



**BUREAU
VERITAS**

TEST REPORT

LAB NO. (8820)244-0150
DATE Oct 30, 2020
PAGE : 1 OF 13

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

DATE OF SUBMISSION : AUG 31, 2020

TEST PERIOD : AUG 31, 2020 TO OCT 30, 2020

SAMPLE DESCRIPTION : TRACKER ONE LTE CAT1/3G/2G

Style No. : ONE523M , ONE524M

Sample Size: 1

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	-



BUREAU VERITAS SHENZHEN CO., LTD
DONGGUAN BRANCH

Harvey Xue
Manager, Analytical Lab

RT/Sammy du

REMARK

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

Report Enquiry: (86) 0769 89952999 Ext. 8175 CPSAnalytical.DG@bureauveritas.com

Business Contact: (86) 0769 85893595

This report shall not be reproduced except in full, without the written approval of our laboratory

Photo of the Submitted Sample



Photo of Test Item(s)

1-9:



10-13:



14-20:



21-41:



42-48:



49-51:



Photo of Test Item(s)

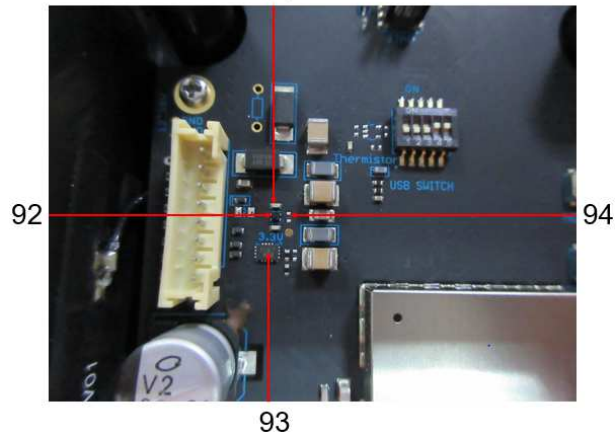
52-77:



78-90:



91





LAB NO.
DATE
PAGE

(8820)244-0150
Oct 30, 2020
: 5 OF 13

Component Description List

Test Item(s)	Component Description(s)	Location	Style(s)
1	Black/white/blue coating	Coating, sticker, housing	-
2	Transparent plastic	Sticker, housing	-
3	Translucent adhesive	Adhesive, housing	-
4	Black plastic	Housing	-
5	Black soft plastic	Gasket, housing	-
6	Translucent plastic	LED cover, housing	-
7	Dark grey glue	Glue, LED cover, housing	-
8	Black plastic	Nut, LED cover, housing	-
9	Golden metal	Nut, housing	-
10	Black plastic	Housing	-
11	Black soft plastic	Frame, housing	-
12	Black soft plastic with adhesive	Gasket, housing	-
13	Silvery metal	Screw	-
14	Golden metal	Plug, cable, FPC	-
15	Black plastic	Plug, cable, FPC	-
16	Black soft plastic	Wire jacket, cable, FPC	-
17	Transparent soft plastic	Wire insulation, cable, FPC	-
18	Silvery metal	Wire, cable, FPC	-
19	Silvery solder	Solder, FPC	-
20	White printed black/brown FPC	FPC	-
21	Black soft plastic	Cover, plug	-
22	Silvery metal	Contact plate, plug	-
23	Silvery metal	Nut, plug	-
24	Green plastic	Ring, plug	-
25	Brown glue	Glue, plug	-
26	Golden metal	Pin, plug	-
27	Black plastic	Pin holder, plug	-
28	Silvery solder	Solder, plug	-
29	Black soft plastic	Heat shrinkable tube, plug	-
30	Red soft plastic	Wire jacket, cable, plug	-
31	Red soft plastic	Heat shrinkable tube, plug	-
32	Red soft plastic	Wire insulation, cable, plug	-
33	Yellow soft plastic	Wire insulation, cable, plug	-
34	Blue soft plastic	Wire insulation, cable, plug	-
35	Orange soft plastic	Wire insulation, cable, plug	-
36	Brown soft plastic	Wire insulation, cable, plug	-
37	Green soft plastic	Wire insulation, cable, plug	-
38	White soft plastic	Wire insulation, cable, plug	-
39	Black soft plastic	Wire insulation, cable, plug	-
40	White plastic	Socket, cable, plug	-
41	Silvery metal	Pin, socket, cable, plug	-



LAB NO.
DATE
PAGE

(8820)244-0150
Oct 30, 2020
: 6 OF 13

Component Description List

Test Item(s)	Component Description(s)	Location	Style(s)
42	Black soft plastic with adhesive	Gasket, battery	-
43	Yellow/transparent plastic	Adhesive tape, battery	-
44	Silvery metal	Contact plate, PCB, battery	-
45	Silvery solder	Solder, PCB, battery	-
46	Green PCB	PCB, battery	-
47	Red soft plastic	Wire insulation, cable, battery	-
48	Black soft plastic	Wire insulation, cable, battery	-
49	Black/blue/white coated yellow plastic	Sticker, cover, PCB	-
50	Silvery metal	Cover, PCB	-
51	Black/red/white coated dark yellow	Sticker, cover, PCB	-
52	Black printed white body	GNSS antenna, PCB	-
53	Silvery metal	Pin, GNSS antenna, PCB	-
54	Black glue	Glue, GNSS antenna, PCB	-
55	Black plastic	Socket "JTAG", PCB	-
56	Silvery metal	Pin, socket "JTAG", PCB	-
57	Light yellow plastic	Socket "GND", PCB	-
58	Brown plastic	Socket "LiPo", PCB	-
59	Black plastic	Switch, PCB	-
60	Brown plastic	Switch, PCB	-
61	Golden metal	Switch, PCB	-
62	Black plastic	Touch switch, PCB	-
63	Silvery metal	Touch switch, PCB	-
64	Black plastic	Type-c plug, PCB	-
65	Black soft plastic	Gasket, type-c plug, PCB	-
66	Golden metal	Pin, type-c plug, PCB	-
67	Black plastic	Pin holder, type-c plug, PCB	-
68	Golden metal	Plug, PCB	-
69	White plastic	Plug, PCB	-
70	Black printed silvery body	Electrolytic capacitor, PCB	-
71	Black plastic	Base, electrolytic capacitor, PCB	-
72	Grey/coppery metal	Inductor, PCB	-
73	Black body	SMD IC, PCB	-
74	Brown body	SMD capacitor, PCB	-
75	Black printed white body	SMD resistor, PCB	-
76	White/silvery body	SMD LED, PCB	-
77	Black/white body	SMD LED, PCB	-
78	Silver fabric	Sleeve, foam, PCB	-
79	Black foam	Foam, PCB	-
80	Silvery/golden body	SMD EC, PCB	-
81	Yellow/brown body	SMD EC, PCB	-
82	Brown printed white body	SMD EC, PCB	-



LAB NO.
DATE
PAGE

(8820)244-0150
Oct 30, 2020
: 7 OF 13

Component Description List

Test Item(s)	Component Description(s)	Location	Style(s)
83	White printed brown body	SMD EC, PCB	-
84	Green PCB	Small green PCB, PCB	-
85	Black PCB	Small black PCB, PCB	-
86	Silvery solder	Solder, PCB	-
87	Black PCB	PCB	-
88	Blue body	SMD EC, small blue PCB, PCB	-
89	Silvery body	SMD EC, small blue PCB, PCB	-
90	Blue PCB	Small blue PCB, PCB	-
91	Brown body	SMD capacitor, PCB	-
92	Black body	SMD diode, PCB	-
93	Black body	SMD IC, PCB	-
94	Silvery solder	Solder, PCB	-



LAB NO.
DATE
PAGE

(8820)244-0150
Oct 30, 2020
: 10 OF 13

TEST RESULT

Parameter	Result										Conclusion	
	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	DBP	BBP	DEHP	DIBP		
Unit	mg/kg										-	
Test Item(s)	-	-	-	-	-	-	-	-	-	-	-	-
60	BL	BL	BL	BL	ND*	ND*	BL	BL	BL	BL	BL	PASS
61	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
62	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
63	BL	BL	BL	Negative*	NA	NA	NA	NA	NA	NA	NA	PASS
64	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
65	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
66	BL	BL	BL	Negative*	NA	NA	NA	NA	NA	NA	NA	PASS
67	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
68	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
69	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
70	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
71	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
72	BL	BL	BL	Negative*	NA	NA	NA	NA	NA	NA	NA	PASS
73	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
74	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
75	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
76	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
77	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
78	BL	BL	BL	BL	BL	BL	NA	NA	NA	NA	NA	PASS
79	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
80	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
81	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
82	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
83	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
84	BL	BL	BL	BL	ND*	ND*	NA	NA	NA	NA	NA	PASS
85	BL	BL	BL	BL	ND*	ND*	NA	NA	NA	NA	NA	PASS
86	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
87	BL	BL	BL	BL	ND*	ND*	NA	NA	NA	NA	NA	PASS
88	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
89	BL	BL	BL	BL	NA	NA	NA	NA	NA	NA	NA	PASS
90	BL	BL	BL	BL	ND*	ND*	NA	NA	NA	NA	NA	PASS



LAB NO.
DATE
PAGE

(8820)244-0150
Oct 30, 2020
: 11 OF 13

TEST RESULT

-	Result										
Parameter	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	DBP	BBP	DEHP	DIBP	Conclusion
Unit	mg/kg										-
Test Item(s)	-	-	-	-	-	-	-	-	-	-	-
91	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
92	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
93	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS
94	BL	BL	BL	BL	BL	BL	BL	BL	BL	BL	PASS

Note / Key:

ND = Not detected ">" = Greater than "<" = Less than
BL = Below Limit NA = Not applicable IN = Inconclusive
mg/kg = milligram(s) per kilogram = ppm = part(s) per million OL = Over Limit
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.
 - #According to Annex III of European Council Directive 2011/65/EU, exemptions were granted a few materials and Clause 6(c) is reiterated here "Copper alloy containing up to 4 % lead by weight". Test Item(s) 9,22,23&26 was (were) claimed as is by client (received as is). Therefore, this (these) Test Item(s) containing the found lead level should be exempted.
 - The items 91-94 were provided by client dated on Oct 27, 2020.
-

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)				Wet Chemistry	Maximum Allowable Limit(mg /kg)
		X-ray fluorescence (XRF)^[a]			Others		
		Plastic	Metal/Glass/ Ceramic				
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 ^[i]	Each 1000	



LAB NO.
DATE
PAGE

(8820)244-0150
Oct 30, 2020
: 13 OF 13

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: 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)

*** End of Report ***