



TEST REPORT

Report No.: 2501Y83067E

Date: November 12, 2025

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D-ROBOTICS HOLDING LIMITED

SUITE 603 , 6/F LAWS COMM PLAZA 788 CHEUNG SHA WAN RD KLN HONG KONG

Report on the submitted samples said to be:

Sample Description: RDK S100 MCU Port Expansion Board
Style/Item No.: ES1XM1Y
Brand: D-Robotics
Sample Receiving Date: October 27, 2025
Testing Period: October 27, 2025 - November 07, 2025
Result: **Please refer to next page(s).**

Signed for and on behalf of

BACL

Checked by: _____
Queenie Lee

Approved by: _____
Len Xie

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Summary of Test Result:

TEST REQUEST

CONCLUSION

A 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 Chromium VI (Cr(VI)) Content

Pass

A.2.2 PBBs & PBDEs content

Pass

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

Pass

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A 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)	Silvery metal(screw holder, PCB, port expansion board)	BL	BL	BL	BL	---
(2)*	White printed black coated brown plastic with coppery metal(PCB, port expansion board)	BL	BL	BL	BL	X
(3)	Silvery solder(SMT, PCB, port expansion board)	BL	BL	BL	BL	---
(4)	Silvery solder(THT, PCB, port expansion board)	BL	BL	BL	BL	---
(5)	Green plastic(cover, wire clip, PCB, port expansion board)	BL	BL	BL	BL	BL
(6)	Silvery metal(screw, wire clip, PCB, port expansion board)	BL	BL	BL	BL	---
(7)*1	Silvery metal(connector, wire clip, PCB, port expansion board)	OL (20226)	BL	BL	BL	---
(8)	Silvery metal(pin, wire clip, PCB, port expansion board)	BL	BL	BL	BL	---
(9)*	Black plastic(pin holder, big plug, PCB, port expansion board)	BL	BL	BL	BL	X
(10)	Silvery metal(pin, big plug, PCB, port expansion board)	BL	BL	BL	BL	---
(11)*	Black plastic(pin holder, small plug, PCB, port expansion board)	BL	BL	BL	BL	X
(12)	Silvery metal(pin, small plug, PCB, port expansion board)	BL	BL	BL	BL	---
(13)	Black plastic(pin holder, medium plug, PCB, port expansion board)	BL	BL	BL	BL	BL
(14)	Golden plated silvery metal(pin, medium plug, PCB, port expansion board)	BL	BL	BL	BL	---
(15)	Silvery metal(cover, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(16)*	Black plastic(cover, net socket, PCB, port expansion board)	BL	BL	BL	BL	X
(17)*	Black plastic(pin holder, net socket, PCB, port expansion board)	BL	BL	BL	BL	X
(18)	Silvery metal(pin, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(19)*	Green coated brown plastic with coppery metal(PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	X
(20)	Silvery solder(SMT, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(21)	Silvery solder(THT, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(22)	Silvery solder(cable welding, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(23)	Black dry glue(sealant, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	BL
(24)	Black magnet(PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(25)	Red enameled wire(PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	BL

Bay Area Compliance Laboratories Corp. (Shenzhen)

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Seq No.	Tested Part(s)	Result				
		Pb	Cd	Hg	Cr	Br
(26)	Green enameled wire(PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	BL
(27)	Blue enameled wire(PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	BL
(28)	Coppery metal(wire core, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(29)	Brown body(SMD capacitor, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	BL
(30)	Black body(IC, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	BL
(31)	Golden plated silvery metal(pin, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	---
(32)*	Black plastic(pin holder, PCB, net socket, PCB, port expansion board)	BL	BL	BL	BL	X
(33)	Black body(maximum IC, PCB, port expansion board)	BL	BL	BL	BL	BL
(34)	Black body(big IC, PCB, port expansion board)	BL	BL	BL	BL	BL
(35)	Black body(medium IC, PCB, port expansion board)	BL	BL	BL	BL	BL
(36)	Black body(small IC, PCB, port expansion board)	BL	BL	BL	BL	BL
(37)	Golden / white body(LED, PCB, port expansion board)	BL	BL	BL	BL	BL
(38)	Green clear body(LED, PCB, port expansion board)	BL	BL	BL	BL	BL
(39)	Silvery metal(pin, green LED, PCB, port expansion board)	BL	BL	BL	BL	---
(40)	Yellow clear body(LED, PCB, port expansion board)	BL	BL	BL	BL	BL
(41)	Silvery metal(pin, yellow LED, PCB, port expansion board)	BL	BL	BL	BL	---
(42)	Brown body(maximum SMD capacitor, PCB, port expansion board)	BL	BL	BL	BL	BL
(43)	Brown body(big SMD capacitor, PCB, port expansion board)	BL	BL	BL	BL	BL
(44)	Brown body(medium SMD capacitor, PCB, port expansion board)	BL	BL	BL	BL	BL
(45)	Brown body(small SMD capacitor, PCB, port expansion board)	BL	BL	BL	BL	BL
(46)	Brown body(minimum SMD capacitor, PCB, port expansion board)	BL	BL	BL	BL	BL
(47)*	Black / white body(big SMD resistor, PCB, port expansion board)	BL	BL	BL	X	BL
(48)	Black / white body(medium SMD resistor, PCB, port expansion board)	BL	BL	BL	BL	BL
(49)	Black / white body(small SMD resistor, PCB, port expansion board)	BL	BL	BL	BL	BL
(50)	Black body(SMD triode, PCB, port expansion board)	BL	BL	BL	BL	BL
(51)	Silvery body(crystal, PCB, port expansion board)	BL	BL	BL	BL	BL
(52)	Black body(big SMD inductor, PCB, port expansion board)	BL	BL	BL	BL	BL
(53)	Black body(small SMD inductor, PCB, port expansion board)	BL	BL	BL	BL	BL

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Note:

--- = Not Applicable.

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

*1 = According to the material declaration provided by the client, the sample of test No. 7 is exempted accordance with Annex III 6(c) of directive 2011/65/EU. The exempt items of Annex III 6(c) of directive 2011/65/EU: Copper alloy containing up to 4% lead by weight.

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≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	--	BL≤250-3σ<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 Chromium VI (Cr(VI)) Content

Chromium VI (Cr(VI)) Content(In Non-metal)

Test method: IEC 62321-7-2:2017

Item	Unit	MDL	Result	Limit
			(47)	
hexavalent chromium(Cr(VI))	mg/kg	10	N.D.	1000
Conclusion	/	/	Pass	/

A.2.2 PBBs & PBDEs content

Test method: IEC 62321-6:2015

Item	Unit	MDL	Result				Limit
			(2)	(9)	(11)	(16)	
Monobromobiphenyl (MonoBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Dibromobiphenyl(DiBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Tribromobiphenyl(TriBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Tetrabromobiphenyl(TetraBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Pentabromobiphenyl(PentaBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Hexabromobiphenyl(HexaBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Heptabromobiphenyl (HeptaBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Octabromobiphenyl(OctaBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Nonabromobiphenyl(NonaBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Decabromobiphenyl(DecaBB)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Monobromodiphenyl ether (MonoBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Dibromodiphenyl ether (DiBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Tribromodiphenyl ether (TriBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Tetrabromodiphenyl ether (TetraBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Pentabromodiphenyl ether (PentaBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Hexabromodiphenyl ether (HexaBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-

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Item	Unit	MDL	Result				Limit
			(2)	(9)	(11)	(16)	
Heptabromodiphenyl ether (HeptaBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Octabromodiphenyl ether (OctaBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Nonabromodiphenyl ether (NonaBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
Decabromodiphenyl ether (DecaBDE)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	-
sum of MonoBDE, DiBDE, TriBDE, TetraBDE, PentaBDE, HexaBDE, HeptaBDE, OctaBDE, NonaBDE, DecaBDE	mg/kg	-	N.D.	N.D.	N.D.	N.D.	1000
sum of MonoBB, DiBB, TriBB, TetraBB, PentaBB, HexaBB, HeptaBB, OctaBB, NonaBB, DecaBB	mg/kg	-	N.D.	N.D.	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	Pass	/

Item	Unit	MDL	Result			Limit
			(17)	(19)	(32)	
Monobromobiphenyl (MonoBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Dibromobiphenyl (DiBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Tribromobiphenyl (TriBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Tetrabromobiphenyl (TetraBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Pentabromobiphenyl (PentaBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Hexabromobiphenyl (HexaBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Heptabromobiphenyl (HeptaBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Octabromobiphenyl (OctaBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Nonabromobiphenyl (NonaBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Decabromobiphenyl (DecaBB)	mg/kg	50	N.D.	N.D.	N.D.	-
Monobromodiphenyl ether (MonoBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Dibromodiphenyl ether (DiBDE)	mg/kg	50	N.D.	N.D.	N.D.	-

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Item	Unit	MDL	Result			Limit
			(17)	(19)	(32)	
Tribromodiphenyl ether (TriBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Tetrabromodiphenyl ether (TetraBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Pentabromodiphenyl ether (PentaBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Hexabromodiphenyl ether (HexaBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Heptabromodiphenyl ether (HeptaBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Octabromodiphenyl ether (OctaBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Nonabromodiphenyl ether (NonaBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
Decabromodiphenyl ether (DecaBDE)	mg/kg	50	N.D.	N.D.	N.D.	-
sum of MonoBDE, DiBDE, TriBDE, TetraBDE, PentaBDE, HexaBDE, HeptaBDE, OctaBDE, NonaBDE, DecaBDE	mg/kg	-	N.D.	N.D.	N.D.	1000
sum of MonoBB, DiBB, TriBB, TetraBB, PentaBB, HexaBB, HeptaBB, OctaBB, NonaBB, DecaBB	mg/kg	-	N.D.	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	/

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

Test method: IEC 62321-8:2017

Item	Unit	MDL	Result						Limit
			(2)+(19)	(5)	(9)+(11)+(13)	(16)+(17)+(32)	(23)	(25)+(26)+(27)	
Dibutyl Phthalate (DBP)	mg/kg	30	N.D.	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.	N.D.	1000
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	30	N.D.	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.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	Pass	Pass	Pass	/

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Item	Unit	MDL	Result				Limit
			(29)+(30)+(33)	(34)+(35)+(36)	(37)+(38)+(40)	(42)+(43)+(44)	
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	/

Item	Unit	MDL	Result			Limit
			(45)+(46)+(47)	(48)+(49)+(50)	(51)+(52)+(53)	
Dibutyl Phthalate(DBP)	mg/kg	30	N.D.	N.D.	N.D.	1000
Benzyl Butyl Phthalate(BBP)	mg/kg	30	N.D.	N.D.	N.D.	1000
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	30	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	30	N.D.	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	/

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.

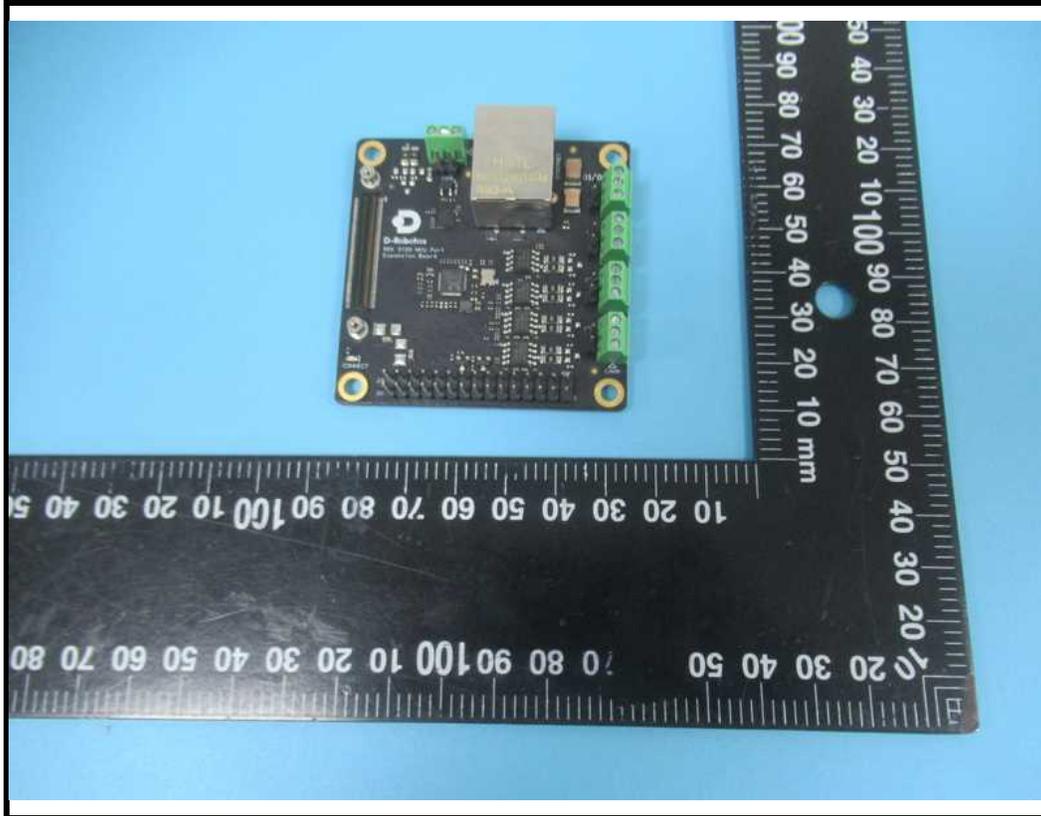
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Photograph of Sample



BACL authenticate the photo on original report only

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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 ***