

Shenzhen ORT Technical Services Co., Ltd.

TEST REPORT

Report Number ORTSZ240607112001-2					
Sample Name:	Smartphone		Applicant:	Shenzhen Huafului Technology Co., Ltd.	
Model:	KINGKONG X		Address:	Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, China	
Spec:	Black		Vendor or Supplier:	Shenzhen Huafului Technology Co., Ltd.	
Brand:	CUBOT		Address:	The same as above	
Sample Quantity:	6 Pcs		Manufacturer:	Shenzhen Huafului Technology Co., Ltd.	
Specimen Source:	Submitted by applicant		Address:	The same as above	
Received Date:	2024.06.11	Detection Date:	2024.06.12~ 2023.06.19	Report Date:	2024.06.21
Test Requirement:	For further details, please refer to the following page(s).				
Test Item:	1.IPX9K Test; 2.IP6KX Test; 3.IP6X Test; 4.IPX8 Test; 5.Vibration Test; 6.Drop Test; 7.Combined Temperature and Shock Test.				
Decision Rules:	For further details, please refer to the following page(s).				
Test Conclusion:	Details see the summary of test results on the next page.				
Tested By:	Li WenFeng	Date:	Shenzhen ORT Technical Services Co., Ltd. 2024-06-21		
Signature:	<i>Li wenFeng</i>	2024-06-21			
Checked By:	Lonny Chen	Date:			
Signature:	<i>Lonny Chen</i>	2024-06-21			
Approved By:	Makoto. Wu	Date:			
Signature:	<i>Makoto. Wu</i>	2024-06-21			

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I Testing Overview

1. Sample information

Name	Model	Quantity	Sample No.
Smartphone	KINGKONG X	6Pcs	1#~6#

2. Summary of test results

No.	Test record	Test item	Sample test results		
			PASS	FAIL	N/A
1	Page 3 of this report	IPX9K Test	PASS	/	/
2	Page 3 of this report	IP6KX Test	PASS	/	/
3	Page 4 of this report	IP6X Test	PASS	/	/
4	Page 5 of this report	IPX8 Test	PASS	/	/
5	Page 6 of this report	Vibration Test	PASS	/	/
6	Page 6 of this report	Drop Test	PASS	/	/
7	Page 7 of this report	Combined Temperature and Shock Test	PASS	/	/

Note: 1. "PASS" means Conformity Rule, "FAIL" means Nonconformity Rule, and "N/A" means Not Applicable.

2. When customers have no Decision Rule requirements for Test setup, P.T.O For test records and test results.

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II Test Records

1 Test Item: IPX9K Test

1.1 Test Equipment:

No.	Name	Model No.	Equipment No.	Calibration Validity
1	High Temperature and High Pressure Jet Test Machine	TL-IPX9K-1000L	ORT-GYPS-01	2025.02.04

1.2 Test Environment: Temperature: 25.5℃ ;Relative Humidity: 52%RH.

1.3 Test Method/Specification: According to ISO 20653:2013.

1.4 Test Conditions:

Rotation speed:	(5±1) r/min;
Spraying angle:	0°, 30°, 60°, 90°;
The distance from nozzle to enclosure surface:	100mm~150mm;
Water flow rate:	(14~16) L/min;
Water temperature:	(80±5)℃;
Duration:	30s/Position.

1.5 Acceptance Criteria:

Directional spray cleaning of the shell in any direction should not cause any damage.

1.6 Test Result:

Sample No.	Inspection after test	Conclusion
1#	The appearance of the sample has no visible damage, the startup function is normal, and there is no water inside.	Pass

2 Test Item: IP6KX Test

2.1 Test Equipment:

No.	Name	Model No.	Equipment No.	Calibration Validity
1	Sand and Dust Test Chamber	TL-SC-1000	ORT-SC1000-01	2025.02.08
2	IP4X Test Probe	IP4X/1N Thrust	ORT-IP4X-01	2024.03.03

2.2 Test Environment: Temperature: 23.2℃ ;Relative Humidity: 53%RH .

2.3 Test Method/Specification: According to ISO 20653:2013.

2.4 Test Conditions:

- 1) The level of protection indicated by the first characteristic for approaching hazardous components Number, first characteristic number 6K 1.0mmΦ The test line should not be pierced and sufficient clearance should be maintained.
- 2) Protection against solid foreign objects represented by the first characteristic number and the first characteristic number 6K.

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2.1 Test Dust: Arizona dust A2

2.2 Mode dust movement: Air and dust mixing exercise for 6s, pause for 15min

2.3 Test duration: 20cycles

2.5 Acceptance Criteria:

After the test, the sample functions normally, and after disassembly and inspection, there is no dust inside.

2.6 Test Result:

Sample No.	Inspection after test	Conclusion
2#	The appearance of the sample has no visible damage, the startup function is normal, and there is no dust inside.	Pass

3 Test Item: IP6X Test

3.1 Test Equipment:

No.	Name	Model No.	Equipment No.	Calibration Validity
1	Sand and Dust Test Chamber	TL-SC-1000	ORT-SC1000-01	2025.02.08
2	IP4X Test Probe	IP4X/1N Thrust	ORT-IP4X-01	2025.03.03

3.2 Test Environment: Temperature: 23.2°C ;Relative Humidity: 55%RH.

3.3 Test Method/Specification: According to IEC 60529:2013.

3.4 Test Conditions:

1) Degrees of protection against access to hazardous parts:

The test wire of $\Phi 1.0\text{mm}$ shall not penetrate and adequate clearance shall be kept.

2) Degrees of protection against solid foreign objects:

2.1 During the experiment, the dosage of talc powder was $2\text{kg}/\text{m}^3$, And test for 8 hours.

2.2 The enclosure under test is supported inside the test chamber and the pressure inside the enclosure is maintained below the surrounding atmospheric pressure by a vacuum pump. A volume of air 80 times the volume of the sample enclosure, the extraction rate of 40 volumes per hour, and test 2hours.

3.5 Acceptance Criteria:

After the test, the sample functions normally, and after disassembly and inspection, there is no dust inside.

3.6 Test Result:

Sample No.	Inspection after test	Conclusion
3#	The appearance of the sample has no visible damage, the startup function is normal, and there is no dust inside.	Pass

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4 Test Item: IPX8 Test
4.1 Test Equipment:

No.	Name	Model No.	Equipment No.	Calibration Validity
1	IPX8 Water Immersion Pressure Tester	TL-IPX8-600	ORT-IPX8-01	2025.02.04

4.2 Test Environment: Temperature: 23.2°C; ;Relative Humidity: 54%RH.

4.3 Test Method/Specification: According to IEC60529: 2013.

4.4 Test Conditions:

- 1) Put the sample into the test device;
- 2) Depth: 1.5m; Test duration: 30min;
- 3) The temperature difference between the water and the sample is no more than 5K.

4.5 Acceptance Criteria:

1. After testing, check the functionality of the sample and whether there is water ingress inside the casing;
2. Continuous immersion in water, if water enters, the amount of water entering the casing should not cause damage to the product.

4.6 Test Result:

Sample No.	Inspection after test	Conclusion
4#	The appearance of the sample has no visible damage, the startup function is normal, and there is no water inside.	Pass

5 Test Item: Vibration Test
5.1 Test Equipment:

No.	Name	Model No.	Equipment No.	Calibration Validity
1	Vibration Tester	IPA60H/LS544A	ORTZD5000-01	2024.12.28

5.2 Test Environment: Temperature: 22.5°C;Relative Humidity: 56%RH.

5.3 Test Method/Specification: According to client's requirements.

5.4 Test Conditions:

Frequency (Hz)	Acceleration (g)	Displacement (mm)	Test axis	Test time
5~14	/	5.08	X, Y, Z axis	2h/axis
14~33	2	/		
33~52	/	0.91		
52~500	5	/		

5.5 Acceptance Criteria:After the test, the appearance of the sample is normal and the function is normal.

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5.6 Test Result:

Sample No.	Inspection after test	Conclusion
5#	The appearance of the sample is not visible damage, the startup function is normal, and the internal structure is not damaged.	Pass

6 Test Item: Drop Test
6.1 Test Equipment:

No.	Name	Model No.	Equipment No.	Calibration Validity
1	Drop Tester	LX-DL-315	ORT-DL-01	2025.02.28

6.2 Test Environment: Temperature: 22.9°C; Relative Humidity: 55%RH.

6.3 Test Method/Specification: According to MIL-STD-810H:2019, Method 516.8.

6.4 Test Conditions:

Height of drop: 122cm

Orientation of drop: 6 faces, 8 corners, 12 edges.

Number of drop: 1 times/orientation, totally 26 times.

Note: Testing with a total mass $M < 45$ Kg is allowed on both test samples.

5# sample for the drop of corners and faces (14 times in total); 6# sample for the drop of edge (12 times in total).

6.5 Acceptance Criteria: After testing, the sample is inspected for appearance and function.

6.6 Test Result:

Sample No.	Inspection after test	Conclusion
5#、6#	The appearance of the sample is not visible damage, the startup function is normal, and the internal structure is not damaged.	Pass

7 Test Item: Combined Temperature and Shock Test
7.1 Test Equipment:

No.	Name	Model No.	Equipment No.	Calibration Validity
1	Rapid Temperature Chang Test Chamber	TH15-1000DHVB	ORTKWB1000-02	2025.02.28
2	Vibration Tester	IPA60H/LS544A	ORTZD5000-01	2024.12.28

7.2 Test Environment: Temperature: 23.1°C; Relative Humidity: 56%RH.

7.3 Test Method/Specification: According to client's requirements.

7.4 Test Conditions:

Shock Test Parameter		Temperature Test Parameter
Pulse Shape:	Half Sine	-55°C, 70°C.
Peak Acceleration:	30g	
Pulse Duration:	6ms	
Test Orientation:	±X,±Y,±Z axis	

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Test Time:	2times/axis, 12times in total.
Note: the sample should stay in the test chamber for 30min after the shock test, then take out and check.	

7.5 Acceptance Criteria:After testing, the sample is inspected for appearance and function.

7.6 Test Result:

Sample No.	Inspection after test	Conclusion
6#	The appearance of the sample is not visible damage, the startup function is normal, and the internal structure is not damaged.	Pass

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III Test photo and test curve:

Test Item 1: IPX9K test (1#)



Fig.1 Power on inspection before test



Fig.2 Appearance inspection before test

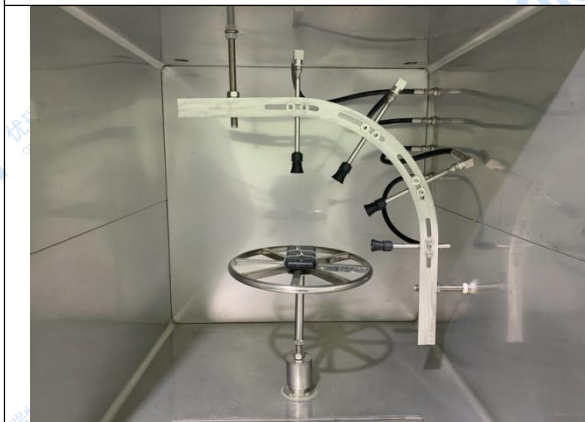


Fig.3 Test setup



Fig.4 Test setup



Fig.5 Power on inspection after test



Fig.6 Appearance inspection after test

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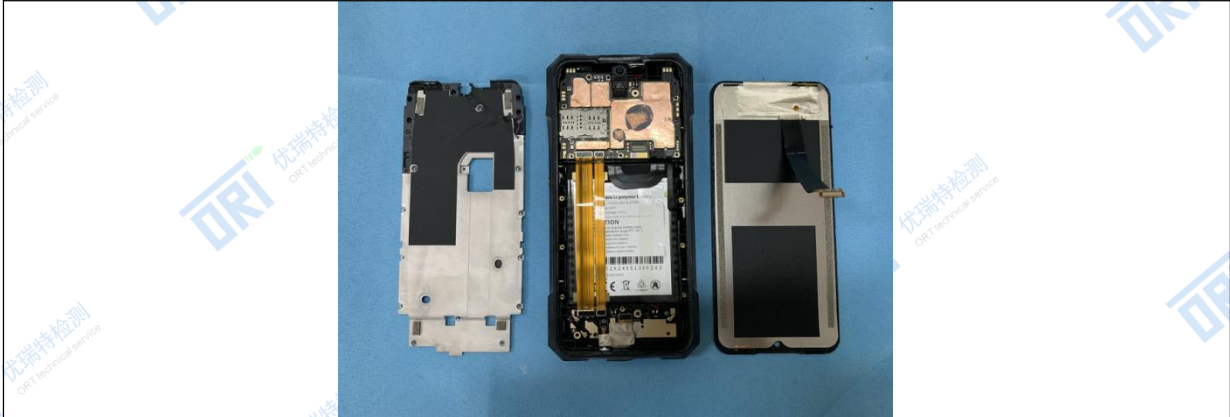


Fig.7 Appearance inspection after test

Test Item 2: IP6KX Test (2#)



Fig.8 Power on inspection before test



Fig.9 Appearance inspection before test



Fig.10 Test setup



Fig.11 Test setup

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Fig.12 Power on inspection after test



Fig.13 Appearance inspection after test



Fig.14 Appearance inspection after test

Test Item 3: IP6X Test (3#)



Fig.15 Power on inspection before test



Fig.16 Appearance inspection before test

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Fig.17 Test setup



Fig.18 Test setup



Fig.19 Power on inspection after test



Fig.20 Appearance inspection after test

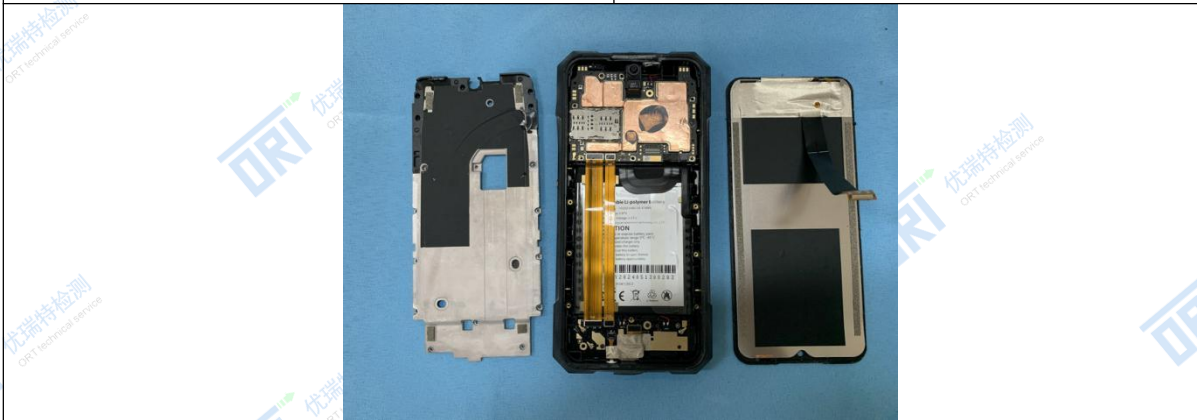


Fig.21 Appearance inspection after test

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Test Item 4: IPX8 Test (4#)

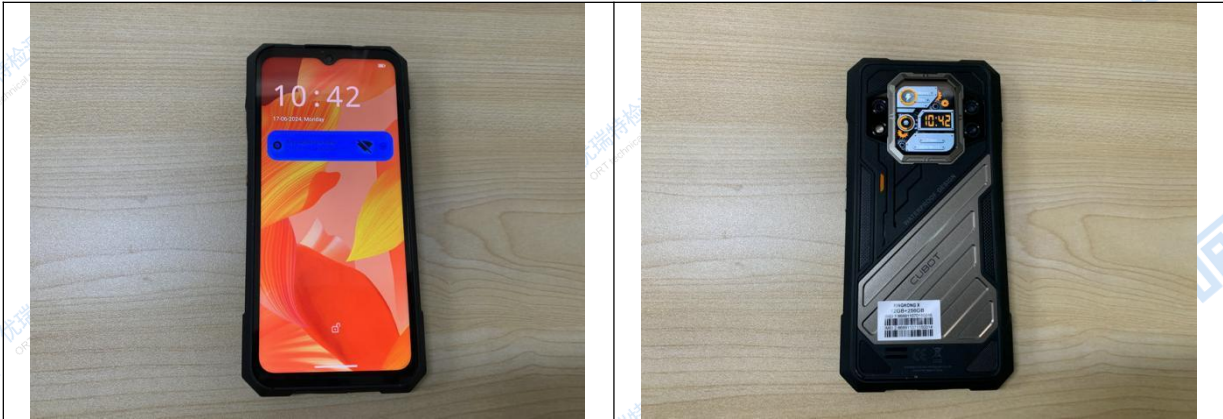


Fig.22 Power on inspection before test

Fig.23 Appearance inspection before test



Fig.24 Test setup



Fig.25 Appearance inspection after test



Fig.26 Appearance inspection after test

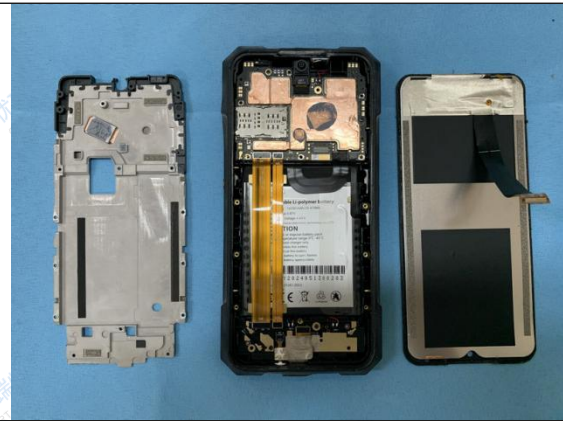
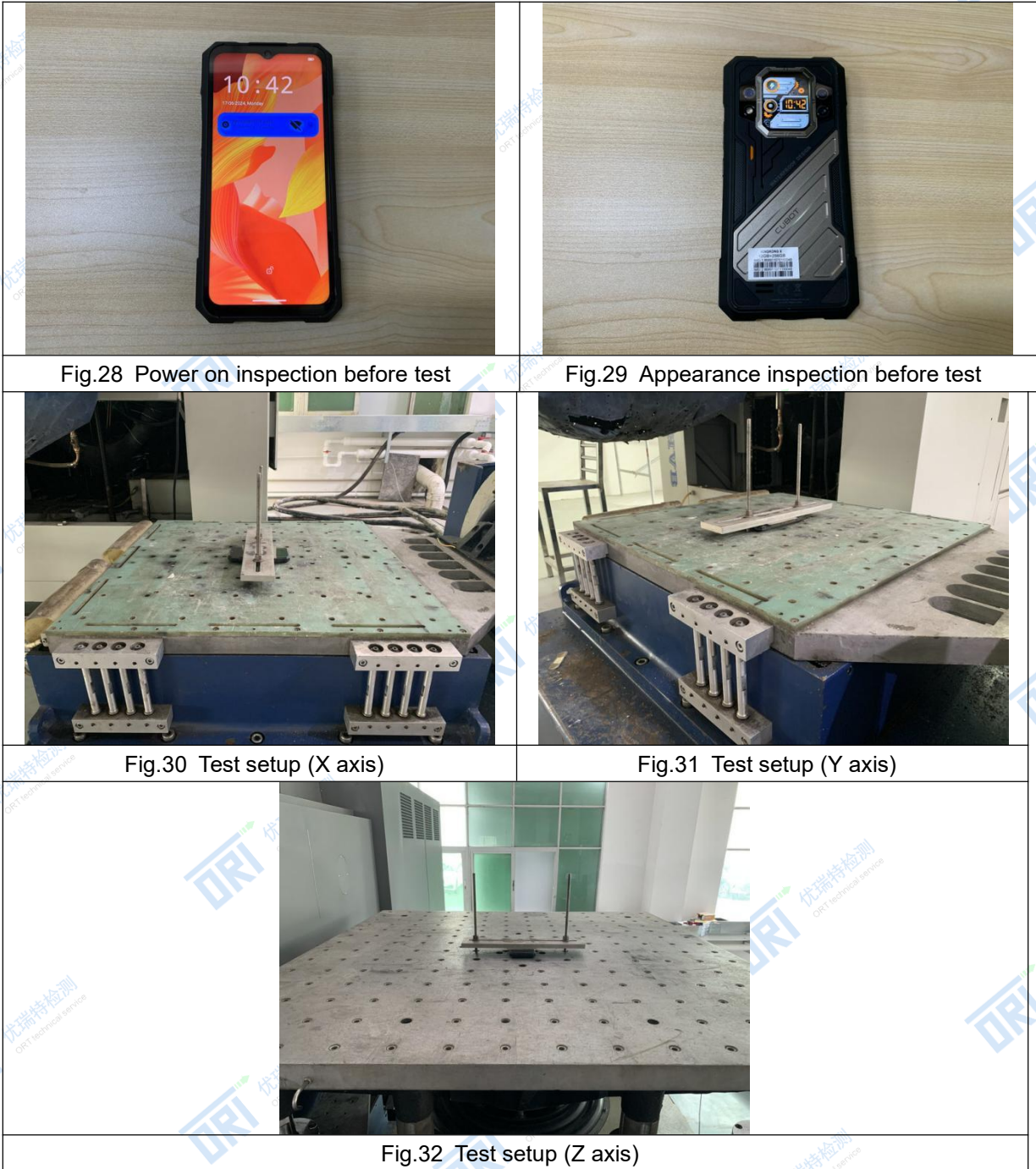


Fig.27 Appearance inspection after test

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Test Item 5: Vibration Test (5#)



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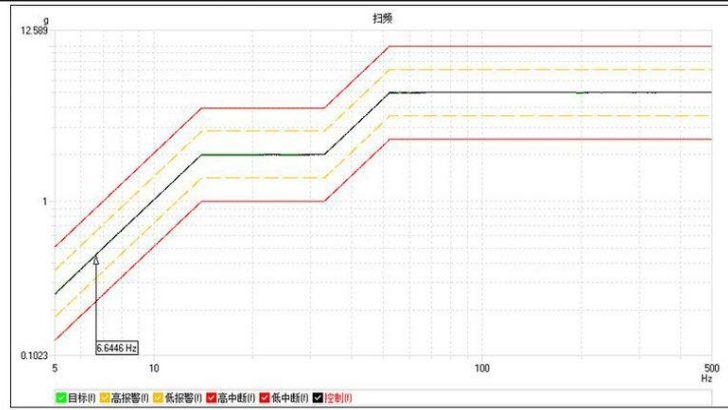


Fig.33 Test Spectrum



Fig.34 Power on inspection after test



Fig.35 Appearance inspection after test

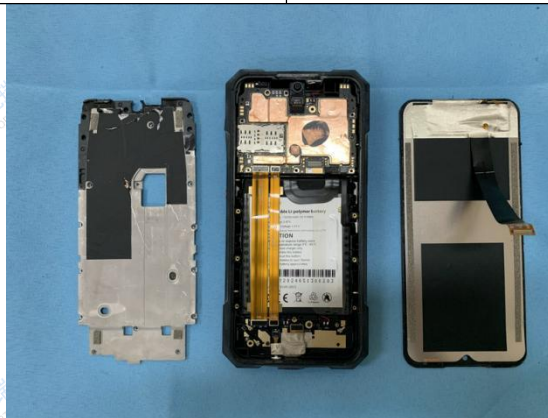


Fig.36 Appearance inspection after test

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Test Item 6: Drop Test (5#, 6#)



Fig.37 Power on inspection before test



Fig.38 Appearance inspection before test



Fig.39 Test setup- Face (1) - 5#

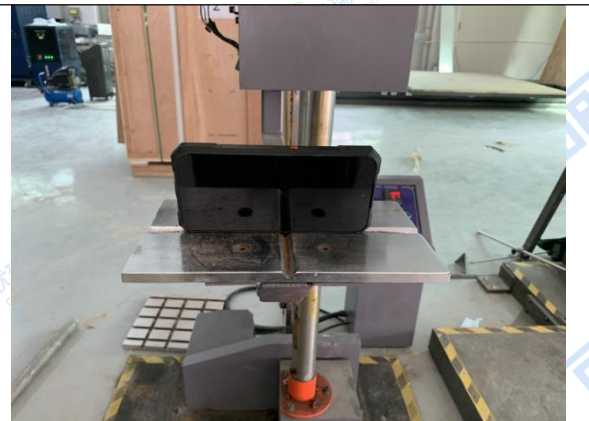


Fig.40 Test setup- Face (2) - 5#



Fig.41 Test setup- Face (3) - 5#



Fig.42 Test setup- Face (4) - 5#

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Fig.43 Test setup- Face (5) - 5#



Fig.44 Test setup- Face (6) - 5#



Fig.45 Test setup- Corner (1) - 5#



Fig.46 Test setup- Corner (2) - 5#

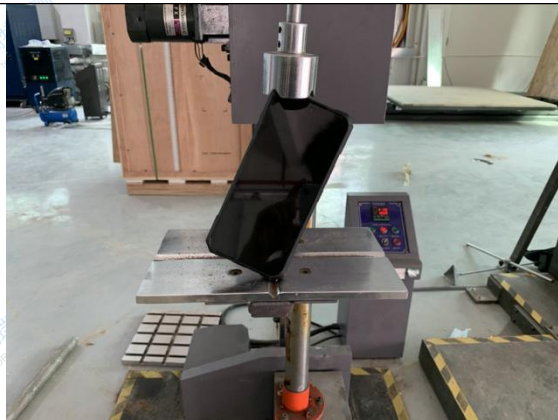


Fig.47 Test setup- Corner (3) - 5#

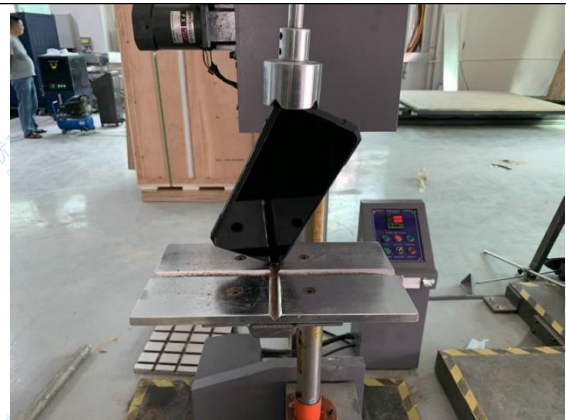


Fig.48 Test setup- Corner (4) - 5#



Fig.49 Test setup- Corner (5) - 5#



Fig.50 Test setup- Corner (6) - 5#

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Fig.51 Test setup- Corner (7) - 5#



Fig.52 Test setup- Corner (8) - 5#



Fig.53 Test setup- Edge (1) - 6#

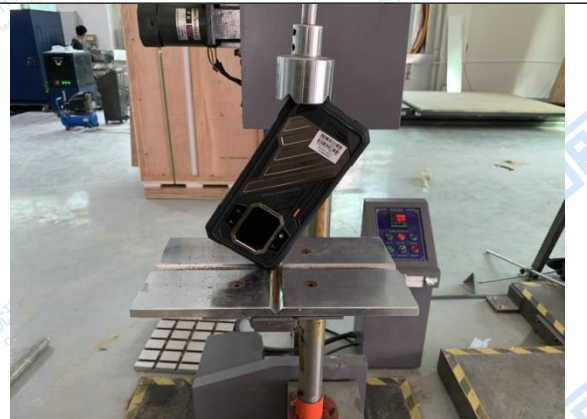


Fig.54 Test setup- Edge (2) - 6#



Fig.55 Test setup- Edge (3) - 6#



Fig.56 Test setup- Edge (4) - 6#



Fig.57 Test setup- Edge (5) - 6#

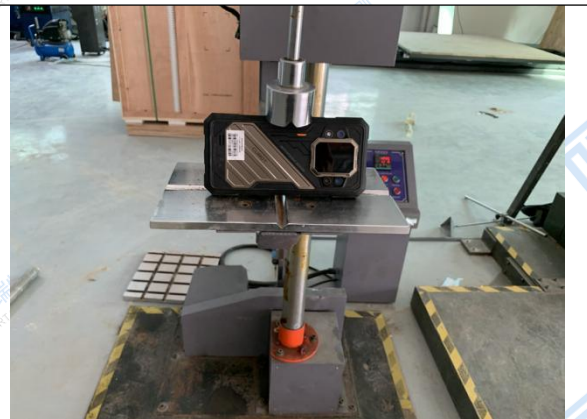


Fig.58 Test setup- Edge (6) - 6#

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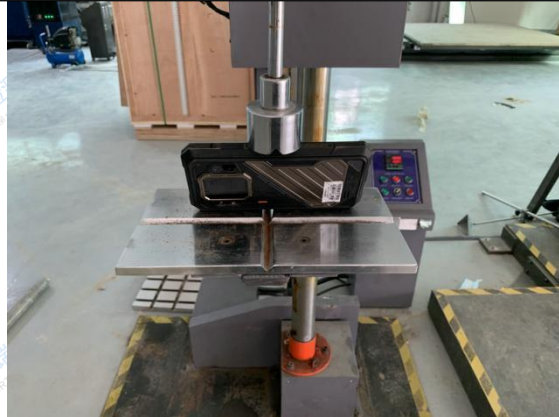


Fig.59 Test setup- Edge (7) - 6#



Fig.60 Test setup- Edge (8) - 6#



Fig.61 Test setup- Edge (9) - 6#



Fig.62 Test setup- Edge (10) - 6#



Fig.63 Test setup- Edge (11) - 6#



Fig.64 Test setup- Edge (12) - 6#



Fig.65 Drop height

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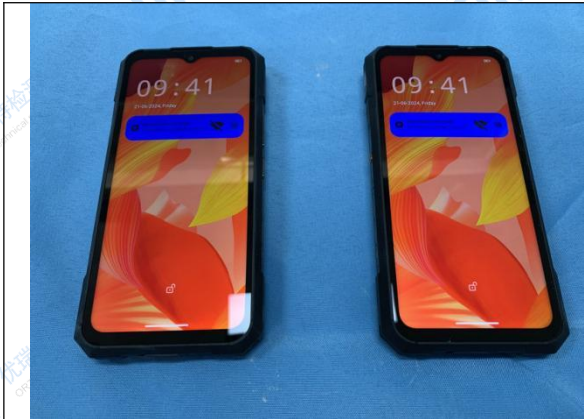


Fig.66 Appearance inspection after test



Fig.67 Appearance inspection after test



Fig.68 Appearance inspection after test

Test Item 7: Combined Temperature and Shock Test (6#)



Fig.69 Power on inspection before test



Fig.70 Appearance inspection before test

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Fig.71 Temperature: 70°C



Fig.72 Temperature: -55°C



Fig.73 Test setup (X axis)



Fig.74 Test setup (Y axis)



Fig.75 Test setup (Z axis)

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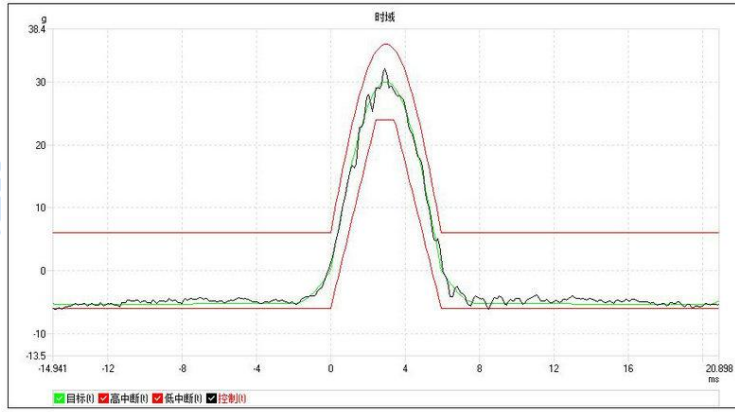


Fig.76 Test Curve (+)

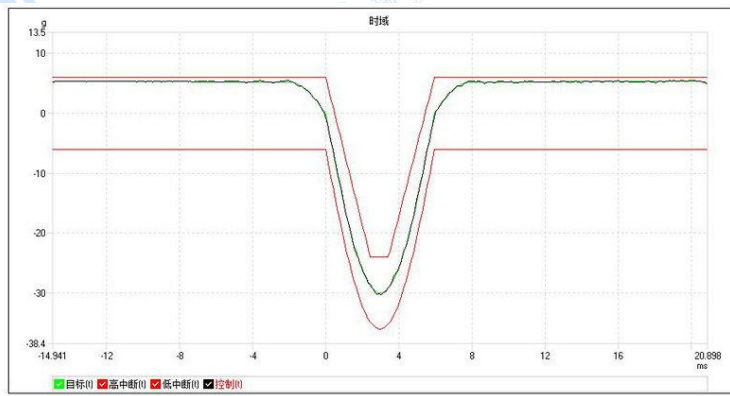


Fig.77 Test Curve (-)



Fig.78 Power on inspection after test



Fig.79 Appearance inspection after test

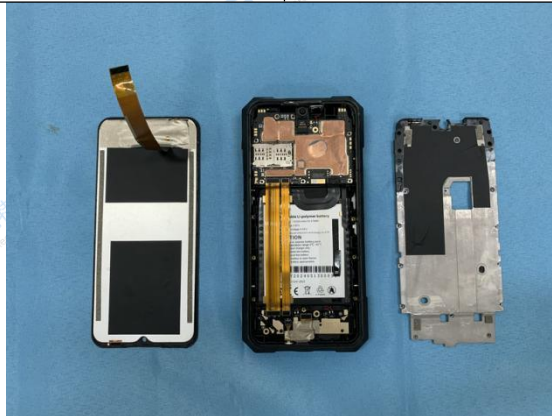


Fig.80 Appearance inspection after test

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