

Report No.: S24102203019001 Page 1 of 9

# **TEST REPORT**

Applicant: Flashbay Electronics

Address: Building2 ,Jixun Industrial Park ,Xinjiao ,Dong'ao Village ,Shatian

Town ,Huiyang District ,Huizhou City , Guangdong Province,P.R.China

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample name: USB Flash Drives

Model: Rotator/RT

Manufacturer & Factory: Flashbay Electronics

Address: Building2 ,Jixun Industrial Park ,Xinjiao ,Dong'ao Village ,Shatian

Town ,Huiyang District ,Huizhou City , Guangdong Province,P.R.China

Sample No.: S241022030020

Sample Received Date: 2024-10-24

Testing Period: 2024-10-24~ 2024-11-08

Test Requirement: Conclusion

As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Bis-(2-ethylhexyl) Phthalate (DEHP), Benzyl butyl Phthalate (BBP), Dibutyl Phthalate (DBP) and Diisobutyl Phthalate(DIBP)contents in the submitted sample(s) in accordance with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Pass

Test Result(s): Please refer to the following page(s);

**Test Method:** Please refer to the following page(s);

Compiled by:	Adalyn, Shen.	Reviewed by:	Luetta Mo
Approved by:	May Li	Date:	2024-11-12





Report No.: S24102203019001 Page 2 of 9

### Sample Description:

No.	Sample name	Description		
1		Silver metal shell of shell		
2		Silver metal ring of shell		
3	LIOD Flack Drives	Black plastic shell of USB interface	نہ ۔	
4	USB Flash Drives	Golden metal rod of USB interface	110	
5		Black rubber ring of USB interface		
6		Black PCB of USB interface		

### Test Result(s):

Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers(PBDEs)

biphenyis (PBBS), Polybrominated Diphenyi Ethers(PBDES)						
Test Items		XRF Screening Result(mg/kg)	Chemical Test Result(mg/kg)	Conclusion		
Pb		BL	4311			
	Cd	BL	<u> </u>			
Hg 🔑		BL	/	Door		
Cr	Cr(VI)	IN	N.D.	Pass		
Dr	PBBs	1	/			
DI	PBDEs	/	/			
	Pb	BL	/	×		
	Cd	BL	<sub>®</sub> /	et.		
Hg		BL	Kill /	Pass		
Cr	Cr(VI)	BL	1	Pass		
Br	PBBs	- /	<del>2</del> /			
	PBDEs		/			
Pb		BL	/			
Cd		BL	/			
Hg		BL	/	Door		
Cr	Cr(VI)	BL	/	Pass		
Br —	PBBs	BL	<u> </u>			
	PBDEs		Kill /	7		
Pb		BL	1			
Cd		BL	1			
	Hg	BL	/	Pass		
4 Cr C	Cr(VI)	BL	/	F d 5 5		
Dr	PBBs	/	1			
Br	PBDEs		/	4		
	Cr Br Cr Br	Test Items	Test Items	Test Items         XRF Screening Result(mg/kg)         Chemical Test Result(mg/kg)           Pb         BL         /           Cd         BL         /           Hg         BL         /           Cr         Cr(VI)         IN         N.D.           Br         PBBs         /         /           PBDEs         /         /         /           Pb         BL         /         /           Br         PBBs         /         /           PBDEs         /         /         /           Pb         BL         /         /           Cd         BL         /         /           PBBs         PBBs         /         /           PBDEs         BL         /         /           PBBs         PBBs         /         /           PBBs         /         /         /           PBBs         /         / <td< td=""></td<>		



Report No.: S24102203019001 Page 3 of 9

	>		Pb	BL	/	
		Cd		BL	/	
		Hg		BL	/	Door
	5	Cr	Cr(VI)	BL	/	Pass
		Br PBBs PBDEs	BL	/	and the	
			PBDEs	DL	<u></u> /	A.E.
		Pb Cd Hg		BL	1 King /	
				BL	1	
	6			BL	1	Pass
	0	Cr         Cr(VI)         BI           Br         PBBs         IN           PBDEs         IN	BL	/	F a55	
			INI	N.D.		
			IIN	N.D.		

## Bis-(2-ethylhexyl) Phthalate (DEHP), Benzyl butyl Phthalate (BBP), Dibutyl Phthalate (DBP) and Diisobutyl Phthalate(DIBP)

Test Items	Result(mg/kg)			
Test items	3	5	6	
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	N.D.	N.D.	
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.	
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.	
Conclusion	Pass	Pass	Pass	

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Report No.: S24102203019001 Page 4 of 9

Note: 1.N.D. = Not Detected (<MDL)

MDL = Method Detection Limit 1mg/kg = 1ppm =0.0001%

/=Not Regulated or Not Applicable

2. BL = Below the XRF screening limit

IN = Further chemical test will be conducted when the screening result inconclusive

OL = Further chemical test will be conducted while the result is above the screening limit.

3. For metal samples, the sample is negative for Cr(VI), if the Cr(VI) concentration is less than

0.10 µg/cm<sup>2</sup>, the coating is considered a non- Cr(VI) based coating;

The sample is positive for Cr(VI), if the Cr(VI) concentration is greater than 0.13 µg/cm<sup>2</sup>,

The sample coating is considered to contain Cr(VI);

The result is considered to be inconclusive, the Cr(VI) concentration is between the

0.10 μg/cm<sup>2</sup> and 0.13 μg/cm<sup>2</sup>, unavoidable coating variations may influence the determination.

Because the storage condition and production date of the sample are not known, the test

results of the sample of hexavalent chromium can only represent the state of hexavalent

chromium in the samples tested.

Remark: 1. When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br

Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to

screen Chromium exclusively.

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Report No.: S24102203019001 Page 5 of 9

#### **Test Method:**

1. With reference to IEC 62321-1: 2013 Ed.1.0, IEC 62321-2:2021 Ed.2.0, IEC 62321-3-1:2013 Ed.1.0. XRF screening limits in mg/kg for regulated elements in various matrices.

Пополом	Limit of IEC 62321-3-1:2013 Ed.1.0 (mg/kg)				
Element	Polymers	Metals	Composite material		
Dh	BL≤(700-3σ) <x< td=""><td>BL≤(700-3σ) <x td="" 👗<=""><td>BL≤(500-3σ)<x< td=""></x<></td></x></td></x<>	BL≤(700-3σ) <x td="" 👗<=""><td>BL≤(500-3σ)<x< td=""></x<></td></x>	BL≤(500-3σ) <x< td=""></x<>		
Pb	<(1300+3σ)≤OL	<(1300+3σ)≤OL	<(1500+3σ)≤OL		
Cd	BL≤(70-3σ) <x <<="" td=""><td>BL≤(70-3σ)<x <<="" td=""><td>LOD <x<(150+3σ)< td=""></x<(150+3σ)<></td></x></td></x>	BL≤(70-3σ) <x <<="" td=""><td>LOD <x<(150+3σ)< td=""></x<(150+3σ)<></td></x>	LOD <x<(150+3σ)< td=""></x<(150+3σ)<>		
Cu	(130+3σ) ≤OL	(130+3σ) ≤OL	≤OL		
Цα	BL≤(700-3σ) <x< td=""><td>BL≤(700-3σ)<x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<></td></x<>	BL≤(700-3σ) <x< td=""><td>BL≤(500-3σ)<x< td=""></x<></td></x<>	BL≤(500-3σ) <x< td=""></x<>		
Hg	<(1300+3σ)≤OL	<(1300+3σ)≤OL	<(1500+3σ)≤OL		
Cr	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X		
Br	BL≤(300-3σ)< X / BL≤(2		BL≤(250-3σ)< X		

Note: BL= Below the XRF screening limit

OL=Over the XRF screening limit

X=The symbol"X"marks the region where further investigation is necessary.

 $3\sigma$  =The reproducibility of analytical instruments

LOD= Detection limit

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Report No.: S24102203019001 Page 6 of 9

## 2. Chemical Test

Test item	Test method	Test instrument	MDL	Limit△
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	2 mg/kg	1000 mg/kg
Hexavalent	IEC 62321-7-1:2015 Ed.1.0	UV-Vis	0.10 µg/cm <sup>2</sup>	1000 mg/kg
Chromium(Cr(VI))	IEC 62321-7-2:2017 Ed.1.0	0 4- 415	8 mg/kg	
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg	1000 mg/kg
Polybrominated, Diphenyl Ethers(PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg	1000 mg/kg
Bis-(2-ethylhexyl) Phthalate (DEHP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg
Benzyl butyl Phthalate (BBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg
Dibutyl Phthalate (DBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg
Diisobutyl Phthalate (DIBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg	1000 mg/kg

△The limit is quoted from RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

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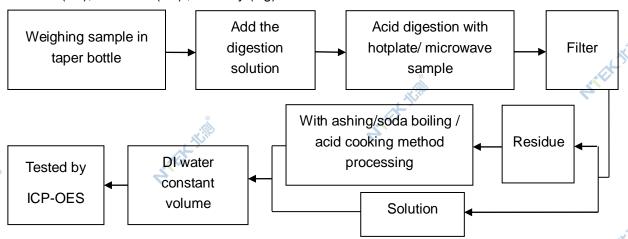
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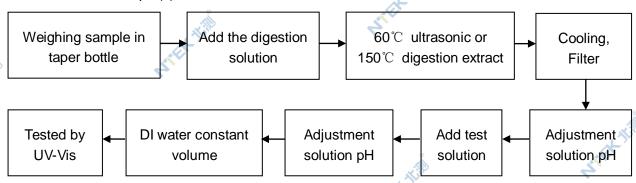
Report No.: S24102203019001 Page 7 of 9

#### **Test Flow:**

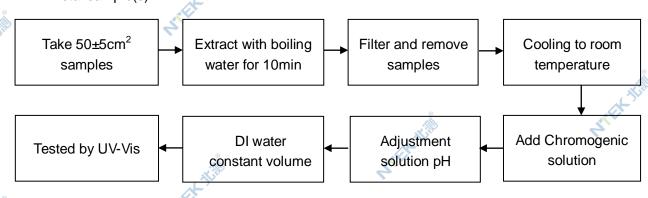
1. Lead(Pb), Cadmium(Cd), Mercury (Hg)



- 2. Hexavalent Chromium(Cr(VI))
- 2.1 Non- metal sample(s)



#### 2.2 Metal sample(s)

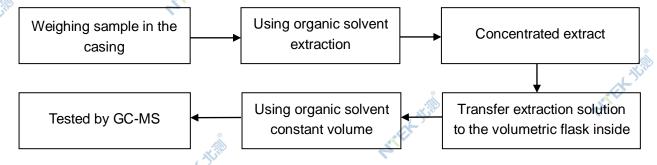




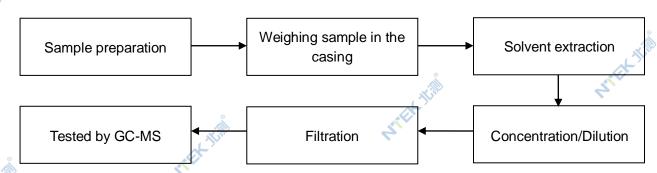
Report No.: S24102203019001

Page 8 of 9

#### 3. PBBs/ PBDEs



#### 4. Phthalates





Report No.: S24102203019001 Page 9 of 9

#### Sample photo(s):



Fig.1 (Finished photo)

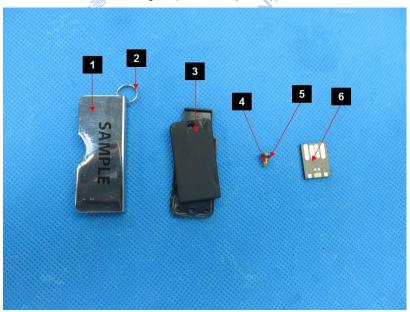


Fig.2

## \*\*\*\*End of Report\*\*\*\*

The test results or data in this report will be used only for education, scientific research, enterprise product development and internal quality control or other purposes.

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