



**BUREAU
VERITAS**

TEST REPORT

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DATE : Aug 5, 2020
PAGE : 1 OF 9

APPLICANT : **PARTICLE INDUSTRIES,INC**
126 POST ST, 4TH FLOOR, SAN FRANCISCO, CA 94108
USA

DATE OF SUBMISSION : JUN 1, 2020

TEST PERIOD : JUN 1, 2020 TO JUN 9, 2020

SAMPLE DESCRIPTION : TRACKER SOM LTE M1

Style No. : T402M T404M

Sample Size : 1



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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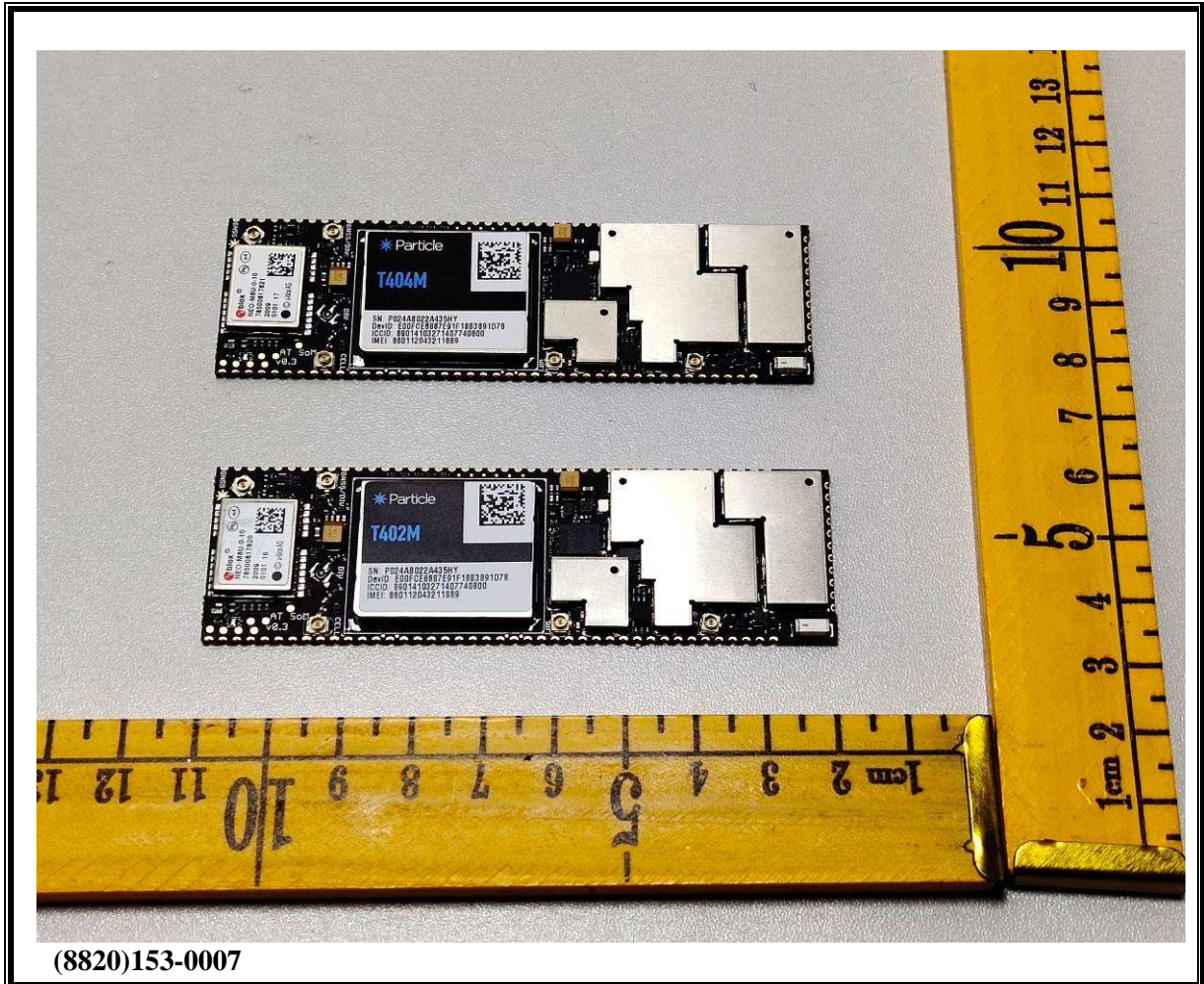


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SUMMARY OF TEST RESULTS

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 Equipment (RoHS) with its Amendment Directive 2015/863/EU	PASS	-

Photo of the Submitted Sample



(8820)153-0007

Test Item Description and Photo List

Test Item(s)	Sample Photo	Item / Component Description(s)	Location(s)	Style(s)
I001		Red/black/white printed yellow plastic	Sticker, cover, PCB	-
I002		Silvery metal	Cover, PCB	-
I003		Silvery metal	Frame, cover, PCB	-
I004		Golden metal	Plug, PCB	-
I005		Golden metal	Pin, plug, PCB	-
I006		White plastic	Base, plug, PCB	-
I007		Silvery/golden body	SMD EC, PCB	-
I008		Silvery body	SMD EC, PCB	-
I009		Black body	SMD IC, PCB	-
I010		Yellow/orange body	SMD EC, PCB	-
I011		White printed brown body	SMD EC, PCB	-
I012		Brown body	SMD capacitor, PCB	-
I013		Brown/coppery metal	Inductor, PCB	-
I014		Grey/coppery metal	Inductor, PCB	-
I015		Brown printed white body	SMD EC, PCB	-
I016		Silvery solder	Solder, PCB	-
I017		Green PCB	Green PCB	-
I018		Blue PCB	Blue PCB	-
I019		Black PCB	Black 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 2015/863/EU

Test Method : See Appendix.

See Analytes and their corresponding Maximum Allowable Limit in Appendix

-	Result						
Parameter	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	Conclusion
Unit	mg/kg						-
Test Item(s)	-	-	-	-	-	-	-
I001	ND	ND	ND	ND	ND	ND	PASS
I002	ND	ND	ND	ND	NA	NA	PASS
I003	ND	ND	ND	ND	NA	NA	PASS
I004	ND	ND	ND	ND	NA	NA	PASS
I005	ND	ND*	ND	ND	NA	NA	PASS
I006	ND	ND	ND	ND	ND	ND	PASS
I007	ND	ND	ND	ND	ND	ND	PASS
I008	ND	ND	ND	ND	ND	ND	PASS
I009	ND	ND	ND	ND	ND	ND	PASS
I010	ND	ND	ND	ND	ND	ND	PASS
I011	ND	ND	ND	ND	ND	ND	PASS
I012	ND	ND	ND	ND	ND	ND	PASS
I013	ND	ND	ND	ND	NA	NA	PASS
I014	ND	ND	ND	ND	NA	NA	PASS
I015	ND	ND	ND	ND	ND	ND	PASS
I016	ND	ND	ND	ND	NA	NA	PASS
I017	ND	ND	ND	ND	ND*	ND*	PASS
I018	ND	ND	ND	ND	ND	ND	PASS
I019	ND	ND	ND	ND	ND*	ND*	PASS



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Note / Key:

ND = Not detected	“>” = Greater than	“<” = Less than
NR = Not requested	mg/kg = milligram(s) per kilogram = ppm = part(s) per million	
NA = Not applicable	% = percent	10000 mg/kg = 1 %
Detection Limit : See Appendix.		

Remark:

- The testing approach is listed in table of Appendix.
 - * 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.
 - 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.
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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	Metallic / 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	3 ^[g, h] / 10 ^[d] / Sec ^[e, i]	1000 / Negative ^[j]
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 ^[f]	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 ^[f]	Sum 1000



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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] :

NA = Not applicable

- [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] Polymers and Electronics - Test method with reference to International Standard IEC 62321-7-2:2017.
- [e] Metal - Test method with reference to International Standard IEC 62321-7-1: 2015.
- [f] Test method with reference to International Standard IEC 62321-6: 2015.
- [g] Leather - Test method International Standard ISO 17075-1:2017.
- [h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075-1:2017.
- [i] The principle of this method was evaluated and supported by two studies organized by IEC TC 111 WG3. These studies were focused on detecting the presence of Cr VI in the corrosion protection coatings on metallic samples. 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).
- [j]

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: 2013
- 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)

