



**BUREAU  
VERITAS**

# TEST REPORT

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DATE : Jun 3, 2023  
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**Applicant Name:** PARTICLE INDUSTRIES,INC  
**Applicant Address:** 325 9TH ST, SAN FRANCISCO, CA 94103 USA, 415-319-1553  
**Date of Submission:** APR 28, 2023  
**Test Period:** APR 28, 2023 TO JUN 3, 2023  
**Sample Description:** BORON  
Style No. : BRN404X  
Sample Size: 1



BUREAU VERITAS SHENZHEN CO.,LTD  
DONGGUAN BRANCH

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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Business Contact: (86) 0769 85893595

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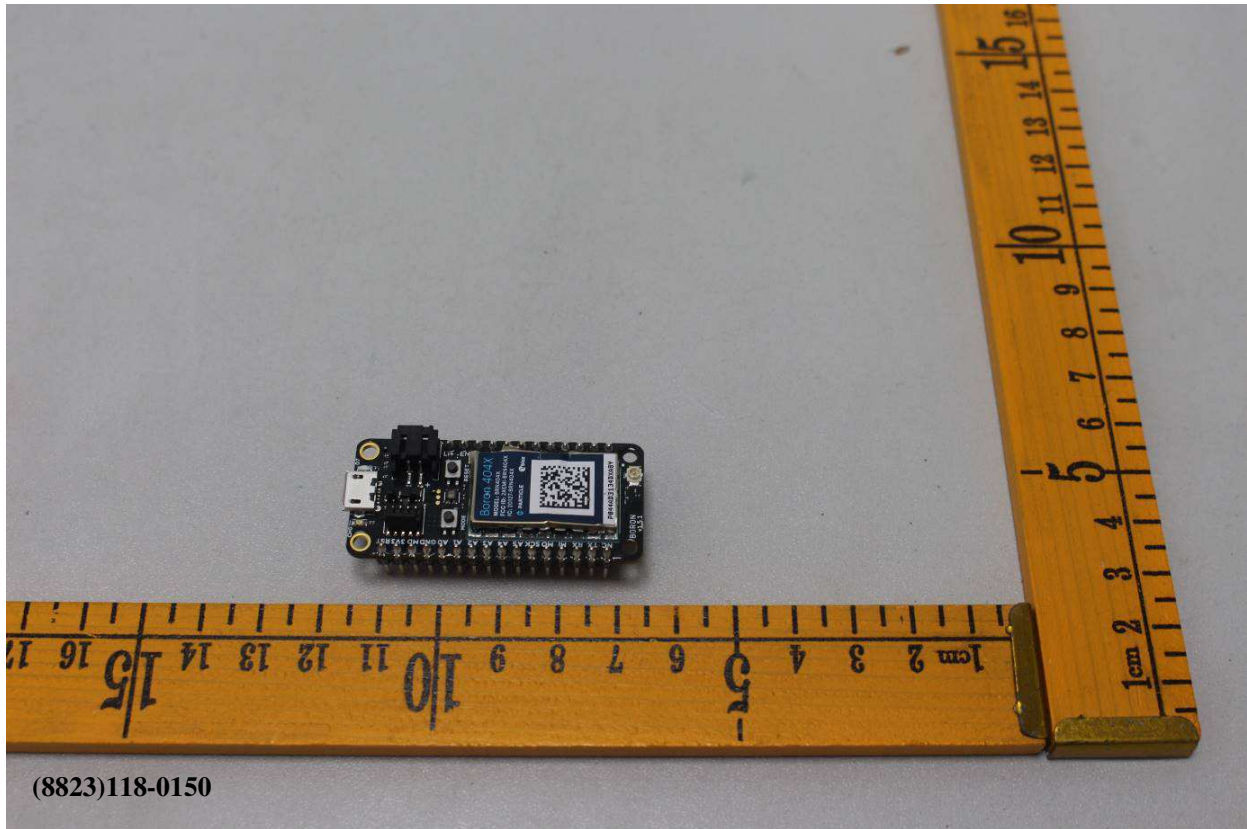


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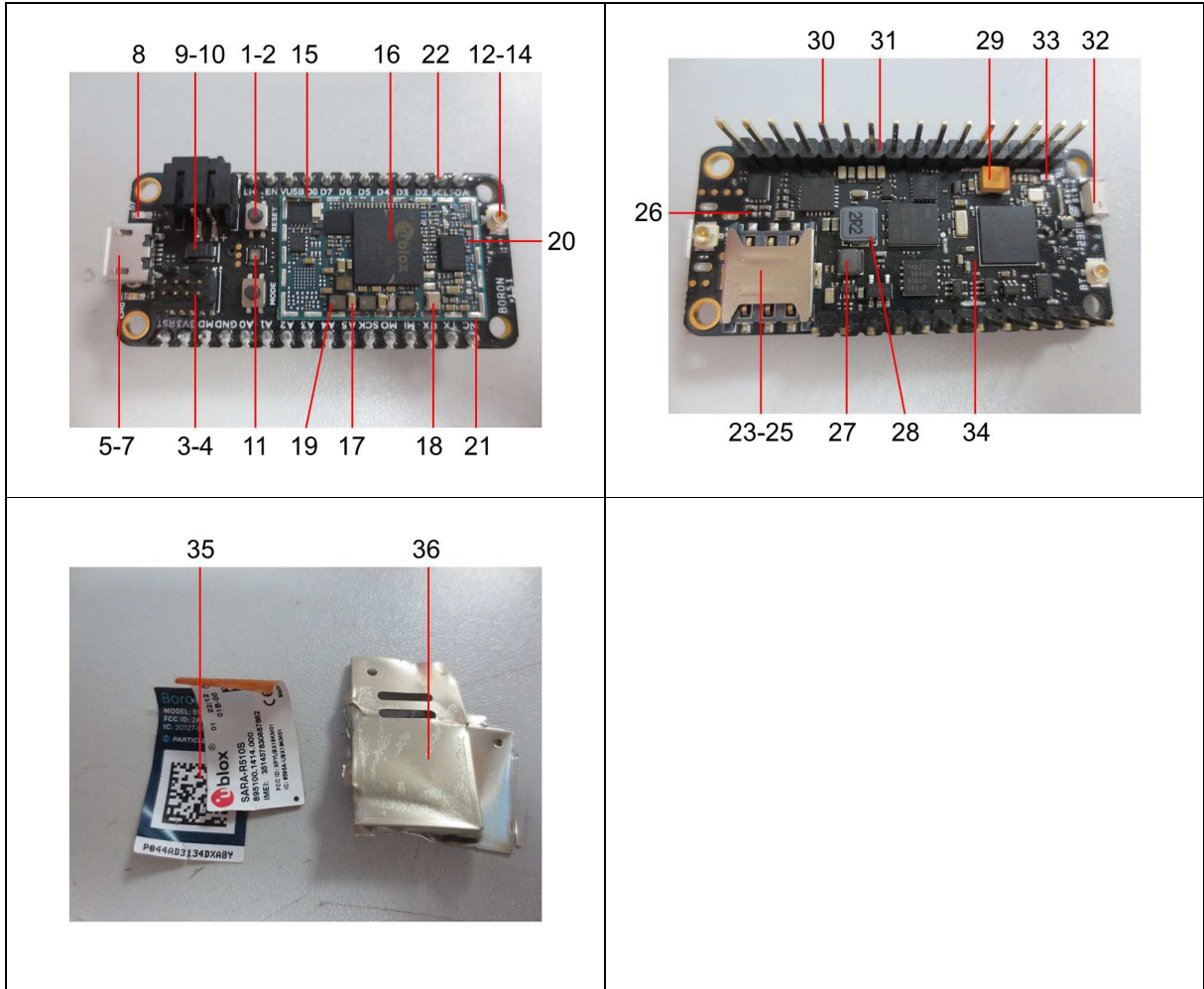
**SUMMARY OF TEST RESULTS**

<b>TEST REQUESTED</b>	<b>CONCLUSION</b>	<b>REMARK</b>
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	PASS	-

**Photo of the Submitted Sample**



**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)									
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	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



**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) <sup>[a]</sup>			Wet Chemistry	
		Plastic	Metal/Glass/ Ceramic	Others		
1	Lead (Pb)	100	200	200	10 <sup>[b]</sup>	1000
2	Cadmium (Cd)	50	50	50	10 <sup>[b]</sup>	100
3	Mercury (Hg)	100	200	200	10 <sup>[c]</sup>	1000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	See <sup>[d]</sup> /10 <sup>[e]</sup> /3 <sup>[f,g]</sup>	1000 / Negative <sup>[h]</sup>
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 <sup>[i]</sup>	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 <sup>[i]</sup>	Sum 1000
9	- Dibutyl phthalate (DBP) - Butyl benzyl phthalate (BBP) - Di-2-ethylhexyl phthalate (DEHP) - Diisobutyl phthalate (DIBP)	NA	NA	NA	Each 50 <sup>[j]</sup>	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 tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1).
[h]	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.
<b>Testing Approach [ Compliance Test for European Parliament and Council Directive 2011/65/EU ] :</b>	
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 \*\*\*