BCTC2410722918-2E
Test Standards:	FCC CFR 47 part1, 1.1307(b), 1.1310 KDB 680106 D01 Wireless Power Transfer v04
Test Results:	PASS

Tested by:

Kelsey Tan/ Project Handler

Approved by:

Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp.This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full.The tested sample(s) and the sample information are provided by the client.

Table Of Content

(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2410722918-2E	2024-11-05	Original	Valid

2. Product Information

2.1 Product Information

Model/Type Reference:	PB571
Model Differences:	All the P/N are the same circuit and RF module, except sales platform and appearance of the color, the test model is PB571.
Hardware Version:	A2
Software Version:	V6.5
Operation Frequency:	112kHz-148.5kHz
Modulation:	FSK
Antenna installation:	coil antenna
Ratings:	USB-C (IN) Input:5V⎓3A/9V⎓2A USB-C (OUT)Output:5V⎓2.4A/5V⎓3A/9V⎓2.22A Wireless Charging Output: 7.5W Max Rated Capacity:2800mAh (TYP 5V 2.4A) Cell Capacity:5000mAh Polymer Lithium-ion Battery Rated Energy: 18Wh(3.6V 5000mAh)

Remark:
- P/N code in the below table, for marketing purpose, will be marked on the marking plate.

35605	35605P	35605X	35605A	35605B	35605C	35605U	35605JP	35605ZD
35606	35606P	35606X	35606A	35606B	35606C	35606U	35606JP	35606ZD

2.2 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	5000mAh Magnetic Wireless Power Bank	UGREEN	PB571	N/A	EUT
E-2	Adapter	UGREEN	CD226	N/A	Auxiliary
E-3	Dummy load	N/A	DL01	N/A	Auxiliary

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

2.3 Test Mode

AC Mode	Mode 1	Charging(5V⎓3A)+5W
	Mode 2	Charging(5V⎓3A)+7.5W
DC Mode	Mode 3	5W
	Mode 4	7.5W

Note: All test mode were tested and passed, only shows the worst case mode which were recorded in this report.

3. Test Facility And Test Instrument Used

3.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address:1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.
FCC Test Firm Registration Number: 712850
A2LA certificate registration number is: CN1212
ISED Registered No.: 23583
ISED CAB identifier: CN0017

3.2 Test Instrument Used

EMF Test					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
Electromagnet-ic radiation tester	Wavecontrol	SMP160	19SN0980	Sept. 26, 2023	Sept. 25, 2024
Electromagnet-ic field probe	Wavecontrol	WP400-3	20WP120082	Sept. 26, 2023	Sept. 25, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

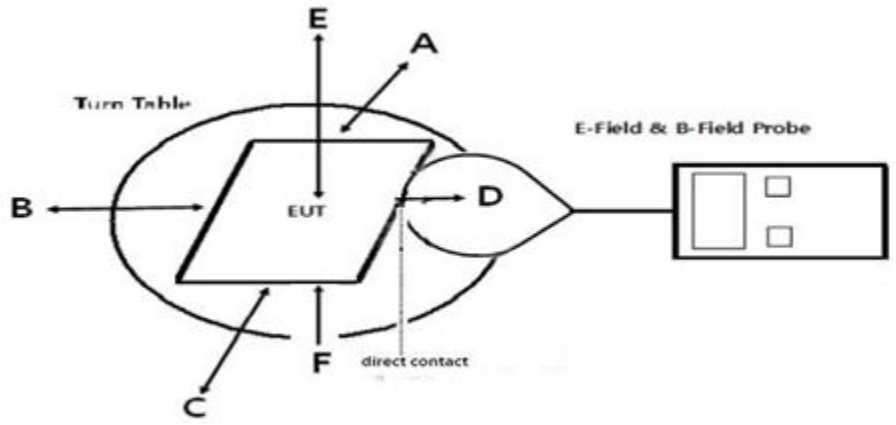
4. Method Of Measurement

4.1 Applicable Standard

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 KDB680106 D01v04: RF Exposure Wireless Charging Apps v04.

4.2 Block Diagram Of Test Setup

A:



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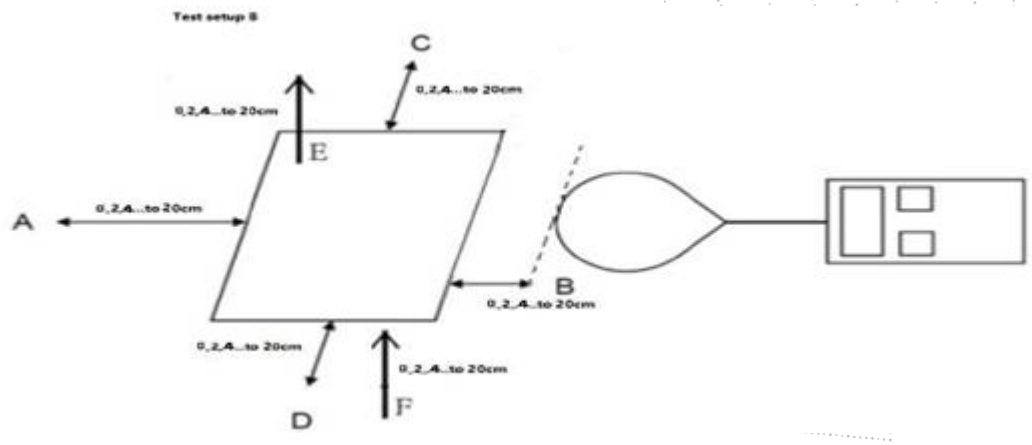


4.3 Limit

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	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

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/ cm²)	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	30

4.4 Test procedure

a)The RF exposure test was performed in anechoic chamber.
b)The measurement probe was placed at 0 cm surrounding the device for test setup A; and the measurement Probe was placed at 20/22/24 cm for the test setup B.
c)The highest emission level was recorded and compared with limit as soon as measurement of each
d)The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
d)The EUT was measured according to the dictates of KDB680106 D01v04
f)Remark:The EUT's test position A, B, C, D , E and F is valid for the E and H field measurements.

4.5 Equipment Approval Considerations

The EUT does comply with item 5(b) of KDB 680106 D01v04

1) Power transfer frequency is less than 1MHz
Yes, the device operate in the frequency range from 112-148.5kHz

2) Output power from each primary coil is less than or equal to 15 watts.
Yes, the maximum output power of the primary coil is 7.5W.

3) A client device providing the maximum permitted load is placed in physical contact with the transmitter.
Yes, client device is placed directly in contact with the transmitter.

4) Only § 2.1091-Mobile exposure conditions apply
No, the EUT is portable condition assessment

5) 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, per KDB 447498, Table 1.
Yes, Conform to

6) For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time.
Yes, confirm.

4.6 E and H field Strength

We measured the H-Field Strength of 20cm, 22cm and 24cm, and recorded the test data of the worst 20cm.

Mobile: Test Mode 1 (the worst mode)

H-Field Strength at 20 cm surrounding the EUT and 20cm above the top surface of the EUT

Frequency Range (MHz)	Test Position A(uT)	Test Position B(uT)	Test Position C(uT)	Test Position D(uT)	Test Position E(uT)	Test Position Top(uT)
0.112-0.1485	0.0168	0.0068	0.0097	0.0115	0.0075	0.0071

Frequency Range (MHz)	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position Top(A/m)	50% Limits Test (A/m)	Limits Test (A/m)
0.112-0.1485	0.0134	0.0054	0.0078	0.0092	0.0060	0.0057	0.815	1.63

Note:A/m=uT÷1.25

Portable: Test Mode 4 (the worst mode)
Transmitter Battery level: 100%

H-Filed Strength at (distance from 2cm to 20cm at 2cm iteration) surrounding the EUT (A/m)

Test distance (cm)	Test Position A(uT)	Test Position B(uT)	Test Position C(uT)	Test Position D(uT)	Test Position E(uT)	Test Position F(uT)
2	0.1395	0.1033	0.0926	0.1161	0.0574	0.0580
4	0.0549	0.0321	0.0340	0.0365	0.0235	0.0223
6	0.0249	0.0135	0.0164	0.0184	0.0131	0.0116
8	0.0191	0.0075	0.0113	0.0129	0.0089	0.0084
10	0.0181	0.0075	0.0101	0.0119	0.0080	0.0072
12	0.0189	0.0065	0.0110	0.0126	0.0088	0.0078
14	0.0182	0.0072	0.0111	0.0131	0.0085	0.0073
16	0.0184	0.0064	0.0100	0.0117	0.0081	0.0085
18	0.0188	0.0068	0.0100	0.0128	0.0077	0.0082
20	0.0179	0.0073	0.0108	0.0120	0.0081	0.0079

Test distance (cm)	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)	Limits (A/m)
2	0.1116	0.0826	0.0741	0.0929	0.0459	0.0464	1.63
4	0.0439	0.0257	0.0272	0.0292	0.0188	0.0178	1.63
6	0.0199	0.0108	0.0131	0.0147	0.0105	0.0093	1.63
8	0.0153	0.0060	0.0090	0.0103	0.0071	0.0067	1.63
10	0.0145	0.0060	0.0081	0.0095	0.0064	0.0058	1.63
12	0.0151	0.0052	0.0088	0.0101	0.0070	0.0062	1.63
14	0.0146	0.0058	0.0089	0.0105	0.0068	0.0058	1.63
16	0.0147	0.0051	0.0080	0.0094	0.0065	0.0068	1.63
18	0.0150	0.0054	0.0080	0.0102	0.0062	0.0066	1.63
20	0.0143	0.0058	0.0086	0.0096	0.0065	0.0063	1.63
Test result：Pass							

Note: A/m=uT/1.25

Using Biot-Savart Law, the value of 2cm can be estimated through the test results of 4cm:
Distance: 2cm

Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)	Limits (A/m)
0.1463	0.0857	0.0907	0.0973	0.0570	0.0539	1.63

Agreement Ratio
Distance: 2cm

Transmitter Battery level: 100%						
Test Position	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)
Measure Value (A/m)	0.1116	0.0826	0.0741	0.0929	0.0459	0.0464
Valuation(A/m)	0.1463	0.0857	0.0907	0.0973	0.0570	0.0539
Agreement ratio	26.91	3.68	20.15	4.63	21.57	14.96
Limit	30%	30%	30%	30%	30%	30%
Test result	Pass	Pass	Pass	Pass	Pass	Pass

Using Biot-Savart Law, the value of 4cm can be estimated through the test results of 6cm:
Distance: 4cm

Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)	Limits (A/m)
0.0469	0.0254	0.0309	0.0346	0.0223	0.0216	1.63

Agreement Ratio
Distance: 4cm

Transmitter Battery level: 100%						
Test Position	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)
Measure Value (A/m)	0.0439	0.0257	0.0272	0.0292	0.0188	0.0178
Valuation(A/m)	0.0469	0.0254	0.0309	0.0346	0.0223	0.0216
Agreement ratio	6.61	-1.17	12.74	16.93	17.03	19.29
Limit	30%	30%	30%	30%	30%	30%
Test result	Pass	Pass	Pass	Pass	Pass	Pass

As the model is sufficient, the value of 0cm can be estimated through the results of 2 cm

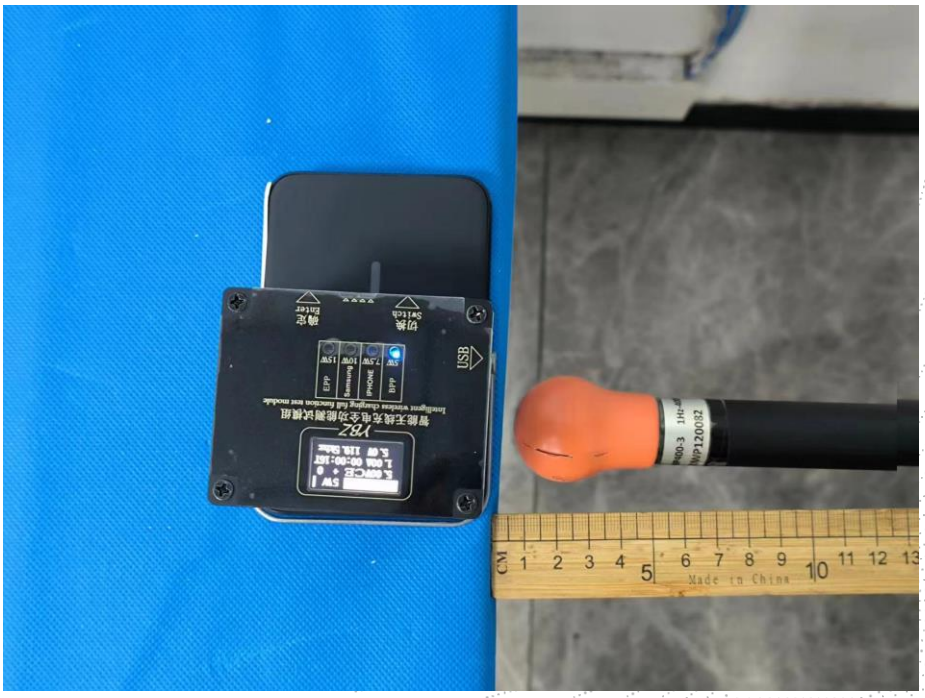
Using Biot-Savart Law, the value of 0cm can be estimated through the test results of 2cm:
Distance: 0cm

Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)	Limits (A/m)
0.8605	0.6369	0.5714	0.7163	0.1869	0.1889	1.63
Test result：Pass						

Remark: Based on the following changes in the original test report (BCTC2405880713-2E), The following three changes have been made to the PCB board, the RF part is not involved.
1. Delete two tantalum capacitors with bit numbers C2 and C37
2. Delete the three ceramic capacitors, whose bits are C34, C35, and C36
3. Add a plug-in solid state capacitor with bit number C37

5. Photographs Of Test Set-Up

2cm




USB
切换
Switch
确定
Enter
YBZ
智能无线充电全功能测试模组
Intelligent wireless charging full function test module
BPP
PHONE
Samsung
EPP
5W
7.5W
10W
15W
CM
Made in China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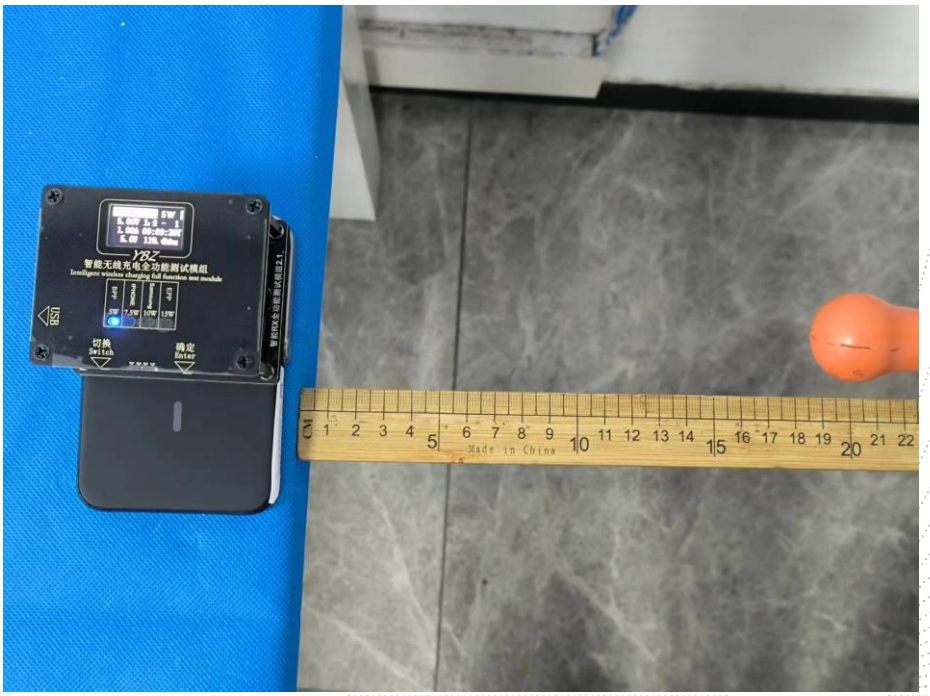
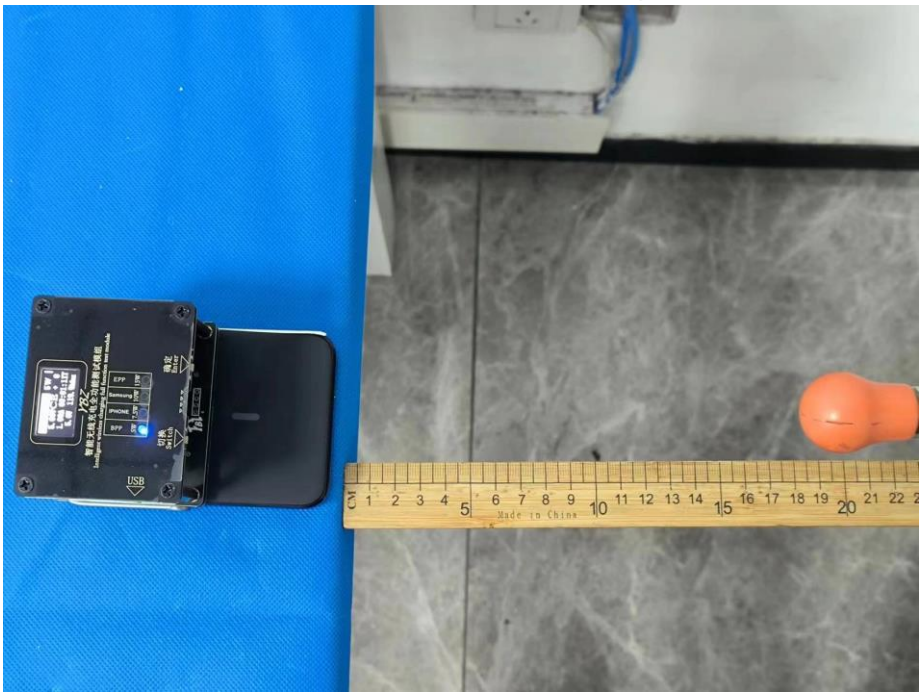
BPP
PHONE
Samsung
EPP
5W
7.5W
10W
15W
CM
Made in China

20cm

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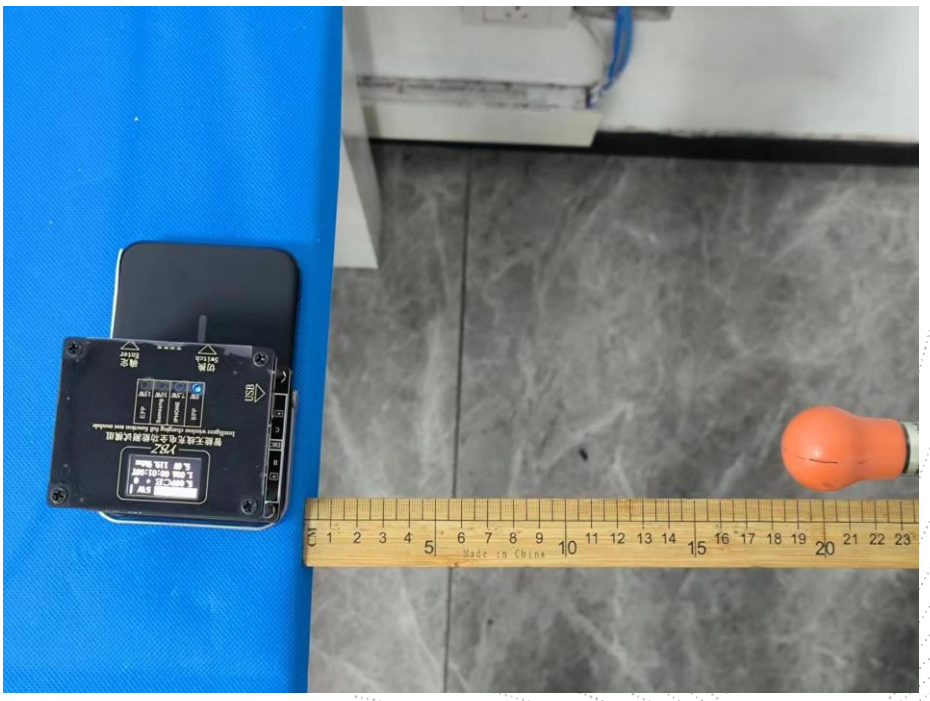
Made in China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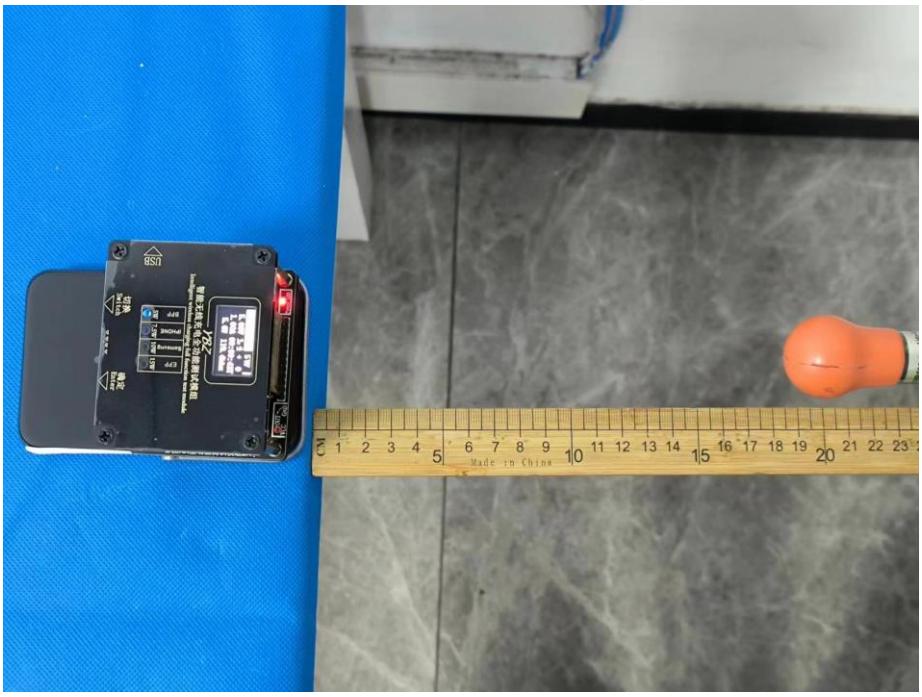

STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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