



TEST REPORT

Report No.: 2501X80331E

Date: November 17, 2025

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M5Stack Technology Co.,Ltd

Block A10, Expo Bay South Coast, Fuhai Street, Bao'an District, Shenzhen, China

Report on the submitted samples said to be:

Sample Description: M5NanoH2

Style/Item No.: NanoH2

Sample Receiving Date: October 09, 2025

Testing Period: October 09, 2025 - November 13, 2025

Result: **Please refer to next page(s).**

Signed for and on behalf of

BACL

Queenie Lee

Checked by: _____
Queenie Lee

Len Xie

Approved by: _____
Len Xie

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Summary of Test Result:

TEST REQUEST

CONCLUSION

A As specified by client, selected materials (parts) in the submitted samples for RoHS Directive 2011/65/EU and amendment directives (EU) 2015/863 on Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs, Phthalates (DBP, BBP, DEHP, DIBP) content

A.1 XRF screening test	Pass
A.2 Wet Chemical Testing	
A.2.1 Total Lead Content	Pass
A.2.2 PBBs & PBDEs content	Pass
A.3 Phthalates (DBP, BBP, DEHP, DIBP) content	Pass

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A As specified by client, selected materials (parts) in the submitted samples for RoHS Directive 2011/65/EU and amendment directives (EU) 2015/863 on Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs, Phthalates (DBP, BBP, DEHP, DIBP) content

A.1 XRF screening test

Test method: IEC 62321-3-1:2013

Seq No.	Tested Part(s)	Result				
		Pb	Cd	Hg	Cr	Br
(1)	Grey plastic(case, M5NanoH2)	BL	BL	BL	BL	BL
(2)*	White printed green coated brown plastic with coppery metal(PCB, M5NanoH2)	BL	BL	BL	BL	X
(3)	Black body(SMD resistor, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(4)	Blue body(SMD capacitor, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(5)	Silvery metal(Type-C socket, PCB, M5NanoH2)	BL	BL	BL	BL	---
(6)	Silvery metal(pin, Type-C socket, PCB, M5NanoH2)	BL	BL	BL	BL	---
(7)	Black plastic(insulator, Type-C socket, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(8)	Beige plastic(connector socket, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(9)*	Silvery metal(pin, connector socket, PCB, M5NanoH2)	X	BL	BL	BL	---
(10)	Silvery metal(holder plate, connector socket, PCB, M5NanoH2)	BL	BL	BL	BL	---
(11)	Clear body(LED, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(12)	Green coated white plastic with coppery metal(LED PCB, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(13)	Black plastic(button, switch, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(14)	Black plastic(base, switch, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(15)	Silvery metal(case, switch, PCB, M5NanoH2)	BL	BL	BL	BL	---
(16)	Silvery metal(contact plate, switch, PCB, M5NanoH2)	BL	BL	BL	BL	---
(17)	Clear orange plastic(film, switch, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(18)	Silvery metal(pin, switch, PCB, M5NanoH2)	BL	BL	BL	BL	---
(19)	Clear white body(SMD LED, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(20)	Black body(big rectangle IC, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(21)	Black body(medium rectangle IC, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(22)	Black body(small rectangle IC, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(23)	Black body(mini rectangle IC, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(24)	Black body(big square IC, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(25)	Black body(small square IC, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(26)	White body(IC, PCB, M5NanoH2)	BL	BL	BL	BL	BL

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Seq No.	Tested Part(s)	Result				
		Pb	Cd	Hg	Cr	Br
(27)	Silvery body(crystal oscillator, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(28)	Clear body(SMD LED, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(29)	Brown body(big SMD capacitor, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(30)	Brown body(small SMD capacitor, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(31)	White body(SMD capacitor, PCB, M5NanoH2)	BL	BL	BL	BL	BL
(32)	Grey body(SMD capacitor, PCB, M5NanoH2)	BL	BL	BL	BL	BL

Note:

--- = Not Applicable.

* = Screening by XRF and detected by chemical method. The test result of chemical method please refer to next pages.

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Remark:

i Result were obtained by XRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013.

Element	Unit	Polymers	Metal	Composite Material
Cd	mg/kg	$BL \leq 70 - 3\sigma < X < 130 + 3\sigma \leq OL$	$BL \leq 70 - 3\sigma < X < 130 + 3\sigma \leq OL$	$BL \leq 50 - 3\sigma < X < 150 + 3\sigma \leq OL$
Pb	mg/kg	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 500 - 3\sigma < X < 1500 + 3\sigma \leq OL$
Hg	mg/kg	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 700 - 3\sigma < X < 1300 + 3\sigma \leq OL$	$BL \leq 500 - 3\sigma < X < 1500 + 3\sigma \leq OL$
Cr	mg/kg	$BL \leq 700 - 3\sigma < X$	$BL \leq 700 - 3\sigma < X$	$BL \leq 500 - 3\sigma < X$
Br	mg/kg	$BL \leq 300 - 3\sigma < X$	--	$BL \leq 250 - 3\sigma < X$

Note:

BL = Below Limit

OL = Over Limit

IN/X = Inconclusive (questionable, need further chemical analysis)

ii The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.

iii The maximum permissible limit is quoted from the RoHS directive 2011/65/EU:

Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium (Cd)	100
Lead (Pb)	1000
Mercury (Hg)	1000
Hexavalent Chromium (Cr(VI))	1000
Polybrominated biphenyls (PBBs)	1000
Polybrominated diphenylethers (PBDEs)	1000

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

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A.2 Wet Chemical Testing

A.2.1 Total Lead Content

Test method: IEC 62321-5:2013

Item	Unit	MDL	Result	Limit
			(9)	
Lead(Pb)	mg/kg	10	315	1000
Conclusion	/	/	Pass	/

A.2.2 PBBs & PBDEs content

Test method: IEC 62321-6:2015

Item	Unit	MDL	Result	Limit
			(2)	
Monobromobiphenyl (MonoBB)	mg/kg	50	N.D.	-
Dibromobiphenyl(DiBB)	mg/kg	50	N.D.	-
Tribromobiphenyl(TriBB)	mg/kg	50	N.D.	-
Tetrabromobiphenyl(TetraBB)	mg/kg	50	N.D.	-
Pentabromobiphenyl(PentaBB)	mg/kg	50	N.D.	-
Hexabromobiphenyl(HexaBB)	mg/kg	50	N.D.	-
Heptabromobiphenyl (HeptaBB)	mg/kg	50	N.D.	-
Octabromobiphenyl(OctaBB)	mg/kg	50	N.D.	-
Nonabromobiphenyl(NonaBB)	mg/kg	50	N.D.	-
Decabromobiphenyl(DecaBB)	mg/kg	50	N.D.	-
Monobromodiphenyl ether (MonoBDE)	mg/kg	50	N.D.	-
Dibromodiphenyl ether (DiBDE)	mg/kg	50	N.D.	-
Tribromodiphenyl ether (TriBDE)	mg/kg	50	N.D.	-
Tetrabromodiphenyl ether (TetraBDE)	mg/kg	50	N.D.	-
Pentabromodiphenyl ether (PentaBDE)	mg/kg	50	N.D.	-
Hexabromodiphenyl ether (HexaBDE)	mg/kg	50	N.D.	-
Heptabromodiphenyl ether (HeptaBDE)	mg/kg	50	N.D.	-

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Item	Unit	MDL	Result	Limit
			(2)	
Octabromodiphenyl ether (OctaBDE)	mg/kg	50	N.D.	-
Nonabromodiphenyl ether (NonaBDE)	mg/kg	50	N.D.	-
Decabromodiphenyl ether (DecaBDE)	mg/kg	50	N.D.	-
sum of MonoBDE, DiBDE, TriBDE, TetraBDE, PentaBDE, HexaBDE, HeptaBDE, OctaBDE, NonaBDE, DecaBDE	mg/kg	-	N.D.	1000
sum of MonoBB, DiBB, TriBB, TetraBB, PentaBB, HexaBB, HeptaBB, OctaBB, NonaBB, DecaBB	mg/kg	-	N.D.	1000
Conclusion	/	/	Pass	/

A.3 Phthalates(DBP, BBP, DEHP, DIBP)content

Test method: IEC 62321-8:2017

Item	Unit	MDL	Result					Limit
			(1)+(7)+(8)	(2)+(12)	(3)+(4)	(11)+(13)+(14)	(17)+(19)+(20)	
Dibutyl Phthalate(DBP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Benzyl Butyl Phthalate(BBP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	Pass	Pass	/

Item	Unit	MDL	Result				Limit
			(21)+(22)+(23)	(24)+(25)+(26)	(27)+(28)+(29)	(30)+(31)+(32)	
Dibutyl Phthalate(DBP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	1000
Benzyl Butyl Phthalate(BBP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	1000
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	30	N.D.	N.D.	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	Pass	/

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Note:

- N.D.= Not Detected or less than MDL
- MDL = Method Detection Limit
- “+” = Composite testing.
- The Result less than MDL are not taken into account while calculating the sum contents.

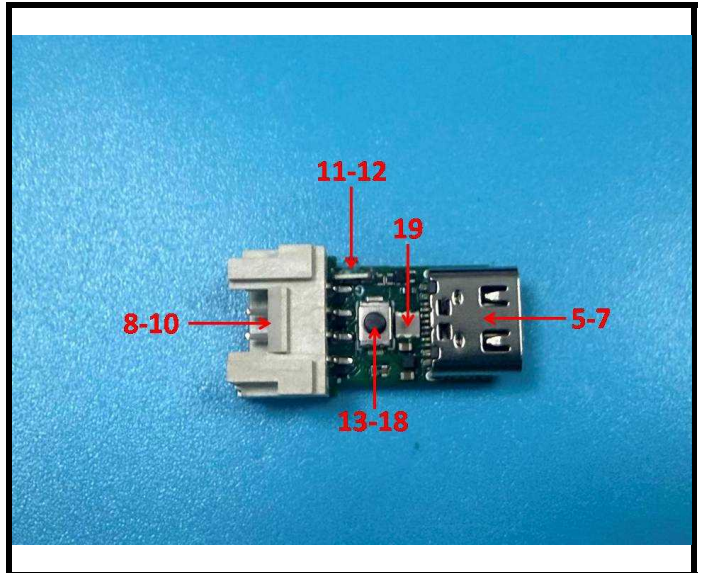
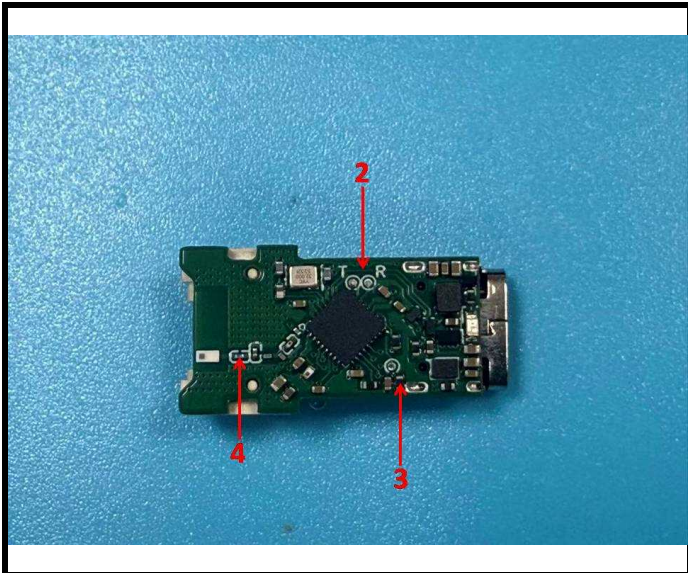
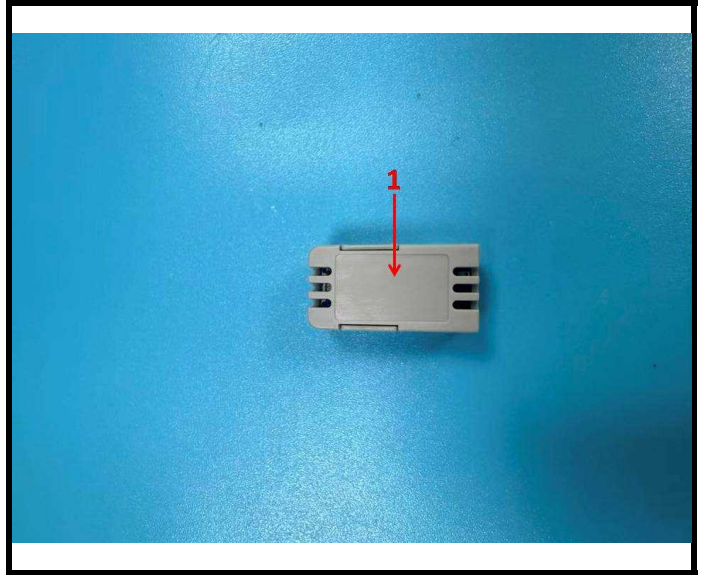
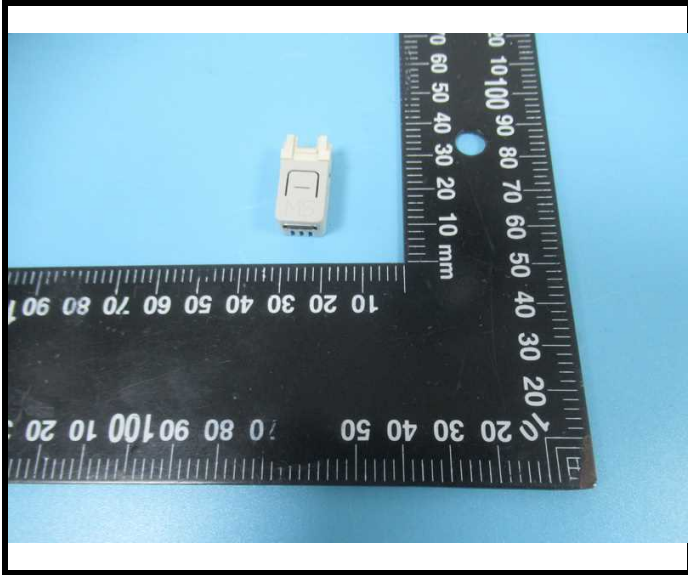
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Photograph of Sample

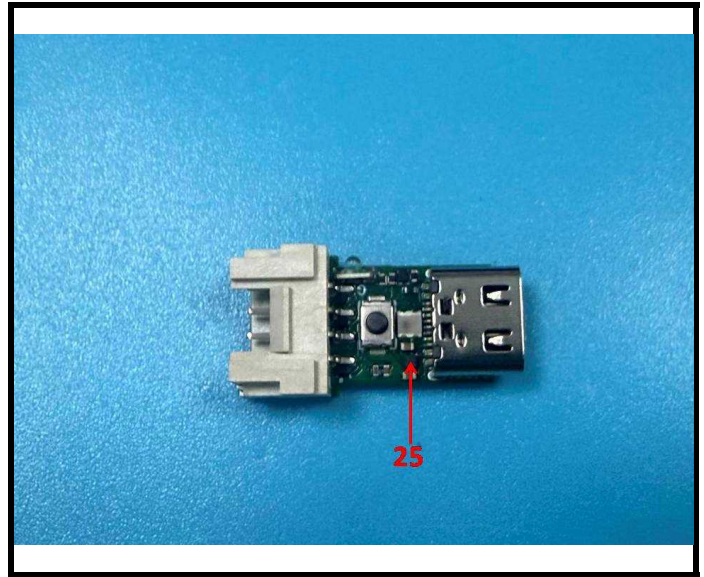
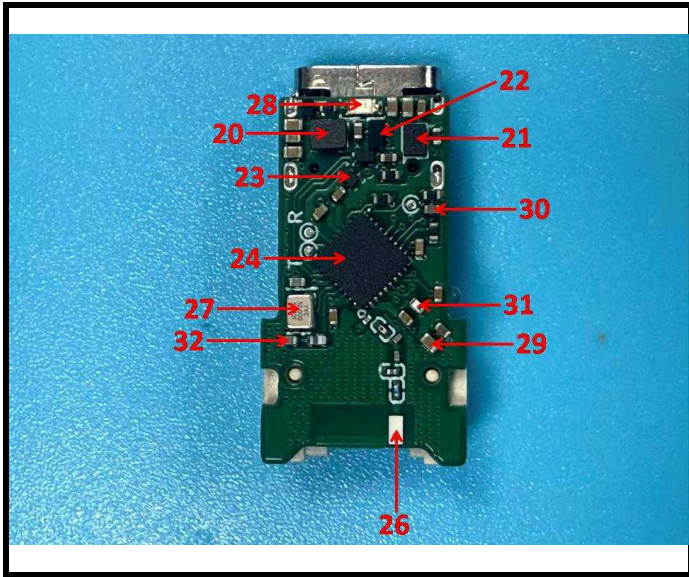


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Statement:

- 1.This report cannot be reproduced except in full, without prior written approval of the Company.
- 2.Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
- 3.This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
- 4.Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
- 5.The information which provided by the applicant, such as sample description, sample name, material component, style/item No. , P.O. No. , manufacturer, age phase, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
- 6.The test samples were in good condition before testing.

*** End of Report ***