TEST REPORT

Report No.:	BCTC2311201938-2E
Applicant:	Guangdong lianzhan electronic technology co., ltd
Product Name:	Wireless Charger Power Bank
Model/Type reference:	LMP-12
Tested Date:	2023-11-14 to 2023-11-23
Issued Date:	2023-11-23

Shenzhen BCTC Testing Co., Ltd.

FCC ID: 2BDL7LMP-12

Product Name:	Wireless Charger Power Bank
Trademark:	N/A
Model/Type Ref.:	LMP-12 LMP
Prepared For:	Guangdong lianzhan electronic technology co., ltd
Address:	Room 302, Building 3, No. 305 Hengzhen West Road, Dalingshan Town, Dongguan City, Guangdong Province, China
Manufacturer:	Guangdong lianzhan electronic technology co., ltd
Address:	Room 302, Building 3, No. 305 Hengzhen West Road, Dalingshan Town, Dongguan 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, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China
Sample Received Date:	2023-11-14
Sample tested Date:	2023-11-14 to 2023-11-23
Issue Date:	2023-11-23
Report No.:	BCTC2311201938-2E
Test Standards:	FCC CFR 47 part1, 1.1307(b), 1.1310
Test Results:	PASS

Tested by:

Brave Zeng

Brave Zeng/ 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
BCTC2311201938-2E	2023-11-23	Original	Valid

2. Product Information

2.1 Product Information

Model/Type reference:	LMP-12 LMP
Model differences:	All the model are the same circuit and RF module, except model names and appearance of the color.
Hardware Version:	N/A
Software Version:	N/A
Product Description:	Wireless Charger Power Bank
Operation Frequency:	112kHz-205kHz
Antenna installation:	loop coil antenna
Ratings:	USB-C Input: 5V⎓3A, 9V⎓2A USB-C Output: 5V⎓3A, 9V⎓2.22A, 12V⎓1.5A Wireless Output: 5W, 7.5W, 10W, 15W

Cable of Product

No.	Cable Type	Quantity	Provider	Length (m)	Shielded	Note
1	--	--	Applicant	---	Yes/No	With a ferrite ring in mid Detachable
2	--	--	BCTC	--	Yes/No	--

2.2 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
1.	Adapter	UGREEN	CD122	---	auxiliary
2.	Wireless charging load	---	---	---	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

Test Mode	Description	Remark
AC adapter Mode		
TM1	Wireless Charging	Fully Load
TM2	Wireless Charging	Empty Load
TM3	Wireless Charging	Half Load
Battery Mode		
TM4	Wireless Charging	Fully Load
TM5	Wireless Charging	Empty Load
TM6	Wireless Charging	Half Load

Note: Reported data only reflect the worst mode full load

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

Equipment	Manufacturer	Model No.	Serial No.	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	\	\

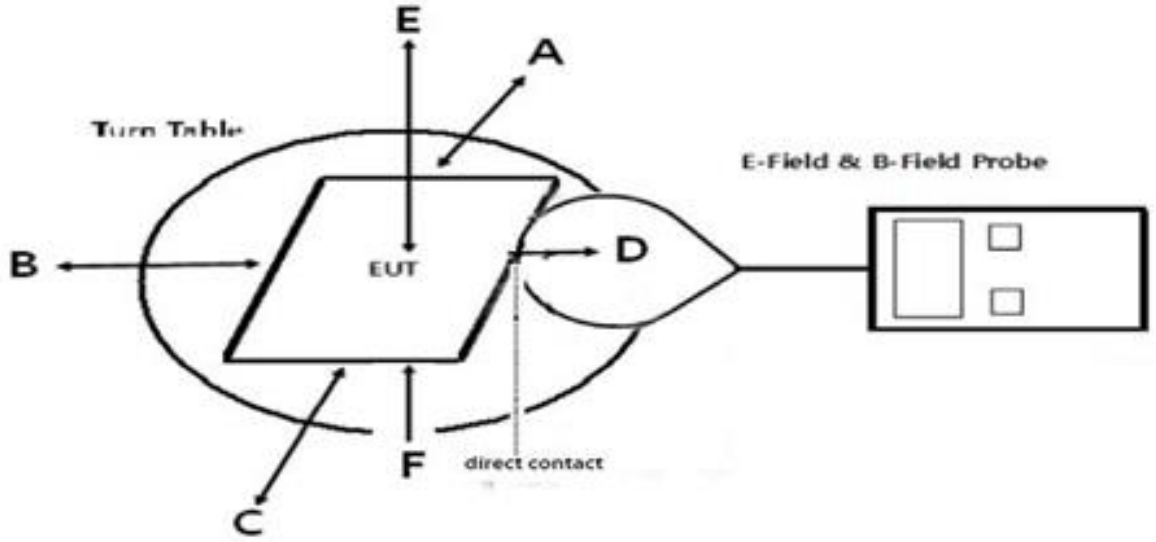
4. Method Of Measurement

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:



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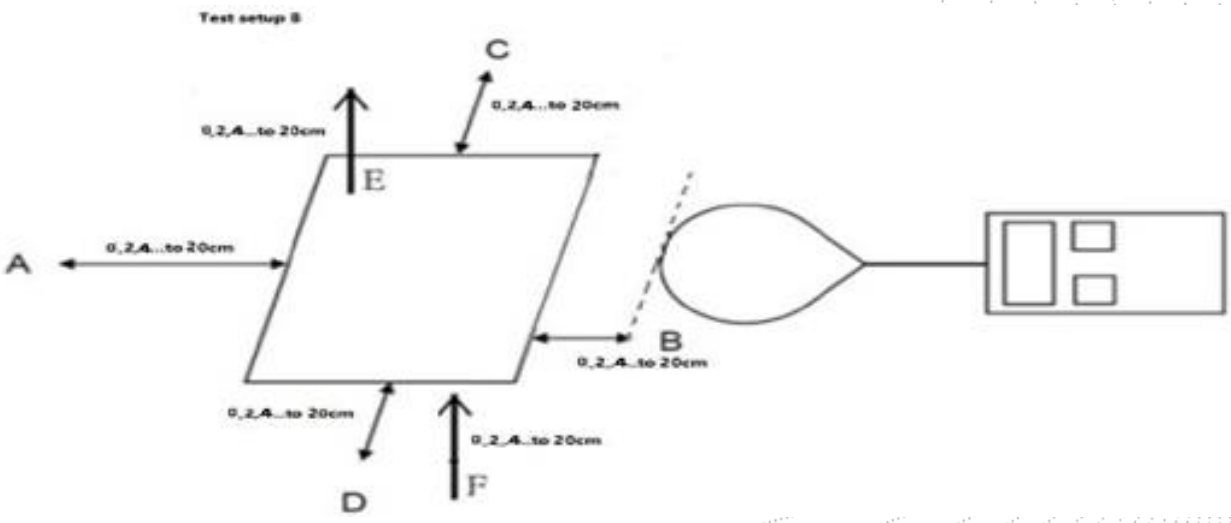
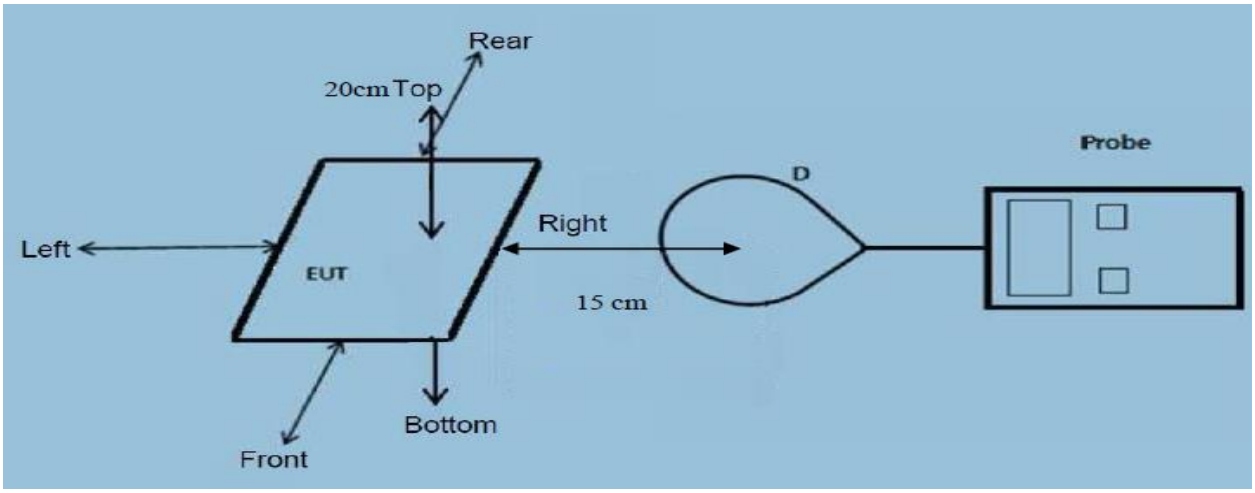




4.3 Limit

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) 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 112-205KHz
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 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.

4.6 E And H Field Strength

For setup A:
Worst Case Operating Mode: Mode 4

H-Filed Strength at 0 cm from edges surrounding the EUT (A/m)

Frequency Range (KHz)	Operation condition	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)
112kHz-205kHz	1% battery	0.065	0.075	0.092	0.096	0.047	0.061	1.63
112kHz-205kHz	50% battery	0.067	0.073	0.070	0.109	0.046	0.079	1.63
112kHz-205kHz	99% battery	0.076	0.083	0.086	0.101	0.040	0.074	1.63

Frequency Range (KHz)	Operation condition	Test Position A (uT)	Test Position B (uT)	Test Position C (uT)	Test Position D (uT)	Test Position E (uT)	Test Position F (uT)
112kHz-205kHz	1% battery	0.082	0.094	0.116	0.119	0.059	0.076
112kHz-205kHz	50% battery	0.084	0.092	0.087	0.136	0.057	0.099
112kHz-205kHz	99% battery	0.094	0.104	0.107	0.126	0.050	0.093

Note: A/m=uT/1.25

E-Filed Strength at 0 cm from edges surrounding the EUT (V/m)

Frequency Range (KHz)	Operation condition	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)
112kHz-205kHz	1% battery	0.075	0.080	0.087	0.124	0.049	0.095	614
112kHz-205kHz	50% battery	0.089	0.084	0.124	0.125	0.056	0.091	614
112kHz-205kHz	99% battery	0.088	0.089	0.088	0.121	0.044	0.122	614

For setup B:
Worst Case Operating Mode: Mode 4

1% battery

H-Filed Strength at (Distance from 0cm to 20cm and with 2-cm increments) surrounding the EUT (A/m)

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	0.067	0.088	0.068	0.104	0.049	0.089	1.63
4	0.071	0.078	0.085	0.103	0.045	0.079	1.63
6	0.071	0.070	0.072	0.090	0.048	0.070	1.63
8	0.062	0.079	0.083	0.094	0.035	0.062	1.63
10	0.061	0.072	0.081	0.091	0.043	0.065	1.63
12	0.076	0.089	0.072	0.108	0.039	0.097	1.63
14	0.075	0.080	0.069	0.091	0.038	0.080	1.63
16	0.067	0.078	0.097	0.104	0.043	0.091	1.63
18	0.071	0.077	0.088	0.091	0.037	0.070	1.63
20	0.065	0.074	0.067	0.099	0.040	0.086	1.63

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	0.084	0.109	0.085	0.130	0.061	0.112
4	0.089	0.097	0.107	0.129	0.056	0.099
6	0.089	0.087	0.090	0.113	0.060	0.088
8	0.077	0.099	0.103	0.117	0.044	0.078
10	0.076	0.090	0.101	0.114	0.054	0.082
12	0.095	0.111	0.090	0.136	0.049	0.121
14	0.094	0.100	0.087	0.114	0.048	0.099
16	0.083	0.098	0.121	0.130	0.054	0.114
18	0.088	0.096	0.110	0.114	0.046	0.087
20	0.082	0.093	0.083	0.123	0.051	0.107

Note: A/m=uT/1.25

E-Filed Strength at (Distance from 0cm to 20cm and with 2-cm increments) 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)
2	0.074	0.070	0.100	0.092	0.032	0.068	614
4	0.069	0.077	0.066	0.107	0.036	0.068	614
6	0.073	0.073	0.099	0.098	0.033	0.069	614
8	0.064	0.071	0.088	0.109	0.041	0.068	614
10	0.070	0.077	0.075	0.108	0.040	0.066	614
12	0.066	0.081	0.077	0.095	0.043	0.094	1.63
14	0.061	0.073	0.099	0.096	0.038	0.085	614
16	0.060	0.064	0.077	0.103	0.034	0.076	614
18	0.072	0.071	0.081	0.096	0.034	0.092	614
20	0.070	0.082	0.091	0.109	0.038	0.067	614

50% battery

H-Filed Strength at (Distance from 0cm to 20cm and with 2-cm increments) surrounding the EUT (A/m)

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	0.076	0.069	0.086	0.105	0.049	0.098	1.63
4	0.068	0.079	0.077	0.107	0.035	0.077	1.63
6	0.066	0.068	0.086	0.109	0.043	0.087	1.63
8	0.065	0.061	0.065	0.110	0.033	0.091	1.63
10	0.062	0.065	0.064	0.104	0.038	0.072	1.63
12	0.067	0.082	0.084	0.107	0.046	0.072	1.63
14	0.071	0.064	0.061	0.101	0.046	0.078	1.63
16	0.065	0.085	0.084	0.101	0.039	0.078	1.63
18	0.069	0.084	0.088	0.100	0.047	0.079	1.63
20	0.067	0.087	0.076	0.099	0.049	0.062	1.63

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	0.095	0.086	0.107	0.132	0.061	0.122
4	0.085	0.099	0.097	0.134	0.043	0.096
6	0.082	0.085	0.108	0.136	0.053	0.109
8	0.081	0.076	0.082	0.137	0.042	0.114
10	0.077	0.081	0.080	0.129	0.047	0.089
12	0.084	0.102	0.105	0.134	0.058	0.090
14	0.089	0.080	0.076	0.127	0.057	0.098
16	0.082	0.106	0.105	0.126	0.049	0.098
18	0.086	0.105	0.110	0.125	0.059	0.098
20	0.084	0.109	0.095	0.124	0.061	0.078

Note: A/m=uT/1.25

E-Filed Strength at (Distance from 0cm to 20cm and with 2-cm increments) 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)
2	0.071	0.078	0.099	0.097	0.031	0.100	614
4	0.074	0.070	0.081	0.093	0.035	0.092	614
6	0.070	0.075	0.092	0.102	0.036	0.067	614
8	0.065	0.078	0.061	0.091	0.033	0.066	614
10	0.062	0.065	0.068	0.102	0.036	0.098	614
12	0.077	0.089	0.093	0.096	0.037	0.061	614
14	0.067	0.073	0.078	0.095	0.042	0.098	614
16	0.080	0.089	0.069	0.093	0.039	0.066	614
18	0.065	0.077	0.086	0.097	0.047	0.079	614
20	0.068	0.076	0.082	0.101	0.035	0.071	614

99% battery

H-Filed Strength at (Distance from 0cm to 20cm and with 2-cm increments) surrounding the EUT (A/m)

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	0.077	0.073	0.109	0.032	0.081	1.63
4	0.069	0.062	0.077	0.094	0.032	0.065	1.63
6	0.080	0.085	0.095	0.092	0.034	0.096	1.63
8	0.069	0.086	0.077	0.108	0.043	0.068	1.63
10	0.068	0.063	0.080	0.110	0.050	0.069	1.63
12	0.067	0.089	0.091	0.106	0.039	0.065	1.63
14	0.077	0.078	0.093	0.092	0.034	0.062	1.63
16	0.062	0.077	0.062	0.099	0.040	0.063	1.63
18	0.079	0.069	0.078	0.098	0.031	0.073	1.63
20	0.061	0.087	0.086	0.097	0.046	0.082	1.63

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	0.078	0.096	0.091	0.136	0.040	0.102
4	0.086	0.077	0.096	0.117	0.040	0.081
6	0.100	0.107	0.119	0.115	0.042	0.120
8	0.086	0.107	0.096	0.134	0.054	0.085
10	0.085	0.079	0.100	0.137	0.062	0.086
12	0.084	0.112	0.113	0.133	0.049	0.081
14	0.097	0.097	0.116	0.114	0.042	0.078
16	0.078	0.097	0.077	0.123	0.051	0.078
18	0.099	0.086	0.097	0.123	0.039	0.092
20	0.076	0.109	0.108	0.121	0.057	0.103

Note: A/m=uT/1.25

E-Filed Strength at (Distance from 0cm to 20cm and with 2-cm increments) 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)
2	0.077	0.063	0.098	0.101	0.032	0.094	614
4	0.074	0.078	0.064	0.110	0.041	0.096	614
6	0.070	0.061	0.100	0.108	0.045	0.074	614
8	0.069	0.083	0.080	0.093	0.033	0.066	614
10	0.064	0.069	0.094	0.106	0.048	0.077	614
12	0.078	0.090	0.082	0.091	0.032	0.094	614
14	0.072	0.085	0.073	0.101	0.036	0.080	614
16	0.077	0.067	0.064	0.095	0.041	0.070	614
18	0.073	0.087	0.062	0.106	0.042	0.077	614
20	0.061	0.072	0.085	0.102	0.037	0.077	614

AC Mode
Worst Case Operating Mode: Mode 1

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	Test Position Top	10% Limits Test (V/m)	Limits Test (V/m)
1%	0.112-0.205	0.078	0.067	0.063	0.107	0.038	0.066	61.4	614
50%	0.112-0.205	0.074	0.086	0.081	0.094	0.041	0.091	61.4	614
99%	0.112-0.205	0.073	0.073	0.092	0.101	0.048	0.062	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(uT)	Test Position B(uT)	Test Position C(uT)	Test Position D(uT)	Test Position E(uT)	Test Position Top(uT)
1%	0.112-0.205	0.098	0.084	0.079	0.134	0.048	0.083
50%	0.112-0.205	0.092	0.108	0.102	0.118	0.051	0.114
99%	0.112-0.205	0.091	0.091	0.115	0.126	0.059	0.077

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%	0.112-0.205	0.087	0.111	0.108	0.123	0.051	0.110	0.163	1.63
50%	0.112-0.205	0.087	0.108	0.078	0.130	0.059	0.098	0.163	1.63
99%	0.112-0.205	0.079	0.081	0.102	0.123	0.041	0.089	0.163	1.63

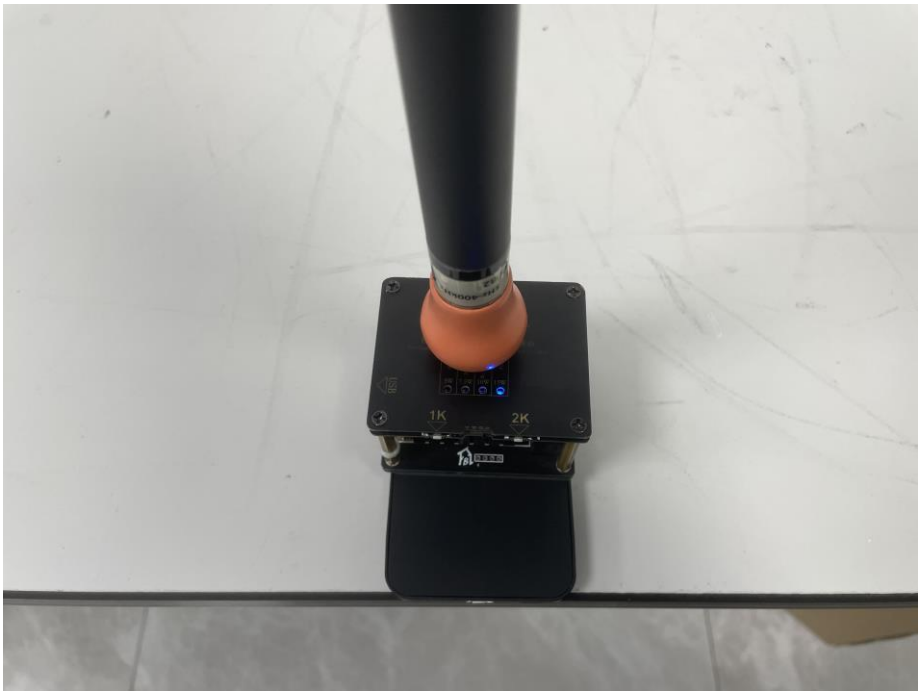
Note:A/m=uT÷1.25

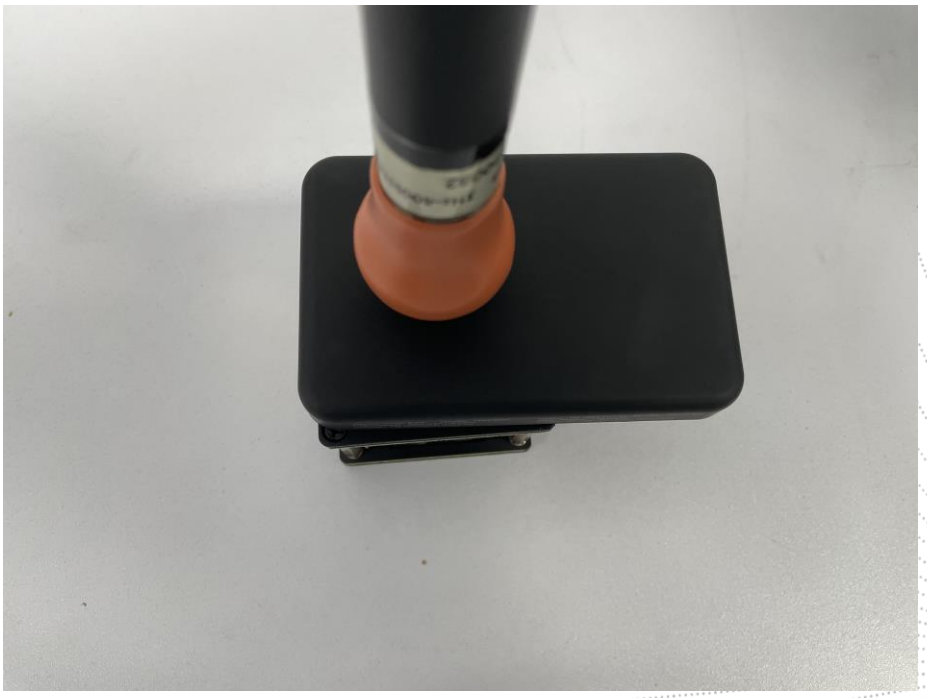
5. Photographs Of Test Set-Up

0CM

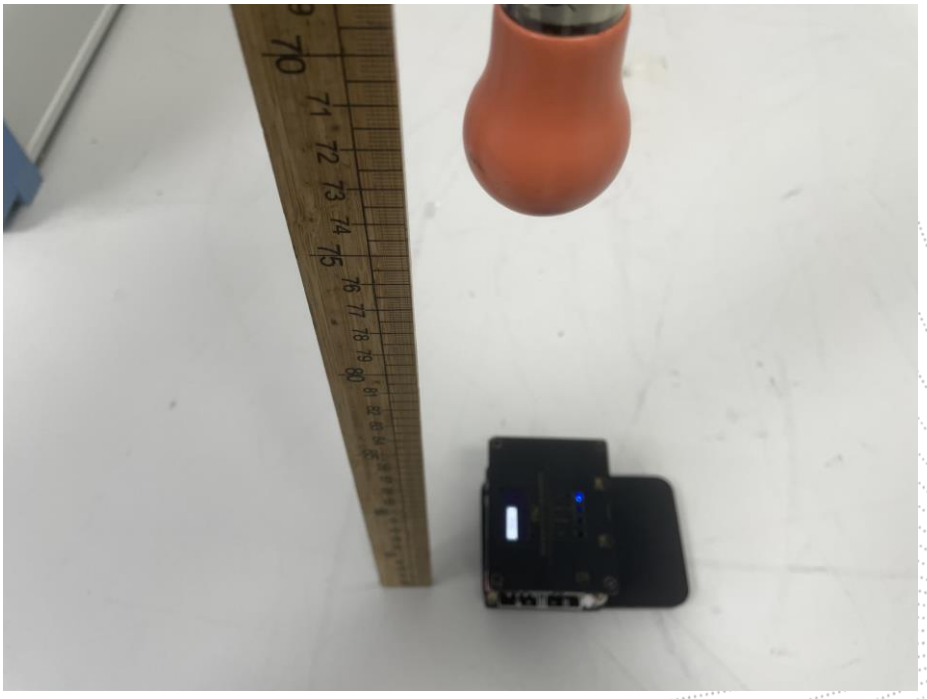
WATKINS-JOHNSON
SMP 1000
FIELD METER
2K
1K
2A-2309-19-N11-1

WATKINS-JOHNSON
SMP 1000
FIELD METER
2K
1K
2A-2309-19-N11-1


1K
2K



20CM



AC Mode

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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