FCC TEST REPORT

FCC ID: 2BGYL-SJ-0030

On Behalf of

Shenzhen Longsheng Union Technology Co.,Ltd

Magnetic wireless charging mobile power bank

Model No.: SJ-0030
SJ-0031, SJ-0032, SJ-0033, SJ-0034, SJ-0035, SJ-0036, SJ-0037, SJ-0038, SJ-0039, SJ-0040, SJ-0041, SJ-0042, SJ-0043, SJ-0044, SJ-0045

Prepared for	:	Shenzhen Longsheng Union Technology Co.,Ltd
Address	:	Room 326, Fuyong Chamber of Commerce Information Building, 6348 Baoan Avenue, Baoan District, Shenzhen, Guangdong, China

Prepared By	:	Shenzhen PSI Testing Co., Ltd.
Address	:	1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

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Date of Report	:	April 27, 2025
Version Number	:	V0

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TEST REPORT DECLARATION

Applicant	:	Shenzhen Longsheng Union Technology Co.,Ltd
Address	:	Room 326, Fuyong Chamber of Commerce Information Building, 6348 Baoan Avenue, Baoan District, Shenzhen, Guangdong, China
Manufacturer	:	Shenzhen Guangxun Lishen Technology Co., Ltd. Dongguan Tangxia Branch
Address	:	Building B, Building 103, Lingnan Avenue, Shigu Community, Tangxia Town, Dongguan City
EUT Description	:	Magnetic wireless charging mobile power bank
	(A) Model No.	: SJ-0030 SJ-0031, SJ-0032, SJ-0033, SJ-0034, SJ-0035, SJ-0036, SJ-0037, SJ-0038, SJ-0039, SJ-0040, SJ-0041, SJ-0042, SJ-0043, SJ-0044, SJ-0045
	(B) Trademark	: /

Measurement Standard Used:

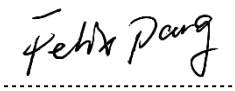
FCC CFR 47 PART 1, FCC CFR 47 part1, 1.1307(b), 1.1310

KDB 680106 D01 Wireless Power Transfer v04

Test Result: PASS

The device described above is tested by Shenzhen PSI Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen PSI Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness test. Also, this report shows that the EUT is technically compliant with the KDB 680106 D01 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen PSI Testing Co., Ltd.

Tested by (name + signature).....:	Felix Pang Test Engineer	
Approved by (name + signature).....:	Simple Guan Project Manager	
Date of issue.....:	April 27, 2025	

Revision History

Revision	Issue Date	Revisions	Revised By
V0	April 27, 2025	Initial released Issue	Felix Pang

1. Test Result Summary

Requirement	CFR 47 Section	Result
RF EXPOSURE	§1.1307(b)(1), §1.1310& KDB680106	PASS

Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

5. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

2. EUT Description

2.1. Description of Device (EUT)

EUT Name	:	Magnetic wireless charging mobile power bank
Model No.	:	SJ-0030
DIFF.	:	SJ-0030 is the test model, while other models are derivative models. These models are the same on the circuit, with only different is model names. There are two types of batteries and label for the product, which are optional. Therefore, the test data of SJ-0030 can represent other models, and the two batteries have undergone differential testing.
Power supply	:	Type-C Input: 5 V⎓3 A,9 V⎓2 A Type-C output: 5 V⎓3 A.9 V⎓2 22 A,12 V⎓1.67 A Wireless Charge: 5 W/ 7.5 W/ 10 W/15 W Battery 1: DC 3.85V, 10000mAh(38.5Wh) Battery 2: DC 3.7V, 10000mAh(37Wh)
Radio Technology	:	Wireless power transmission systems
Operation frequency	:	110.1-360 KHz
Modulation	:	MSK
Antenna Type	:	Coil Antenna
Connector cable loss	:	0dBi
Software version	:	V1.0
Hardware version	:	V1.0
Note	:	Antenna information is provided by applicant. Testing lab is not responsible for the accuracy of the information.

2.2. Accessories of Device (EUT)

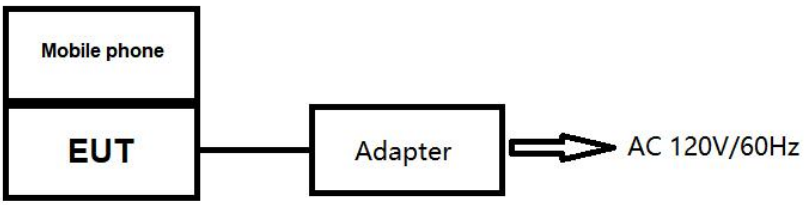
Accessories	:	N/A
Manufacturer	:	N/A
Model	:	N/A
specifications	:	N/A

2.3. Tested Supporting System Details

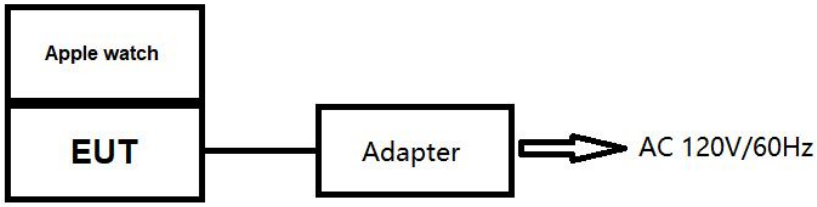
No.	Description	Manufacturer	Model	Serial Number	Certification
1	AC ADAPTER	/	G301CU	/	/
2	Mobile phone	Xiaomi	Xiaomi 12S Pro	/	/
3	Apple watch	Apple Inc.	ultra 2	/	/

2.4. Block Diagram of connection between EUT and simulators

Mode1&2&3

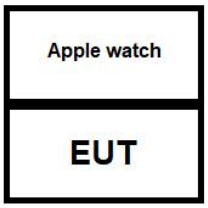


Mode4&5&6



Mode7&8&9

Mode10&11&12



2.5. Description of Test Modes

Number	Modes
1	AC Mains + Mobile phone charging port (Battery Status:≤1%)-Battery 1
2	AC Mains + Mobile phone charging port (Battery Status:50%)-Battery 1
3	AC Mains + Mobile phone charging port (Battery Status:≥98%)-Battery 1
4	AC Mains + Apple watch charging port (Battery Status:≤1%)-Battery 1
5	AC Mains + Apple watch charging port(Battery Status:50%)-Battery 1
6	AC Mains + Apple watch charging port(Battery Status:≥98%)-Battery 1
7	Mobile phone charging port (Battery Status:≤1%)-Battery 1
8	Mobile phone charging port(Battery Status:50%)-Battery 1
9	Mobile phone charging port(Battery Status:≥98%)-Battery 1
10	Apple watch charging port (Battery Status:≤1%)-Battery 1
11	Apple watch charging port(Battery Status:50%)-Battery 1
12	Apple watch charging port(Battery Status:≥98%)-Battery 1
13	Standby-Battery 1
14	AC Mains + Mobile phone charging port (Battery Status:≤1%)-Battery 2
15	AC Mains + Mobile phone charging port (Battery Status:50%)-Battery 2
16	AC Mains + Mobile phone charging port (Battery Status:≥98%)-Battery 2
17	AC Mains + Apple watch charging port (Battery Status:≤1%)-Battery 2
18	AC Mains + Apple watch charging port(Battery Status:50%)-Battery 2
19	AC Mains + Apple watch charging port(Battery Status:≥98%)-Battery 2
20	Mobile phone charging port (Battery Status:≤1%)-Battery 2
21	Mobile phone charging port(Battery Status:50%)-Battery 2
22	Mobile phone charging port(Battery Status:≥98%)-Battery 2
23	Apple watch charging port (Battery Status:≤1%)-Battery 2
24	Apple watch charging port(Battery Status:50%)-Battery 2
25	Apple watch charging port(Battery Status:≥98%)-Battery 2
26	Standby-Battery 2
Note: 1. All modes were tested, only the AC and DC worst-case was recorded in the report. Mode 1 and Mode 7 is the worst mode. 2.Charging and discharging at the same time. 3.The EUT supports portable use.	

2.6. Test Conditions

Items	Required
Temperature range:	15-35℃
Humidity range:	25-75%
Pressure range:	86-106kPa

2.7. Test Facility

Shenzhen PSI Testing Co., Ltd.
1-2/F., Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Subdistrict, Bao'an District, Shenzhen, Guangdong, China

September 13, 2023 File on Federal Communication Commission
Registration Number: 916281

2.8. Measurement Uncertainty

(95% confidence levels, k=2)

Item	**Uncertainty**
Uncertainty for H-Field	2.39dB
Uncertainty for E-Field	2.45dB
Uncertainty for conducted RF Power	0.65dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3. Test Results and Measurement Data

3.1. RF EXPOSURE TEST

3.1.1. Test Specification

Test Requirement:	**FCC Rules and Regulations KDB680106**
Test Method:	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 D01: KDB 680106 D01 Wireless Power Transfer v04.
Limits:	According to the item 3 of KDB 680106 D01v04: Inductive wireless power transfer applications that meet all of the following requirements are excluded from submitting an RF exposure evaluation. (1) Mobile Device and Portable Device Configurations (2) Equipment Authorization Procedures for Devices Operating at Frequencies Below 4 MHz (3) The aggregate H-field strengths anywhere at (0/2/4/6/8/10/12/14/16/18/20cm) surrounding the device six surfaces. The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b) Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*($900/f^2$)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density
RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Test Setup:

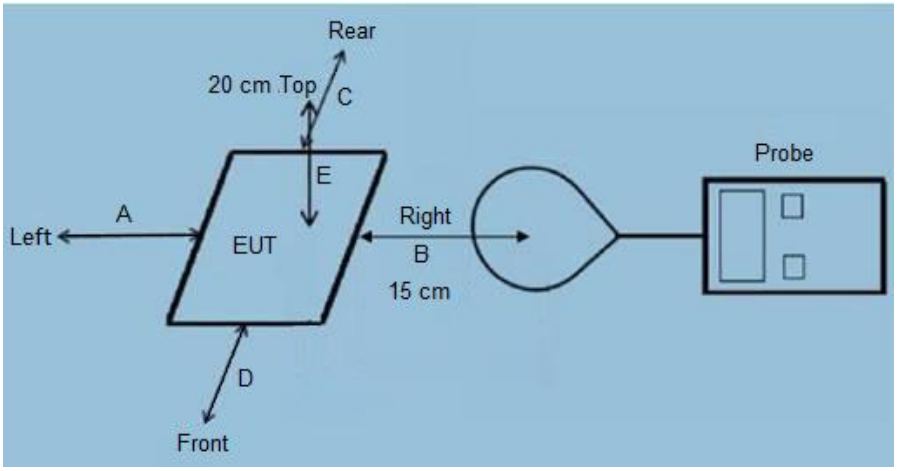
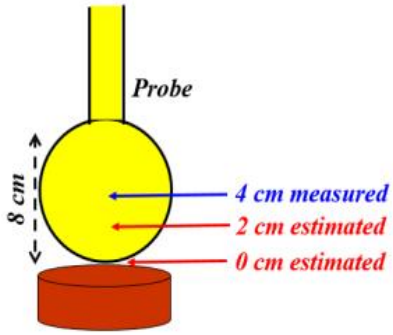
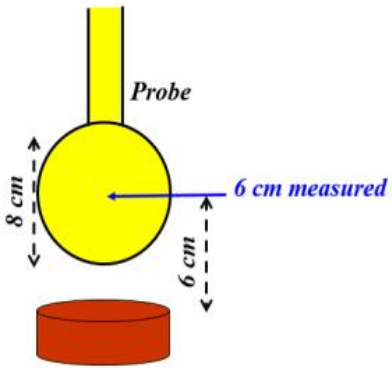


	Figure 1   Figure 2
Test Mode:	Communication Mode (Mobile phone will been charge at zero charge, intermediate charge, and full charge.)
Test Procedure:	1) The RF exposure test was performed in anechoic chamber. 2) The measurement probe was placed at test distance (0/2/4/6/8/10/12/14/16/18/20cm) which is between the edge of the charger and the geometric center of probe. 3) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed. 4) The EUT was measured according to the dictates of KDB 680106 D01v04. 5) Large size probes may prevent the measurement of E- and/or H-fields near the surface of the radiating structure (e.g., a WPT source coil), as in the example shown in Figure 2.These estimates shall include points spaced no more than 2 cm from each other. Thus, in the example of Figure 2, at least the estimates at 0 cm2 and 2 cm are required, while only one point would not be sufficient. In addition, the model needs to be validated through the probe measurements for the two closest points to the device surface, and with 2-cm increments, as indicated in Figure 2. In that example, the same model must also be applied to the 4 cm and 6 cm positions, and then compared with the measured data, for validation purposes. The validation is considered sufficient if a 30% agreement between the model and the (E- and/or H-field) probe measurements is demonstrated. If such a level of agreement cannot be shown, a more accurate model (and/or a smaller probe) shall be used.
Test Result:	PASS

3.1.2. Test Instruments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Exposure Level Tester	narda	ELT-400	O-0729	2024.05.06	1 Year
2	Magnetic field probe 100cm2	narda	ELT probe 100cm2	M-2116	2024.05.06	1 Year

Note: The probe radius is 8 cm

3.1.3. Test data

The probe radius is 8 cm.
E-Field Strength at 8/10/12/14/16/18/20cm from the edges surrounding the EUT

Charging Battery Level	Measured Distance (cm)	Measured E-Field Strength Values (V/m)						FCC E-Field Strength Limits (V/m)
		Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	
99%	8	20.367	15.475	15.704	21.049	20.111	20.249	614
50%	8	19.236	15.086	17.481	20.352	21.429	20.632	614
1%	8	21.685	17.822	19.040	19.040	19.604	19.541	614
99%	10	20.835	17.264	16.784	19.559	21.076	20.816	614
50%	10	20.316	14.513	17.885	21.121	22.005	20.313	614
1%	10	20.361	13.626	17.616	19.863	20.020	19.875	614
99%	12	18.998	13.376	18.373	20.702	21.079	19.324	614
50%	12	22.113	17.080	17.004	18.995	19.562	21.836	614
1%	12	20.970	17.993	16.950	21.178	19.336	20.593	614
99%	14	21.389	18.687	18.497	19.191	21.052	19.960	614
50%	14	18.913	14.323	17.249	21.377	21.465	21.866	614
1%	14	19.260	12.563	16.576	20.337	21.573	21.661	614
99%	16	19.915	18.895	17.728	21.127	20.729	18.829	614
50%	16	22.219	18.072	15.909	20.711	20.693	20.047	614
1%	16	21.956	18.889	16.341	19.453	21.724	20.204	614
99%	18	20.011	18.729	18.778	21.969	19.164	20.955	614
50%	18	22.189	15.614	15.973	20.289	19.387	21.697	614
1%	18	19.495	18.678	18.666	21.926	19.396	18.757	614
99%	20	19.685	13.120	15.737	19.429	20.768	20.533	614
50%	20	21.076	17.161	18.060	20.648	19.001	18.865	614
1%	20	20.988	14.350	16.899	20.810	21.920	21.923	614

Note: V/m= A/m *377

H-Field Strength at 8/10/12/14/16/18/20cm from the edges surrounding the EUT

Charging Battery Level	Measured Distance (cm)	Unit	Measured H-Field Strength Values (A/m)						FCC H-Field Strength Limits (A/m)
			Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	
99%	8	uT	0.068	0.051	0.052	0.070	0.067	0.067	--
99%	8	A/m	0.054	0.041	0.042	0.056	0.053	0.054	1.63
50%	8	uT	0.064	0.050	0.058	0.067	0.071	0.068	--
50%	8	A/m	0.051	0.040	0.046	0.054	0.057	0.055	1.63
1%	8	uT	0.072	0.059	0.062	0.063	0.065	0.065	--
1%	8	A/m	0.058	0.047	0.049	0.051	0.052	0.052	1.63
99%	10	uT	0.069	0.057	0.056	0.065	0.070	0.069	--
99%	10	A/m	0.055	0.046	0.045	0.052	0.056	0.055	1.63
50%	10	uT	0.067	0.048	0.059	0.070	0.073	0.067	--
50%	10	A/m	0.054	0.038	0.047	0.056	0.058	0.054	1.63
1%	10	uT	0.068	0.045	0.058	0.066	0.066	0.066	--
1%	10	A/m	0.054	0.036	0.047	0.053	0.053	0.053	1.63
99%	12	uT	0.063	0.044	0.061	0.069	0.070	0.064	--
99%	12	A/m	0.050	0.035	0.049	0.055	0.056	0.051	1.63
50%	12	uT	0.073	0.057	0.056	0.063	0.065	0.072	--
50%	12	A/m	0.059	0.045	0.045	0.050	0.052	0.058	1.63
1%	12	uT	0.070	0.060	0.056	0.070	0.064	0.068	--
1%	12	A/m	0.056	0.048	0.045	0.056	0.051	0.055	1.63
99%	14	uT	0.071	0.062	0.061	0.064	0.070	0.066	--
99%	14	A/m	0.057	0.050	0.049	0.051	0.056	0.053	1.63
50%	14	uT	0.063	0.047	0.057	0.071	0.071	0.073	--
50%	14	A/m	0.050	0.038	0.046	0.057	0.057	0.058	1.63
1%	14	uT	0.064	0.057	0.055	0.067	0.072	0.072	--
1%	14	A/m	0.051	0.045	0.044	0.054	0.057	0.057	1.63
99%	16	uT	0.066	0.063	0.059	0.070	0.069	0.062	--
99%	16	A/m	0.053	0.050	0.047	0.056	0.055	0.050	1.63
50%	16	uT	0.074	0.060	0.053	0.069	0.069	0.066	--
50%	16	A/m	0.059	0.048	0.042	0.055	0.055	0.053	1.63
1%	16	uT	0.073	0.063	0.054	0.065	0.072	0.067	--
1%	16	A/m	0.058	0.050	0.043	0.052	0.058	0.054	1.63
99%	18	uT	0.066	0.062	0.062	0.073	0.064	0.069	--
99%	18	A/m	0.053	0.050	0.050	0.058	0.051	0.056	1.63
50%	18	uT	0.074	0.052	0.053	0.067	0.064	0.072	--
50%	18	A/m	0.059	0.041	0.042	0.054	0.051	0.058	1.63
1%	18	uT	0.065	0.062	0.062	0.073	0.064	0.062	--
1%	18	A/m	0.052	0.050	0.050	0.058	0.051	0.050	1.63
99%	20	uT	0.065	0.044	0.052	0.064	0.069	0.068	--
99%	20	A/m	0.052	0.035	0.042	0.052	0.055	0.054	1.63
50%	20	uT	0.070	0.057	0.060	0.068	0.063	0.063	--

50%	20	A/m	0.056	0.046	0.048	0.055	0.050	0.050	1.63
1%	20	uT	0.070	0.048	0.056	0.069	0.073	0.073	--
1%	20	A/m	0.056	0.038	0.045	0.055	0.058	0.058	1.63

Note: A/m=uT/1.25

According to the formula:

The formula for the magnetic field strength at a distance r from the coil is
$H = I/(2\pi r)*\mu$
H is A/m
I is the current intensity
μ is the permeability, and its value depends on the medium.
The other parameters are fixed, so H is inversely proportional to r.

ABCDEF direction The actual distance(r) to the antenna coil.

measured distance(cm)	Actual distance r to the antenna (cm)					
	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F
20	23.235	20825	21.512	21.425	20.723	21.665
18	22.235	18.825	19.512	19.425	17.723	19.665
16	20.235	15.825	17.512	16.425	16.723	16.665
14	18.235	14.825	15.512	15.425	14.723	15.665
12	17.235	12.825	13.512	13.425	12.723	13.665
10	14.235	11.825	11.512	11.425	10.723	11.665
8	12.235	8.825	8.512	9.425	8.723	9.665
6	11.235	6.825	6.512	7.425	6.723	7.665
4	9.235	4.825	5.512	5.425	4.723	5.665
2	7.235	2.825	3.512	3.425	2.723	3.665
0	5.235	1.825	1.512	1.425	0.723	1.665

Note: The phone is 8.35mm thick.

The result is calculated by the above formula:
H-Field Strength at 0/2/4/6cm from the edges surrounding the EUT
1. Magnetic field on the axis of a current-carrying circle coil:

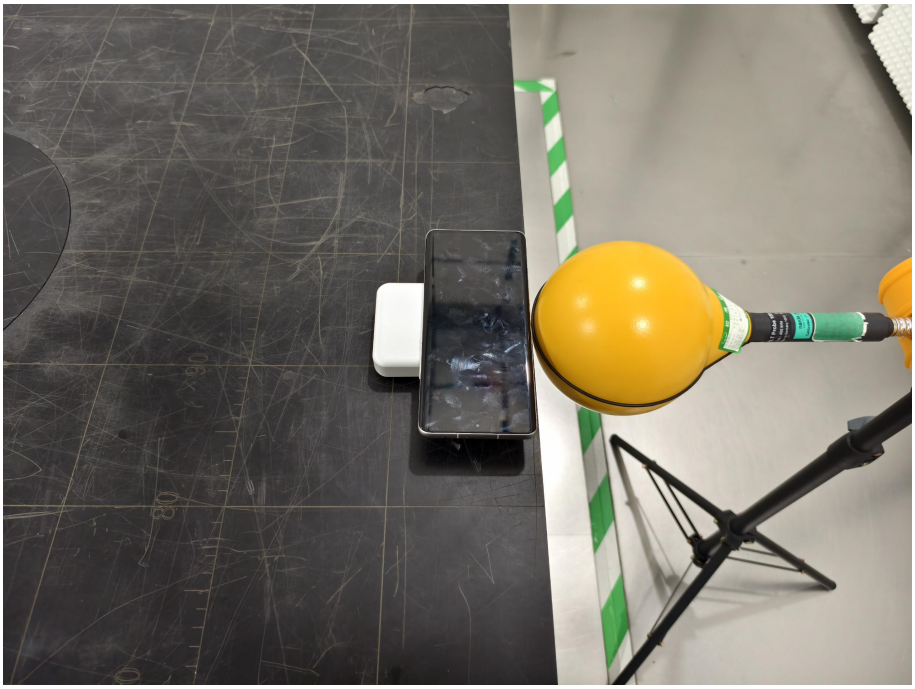
$$B = \frac{u_0 I R^2}{2(R^2+X^2)^{\frac{3}{2}}}$$

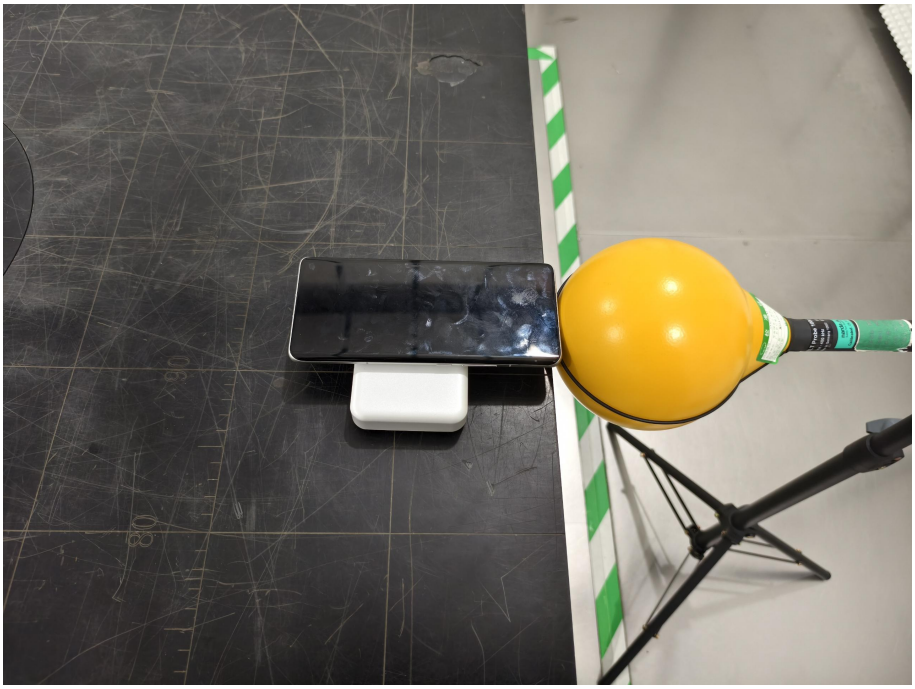
R is the coil outside diameter radius. X is the distance from the test point to the center of the coil circle. B is the magnetic magnetic field.
2. According to the KDB 680106, the model needs to be validated by probe measurements at the two points closest to the surface of the device, in 2cm increments, and if there is a 30% agreement between the model and the (E-field and/or h-field) probe measurements, the validation is considered sufficient.
3. We derived the field strengths at 10cm to 8cm and 8cm to 6cm, respectively, which are close to the actual test values, based on the field strength at 6 cm, the field strength at 4cm and 2cm and 0 cm can be deduced.

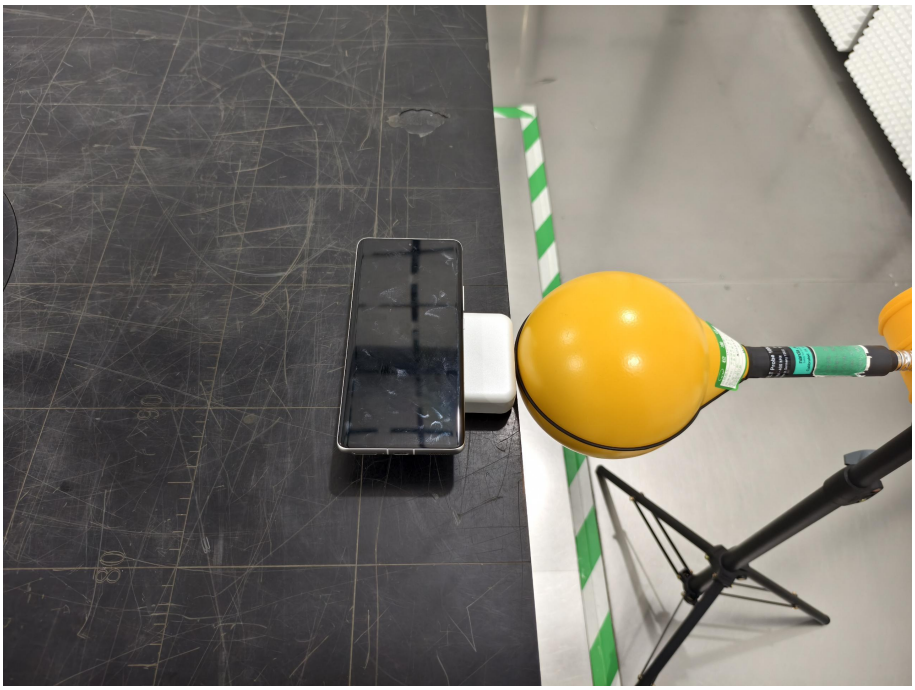
Charging Battery Level	Measured Distance (cm)	Unit	Measured H-Field Strength Values (A/m)						FCC H-Field Strength Limits (A/m)
			Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	
1%	0	A/m	0.7070	0.6709	0.6595	0.6809	0.6523	0.6311	1.63
50%	0	A/m	0.6718	0.6729	0.6934	0.6404	0.6495	0.7113	1.63
99%	0	A/m	0.7124	0.7055	0.7025	0.7374	0.7013	0.6333	1.63
1%	2	A/m	0.7384	0.6227	0.6482	0.6569	0.6441	0.6629	1.63
50%	2	A/m	0.6657	0.7144	0.6533	0.7385	0.6621	0.6974	1.63
99%	2	A/m	0.6671	0.7127	0.6539	0.6889	0.7171	0.6555	1.63
1%	4	A/m	0.6943	0.6753	0.6309	0.7065	0.6921	0.6711	1.63
50%	4	A/m	0.6857	0.7093	0.6293	0.6370	0.6282	0.6489	1.63
99%	4	A/m	0.6437	0.6948	0.6689	0.6295	0.7364	0.6736	1.63
1%	6	A/m	0.6910	0.6969	0.7230	0.7203	0.7293	0.7201	1.63
50%	6	A/m	0.6591	0.6726	0.6857	0.6938	0.7192	0.6962	1.63
99%	6	A/m	0.6306	0.6761	0.6435	0.6454	0.7102	0.6754	1.63

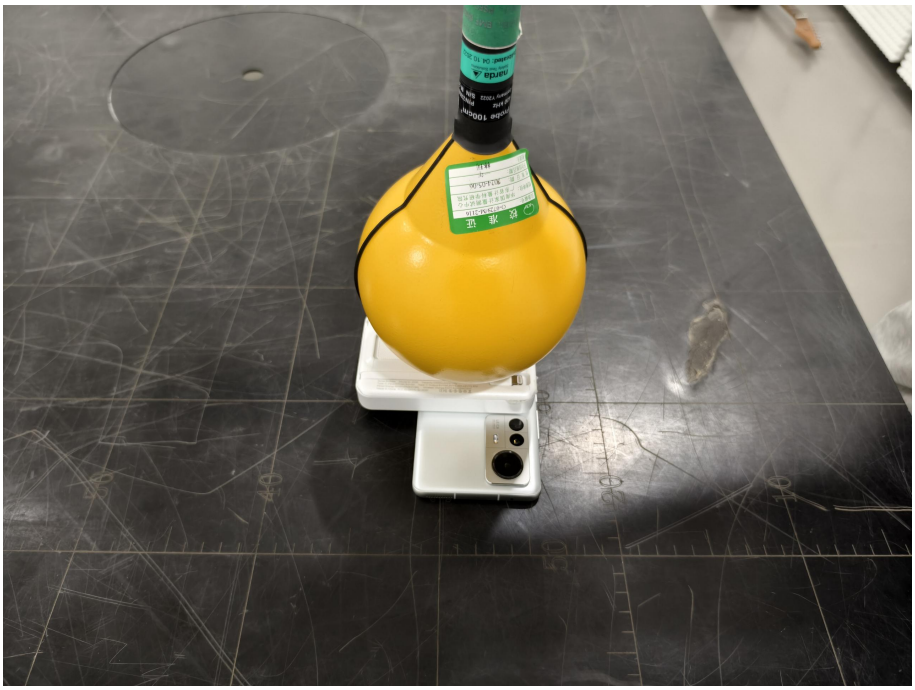
4. Photos of test setup

ocm

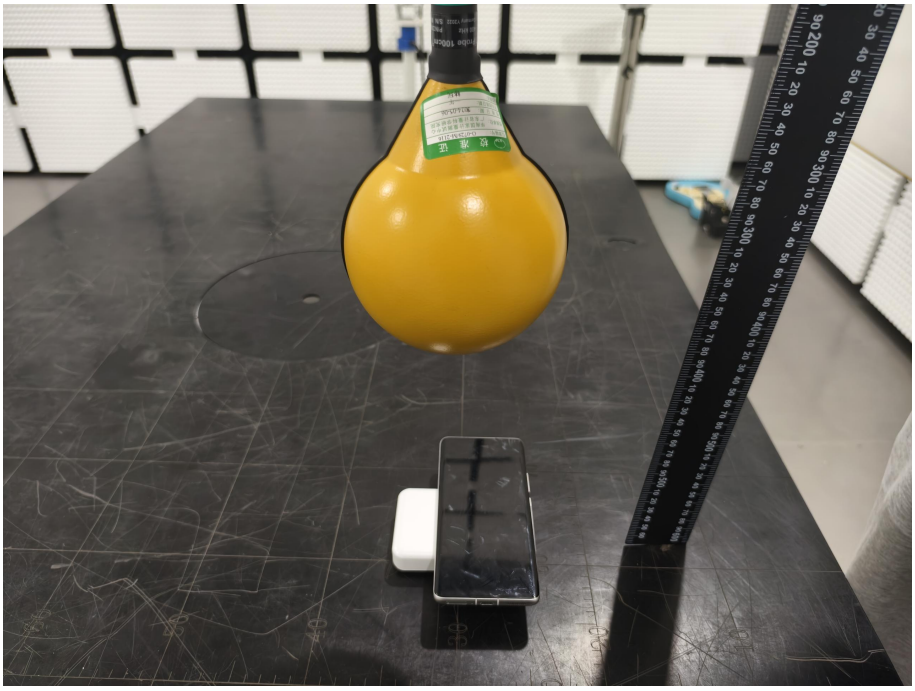


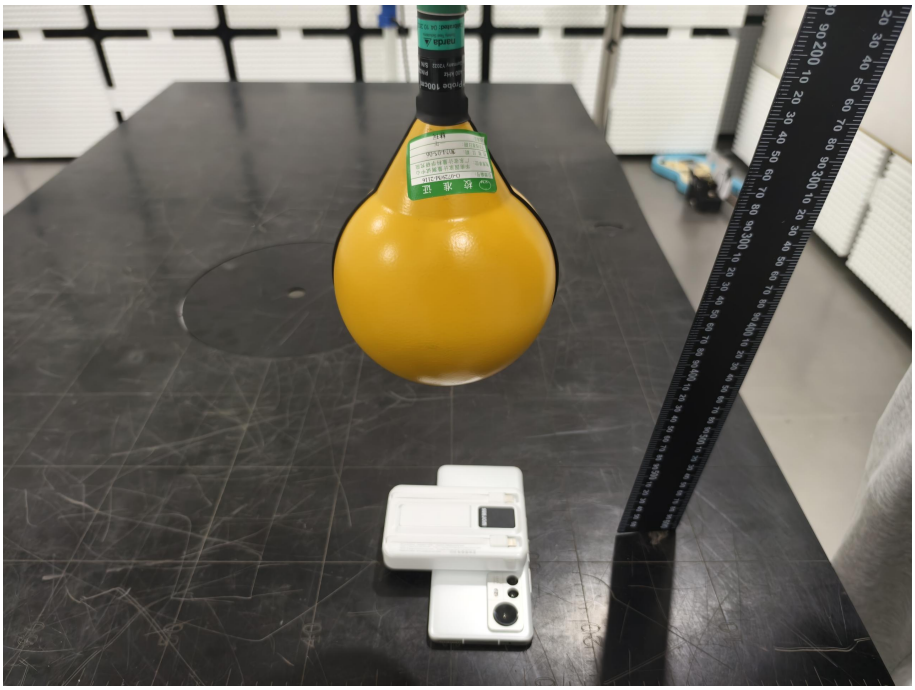


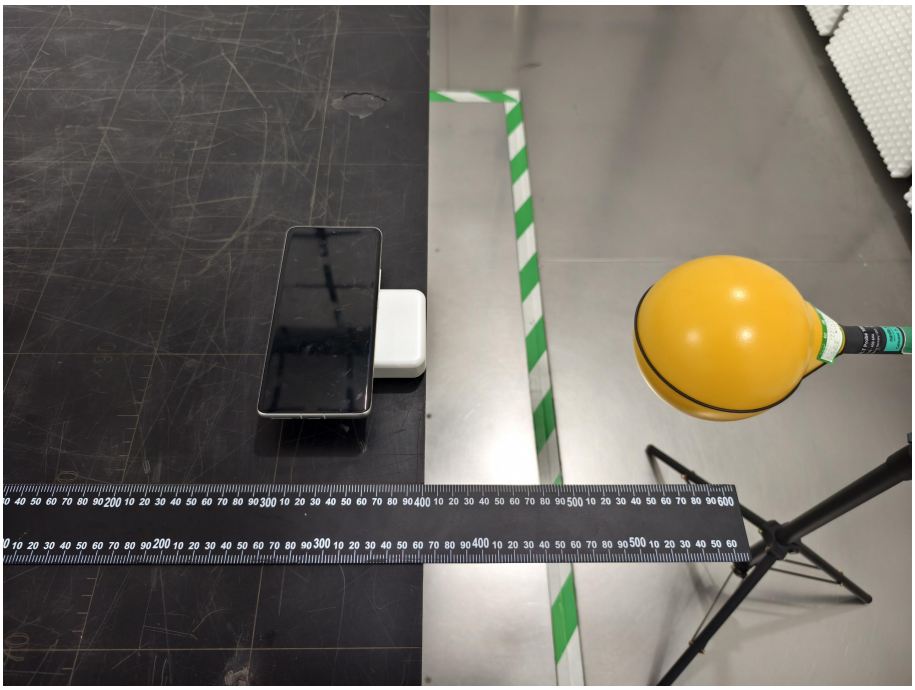


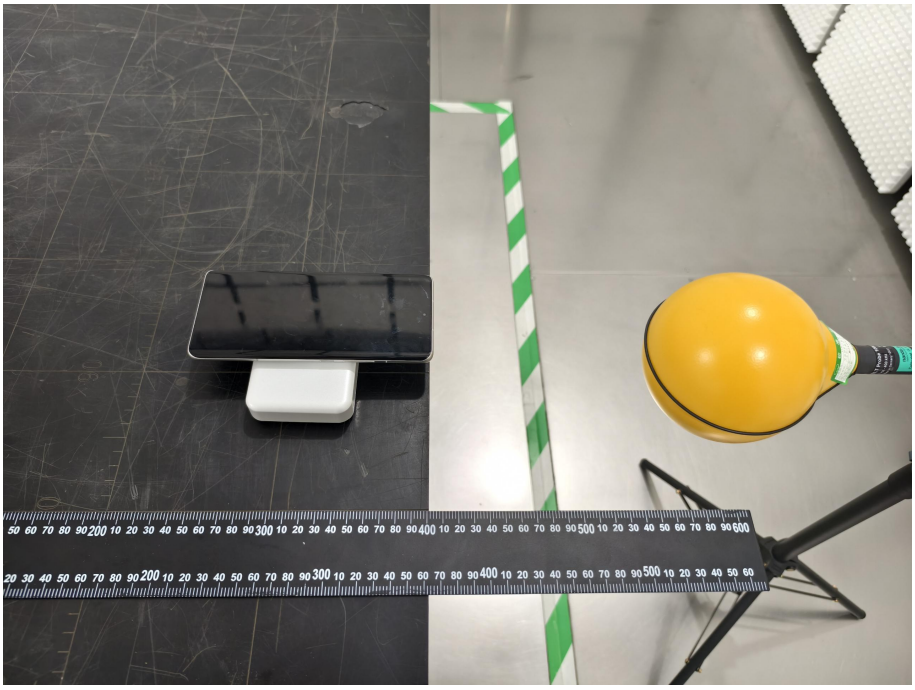


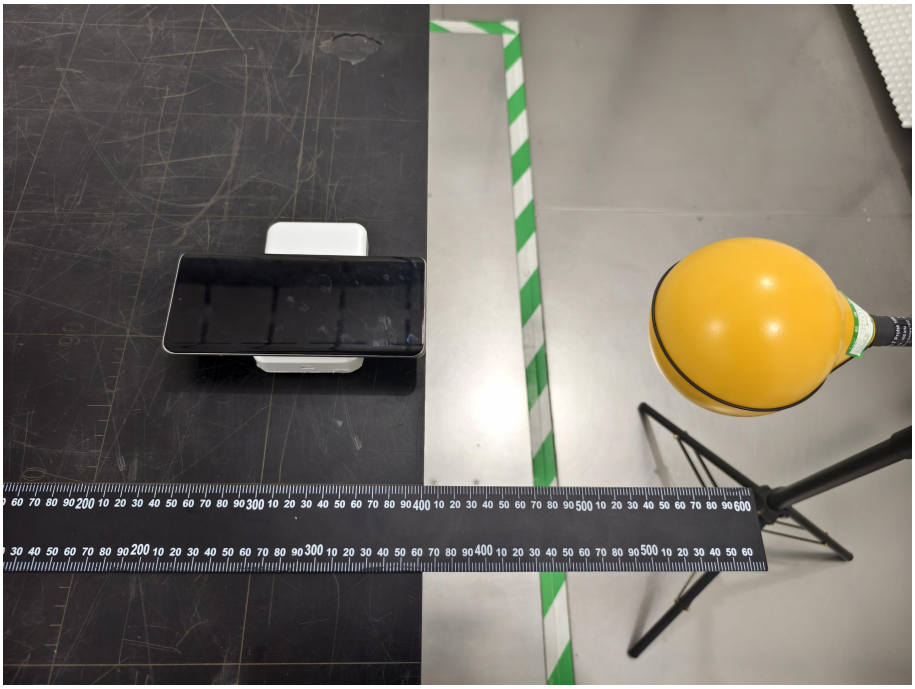
20cm











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