中国认可
国际互认
检测
TESTING
CNAS L1744

TEST REPORT

LAB NO. : **(8824)086-0103(R2)**
DATE : **Jun 21, 2024**
PAGE : **1 OF 9**

Applicant Name:	**ZHIWEI ROBOTICS CORP. /** **上海智位机器人股份有限公司**
Applicant Address:	ROOM 603, 2 BOYUN ROAD, PUDONG, SHANGHAI P.R./ 上海浦东新区博云路2号浦软大厦603室
Date of Submission:	MAR 26, 2024
Test Period:	MAR 26, 2024 TO APR 7, 2024
Sample Description:	LATTEPANDA MU
Style No.:	DFR1146 DFR1147 DFR1148
Manufacturer:	ZHIWEI ROBOTICS CORP./上海智位机器人股份有限公司
Country of origin:	上海
Sample Size:	10PCS

BUREAU VERITAS SHENZHEN CO.,LTD
DONGGUAN BRANCH

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REMARK

If there are questions or concerns on this report, please contact the following persons:

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SUMMARY OF TEST RESULTS

TEST ON REQUESTED COMPONENT(S)	CONCLUSION	REMARK
European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendment Directive (EU)2015/863 on certain component	PASS	-

Photo of the Submitted Sample

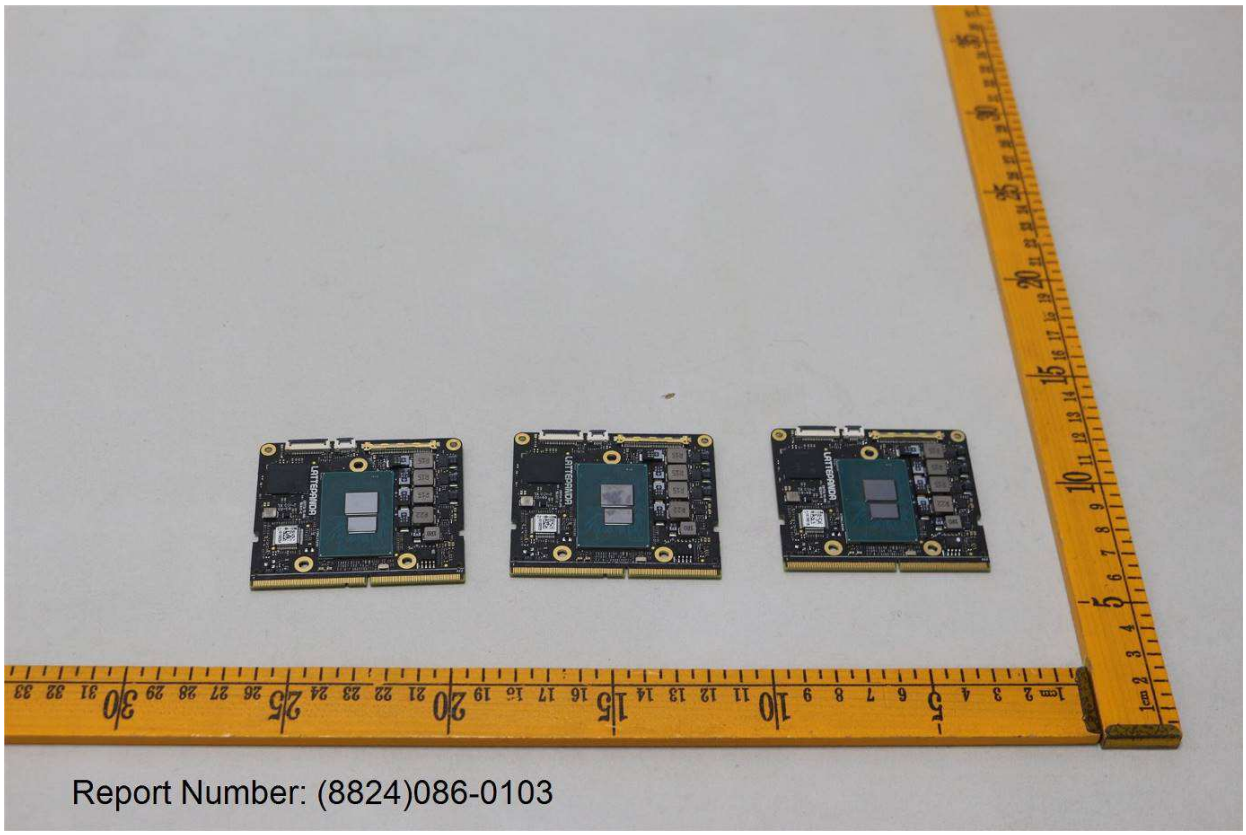
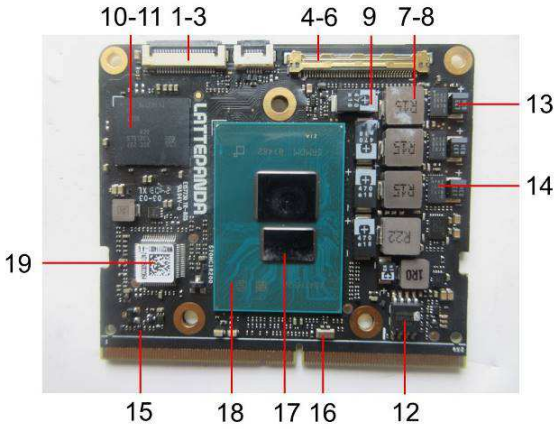
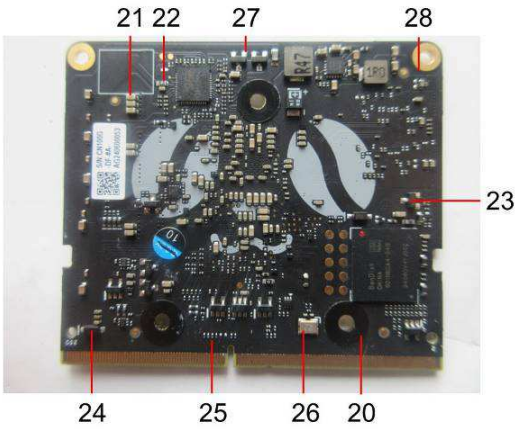


Photo of Test Item(s)





Component Description List

Test Item(s)	Component Description(s)	Location	Style(s)
1	Black plastic	Socket, PCB	-
2	White plastic	Socket, PCB	-
3	Silvery/golden metal	Pin, socket, PCB	-
4	Golden metal	Cover, socket, PCB	-
5	Black plastic	Socket, PCB	-
6	Silvery/golden metal	Pin, socket, PCB	-
7	Gray metal	Inductor, PCB	-
8	Coppery metal	Coil, inductor, PCB	-
9	White printed black body	SMD EC, PCB	-
10	Black body	SMD IC, PCB	-
11	Silvery/coppery metal	Plate, SMD IC, PCB	-
12	Black body	IC, PCB	-
13	White printed black body	SMD EC, PCB	-
14	White printed black body	SMD EC, PCB	-
15	Black body	SMD EC, PCB	-
16	Silvery/golden body	SMD EC, PCB	-
17	Gray body	SMD EC, PCB	-
18	Green PCB	PCB, PCB	-
19	Black/white printed yellow plastic	Sticker, PCB	-
20	Black plastic with adhesive	Sticker, PCB	-
21	Brown body	SMD capacitor, PCB	-
22	Black printed white body	SMD resistor, PCB	-
23	Black body	SMD transistor, PCB	-
24	Black body	SMD diode, PCB	-
25	Black body	SMD resistor, PCB	-
26	Silvery/golden body	SMD EC, PCB	-
27	Silvery solder	Solder, PCB	-
28	Black/golden PCB	PCB	-

TEST RESULT

Compliance Test – European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendment Directive (EU)2015/863

Test Method : See Appendix.

-	Result (s)									
Parameter	**Lead (Pb)**	**Mercury (Hg)**	**Cadmium (Cd)**	**Chromium VI (Cr VI)**	**PBBs & PBDEs**	**BBP**	**DBP**	**DEHP**	**DIBP**	**Conclusion**
Unit	mg/kg									-
Test Item(s)	-	-	-	-	-	-	-	-	-	-
1	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
2	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
3	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
4	BL	BL	BL	Negative*	NA	NA	NA	NA	NA	PASS
5	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
6	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
7	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
8	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
9	BL*	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
10	BL*	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
11	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
12	11*	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
13	BL*	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
14	BL*	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
15	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
16	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
17	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
18	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
19	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
20	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
21	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
22	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
23	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
24	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
25	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
26	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
27	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
28	BL	BL	BL	BL	BL*	BL*	BL*	BL*	BL*	PASS

TEST RESULT

Note / Key:

BL = Below limit OL = Over limit ND = Not detected NA = Not applicable
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
Detection Limit : See Appendix.

Remark:

- *Denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- *Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Council Directive 2011/65/EU, Article 4(1).
- According to European Council Directive 2011/65/EU, Article 5 “Adaptation of the Annexes to scientific and technical progress”, exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.
- At the request of client, test(s) was conducted on the certain component(s) of the submitted samples(s) / submitted component(s).
- This report is to Supersede BV(Dong guan) report No. (8824)086-0103(R1) dated on Jun 19, 2024.

APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit
[Compliance Test for European Parliament and Council Directive 2011/65/EU] :

No.	Name of Analytes	Detection Limit(mg/kg)				Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF)[a]			Wet Chemistry	
		Plastic	Metal/Glass/ Ceramic	Others		
1	Lead (Pb)	100	200	200	10[b]	1000
2	Cadmium (Cd)	50	50	50	10[b]	100
3	Mercury (Hg)	100	200	200	10[c]	1000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	See[d] /10[e] /3[f,g]	1000 / Negative[h]
6	Bromine (Br)	200	NA	200	NA	NA
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50[i]	Sum 1000
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50[i]	Sum 1000
9	- Dibutyl phthalate (DBP) - Butyl benzyl phthalate (BBP) - Di-2-ethylhexyl phthalate (DEHP) - Diisobutyl phthalate (DIBP)	NA	NA	NA	Each 50[j]	Each 1000

	NA = Not applicable IEC = International Electrotechnical Commission
[a]	Test method with reference to International Standard IEC 62321-3-1: 2013.
[b]	Test method with reference to International Standard IEC 62321-5: 2013.
[c]	Test method with reference to International Standard IEC 62321-4:2013+A1:2017.
[d]	Metal - Test method with reference to International Standard IEC 62321-7-1: 2015.
[e]	Polymers and Electronics - Test method with reference to European Standard EN 62321-7-2: 2017.
[f]	Leather - Test method International Standard ISO 17075-1:2017.
[g]	Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075-1:2017.
[h]	Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1).
[i]	Test method with reference to International Standard IEC 62321-6: 2015.
[j]	Test method with reference to International Standard IEC 62321-8: 2017.

Testing Approach [Compliance Test for European Parliament and Council Directive 2011/65/EU] :

The testing approach was with reference to the following document(s).

1	International Standards IEC 62321-1: 2013 and IEC 62321-2: 2021
2	“RoHS Enforcement Guidance Document Version 1” by EU RoHS Enforcement Authorities Informal Network. (May 2006)
3	“RoHS Regulations - Government Guidance Notes” by United Kingdom Department for Business Innovation & Skills. (February 2011)
4	“Final Report to RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium” by Belgium Federal Public Service Health, Food Chain Safety and Environment. (November 2005)

*** End of Report ***