



Report No.: DST20240503381-1SR

TEST REPORT		
UL 4200A		
STANDARD FOR SAFETY		
Products Incorporating Button Batteries or Coin Cell Batteries		
Applicant's Name	Yongkang Chongbo Technology Co., Ltd	
Address	South Gate, No. 620 Jiulong North Road, Dongcheng Street, Yongkang City	
Manufacturer	Yongkang Chongbo Technology Co., Ltd	
Address	South Gate, No. 620 Jiulong North Road, Dongcheng Street, Yongkang City	
Test specification		
Standard.....	UL 4200A-2023	
Procedure deviation	N/A	
Non-standard test method	N/A	
Test item description		COUNTER
Trademark		/
Model and/or type reference		TP011
Additional models.....		TP013, TP004, TP031, TP015, TP028(All models share same electric circuits except outer shape and model name.)
Battery information.....		Coin Cell Battery
Battery model.....		LR44
Rating(s).....		1.5V
Date of receipt of test item.....		May. 18, 2024
Date(s) of performance of tests.....		May. 18, 2024 to May. 22, 2024
Testing Laboratory Name		Dongguan DST Testing Co., Ltd.
Address		Room 601, No.20, East of Houjie Avenue, Houjie Dongguan, 523800, Guangdong, People's Republic of China
Testing location		Room 601, No.20, East of Houjie Avenue, Houjie Dongguan, 523800, Guangdong, People's Republic of China
Testing Laboratory Authorization		ISO 17025 by an ILAC-MRA is IAS TL-1100 CPSC Certification Number is 1779
Test case verdicts		
Test case does not apply to the test object :		N/A
Test item does meet the requirement:		P(ass)
Test item does not meet the requirement:		F(ail)



Name and address of the testing laboratory :

Dongguan DST Testing Co., Ltd.

Room 601, No.20, East of Houjie Avenue, Houjie Dongguan,
523800, Guandong, People's Republic of China

Eric Huang

Test by :

Signature/Report writer

May. 22, 2024

Date

Scott Chen

Review by:

Signature/Report Reviewer

May. 22, 2024

Date

Bryce



Approved by:

Signature/Technical Supervisor

May. 22, 2024

Date



Copy of marking plate:

Coin Cell Battery
Model: LR44
Rating: 1.5V
Yongkang Chongbo Technology Co., Ltd
DATE CODE: YYMM
CONFORMS TO UL STD 4200A



⚠ WARNING

INGESTION HAZARD: This product contains a button cell or coin battery.

Packaging Marking - Warning: Contains coin battery

⚠ WARNING

- **INGESTION HAZARD:** This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **Internal Chemical Burns** in as little as **2 hours**.
- **KEEP** new and used batteries **OUT OF REACH of CHILDREN**
- **Seek immediate medical attention** if a battery is suspected to be swallowed or inserted inside any part of the body.



Packaging Marking - Warning of ingestion Hazard

⚠ WARNING

- **INGESTION HAZARD:** This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **Internal Chemical Burns** in as little as **2 hours**.
- **KEEP** new and used batteries **OUT OF REACH of CHILDREN**
- **Seek immediate medical attention** if a battery is suspected to be swallowed or inserted inside any part of the body.





Packaging Marking - Alternative Principal Display Panel

⚠ WARNING	
• INGESTION HAZARD: This product contains a button cell or coin battery. • DEATH or serious injury can occur if ingested. • A swallowed button cell or coin battery can cause Internal Chemical Burns in as little as 2 hours.	

Packaging Marking - Secondary Display Panel

⚠ WARNING	
• KEEP new and used batteries OUT OF REACH of CHILDREN • Seek immediate medical attention if a battery is suspected to be swallowed or inserted inside any part of the body.	

**Summary of Testing**

Product tested for below item only which required by client. All below tests were performed on product operated under the worst case condition as the user manual.

<u>Table #</u>	<u>Standard and Clauses</u>	<u>Test(s)</u>
1	UL 4200A , Clause 6.2	Pre-conditioning
2	UL 4200A , Clause 6.3.2	Drop test for portable devices and hand-held products
3	UL 4200A , Clause 6.3.3	Impact test
4	UL 4200A , Clause 6.3.4	Crush test
5	UL 4200A , Clause 6.3.4A	Torque test
6	UL 4200A , Clause 6.3.4B	Tension test
7	UL 4200A , Clause 6.3.4C	Compression test
8	UL 4200A , Clause 6.4	Secureness test
9	UL 4200A , Clause 7D	Permanence of Markings



Table 1	Pre-conditioning (UL 4200A , Clause 6.2)	Pass	
Test Condition: One test sample shall be subjected to the following pre-conditioning conditions in sequence prior to testing in 6.3 and 6.4, as applicable: a) Stress Relief Test - A product with an enclosure, battery compartment door/cover or battery compartment door/cover opening mechanism made of molded or formed thermoplastic materials shall be subjected to a stress relief test. A sample of the complete product is to be placed in a circulating air oven for a period of 7 h. The oven temperature is to be set to the higher of(1) or (2) below. After removal from the oven, the sample is permitted to cool to room temperature. 1) 70°C (158°F), or . 2) 10°C (18°F) higher than the maximum temperature of thermoplastic enclosures, battery compartment door/covers, or battery compartment door/cover mechanisms during the most stringent normal operation of the device. b) Battery Replacement Test - The battery compartment door/cover shall be opened and closed, and the battery removed and replaced, for a total of ten cycles. The process shall simulate replacement according to the manufacturer's instructions. If the battery compartment is secured with a screw(s), the screw(s) is to be loosened and then tightened by means of a suitable screwdriver, applying a continuous linear torque according to the Torque to be Applied to Screws table, Table 20, of the Standard for Audio, Video and Similar Electronic Apparatus - Safety Requirements, UL 60065.			
Criteria: Button/coin cell batteries shall not be accessible or liberated from the product as a result of mechanical abuse tests in applicable safety standards for the product.			
Screws. Nuts. test parts	Screw diameter (mm)	Columns I, II and III	Moment of force (N·m)
Test Result: The battery shall not be accessible.			

Table 2	Drop test for portable devices and hand-held products (UL 4200A , Clause 6.3.2)	Pass
Test Condition: Portable devices are subjected to drop tests from a height of 1.0 m (39.4 in) onto a horizontal hardwood surface in positions likely to produce the maximum force on the battery compartment or enclosure. Portable devices are subjected to three drops, except hand-held products are subjected to ten drops. The hardwood surface shall be at least 13-mm (1/2-in) thick, mounted on two layers of nominal 19-mm (3/4-in) thick plywood, placed on a concrete or equivalent non-resilient surface. Criteria: After the tests, a force of 50 +10/-0 N (11.2 +2.2/-0 lbf) is applied for 10 s to the battery compartment door/cover or enclosure by a rigid test finger according to Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures - Probes for Verification, IEC 61032. The probe is applied at the most unfavorable place and in the most unfavorable direction. The force shall be applied in only one direction. A battery compartment door/cover shall not open and shall remain functional. Test Result: The battery shall not be accessible.		



Table 3	Impact test (UL 4200A , Clause 6.3.3)	Pass
Test Condition: The enclosure or battery compartment door/cover shall be subject to three, 2-J (1 5-ft+lbf) impacts. This impact is to be produced by dropping a steel sphere, 50.8 mm (2 inches) in diameter, and weighing approximately 0.5 kg (1.1 lb) from the height required to produce the specified impact, as shown in Figure 6.1, or the steel sphere is to be suspended by a cord and swung as a pendulum, dropping through the vertical distance required to cause it to strike the surface with the specified impact as shown in Figure 6.2. The steel sphere is to strike the battery compartment door/cover perpendicular to the enclosure surface.		
Criteria: After the tests, a force of 50 +10/-0 N (11.2 +2.2/-0 lbf) is applied for 10 s to the battery compartment door/cover or enclosure by a rigid test finger according to Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures - Probes for Verification, IEC 61032. The probe is applied at the most unfavorable place and in the most unfavorable direction. The force shall be applied in only one direction. A battery compartment door/cover shall not open and shall remain functional. The battery shall not be accessible.		
Test Result: The battery shall not be accessible.		

Table 4	Crush test (UL 4200A , Clause 6.3.4)	Pass
Test Condition: The sample is to be supported by a fixed rigid supporting surface, in positions likely to produce the most adverse results as long as the position can be self-supported. A crushing force of 330 +5 N (74.2 +1.1 lbf) is applied for a period of 10 s to the exposed surfaces. The force is to be applied by a flat surface measuring approximately 100 by 250 mm (3.9 by 9.8 in).		
Criteria: After the tests, a force of 50 +10/-0 N (11.2 +2.2/-0 lbf) is applied for 10 s to the battery compartment door/cover or enclosure by a rigid test finger according to Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures - Probes for Verification, IEC 61032. The probe is applied at the most unfavorable place and in the most unfavorable direction. The force shall be applied in only one direction. A battery compartment door/cover shall not open and shall remain functional. The battery shall not be accessible.		
Test Result: The battery shall not be accessible.		



Table 5	Torque test (UL 4200A , Clause 6.3.4A)	Pass
Test Condition: If a child can grasp any part of the battery compartment enclosure on a consumer product, including the door or cover, with at least the thumb and forefinger, or using teeth, apply the Torque Test for Removal of Components from the Standard Consumer Safety Specification for Toy Safety, ASTM F963, to the battery compartment enclosure, using a torque of at least 0.50 Nm (4.4 in-lbf).		
Criteria: After the tests, a force of 50 +10/-0 N (11.2 +2.2/-0 lbf) is applied for 10 s to the battery compartment door/cover or enclosure by a rigid test finger according to Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures - Probes for Verification, IEC 61032. The probe is applied at the most unfavorable place and in the most unfavorable direction. The force shall be applied in only one direction. A battery compartment door/cover shall not open and shall remain functional. The battery shall not be accessible.		
Test Result: The battery shall not be accessible.		

Table 6	Tension test (UL 4200A , Clause 6.3.4B)	Pass
Test Condition: If a child can grasp any part of the battery compartment enclosure on a consumer product, including the door or cover, with at least the thumb and forefinger, or using teeth, apply the Tension Test for Removal of Components from the Standard Consumer Safety Specification for Toy Safety, ASTM F963, to the battery compartment enclosure, using a force of at least 72.0 N (16.2 lbf).		
Criteria: After the tests, a force of 50 +10/-0 N (11.2 +2.2/-0 lbf) is applied for 10 s to the battery compartment door/cover or enclosure by a rigid test finger according to Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures - Probes for Verification, IEC 61032. The probe is applied at the most unfavorable place and in the most unfavorable direction. The force shall be applied in only one direction. A battery compartment door/cover shall not open and shall remain functional. The battery shall not be accessible..		
Test Result: The battery shall not be accessible.		



Table 7	Compression test (UL 4200A , Clause 6.3.4C)	Pass
Test Condition: If any surface of the battery compartment enclosure is accessible to a child and inaccessible to a flat surface contact during the Drop test in 6.3.2, apply the Compression Test from the Standard Consumer Safety Specification for Toy Safety, ASTM F963, to that surface, using a force of at least 136 N (30.6 lbf)..		
Criteria: After the tests, a force of 50 +10/-0 N (11.2 +2.2/-0 lbf) is applied for 10 s to the battery compartment door/cover or enclosure by a rigid test finger according to Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures - Probes for Verification, IEC 61032. The probe is applied at the most unfavorable place and in the most unfavorable direction. The force shall be applied in only one direction. A battery compartment door/cover shall not open and shall remain functional. The battery shall not be accessible.		
Test Result: The battery shall not be accessible.		

Table 8	Secureness test (UL 4200A , Clause 6.4)	Pass
Test Condition: Button/coin cells that are not intended for user removal or replacement, and are accessible based on 5.3 and 5.4, shall comply with the following test. Compliance is checked by application of a test hook as shown in Figure 6.3, with a force of 20 +2 N (4.5 +0.4 lbf), directed outwards, applied for 10 s at all points where this is possible.		
Criteria: During the test, the button/coin cell shall not become separated from the product.		
Test Result: The button/coin battery is not separate from the product.		

Table 9	Permanence of Markings (UL 4200A , Clause 7D)	Pass
Test Condition: The test is conducted by rubbing the marking by hand without appreciable force for 15 s with a piece of cloth soaked with water and at a different place or on a different sample for 15 s with a piece of cloth soaked with the petroleum spirit specified in 7D.3. 7D.3 Petroleum spirit is a reagent grade hexane with a minimum of 85 % n-hexane.		
Criteria: After each test, the marking shall remain legible. If the marking is on a separable label, the label shall show no curling and shall not be removable by hand.		
Test Result: The marking remain legible. the label not curling and not be removable by hand.		

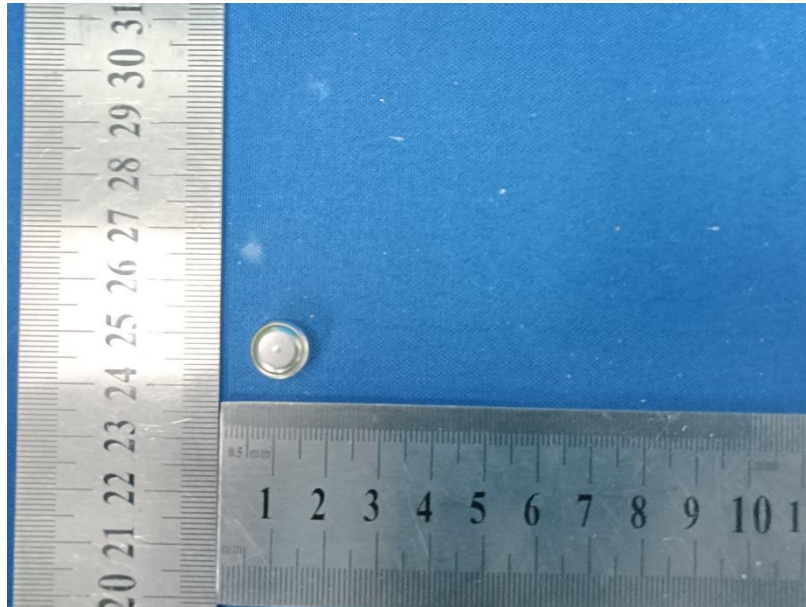
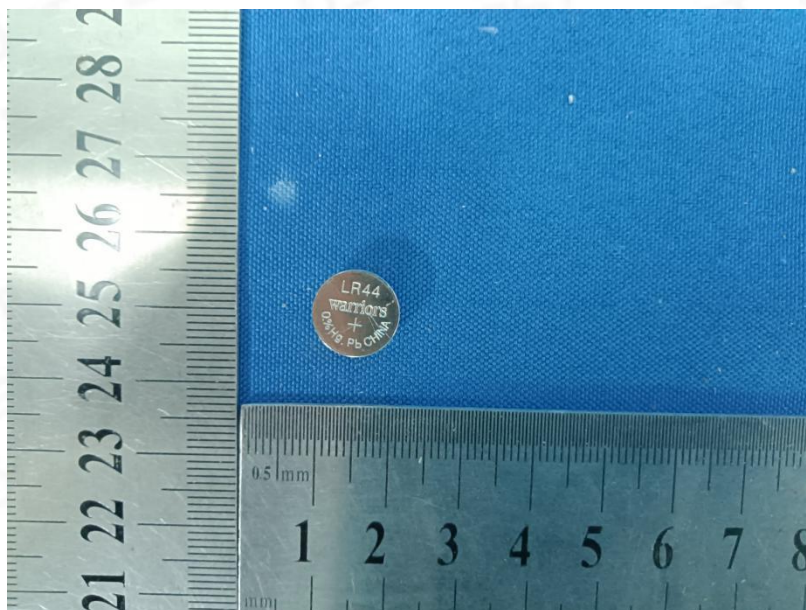
**Sample Pictures:****Photo 1 General appearance of the EUT****Photo 2 General appearance of the EUT**



Photo 3 General appearance of the EUT

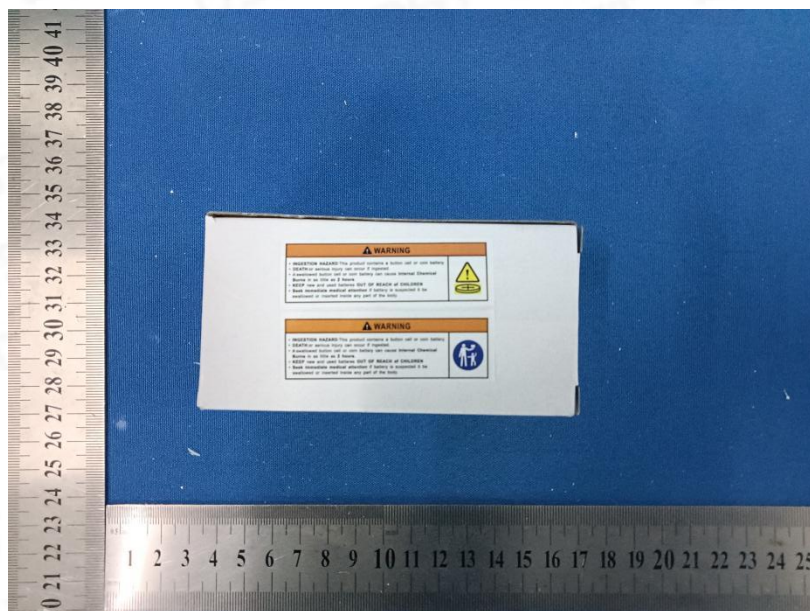


Photo 4 General appearance of the EUT





Photo 5 General appearance of the EUT



Photo 6 General appearance of the EUT





Photo 7 General appearance of the EUT



Photo 8 General appearance of the EUT





Photo 9 General appearance of the EUT

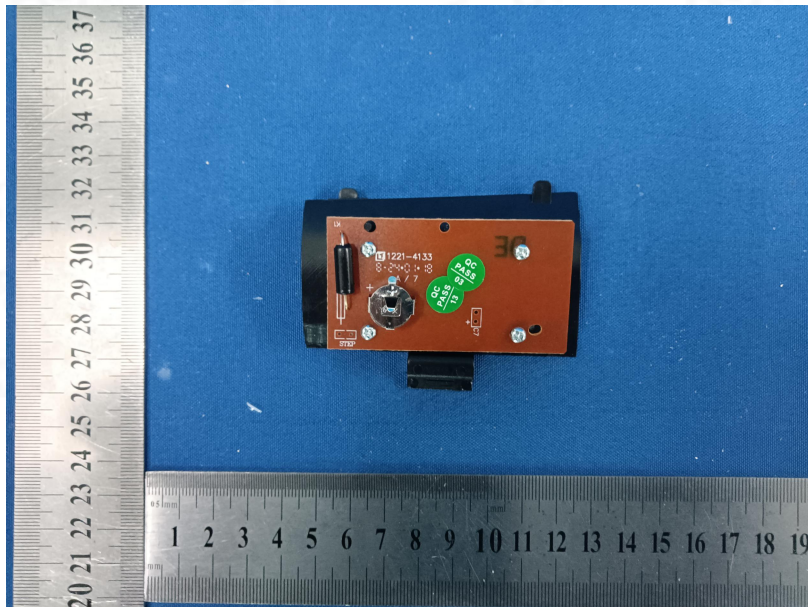


Photo 10 General appearance of the EUT





Photo 11 General appearance of the EUT

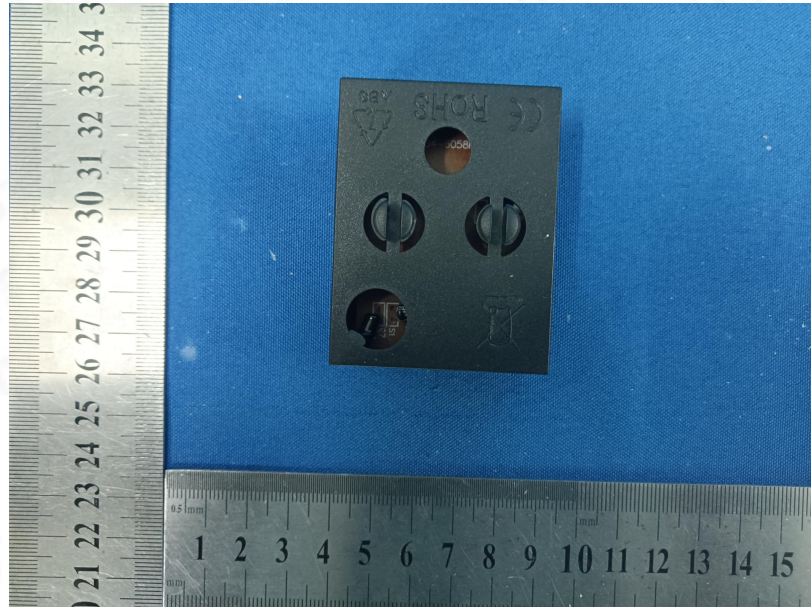


Photo 12 General appearance of the EUT

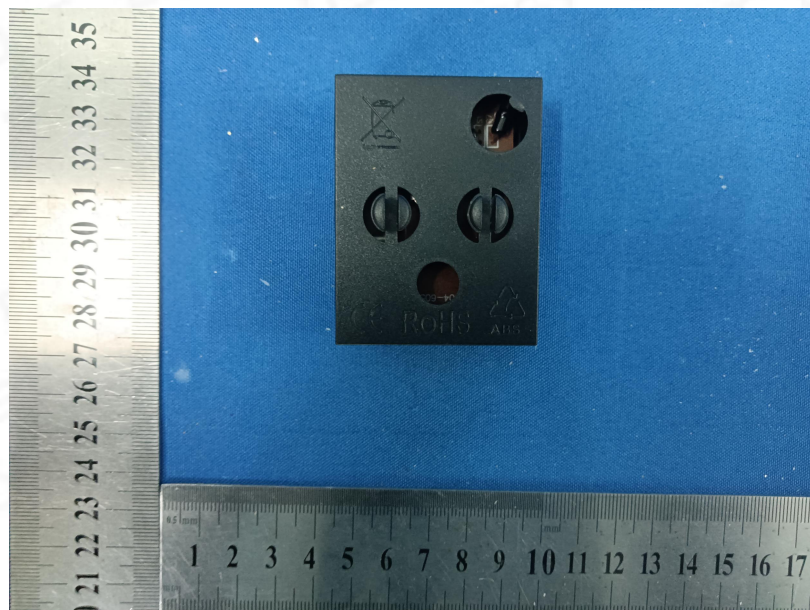




Photo 13 General appearance of the EUT



Photo 14 General appearance of the EUT

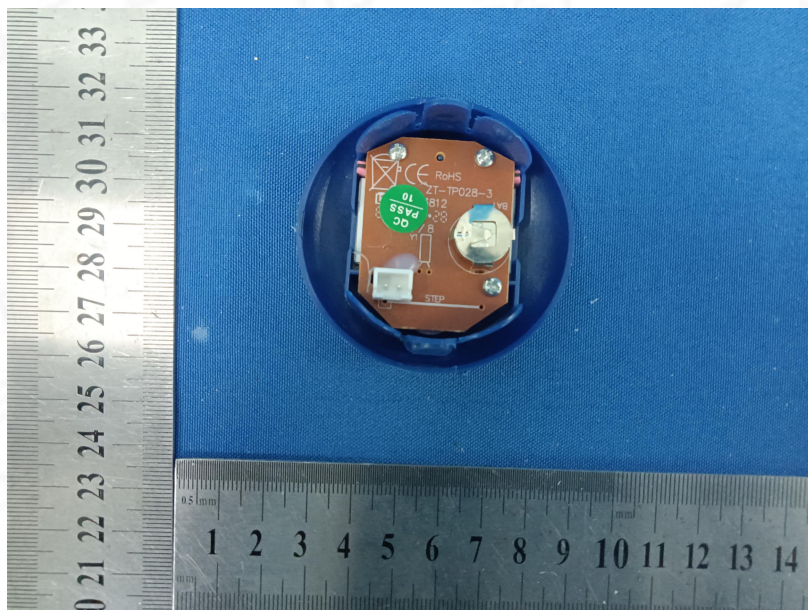
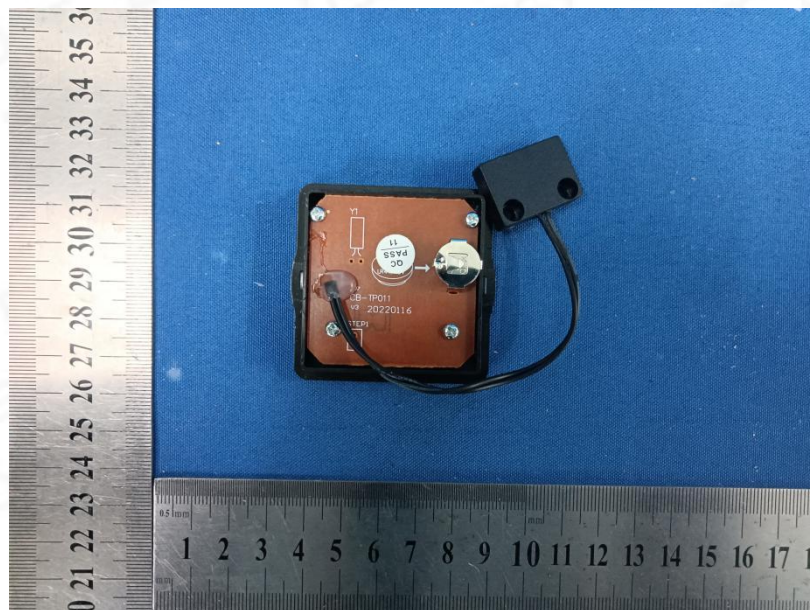


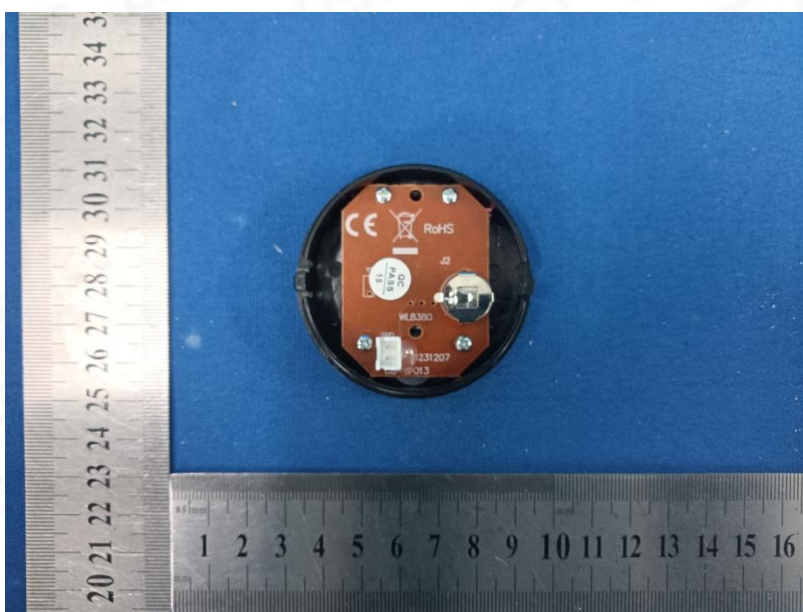


Photo 15 General appearance of the EUT



Photo 16 General appearance of the EUT



**Photo 17 General appearance of the EUT****Photo 18 General appearance of the EUT**

*****End of report*****