

TEST REPORT

Report No.: BCTC2311855430-2E

Applicant: Fortyfour group LLC

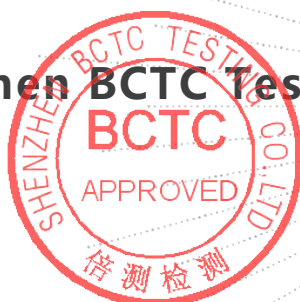
Product Name: Terratone Powerbank

Test Model: X9833001010

Tested Date: 2023-11-20 to 2023-12-01

Issued Date: 2023-12-01

Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2AWVU-X9833001010

Product Name: Terratone Powerbank
Trademark: N/A
Model/Type reference: X9833001010
Prepared For: Fortyfour group LLC
Address: 1770 S. 5350 W Ste 100, Salt Lake City, Utah 84104, United States
Manufacturer: Fortyfour group LLC
Address: 1770 S. 5350 W Ste 100, Salt Lake City, Utah 84104, United States
Prepared By: Shenzhen BCTC Testing Co., Ltd.
Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Zhancheng 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date: 2023-11-20
Sample tested Date: 2023-11-20 to 2023-12-01
Issue Date: 2023-12-01
Report No.: BCTC2311855430-2E
Test Standards: FCC CFR 47 part1, 1.1307(b), 1.1310
Test Results: PASS

Tested by:



Lei Chen/Project Handler

Approved by:



Zero Zhou/Reviewer

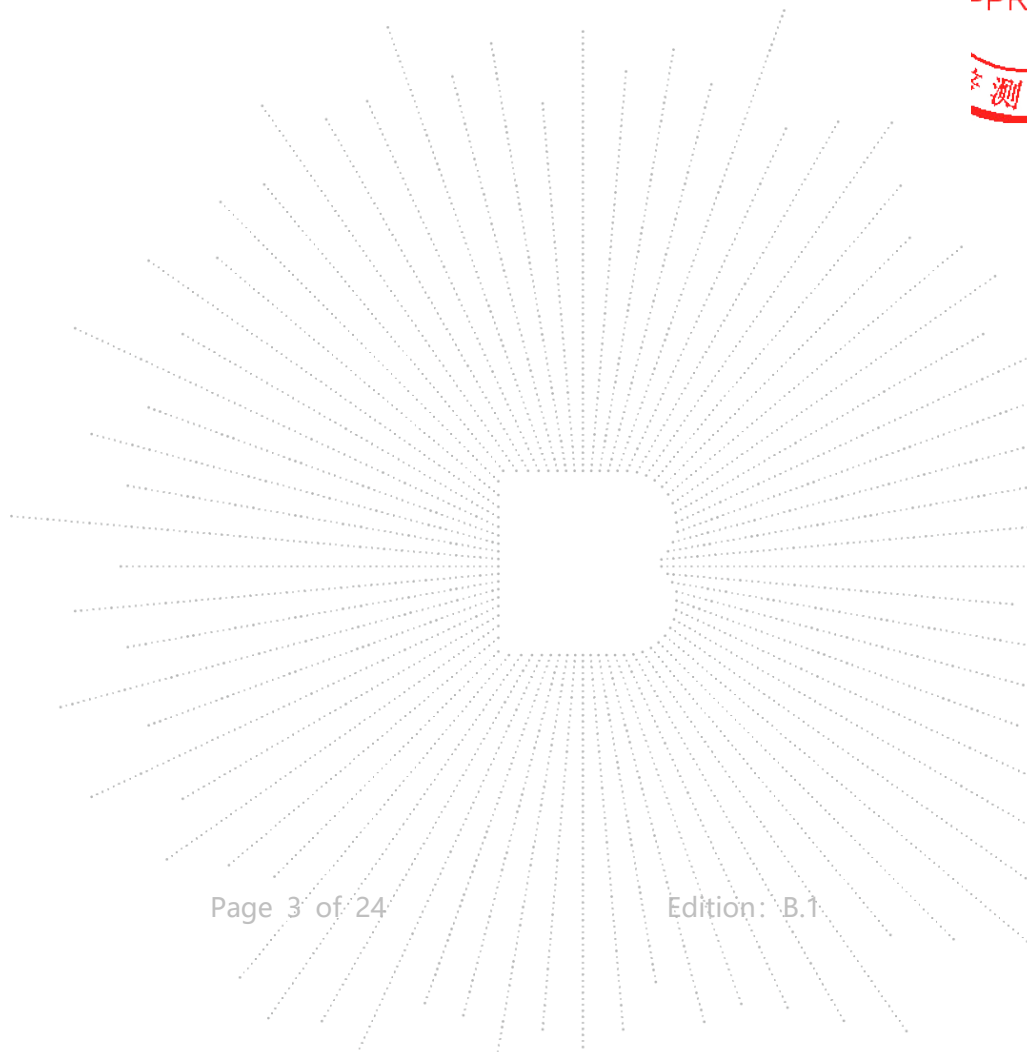
The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information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

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(Note: N/A Means Not Applicable)

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1. Version

Report No.	Issue Date	Description	Approved
BCTC2311855430-2E	2023-12-01	Original	Valid

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2. Product Information

2.1 Product Information

Model/Type reference: X9833001010
 Model differences: N/A
 Hardware Version: N/A
 Software Version: N/A
 Operation Frequency: 115kHz-205kHz
 Antenna installation: coil antenna
 Ratings: Type-C Input: DC 5V 2.4A, Type-C Output: DC 5V 2.4A
 Type-A Output: DC 5V 2.4A, Wireless Output: 5W
 DC 3.7V from battery

2.2 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Terratone Powerbank	N/A	X9833001010	N/A	EUT
E-2	Adapter	N/A	CD122	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+ Wireless charging (Full load)
	Mode 2	Charging+ Wireless charging (Half load)
	Mode 3	Charging+ Wireless charging (Empty load)
DC Mode	Mode 4	Wireless charging (Full load)
	Mode 5	Wireless charging (Half load)
	Mode 6	Wireless charging (Empty load)

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, Zhancheng 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

FCC Designation Number: 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	May 15, 2023	May 14, 2024
Electromagne- tic field probe	Wavecontrol	WP400-3	20WP120082	Sept. 26, 2023	Sept. 25, 2024
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

CO., LTD.

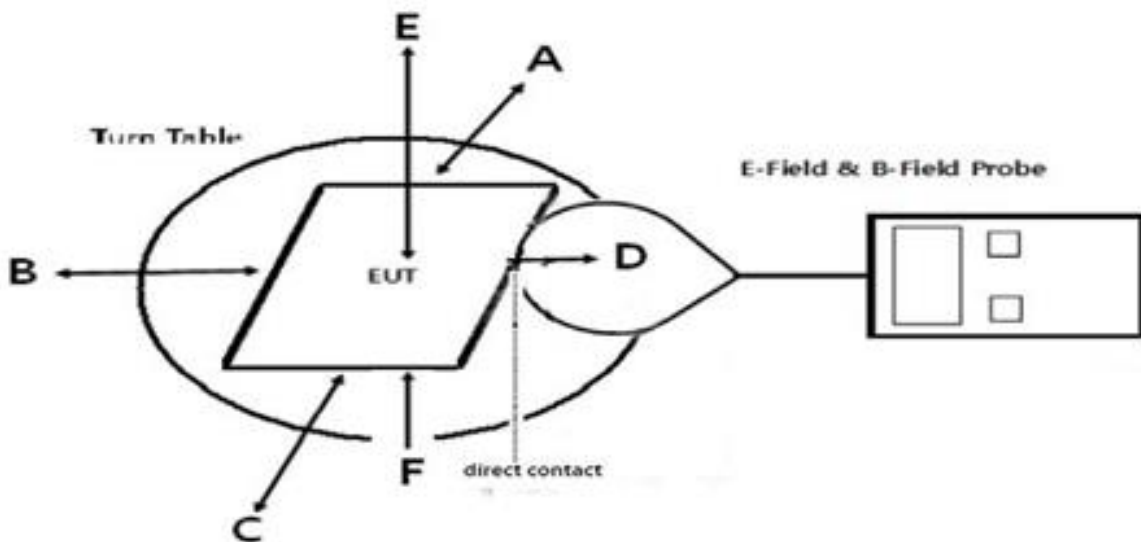
4. Method Of Measurement

4.1 Applicable Standard

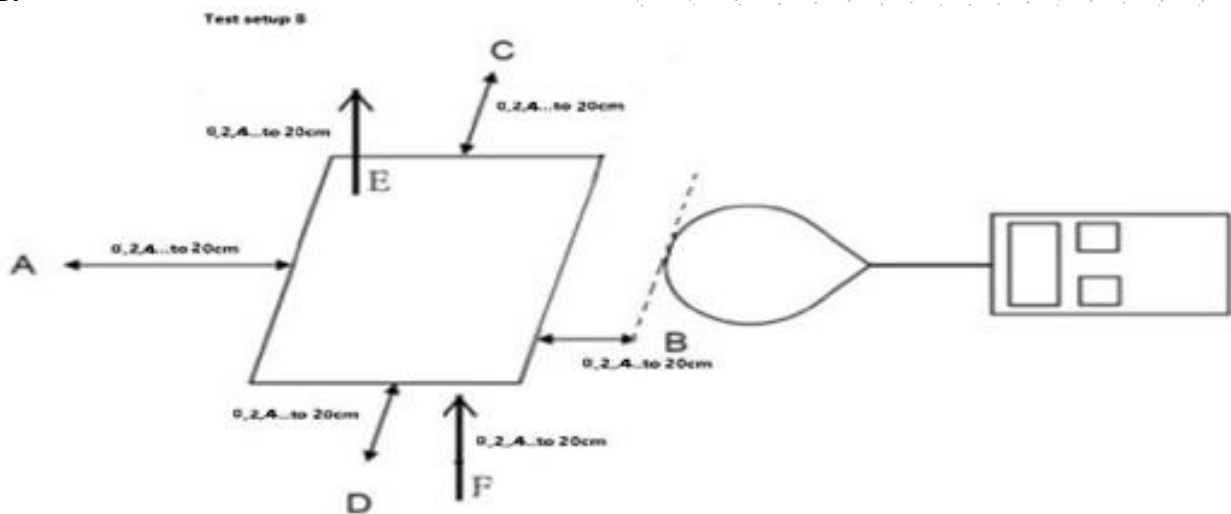
According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to §1.1310 and §2.1093 RF exposure is calculated. According KDB680106 D01v03: RF Exposure Wireless Charging Apps v02.

4.2 Block Diagram Of Test Setup

A:



B:



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/ cm ²)	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/ cm ²)	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

- The RF exposure test was performed in anechoic chamber.
- The measurement probe was placed at 0 cm surrounding the device for test setup A; and the measurement Probe was placed from 0 cm to 20 cm, in 2 cm maximum increment measured from the edge of the device For the test setup B.
- The highest emission level was recorded and compared with limit as soon as measurement of eachd) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT was measured according to the dictates of KDB680106 D01v03r01
- 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 D01v03

1) Power transfer frequency is less than 1MHz

Yes, the device operate in the frequency range from 115-205kHz

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 5W.

3) The system may consist of more than one source primary coils, charging one or more clients. If more than one primary coil is present, the coil pairs may be powered on at the same time.

No, the prototype has only a single coil.

4) Client device is inserted in or placed directly in contact with the transmitter.

Yes, client device is placed directly in contact with the transmitter.

5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

No, the product is portable

6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Yes, the EUT field strength level is less than the $10\% \times \text{MPE}$ limit.

4.6 E and H field Strength

Mobile: Test Mode 1 (the worst mode)

H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Battery level	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)
1%	0.115-0.205	0.095	0.107	0.080	0.131	0.052	0.116
50%	0.115-0.205	0.096	0.093	0.122	0.133	0.049	0.093
99%	0.115-0.205	0.092	0.091	0.089	0.114	0.039	0.081

Battery level	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)	10% Limits Test (A/m)	Limits Test (A/m)
1%	0.115-0.205	0.076	0.085	0.064	0.104	0.042	0.093	0.163	1.63
50%	0.115-0.205	0.077	0.074	0.098	0.106	0.039	0.074	0.163	1.63
99%	0.115-0.205	0.073	0.073	0.071	0.092	0.031	0.065	0.163	1.63

Note: A/m=uT÷1.25

Portable: Test Mode 4 (the worst mode)
For setup A:

H-Filed Strength at 0 cm from edges surrounding the EUT

Battery level	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)
1%	0.115-0.205	0.084	0.081	0.088	0.132	0.040	0.121
50%	0.115-0.205	0.078	0.090	0.087	0.126	0.053	0.107
99%	0.115-0.205	0.077	0.092	0.120	0.133	0.043	0.106

Battery level	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)	10% Limits Test (A/m)	Limits Test (A/m)
1%	0.115-0.205	0.067	0.065	0.070	0.106	0.032	0.097	0.163	1.630
50%	0.115-0.205	0.063	0.072	0.070	0.101	0.042	0.085	0.163	1.630
99%	0.115-0.205	0.062	0.074	0.096	0.106	0.034	0.085	0.163	1.630

Note: A/m=uT÷1.25

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For setup B:

1% battery

H-Filed Strength at (distance from 0cm 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	0.077	0.097	0.098	0.113	0.055	0.106
4	0.091	0.108	0.108	0.132	0.058	0.097
6	0.082	0.102	0.083	0.114	0.053	0.100
8	0.078	0.089	0.104	0.122	0.041	0.116
10	0.088	0.111	0.104	0.135	0.052	0.120
12	0.093	0.092	0.095	0.119	0.043	0.086
14	0.079	0.087	0.119	0.121	0.045	0.112
16	0.083	0.106	0.114	0.122	0.051	0.115
18	0.081	0.102	0.120	0.127	0.050	0.105
20	0.079	0.105	0.114	0.113	0.040	0.121

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	0.062	0.078	0.078	0.091	0.044	0.085	1.630
4	0.073	0.086	0.086	0.105	0.047	0.077	1.630
6	0.066	0.082	0.066	0.091	0.042	0.080	1.630
8	0.062	0.071	0.083	0.097	0.033	0.093	1.630
10	0.070	0.089	0.083	0.108	0.042	0.096	1.630
12	0.075	0.074	0.076	0.096	0.034	0.069	1.630
14	0.063	0.069	0.095	0.097	0.036	0.089	1.630
16	0.067	0.085	0.091	0.098	0.041	0.092	1.630
18	0.065	0.082	0.096	0.102	0.040	0.084	1.630
20	0.063	0.084	0.091	0.090	0.032	0.097	1.630

Note: A/m=uT/1.25

50% battery

H-Filed Strength at (distance from 0cm 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	0.085	0.094	0.081	0.117	0.041	0.118
4	0.092	0.094	0.086	0.124	0.041	0.080
6	0.094	0.100	0.087	0.134	0.055	0.088
8	0.092	0.107	0.084	0.130	0.051	0.075
10	0.091	0.112	0.096	0.127	0.056	0.122
12	0.078	0.090	0.077	0.116	0.043	0.094
14	0.079	0.086	0.093	0.136	0.053	0.100
16	0.083	0.102	0.102	0.133	0.051	0.076
18	0.082	0.094	0.119	0.117	0.060	0.075
20	0.087	0.099	0.103	0.124	0.045	0.088

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	0.068	0.075	0.064	0.093	0.033	0.094	1.630
4	0.074	0.075	0.069	0.099	0.032	0.064	1.630
6	0.075	0.080	0.070	0.108	0.044	0.070	1.630
8	0.074	0.086	0.067	0.104	0.041	0.060	1.630
10	0.073	0.090	0.077	0.101	0.045	0.098	1.630
12	0.063	0.072	0.062	0.092	0.035	0.075	1.630
14	0.063	0.069	0.075	0.109	0.043	0.080	1.630
16	0.066	0.082	0.081	0.106	0.041	0.061	1.630
18	0.066	0.076	0.095	0.094	0.048	0.060	1.630
20	0.070	0.079	0.082	0.099	0.036	0.070	1.630

Note: A/m=uT/1.25

99% battery

H-Filed Strength at (distance from 0cm 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	0.081	0.110	0.099	0.136	0.039	0.085
4	0.093	0.105	0.111	0.120	0.038	0.108
6	0.099	0.095	0.101	0.127	0.056	0.110
8	0.078	0.093	0.096	0.134	0.057	0.119
10	0.097	0.107	0.076	0.132	0.048	0.122
12	0.089	0.078	0.100	0.129	0.044	0.124
14	0.082	0.084	0.113	0.135	0.044	0.076
16	0.084	0.102	0.082	0.119	0.058	0.081
18	0.086	0.089	0.099	0.131	0.056	0.094
20	0.091	0.084	0.087	0.133	0.049	0.096

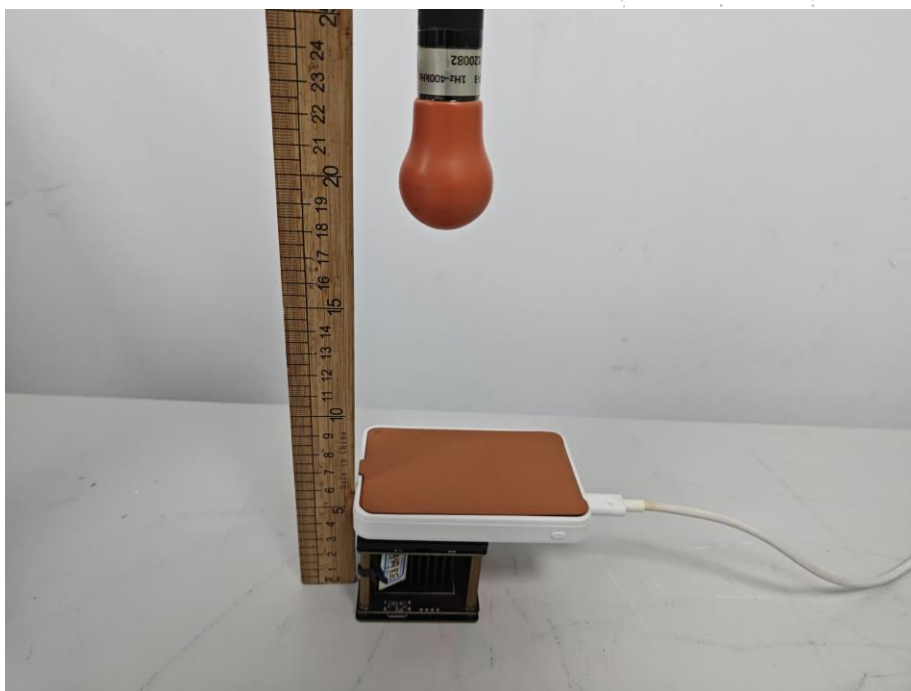
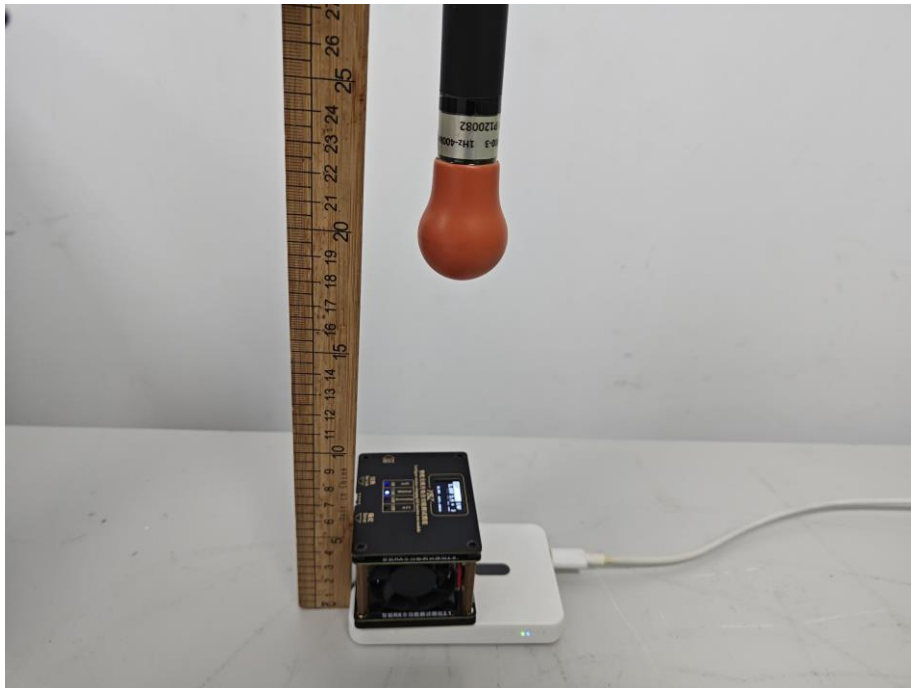
Test distance (cm)	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)	Limits (A/m)
2	0.065	0.088	0.079	0.108	0.031	0.068	1.630
4	0.074	0.084	0.089	0.096	0.030	0.086	1.630
6	0.079	0.076	0.081	0.101	0.045	0.088	1.630
8	0.062	0.075	0.077	0.107	0.046	0.095	1.630
10	0.078	0.086	0.061	0.106	0.039	0.098	1.630
12	0.071	0.063	0.080	0.103	0.035	0.099	1.630
14	0.066	0.067	0.090	0.108	0.035	0.061	1.630
16	0.067	0.082	0.065	0.095	0.047	0.065	1.630
18	0.069	0.071	0.079	0.105	0.045	0.075	1.630
20	0.073	0.067	0.070	0.106	0.039	0.076	1.630

Note: A/m=uT/1.25

5. Photographs Of Test Set-Up

Mobile: Test Mode 1-3

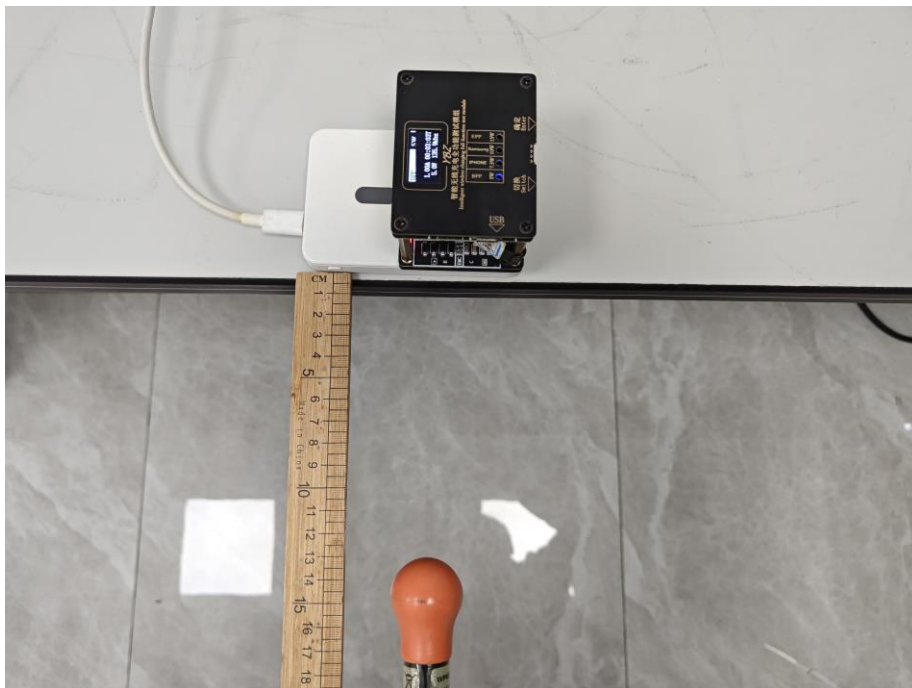
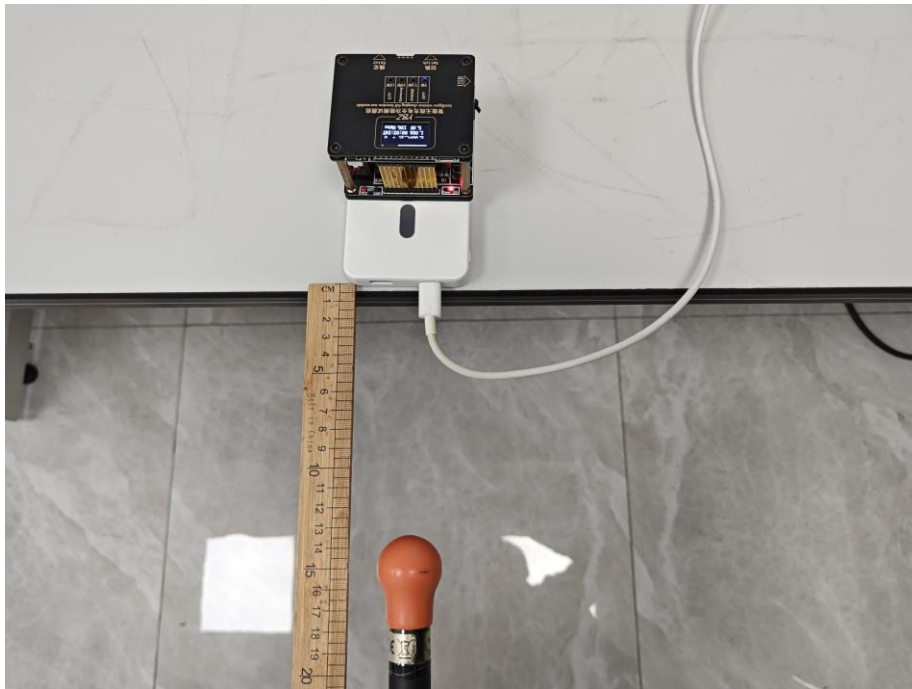
20CM



15CM



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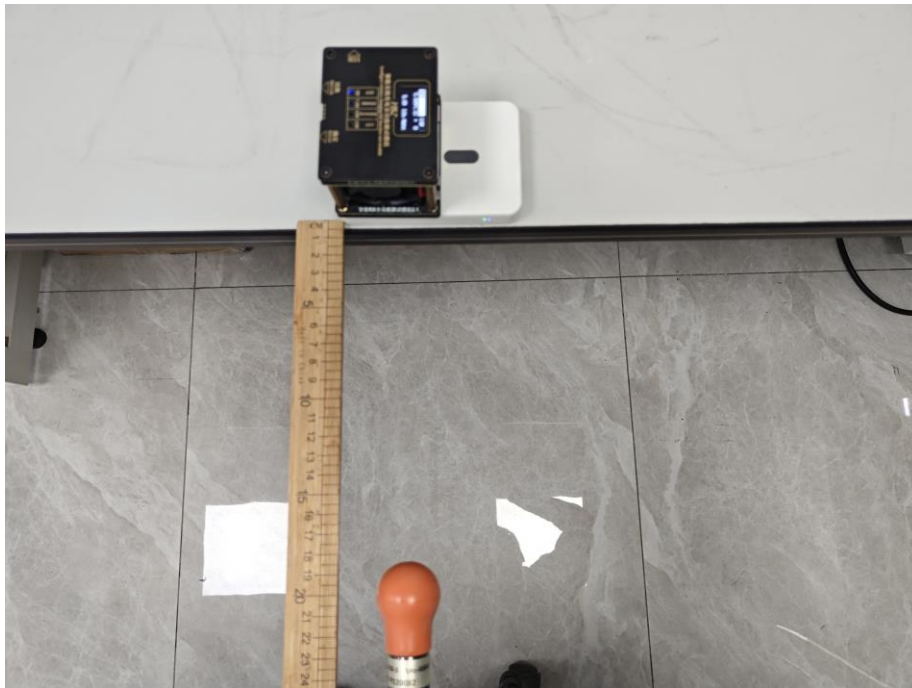
Portable: Test Mode 4-6

20CM

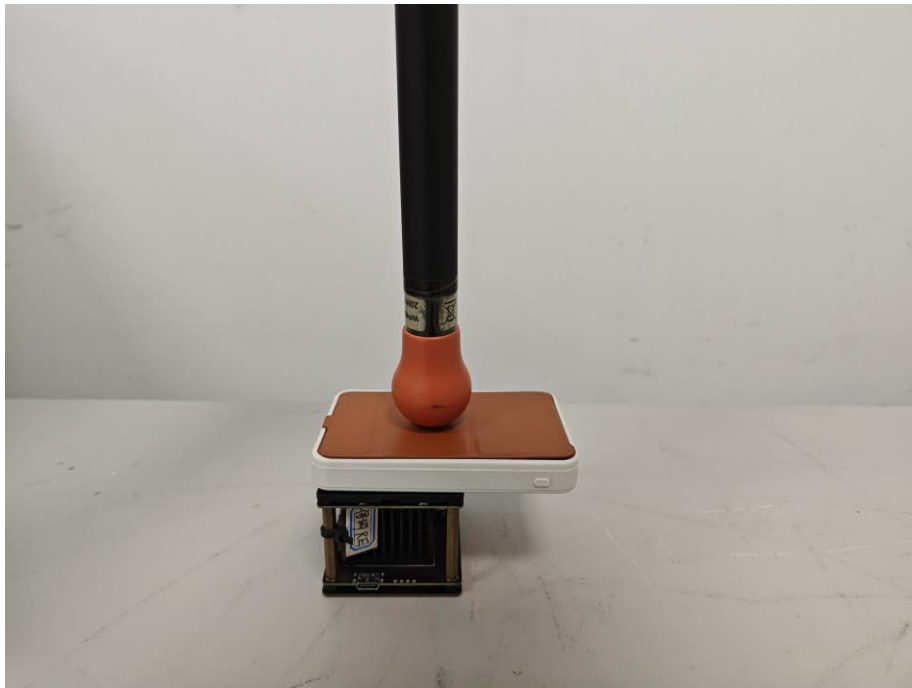


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STATEMENT

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.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Zhancheng 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: <http://www.chnbctc.com>

E-Mail: bctc@bctc-lab.com.cn

***** END *****

CO., LTD.