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CNAS L4595

<b>TEST REPORT</b> <b>IEC 62368-1</b> <b>Audio/video, information and communication technology equipment</b> <b>Part 1: Safety requirements</b>	
Report Number..... :	LCSA03154158S
Date of issue .....	2024-03-25
Total number of pages .....	21
Name of Testing Laboratory preparing the Report .....	Shenzhen LCS Compliance Testing Laboratory Ltd.
Applicant's name .....	HANGZHOU BINLONG MECHANICAL AND ELECTRIALCAL EQUIPMENT CO., LTD.
Address .....	RM313, 1ST Block, No.4028 nanhuan Rd, Binjiang Distric, Hangzhou
<b>Test specification:</b>	
Standard .....	IEC 62368-1:2018
Test procedure.....	Type test
Non-standard test method .....	N/A
TRF template used .....	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No.....	IEC62368_1E
Test Report Form(s) Originator....	UL(US)
Master TRF .....	Dated 2022-04-14
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<b>Test item description</b> .....	Digital Caliper	
<b>Trade Mark(s)</b> .....	N/A	
<b>Manufacturer</b> .....	Same as the applicant	
<b>Model/Type reference</b> .....	ET2311, ET3564, ET3565, ET3558, ET3560	
<b>Ratings</b> .....	Input: 1.5V supplied by LR44 button battery	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/> <b>Testing Laboratory:</b>	Shenzhen LCS compliance testing laboratory Ltd.	
<b>Testing location/ address</b> .....	Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China	
<b>Prepared by</b> .....	Joy Huang Project Handler	<i>Joy Huang</i>
<b>Checked by</b> .....	Benson Kuai Reviewer	<i>Benson Kuai</i>
<b>Approved by</b> .....	Hart Qiu Technical Director	<i>Hart Qiu</i>



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**List of Attachments (including a total number of pages in each attachment):**  
 Attachment No.2: Photo documentation.

**Summary of testing:**

<b>Tests performed (name of test and test clause):</b>		<b>Testing location:</b> Shenzhen LCS Compliance Testing Laboratory Ltd. Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China
4.8	Products containing coin/button cell batteries	

**Summary of compliance with National Differences (List of countries addressed):**  
 European group differences and national differences  
 **The product fulfils the requirements of IEC 62368-1:2018.**

**Use of uncertainty of measurement for decisions on conformity (decision rule) :**

No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

Other:... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

**Information on uncertainty of measurement:**  
 The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.  
 IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.  
 Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.



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**Copy of marking plate:**

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

N/A



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**Test item particulars:**

**Product group** .....:  end product     built-in component

**Classification of use by** .....:  Ordinary person  
 Instructed person  
 Skilled person  
 Children likely to be present

**Supply connection**.....:  AC Mains     DC Mains  
 External Circuit - not Mains connected  
-  ES1     ES2     ES3

**Supply tolerance** .....:  +10%/-10%  
 +20%/-15%  
 +\_\_\_\_%/ -\_\_\_\_%  
 None

**Supply connection – type** .....:  pluggable equipment type A -  
 non-detachable supply cord  
 appliance coupler  
 direct plug-in  
 pluggable equipment type B -  
 non-detachable supply cord  
 appliance coupler  
 permanent connection  
 mating connector  
 other: Not directly connected to the mains

**Considered current rating of protective device**.....: location:  building;  equipment  N/A

**Equipment mobility** .....:  movable     hand-held     transportable  
 direct plug-in     stationary     for building-in  
 wall/ceiling-mounted     SRME/rack-mounted  
 other:

**Overvoltage category (OVC)** .....:  OVC I     OVC II     OVC III  
 OVC IV     other: Not directly connected to mains

**Class of equipment** .....:  Class I     Class II     Class III  
 Not classified   

**Special installation location** .....:  N/A     restricted access area  
 outdoor location   

**Pollution degree (PD)** .....:  PD 1     PD 2     PD 3

**Manufacturer's specified T<sub>ma</sub>**.....: 25°C     Outdoor: minimum    °C

**IP protection class** .....:  IPX0     IP\_\_\_\_

**Power systems** .....:  TN     TT     IT - \_\_\_\_ V<sub>L-L</sub>  
 not AC mains

**Altitude during operation (m)** .....:  2000 m or less     \_\_\_\_\_ m



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Altitude of test laboratory (m) ..... :  500 m or less  \_\_\_\_\_ m  
 Mass of equipment (kg) ..... :  0.011kg approx.

**Possible test case verdicts:**

- test case does not apply to the test object.....: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

**Testing:**

Date of receipt of test item .....: 2024-03-15  
 Date (s) of performance of tests .....: From 2024-03-15 to 2024-03-25

**General remarks:**

"(See Enclosure #)" refers to additional information appended to the report.  
 "(See appended table)" refers to a table appended to the report.

Throughout this report a  comma /  point is used as the decimal separator.

These marked "☆" test clauses are not within the scope of CNAS recognition.

The applicant and manufacturer information, product name, model, trademark and other information in this report are all provided by the applicant, and this laboratory is not responsible for verifying its authenticity.

**Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:**

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :  Yes  Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... : Same as the applicant.

**General product information and other remarks:**

1. Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.
2. All components were mounted on the PCB and housed with plastic enclosure
3. All models are consistent except for the model name and appearance color. All tests used for model: ET2311.



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IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

<b>4</b>	<b>GENERAL REQUIREMENTS</b>		<b>P</b>
<b>4.8</b>	<b>Equipment containing coin/button cell batteries</b>		<b>P</b>
4.8.1	General		<b>P</b>
4.8.2	Instructional safeguard .....		<b>P</b>
4.8.3	Battery compartment door/cover construction		<b>P</b>
	Open torque test		<b>P</b>
4.8.4.2	Stress relief test		<b>P</b>
4.8.4.3	Battery replacement test		<b>P</b>
4.8.4.4	Drop test		<b>P</b>
4.8.4.5	Impact test		<b>N/A</b>
4.8.4.6	Crush test		<b>P</b>
4.8.5	Compliance		<b>P</b>
	30N force test with test probe		<b>P</b>
	20N force test with test hook		<b>N/A</b>



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Attachment No.1

IEC62368_1E- ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

<b>4.8.4.2</b>	<b>TABLE: Stress Relief test</b>			<b>P</b>
Test position	Material	Oven Temperature (°C)	Comments	
Enclosure	--	70	No damage, no hazard	
Supplementary information:				

<b>4.8.4.3</b>	<b>TABLE: Battery replacement test</b>			<b>P</b>
Battery part no. ....			--	
Battery Installation/withdrawal	Battery Installation/Removal Cycle		Comments	
		1	No damage, no hazard	
		2	No damage, no hazard	
		3	No damage, no hazard	
		4	No damage, no hazard	
		5	No damage, no hazard	
		6	No damage, no hazard	
		7	No damage, no hazard	
		8	No damage, no hazard	
		9	No damage, no hazard	
		10	No damage, no hazard	
Supplementary information:				

<b>4.8.4.4</b>	<b>TABLE: Drop test</b>			<b>P</b>
Test position	Drop Distance(mm)	Drop No.	Comments	
Enclosure top	1000	1	No damage, no hazard	
Enclosure bottom	1000	2	No damage, no hazard	
Enclosure side	1000	3	No damage, no hazard	
Supplementary information:				







Attachment No.1

IEC62368\_1E- ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
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<b>4.8.4.5</b>	<b>TABLE: Impact test</b>			<b>N/A</b>
Part	Drop Distance(mm)	Drop No.	Comments	
--	--	--	--	
Supplementary information:				

<b>4.8.4.6</b>	<b>TABLE: Crush test</b>			<b>P</b>
Test position	Surface tested	Crushing Force (N)	Duration force applied (s)	
Enclosure	Top	330	10	
Enclosure	Bottom	330	10	
Supplementary information:				

<b>4.8.5</b>	<b>TABLE: Lithium coin/button cell batteries mechanical test result</b>			<b>P</b>
Test position	Surface tested	Crushing Force (N)	Duration force applied (s)	
Enclosure	Bottom	30	10	
Supplementary information:				



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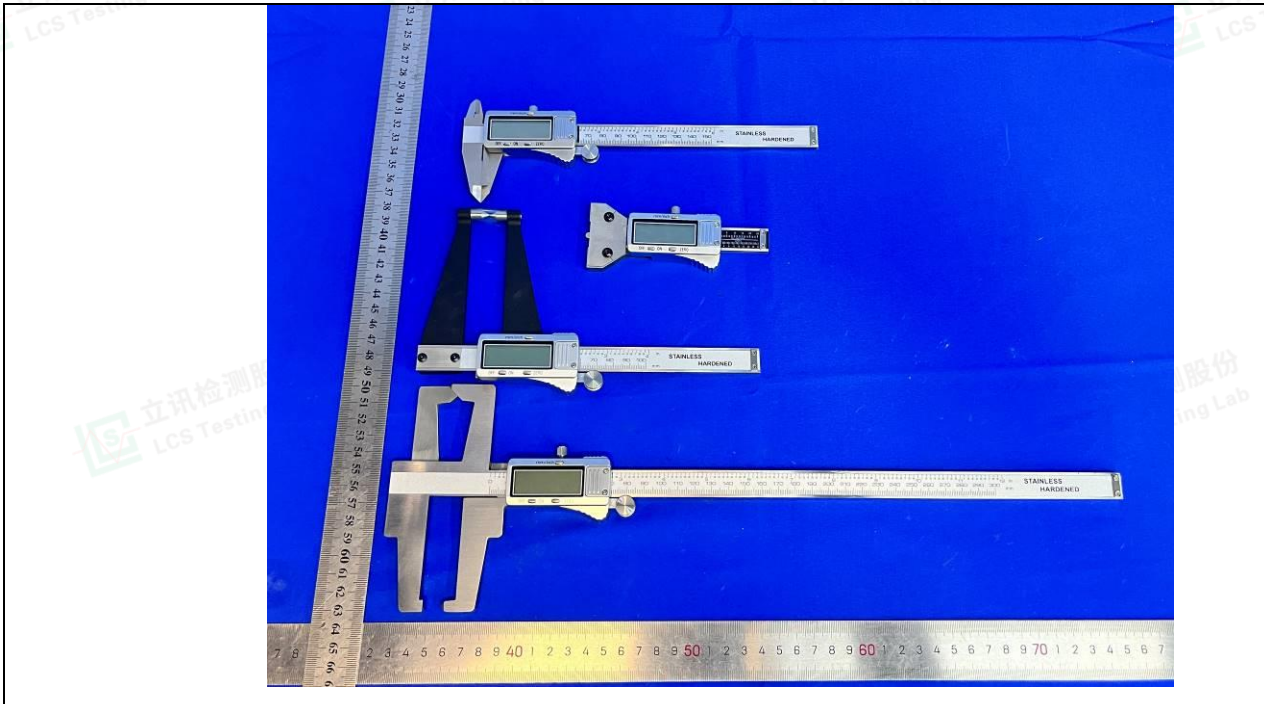
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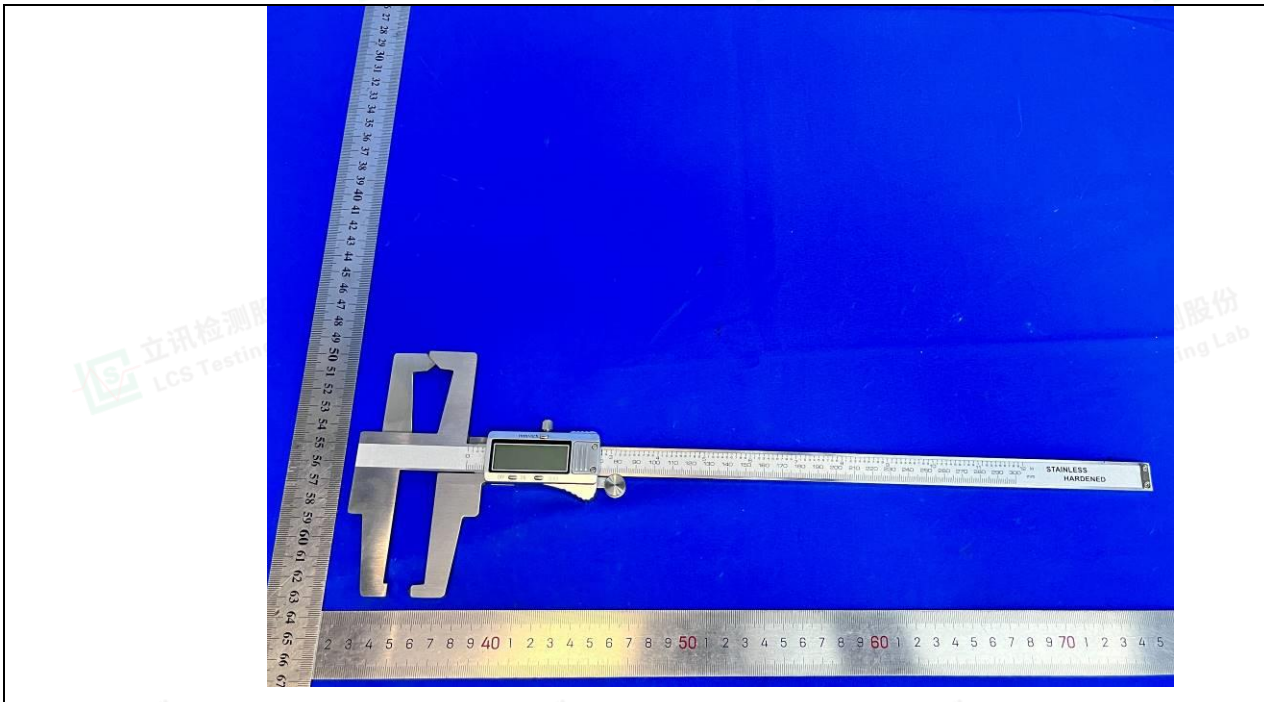
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Details of: Overall View



Details of: External View



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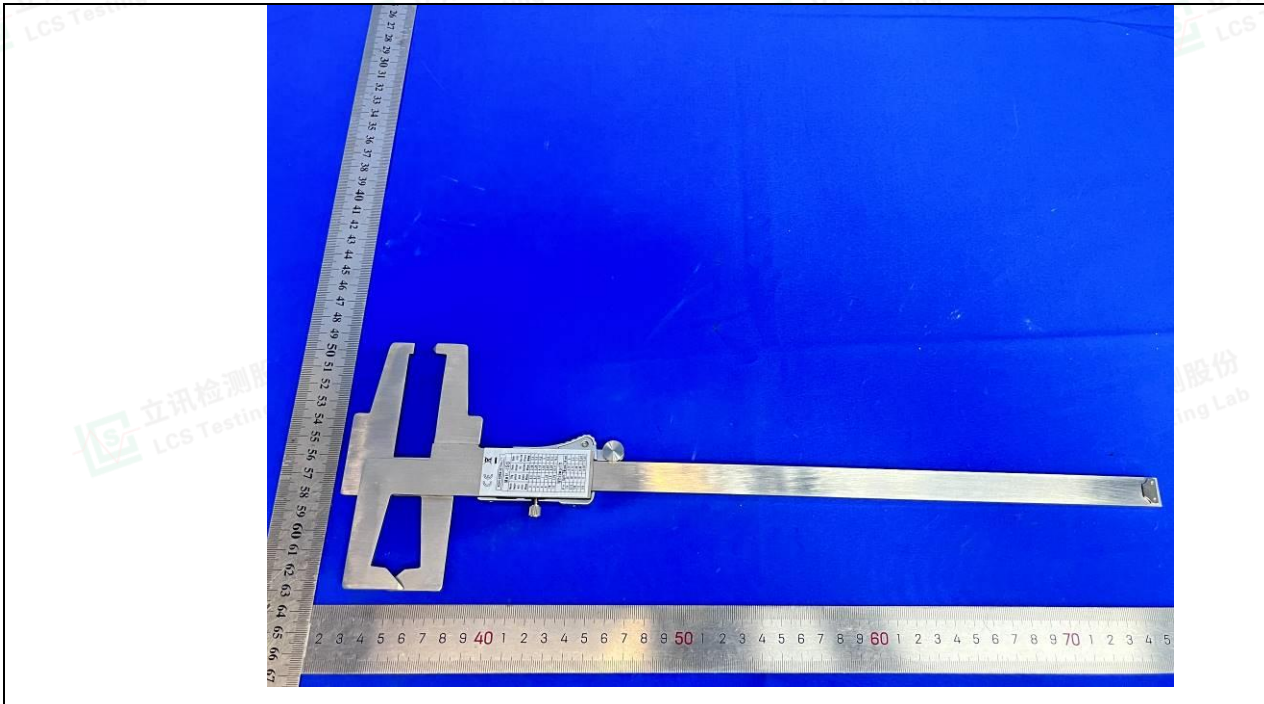
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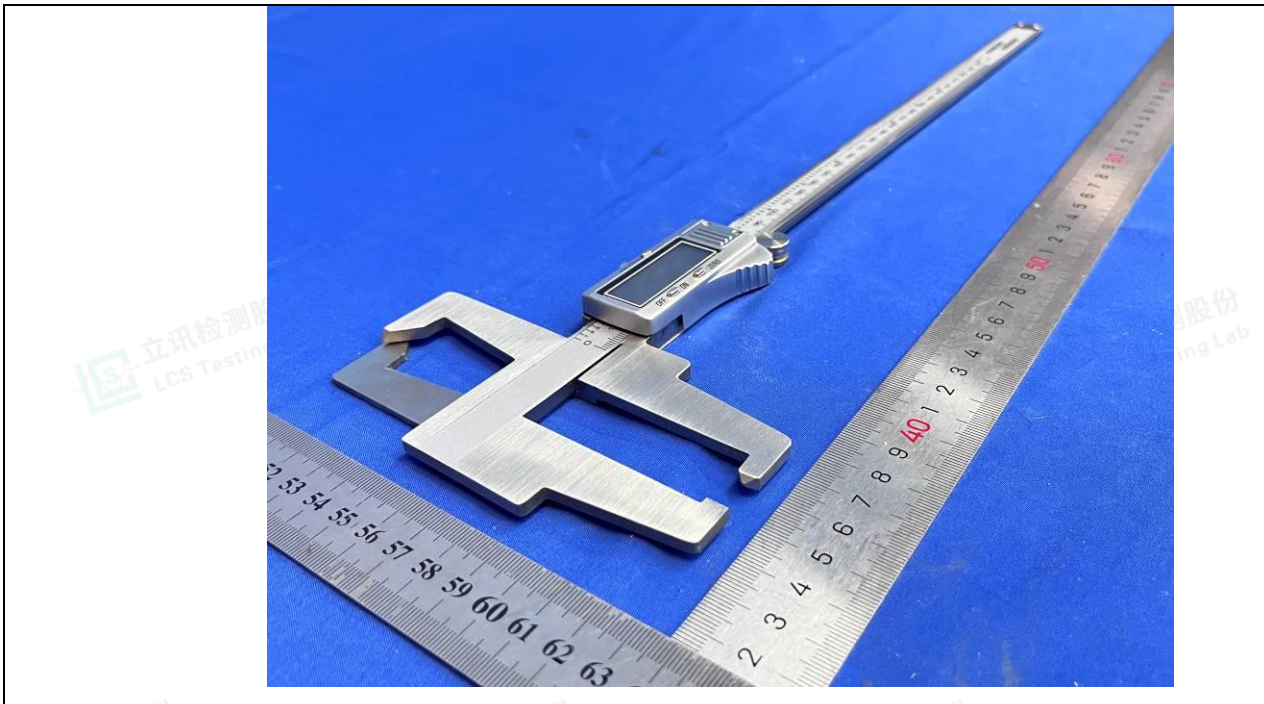
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Details of: External View



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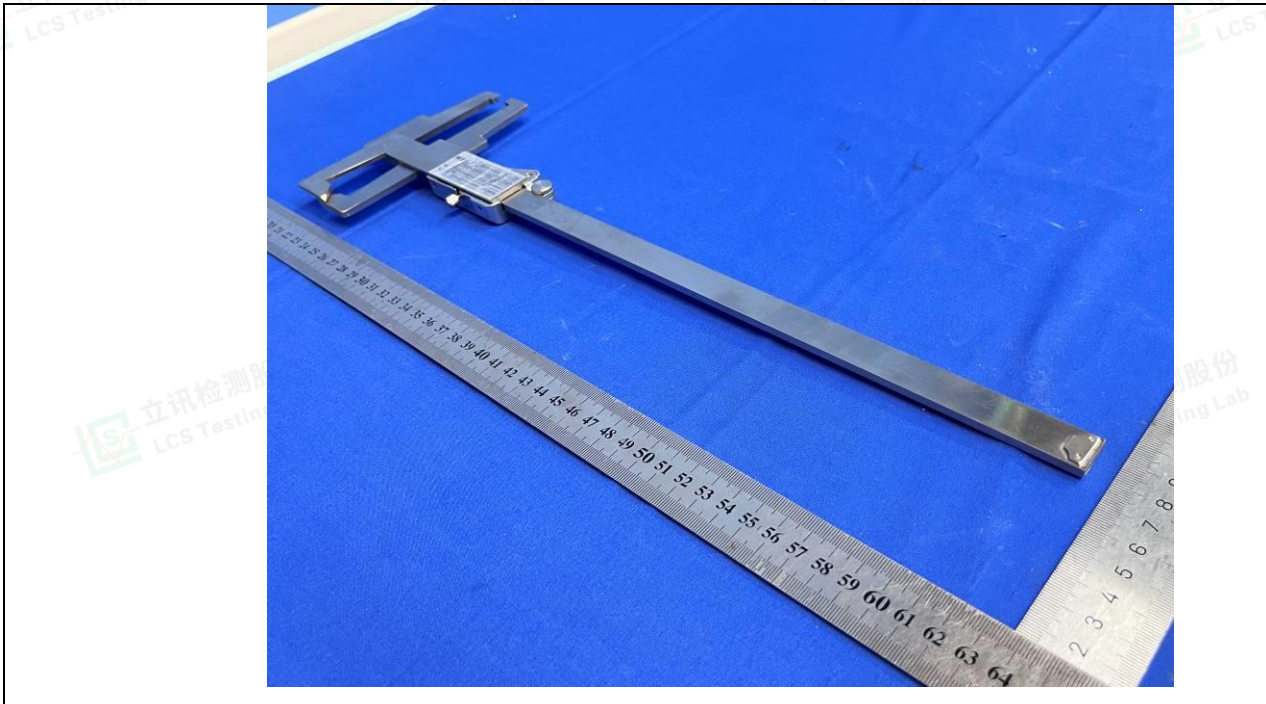
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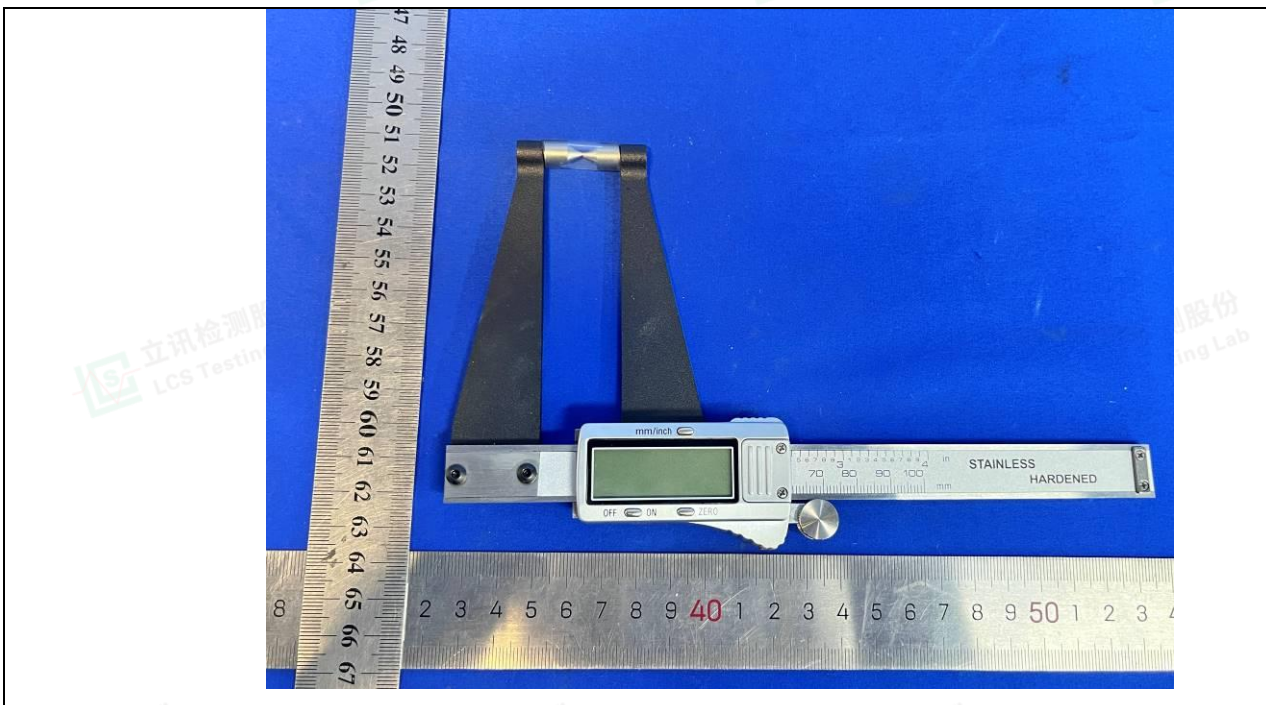
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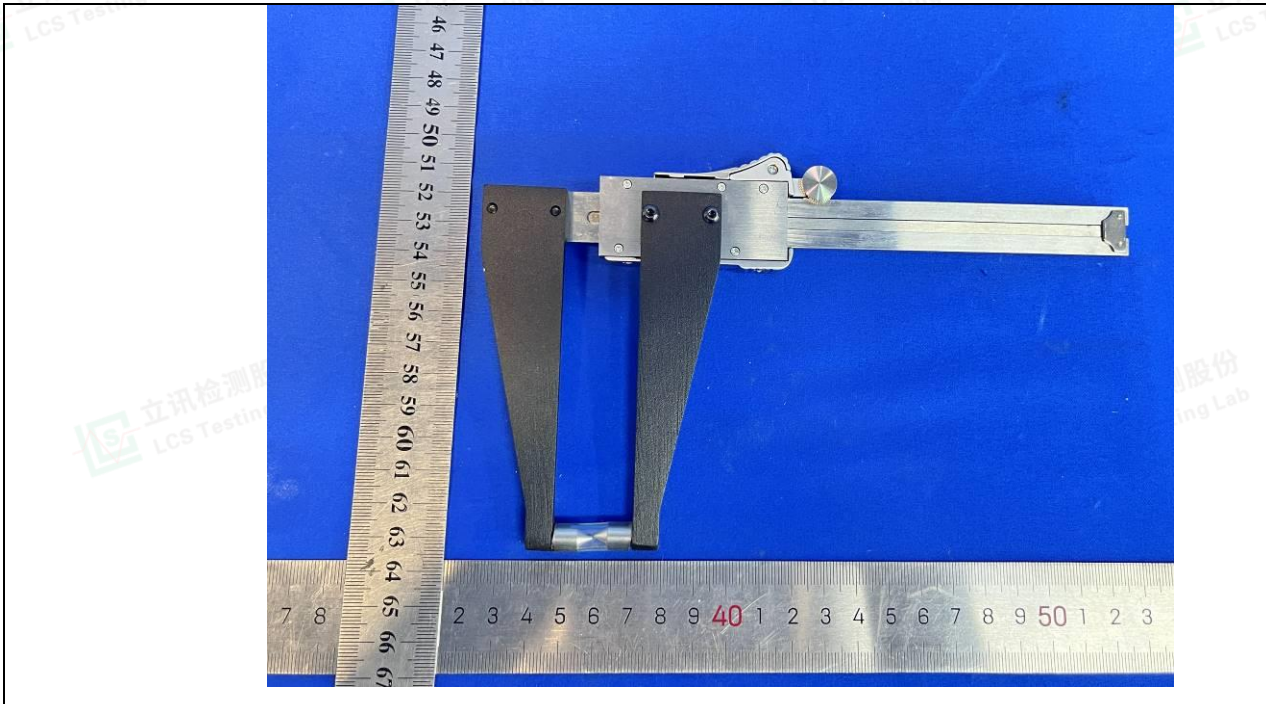
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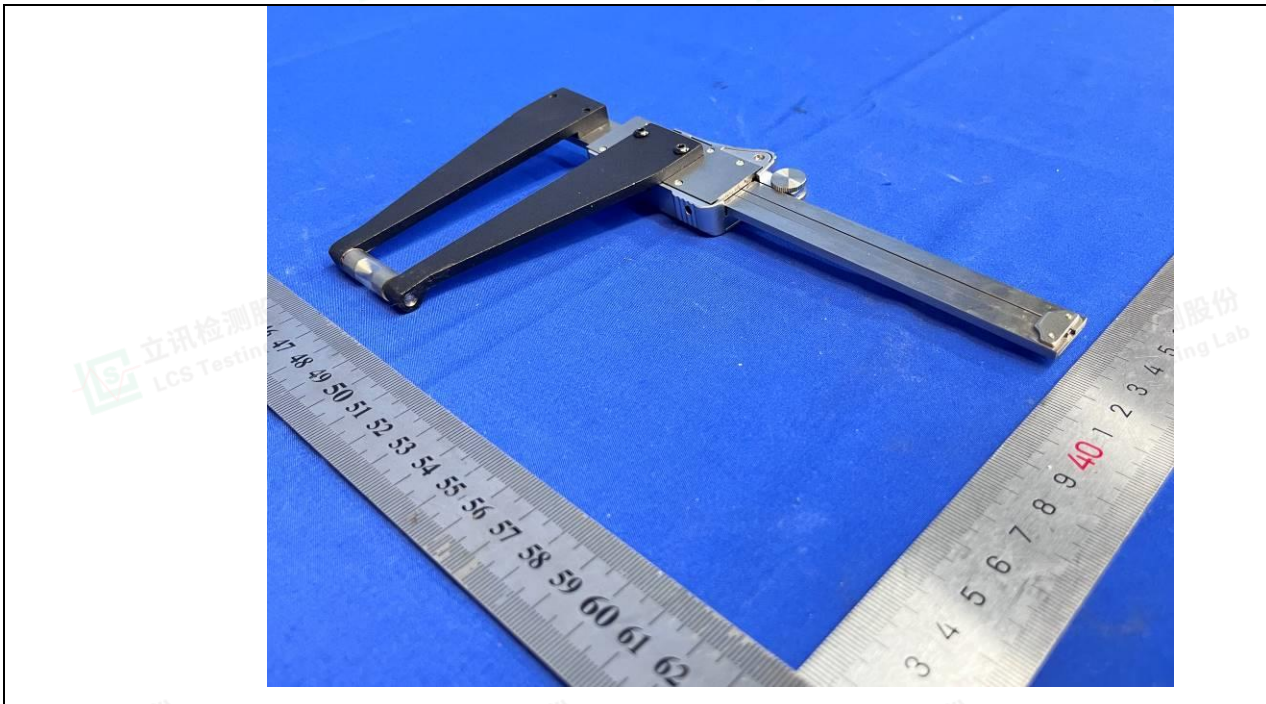
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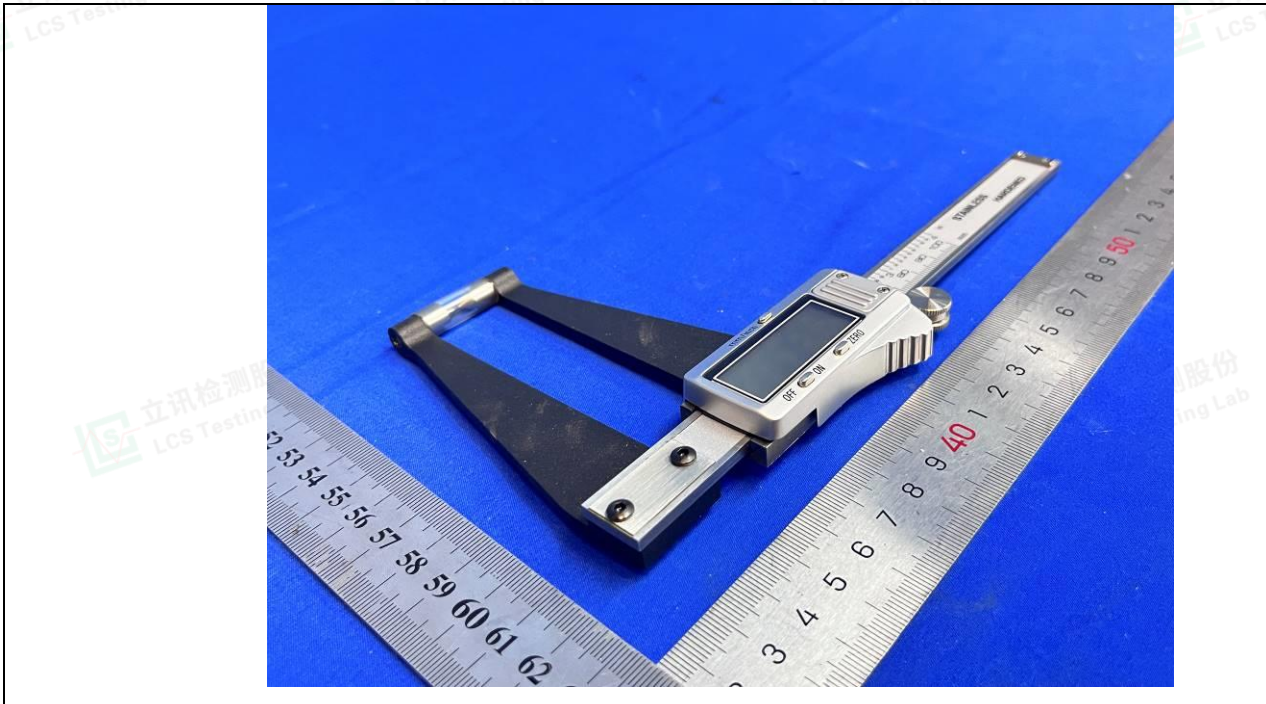
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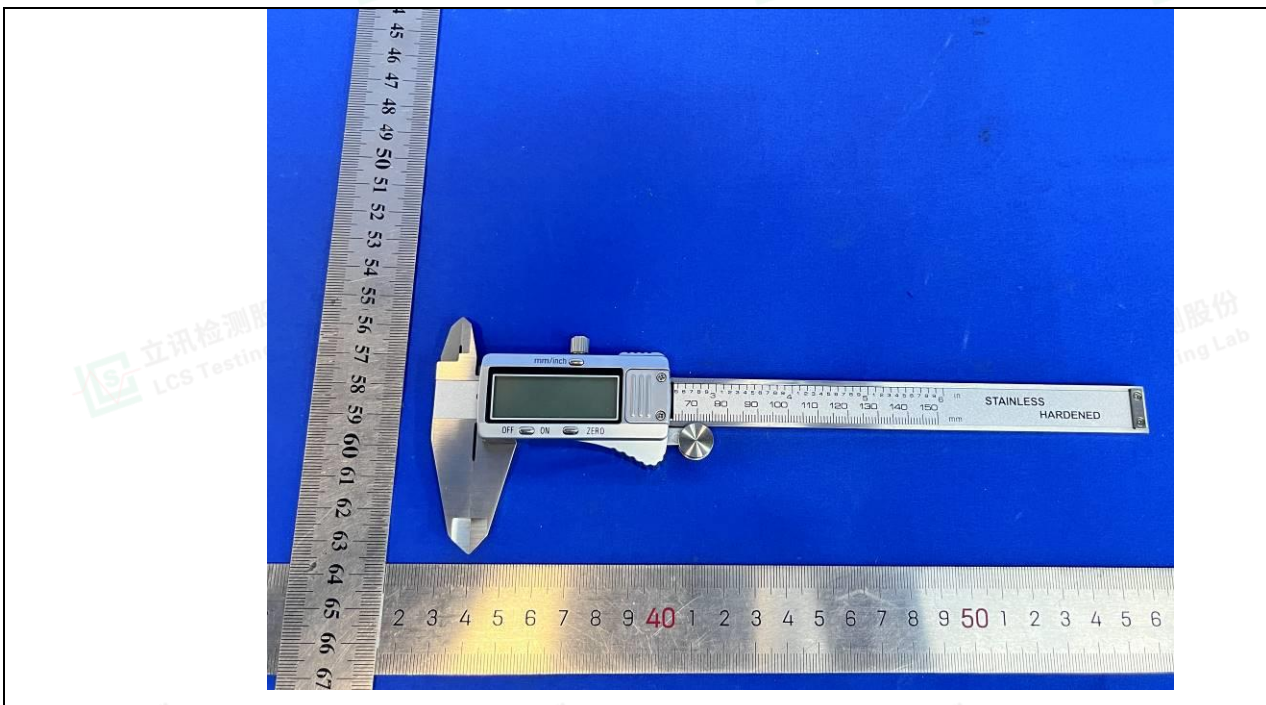
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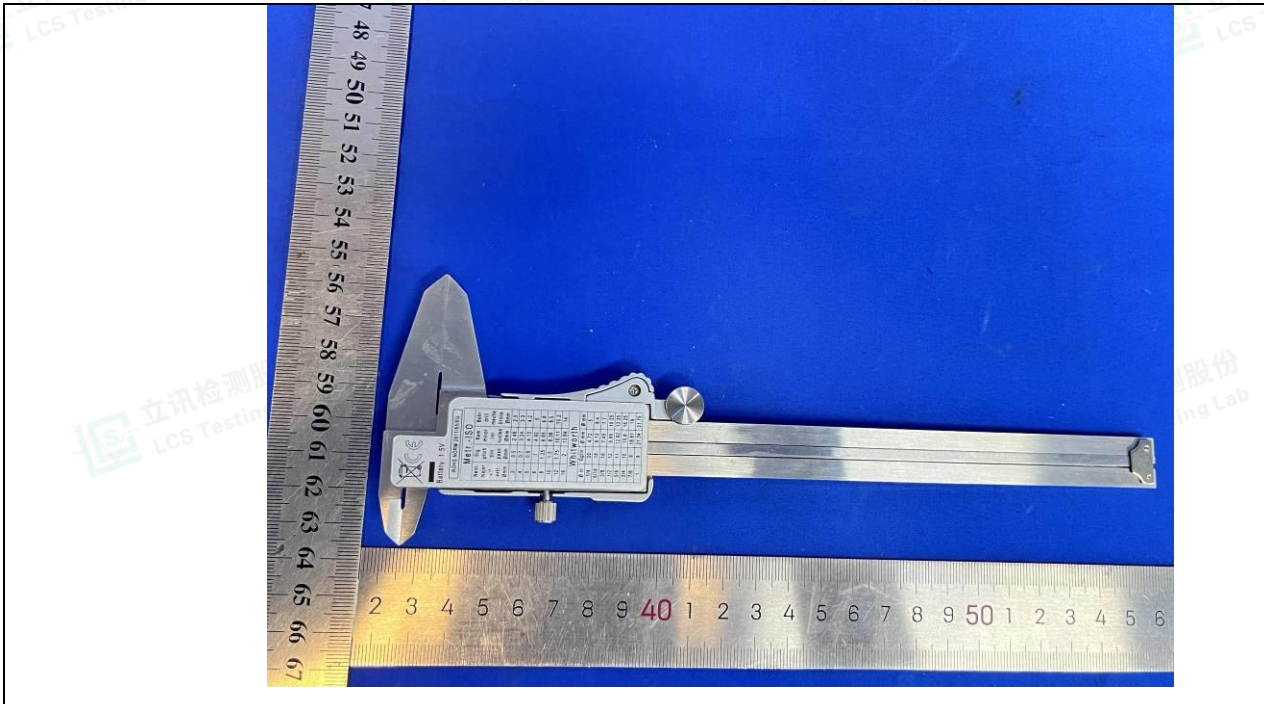
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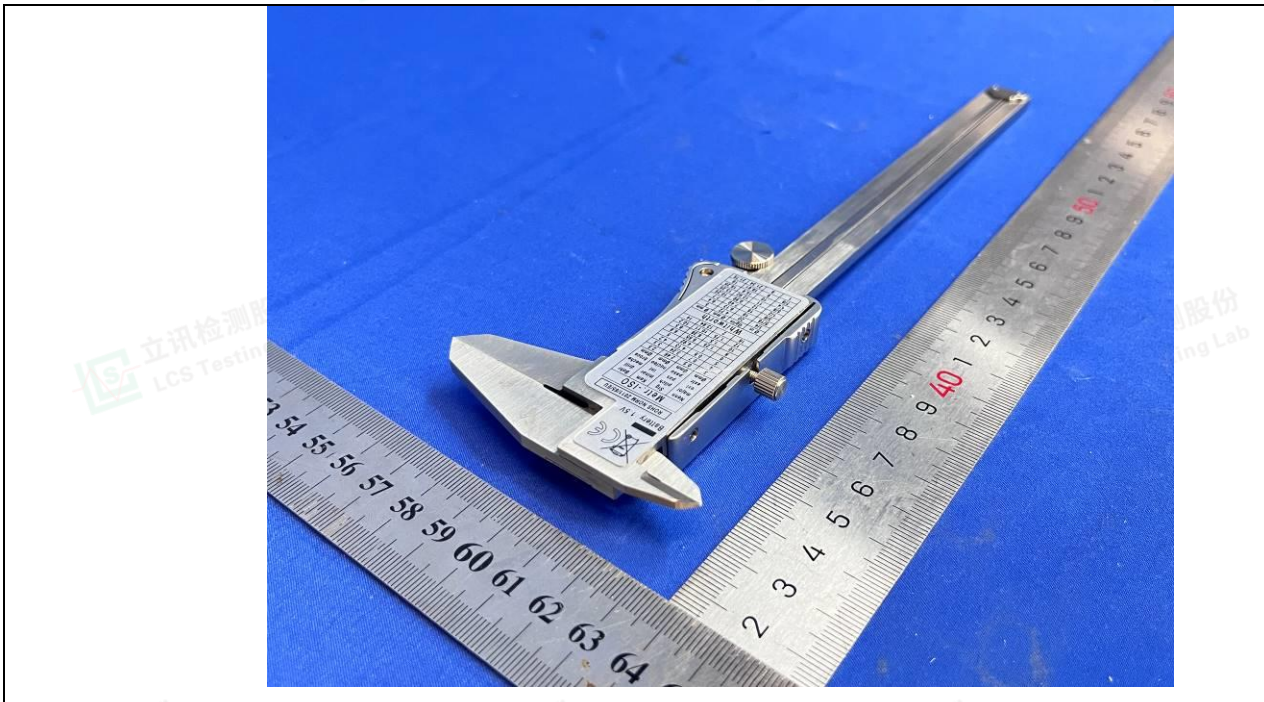
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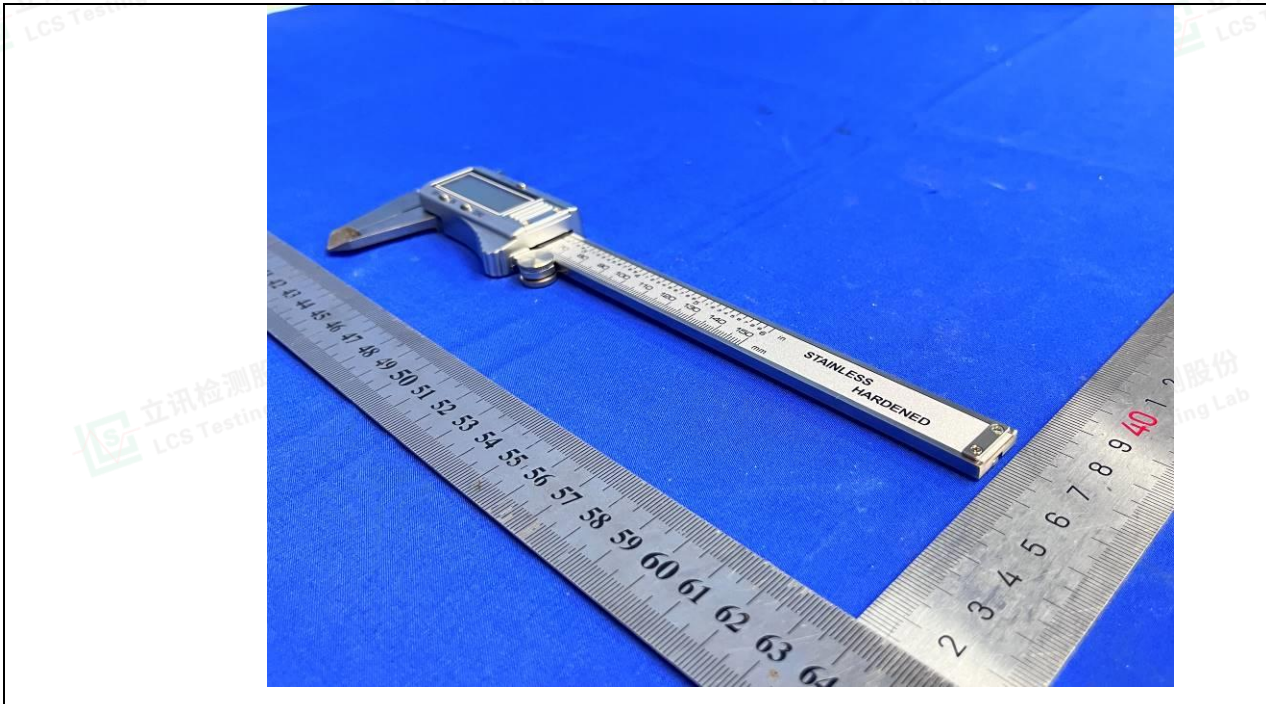
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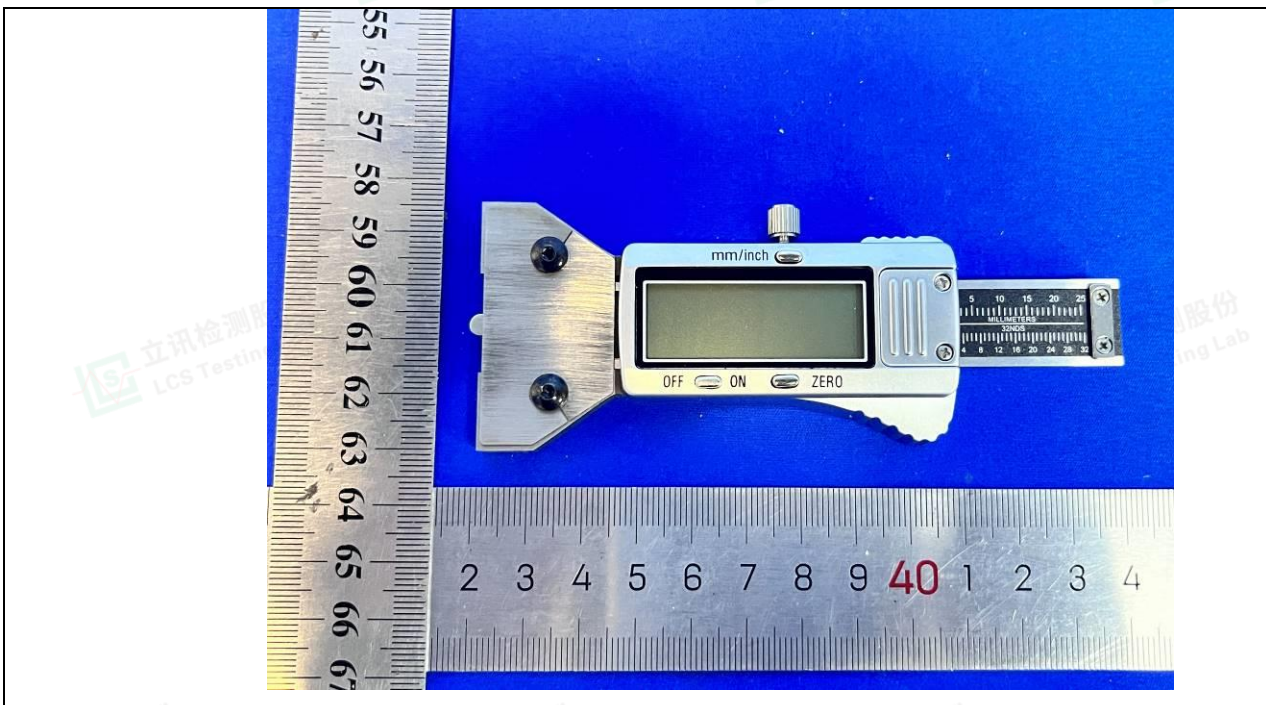
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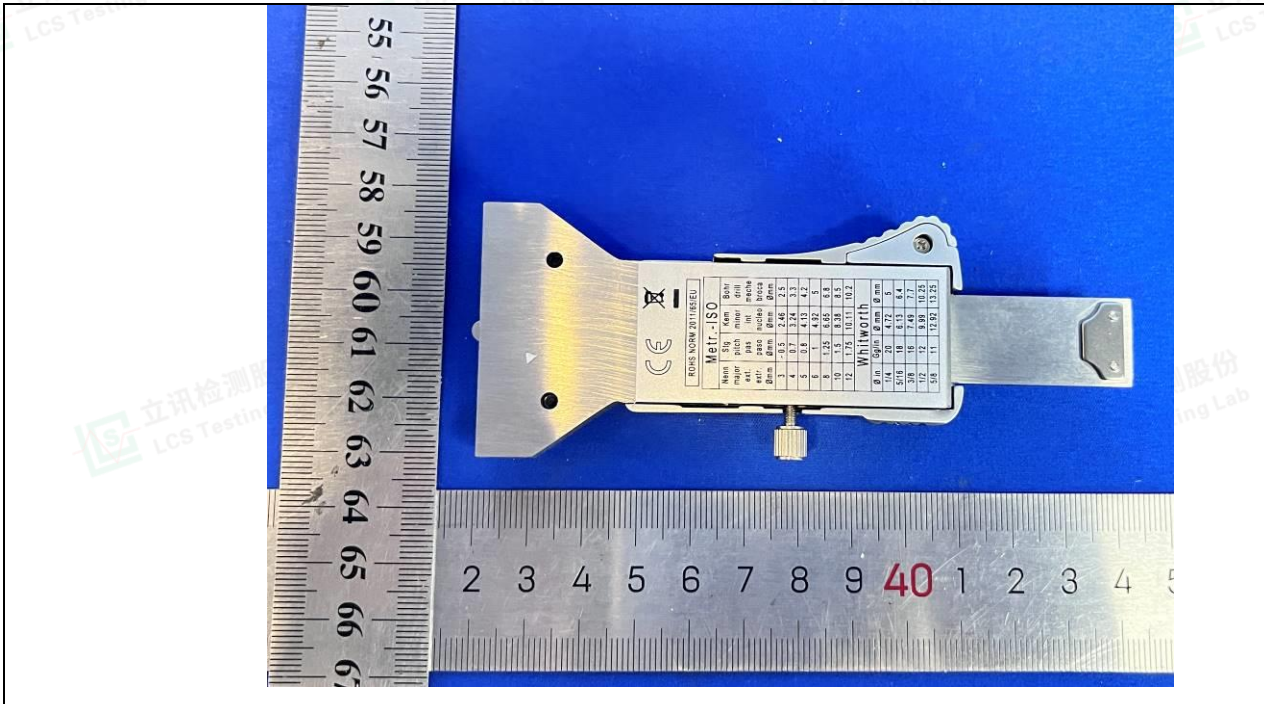
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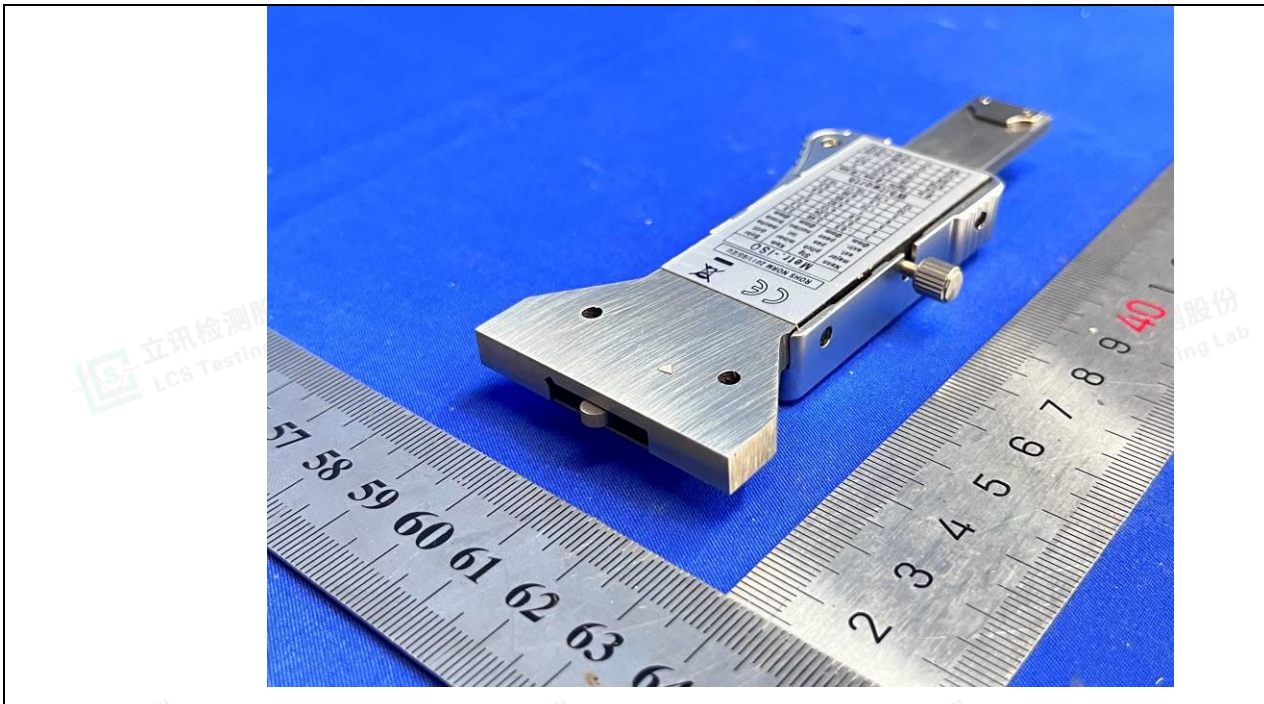




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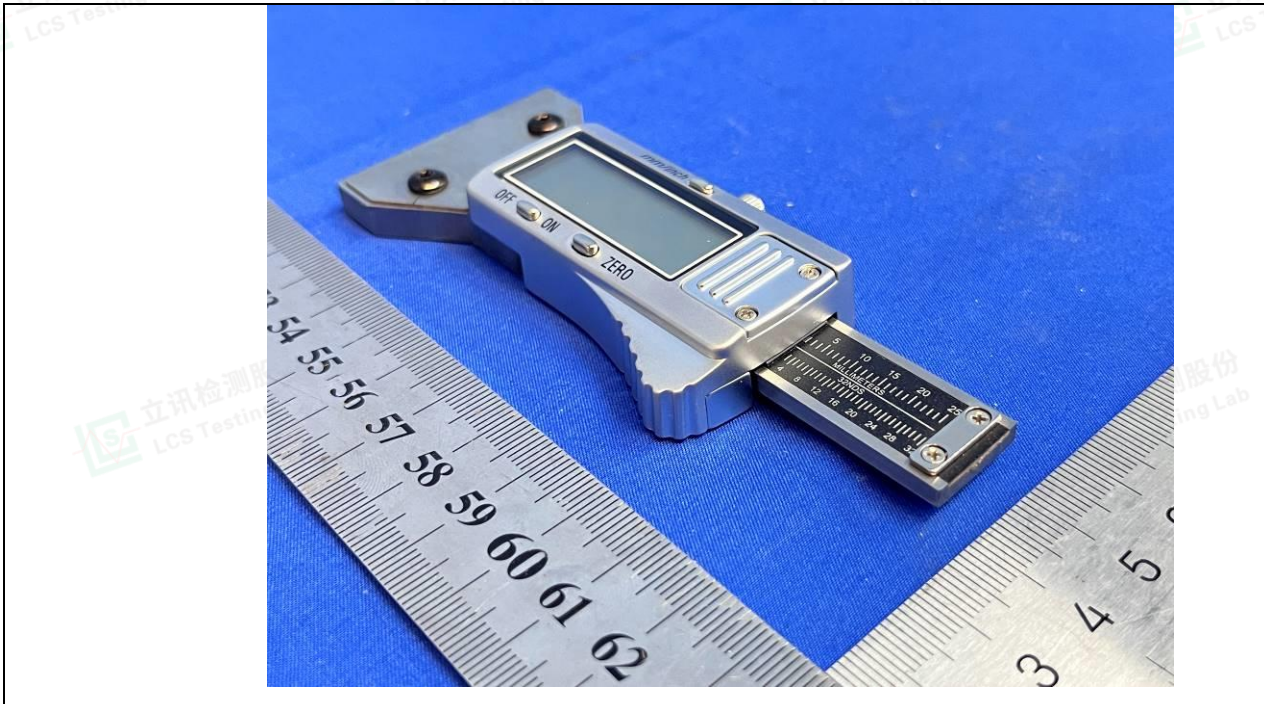
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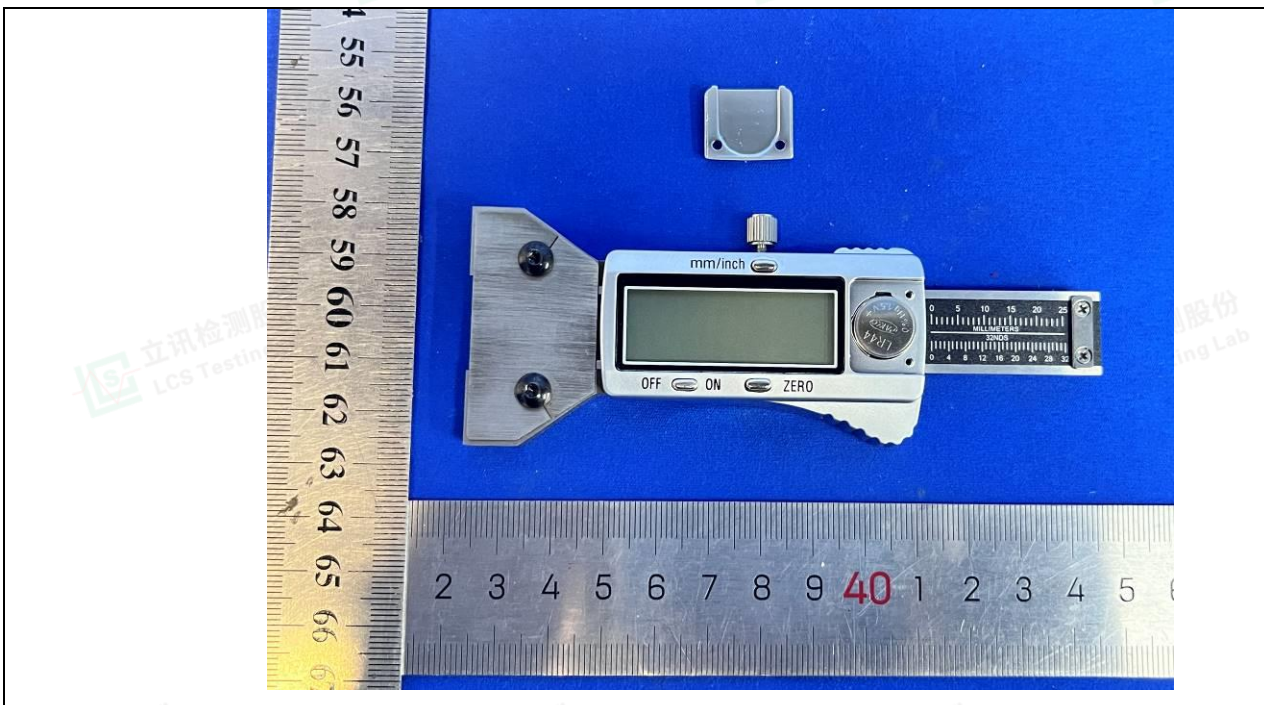
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Details of: External View



Details of: Internal View



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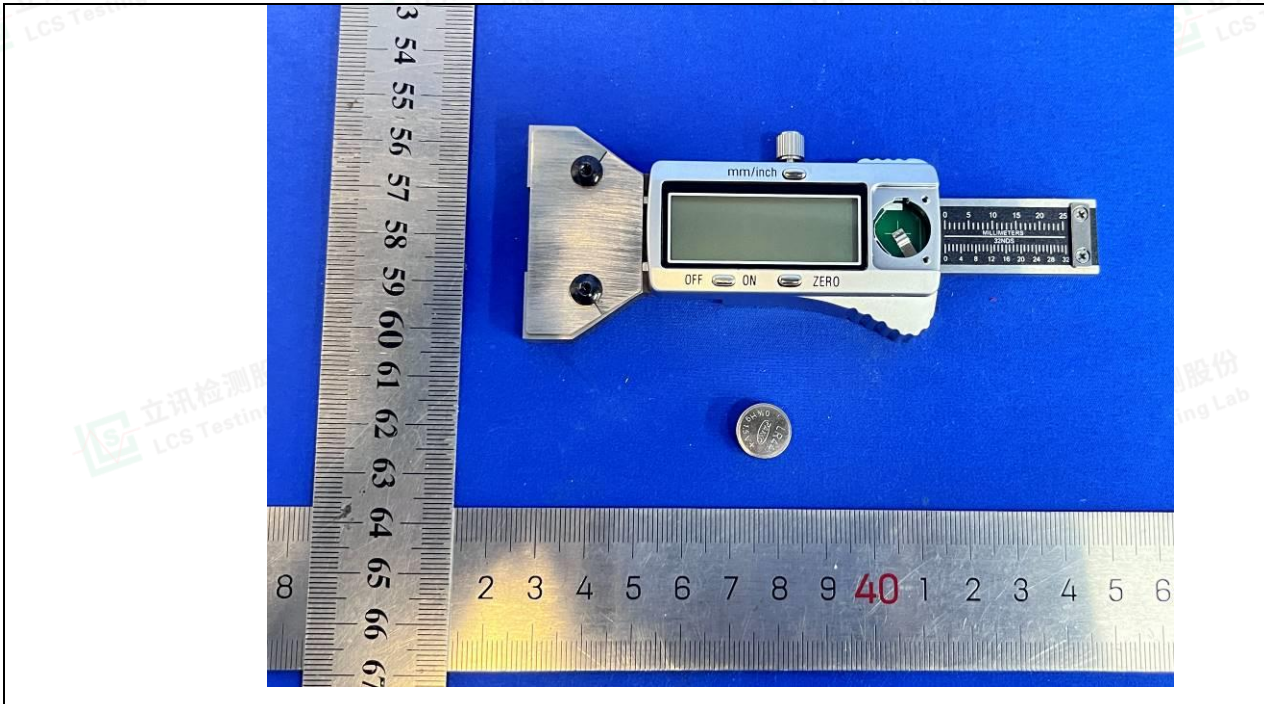
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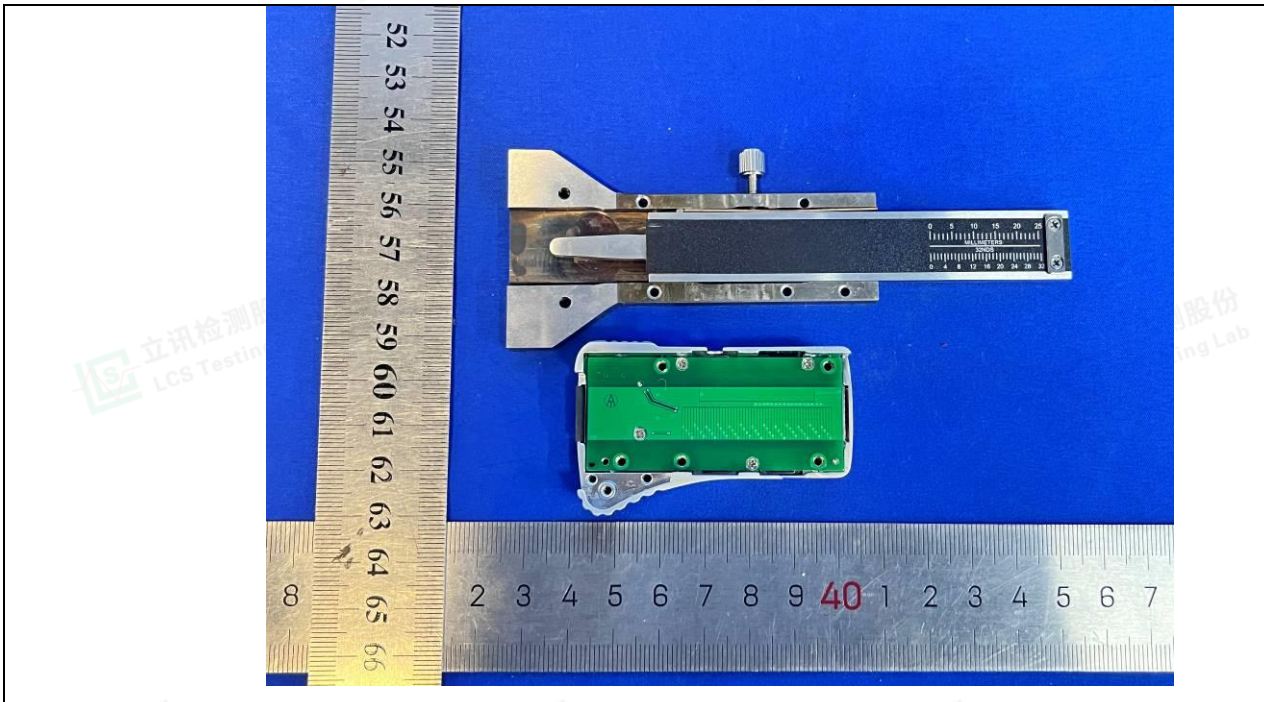
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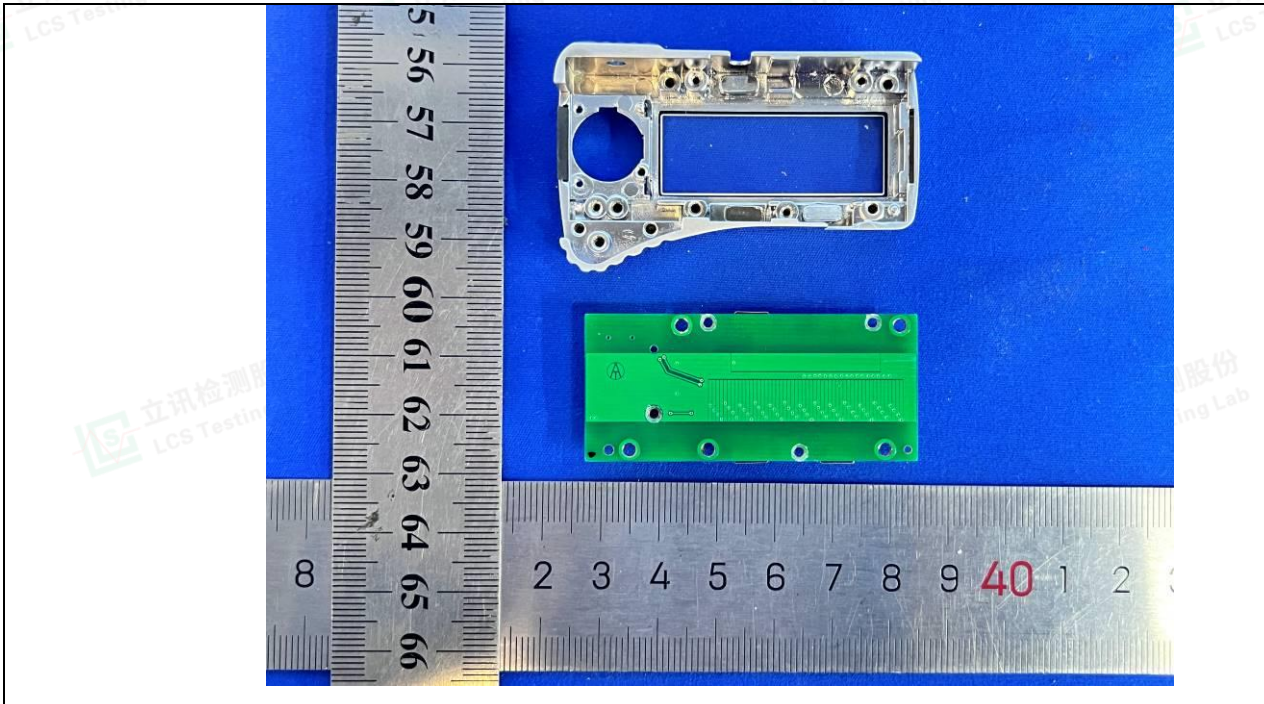
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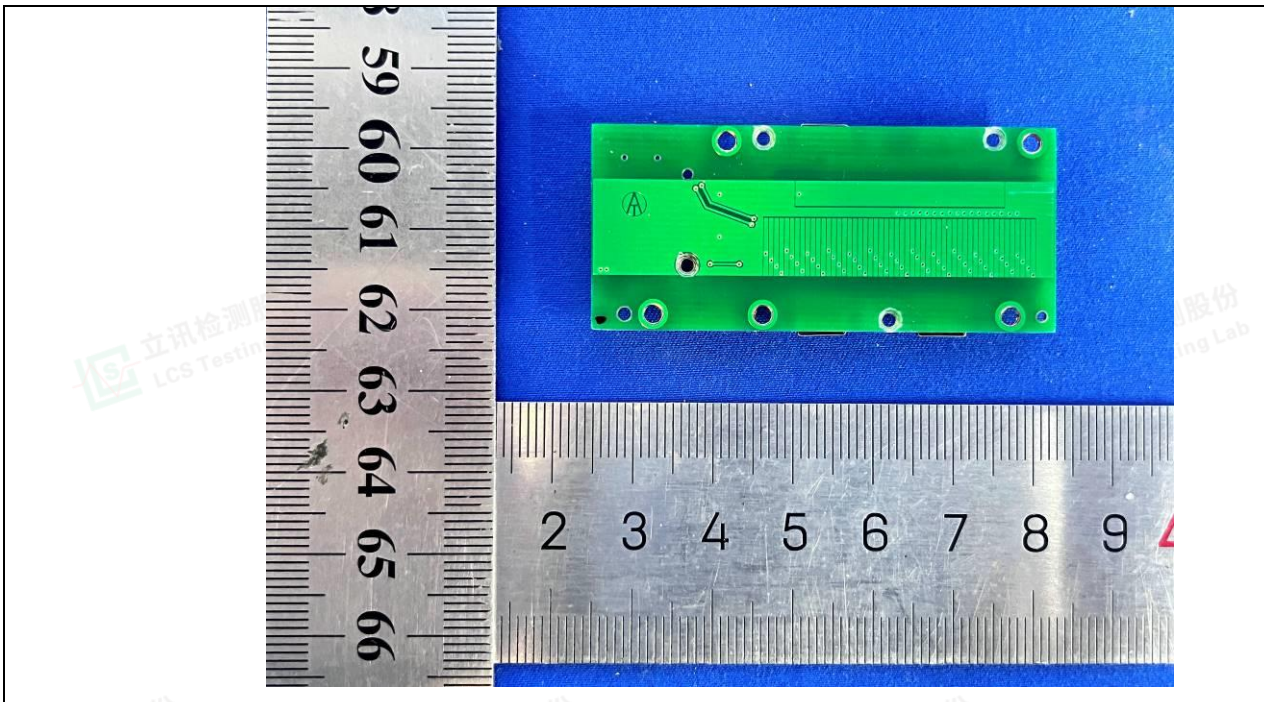
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Details of: Internal View



Details of: PCB View



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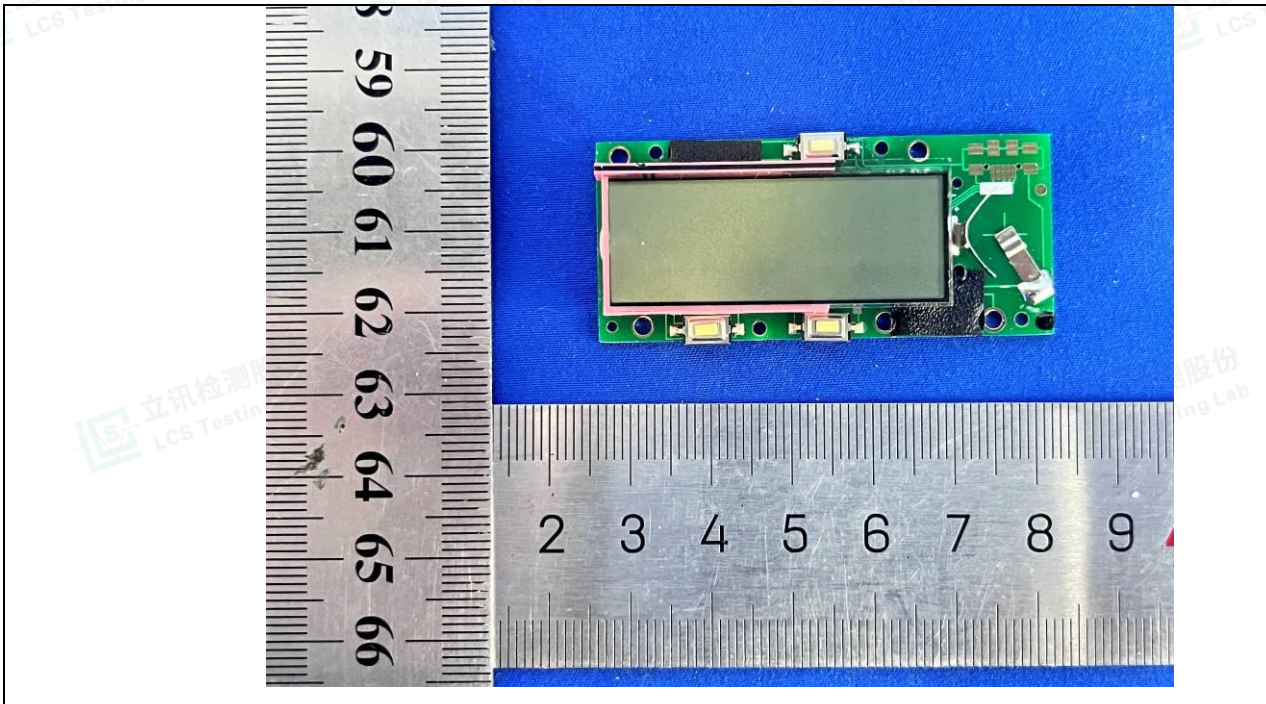
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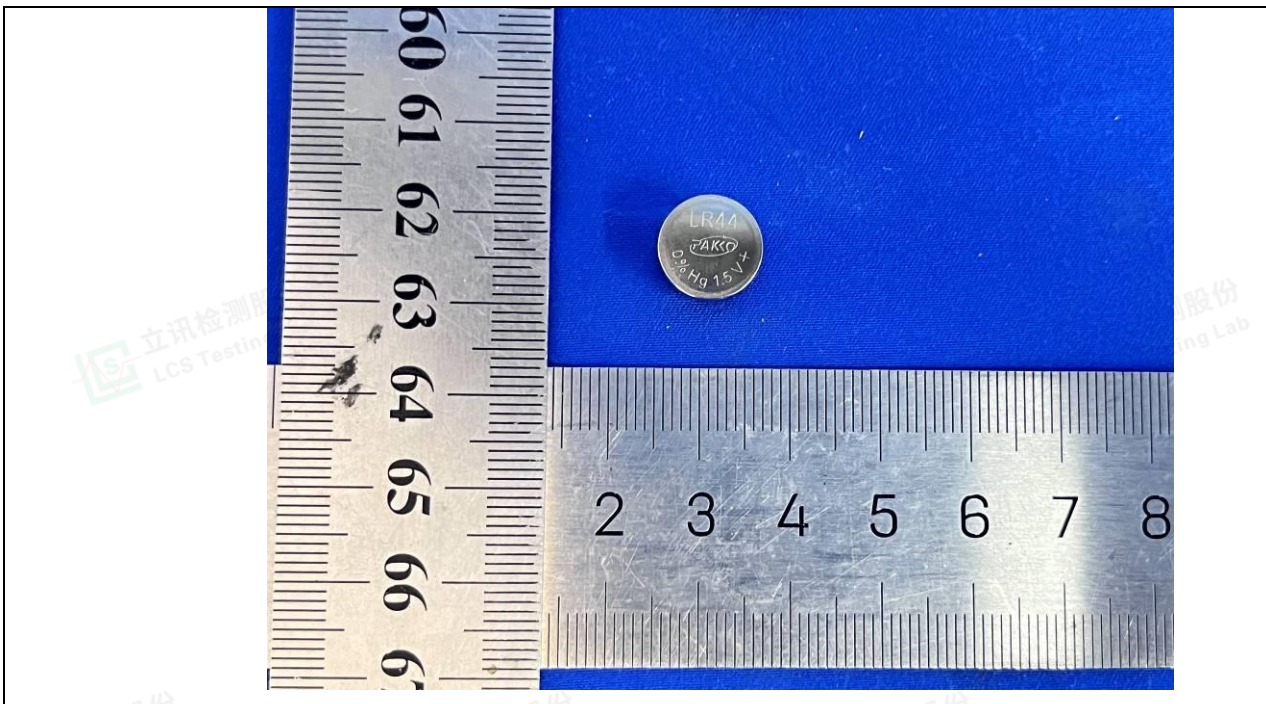
Scan code to check authenticity



Details of: PCB View



Details of: Battery View



---End of Test report---



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