TEST REPORT

Report No.:	BCTC2109326766-2E
Applicant:	Shenzhen U-Angel Technology Co., Ltd
Product Name:	20W fast charger magnetic wireless power bank
Model/Type Ref.:	UD50SW
Tested Date:	2021-09-06 to 2021-09-24
Issued Date:	2021-09-24

Shenzhen BCTC Testing Co., Ltd.

FCC ID:2AX87-UD50SW

Product Name:	20W fast charger magnetic wireless power bank
Trademark:	N/A
Model/Type Ref.:	UD50SW UD50CW
Prepared For:	Shenzhen U-Angel Technology Co., Ltd
Address:	4th Floor, Block C, Phase 2 Of Hongmen Industrial Park, No.399, Jihua Road, Jihua Street, Longgang District, Shenzhen City, Guangdong Province, China
Manufacturer:	Shenzhen U-Angel Technology Co., Ltd
Address:	4th Floor, Block C, Phase 2 Of Hongmen Industrial Park, No.399, Jihua Road, Jihua Street, Longgang District, Shenzhen City, Guangdong Province, China
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Tangwei, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2021-09-06
Sample tested Date:	2021-09-06 to 2021-09-24
Issue Date:	2021-09-24
Report No.:	BCTC2109326766-2E
Test Standards:	FCC CFR 47 part1, 1.1307(b), 1.1310
Test Results:	PASS

Tested by:

Kelsey Tan

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.

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(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2109326766-2E	2021-09-24	Original	Valid

2. Product Information

2.1 Product Information

Model/Type Ref.:	UD50SW UD50CW
Model differences:	All the model are the same circuit and RF module, except model names and appearance of the color.
Product Description:	20W fast charger magnetic wireless power bank
Operation Frequency:	115kHz-205kHz
Antenna installation:	Loop coil antenna
Ratings:	Input:DC 5V 3A/DC 9V 2A Output:DC 5V 3A/DC 9V 2.22A/DC 12V 1.5A Wireless outpu:15W(MAX)

2.2 Support Equipment

Device Type	Brand	Model	Series No.	Note
20W fast charger magnetic wireless power bank	N/A	UD50SW UD50CW	N/A	N/A

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

Test Modes 1	Wireless charging (5W)
Test Modes 2	Wireless charging (7.5W)
Test Modes 3	Wireless charging (10W)
Test Modes 4	Wireless charging (15W)

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, Tangwei, 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

IC Registered No.: 23583

3.2 Test Instrument Used

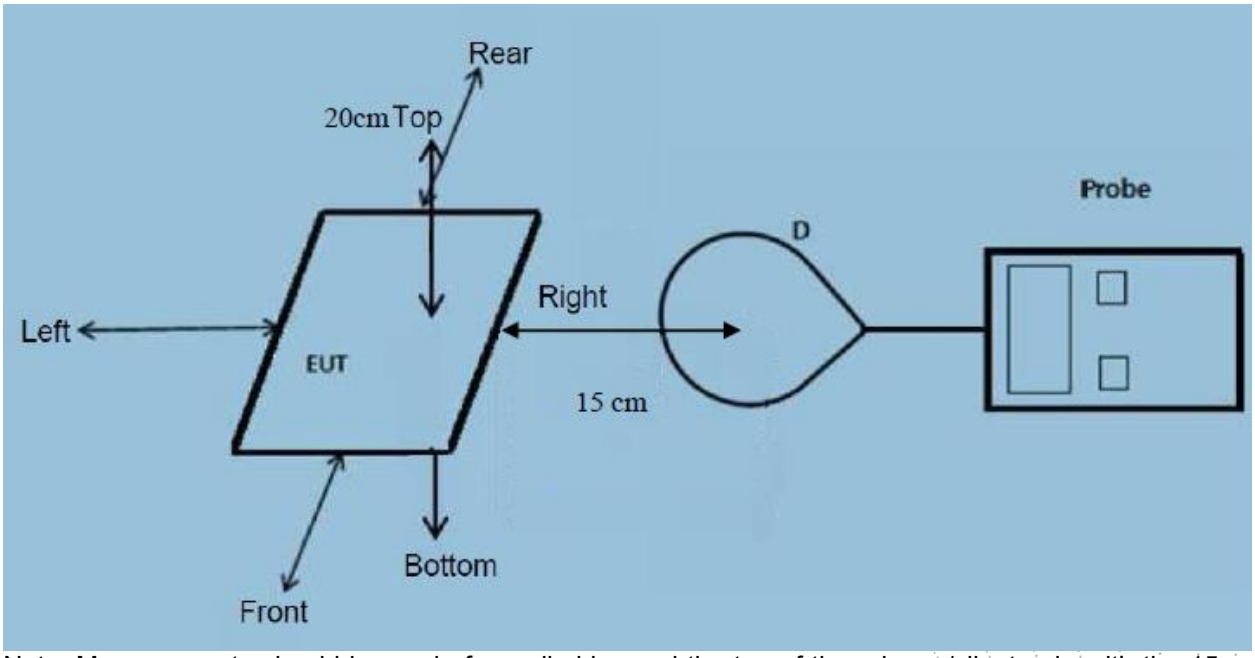
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Electromagnetic radiation tester	Wavecontrol	SMP160	19SN0980	Aug. 30, 2021	Aug. 29, 2022
Electromagnetic field probe	Wavecontrol	WP400-3	20WP120082	Aug. 30, 2021	Aug. 29, 2022
843 Chamber	ETS	843	84301	Aug. 27, 2020	Aug. 26, 2023

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



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device

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 on 360 degree turn table in anechoic chamber.

b) The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe.

c) The turn table was rotated 360d degree to search of highest strength.

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.

e) The EUT were measured according to the dictates of KDB 680106D01v03.

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 15W.

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 only between individual pair of coils.

   Yes, the transfer system includes only single primary and secondary coils.

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 EUT is a Portable wireless charge power bank.

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

(The worst data is test mode 4)
E-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	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.61	0.6	0.64	0.62	0.61	61.4	614
50%	0.115-0.205	0.66	0.64	0.68	0.65	0.67	61.4	614
99%	0.115-0.205	0.67	0.66	0.71	0.69	0.68	61.4	614

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	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (A/m)	Limits Test (A/m)
100%	0.115-0.205	0.098	0.096	0.094	0.092	0.093	0.163	1.63

(The worst data is test mode 4)
E-Field Strength at 0 cm surrounding the EUT and 0cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.96	0.94	0.93	0.9	0.89	61.4	614
50%	0.115-0.205	0.97	0.95	0.93	0.91	0.91	61.4	614
99%	0.115-0.205	0.98	0.97	0.95	0.93	0.92	61.4	614

H-Field Strength at 0 cm surrounding the EUT and 0cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (A/m)	Limits Test (A/m)
100%	0.115-0.205	0.098	0.096	0.094	0.092	0.093	0.163	1.63

(The worst data is test mode 4)
E-Field Strength at 2 cm surrounding the EUT and 2cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.89	0.81	0.88	0.87	0.87	61.4	614
50%	0.115-0.205	0.91	0.92	0.9	0.89	0.87	61.4	614
99%	0.115-0.205	0.92	0.93	0.91	0.89	0.88	61.4	614

H-Field Strength at 2 cm surrounding the EUT and 2cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (A/m)	Limits Test (A/m)
100%	0.115-0.205	0.097	0.096	0.092	0.091	0.091	0.163	1.63

(The worst data is test mode 4)
E-Field Strength at 4 cm surrounding the EUT and 4cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.86	0.76	0.85	0.81	0.81	61.4	614
50%	0.115-0.205	0.87	0.79	0.86	0.82	0.83	61.4	614
99%	0.115-0.205	0.89	0.8	0.87	0.83	0.85	61.4	614

H-Field Strength at 4 cm surrounding the EUT and 4cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (A/m)	Limits Test (A/m)
100%	0.115-0.205	0.092	0.094	0.091	0.089	0.09	0.163	1.63

(The worst data is test mode 4)
E-Field Strength at 6 cm surrounding the EUT and 6cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.82	0.72	0.81	0.79	0.78	61.4	614
50%	0.115-0.205	0.84	0.73	0.82	0.81	0.81	61.4	614
99%	0.115-0.205	0.86	0.75	0.83	0.8	0.81	61.4	614

H-Field Strength at 6 cm surrounding the EUT and 6cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (A/m)	Limits Test (A/m)
100%	0.115-0.205	0.091	0.093	0.089	0.087	0.088	0.163	1.63

(The worst data is test mode 4)
E-Field Strength at 8 cm surrounding the EUT and 8cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.73	0.69	0.76	0.73	0.73	61.4	614
50%	0.115-0.205	0.76	0.7	0.79	0.75	0.74	61.4	614
99%	0.115-0.205	0.79	0.71	0.8	0.77	0.76	61.4	614

H-Field Strength at 8 cm surrounding the EUT and 8cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (A/m)	Limits Test (A/m)
100%	0.115-0.205	0.09	0.092	0.087	0.086	0.087	0.163	1.63

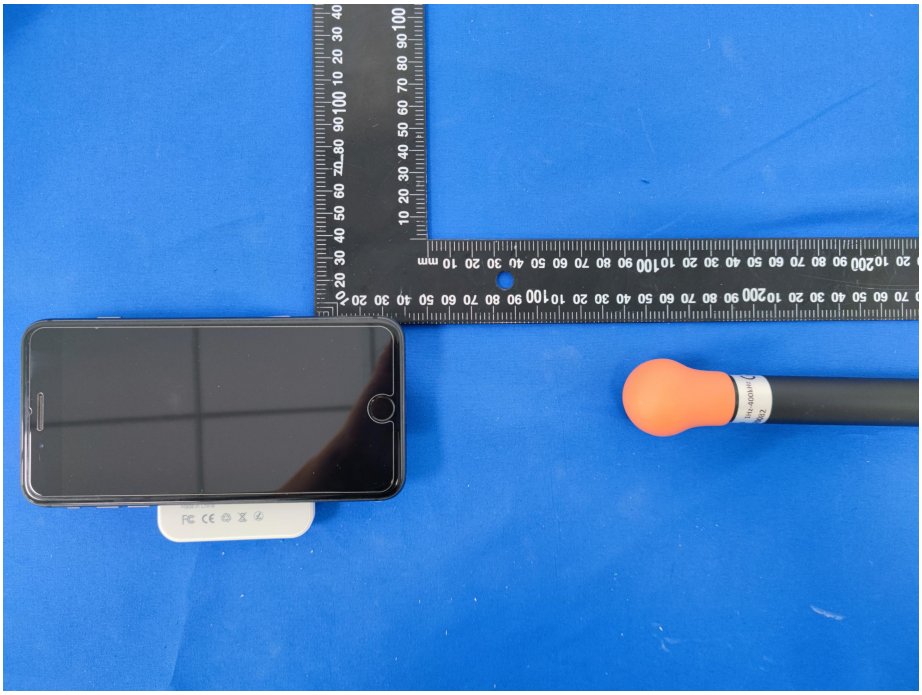
(The worst data is test mode 4)
E-Field Strength at 10 cm surrounding the EUT and 10cm above the top surface of the EUT

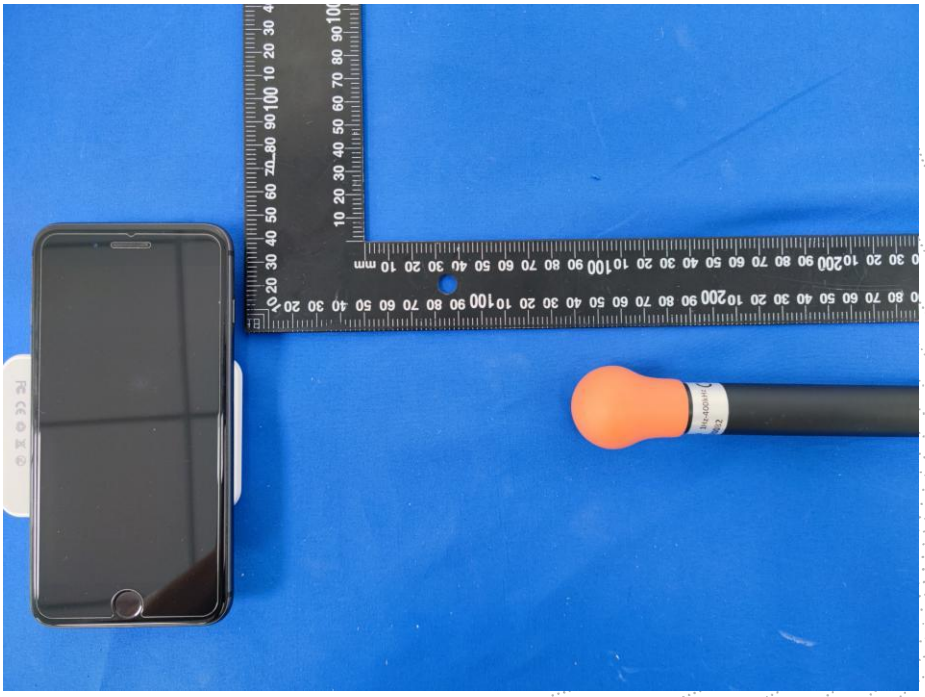
Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.115-0.205	0.68	0.66	0.72	0.71	0.7	61.4	614
50%	0.115-0.205	0.69	0.67	0.74	0.73	0.72	61.4	614
99%	0.115-0.205	0.71	0.68	0.75	0.76	0.74	61.4	614

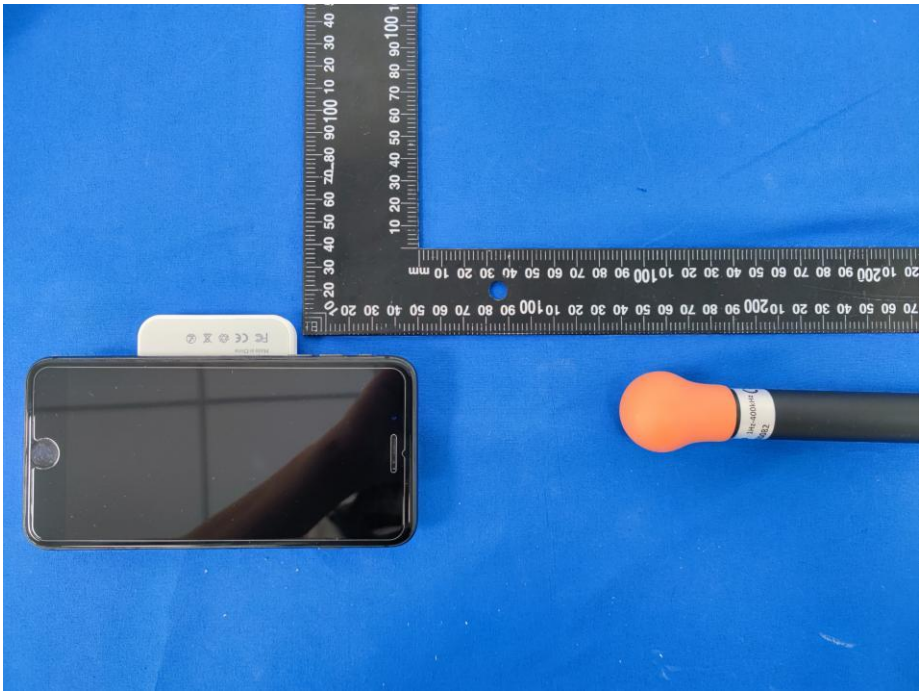
H-Field Strength at 10 cm surrounding the EUT and 10cm above the top surface of the EUT

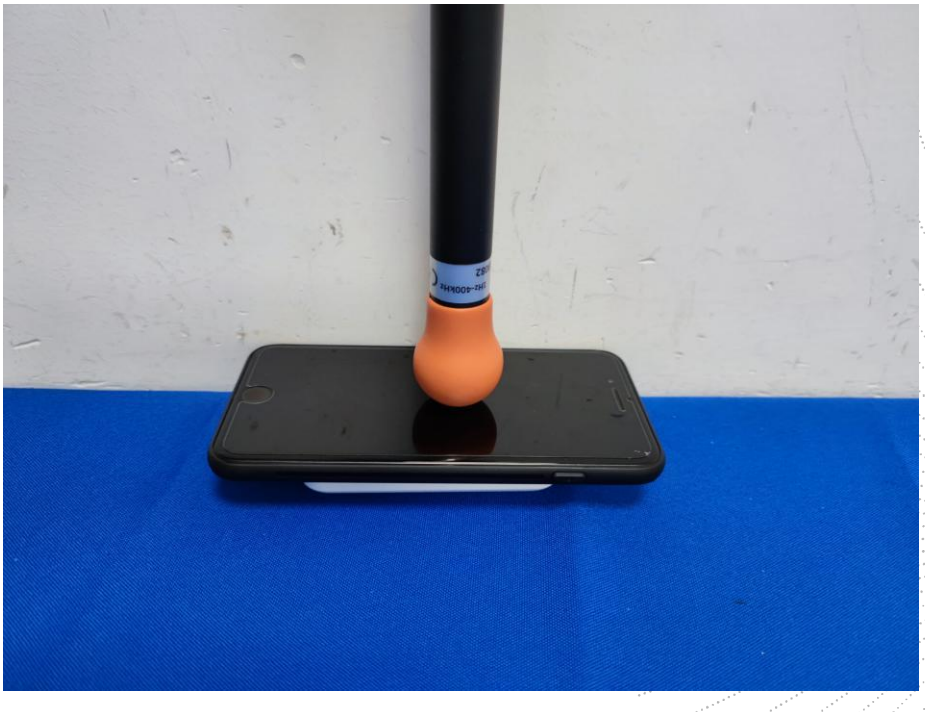
Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	10% Limits Test (A/m)	Limits Test (A/m)
100%	0.115-0.205	0.088	0.091	0.086	0.085	0.084	0.163	1.63

5. Photographs Of Test Set-Up









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 stamp of laboratory.

4.The test report is invalid without signature of person(s) testing and authorizing.

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

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

7.If there is any objection to 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, Tangwei, 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** ※※※※※