

TEST REPORT

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PARTICLE INDUSTRIES,INC **Applicant Name:**

325 9TH ST, SAN FRANCISCO, CA 94103 USA, 415-319-1553 **Applicant Address:**

Date of Submission: APR 28, 2023

Test Period: APR 28, 2023 TO JUN 3, 2023

Sample Description: BORON Style No.: BRN404X

Sample Size:



BUREAU VERITAS SHENZHEN CO.,LTD DONGGUAN BRANCH

lim Bui

Lisa Bai Analytical lab Senior Supervisor

RT/ Icy

REMARK

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

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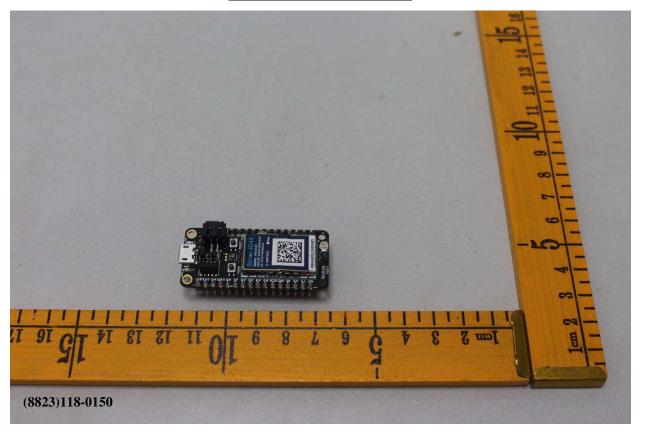
SUMMARY OF TEST RESULTS

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



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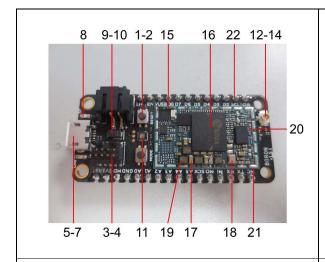
Photo of the Submitted Sample

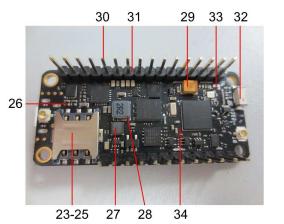


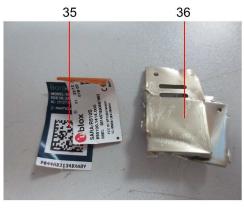


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Photo of Test Item(s)









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Component Description List

Test Item(s)	Component Description(s)	Location	Style(s)
1	Black plastic	Toggle switch, PCB	-
2	Silvery metal	Toggle switch, PCB	-
3	Black plastic	Socket, PCB	-
4	Silvery metal	Pin, socket, PCB	-
5	Silvery metal	Contact plate, plug, PCB	-
6	Black plastic	Pin holder, plug, PCB	-
7	Silvery metal	Pin, plug, PCB	-
8	Transparent/silvery body	SMD LED, PCB	-
9	Black body	Diode, PCB	-
10	Silvery solder	Solder, diode, PCB	-
11	Black/translucent body	EC, PCB	-
12	Golden metal	Pin, plug, PCB	-
13	Silvery metal	Cover, plug, PCB	-
14	Beige plastic	Base, plug, PCB	-
15	Silvery metal	Plate, PCB	-
16	Black body	IC, PCB	-
17	Brown body	SMD capacitor, PCB	-
18	Silvery/golden body	SMD EC, PCB	-
19	Grey/coppery metal	Inductor, PCB	-
20	Blue body	SMD capacitor, PCB	-
21	Silvery solder	Solder, PCB	-
22	Matte silvery solder	Solder, PCB	-
23	Silvery metal	Cover, plug, PCB	-
24	Black plastic	Pin holder, plug, PCB	-
25	Silvery metal	Pin, plug, PCB	-
26	Black body	SMD resistor, PCB	-
27	Black/coppery metal	Inductor, PCB	-
28	Black printed Grey/coppery metal	Inductor, PCB	-
29	Orange body	EC, PCB	-
30	Light golden metal	Pin, PCB	-
31	White printed black plastic	Pin holder, PCB	-
32	White body	EC, PCB	-
33	Black body	SMD capacitor, PCB	-
34	Black PCB	PCB	-
35	Silvery metal	Cover, PCB	-
36	Multi colors printed transparent plastic with adhesive	Sticker, cover, PCB	-



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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)									
Donomoton	Lead	Mercury	Cadmium	Chromium	PBBs &	BBP	DBP	DEHP	DIBP	Conclusion
Parameter	(Pb)	(Hg)	(Cd)	VI (Cr VI)	PBDEs	DDF	DBL	DEHI	DIBL	Conclusion
Unit	mg/kg							-		
Test Item(s)	ı	-	-	-	-	ı	-	-	ı	-
1	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
2	BL	BL	BL	Negative*	NA	NA	NA	NA	NA	PASS
3	BL	BL	BL	BL	BL*	BL*	BL*	BL*	BL*	PASS
4	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
5	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
6	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
7	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
8	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
9	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
10	OL*	BL	BL	BL	NA	NA	NA	NA	NA	EXEMPTED#
11	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
12	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
13	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
14	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
15	BL	BL	BL	BL	NA	NA	NA	NA	NA	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	Negative*	NA	NA	NA	NA	NA	PASS
20	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
21	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
22	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
23	BL	BL	BL	Negative*	NA	NA	NA	NA	NA	PASS
24	BL	BL	BL	BL	BL	BL*	BL*	BL*	BL*	PASS
25	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
26	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
27	BL	BL	BL	Negative*	NA	NA	NA	NA	NA	PASS
28	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
29	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
30	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS



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-					Resu	ılt (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)	-	-	-	-	-	-	-	-	-	-
31	BL	BL	BL	BL	BL*	BL*	BL*	BL*	BL*	PASS
32	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
33	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
34	BL	BL	BL	BL	BL*	BL*	BL*	BL*	BL*	PASS
35	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
36	BL	BL	BL	BL	BL	BL*	BL*	70*	BL*	PASS

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.
- #According to Annex III of European Council Directive 2011/65/EU, exemptions were granted a few materials and Clause 7(a) is reiterated here "Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).".
 Test Item(s) 10 was claimed as is by client (received as is). Therefore, this (these) Test Item(s) containing the found lead level should be exempted.



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APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit

		Detection Limit(mg/kg)					
No.	Name of Analytes	X-1	ray fluorescence (XF		Maximum Allowable		
		Plastic	Metal/Glass/ Ceramic	Others	Wet Chemistry	Limit (mg/kg)	
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	



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	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.
	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
[h]	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 ***