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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: Twister Go Wood/TGWC 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.: S241022030024

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:	Adolyn, Shen.	Reviewed by:	Luetta Mo
Approved by:	May Li	Date:	2024-11-11



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### **Sample Description:**

No.	Sample name	Description	
1		Silver metal shell of shell	
2		Yellow wood of shell	ئے۔
3		Silver metal magnet of shell	10
4		Silver metal shell of USB interface	-
5		Black plastic of USB interface	
6	AL YES	Silver metal pin of USB interface	
7	USB Flash Drives	Green PCB of mainboard PCB	
8		Black PCB of mainboard PCB	
9		Yellow FPC of mainboard PCB	
10		Silver metal shell of type-c interface	.9
11		Gray plastic of type-c interface	at '
12		Silver metal insert of type-c interface	Zi'
13		Silver metal pin of type-c interface	•

## 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 Result(mg/kg)	Chemical Test Result(mg/kg)	Conclusion		
	Pb		BL	1			
	Cd (Killer		BL	/			
1	Hg		BL	/	Door		
I	Cr	Cr(VI)	IN	N.D.	Pass		
	D.,	PBBs		/			
	Br	PBDEs		/			
	F	Pb	BL	/	A P		
	Cd Hg		BL	<u></u>			
0			BL	***/	Dana		
2	Cr	Cr(VI)	BL	J. 1	Pass		
	Br PBBs	PBBs	BL	/			
		PBDEs		/			
	Pb Cd Hg Cr Cr(VI)		BL	/			
			BL	/			
3			Hg		BL	/	Door
			BL	<sub>®</sub> /	Pass		
	D.	PBBs	,	AKille /	4		
	Br PB		/	1			



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iveboir ino	32410220	3023001		6	rage 3 or 10
		Pb	BL	/	
		Cd	BL	/	
4		Hg	BL	/	D
4	Cr	Cr(VI)	BL	/	Pass
	Б.	PBBs		/	ه کړ کا
	Br	PBDEs	/	<u> </u>	N. C.
		Pb	BL	L'Hille I	
		Cd 👗	BL	1	
_		Hg LYIN	BL	1	
5	Cr	Cr(VI)	BL	/	Pass
		PBBs		/	
	Br	PBDEs	BL	/	
		Pb	BL	/	
		Cd	BL	/	- A-A
		Hg	BL	1	A.C.
6	Cr	Cr(VI)	BL	A William	Pass
		PBBs			
	Br	PBDEs	/	/	
		Pb	BL	/	
		Cd	BL	/	
		Hg	BL	/	
7	Cr	Cr(VI)	BL	/	Pass
		PBBs	DL	, N.D.	
	Br	PBDEs	IN	N.D.	- Air
		Pb §	BL	/	· ·
		Cd Kin	BL		_
		Hg	BL	/	_
8	Cr	Cr(VI)	BL	/	Pass
	OI .	PBBs		/	
	Br	PBDEs	BL	/	
		Pb	BL	/	, X
		Cd	BL	, , , , , , , , , , , , , , , , , , ,	
		Hg	BL		4,
9	Cr		BL	1	Pass
	CI	Cr(VI) PBBs	DL	/	_
	Br	PBDEs	BL	/	_
			DI		
		Pb	BL	/	_
-		Cd	BL	/	_
10		Hg Cr()(I)	BL	/ N.D.	Pass 🔏
	Cr	Cr(VI)	IN	N.D.	
	Br	PBBs	/	Xill I	4
		PBDEs			



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9			Pb	BL	/		
	Cd		BL	/			
	Hg		BL	/	Door		
	11	Cr	Cr(VI)	BL	/	Pass	
		_	PBBs	PBBs PBDEs BL	/	رغ	
		Br	PBDEs		1		
Ī			Pb	BL	L'Ilin 1	_	
			Cd	BL	1		
	12		Hg Lifting	BL	1	- Pass	
	12	Cr	Cr(VI)	IN	N.D.	F d 5 5	
		Br	PBBs	/	/		
			PBDEs		/		
Ī			Pb	BL	/	36	
		Cd Hg	Cd BL	BL	/	at w	
13	40		Hg	BL	Kill 1	Pace	
	Cr Cr(VI)	Cr(VI)	BL	1	Pass		
		PBBs	,	1			
a l			Br	PBDEs		/	

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

Test Items	Result(mg/kg)			
r est items	5+11	7	8	9
Bis-(2-ethylhexyl) Phthalate (DEHP)	N.D.	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

1 mg/kg = 1 ppm = 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/cm², 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  $\mu g/cm^2$ ,

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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#### **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.

Flomont	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	1	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	titem Test method		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	OV-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)	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 ()	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	
ATho limit is quoted from PoHS Directive (ELI) 2015/863 amending Appea II to Dir				2011/65/50	

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

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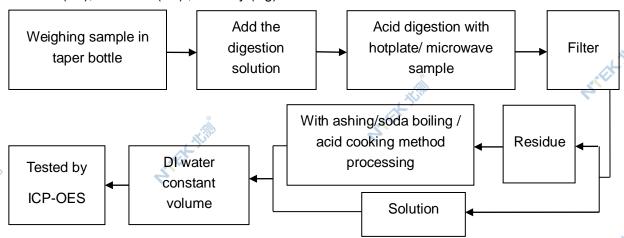
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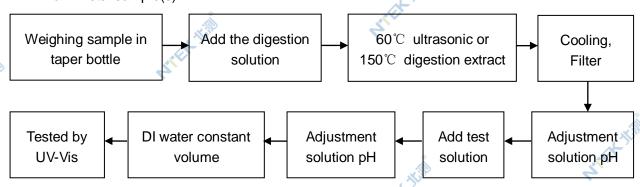
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#### **Test Flow:**

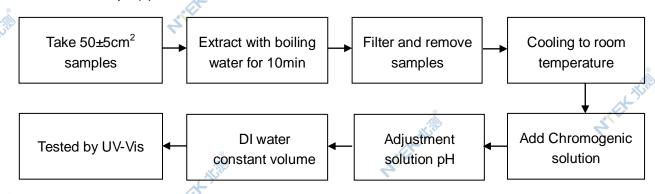
1. Lead(Pb), Cadmium(Cd), Mercury (Hg)



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



#### 2.2 Metal sample(s)

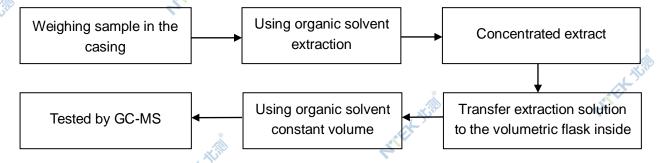




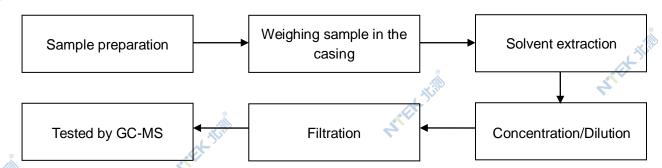
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#### 3. PBBs/ PBDEs



#### 4. Phthalates





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#### Sample photo(s):



Fig.1 Finished photo

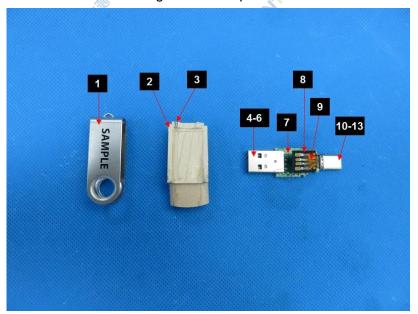


Fig.2

## \*\*\*\*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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