TEST REPORT NUMBER: (8523)130-0532

TEST REPORT

Applicant:	Guangdong Winburg Technology Co., Ltd.	Fax:	---
		E-mail:	---
Address :	1F Factory building, No 1,Yihui Fifth Road, Henglan Town, Zhongshan City, Guangdong Province, China		
Test Date :	2023-05-06 to 2023-05-09		

Manufacturer or Supplier:	Guangdong Winburg Technology Co., Ltd.
Address:	1F Factory building, No 1,Yihui Fifth Road, Henglan Town, Zhongshan City, Guangdong Province, China
Sample Description:	Electronic Baby Scale/ Electronic Pet Scale
Trade Mark:	N/A
Model number:	EB525
Additional Model:	N/A
Rated Voltage:	DC 3V (1.5V*AAA*2)from batteries
The submitted sample of the above equipment has been tested according to following standard(s)	
EN IEC 55014-1:2021 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission EN IEC 55014-2:2021 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard	
CONCLUSION: The submitted sample was found to COMPLY with the test requirement.	

Project Manager



Name: Tom Chen
Date: May 09, 2023

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STANDARDS

Emission Standard	Overall Result
EN IEC 55014-1:2021 Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission	**Meet**

Emission Tests Required		
Test	**Test method**	**Result**
Measurement of Radiated Disturbances (30 MHz – 1000 MHz)	CISPR 16-2-3:2016/A1:2019	**Meet**

Immunity Standard	Overall Result
EN IEC 55014-2:2021 Electromagnetic compatibility — Requirements for household appliances, electric tools and similar apparatus — Part 2: Immunity — Product family standard	**Meet**

Immunity Tests Required		
Test	**Test method**	**Result**
Electrostatic discharges	IEC 61000-4-2:2008	**Meet**
Radio frequency electromagnetic fields	IEC 61000-4-3:2006/A1:2007/ A2:2010	**N.A.**(Note 1)
Electric fast transients	IEC 61000-4-4:2012	**N.A.**(Note 2)
Surges	IEC 61000-4-5:2014/A1:2017	**N.A.**(Note 2)
Injected currents	IEC 61000-4-6:2013	**N.A.**(Note 2)

Note: 1. This test is only applicable to the highest clock frequency greater than 15MHz. For Category III toys, the radio frequency electromagnetic fields test shall be applicable only for ride on toys.
2. The product is not connected to power mains and has no cables attached.

General Information

General Description of EUT

Product Name:	Electronic Baby Scale/ Electronic Pet Scale
Test Model No.:	EB525
Additional Model:	N/A
Trade Mark:	N/A
Power Supply:	DC 3V (1.5V*AAA*2)from batteries
Group / Category	Category III
The highest clock frequency	Below 15MHz
Cable supplied	N/A

Test Mode

Normal working	EUT was operated according to the type description in manufacturer's specifications or the User's Manual.

Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Certification	Supplied by
N/A	N/A	N/A	N/A	N/A

Test Location

Test Laboratory:
Shenzhen Huaxia Testing Technology Co., Ltd.
Address:
1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

A) Emission Measurements:

Test Results:

Measurement of Radiated Electromagnetic Disturbances (30 MHz – 1 GHz):

Standard: EN IEC 55014-1

Limit: Table 9

Port under test: Enclosure

Operational mode under test: Normal working/ DC 3V from batteries

The operational mode under test is determined according to the typical use of the EUT with respect to the expected highest level of emission. During the test, various parts of the EUT system are exercised in a manner permitting detection of all system disturbances.

Test equipment:

Description	Brand Name	Model No.	Serial No.	Calibration Date	Next Calibration Date
Loop antenna	SCHWARZBECK	FMZB 1516	136	2021/9/16	2024/9/15
Horn Antenna	R&S	BBHA 9170	832	2021/9/16	2024/9/15
Horn Antenna	R&S	HF906	361188	2021/9/16	2024/9/15
Bilog Antenna	R&S	HL562	100365	2021/9/16	2024/9/15
EMI Test Receiver	R&S	ESR7	1316.3003.07	2022/9/9	2023/9/8
Spectrum analyzer	R&S	FSU26	200019	2022/9/9	2023/9/8
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	1799815	2022/9/9	2023/9/8
Coaxial cable (1GHz~40GHz)	CQA	N/A	1309.8010.03	2022/9/9	2023/9/8
Coaxial cable (9KHz~1GHz)	CQA	N/A	101496	2022/9/9	2023/9/8

Remarks: -
The measurement instrumentation uncertainty would be taking into consideration on each of the test result.

Test method
The test is performed in accordance with CISPR 16-2-3 as a basic standard at a measurement range of 3 meters. Measurement shall be carried out on the Open Area Test Site (OATS or SAC) located on the roof of the EMC laboratory.

The test site has, by verification measurements, satisfied the normalized site attenuation (NSA) requirements specified in the standard CISPR 16-2-3. For each test frequency during final test, the antenna-to-EUT azimuth is varied through 360°. The antenna is also scanned between 1m to 4m in height above the ground plane to maximize the level of radiated disturbances. The final test results are measured with quasi-peak detector of the EMI test receiver.

If the measurement results are 20 dB lower than the corresponding limit levels, no records of these measurement results are required.

For the measurements at frequencies with high ambient disturbance signals existing, verification tests may be carried out in the Fully Anechoic Chamber (FAC) as an auxiliary method to confirm whether there is any emission of radiated disturbances from the EUT. If there is no maximum disturbance level from the EUT other than the corresponding intrinsic noise floor of measuring system (which is at least 20 dB below the limit level), then it can be stated confidently that the measurement result obtained at OATS or SAC is due to the signal levels of ambient signal sources, not the EUT.

Results:

The maximum radiated electromagnetic disturbances measured are recorded as shown below:

Measuring range: 3 meters
Test mode: Normal working/ DC 3V from batteries

Frequency	Antenna Polarization	Detector	Measurement Result @ 3m	Limit @ 3m	Margin	Comment
MHz	Vertical / Horizontal	Peak/ Quasi-Peak	dBµV/m	dBµV/m	dB	Meets / Does not Meet
44.12	Vertical	Peak	22.04	40.00	-17.96	Meets
97.11	Vertical	Peak	20.08	40.00	-19.92	Meets
121.55	Vertical	Peak	19.83	40.00	-20.17	Meets
277.09	Vertical	Peak	22.28	47.00	-24.72	Meets
357.93	Vertical	Peak	25.84	47.00	-21.16	Meets
501.18	Vertical	Peak	31.95	47.00	-15.05	Meets
90.54	Horizontal	Peak	20.00	40.00	-20.00	Meets
105.27	Horizontal	Peak	20.46	40.00	-19.54	Meets
312.18	Horizontal	Peak	24.95	47.00	-22.05	Meets
530.10	Horizontal	Peak	28.28	47.00	-18.72	Meets
704.23	Horizontal	Peak	33.90	47.00	-13.10	Meets
836.24	Horizontal	Peak	33.93	47.00	-13.07	Meets

Remarks: Calculated measurement uncertainty: 4.44 dB for 30~1000MHz.
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

B) Immunity Measurements:

Classification of electrical and electronic toys and the consequently applicable immunity tests in accordance to the standard EN IEC 55014-2:

Per clause 4 of EN IEC 55014-2, the captioned EUT falls within the scope of the following category; listed together with the applicable tests and performance criteria in accordance to sub-clause 7.2 of EN IEC 55014-2:

Category III: Battery operated equipment not included in Category I.
EXAMPLES Appliances, tools and toys powered by batteries and that include a microprocessor to provide a selection of functions.
NOTE The assignment to Category III is independent of the clock frequency.
This category also includes equipment provided with rechargeable batteries, which can be charged, directly or indirectly, from the mains. Accordingly, this equipment shall also be subjected to the test requirements for mains operated equipment but only when testing the charging function.
If the equipment can operate its intended functions when connected, directly or indirectly to the mains, then it is not battery operated. Accordingly, it shall be classified as Category II, Category IV or Category V, as applicable, and subjected to the corresponding test requirements when in mains operation.

Test Applicable for Category III Equipment:		**Performance Criteria**
(1)	Electrostatic discharges	
	Case I. If the equipment are appliances or toys using score or data entered by the user	B
	Case II. If the equipment are toys NOT using score or data entered by the user	C
(2)	Radio frequency electromagnetic fields (80 MHz – F MHz)	A
	Note: a. The frequency (F), up to which this test needs to be performed, is determined from the highest clock frequency. If highest clock frequency greater than 15 MHz but lower than or equal to 200 MHz, the test frequency should be up to 1000MHz. If highest clock frequency greater 200 MHz, the test frequency should be up to 6GHz.	
	b. This test is only applicable to the ride on toys operating with electronic devices	
(3)	Electric fast transients	B
(4)	Surges	B
(5)	Injected currents (150 kHz to 80 MHz)	A

Definitions of Performance criteria

- **Criterion A**: The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer then either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.

- **Criterion B**: The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is however allowed. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer then either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.

- **Criterion C**: Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

Classification of Observations

Observation	**Description**
A	Satisfying Performance Criterion A
B	Satisfying Performance Criterion B
C	Satisfying Performance Criterion C
D	Loss of function or degradation of performance which is not recoverable, owing to damage to hardware or software, or loss of data

Electrostatic Discharge (ESD):

Standard: EN IEC 55014-2 (Basic Standard: IEC 61000-4-2)

Test Levels: ±4kV for Contact Discharge, ±8kV for Air Discharge

Port under test: Enclosure

Test equipment:

Description	Brand Name	Model No.	Serial No.	Calibration Date	Next Calibration Date
ESD Simulator	EM TEST	DITO	V0506100113	2022/9/9	2023/9/8
Temperature And Humidity Indicator	TEMPERATURE	HTC-1	212065	2022/9/9	2023/9/8

Remarks: -
The measurement instrumentation uncertainty would be taking into consideration on each of the test result

Results:

Operation mode under test: Normal working/ DC 3V from batteries

Environmental Condition:

Temperature (°C):	20.1	Relative Humidity (%):	54	Atmospheric Pressure (kPa):	100.9

Application of direct discharges

i) Contact Discharge

The ESD generator is held with its tip of the contact discharge electrode perpendicular to the surface of the point of the sample enclosure to be tested. The tip of electrode shall firmly touch the surface of the point to be tested prior to charging up the electrode and application of discharge to the point under test.

At least 10 positive discharges and 10 negative discharges are applied to each accessible and dischargeable metal parts of the enclosure with an interval of at least 1 second between successive discharges.

Points of discharge	Polarity	Applied voltage (kV)	Performance criterion	Observation	Result
Metal parts	-	4	B	A	Meet
	+	4	B	A	Meet

Remark: A, normal performance

ii) Air Discharge

The ESD generator is held with its tip of the air discharge electrode charged up prior to the application of discharge. The tip of charged electrode shall be brought to the surface of the point to be tested as fast as possible without causing any mechanical damage to the sample.

At least 10 positive discharges and 10 negative discharges are applied to each dischargeable but un-accessible metal parts or non-metal parts of the enclosure with an interval of at least 1 second between successive discharges.

Points of discharge	Polarity	Applied voltage (kV)	Performance Criteria	Observation	Result
Battery cover	-	8	B	A	Meet
	+	8	B	A	Meet

Remark: A, normal performance

Application of indirect discharges

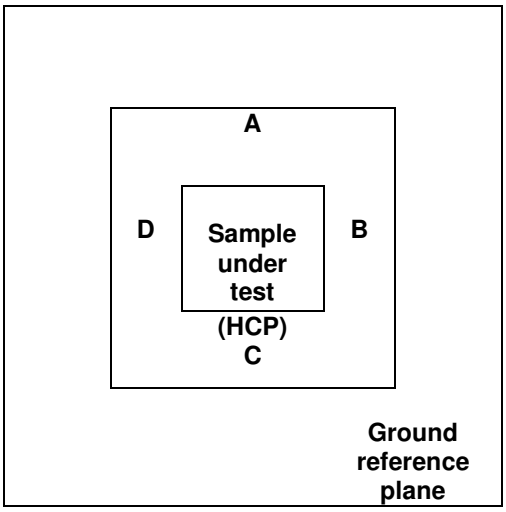
i) Discharge on Horizontal Coupling Plane (HCP)

The electrostatic discharge generator is positioned vertically at a distance of 0.1 m from the sample with the contact discharge electrode touching the horizontal coupling plane (HCP).
10 positive discharges and 10 negative discharges are applied with an interval of 1 second between each discharge.

Points of discharge	Polarity	Applied voltage (kV)	Performance Criteria	Observation	Result
Position A, B, C, D	-	4	B	A	Meet
	+	4	B	A	Meet

Remark: A, normal performance

Figure 1:



ii) Discharge on Vertical Coupling Plane (VCP)

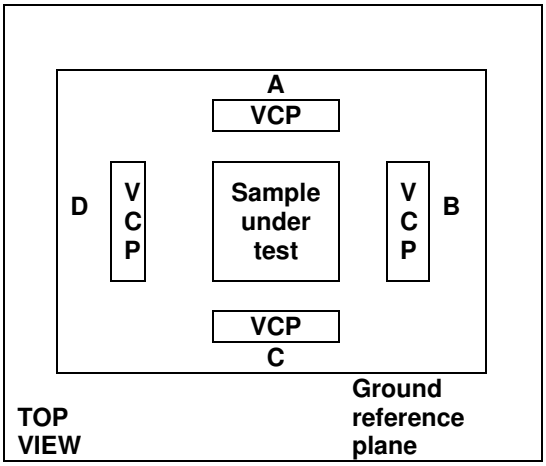
The electrostatic discharge generator is positioned horizontally to the center of the edge of the Vertical Coupling Plane (VCP) which is located vertically 0.1 m from the sample with contact discharge electrode touching the vertical coupling plane.

10 positive discharges and 10 negative discharges are applied with an interval of 1 second between each discharge.

Points of discharge	Polarity	Applied voltage (kV)	Performance Criteria	Observation	Result
Position A, B, C, D	-	4	B	A	Meet
	+	4	B	A	Meet

Remark: A, normal performance

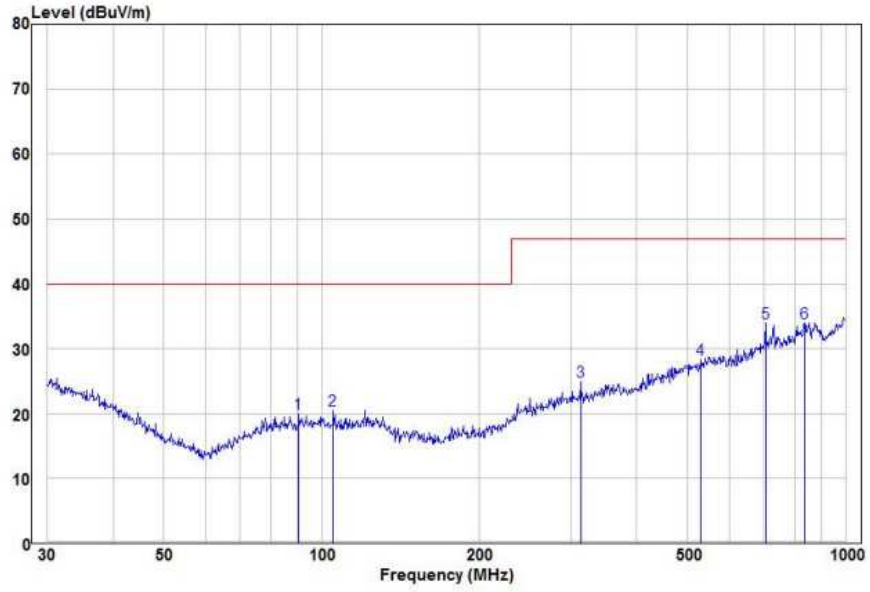
Figure 2:



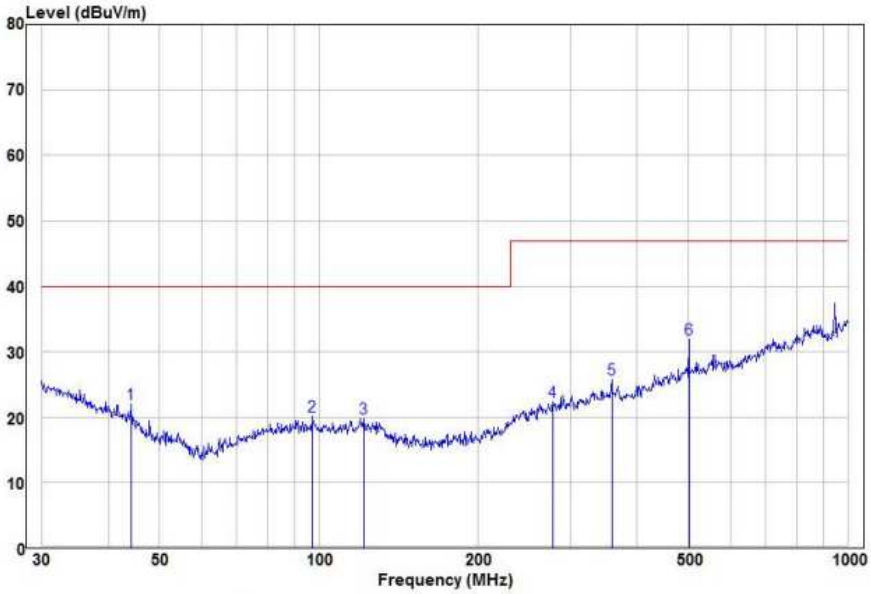
Addendum – Radiated Emission test
Frequency spectrum using peak detector

Measurement of Radiated Electromagnetic Disturbances (30 MHz – 1 GHz):
Test mode: Normal working/ DC 3V from batteries

Horizontal

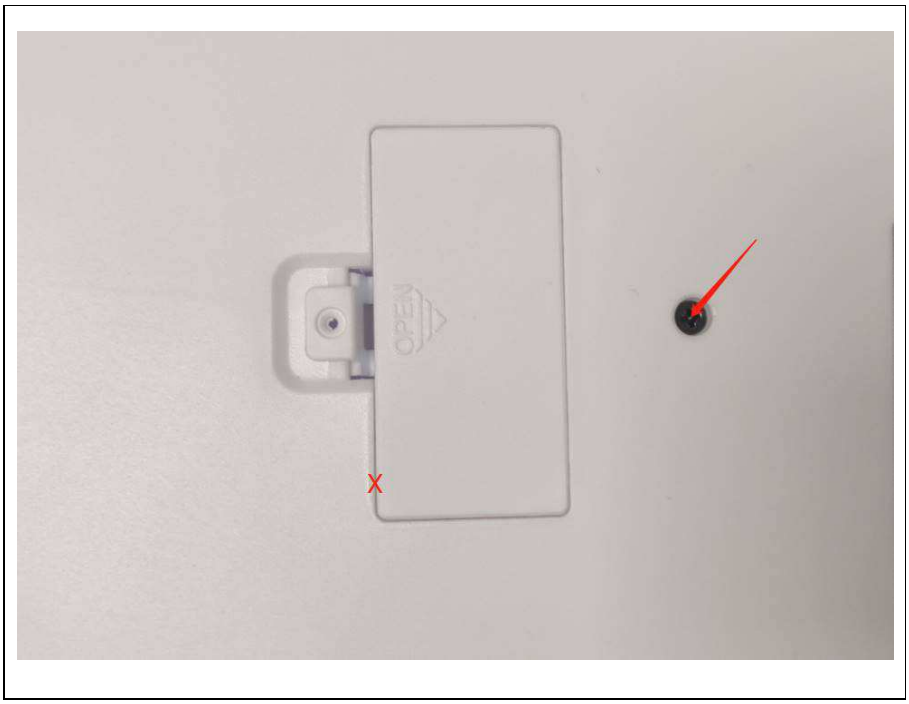


Vertical



Addendum – Test Point of Electrostatic Discharge (ESD):

X– Air Discharge (Battery cover)
⇨ Direct Contact Discharge (Metal parts)



Addendum – Test setup photo



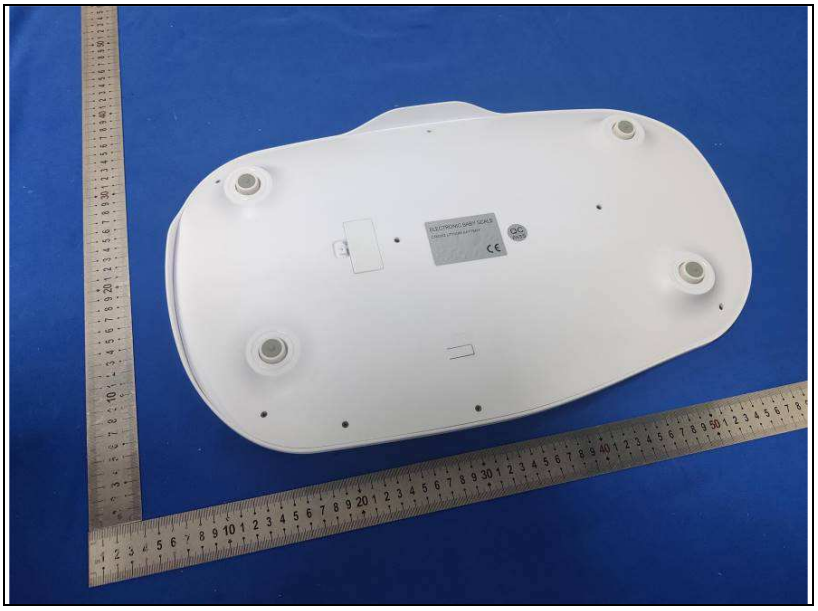
Radiated Emission

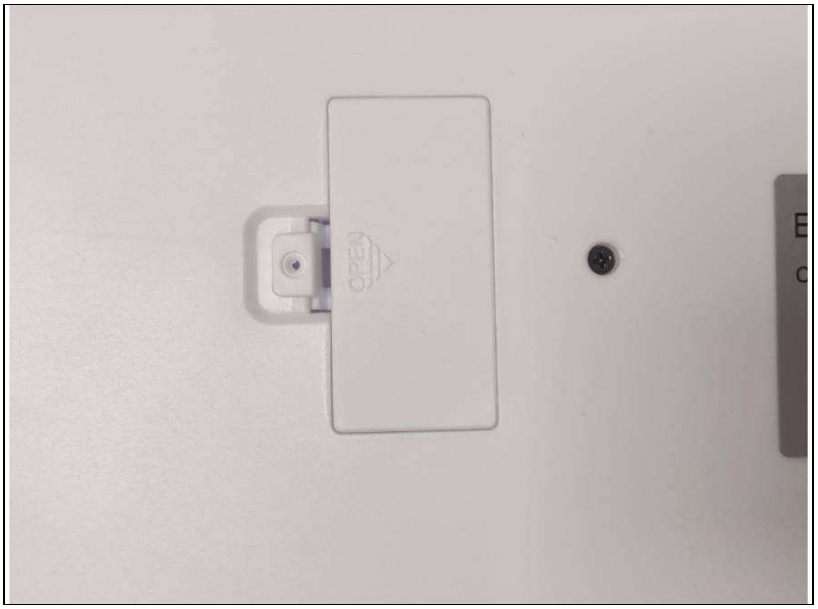


Electrostatic Discharge (ESD)

Addendum – Photos of the EUT:



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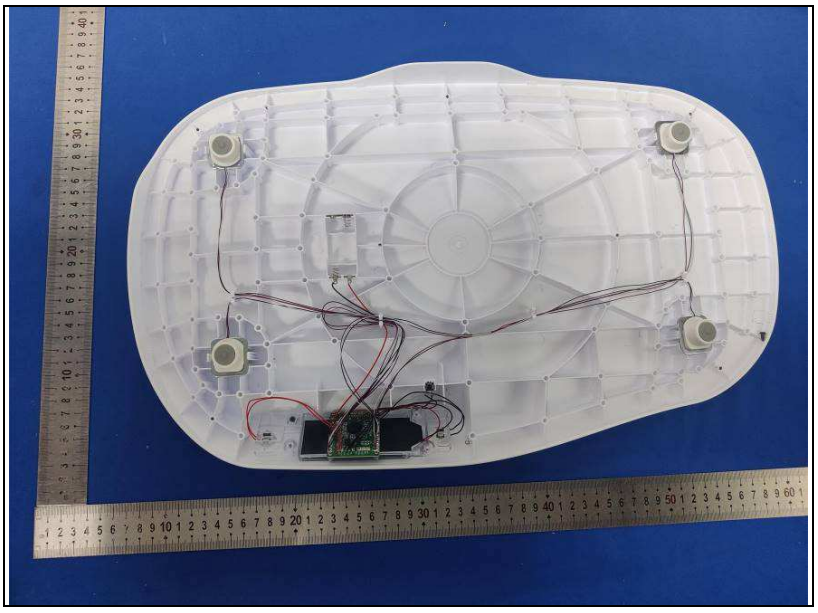

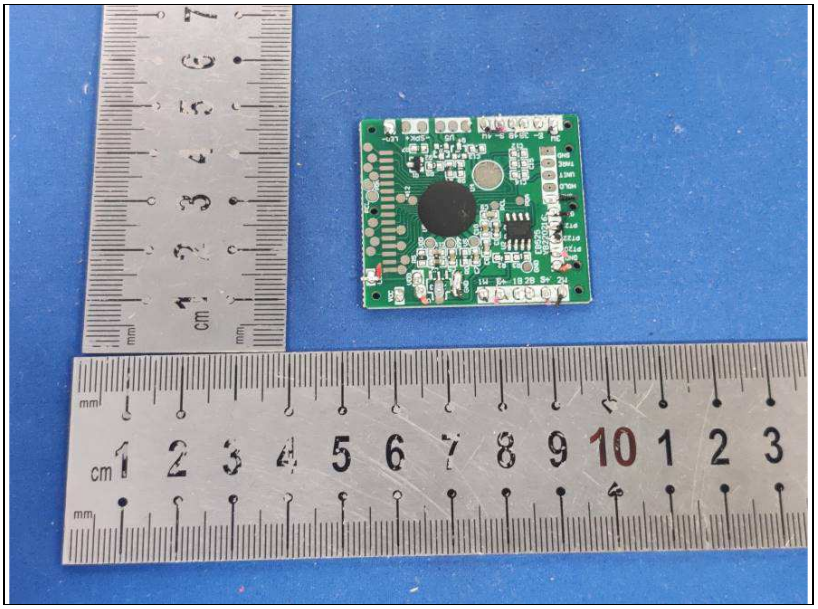

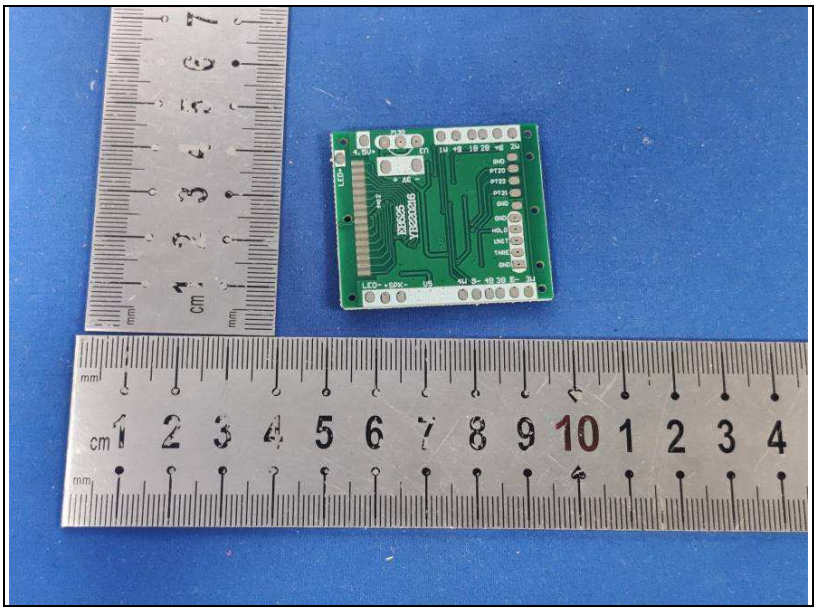

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