

Flashbay Electronics
Building2, Jixun Industrial Park ,Xinjiao ,Dong'ao Village ,
Shatian Town, Huiyang District ,Huizhou City , Guangdong
Province,P.R.China

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TEST REPORT

Test Report No. : **4387043.50** Version 1

Project No. : **4387043.00**

Test Report Date : **2022-04-28**

Job No. : 22-00668

Applicant : Flashbay Electronics

Building2, Jixun Industrial Park ,Xinjiao ,Dong'ao Village ,
Shatian Town, Huiyang District ,Huizhou City , Guangdong
Province,P.R.China

Product Name : Power Banks

Model No. : Solar Card (SC)

Test Requested : RoHS Directive 2011/65/EU & Amendment Directive (EU) 2015/863
- Lead, Mercury, Cadmium, Hexavalent chromium,
- Polybrominated biphenyls (PBB),
- Polybrominated diphenyl ethers (PBDE),
- Bis(2-ethylhexyl) phthalate (DEHP),
- Butyl benzyl phthalate (BBP),
- Dibutyl phthalate (DBP),
- Diisobutyl phthalate (DIBP)

Test Method : Please refer to next pages

Sample Received : 2022-03-23

Resubmitted Sample : 2022-04-26


Received Date

Testing Period : 2022-03-23 to 2022-04-28

Test Results

- following pages -

Resume:

<p>Parameter</p>	<p style="text-align: center;">Sample Photo</p> 
<p>RoHS Directive 2011/65/EU & Amendment Directive 2015/863/EU</p>	<p style="text-align: center;">PASS</p>

Guangzhou, April 28, 2022

Signed for and on behalf of

DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou branch

Chemical & Mechanical

Devin Ai 

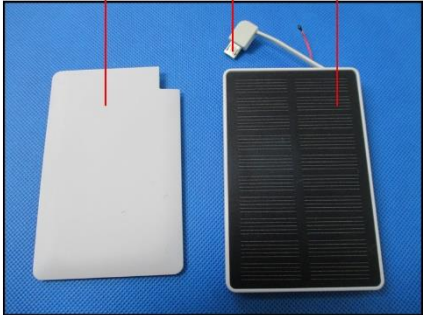

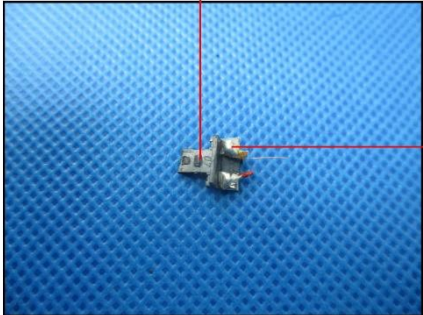
Devin Ai
Assistant Manager

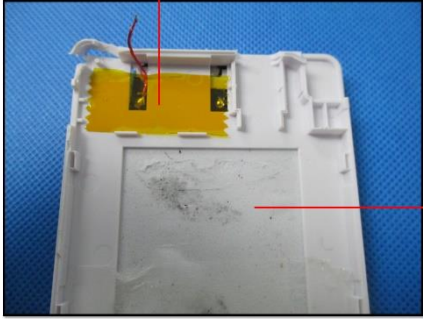
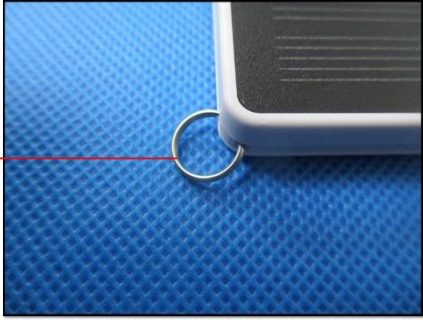

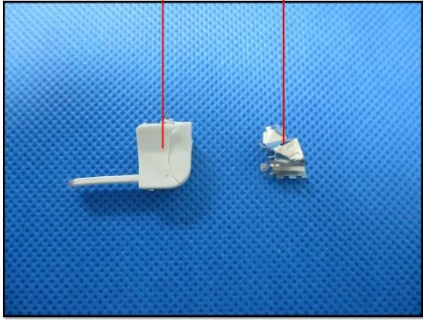
Attention: Please note that every statement made in this report is only valid for the samples tested and reported herein. This report shall not be reproduced except in full, without the written approval of the testing laboratory.

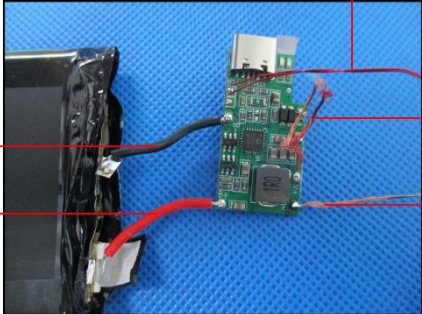
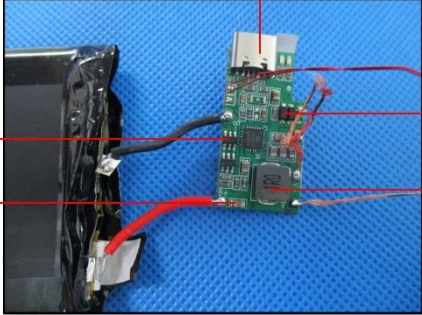
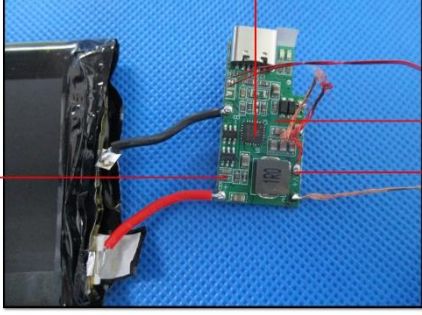

TEST RESULTS

RoHS Directive 2011/65/EU & Amendment Directive (EU) 2015/863

Test Components:

Test No.	Name of material	Photograph
1	White plastic	
2	Black plastic	
3	Silvery metal	
4	White plastic	
5	Silvery metal solder	
6	Black plastic	

Test No.	Name of material	Photograph
7	Yellow plastic	
8	White plastic	
9	Silvery metal	
10	White plastic	
11	White plastic	
12	Silvery metal	

Test No.	Name of material	Photograph	
13	Red metal		
14	Copper metal		
15	Black plastic		
16	Red plastic		
17	Red metal		
18	Silvery metal		
19	Brown ceramic		
20	Black body		
21	Black body		
22	Brown ceramic		
23	Black body		
24	Black ceramic		
25	Green PCB board		
26	Silvery metal solder		
27	Black plastic		
28	Yellow plastic		

A. Screening Test

Test No.	Result (mg/kg)				
	Pb	Cd	Hg	Cr	Br
1	BL	BL	BL	BL	BL
2	BL	BL	BL	BL	BL
3	BL	BL	BL	IC	N.A.
4	BL	BL	BL	BL	BL
5	BL	BL	BL	BL	N.A.
6	BL	BL	BL	BL	BL
7	BL	BL	BL	BL	BL
8	BL	BL	BL	BL	BL
9	BL	BL	BL	IC	N.A.
10	BL	BL	BL	BL	BL
11	BL	BL	BL	BL	BL
12	BL	BL	BL	IC	N.A.
13	BL	BL	BL	BL	N.A.
14	BL	BL	BL	BL	N.A.
15	BL	BL	BL	BL	BL
16	BL	BL	BL	BL	BL
17	BL	BL	BL	BL	N.A.
18	BL	BL	BL	IC	N.A.
19	BL	BL	BL	IC	BL
20	BL	BL	BL	BL	BL
21	BL	BL	BL	BL	BL
22	BL	BL	BL	BL	BL
23	BL	BL	BL	BL	BL
24	BL	BL	BL	BL	BL
25	BL	BL	BL	BL	IC
26	BL	BL	BL	BL	N.A.
27	BL	BL	BL	BL	BL
28	BL	BL	BL	BL	BL

Remark:

1. mg/kg = Milligram per kilogram
2. BL = Below Limit
3. **OL** = **Over Limit, represents test item needs further confirmation.**
4. **IC** = **Inconclusive, represents test item needs further confirmation.**
5. N.A. = Not Applicable
6. There are the results on total Br while test items on restricted substances are PBBs and PBDEs.
There are the results on total Cr while test item on restricted substance is Cr(VI).

Disclaimers:

This XRF screening result is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The results shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.).

B. Chemical Test

Test Item	Result				
	(3)	(9)	(12)	(18)	(19)
Hexavalent Chromium Cr(VI)	Negative	Negative	Negative	Negative	N.D.

Test Item	Result (mg/kg)
	(25)
PBBs	N.D.
PBDEs	N.D.

Remark:

1. N.D. = Not Detected, less than MDL
2. mg/kg = Milligram per kilogram
3. According to IEC 62321-7-1:2015 Ed.1.0, result on Cr(VI) for metal sample is shown as Positive/Negative.
Negative = Absence of Cr(VI) in coating layer, Positive = Presence of Cr(VI) in coating layer.

Note:

Results were obtained by EDXRF 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) were recommended to be performed, if the concentration exceeded the warning value according to IEC 62321-3-1:2013 Ed. 1.0 (unit: mg/kg).

C. Phthalates Test

For plasticised material(s) in test components

Test Item	Result (mg/kg)			MDL (mg/kg)	Limit # (mg/kg)
	(1)/(2)/(4)	(6)/(7)/(8)	(10)/(11)/(15)		
Bis(2-ethylhexyl) phthalate (DEHP)	N.D.	N.D.	N.D.	50	1000
Butyl benzyl phthalate (BBP)	N.D.	N.D.	N.D.	50	1000
Dibutyl phthalate (DBP)	N.D.	N.D.	N.D.	50	1000
Diisobutyl phthalate (DIBP)	N.D.	N.D.	N.D.	50	1000

Test Item	Result (mg/kg)		MDL (mg/kg)	Limit # (mg/kg)
	(16)/(25)	(27)/(28)		
Bis(2-ethylhexyl) phthalate (DEHP)	N.D.	N.D.	50	1000
Butyl benzyl phthalate (BBP)	N.D.	N.D.	50	1000
Dibutyl phthalate (DBP)	N.D.	N.D.	50	1000
Diisobutyl phthalate (DIBP)	N.D.	N.D.	50	1000

Remark:

1. N.D. = Not Detected (below MDL)
2. MDL = Method Detection Limit
3. mg/kg = Milligram per kilogram

4. # = The limit for the test result is 1/n of the value in column (where “n” is the number of mixed samples).

Test Method

A. Screening test by XRF spectroscopy: With reference to IEC 62321-3-1: 2013 Ed. 1.0 Screening - Lead, mercury, cadmium, total chromium and total bromine using X-ray fluorescence spectrometry.

Screening limits in mg/kg for regulated elements in various material.

Element	Polymer Material	Metallic Material	Composite Material
Cadmium (Cd)	BL≤70<IC<130≤OL	BL≤70<IC<130≤OL	LOD<IC<150≤OL
Lead (Pb)	BL≤700<IC<1300≤OL	BL≤700<IC<1300≤OL	BL≤500<IC<1500≤OL
Mercury (Hg)	BL≤700<IC<1300≤OL	BL≤700<IC<1300≤OL	BL≤500<IC<1500≤OL
Bromine (Br)	BL≤300<IC	N.A.	BL≤250<IC
Chromium (Cr)	BL≤700<IC	BL≤700<IC	BL≤500<IC

BL = Below Limit, OL = Over Limit, IC=Inconclusive, N.A. = Not Applicable, LOD=Limit of Detection

B. Chemical Test

Test Item	Test Method	Test Instrument	MDL	EU RoHS Limit (mg/kg)
Lead (Pb)	IEC 62321-5: 2013 Ed. 1.0 Sec.7	ICP-OES	5mg/kg	1000
Cadmium (Cd)	IEC 62321-5: 2013 Ed. 1.0 Sec.7	ICP-OES	5mg/kg	100
Mercury (Hg)	IEC 62321-4: 2013 AMD 1:2017 Ed. 1.0 Sec.7	ICP-OES	5mg/kg	1000
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015 Ed.1.0 Sec.7	UV-Vis	0.1µg/cm ²	1000
	IEC 62321-7-2:2017 Ed.1.0 Sec.7	UV-Vis	2mg/kg	
Polybrominated Biphenyls (PBBs)	IEC 62321-6: 2015 Ed. 1.0 Sec.8	GC-MS	10mg/kg	1000
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6: 2015 Ed. 1.0 Sec.8	GC-MS	10mg/kg	1000
Bis(2-ethylhexyl) phthalate (DEHP)	IEC 62321-8: 2017 Ed. 1.0 Sec.8	GC-MS	50mg/kg	1000
Butyl benzyl phthalate (BBP)	IEC 62321-8: 2017 Ed. 1.0 Sec.8	GC-MS	50mg/kg	1000
Dibutyl phthalate (DBP)	IEC 62321-8: 2017 Ed. 1.0 Sec.8	GC-MS	50mg/kg	1000
Diisobutyl phthalate (DIBP)	IEC 62321-8: 2017 Ed. 1.0 Sec.8	GC-MS	50mg/kg	1000

---End of Report---