

Test Report

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Client:

Client Address:

Sample Name: Power Bank

Sample Style: UP-9065

Supplier: /

Sample Receiving Date: Oct.12, 2017

Test Period: Oct.12, 2017 to Oct.19, 2017

Test Requested:

1. With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU (RoHS2.0).
2. EU Battery Directive (2006/66/EC & 2013/56/EU) on Mercury, Cadmium and Lead Content.

Test Results: Please refer to next page(s).

Test Conclusion:

1. The submitted sample(s) **complied** with the Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated biphenyls (PBBs) and Polybrominated diphenyl ethers (PBDEs) content requirement according to RoHS Directive (EU) 2015/863 amending 2011/65/EU (RoHS2.0).
2. The submitted sample(s) **complied** with the EU Battery Directive (2006/66/EC & 2013/56/EU).

Tested By: Leo
Test engineer

Reviewed By: Peter
Test engineer

Approved By: Sydney
Technical Director

Issue Date: Oct.19, 2017



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- Test Method:**
1. With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles.
 2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
 - (1) With reference to IEC 62321-3-1:2013, screening by XRF spectroscopy.
 - (2) Wet chemical test method
 - a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 - b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
 - c. With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
 - d. With reference to IEC 62321-7-1:2015 & IEC 62321-7-2:2017, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
 - e. With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
 3. With reference to US EPA 3050B:1996, US EPA 3052:1996 and US EPA 6010D:2014, determination of Pb, Cd, Hg by Inductively coupled plasma- Atomic emission spectrometry (ICP).

Testing Result:

1. With reference to RoHS Directive (EU) 2015/863 amending 2011/65/EU (RoHS2.0) to test Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs.

Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
1	Silver metal shell	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
2	Black plastic button	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
3	Transparent plastic film	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
4	Black coating	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
5	Transparent plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
6	Black plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
7	Black plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
8	Black screw	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	See Note (2) (c)	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
9	White paper	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
10	Black foam	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
11	Double sided adhesive tape	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
12	Paper	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
13	Yellow tape	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
14	Black plastic button	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
15	Silver metal	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
16	Metal dome	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	See Note (2) (c)	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
17	White plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS
18	Lead	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
19	Silver metal connector	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
20	Black foam	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
21	Black line skin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
22	Red line skin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
23	Wire core	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
24	Silver electromagnet	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	See Note (2) (c)	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
25	Copper wire	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
26	Lead	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	See Note (2) (c)	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
27	Diode	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS
28	Lead	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
29	Integrated chip	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
30	Cooling fin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
31	Six feet IC	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
32	Lead	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
33	Chip resistor	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
34	Chip capacitor	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS
35	Three feet IC	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS
36	Chip resistor	Pb	X	Pb	N.D.	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
37	Silver metal	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
38	Blue plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
39	Guide pin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
40	Silver metal	Pb	BL	Pb	/	1000	PASS
		Cd	OL	Cd	N.D.	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
41	Black plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
42	Guide pin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
43	Silver metal	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
44	White plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
45	Guide pin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
46	Integrated chip	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
47	Cooling fin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
48	Black foam	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS
49	Black plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
50	White plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
51	Gray glue	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS
52	Lead	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
53	Soldering tin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
54	PCB	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS
55	White bundle skin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
56	Wire core	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
57	White plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
58	Silver metal	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
59	White plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
60	Guide pin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
61	Silver metal	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	See Note (2) (c)	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
62	Black plastic	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	X	PBBs	N.D.	1000	PASS
				PBDEs	N.D.	1000	PASS

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Part No.	Part Name	XRF		Chemical Testing			Conclusion
		Test Item	Results ⁽¹⁾	Test Item	Results ⁽²⁾ (mg/Kg)	Limit (mg/kg)	
63	Guide pin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	X	Cr ⁶⁺	N.D.	See Note (2) (c)	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA
64	White wire saddle	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
65	Black line skin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
66	Red line skin	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	BL	PBBs	/	1000	PASS
				PBDEs	/	1000	PASS
67	Wire core	Pb	BL	Pb	/	1000	PASS
		Cd	BL	Cd	/	100	PASS
		Hg	BL	Hg	/	1000	PASS
		Cr	BL	Cr ⁶⁺	/	1000	PASS
		Br	NA	PBBs	NA	NA	NA
				PBDEs	NA	NA	NA

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Remark:

(1)(a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr⁶⁺.

(b) Results are obtained by XRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

Element	Polymers	Metals	Composite Material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	NA	$BL \leq (250-3\sigma) < X$

(c) OL=Over Limit, BL=Below Limit, X=inconclusive, LOD=Limit of Detection, NA=not applicable

(d) The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition

(2) (a) mg/kg=ppm=0.0001%, N.D.=not detected (<MDL)

(b) Unit and Method Detection Limit(MDL) in wet chemical test

Test Items	Pb	Hg	Cd
Unit	mg/kg	mg/kg	mg/kg
MDL	5	5	5

The MDL for single compound of PBBs & PBDEs is 20mg/kg, MDL of Cr⁶⁺ for metal sample is 0.10µg/cm². and MDL of Cr⁶⁺ for polymer & composite sample is 8 mg/kg.

(c) Metal sample:

-The sample is positive for Cr⁶⁺ if the Cr⁶⁺ concentration is greater than 0.13 µg/cm².

The sample coating is considered to contain Cr⁶⁺.

-The sample is negative for Cr⁶⁺ if Cr⁶⁺ is ND (concentration less than 0.10 µg/cm²).

The coating is considered a non- Cr⁶⁺ based coating

-The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive, unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

(3) As specified by client to test the specified materials only.

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2. EU Battery Directive (2006/66/EC & 2013/56/EU) on Mercury, Cadmium and Lead Content.

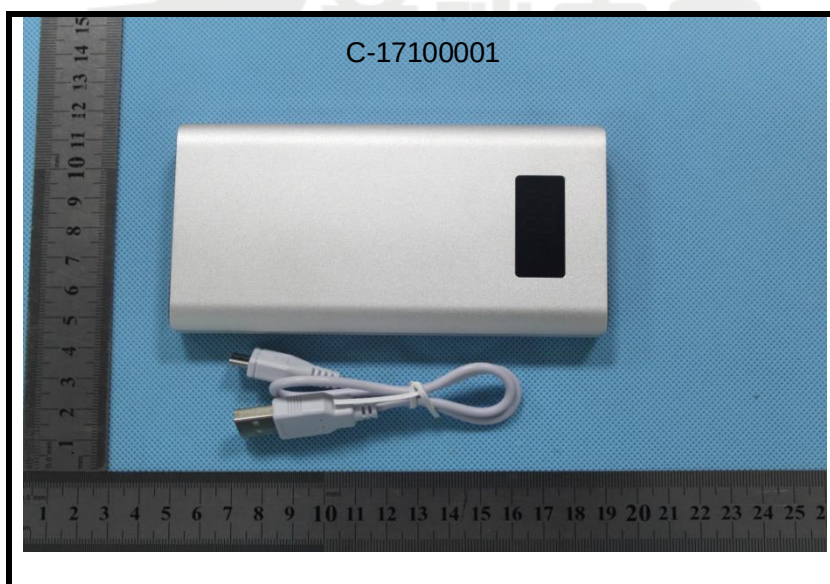
Sample Identity	Sample Name	Color and Material	Type
68	Lithium Battery	Mixed	/

Item	MDL (mg/kg)	Results (mg/kg)	Required Limit (mg/kg)
		68	
Lead (Pb)	5	N.D.	40*
Cadmium (Cd)	5	N.D.	20
Mercury (Hg)	2	N.D.	5
Conclusion	—	PASS	—

Note:

- N.D. = Not Detected or less than MDL
- MDL = Method Detection Limit
- 1mg/kg=1ppm=0.0001%
- *: According to 2006/66/EC battery directive if the lead content is more than 40ppm (40mg/kg), the sample must be marked "Pb".

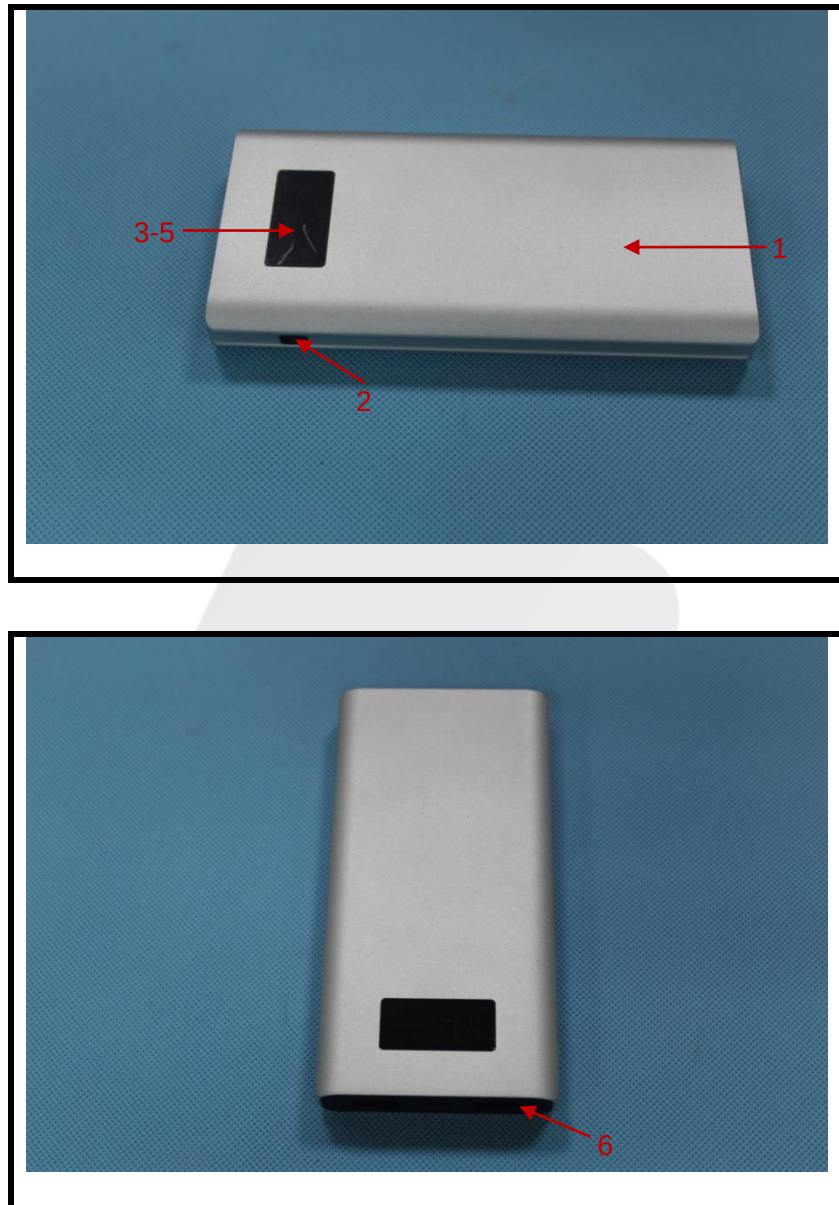
Sample photo



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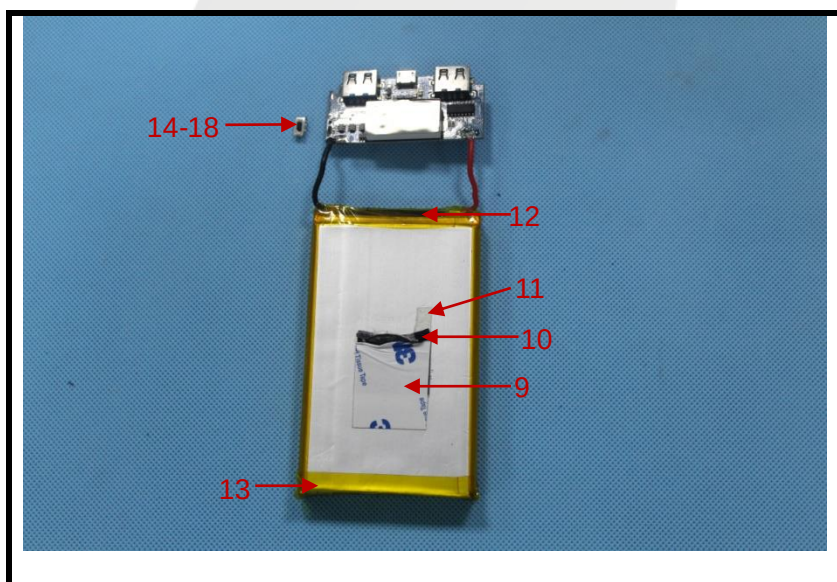
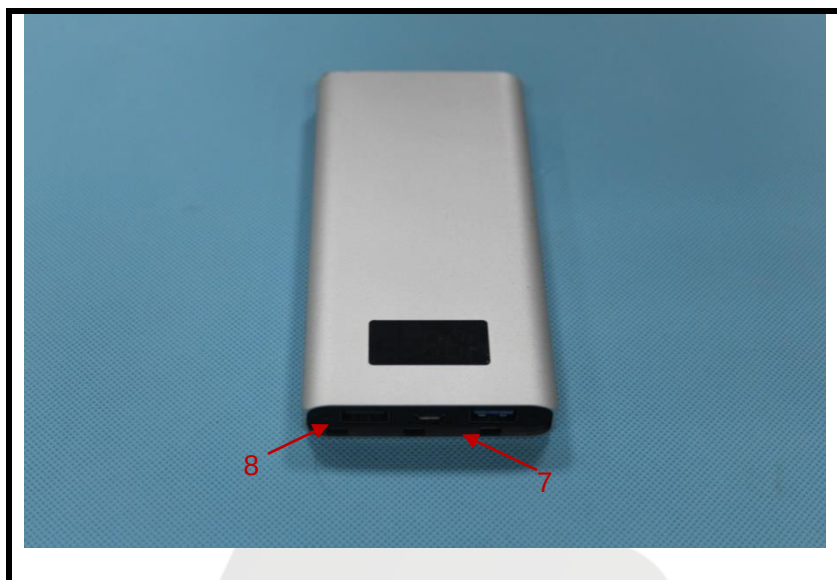
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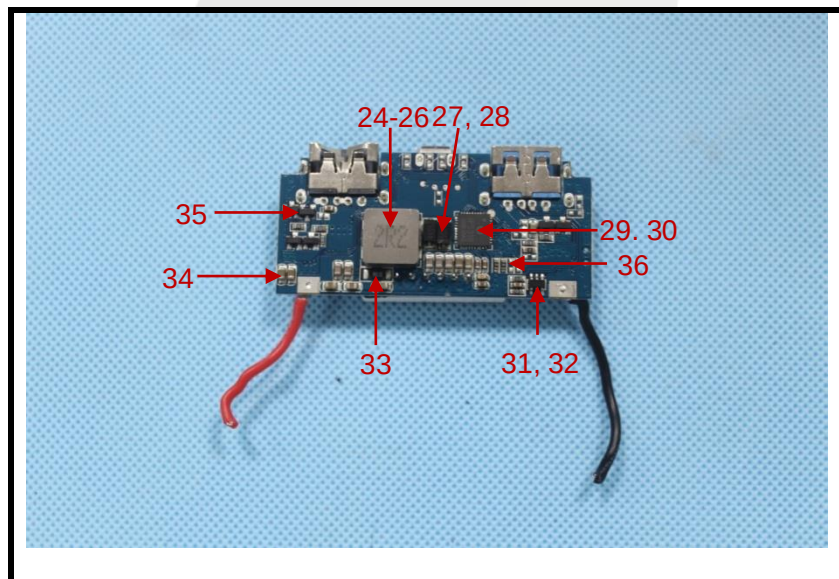
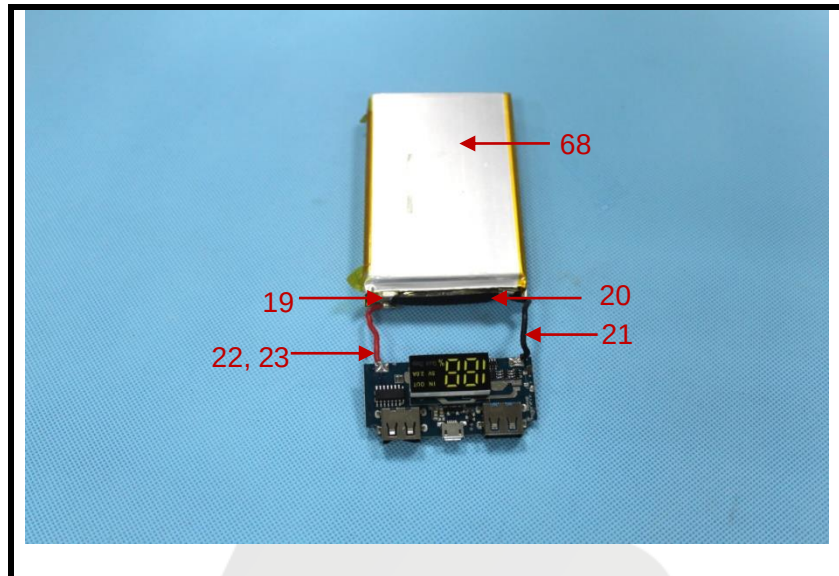
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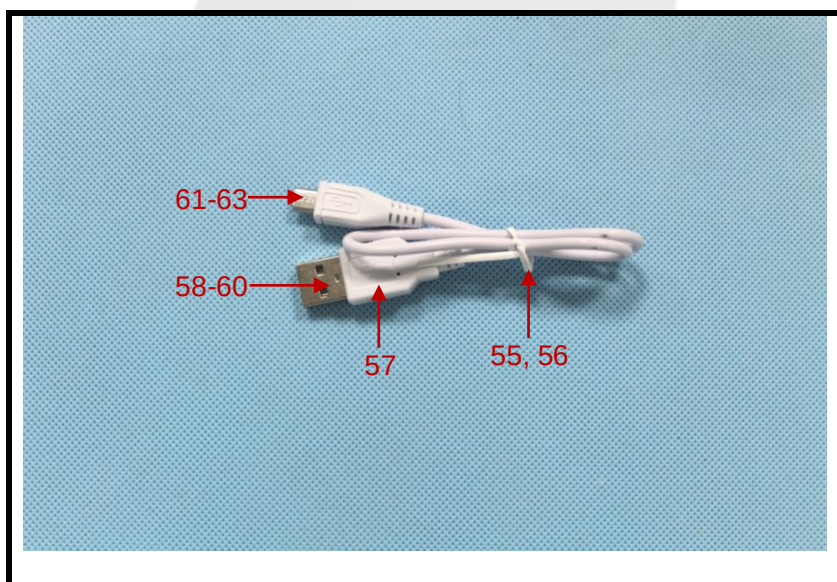
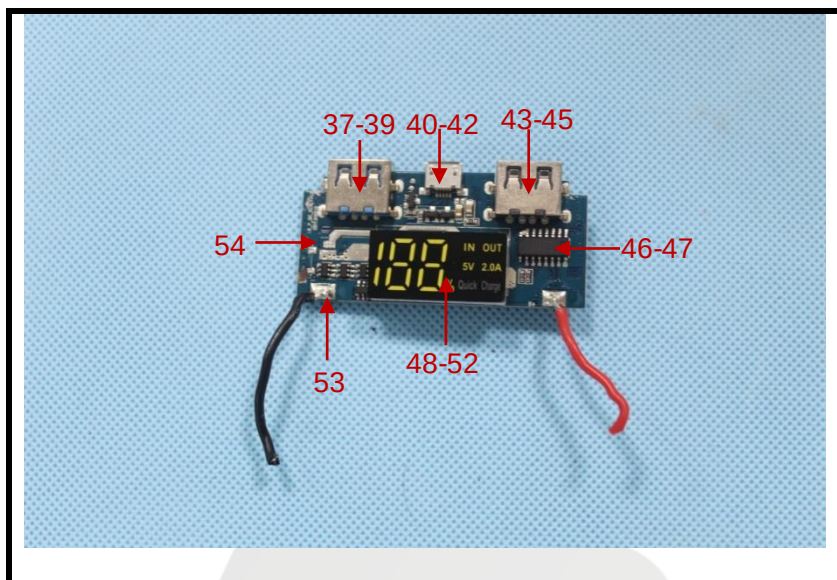
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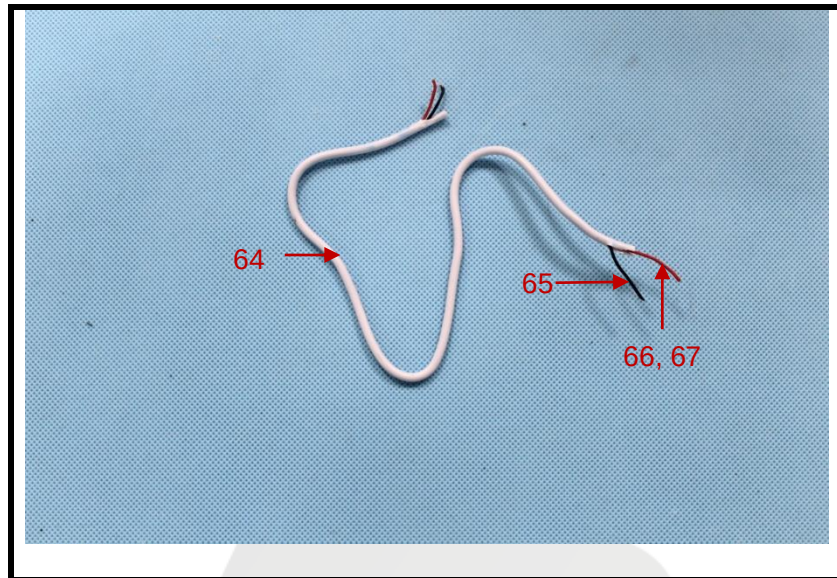
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PTL authenticate the photo on original report only

*** End of Report ***

Important Information

1. The test report is invalid without the official stamp of the lab.
2. Nobody is allowed to photocopy or partly photocopy this report without written permission of the lab.
3. The test report is invalid without the signature of approver and reviewer.
4. The test report is invalid if altered.
5. If any test method is deviation from the designated test method, must be commented in the test data sheet.
6. Objections to the test report must be submitted to LAB within 15days.
7. The test report is valid for the tested sample only.