FCC TEST REPORT

Client Information:

Applicant: U2O GLOBAL CO., LTD.

Applicant add.: U2O building, Huanzhu Road 385, Jimei district Xiamen, Fujian China

Manufacturer: U2O GLOBAL CO., LTD.

Manufacturer add.: U2O building, Huanzhu Road 385, Jimei district Xiamen, Fujian China

Product Information:

Product Name: PowerGrip10000

Model No.: MXB009

Brand Name: iWALK

FCC ID: SXQ-MXB009

Applicable standards:

FCC Rules and Regulations part 2.1091
KDB680106 D01v03

Prepared By:

Dongguan Yaxu (AiT) Technology Limited

No.22, Jinqianling 3rd Street, Jitigang, Huangjiang,Dongguan,
Guangdong, China

Tel.: +86-769-8202 0499 Fax.: +86-769-8202 0495

Date of Receipt: July 27, 2023 Date of Test: July 27~ Aug. 01, 2023

Date of Issue: Aug. 02, 2023 Test Result: Pass

This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Reviewed by: Simba Huang **Approved by:** Seal-Chen

Simba Huang Seal.chen

Contents

1 TEST FACILITY 3

1.1 Deviation from standard 3
1.2 Abnormalities from standard conditions 3
1.3 Test Location 3
1.4 Environmental conditions 3

2 GENERAL INFORMATION 4

2.1 Product Description 4
2.2 Description of the test mode 5
2.3 Special Accessories 5
2.4 Summary of measurement results 6
2.5 Statement of the measurement uncertainty 6
2.6 Equipments Used during the Test 6

3 TEST CONDITIONS AND RESULTS 7

3.1 Applicable Standard 7
3.2 Limit 7
3.3 Test Setup 8
3.4 Measurement Procedure 8
3.5 Test Result of E and H field Strength 8
3.5.1 For portable exposure 9
3.6 Conclusion 11

4 TEST SETUP PHOTOS OF THE EUT 12

1 Test Facility

The test facility is recognized, certified or accredited by the following organizations:

.CNAS- Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

FCC-Registration No.: 703111 Designation Number: CN1313

Dongguan Yaxu (AiT) technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC —Registration No.: 6819A CAB identifier: CN0122

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

A2LA-Lab Cert. No.: 6317.01

Dongguan Yaxu (AiT) technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

1.1 Deviation from standard

None

1.2 Abnormalities from standard conditions

None

1.3 Test Location

Dongguan Yaxu (AiT) Technology Limited

Address: No.22, Jinqianling 3rd Street, Jitigang, Huangjiang,Dongguan, Guangdong, China

Tel.: +86-769-8202 0499

Fax.: +86-769-8202 0495

1.4 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

2 General Information

2.1 Product Description

EUT Name:	PowerGrip10000
Model No:	MXB009
Serial Model:	N/A
Test sample(s) ID:	23072701
Sample(s) Status:	Engineer sample
Serial No.:	N/A
Operation frequency:	113kHz-205kHz
Modulation Technology:	ASK
Antenna Type:	loop coil Antenna
Antenna gain:	0dBi
Hardware version.:	N/A
Software version.:	N/A
Power supply:	Capacity:10000mAh(3.85V/38.5Wh) USB-C Input:5V3A,9V2.22A,12V1.67A USB-C Output:5V3A,9V2.22A,12V1.67A Wireless Charging:5W,7.5W,10W,15W
Battery:	DC3.85V
Note:	For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.2 Description of the test mode

Equipment under test was operated during the measurement under the following conditions:
☒ Charging and communication mode

Test Mode	Description	
Mode 1	Battery : Wireless charging(15W)+Mobile phone	Record
Mode 2	Battery : Wireless charging(10W)+Mobile phone	Pre-tested
Mode 3	Battery : Wireless charging(7.5W)+Mobile phone	Pre-tested
Mode 4	Battery : Wireless charging(5W)+Mobile phone	Pre-tested
Mode 5	Adapter: Wireless charging(15W)+Mobile phone	Pre-tested
Mode 6	Adapter: Wireless charging(10W)+Mobile phone	Pre-tested
Mode 7	Adapter: Wireless charging(7.5W)+Mobile phone	Pre-tested
Mode 8	Adapter: Wireless charging(5W)+Mobile phone	Pre-tested
Mode 9	Test the EUT in idle mode.	Pre-tested

Note:
1.All test modes were pre-tested, but we only recorded the worst case in this report.
2.During the test the phone is attached the network in WWAN traffic mode and WIFI/BT is connected.

2.3 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
Mobile phone	XIAOMI	MI 11	/	FCC	laboratory

2.4 Summary of measurement results

Test Item	Result
Magnetic Field Strength (H) (A/m)	Compliant

2.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Global Test Service Co.,Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	0.009MHz-30MHz	3.10dB	(1)
Radiated Emission	30MHz-1GHz	3.75dB	(1)
Radiated Emission	1GHz-18GHz	3.88dB	(1)
Radiated Emission	18GHz-40GHz	3.88dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	1.20dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

2.6 Equipments Used during the Test

Test Equipment	Manufacturer	Model No.	SN.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
Electric and Magnetic Field Analyzer	Narda	EHP-200A	180ZX10505	2022.06.21	2024.06.20

3 TEST CONDITIONS AND RESULTS

3.1 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 §2.1091 RF exposure is calculated.
According KDB 680106 D01 RF Exposure Wireless Charging App v03

3.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
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

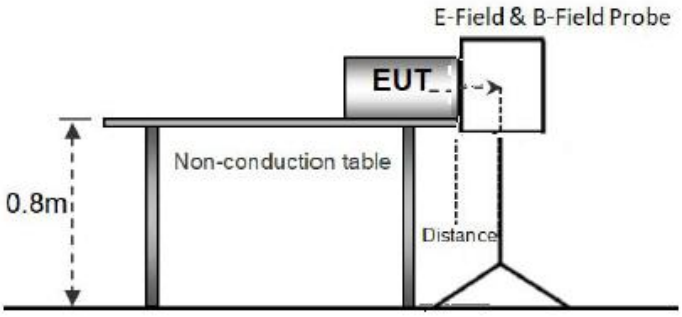
Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

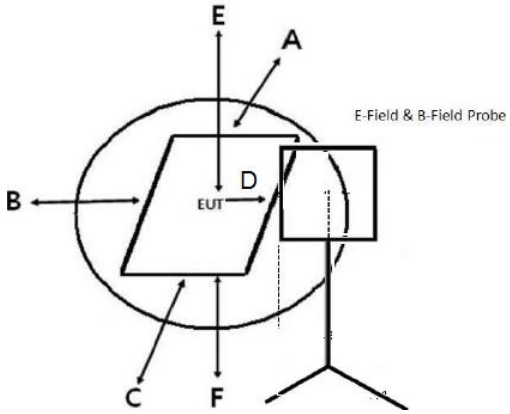
Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz
*=Plane-wave equivalent power density

3.3 Test Setup

1. Block diagram of EUT configuration





Note: A, B, C, D, E, F for six surfaces of the product.

3.4 Measurement Procedure

For mobile RF exposure

a) The RF exposure test was performed on 360 degree turn table in anechoic chamber.
b) The measurement probe was placed at test distance which is between the edge of the charger and the geometric center 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.

For portable RF exposure

a) The RF exposure test was performed on 360 degree turn table in anechoic chamber.
b) The measurement probe was placed at test distance (0cm) which is between the edge of the charger and the geometric center 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, F) were completed.
e). Repeated measured (a) – (d) at measure distance 2 cm, 4cm, 6cm,8cm,10cm,1 2 cm, 14cm, 16cm,18cm and 20cm.
f) The EUT were measured according to the dictates of KDB 680106D01v03.

3.5 Test Result of E and H field Strength

Temperature:	25.7℃	Humidity:	58%
Test Engineer:	Simba Huang	Test site:	Anechoic chamber

3.5.1 For portable exposure

H-Field Strength at 0-20 cm from the edges surrounding the EUT

Test Conditions	Unit	Measured Distance (cm)	Measured H-Field Strength Values (A/m)						FCC H-Field Strength (A/m)	
			Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	Limits	50% Limits
TM1	A/m	0	0.4973	0.4964	0.2205	0.3350	0.5172	0.2754	1.63	0.815
TM1	A/m	2	0.3570	0.3171	0.1969	0.2981	0.6603	0.4202	1.63	0.815
TM1	A/m	4	0.2678	0.5130	0.3503	0.2839	0.6122	0.4987	1.63	0.815
TM1	A/m	6	0.2207	0.2376	0.1687	0.2507	0.4080	0.3340	1.63	0.815
TM1	A/m	8	0.2837	0.3362	0.2606	0.1187	0.4822	0.1235	1.63	0.815
TM1	A/m	10	0.2531	0.2532	0.1868	0.2994	0.6110	0.2178	1.63	0.815
TM1	A/m	12	0.3892	0.4590	0.2968	0.1147	0.4535	0.2409	1.63	0.815
TM1	A/m	14	0.2070	0.1038	0.1392	0.0575	0.4262	0.2495	1.63	0.815
TM1	A/m	16	0.1066	0.2174	0.2410	0.2425	0.3840	0.2161	1.63	0.815
TM1	A/m	18	0.1320	0.0769	0.2695	0.2562	0.3429	0.2737	1.63	0.815
TM1	A/m	20	0.1374	0.1808	0.2419	0.1804	0.2341	0.1784	1.63	0.815

Test Conditions	Unit	Measured Distance (cm)	Measured E-Field Strength Values (V/m)						FCC E-Field Strength (V/m)	
			Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	Limits	50% Limits
TM1	V/m	0	2.27	2.21	1.92	1.78	2.24	1.43	614	307
TM1	V/m	2	1.81	1.88	1.83	2.41	1.97	1.87	614	307
TM1	V/m	4	1.87	2.23	1.69	2.73	1.87	0.94	614	307
TM1	V/m	6	2.04	2.40	1.75	2.36	2.77	2.47	614	307
TM1	V/m	8	2.48	1.73	1.64	2.36	2.52	2.28	614	307
TM1	V/m	10	2.11	1.68	2.10	2.22	2.66	1.90	614	307
TM1	V/m	12	2.09	1.79	1.81	2.08	2.10	1.58	614	307
TM1	V/m	14	2.20	2.25	2.02	1.85	2.77	2.24	614	307
TM1	V/m	16	2.30	1.88	2.22	2.43	2.64	2.54	614	307
TM1	V/m	18	2.50	2.43	1.97	2.29	2.30	1.66	614	307
TM1	V/m	20	2.52	1.92	1.57	2.20	1.93	1.27	614	307

E-Field Strength at 15 cm from the edges surrounding the EUT

Test Conditions	Unit	Measured Distance (cm)	Measured E-Field Strength Values (V/m)					FCC E-Field Strength (V/m)	
			Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limits	50% Limits
TM5	V/m	15	2.537	2.489	2.261	2.743	2.865	614	307

H-Field Strength at 15 cm from the edges surrounding the EUT

Test Conditions	Unit	Measured Distance (cm)	Measured H-Field Strength Values (A/m)					FCC H-Field Strength (A/m)	
			Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limits	50% Limits
TM5	A/m	15	0.254	0.687	0.299	0.510	0.414	1.63	0.815

H-Filed Strength at 20 cm from the top of the EUT (A/m)

Test Conditions	Unit	Frequency (MHz)	Test Position E	50% Limits (A/m)	Limits (A/m)
TM5	A/m	0.255	0.423	0.815	1.63

Equipment Approval Considerations
The EUT does comply with KDB 680106 D01 as follow table.

Requirements of KDB 680106 D01	Yes / No	Description
Power transfer frequency is less than 1 MHz	Yes	The device operate in the frequency range 113kHz~205kHz
Output power from each primary coil is less than or equal to 15 watts	Yes	EUT Coil is equal to 15 watts max
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.	Yes	The transfer system includes only one primary coils.
Client device is placed directly in contact with the transmitter.	Yes	Client device is placed directly in contact with the transmitter.
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	NO	Mobile exposure and Fixed exposure conditions
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 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.

3.6 Conclusion

A minimum safety distance of 0 cm to the antenna is required when the device is charging a smart phone for portable exposure and 20 cm to the antenna for mobile exposure. The detected emissions are below the limitations according FCC KDB 680106.

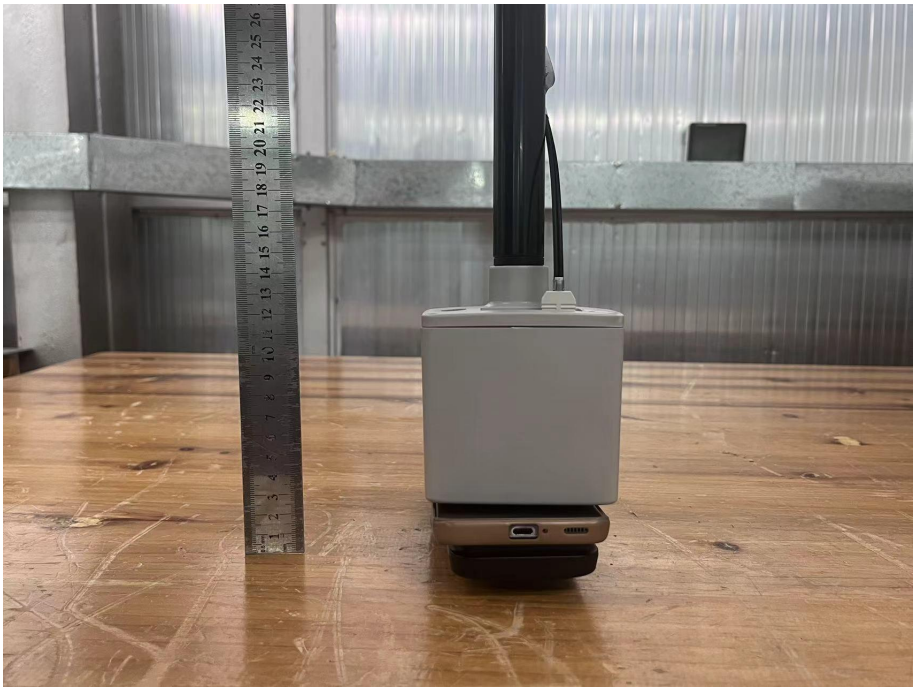
4 Test Setup Photos of the EUT

Test Position A-0cm from the edge of EUT to the geometric center of the probe

Test Position B-0cm from the edge of EUT to the geometric center of the probe

Test Position C-0cm from the edge of EUT to the geometric center of the probe

Test Position D-0cm from the edge of EUT to the geometric center of the probe



Test Position E-0cm from the edge of EUT to the geometric center of the probe

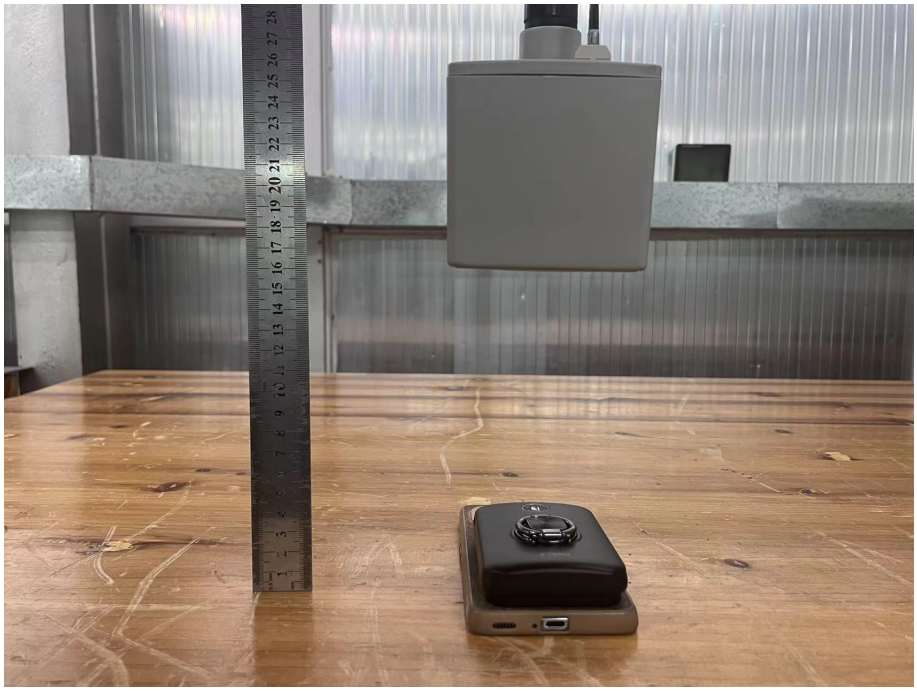
Test Position F-0cm from the edge of EUT to the geometric center of the probe

Test Position A-20cm from the edge of EUT to the geometric center of the probe

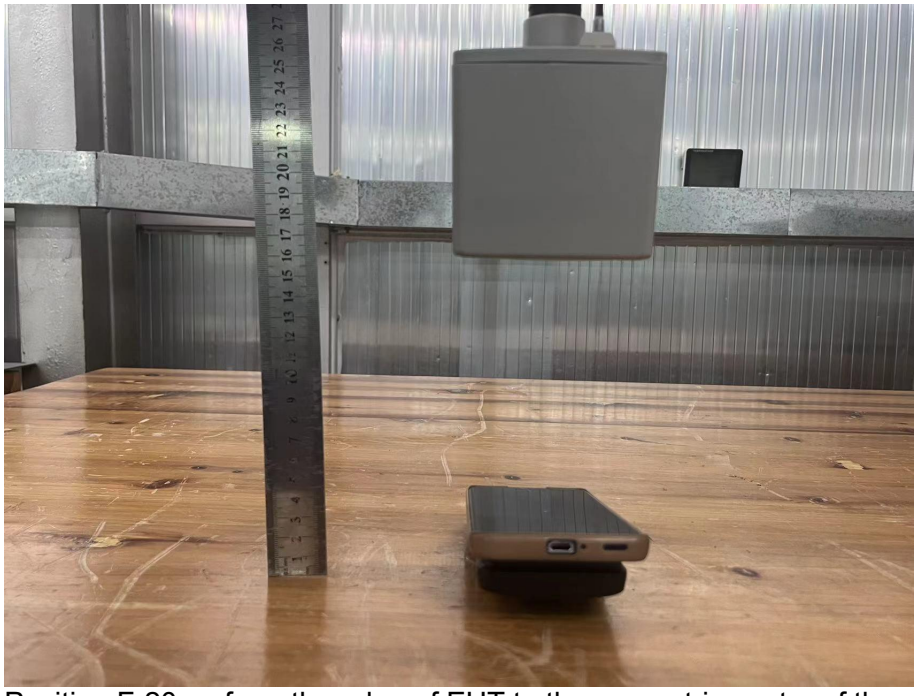
Test Position B-20cm from the edge of EUT to the geometric center of the probe

Test Position C-20cm from the edge of EUT to the geometric center of the probe

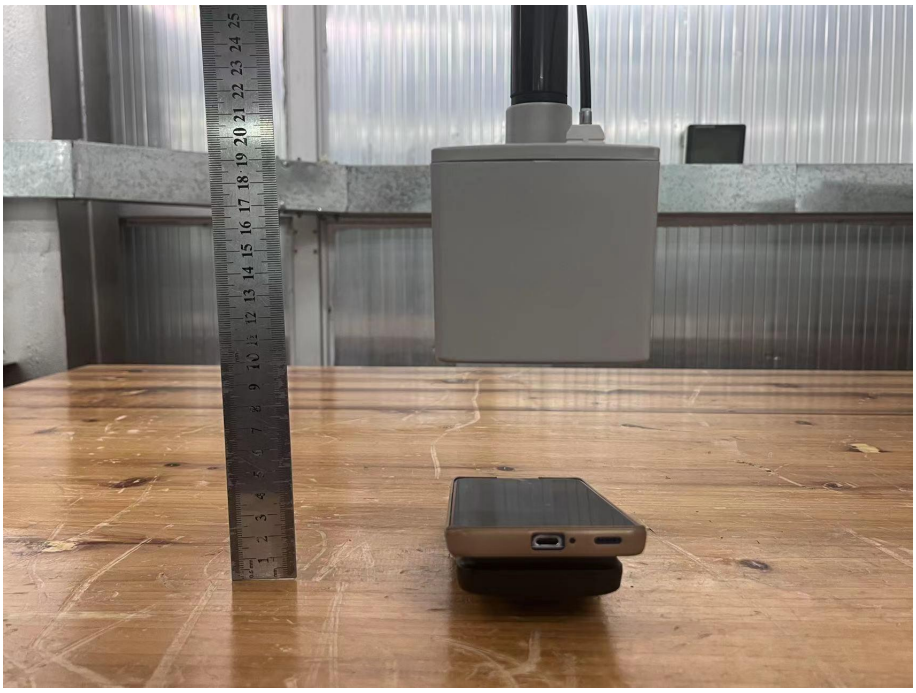
Test Position D-20cm from the edge of EUT to the geometric center of the probe



Test Position E-20cm from the edge of EUT to the geometric center of the probe



Test Position F-20cm from the edge of EUT to the geometric center of the probe



Test Position F-15cm from the edge of EUT to the geometric center of the probe

** End of report **