



Technical Report No. 68.167.16.0468.01
Dated 2016-07-26

Client: Xindao B.V.

Address: P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands

Attn.: Kevin Zhou

Sample Description: 2.500 mAh Powerbank

Model No.: P324.853

Country of origin: CHINA

Exported to: Europe

Location of Testing: TÜV SÜD Certification and Testing (China) Co., Ltd.
Shenzhen Branch

Sample Received Date: 2016-07-13

Test Period: From 2016-07-13 to 2016-07-25

Test Requested and Conclusion: Test according to RoHS (Restriction of Hazardous Substances) directive 2011/65/EU on submitted samples

- Heavy Metal (Pb, Cd, Hg and CrVI) Content **PASS**
- Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) Content **PASS**

Test Result: Refer to the following page(s)

Remark: The result relates only to the items tested.

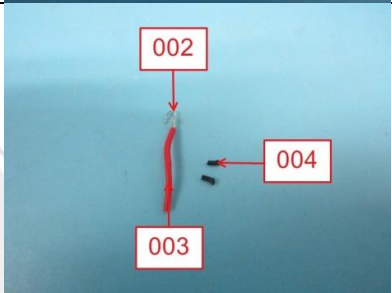
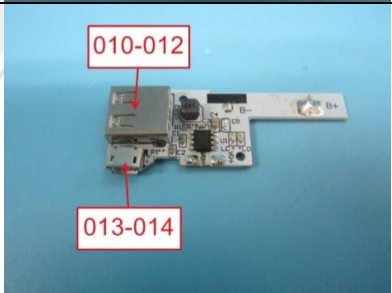
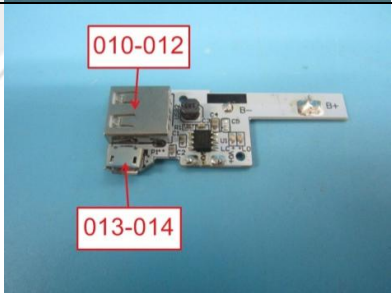
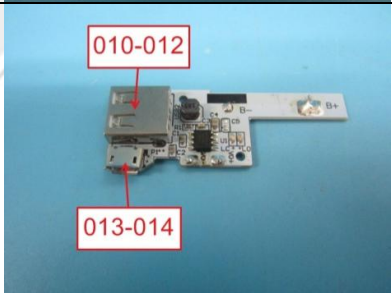
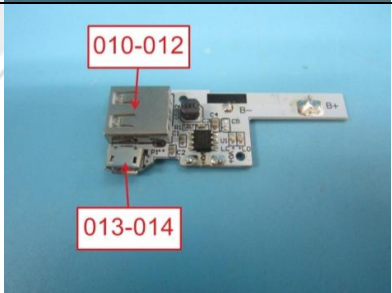
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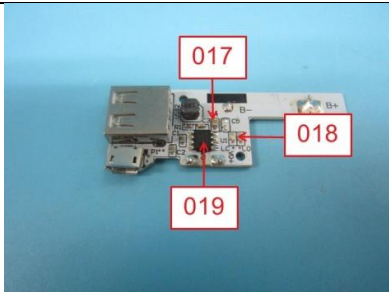
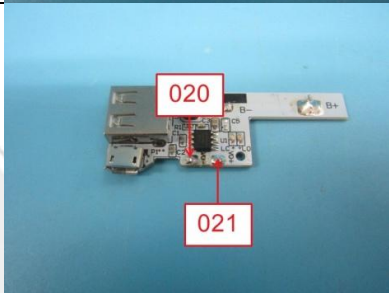
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1. TESTED SUBJECT DESCRIPTION

Sample Number	Item Name	Tested Material Description	Photo
001	Case	White plastic with black printing	
002	Wire	Silvery metal	
003		Red soft plastic wire jacket	
004		Black soft plastic sleeve	
005	Wire	Coppery metal wire	
006		Red metal wire	
007		Grey soft plastic	
008	Plug	Silvery metal	
009		Black plastic inner	
010	USB socket	Silvery metal	
011		White plastic	
012		Silvery metal pin	
013	Socket	Silvery metal	
014		Black plastic	
015	Inductor	Black magnet	
016		Coppery metal coil	

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Sample Number	Item Name	Tested Material Description	Photo
017	SMD capacity	Brown body	
018	EC	Beige plastic body	
019	IC	Black plastic with pin	
020	Solder	Silvery metal solder	
021		Silvery metal solder	
022	PCB	Grey PCB board	

2. TEST RESULTS

2.1. SCREENING

Test method: With reference to IEC 62321-3-1:2013, analyzed by Energy Dispersive X-ray Fluorescence Spectrometers (XRF).

Sample No.	Total Cadmium	Total Chromium	Total Mercury	Total Lead	Total Bromine
001	BL	BL	BL	BL	BL
002	BL	BL	BL	BL	N.A.
003	BL	BL	BL	BL	BL
004	BL	BL	BL	BL	BL
005	BL	BL	BL	BL	N.A.
006	BL	BL	BL	BL	N.A.
007	BL	BL	BL	BL	BL
008	BL	Inconclusive ^(a)	BL	BL	N.A.
009	BL	BL	BL	BL	BL
010	BL	BL	BL	BL	N.A.
011	BL	BL	BL	BL	BL
012	BL	BL	BL	BL	N.A.
013	BL	BL	BL	BL	N.A.
014	BL	BL	BL	BL	BL
015	BL	BL	BL	BL	BL
016	BL	BL	BL	BL	N.A.
017	BL	BL	BL	BL	BL
018	BL	BL	BL	BL	BL
019	BL	BL	BL	BL	BL
020	BL	BL	BL	BL	N.A.
021	BL	BL	BL	BL	N.A.
022	BL	BL	BL	BL	Inconclusive ^(a)

Note:

- “BL” denotes below limit
- “OL” denotes over limit
- “N.A.” denotes not applicable
- “^(a)” denotes further confirmation test was conducted, results are listed in 2.2 and 2.3.

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— XRF screening limits in mg/kg for regulated elements in various matrices

ELEMENT	POLYMER		
	BL	INCONCLUSIVE	OL
Cd	$X < (70-3\sigma)$	$(70-3\sigma) < X < (130+3\sigma)$	$X > (130+3\sigma)$
Pb	$X < (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X > (1300+3\sigma)$
Hg	$X < (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X > (1300+3\sigma)$
Br	$X < (300-3\sigma)$	$X > (300-3\sigma)$	NA
Cr	$X < (700-3\sigma)$	$X > (700-3\sigma)$	NA

ELEMENT	METAL		
	BL	INCONCLUSIVE	OL
Cd	$X < (70-3\sigma)$	$(70-3\sigma) < X < (130+3\sigma)$	$X > (130+3\sigma)$
Pb	$X < (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X > (1300+3\sigma)$
Hg	$X < (700-3\sigma)$	$(700-3\sigma) < X < (1300+3\sigma)$	$X > (1300+3\sigma)$
Cr	$X < (700-3\sigma)$	$X > (700-3\sigma)$	NA

ELEMENT	COMPLEX MATERIAL		
	BL	INCONCLUSIVE	OL
Cd	$X < (50-3\sigma)$	$(50-3\sigma) < X < (150+3\sigma)$	$X > (150+3\sigma)$
Pb	$X < (500-3\sigma)$	$(500-3\sigma) < X < (1500+3\sigma)$	$X > (1500+3\sigma)$
Hg	$X < (500-3\sigma)$	$(500-3\sigma) < X < (1500+3\sigma)$	$X > (1500+3\sigma)$
Br	$X < (250-3\sigma)$	$X > (250-3\sigma)$	NA
Cr	$X < (500-3\sigma)$	$X > (500-3\sigma)$	NA

2.2. POLYBROMINATED BIPHENYLS AND POLYBROMINATED DIPHENYL ETHERS CONTENT

Test Method: With reference to IEC 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting Limit: 5mg/kg]

Test Item		Result [mg/kg]	RoHS Requirement [mg/kg]
		Sample 022	
PBBS	Monobromobiphenyl	< 5	Sum of PBBS < 1000
	Dibromobiphenyl	< 5	
	Tribromobiphenyl	< 5	
	Tetrabromobiphenyl	< 5	
	Pentabromobiphenyl	< 5	
	Hexabromobiphenyl	< 5	
	Heptabromobiphenyl	< 5	
	Octabromobiphenyl	< 5	
	Nonabromobiphenyl	< 5	
	Decabromobiphenyl	< 5	
	Sum of PBBS	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	Sum of PBDEs < 1000
	Dibromodiphenyl Ether	< 5	
	Tribromodiphenyl Ether	< 5	
	Tetrabromodiphenyl Ether	< 5	
	Pentabromodiphenyl Ether	< 5	
	Hexabromodiphenyl Ether	< 5	
	Heptabromodiphenyl Ether	< 5	
	Octabromodiphenyl Ether	< 5	
	Nonabromodiphenyl Ether	< 5	
	Decabromodiphenyl Ether	< 5	
	Sum of PBDEs	< 5	

Note:

- “mg/kg” denotes miligram per kilogram
- “<” denotes less than

2.3. HEAVY METAL CONTENT

Test method: With reference to IEC 62321-4:2013, IEC 62321-5:2013, IEC 62321-7-1:2015 and IEC 62321:2008, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and UV-Vis spectrophotometer. [Reporting Limit: 2 mg/kg for Cadmium; 10 mg/kg for Hexavalent Chromium, Lead and Mercury.]

Sample No.	Result [mg/kg]			
	Total Cadmium	Hexavalent Chromium	Total Mercury	Total Lead
008	--	Negative	--	--
RoHS Requirement	100	1000	1000	1000

Note:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than
- "Negative" denotes the absence of Cr(VI) coating.
- "--" denotes tested by XRF, result is listed in 2.1



TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
TÜV SÜD Group

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Kevin Cheng
Project Handler



Reviewed by:



Scarlett Liang
Designated Reviewer

APPENDIX:

Photos of submitted products