

TEST REPORT

Report No.: BCTC2306253894-2E

Applicant: Sharge Technology (Shenzhen) Co., LTD

Product Name: SHARGE ICEMAG POWER BANK 10000mAh

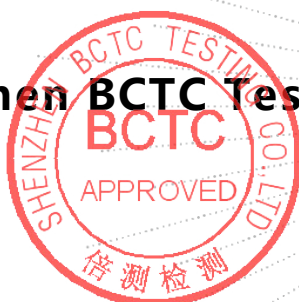
Model/Type
reference: SP020A

Tested Date: 2023-07-01 to 2023-07-11

Issued Date: 2023-07-11



Shenzhen BCTC Testing Co., Ltd.



FCC ID: 2BB2Z-SP020A

Product Name: SHARGE ICEMAG POWER BANK 10000mAh
Trademark: SHARGE
Model/Type reference: SP020A
Prepared For: Sharge Technology (Shenzhen) Co., LTD
Address: Room 305, floor 3, xinzhongtai Industrial Park, building 3, Hengfeng community, Yousong community, Longhua street, Longhua District, Shenzhen, China
Manufacturer: Sharge Technology (Shenzhen) Co., LTD
Address: Room 305, floor 3, xinzhongtai Industrial Park, building 3, Hengfeng community, Yousong community, Longhua street, Longhua District, 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: 2023-07-01
Sample tested Date: 2023-07-01 to 2023-07-11
Issue Date: 2023-07-11
Report No.: BCTC2306253894-2E
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

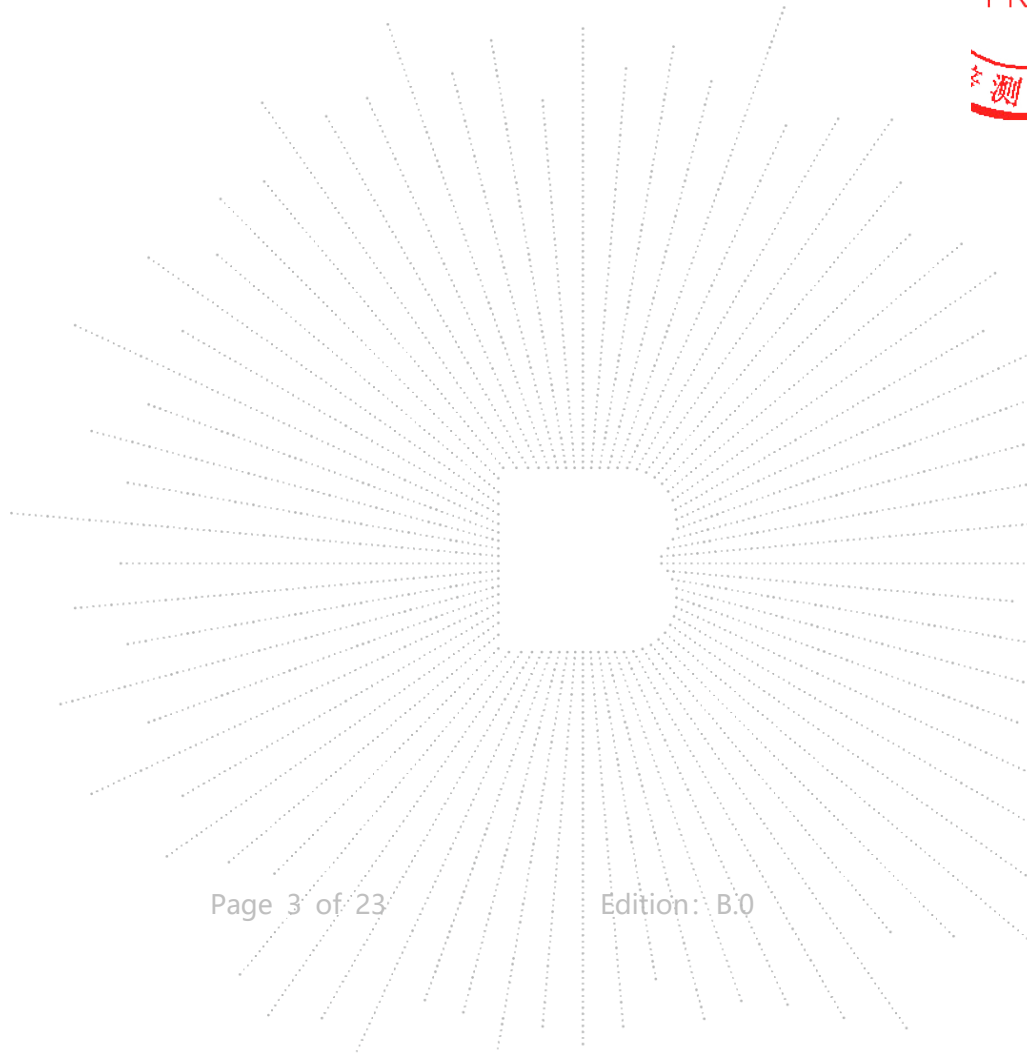
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(Note: N/A Means Not Applicable)

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1. Version

Report No.	Issue Date	Description	Approved
BCTC2306253894-2E	2023-07-11	Original	Valid

2. Product Information

2.1 Product Information

Model/Type reference: SP020A
Model differences: N/A
Hardware Version: N/A
Software Version: N/A
Operation Frequency: 115kHz-205kHz
Modulation type: ASK
Antenna installation: loop coil antenna
Ratings: USB-C Input: DC 5V/3A, 9V/2A
USB-C Output: DC 5V/2.4A, 9V/2.22A, 12V/1.67A
Wireless charging Output: 5W, 7.5W
Battery: DC 3.7V

2.2 Support Equipment

Device Type	Brand	Model	Series No.	Note
SHARGE ICEMAG POWER BANK 10000mAh	SHARGE SHARGE	SP020A	N/A	EUT

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

Mode 1	Charging+ Wireless charging 5W
Mode 2	Charging+ Wireless charging 7.5W
Mode 3	Wireless charging 5W
Mode 4	Wireless charging 7.5W

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

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
Electromagnet -ic field probe	Wavecontrol	WP400-3	20WP120082	Sept. 08, 2022	Sept. 07, 2023
843 Chamber	ETS	843	84301	Aug. 27, 2020	Aug. 26, 2023
Software	Frad	EZ-EMC	EMC-CON 3A1	\	\

CO., LTD.

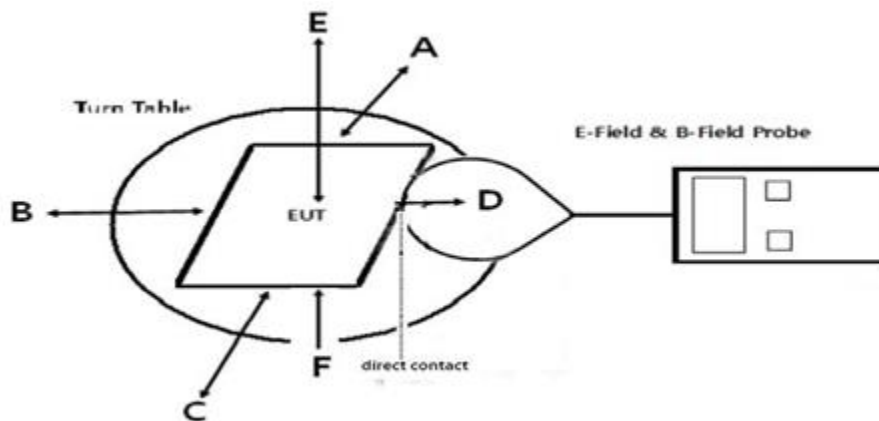
4. Method Of Measurement

4.1 Applicable Standard

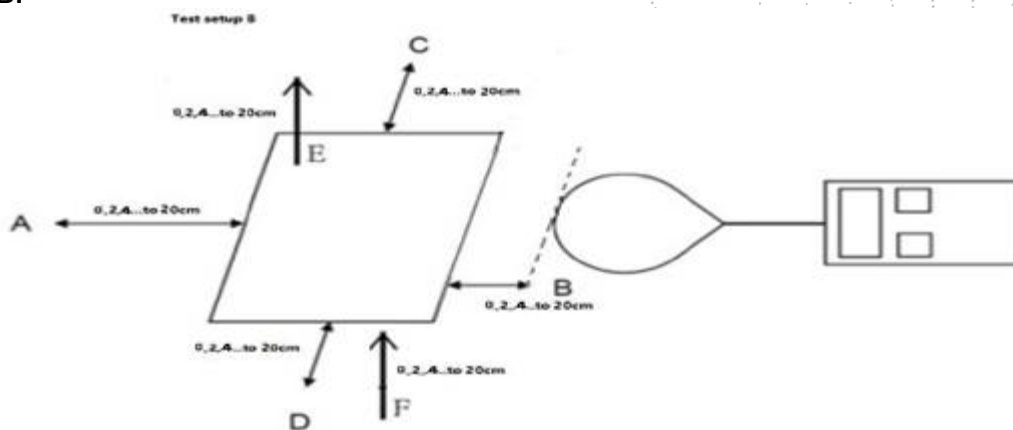
According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. According to §1.1310 and §2.1093 RF exposure is calculated. According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

- a) he 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 from 0 cm to 20 cm, in 2 cm maximum increment measured from the edge of the device For the test setup B.
- c)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.
- d)The EUT was measured according to the dictates of KDB680106 D01v03r01
- 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 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 7.5W.

3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that able to detect and allow coupling onlybetween individual pair of coils.

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 levels are 10% x MPE limit.

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4.6 E and H field Strength

For setup A:
Worst Case Operating Mode: Mode 2

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

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position Top	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.072	0.061	0.073	0.070	0.062	0.078	61.4	614
50%	0.115-0.205	0.063	0.072	0.071	0.067	0.065	0.074	61.4	614
99%	0.115-0.205	0.062	0.067	0.062	0.064	0.073	0.077	61.4	614

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)	10% Limits Test (uT)
1%	0.115-0.205	0.067	0.072	0.079	0.069	0.070	0.066	0.204
50%	0.115-0.205	0.074	0.078	0.063	0.075	0.079	0.066	0.204
99%	0.115-0.205	0.070	0.067	0.063	0.067	0.074	0.067	0.204

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	0.054	0.058	0.063	0.055	0.056	0.052	0.163	1.630
50%	0.115-0.205	0.059	0.063	0.050	0.060	0.064	0.053	0.163	1.630
99%	0.115-0.205	0.056	0.054	0.050	0.053	0.059	0.054	0.163	1.630

Note: A/m=uT÷1.25

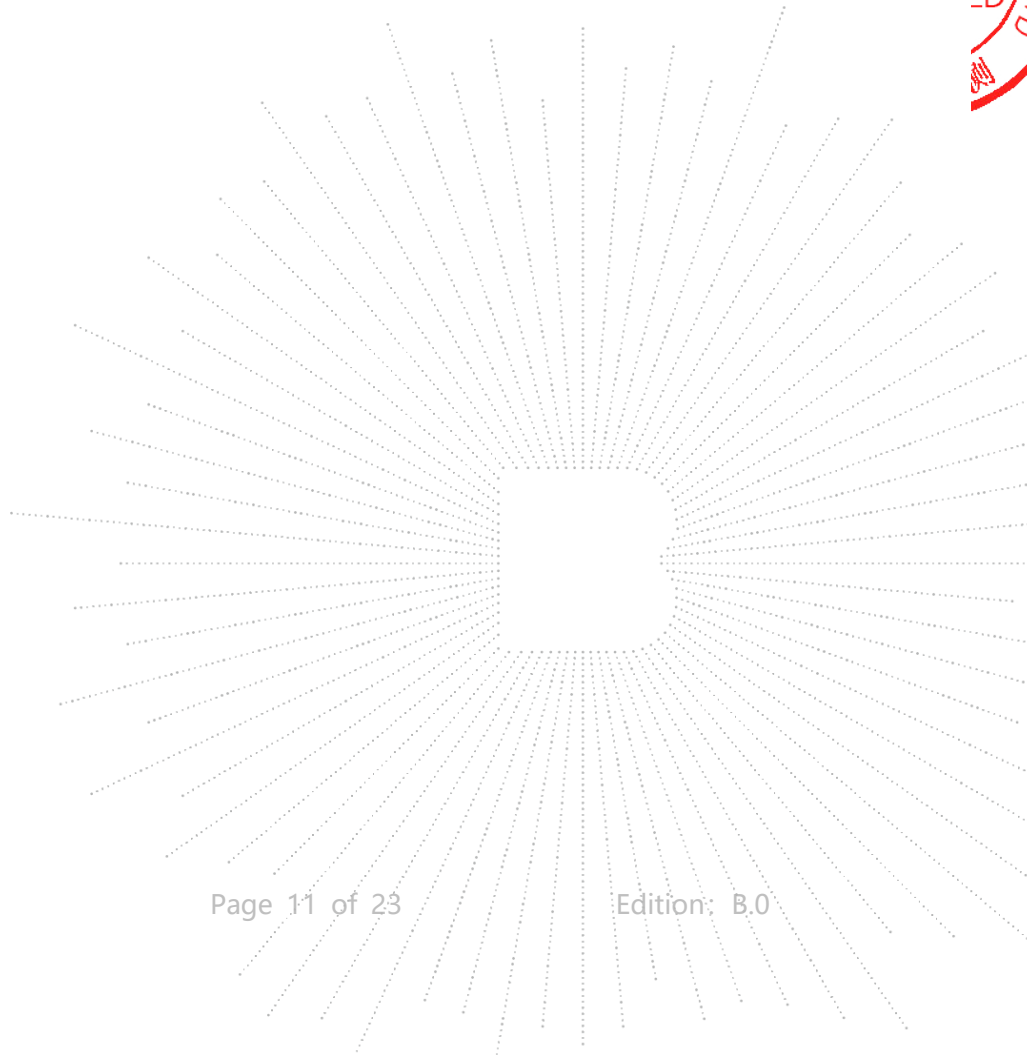
For setup B:
Worst Case Operating Mode: Mode 2

1% battery

E-Filed Strength at (distance from 0cm to 20cm at 2cm iteration) surrounding the EUT (V/m)

Test distance (cm)	Test Position A(V/m)	Test Position B(V/m)	Test Position C(V/m)	Test Position D(V/m)	Test Position E(V/m)	Test Position F(V/m)	Limits (V/m)
0	0.095	0.095	0.105	0.107	0.105	0.099	614
2	0.097	0.093	0.104	0.102	0.105	0.108	614
4	0.109	0.099	0.090	0.092	0.091	0.106	614
6	0.092	0.099	0.092	0.094	0.096	0.106	614
8	0.103	0.108	0.093	0.096	0.093	0.103	614
10	0.101	0.106	0.096	0.103	0.091	0.098	614
12	0.093	0.108	0.094	0.098	0.103	0.093	614
14	0.107	0.110	0.096	0.107	0.098	0.100	614
16	0.091	0.104	0.109	0.096	0.093	0.103	614
18	0.104	0.091	0.102	0.098	0.102	0.109	614
20	0.092	0.101	0.096	0.101	0.096	0.108	614

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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)
0	0.095	0.102	0.105	0.108	0.107	0.102
2	0.105	0.092	0.099	0.094	0.104	0.107
4	0.106	0.094	0.102	0.104	0.098	0.091
6	0.102	0.094	0.101	0.098	0.100	0.092
8	0.108	0.096	0.094	0.094	0.103	0.091
10	0.100	0.099	0.093	0.109	0.094	0.092
12	0.093	0.093	0.104	0.104	0.090	0.091
14	0.095	0.099	0.101	0.094	0.091	0.095
16	0.100	0.095	0.099	0.107	0.095	0.109
18	0.106	0.091	0.103	0.097	0.107	0.102
20	0.092	0.102	0.093	0.106	0.109	0.092

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)
0	0.076	0.082	0.084	0.086	0.086	0.082	1.630
2	0.084	0.073	0.079	0.075	0.083	0.086	1.630
4	0.085	0.076	0.081	0.083	0.079	0.073	1.630
6	0.082	0.075	0.081	0.078	0.080	0.073	1.630
8	0.086	0.077	0.075	0.076	0.083	0.073	1.630
10	0.080	0.079	0.074	0.087	0.075	0.074	1.630
12	0.074	0.075	0.083	0.083	0.072	0.073	1.630
14	0.076	0.079	0.081	0.075	0.073	0.076	1.630
16	0.080	0.076	0.079	0.086	0.076	0.087	1.630
18	0.085	0.072	0.082	0.077	0.086	0.082	1.630
20	0.074	0.082	0.074	0.085	0.087	0.073	1.630

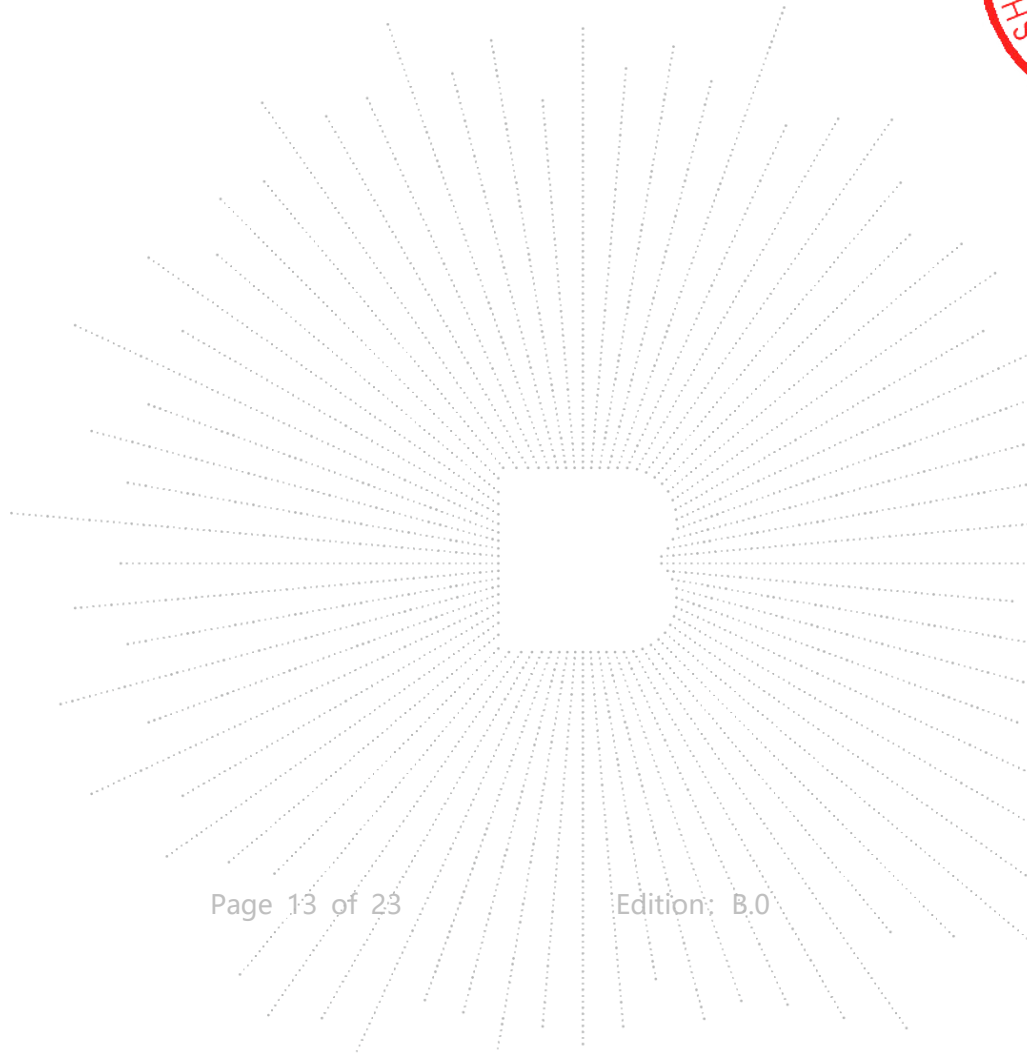
Note: $A/m = uT/1.25$

50% battery

E-Filed Strength at (distance from 0cm to 20cm at 2cm iteration) surrounding the EUT (V/m)

Test distance (cm)	Test Position A(V/m)	Test Position B(V/m)	Test Position C(V/m)	Test Position D(V/m)	Test Position E(V/m)	Test Position F(V/m)	Limits (V/m)
0	0.104	0.099	0.108	0.102	0.103	0.091	614
2	0.105	0.099	0.104	0.090	0.108	0.097	614
4	0.100	0.097	0.104	0.092	0.099	0.104	614
6	0.104	0.107	0.094	0.101	0.103	0.103	614
8	0.102	0.098	0.093	0.107	0.096	0.100	614
10	0.098	0.102	0.095	0.109	0.096	0.091	614
12	0.103	0.092	0.104	0.091	0.106	0.097	614
14	0.105	0.096	0.102	0.100	0.101	0.092	614
16	0.105	0.097	0.097	0.092	0.095	0.097	614
18	0.107	0.091	0.096	0.108	0.102	0.103	614
20	0.098	0.108	0.105	0.103	0.107	0.096	614

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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)
0	0.095	0.110	0.091	0.099	0.101	0.101
2	0.094	0.104	0.101	0.101	0.110	0.109
4	0.092	0.103	0.102	0.091	0.103	0.096
6	0.110	0.099	0.109	0.106	0.094	0.095
8	0.101	0.094	0.097	0.110	0.106	0.104
10	0.107	0.094	0.108	0.094	0.094	0.109
12	0.101	0.108	0.098	0.109	0.103	0.096
14	0.094	0.103	0.110	0.109	0.101	0.094
16	0.105	0.109	0.107	0.097	0.107	0.108
18	0.097	0.102	0.090	0.104	0.098	0.107
20	0.110	0.101	0.095	0.109	0.093	0.098

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)
0	0.076	0.088	0.073	0.079	0.081	0.081	1.630
2	0.076	0.083	0.081	0.081	0.088	0.088	1.630
4	0.074	0.082	0.082	0.073	0.082	0.077	1.630
6	0.088	0.079	0.087	0.085	0.075	0.076	1.630
8	0.081	0.075	0.078	0.088	0.085	0.084	1.630
10	0.086	0.076	0.086	0.075	0.075	0.087	1.630
12	0.081	0.086	0.079	0.087	0.083	0.077	1.630
14	0.075	0.083	0.088	0.087	0.081	0.075	1.630
16	0.084	0.087	0.086	0.078	0.086	0.087	1.630
18	0.078	0.082	0.072	0.083	0.079	0.086	1.630
20	0.088	0.080	0.076	0.087	0.074	0.079	1.630

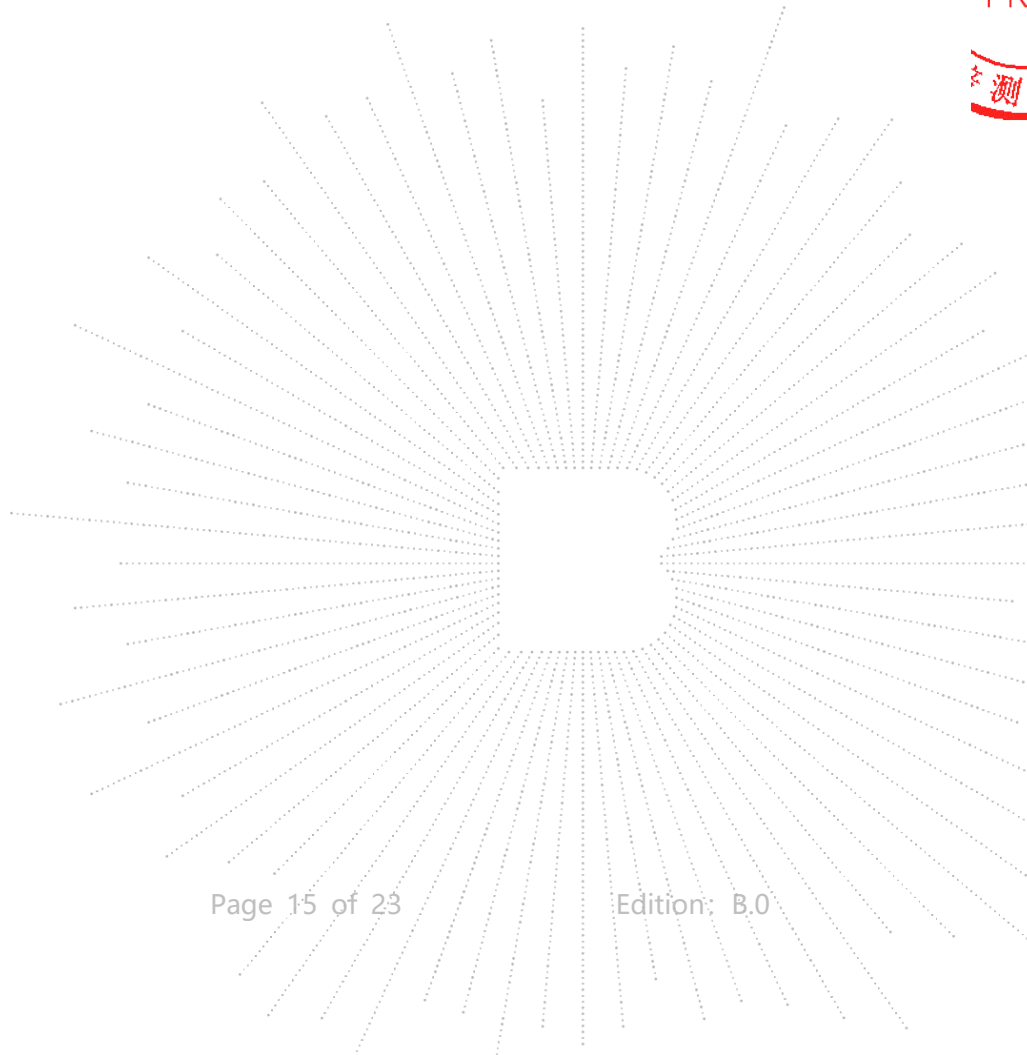
Note: $A/m = uT/1.25$

99% battery

E-Filed Strength at (distance from 0cm to 20cm at 2cm iteration) surrounding the EUT (V/m)

Test distance (cm)	Test Position A(V/m)	Test Position B(V/m)	Test Position C(V/m)	Test Position D(V/m)	Test Position E(V/m)	Test Position F(V/m)	Limits (V/m)
0	0.094	0.108	0.109	0.103	0.104	0.093	614
2	0.092	0.092	0.090	0.110	0.098	0.109	614
4	0.100	0.098	0.096	0.099	0.092	0.092	614
6	0.095	0.097	0.098	0.097	0.100	0.108	614
8	0.090	0.110	0.110	0.106	0.096	0.092	614
10	0.092	0.093	0.110	0.106	0.094	0.092	614
12	0.096	0.095	0.092	0.109	0.092	0.098	614
14	0.095	0.101	0.103	0.104	0.099	0.108	614
16	0.103	0.107	0.104	0.108	0.093	0.094	614
18	0.102	0.101	0.106	0.105	0.091	0.105	614
20	0.092	0.100	0.107	0.103	0.109	0.109	614

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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)
0	0.100	0.103	0.103	0.103	0.094	0.107
2	0.095	0.099	0.099	0.093	0.106	0.094
4	0.102	0.103	0.105	0.101	0.092	0.094
6	0.106	0.109	0.092	0.096	0.108	0.106
8	0.098	0.103	0.107	0.091	0.107	0.106
10	0.108	0.093	0.107	0.102	0.093	0.100
12	0.108	0.093	0.110	0.093	0.102	0.098
14	0.108	0.105	0.102	0.096	0.103	0.099
16	0.092	0.093	0.090	0.107	0.099	0.109
18	0.109	0.095	0.091	0.098	0.093	0.099
20	0.104	0.100	0.108	0.108	0.100	0.109

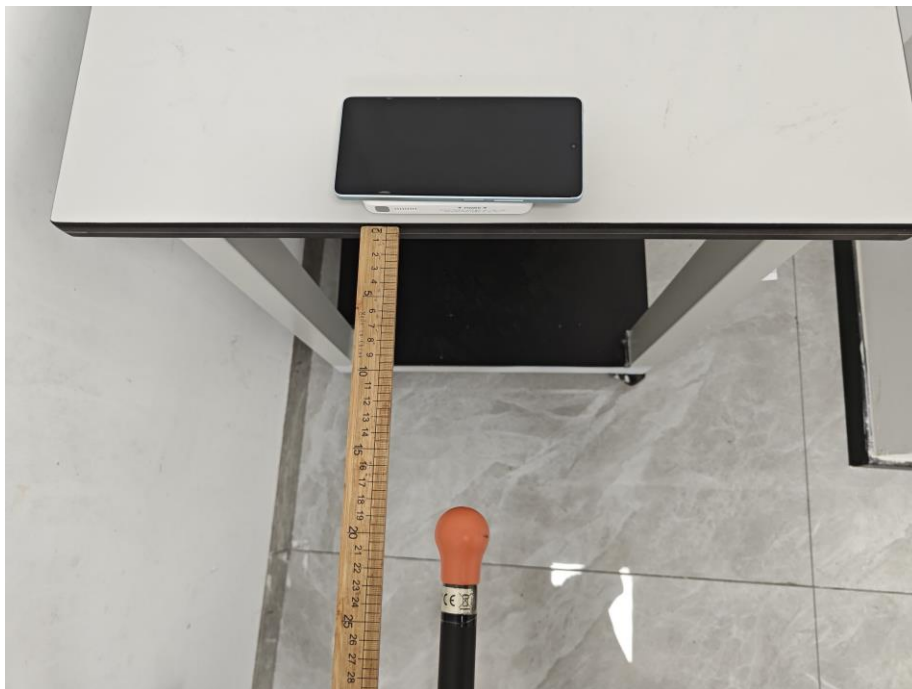
Test distance (cm)	Test Position A(A/m)	Test Position B(A/m)	Test Position C(A/m)	Test Position D(A/m)	Test Position E(A/m)	Test Position F(A/m)	Limits (A/m)
0	0.080	0.082	0.083	0.083	0.075	0.086	1.630
2	0.076	0.080	0.079	0.075	0.085	0.075	1.630
4	0.082	0.083	0.084	0.081	0.073	0.075	1.630
6	0.085	0.087	0.074	0.077	0.087	0.085	1.630
8	0.079	0.082	0.085	0.073	0.086	0.085	1.630
10	0.086	0.075	0.085	0.082	0.075	0.080	1.630
12	0.086	0.075	0.088	0.075	0.082	0.079	1.630
14	0.087	0.084	0.082	0.077	0.083	0.079	1.630
16	0.074	0.074	0.072	0.086	0.079	0.087	1.630
18	0.087	0.076	0.073	0.078	0.075	0.079	1.630
20	0.083	0.080	0.086	0.086	0.080	0.087	1.630

Note: $A/m = uT/1.25$

5. Photographs Of Test Set-Up

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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, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

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

******* END *******

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CO., LTD