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# **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: Code/CD

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.: S241022030004

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: Zane. W Reviewed by:

Approved by: Date: 2024-11-12



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## **Sample Description:**

No.	Sample name	Description	
1		Silver metal frame of shell	
2		Silver metal shell of shell	
3		Transparent double-sided adhesive of shell	نام ا
4		Black plastic shell of shell	46
5		Black rubber of button	7
6		White plastic sheet with glue of button	
7	15 15 15 15 15 15 15 15 15 15 15 15 15 1	Silver metal shrapnel of button	
8		Silver metal screw	
9		Black plastic of USB interface	
10		Silver metal pin of USB interface	
11	USB Flash Drives	Green PCB of mainboard PCB	
12		SMD chip 1 of mainboard PCB	at a
13		SMD chip 2 of mainboard PCB	Z''
14	⊚	SMD chip 3 of mainboard PCB	•
15	AK SIM	Yellow transparent adhesive tape of battery	
16	EL.	Green plastic jacket of battery	
17	4	Tin solder of battery	
18		Silver metal contact pin of battery	
19		Red wire jacket	
20		Black wire jacket	×
21		metal wire core of wire	

## Test Result(s):

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

Part No.	Test Items		XRF Screening	Chemical Test	Conclusion
Part No.			Result(mg/kg)	Result(mg/kg)	Conclusion
		Pb	BL	/	×
	(	Cd	BL	<u> </u>	
1		Hg	BL	A Kill /	Door
I	Cr	Cr(VI)	BL	1	Pass
	Br	PBBs		1	
		PBDEs		/	
		Pb	BL	/	
	Cd		BL	/	
2	1	Hg	BL	/	- Pass 💉
2	Cr	Cr(VI)	IN	N.D.	Pass
	Br PBBs PBDEs	,	<u> </u>	Zijk.	
		PBDEs	/	A-7 /	



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керо	II INO	52410220	13003001		4	Page 3 of 13
© A			Pb	BL	/	
			Cd	BL	/	
			Hg	BL	/	Danie
3	3	Cr	Cr(VI)	BL	/	Pass
	=	Br	PBBs PBDEs	BL	/	
			Pb	BL	(Kill)	7
			Cd	BL	1	
			Hg A Mill	BL	1	
	4	Cr	Cr(VI)	BL	/	Pass
٣	_	Br	PBBs	BL	/	_
			PBDEs	D.	/	
	-		Pb	BL	/	- *
			Cd	BL	/	
	5		Hg	BL	Will I	Pass
		Cr	Cr(VI)	BL		_
		Br	PBBs	BL	<u> </u>	
			PBDEs		/	
			Pb	BL	/	
		Cd		BL	/	
	6		Hg	BL	1	Pass
,		Cr	Cr(VI)	BL	1	1 400
		Br	PBBs BL	BI	· /	
			PBDEs		AKing 1	4
	7		Pb	BL	1	
			Cd Kills	BL	7	
			Hg	BL	1	Pass
		Cr	Cr(VI)	IN	N.D.	Fass
		Br	PBBs	,	/	
		ы	PBDEs	/	/	
			Pb BL	BL	/	\L_{2}
			Cd	BL	<u>*</u> /	
	•		Hg	BL	1 / July 1	Door
	8	Cr	Cr(VI)	BL	1	Pass
)		Br	PBBs PBDEs	/	/	
P			Pb	BL	1	
			Cd	BL	/	
			Hg		/	-
9	9	Cr	Cr(VI)	BL	1	Pass
		Br	PBBs	BL		A. C.
		PBDEs				



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topoit i toi.	02 0220				. ago . cc
		Pb	BL	/	
		Cd	BL	/	
40		Hg	BL	/	Dana
10	Cr	Cr(VI)	BL	/	Pass
	Б.	PBBs	1	/	^A
	Br	PBDEs	/	<u> </u>	N. C.
		Pb	BL	Lykin /	
		Cd	BL	1	
		Hg LYIN	BL	1	_
11	Cr	Cr(VI)	BL	/	Pass
		PBBs		N.D.	
	Br	PBDEs	IN	N.D.	
		Pb	BL	/	
		Cd	BL	/	- 1
		Hg	BL	, , , , , , , , , , , , , , , , , , ,	
12	Cr	Cr(VI)	BL	AL MINIT	Pass
	Ci		DL		
	Br	Br PBBs BL /	/	-	
		PBDEs	DI	1	
		Pb	BL	1	_
	3	Cd	BL	/	
13		/	Pass		
			Bs Bl	1	- X-X
				• /	N.E.
		PBDEs		Min /	
		Pb	BL		
		Cd Will	BL	7	
14		Hg	BL	1	Pass
17	Cr	Cr(VI)	BL	1	1 833
	Br	PBBs	BL	/	
	ы	PBDEs	DL	/	
		Pb	BL	/	\L^\(\chi\)
		Cd	BL	<u> </u>	
4.5	Cr Cr(VI)	Hg	BL /	431111	D
15		BL	1	Pass	
		PRRs	1		
	Br	PBDEs	BL	/	
		Pb	BL	/	
		Cd	BL	/	
		Hg	BL	/	
16	Cr	Cr(VI)	BL	/	Pass
		PBBs		1	
	Br	PBDEs	BL	Ch /	
			LDDE2		



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. topon no	02 0220				. ago o oo
		Pb	OL	249	
17		Cd	BL	/	
		Hg	BL	/	Pass
	Cr	Cr(VI)	BL	/	Pass
	Br	PBBs	/	/	نام ا
	DI	PBDEs	/	<u></u> 1	100
		Pb	BL	1 Jun 1	
		Cd	BL	1	
18		Hg Allin	BL	1	Pass
10	Cr	Cr(VI)	BL	/	1 033
	Br	PBBs	/	/	
	DI	PBDEs	7	/	
		Pb	BL	/	
	Н	Cd	BL	/	
19		Hg	BL	<u> </u>	Pass
19		Cr(VI)	BL		F ass
		Br PBBs BL			
	Di	PBDEs		/	
		Pb	BL	/	
		Cd	BL	/	
20		Hg	BL	/	Pass
20	Cr	Cr(VI)	BL	/	1 055
	Br	PBBs	BL	· /	
	Di	PBDEs	Hills /	4	
		Pb	BL	1	
		Cd Xille	BL	7	
21		Hg	BL	/	Pass
۷۱	Cr	Cr(VI)	BL	/	1 033
	Br	PBBs	/	/	
	ы	PBDEs	1	/	
					and the second

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

Test Items	Result(mg/kg)				
rest items	3	4+9	5	6	
Bis-(2-ethylhexyl) Phthalate (DEHP)	115	N.D.	N.D.	N.D.	
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.	N.D.	
Conclusion	Pass	Pass 🔎	Pass	Pass	



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Test Items	Result(mg/kg)			
rest items	11	15	16	19+20
Bis-(2-ethylhexyl) Phthalate (DEHP)	115	N.D.	N.D.	N.D.
Benzyl butyl Phthalate (BBP)	N.D.	N.D.	N.D.	N.D.
Dibutyl Phthalate (DBP)	N.D.	N.D.	N.D.	N.D.
Diisobutyl Phthalate(DIBP)	N.D.	N.D.	N.D.	N.D.
Conclusion	Pass	Pass	Pass	Pass

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  $\mu$ g/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  $\mu$ g/cm² and 0.13  $\mu$ g/cm², 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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#### **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.

Flomant	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≤(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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# 2. Chemical Test

		· · · · · · · · · · · · · · · · · · ·			
	Test item Test method		Test instrument	MDL	Limit△
Lead (Pb) Cadmium (Cd)		IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg	1000 mg/kg
		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	4	0.10 µg/cm <sup>2</sup>	4000
	Chromium(Cr(VI))	IEC 62321-7-2:2017 Ed.1.0	UV-Vis	8 mg/kg	1000 mg/kg
>	Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg	1000 mg/kg
	Polybrominated, Diphenyl Ethers(PBDEs)	Diphenyl IEC 62321-6:2015 Ed.1.0		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
	AThe limit is guested	from Dolle Directive (ELI) 2015/062	amandina Anna	ni II da Dinaadii da	2044/05/51

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

Litin Arither

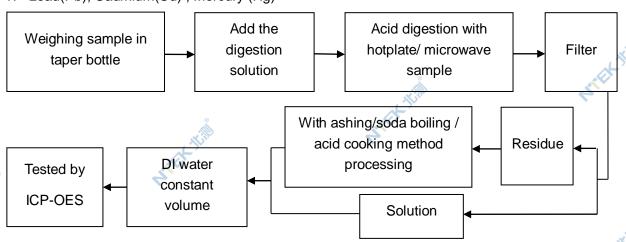
ATTER TRANS



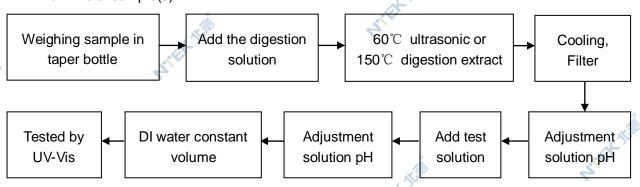
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#### **Test Flow:**

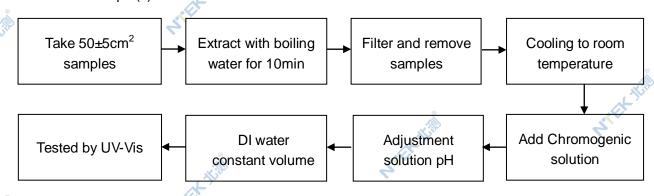
1. Lead(Pb), Cadmium(Cd), Mercury (Hg)



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



### 2.2 Metal sample(s)

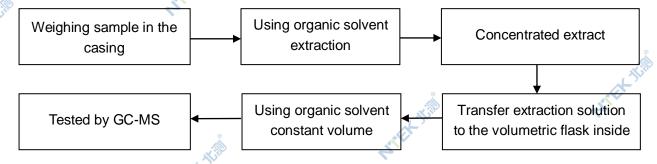




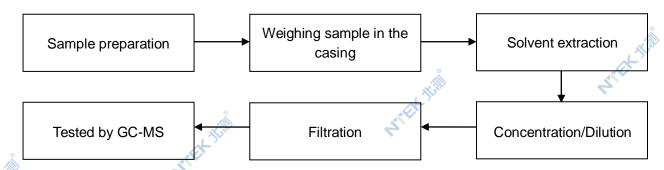
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### 3. PBBs/ PBDEs



### 4. Phthalates





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# Sample photo(s):



Fig.1 (Finished photo)



Fig.2 (Finished photo)

ATTER TIME

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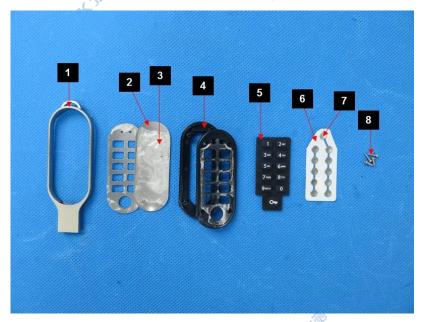


Fig.3

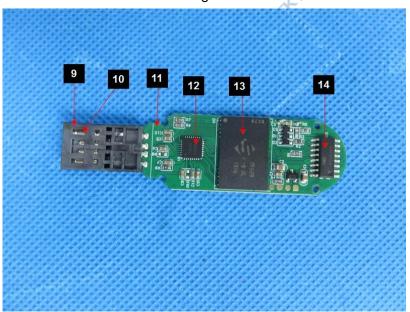


Fig.4

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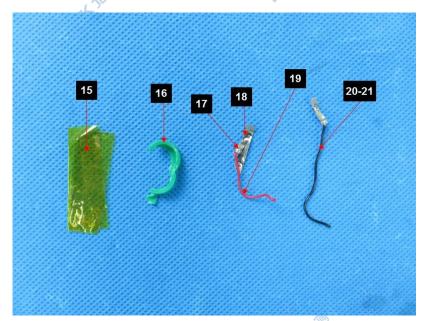


Fig.5

# \*\*\*\*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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