FCC SDoC Test Report

For

Applicant Name:	**CHANGZHOU YIHU TECHNOLOGY CO., LTD**
Address:	North 1308, No. 88 Dongfang West Road, Lucheng Street, Changzhou Economic Development Zone,Changzhou City,Jiangsu Province,China
EUT Name:	Portable home gym
Brand Name:	AVANTGO
Model Number:	EF-01
Series Model Number:	N/A

Issued By

Company Name:	**BTF Testing Lab (Shenzhen) Co., Ltd.**
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Report Number:	BTF240829E00401
Test Standards:	47 CFR Part 15, Subpart B
Test Conclusion:	Pass
Test Date:	2024-08-30 to 2024-09-14
Date of Issue:	2024-09-19
Prepared By:	Sunny Qin / Project Engineer
Date:	2024-09-19
Approved By:	Ryan.CJ / EMC Manager
Date:	2024-09-19

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Revision History		
Version	Issue Date	Revisions Content
R_V0	2024-09-19	Original
Note: Once the revision has been made, then previous versions reports are invalid.		

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1 Introduction

1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

1.2 Identification of the Responsible Testing Location

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130
FCC Registration Number:	518915
Designation Number:	CN1330

1.3 Announcement

(1) The test report reference to the report template version v0.
(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
(3) The test report is invalid if there is any evidence and/or falsification.
(4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
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(6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

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2 Product Information

2.1 Application Information

Company Name:	CHANGZHOU YIHU TECHNOLOGY CO., LTD
Address:	North 1308, No. 88 Dongfang West Road, Lucheng Street, Changzhou Economic Development Zone,Changzhou City,Jiangsu Province,China

2.2 Manufacturer Information

Company Name:	CHANGZHOU YIHU TECHNOLOGY CO., LTD
Address:	North 1308, No. 88 Dongfang West Road, Lucheng Street, Changzhou Economic Development Zone,Changzhou City,Jiangsu Province,China

2.3 Factory Information

Company Name:	CHANGZHOU YIHU TECHNOLOGY CO., LTD
Address:	North 1308, No. 88 Dongfang West Road, Lucheng Street, Changzhou Economic Development Zone,Changzhou City,Jiangsu Province,China

2.4 General Description of Equipment under Test (EUT)

EUT Name:	Portable home gym
Test Model Number:	EF-01
Series Model Number:	N/A
Description of Model name differentiation:	N/A

2.5 Technical Information

Power Supply:	Input: Type-C DC 5V 2A Battery: DC 18.5V 800mAh
Power Adaptor:	N/A

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3 Summary of Test Results

3.1 Test Standards

The tests were performed according to following standards:
47 CFR Part 15, Subpart B: Unintentional Radiators

3.2 Uncertainty of Test

Item	Measurement Uncertainty
Conducted Emission (150 kHz-30 MHz)	±2.64dB
Radiated Emissions (30M - 1GHz)	±4.12dB
Radiated Emissions (above 1GHz)	1-6GHz: ±3.94dB 6-18GHz: ±4.16dB
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3.3 Summary of Test Result

Item	Standard	Requirement	Result
Conducted emissions on AC mains	47 CFR Part 15, Subpart B	15.107, Class B	Pass
Radiated emissions (Below 1GHz)	47 CFR Part 15, Subpart B	15.109, Class B	Pass
Radiated emissions (Above 1GHz)	47 CFR Part 15, Subpart B	15.109, Class B	N/A

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4 Test Configuration

4.1 Test Equipment List

Conducted emissions on AC mains					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Pulse Limiter	SCHWARZBECK	VTSD 9561-F	00953	/	/
Coaxial Switcher	SCHWARZBECK	CX210	CX210	/	/
V-LISN	SCHWARZBECK	NSLK 8127	01073	2023-11-16	2024-11-15
LISN	AFJ	LS16/110VAC	16010020076	2023-11-16	2024-11-15
EMI Receiver	ROHDE&SCHWARZ	ESCI3	101422	2023-11-15	2024-11-14

Radiated emissions (Below 1GHz) Radiated emissions (Above 1GHz)					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	/	/
Preamplifier	SCHWARZBECK	BBV9744	00246	/	/
RE Cable	REBES Talent	UF1-SMASMAM-10m	21101566	/	/
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	/	/
RE Cable	REBES Talent	UF1-SMASMAM-1m	21101568	/	/
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	/	/
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2023-11-13	2024-11-12
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI7	101032	2023-11-16	2024-11-15
SIGNAL ANALYZER	ROHDE&SCHWARZ	FSQ40	100010	2023-11-16	2024-11-15
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Broadband Preamplilifier	SCHWARZBECK	BBV9718D	00008	2023-11-16	2024-11-15
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2022-05-22	2024-05-21
EZ_EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	/
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2023-11-13	2024-11-12

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4.2 Test Auxiliary Equipment

Description	Manufacturer	Model	Serial No.	Length	Description
Mobile phone	Xiaomi	Xiaomi 14pro	/	/	/
Adapter	HUAWEI	HW-095200CHQ	/	/	/

4.3 Test Modes

No.	Test Modes	Description
TM1	5kg Resistance working + BT	
TM2	15kg Resistance working + BT	
TM3	30kg Resistance working + BT	
TM4	Charging	
Note: All modes are tested, and only the worst mode is showed in the report		

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5 Emission Test Results (EMI)

5.1 Conducted emissions on AC mains

Test Requirement:	15.107, Class B
Test Method:	ANSI C63.4-2014
Test Limit:	

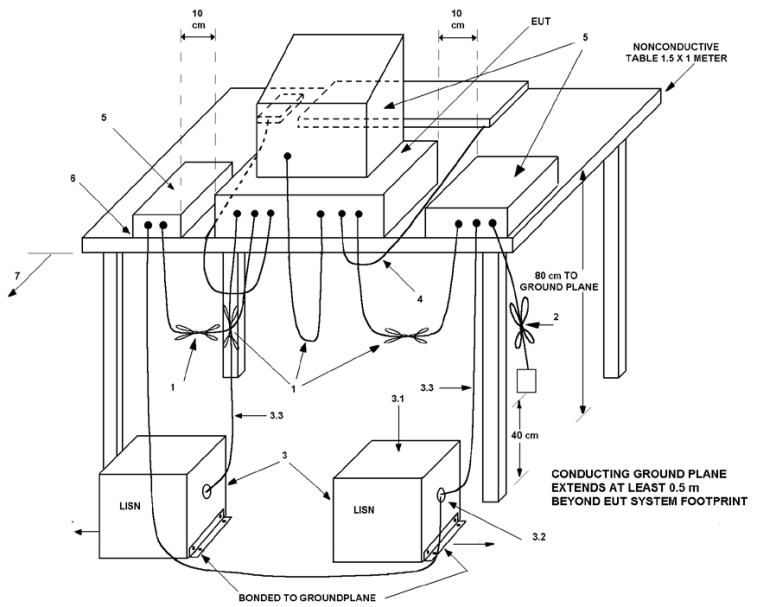
Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

Procedure:	An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor

5.1.1 E.U.T. Operation:

Operating Environment:	
Temperature:	22.7 °C
Humidity:	52.3 %
Atmospheric Pressure:	1010 mbar

5.1.2 Test Setup Diagram:



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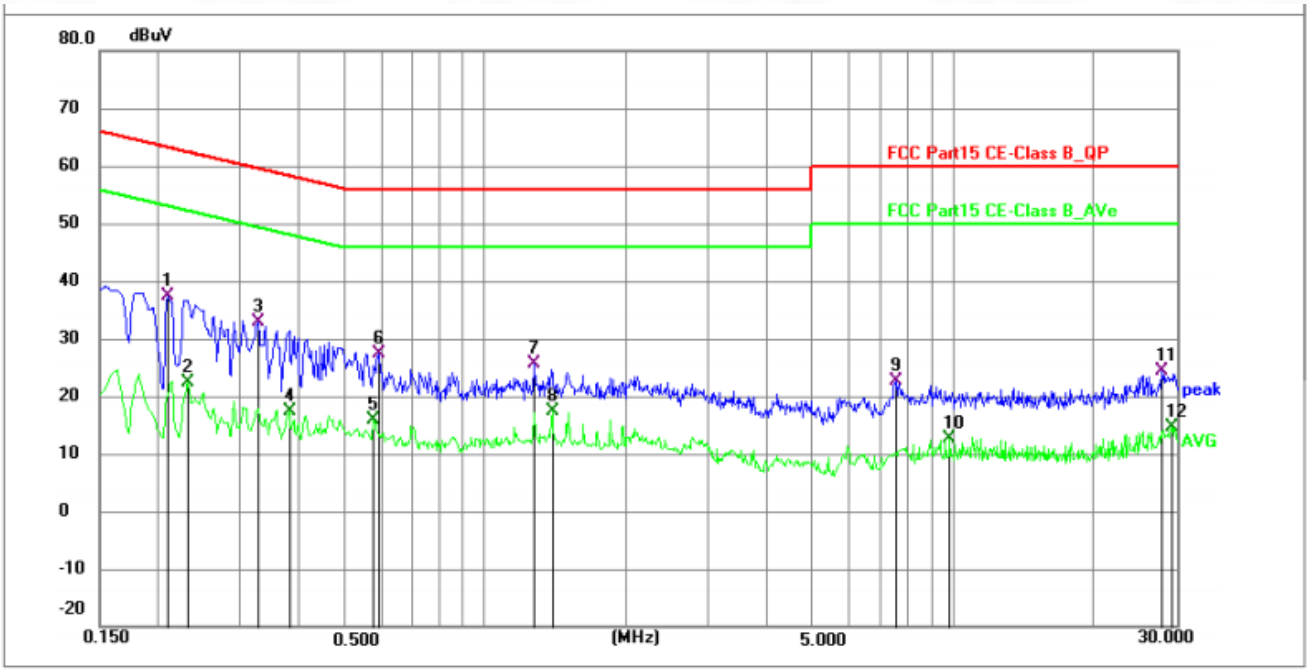
5.1.3 Test Data:

TM4 / Line: Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.2084	26.71	10.56	37.27	63.27	-26.00	QP	P	
2	0.2310	11.76	10.56	22.32	52.41	-30.09	AVG	P	
3	0.3255	22.31	10.57	32.88	59.57	-26.69	QP	P	
4	0.3795	6.75	10.57	17.32	48.29	-30.97	AVG	P	
5	0.5775	5.33	10.62	15.95	46.00	-30.05	AVG	P	
6	0.5910	16.80	10.63	27.43	56.00	-28.57	QP	P	
7	1.2750	14.91	10.66	25.57	56.00	-30.43	QP	P	
8	1.3920	6.78	10.66	17.44	46.00	-28.56	AVG	P	
9	7.5390	11.83	10.80	22.63	60.00	-37.37	QP	P	
10	9.8430	1.77	10.84	12.61	50.00	-37.39	AVG	P	
11	27.8880	13.05	11.22	24.27	60.00	-35.73	QP	P	
12	29.3010	3.46	11.22	14.68	50.00	-35.32	AVG	P	

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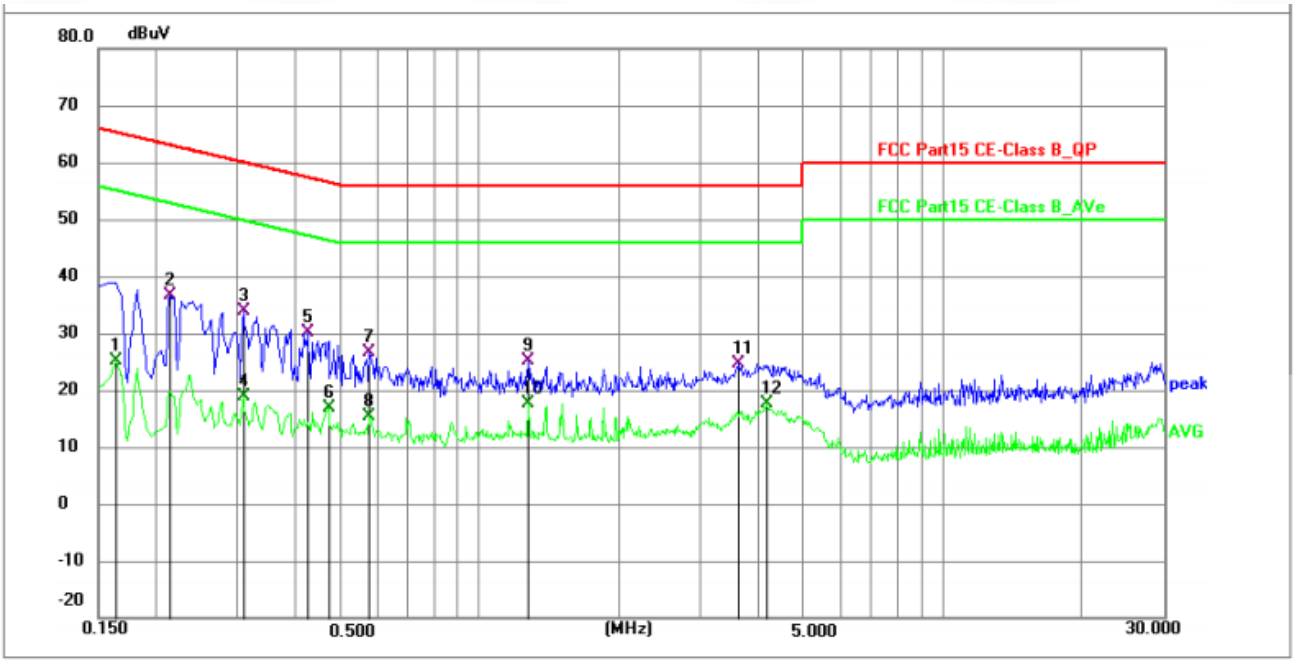
TM4 / Line: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1635	14.68	10.48	25.16	55.28	-30.12	AVG	P	
2	0.2130	26.10	10.56	36.66	63.09	-26.43	QP	P	
3 *	0.3075	23.39	10.57	33.96	60.04	-26.08	QP	P	
4	0.3075	8.29	10.57	18.86	50.04	-31.18	AVG	P	
5	0.4245	19.44	10.57	30.01	57.36	-27.35	QP	P	
6	0.4695	6.39	10.57	16.96	46.52	-29.56	AVG	P	
7	0.5775	15.96	10.62	26.58	56.00	-29.42	QP	P	
8	0.5775	4.71	10.62	15.33	46.00	-30.67	AVG	P	
9	1.2750	14.59	10.66	25.25	56.00	-30.75	QP	P	
10	1.2750	6.97	10.66	17.63	46.00	-28.37	AVG	P	
11	3.6285	14.10	10.64	24.74	56.00	-31.26	QP	P	
12	4.1685	6.87	10.69	17.56	46.00	-28.44	AVG	P	

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5.2 Radiated emissions (Below 1GHz)

Test Requirement:	15.109, Class B
Test Method:	ANSI C63.4-2014
Test Limit:	Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

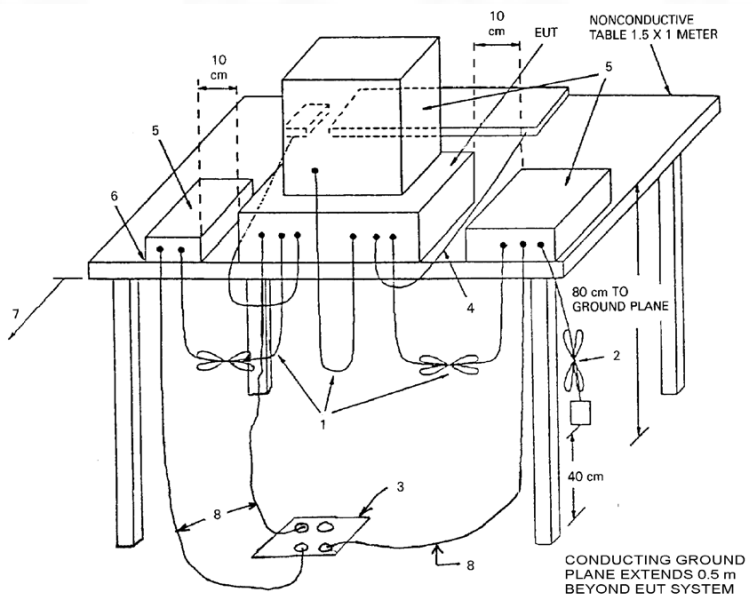
Frequency of emission (MHz)	Field strength @3m		Field strength @10m	
	(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)
30 – 88	100	40	30	29.5
88 – 216	150	43.5	45	33.1
216 – 960	200	46	60	35.6
Above 960	500	54	150	43.5

Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

5.2.1 E.U.T. Operation:

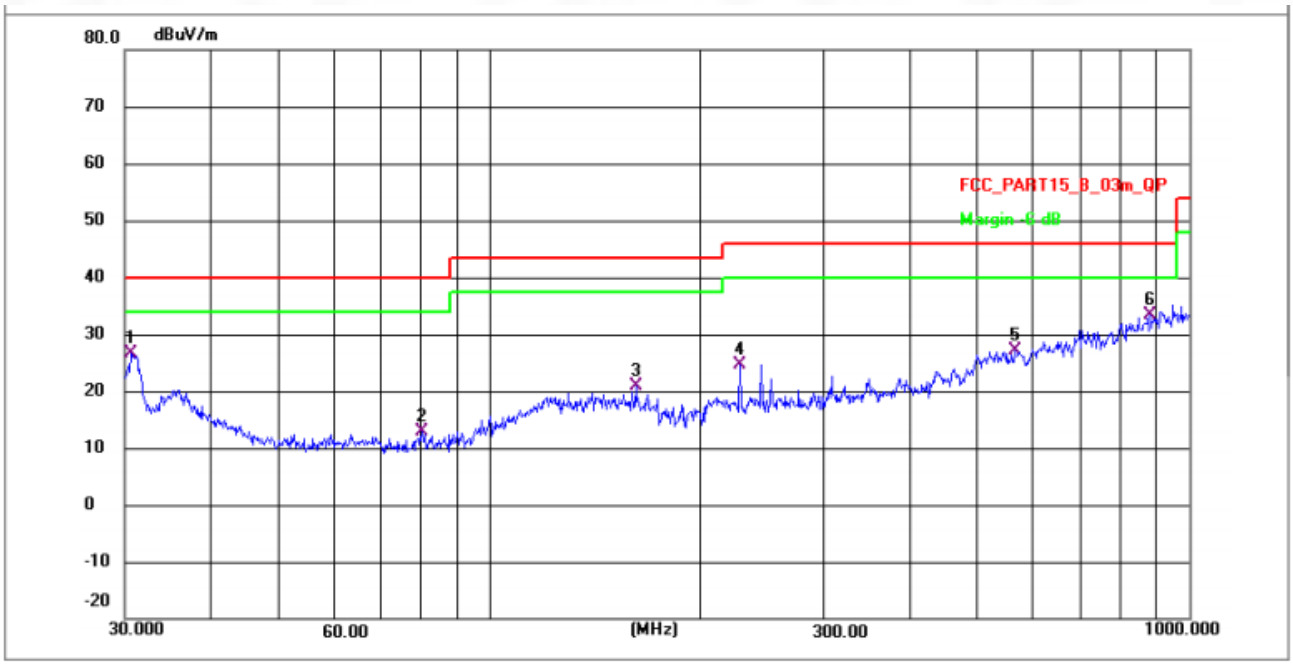
Operating Environment:	
Temperature:	22.7 °C
Humidity:	52.3 %
Atmospheric Pressure:	1010 mbar

5.2.2 Test Setup Diagram:



5.2.3 Test Data:

TM1 / Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	30.7455	36.30	-9.79	26.51	40.00	-13.49	QP	P
2	80.0806	22.11	-9.26	12.85	40.00	-27.15	QP	P
3	162.0414	42.88	-21.90	20.98	43.50	-22.52	QP	P
4	228.0902	45.82	-21.25	24.57	46.00	-21.43	QP	P
5	562.6624	45.61	-18.58	27.03	46.00	-18.97	QP	P
6 *	881.4067	49.78	-16.52	33.26	46.00	-12.74	QP	P

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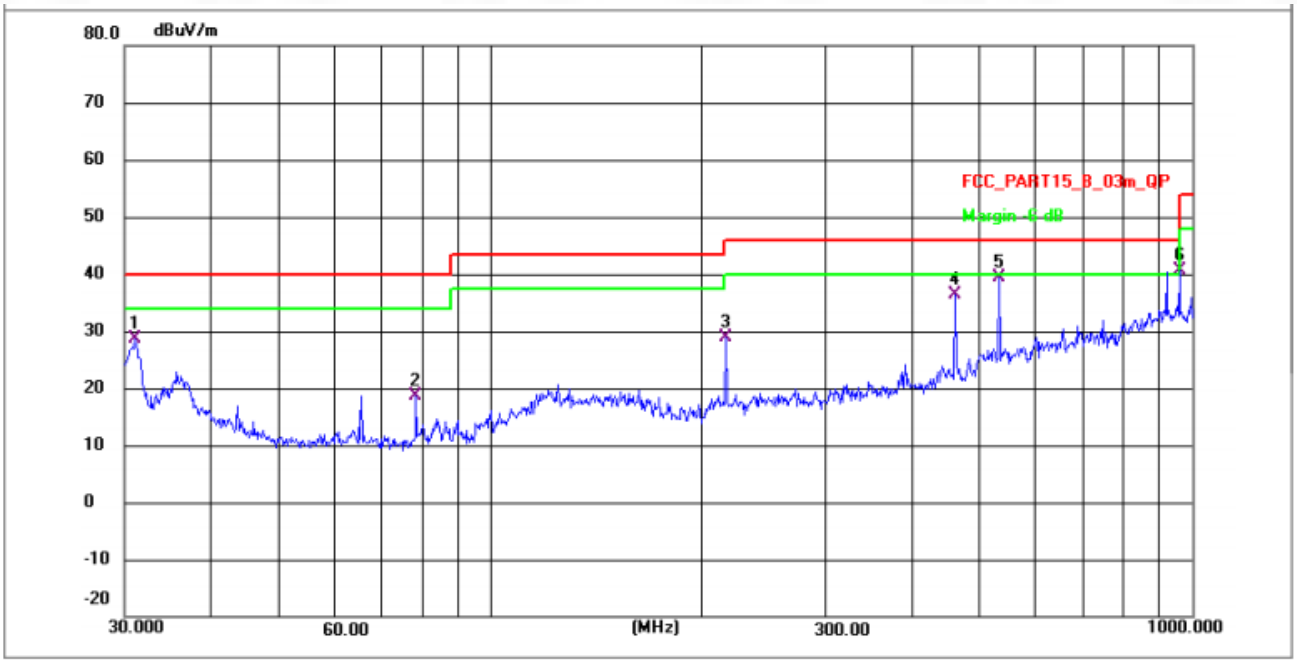
TM1 / Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	31.0706	38.26	-9.70	28.56	40.00	-11.44	QP	P
2	78.2760	28.01	-9.28	18.73	40.00	-21.27	QP	P
3	216.0240	50.37	-21.38	28.99	46.00	-17.01	QP	P
4	460.7271	55.82	-19.32	36.50	46.00	-9.50	QP	P
5	531.9635	58.09	-18.78	39.31	46.00	-6.69	QP	P
6 *	958.7943	56.47	-15.85	40.62	46.00	-5.38	QP	P

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5.3 Radiated emissions (Above 1GHz)

Test Requirement:	15.109, Class B
Test Method:	ANSI C63.4-2014
Test Limit:	

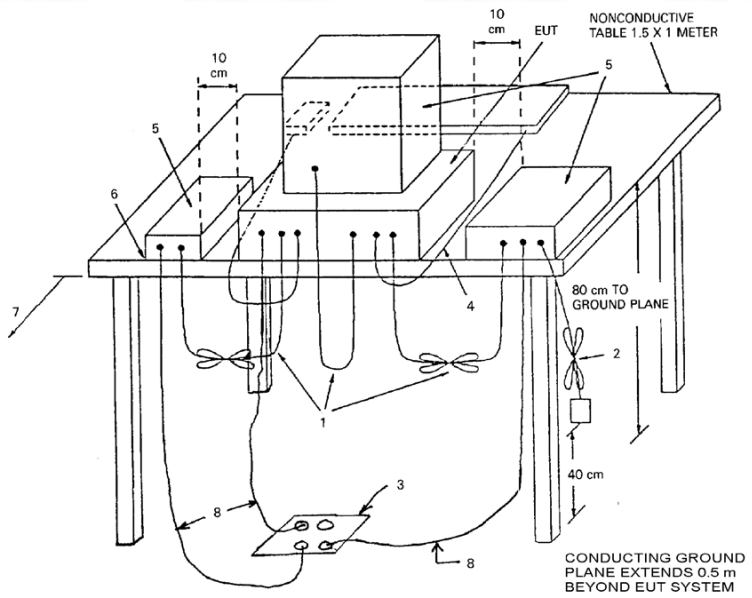
Frequency of emission (MHz)	Field strength @3m		
	Average (uV/m)	Average(dBuV/m)	Peak (dBuV/m)
Above 1GHz	500	54	74

Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. For below 1GHz test, Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. For above 1GHz test, Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

5.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	22.7 °C
Humidity:	52.3 %
Atmospheric Pressure:	1010 mbar

5.3.2 Test Setup Diagram:



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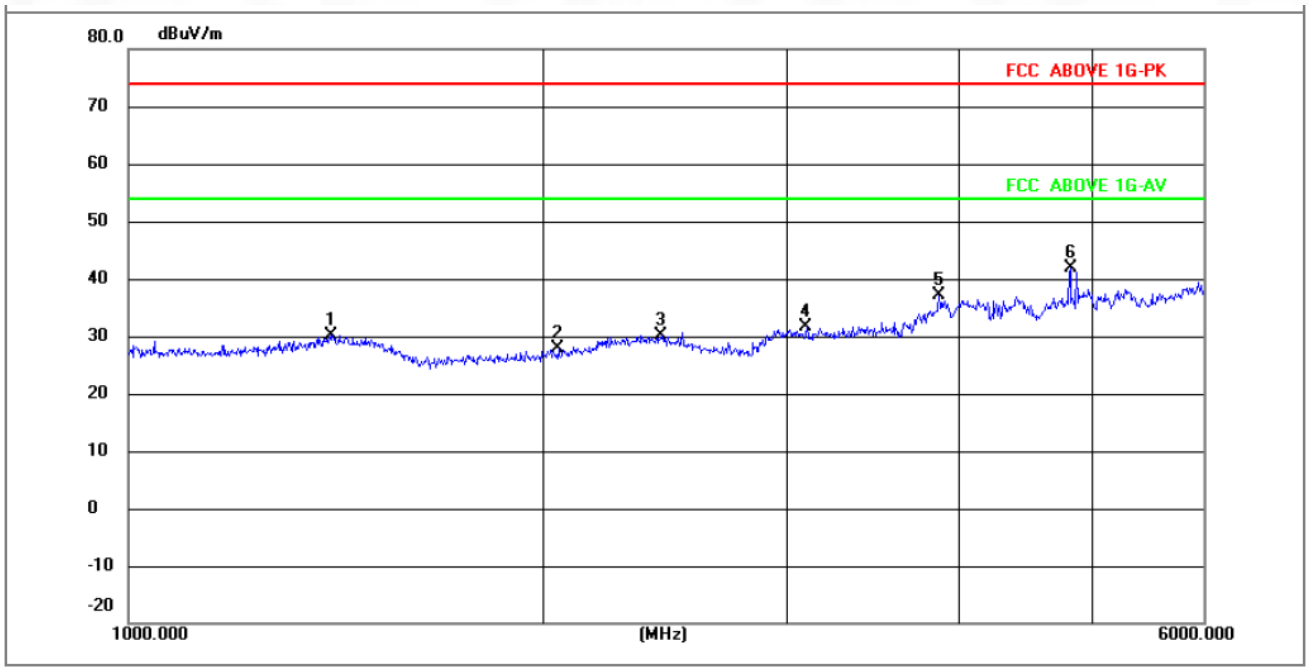
5.3.3 Test Data:

TM1 / Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1402.539	55.57	-25.38	30.19	74.00	-43.81	peak	P
2	2048.773	77.54	-49.76	27.78	74.00	-46.22	peak	P
3	2435.049	79.70	-49.53	30.17	74.00	-43.83	peak	P
4	3098.625	80.82	-49.21	31.61	74.00	-42.39	peak	P
5	3868.158	86.54	-49.37	37.17	74.00	-36.83	peak	P
6 *	4805.497	90.79	-48.88	41.91	74.00	-32.09	peak	P

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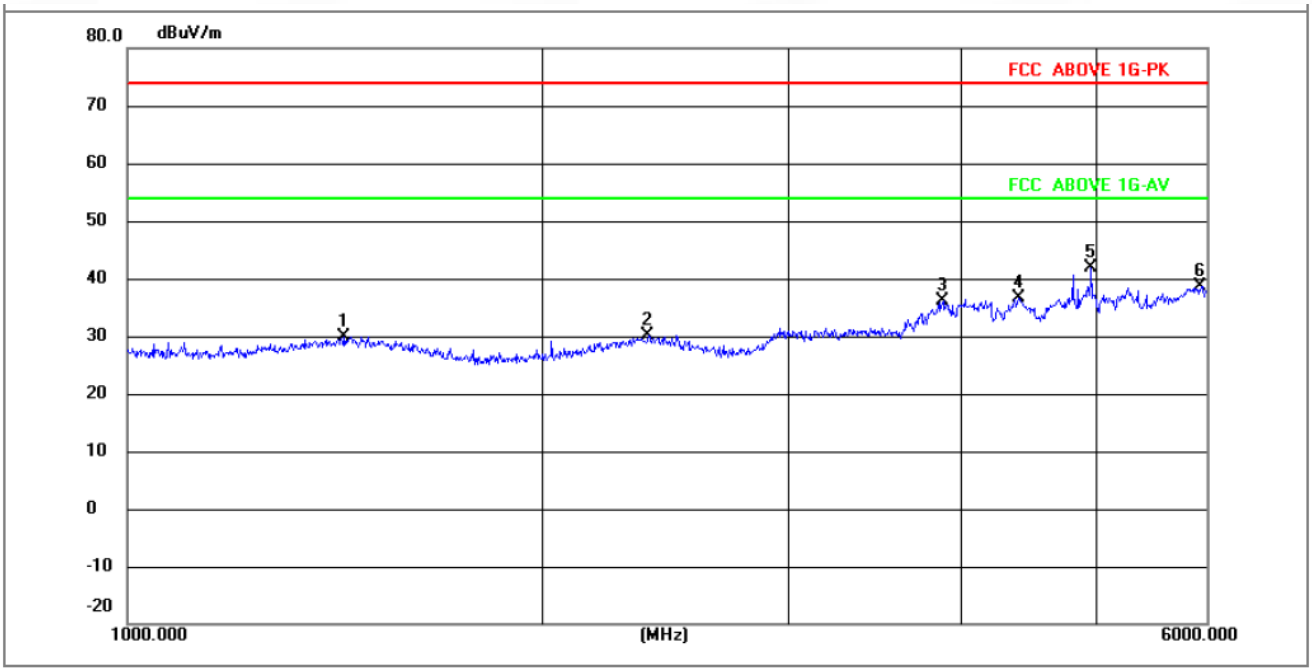
TM1 / Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	1435.334	79.93	-49.96	29.97	74.00	-44.03	peak	P
2	2378.985	79.74	-49.56	30.18	74.00	-43.82	peak	P
3	3877.178	85.51	-49.38	36.13	74.00	-37.87	peak	P
4	4394.491	85.71	-49.15	36.56	74.00	-37.44	peak	P
5 *	4962.119	90.61	-48.78	41.83	74.00	-32.17	peak	P
6	5952.883	87.10	-48.35	38.75	74.00	-35.25	peak	P

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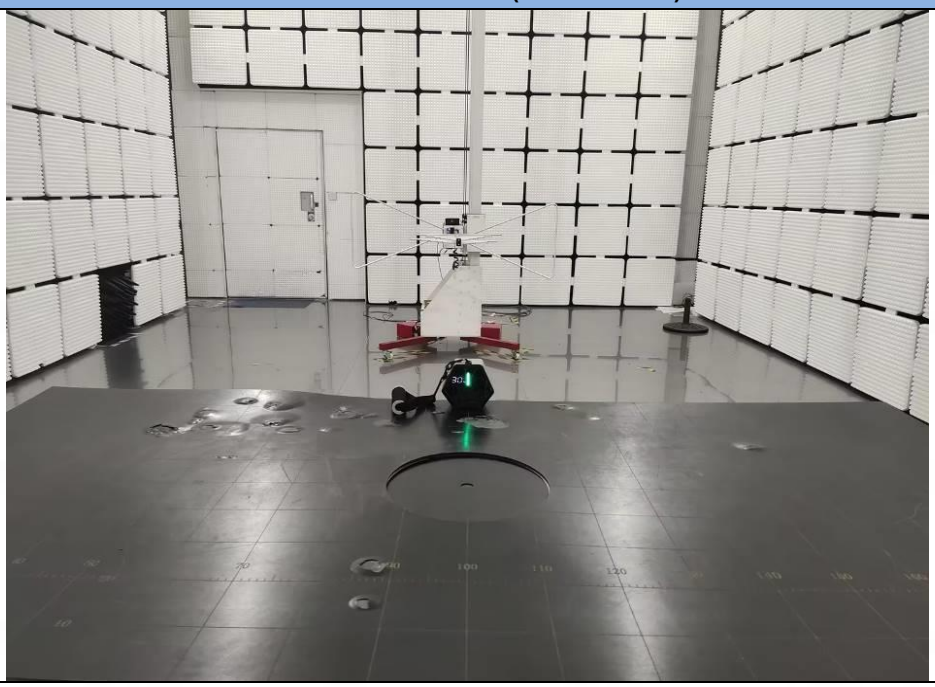
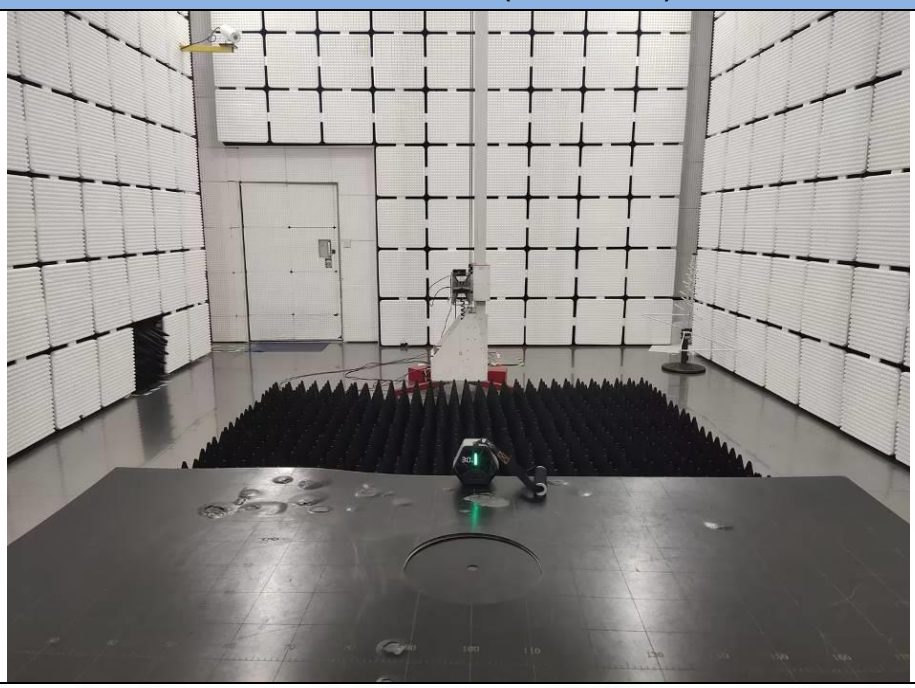
6 Test Setup Photos

Radiated emissions (Below 1GHz)


Radiated emissions (above 1GHz)


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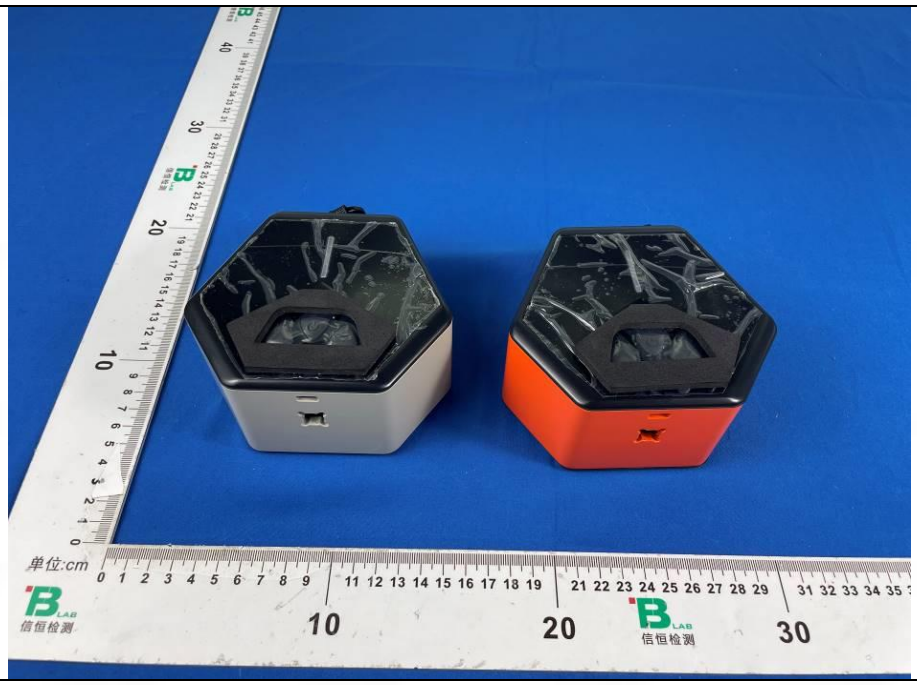
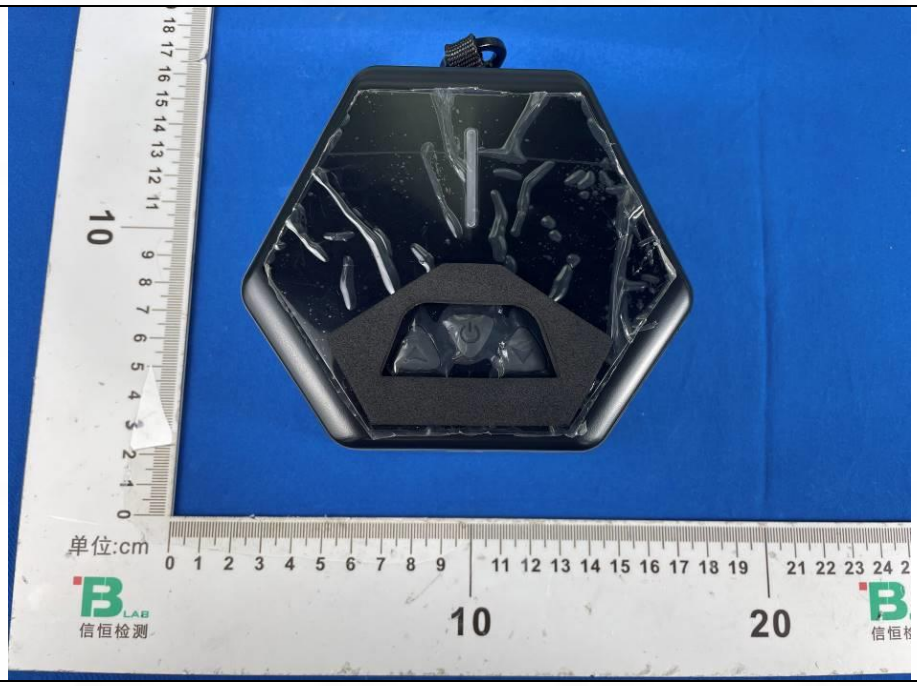
Conducted emissions on AC mains

7 EUT Constructional Details (EUT Photos)

External





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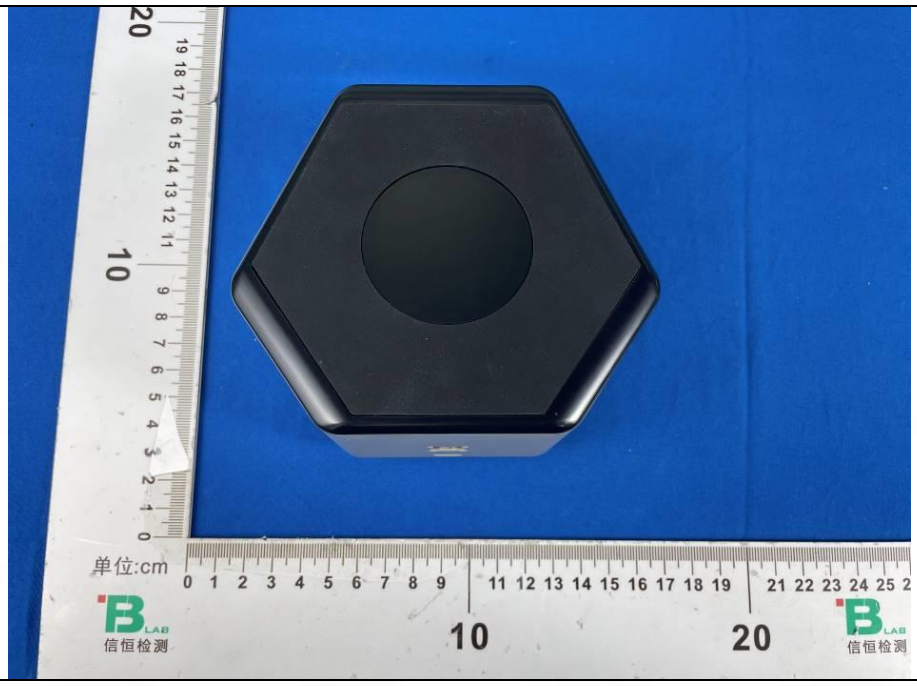

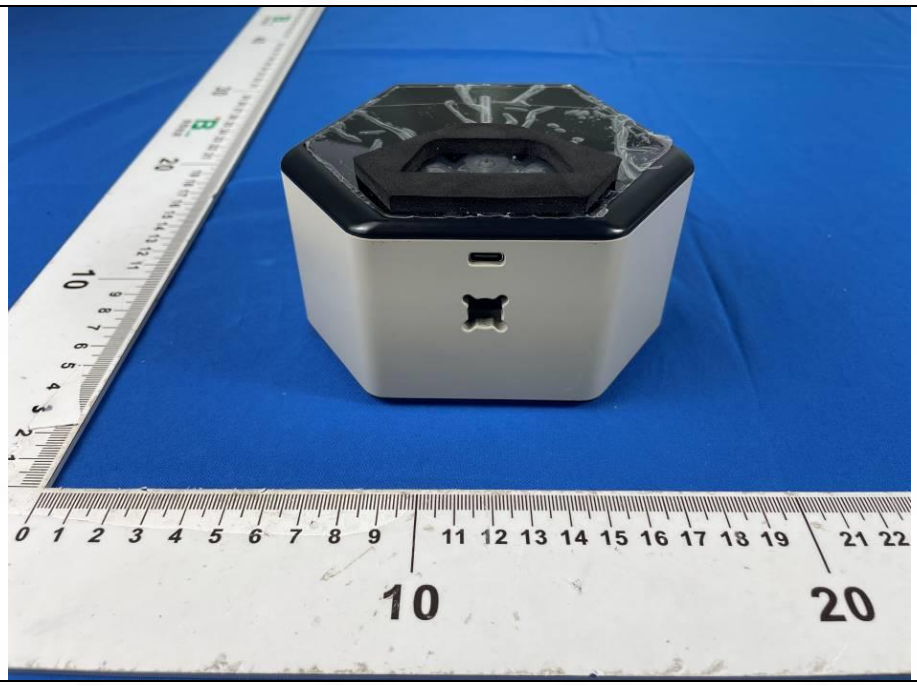

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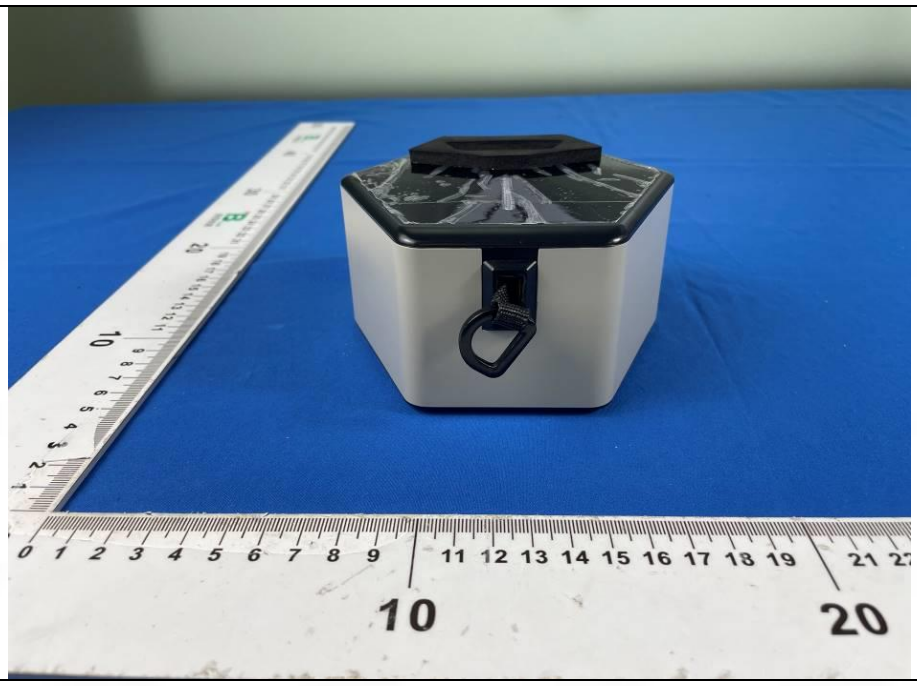

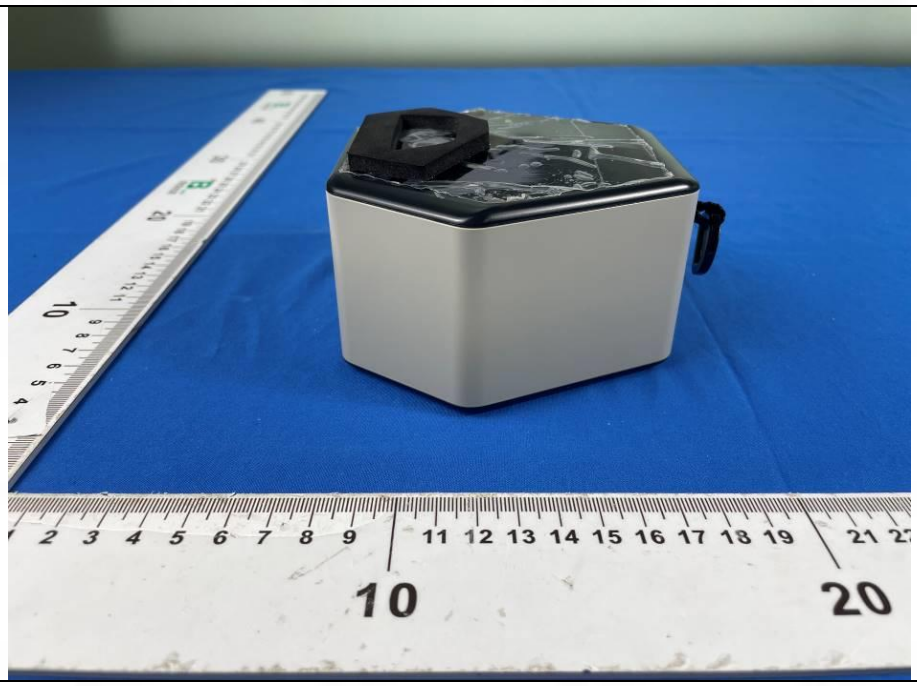

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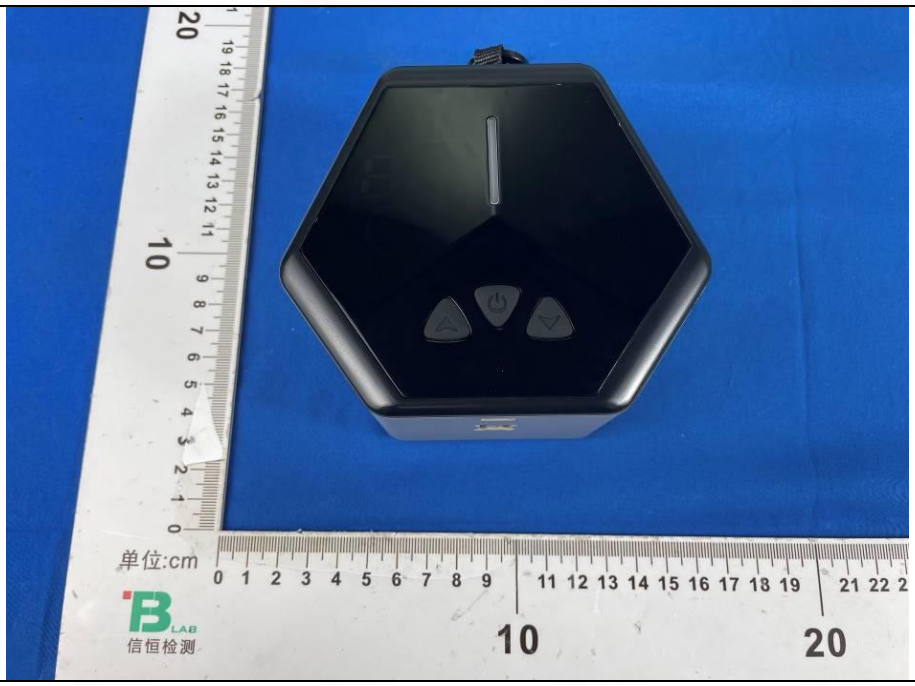
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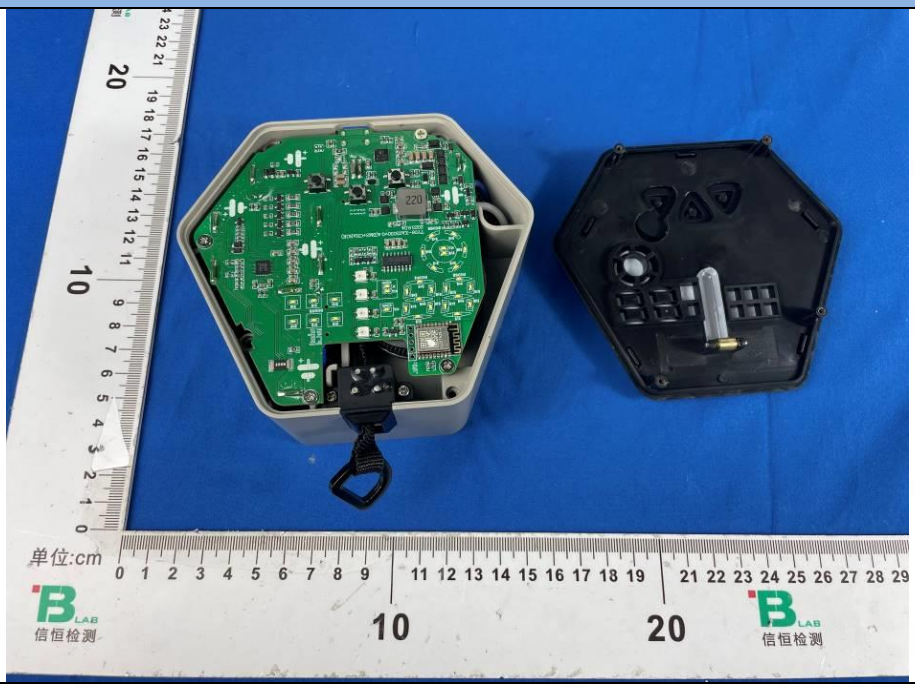
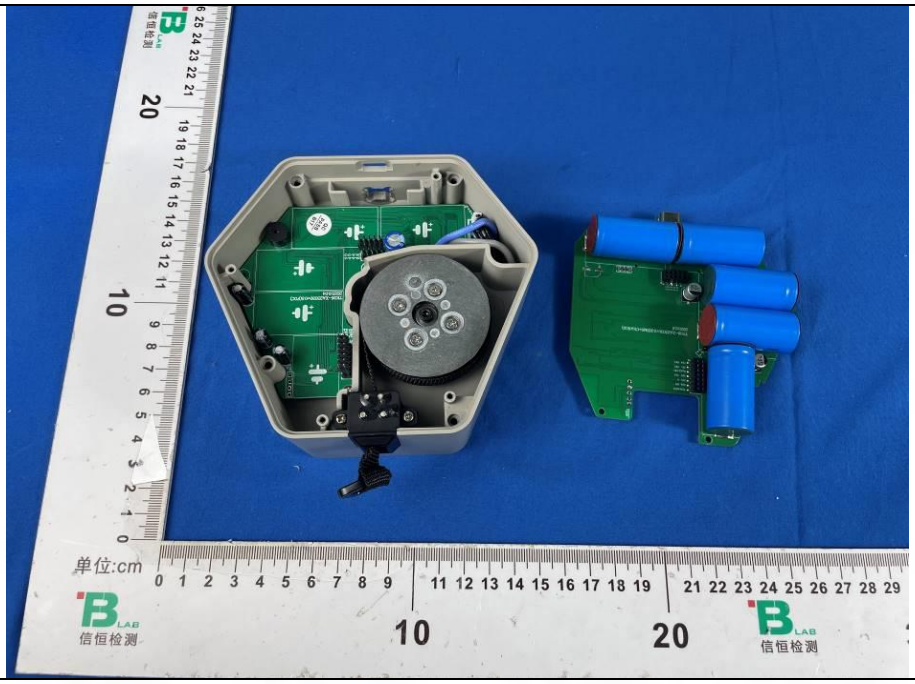
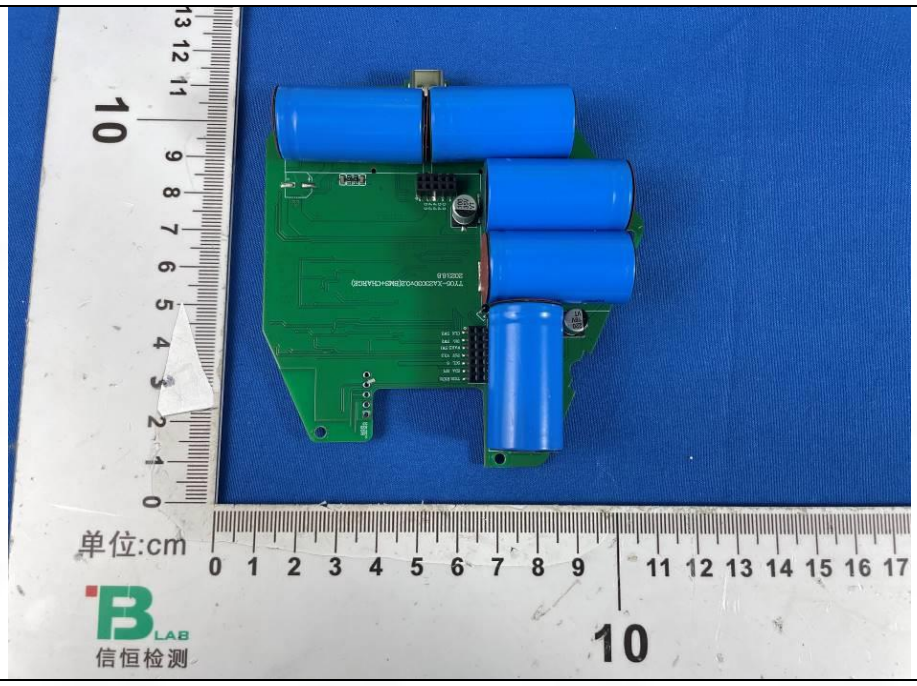
信恒检测

Internal


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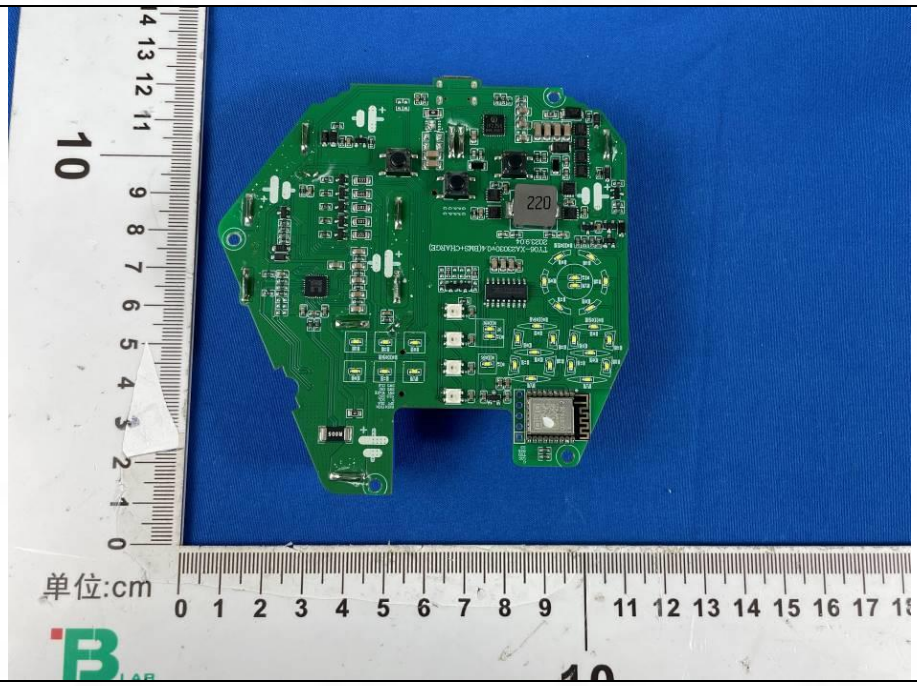
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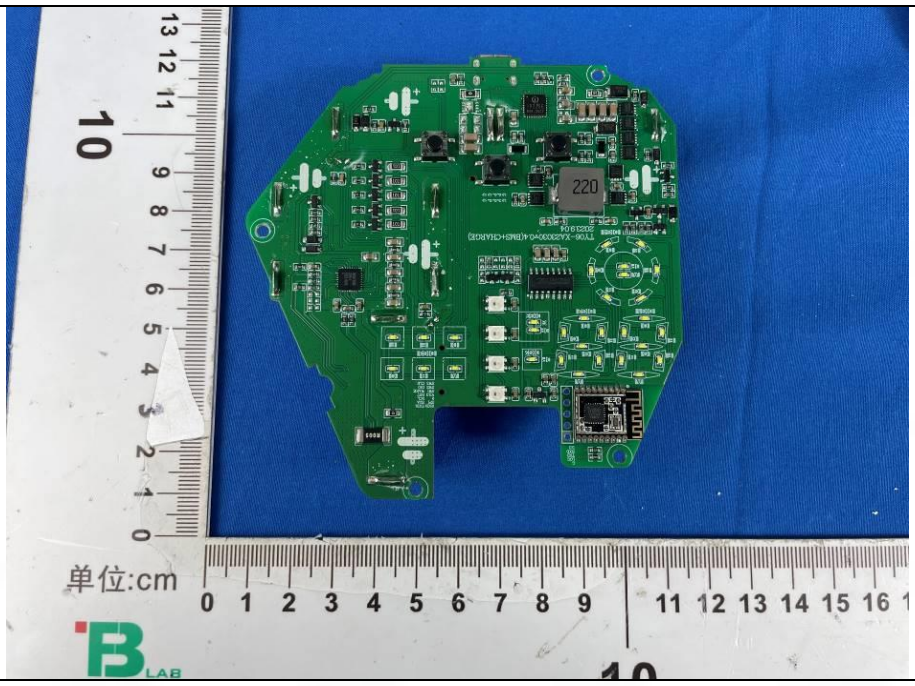

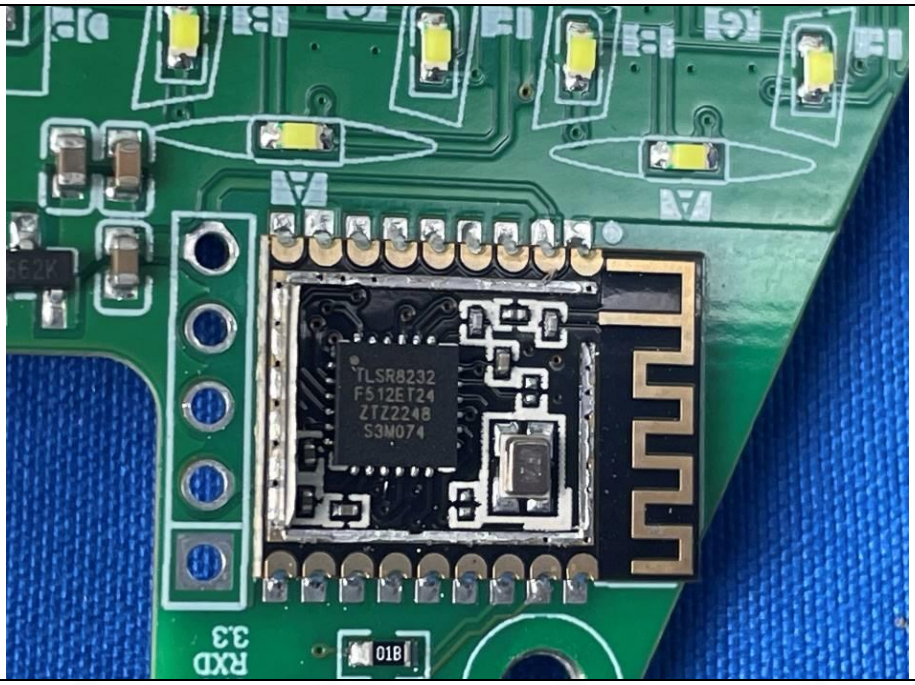

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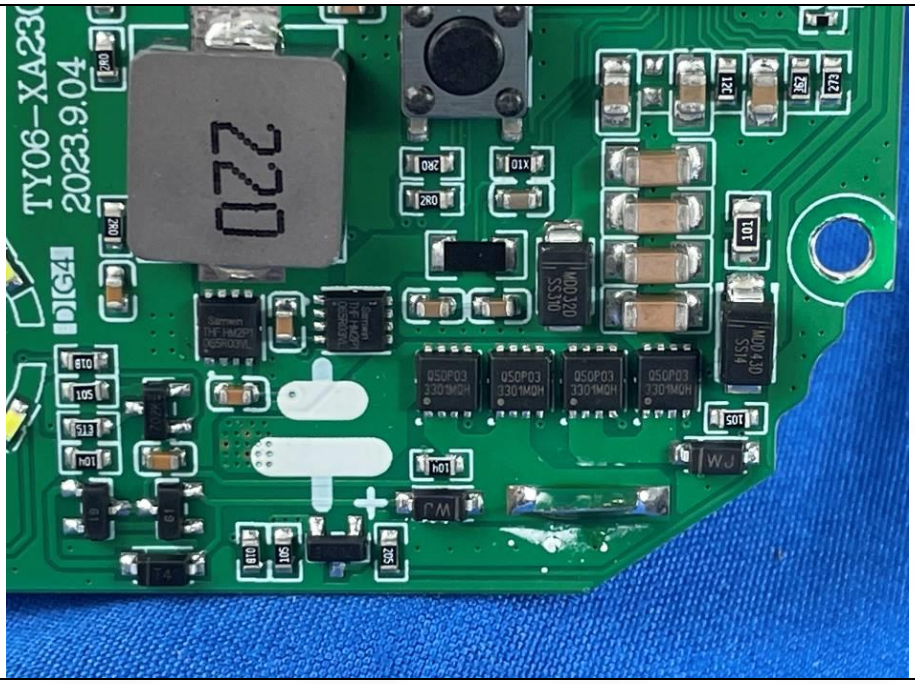

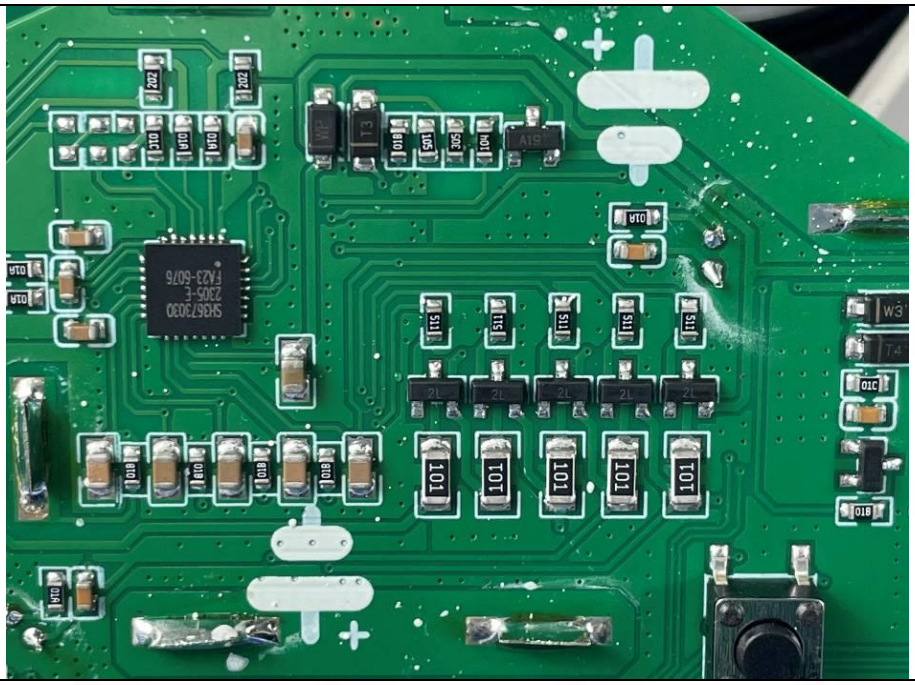

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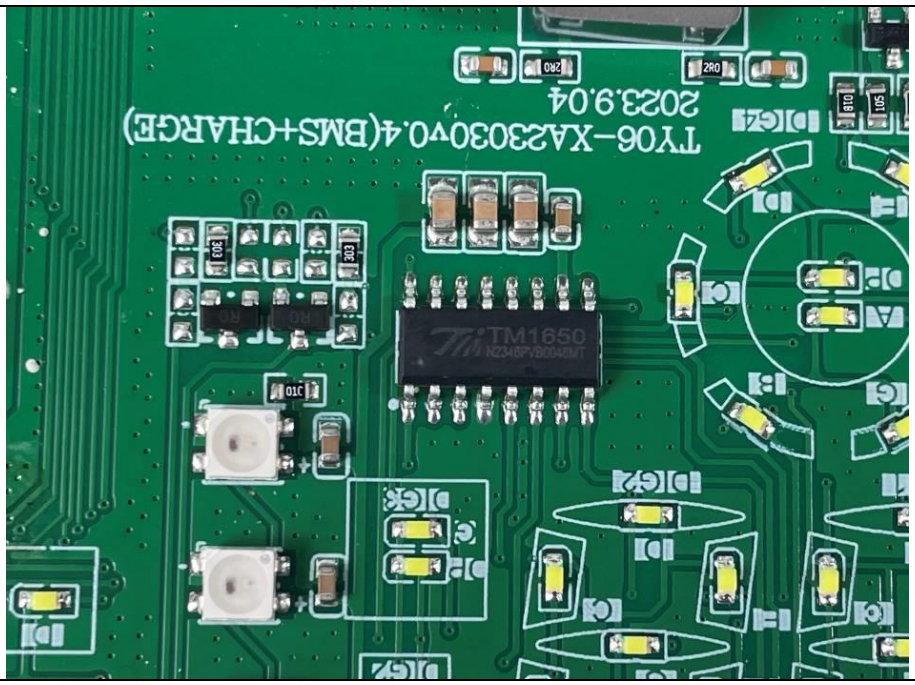
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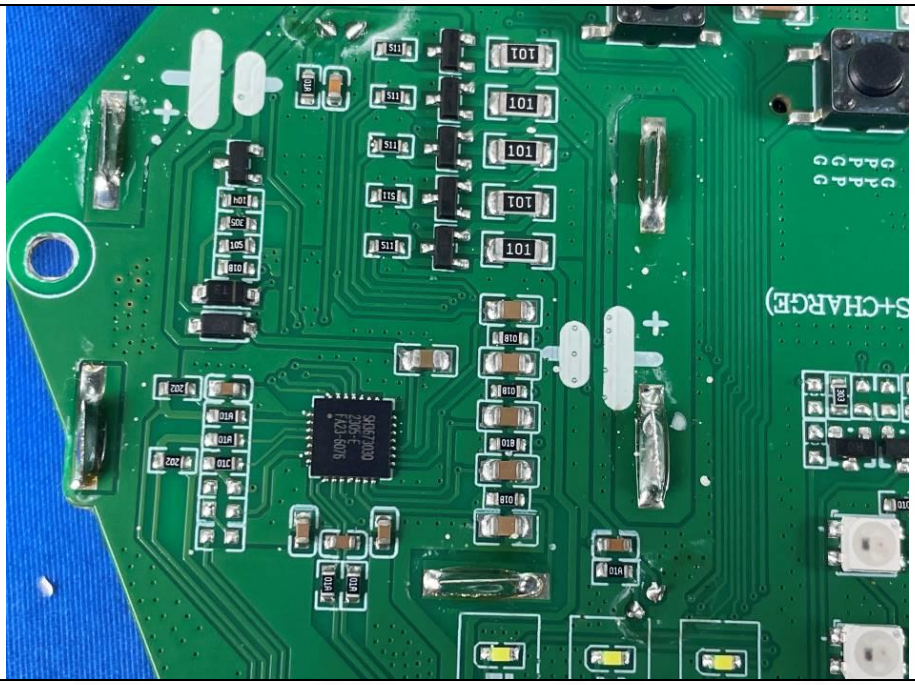
TM1650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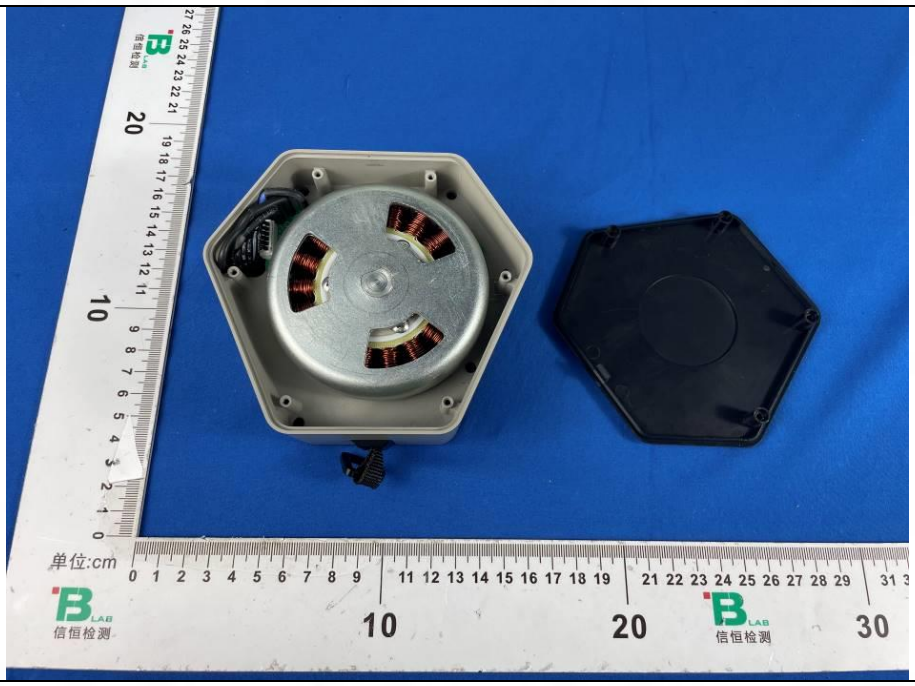
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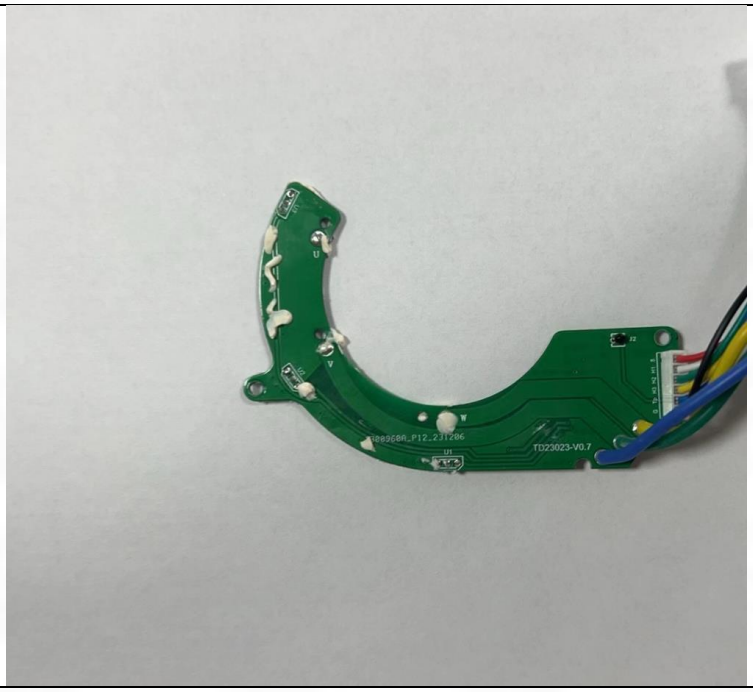

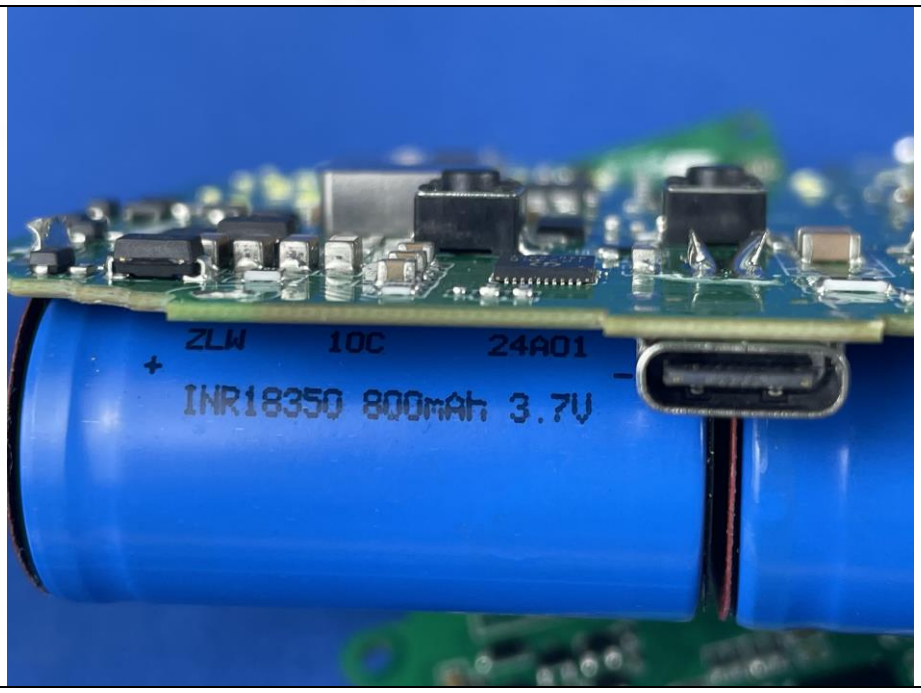

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