

Shenzhen ORT Technical Services Co., Ltd.

TEST REPORT

Report Number ORTSZ241017112001-1					
Sample Name:	Smartphone		Applicant:	Shenzhen Huafurui Technology Co., Ltd.	
Model:	KINGKONG ACE 2		Address:	Unit 601-03, 6/F, Block A, Building 1, Ganfeng Technology Building, No. 993 Jiaxian Road, Xiangjiaotang Community, Bantian Street, Longgang District, Shenzhen, P.R. China	
Spec:	Black+Green		Vendor or Supplier:	Shenzhen Huafurui Technology Co., Ltd.	
Brand:	CUBOT		Address:	The same as above	
Sample Quantity:	6 Pcs		Manufacturer:	Shenzhen Huafurui Technology Co., Ltd.	
Specimen Source:	Submitted by applicant		Address:	The same as above	
Received Date:	2024.10.20	Detection Date:	2024.10.21~ 2024.10.25	Report Date:	2024.10.28
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:	PASS/Details see the summary of test results on the next page.				
Tested By:	Li WenFeng	Date:	Shenzhen ORT Technical Services Co., Ltd. 2024-10-28		
Signature:	<i>Li WenFeng</i>	2024-10-28			
Checked By:	Lonny Chen	Date:			
Signature:	<i>Lonny Chen</i>	2024-10-28			
Approved By:	Makoto. Wu	Date:			
Signature:	<i>Makoto. Wu</i>	2024-10-28			
Note:	/				

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1. Sample information

Name	Model	Quantity	Sample No.
Smartphone	KINGKONG ACE 2	6 Pcs	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	2025.06.18

1.2 Test Environment: Temperature: 23.1°C; Relative Humidity: 59%.

1.3 Test Method/Specification: According to ISO 20653:2023.

1.4 Test Conditions:

Rotation speed:	(5±1) r/min;
Spraying angle:	0°, 30°, 60°, 90°;
The distance from nozzle to enclosure surface:	100 mm~150 mm;
Water flow rate:	(14~16) L/min;
Water temperature:	(80±5)°C;
Duration:	30 s/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	2025.06.19
2	IP4X Test Probe	IP4X/1N Thrust	ORT-IP4X-01	2025.06.22

2.2 Test Environment: Temperature: 23.2°C; Relative Humidity: 60% .

2.3 Test Method/Specification: According to ISO 20653:2023.

2.4 Test Conditions:

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

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

Test duration: 20 cycles

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	2025.06.19
2	IP4X Test Probe	IP4X/1N Thrust	ORT-IP4X-01	2025.06.22

3.2 Test Environment: Temperature: 23.5°C; Relative Humidity: 59%.

3.3 Test Method/Specification: According to IEC 60529:1989/AMD2:2013/COR1:2019.

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 kg/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 2 hours.

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	Water Immersion Pressure Tester	TL-IPX8-600	ORT-IPX8-01	2025.06.18

4.2 Test Environment: Temperature: 23.5°C; Relative Humidity: 61%.

4.3 Test Method/Specification: According to IEC 60529:1989/AMD2:2013/COR1:2019.

4.4 Test Conditions:

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

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	MPA406/M232A	ORTZD2000-01	2025.06.18

5.2 Test Environment: Temperature: 23.6°C; Relative Humidity: 59%.

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	2 h/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	2025.06.18

6.2 Test Environment: Temperature: 23.7°C; Relative Humidity: 59%.

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

6.4 Test Conditions:

Height of drop: 122 cm

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	ORTKWB1000-01	2025.06.19
2	Vibration Tester	MPA406/M232A	ORTZD2000-01	2025.06.18

7.2 Test Environment: Temperature: 25.5°C; Relative Humidity: 59%.

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

7.4 Test Conditions:

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Shock Test Parameter		Temperature Test Parameter
Pulse Shape:	Half Sine	-55°C, 70°C.
Peak Acceleration:	30 g	
Pulse Duration:	6 ms	
Test Orientation:	±X, ±Y, ±Z axis	
Test Time:	2 times/axis, 12 times in total.	
Note: the sample should stay in the test chamber for 30 min 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#)



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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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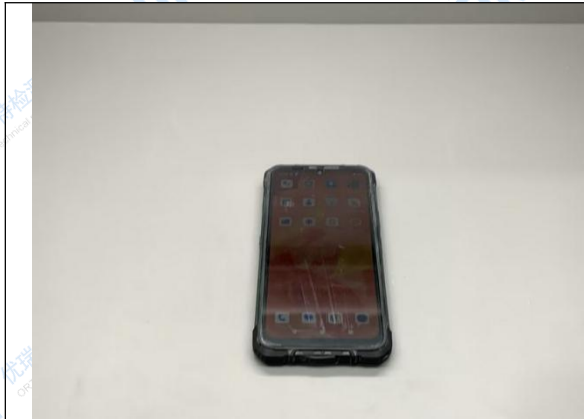


Fig.12 Power on inspection after test



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 Test setup



Fig.26 Power on inspection after test



Fig.27 Appearance inspection after test

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Fig.28 Appearance inspection after test

Test Item 5: Vibration Test (5#)



Fig.29 Power on inspection before test



Fig.30 Appearance inspection before test

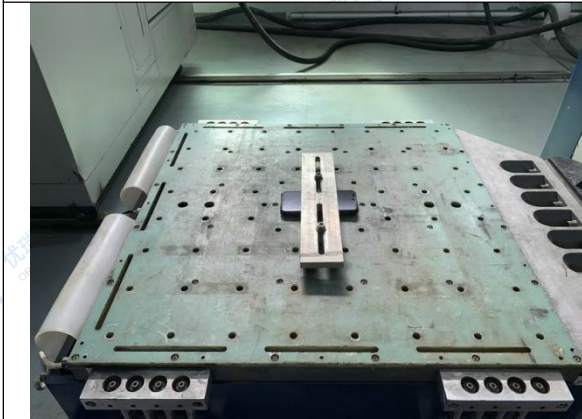


Fig.31 Test setup (X axis)



Fig.32 Test setup (Y axis)

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Fig.33 Test setup (Z axis)

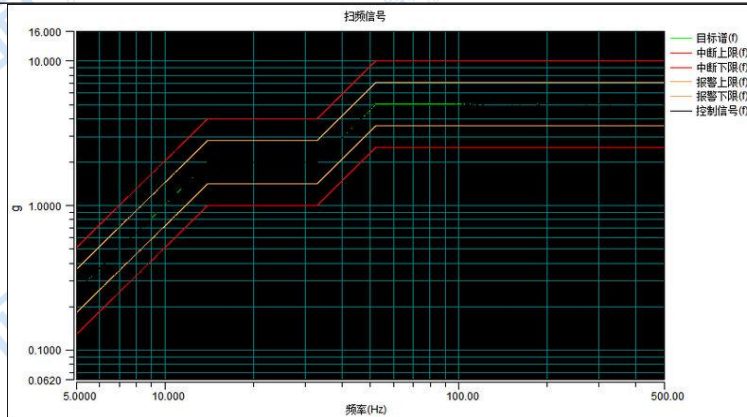


Fig.34 Test Spectrum (X axis)

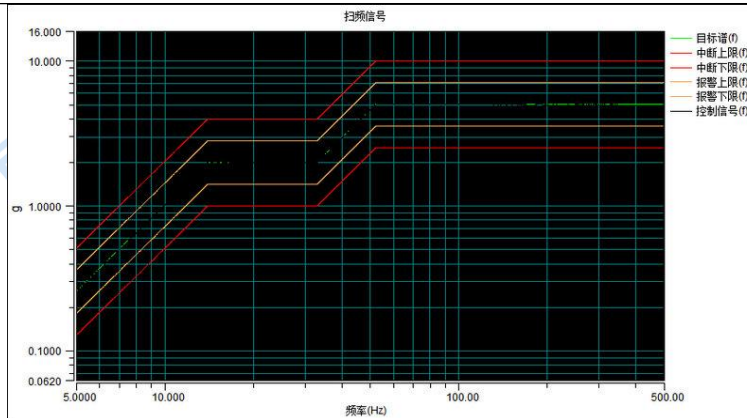


Fig.35 Test Spectrum (Y axis)

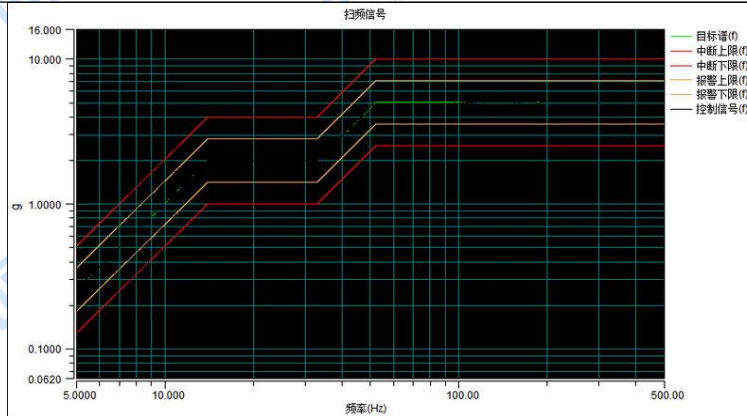


Fig.36 Test Spectrum (Z axis)

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Fig.37 Power on inspection after test



Fig.38 Appearance inspection after test



Fig.39 Appearance inspection after test

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



Fig.40 Power on inspection before test



Fig.41 Appearance inspection before test

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Fig.42 Test setup- Face (1) - 5#

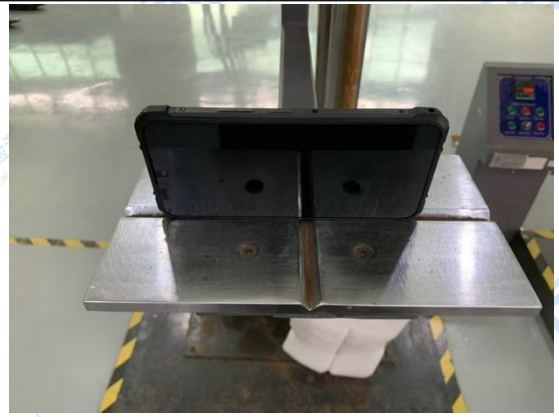


Fig.43 Test setup- Face (2) - 5#



Fig.44 Test setup- Face (3) - 5#



Fig.45 Test setup- Face (4) - 5#

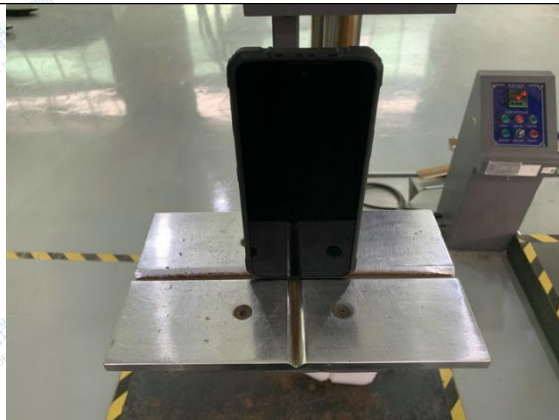


Fig.46 Test setup- Face (5) - 5#



Fig.47 Test setup- Face (6) - 5#

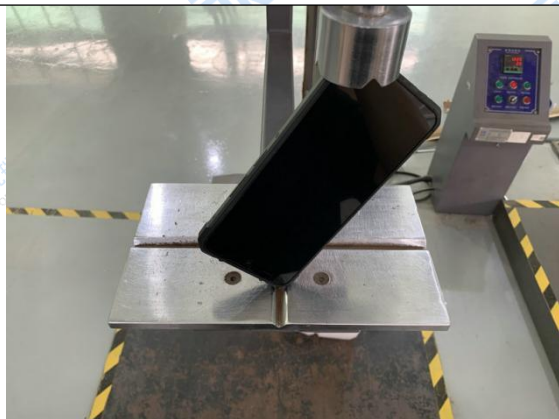


Fig.48 Test setup- Corner (1) - 5#

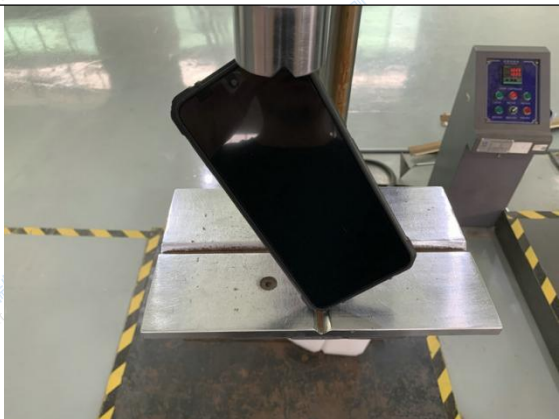


Fig.49 Test setup- Corner (2) - 5#

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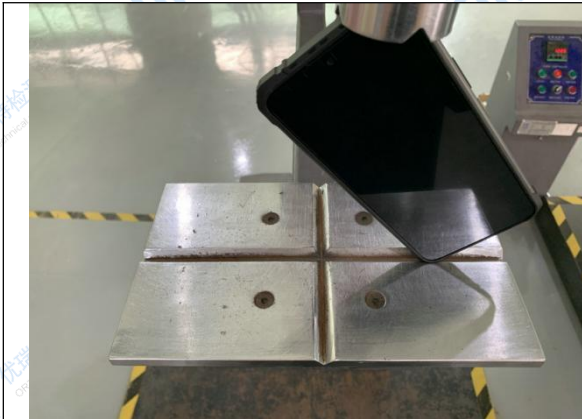


Fig.50 Test setup- Corner (3) - 5#

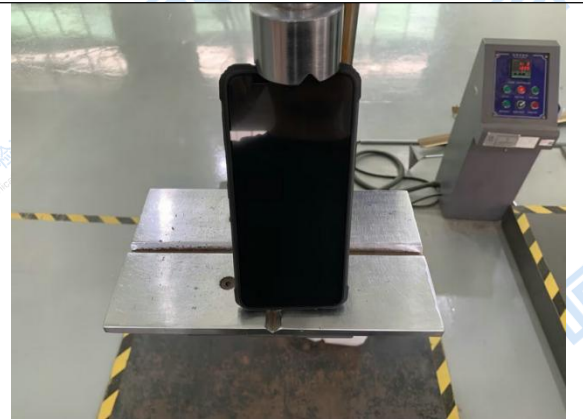


Fig.51 Test setup- Corner (4) - 5#



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

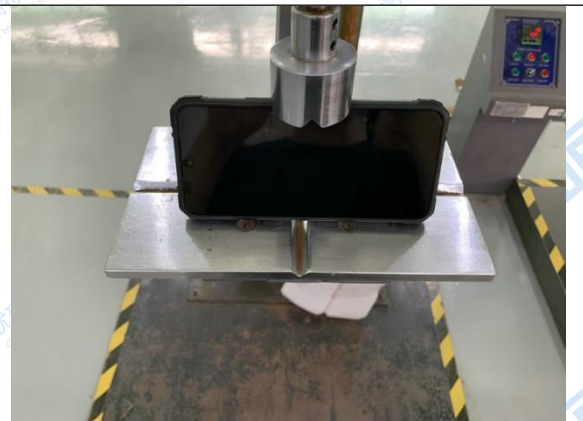


Fig.53 Test setup- Corner (6) - 5#

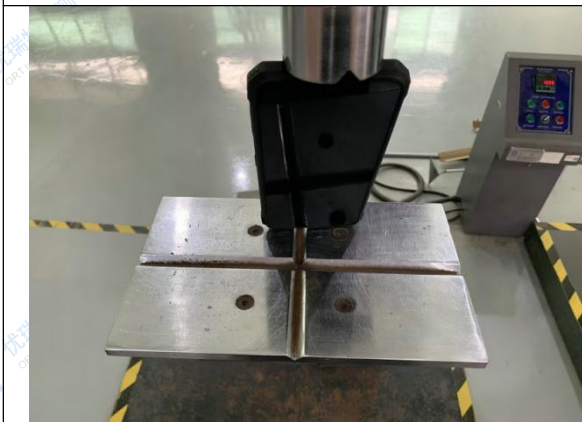


Fig.54 Test setup- Corner (7) - 5#

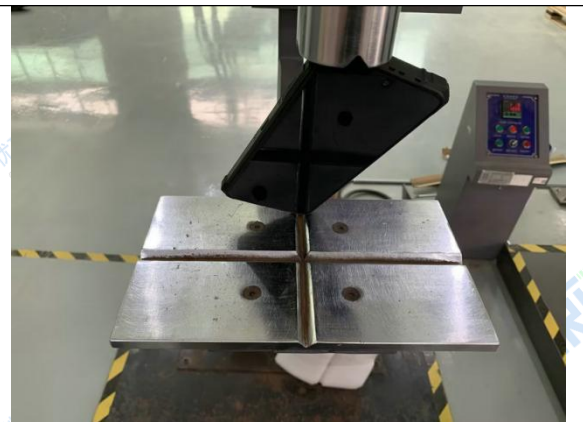


Fig.55 Test setup- Corner (8) - 5#

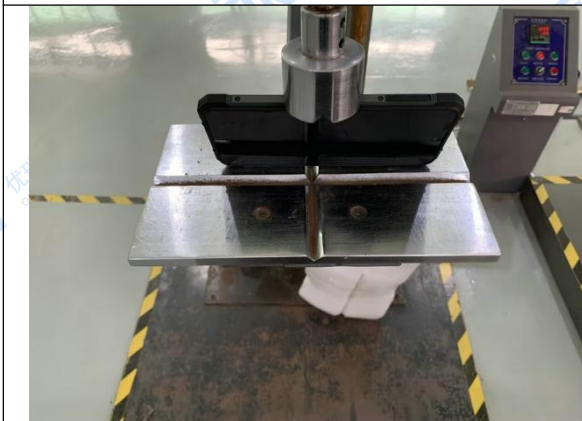


Fig.56 Test setup- Edge (1) - 6#

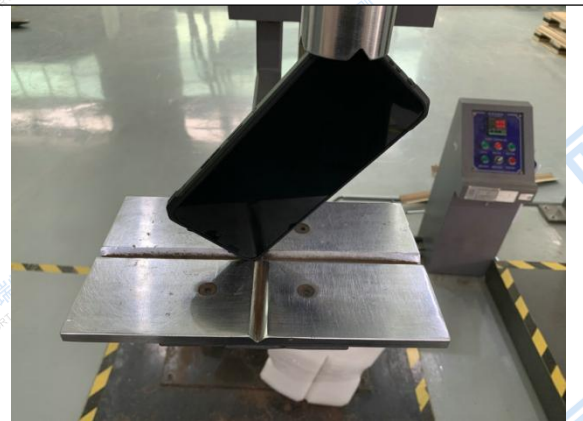


Fig.57 Test setup- Edge (2) - 6#

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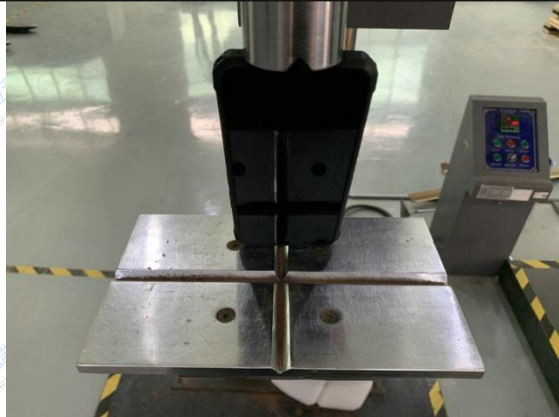


Fig.58 Test setup- Edge (3) - 6#

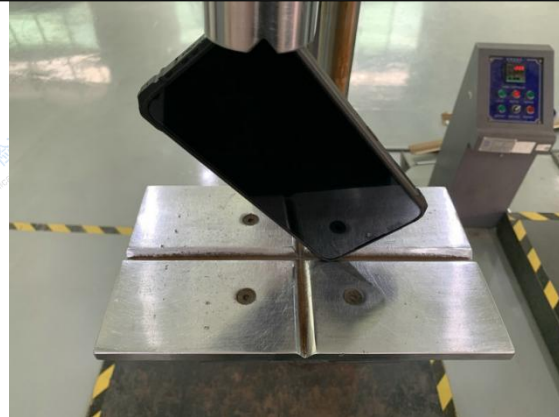


Fig.59 Test setup- Edge (4) - 6#

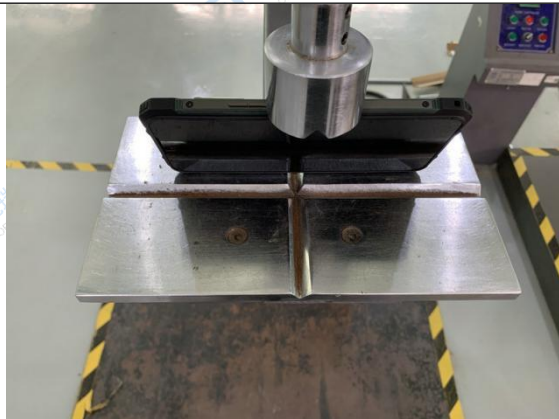


Fig.60 Test setup- Edge (5) - 6#

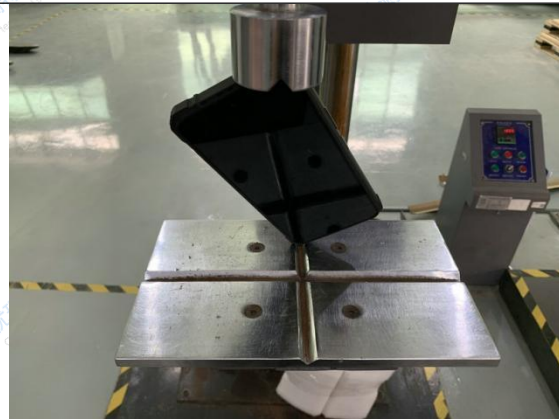


Fig.61 Test setup- Edge (6) - 6#



Fig.62 Test setup- Edge (7) - 6#

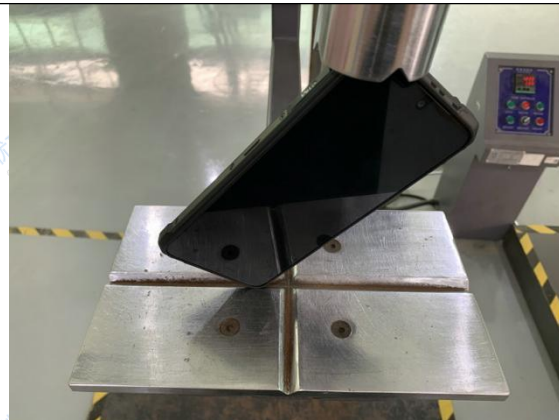


Fig.63 Test setup- Edge (8) - 6#

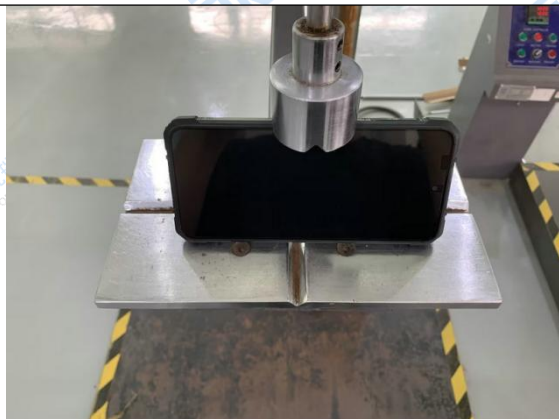


Fig.64 Test setup- Edge (9) - 6#

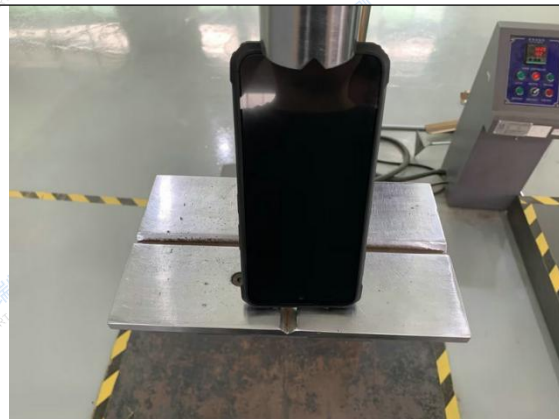


Fig.65 Test setup- Edge (10) - 6#

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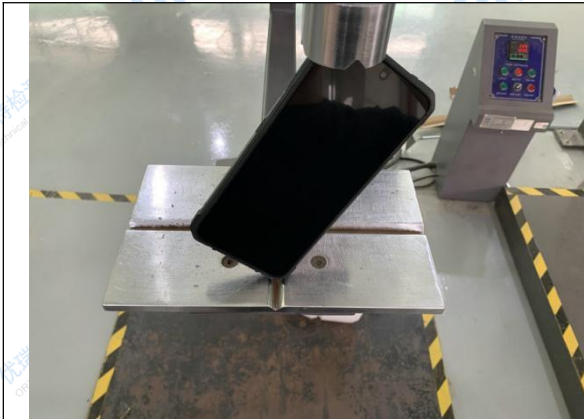


Fig.66 Test setup- Edge (11) - 6#

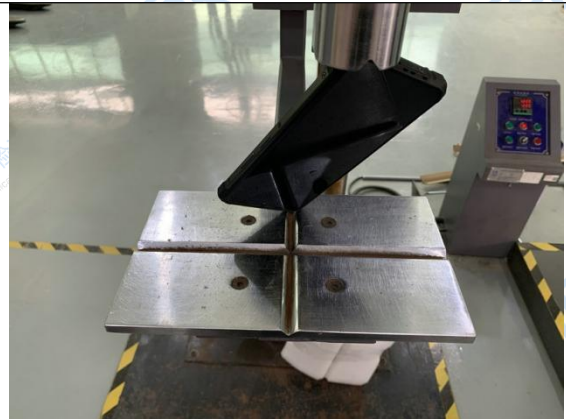


Fig.67 Test setup- Edge (12) - 6#



Fig.68 Power on inspection after test



Fig.69 Appearance inspection after test



Fig.70 Appearance inspection after test

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



Fig.71 Power on inspection before test



Fig.72 Appearance inspection before test



Fig.73 Temperature: 70°C

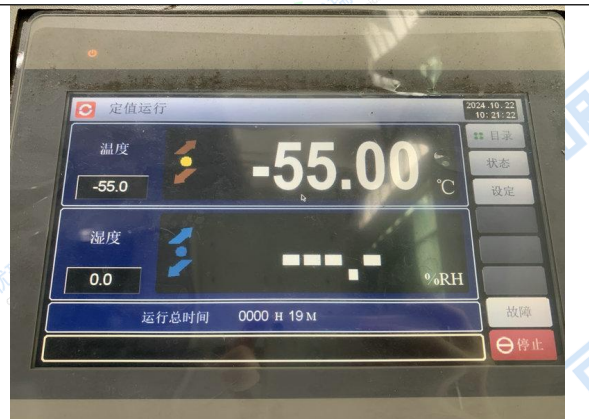


Fig.74 Temperature: -55°C



Fig.75 Test setup (X axis)



Fig.76 Test setup (Y axis)

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Fig.77 Test setup (Z axis)

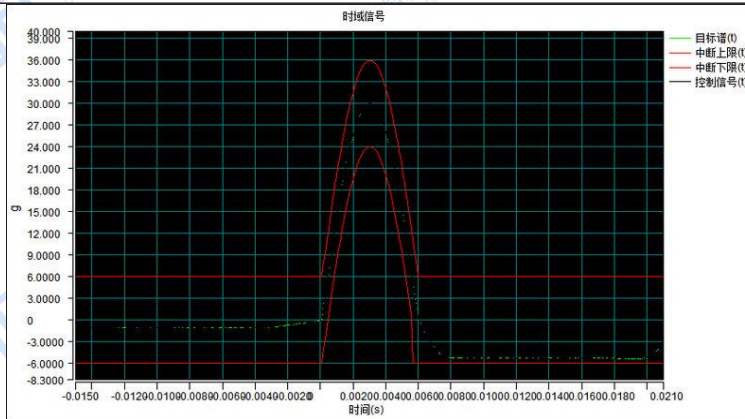


Fig.78 Test Curve (+)

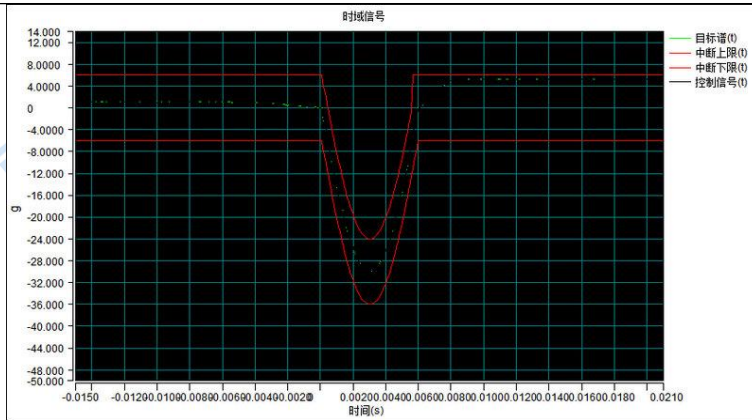


Fig.79 Test Curve (-)



Fig.80 Power on inspection after test



Fig.81 Appearance inspection after test

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Fig.8.2 Appearance inspection after test

*** End of Report ***

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