



Test Report

Report No.: AiTSZ-241219011R01

Dated 2024-12-26

Applicant: Shenzhen Vollgo Technology Co., Ltd

Address: 1411, Building A, Zhiyun Industrial Park, No.13, Huaxing Road, Henglang Community, Dalang Street, Longhua District, Shenzhen, Guangdong

Manufacturer: Shenzhen Vollgo Technology Co., Ltd

Address: 1411, Building A, Zhiyun Industrial Park, No.13, Huaxing Road, Henglang Community, Dalang Street, Longhua District, Shenzhen, Guangdong

Sample Name: Bluetooth module

Model number: VG6328A

Serial Model : VG6328A

Trade: vollgo

Sample Received Date: 2024-12-19

Test Period: 2024-12-19 to 2024-12-25

Test Result: Refer to following page(s)

Remark: The result relates only to the items tested.

Test Requested:	Conclusion
Based on the performed test on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as bis-(2-ethylhexyl)-Phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl Phthalate (DBP), Diisobutyl Phthalate (DIBP) comply with the limits as set by RoHS Directive 2015/863/EU amending Annex II to Directive 2011/65/EU.	PASS

Guangdong Asia Hongke Test Technology Co.,Ltd.

Prepared by:

Oliver

Name: Oliver
Project Handler

Reviewed by:

Lizhen

Name: Lizhen
Designated Reviewer



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B1/F, Building 11, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

<https://www.aitek.org.cn>

E-mail: info@aitek.org.cn

Tel: +86. 0755-23096763

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1. Test Method(s) :

Testing item	Testing Method	Equipment
Screening analysis by XRF		
Lead(Pb) Cadmium(Cd) Mercury(Hg) Chromium(Cr) Bromine(Br)	IEC 62321-3-1:2013	ED-XRF
Chemical testing		
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013 +AMD1:2017 CSV	ICP-OES
Chromium(Cr VI) for plastic	IEC 62321-7-2:2017	UV-Vis
Chromium(Cr VI) for coating on metals	IEC 62321-7-1:2015	UV-Vis
PBBs/ PBDEs	IEC 62321-6:2015	GC-MS
DEHP/DBP/BBP/ DIBP	IEC 62321-8:2017	GC-MS

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2.Test Results :

Part No.	Sample Description	Test item	XRF Result	Chemical Test (mg/kg)	Conclusion
1	IC	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		PBBs	BL	--	
		PBDEs		--	
		DEHP	--	ND	
		DBP	--	ND	
		BBP	--	ND	
2	Chip resistance	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		PBBs	BL	--	
		PBDEs		--	
		DEHP	--	ND	
		DBP	--	ND	
		BBP	--	ND	
3	Crystal oscillator	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		PBBs	BL	--	
		PBDEs		--	
		DEHP	--	ND	
		DBP	--	ND	
		BBP	--	ND	
4	Blue PCB	Pb	BL	--	Pass
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		PBBs	BL	--	
		PBDEs		--	
		DEHP	--	ND	
		DBP	--	ND	
		BBP	--	ND	
		DIBP	--	ND	
		Pb	BL	--	
		Cd	BL	--	
		Hg	BL	--	
		Cr(Cr(VI))	BL	--	
		PBBs	BL	--	
		PBDEs		--	
		DEHP	--	ND	
		DBP	--	ND	
		BBP	--	ND	
		DIBP	--	ND	

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Remark:

1) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr⁶⁺.

(b) Results are obtained by XRF 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) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

Element	Polymers	Metals	Composite Material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	NA	$BL \leq (250-3\sigma) < X$

(c) OL=Over Limit, BL=Below Limit, X=inconclusive, LOD=Limit of Detection, NA=not applicable, -- = No Testing

(d) The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition

2) (a) mg/kg=ppm=0.0001%, N.D.=not detected (< MDL)

(b) Unit and Method Detection Limit(MDL) in wet chemical test

Test Items	Unit	MDL	Limit
Pb	mg/kg	2	1000
Cd	mg/kg	2	100
Hg	mg/kg	2	1000
DBP	mg/kg	30	1000
BBP	mg/kg	30	1000
DEHP	mg/kg	30	1000
DIBP	mg/kg	30	1000

The MDL for single compound of PBBs & PBDEs is 20mg/kg, MDL of Cr⁶⁺ for metal sample is 0.10µg/cm². and MDL of Cr⁶⁺ for polymer & composite sample is 8 mg/kg.

(c) Metal sample:

-The sample is positive for Cr⁶⁺ if the Cr⁶⁺ concentration is greater than 0.13 µg/cm².

The sample coating is considered to contain Cr⁶⁺.

-The sample is negative for Cr⁶⁺ if Cr⁶⁺ is ND (concentration less than 0.10 µg/cm²).

The coating is considered a non- Cr⁶⁺ based coating

-The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive, unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

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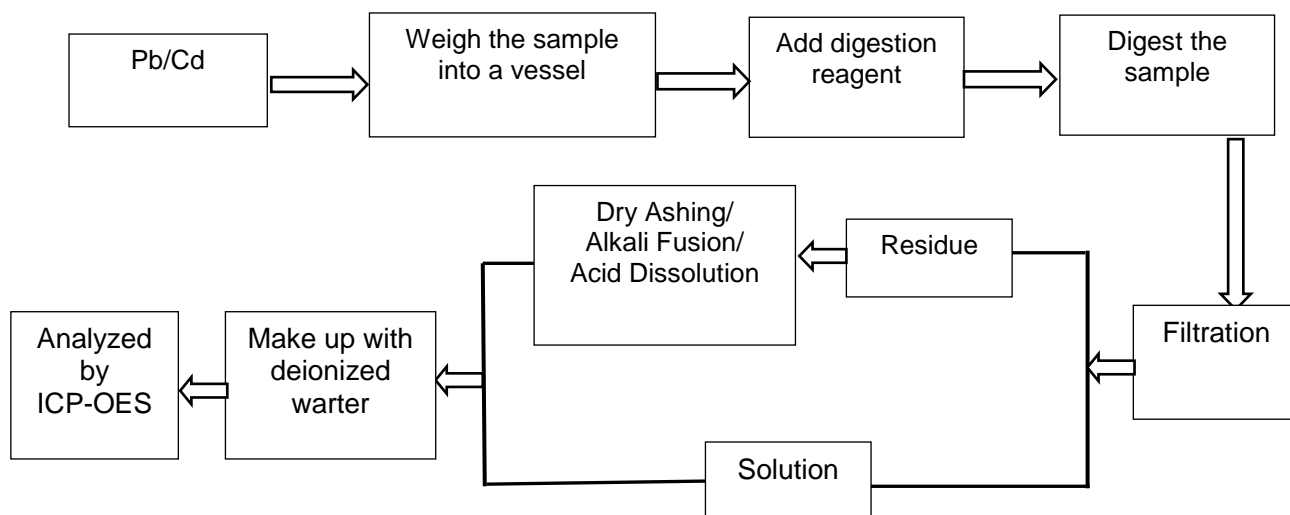
3) As specified by client to test the specified materials only.

4)*=According to the declaration from the client, Lead (Pb) in the sample are exempted by EU RoHS Directive 2011/65/EU based on ANNEX III 6(c): Copper alloy containing no more than 4% lead by weigh

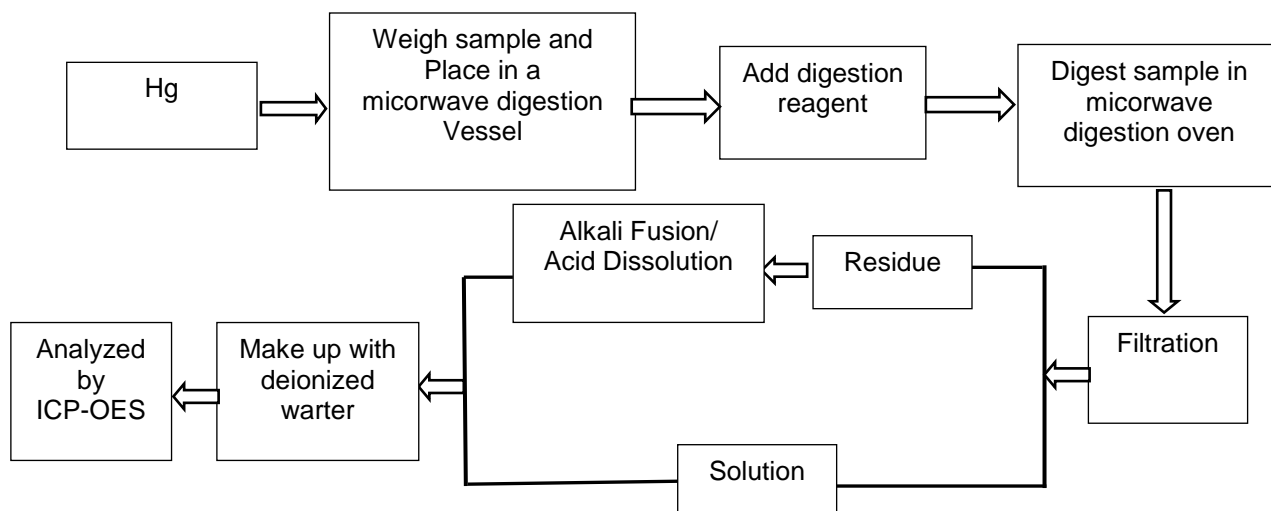
5)*=According to the declaration from the client, Lead (Pb) in the sample are exempted by EU RoHS Directive 2011/65/EU based on ANNEX III 7(c)-I, Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors.

3.Test Flow

1. Lead(Pb), Cadmium(Cd)



2. Mercury (Hg)



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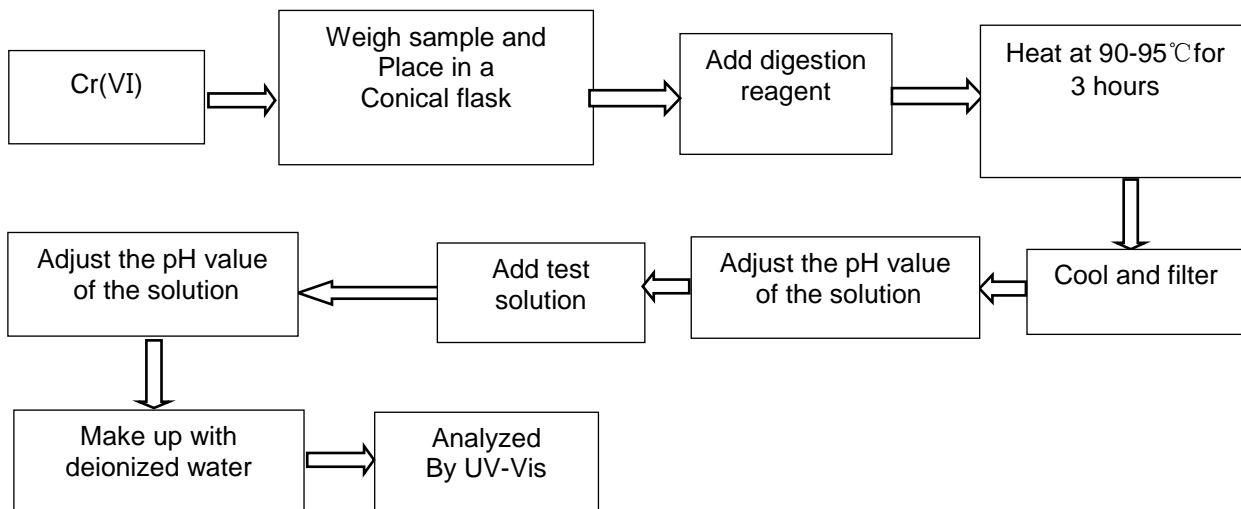
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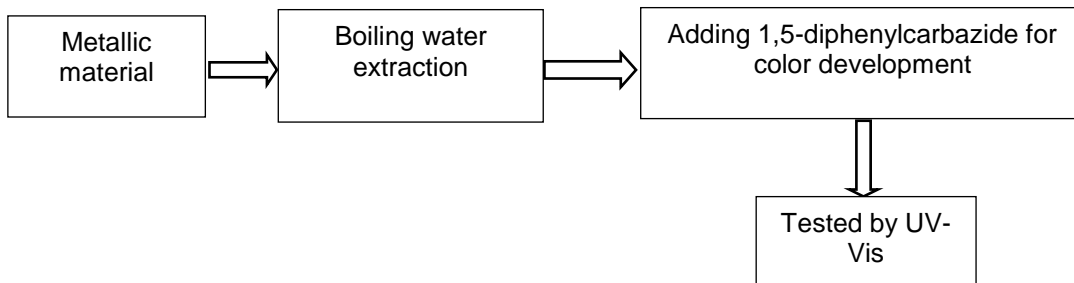
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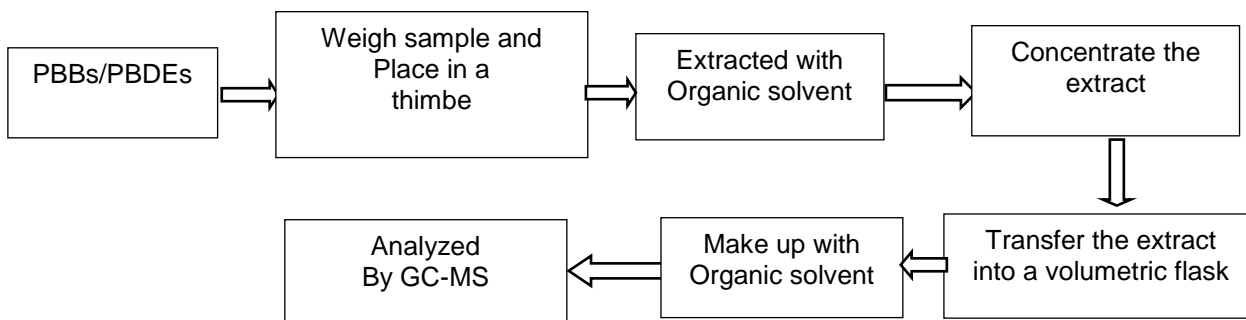
3. Hexavalent Chromium(Cr VI) (Alkaline extraction)



4. Hexavalent Chromium(Cr VI) (Boiling water extraction)



5. PBBs/ PBDEs



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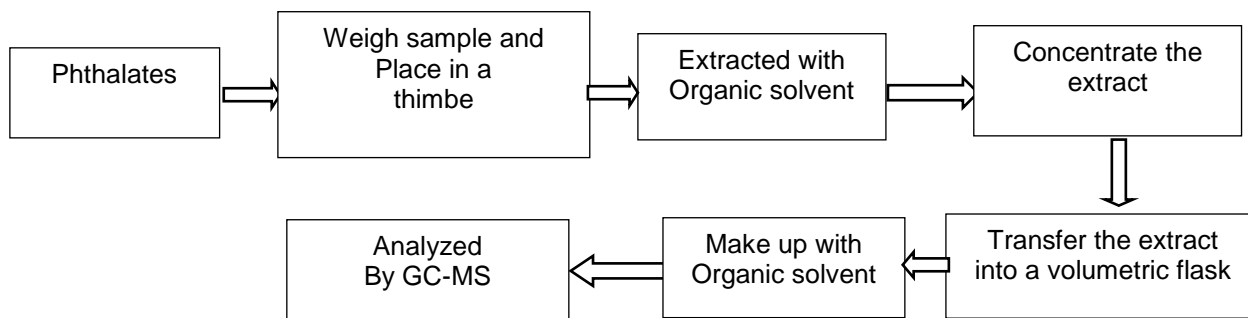


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6. DEHP/ BBP/ DBP/ DIBP



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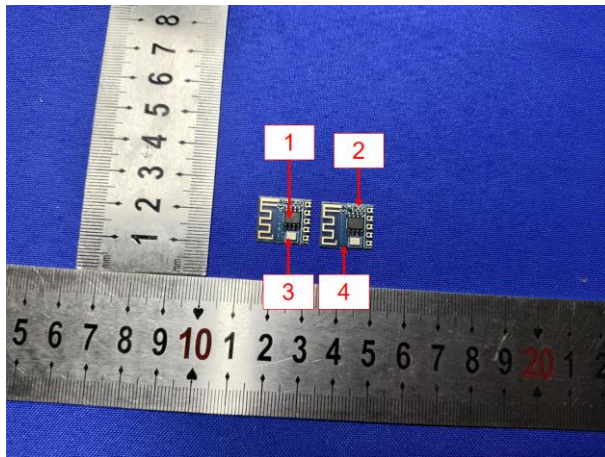
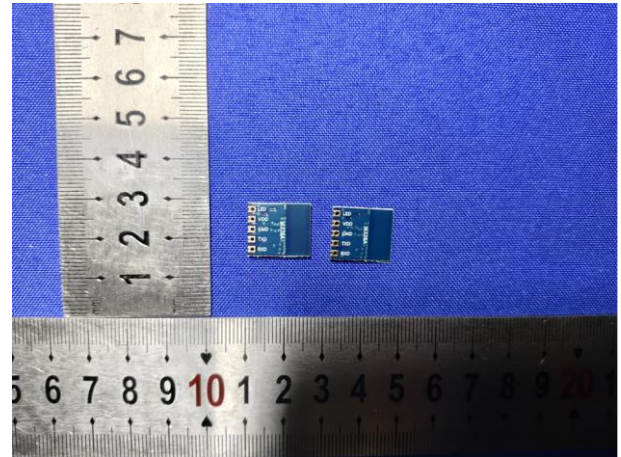
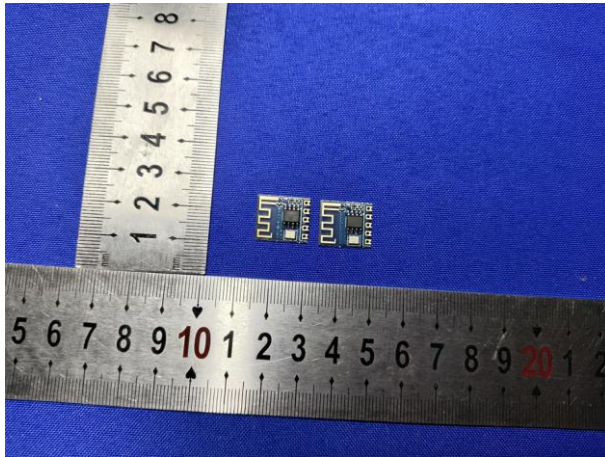


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Photo of the Submitted Sample



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