



TEST REPORT

Applicant : Guangzhou Idealplusing information Technology Co., Ltd

Address : Building 1, kingfa innovation community, 85 gaopu road, tianhe district, guangzhou, CHINA

Manufacturer : Guangzhou Idealplusing information Technology Co., Ltd

Address : Building 1, kingfa innovation community, 85 gaopu road, tianhe district, guangzhou, CHINA

Sample name : DC-DC converter

Model /Type : IPS-DTD12S13.8**, IPS-DTD12S15**, IPS-DTD12S19**, IPS-DTD12S24**, IPS-DTD12S28**, IPS-DTD12S32/36**, IPS-DTD12S48**, IPS-DTD1224S3.3-9**, IPS-DTD24S12**, IPS-DTD3648S5**, IPS-DTD3648S12**, IPS-DTD3648S24**, IPS-DTD48S36**, IPS-DTD60S5**, IPS-DTD60S12**, IPS-DTD60S24**, IPS-DTD60S36**, IPS-DTD12S12**, IPS-DTD12S13.8**, IPS-DTD24S24**, IPS-DTD5S12**, IPS-DTD12S32**, IPS-DTD12S336**, IPS-DTD1224S3.3-9**, IPS-DTD12S3.3**, IPS-DTD12S4.2**, IPS-DTD12S5**, IPS-DTD12S6**, IPS-DTD12S7.5**, IPS-DTD12S9**, IPS-DTD24S3.3**, IPS-DTD24S4.2**, IPS-DTD24S5**, IPS-DTD24S6**, IPS-DTD24S7.5**, IPS-DTD24S9**, IPS-DTD1224S3.3**, IPS-DTD1224S4.2**, IPS-DTD1224S5**, IPS-DTD1224S6**, IPS-DTD1224S7.5**, IPS-DTD1224S9**, IPS-DTD110S24** IPS-DTD110S48**, IPS-DTD220S24**, IPS-DTD220S48**, IPS-DTD48S24**, IPS-DTD24S48**

Test Requested : As requested by the applicant, submitted sample was screened by XRF spectroscopy and inconclusive items were confirmed by wet chemical method in accordance with EU Directive 2011/65/EU Annex II , for details refer to following page(s)

Test item : Cd、 Pb、 Hg、 Cr⁶⁺、 PBBs、 PBDEs

Report Number : GTSR17082009

Date of Test : Aug. 05, 2017 - Aug. 14, 2017

Date of Report : Aug. 14, 2017

Test by : *Jimmy Wang*

Review by : *Peter Xian*

Approve by : *Sam Wang*





1. Tested components

No.	SAMPLE No.	COMPONENTS	MATERIAL OR COLOR	REMARK
1	A-1	skeleton	MIXED	SEE THE PHOTO
2	A-2	insulated rubber tape	MIXED	SEE THE PHOTO
3	A-3	TEX-E	MIXED	SEE THE PHOTO
4	A-4	piezoresistor	MIXED	SEE THE PHOTO
5	A-5	PCB	MIXED	SEE THE PHOTO
6	A-6	switching tube	MIXED	SEE THE PHOTO
7	A-7	resistance	MIXED	SEE THE PHOTO
8	A-8	diode	MIXED	SEE THE PHOTO
9	A-9	luminous diode	MIXED	SEE THE PHOTO
10	A-10	screw	METAL	SEE THE PHOTO
11	A-11	soldering tin	METAL	SEE THE PHOTO
12	A-12	cooling fin	METAL	SEE THE PHOTO
13	A-13	silica gel	MIXED	SEE THE PHOTO
14	A-14	power line	MIXED	SEE THE PHOTO
15	A-15	Red cable	MIXED	SEE THE PHOTO
16	A-16	Black cable	MIXED	SEE THE PHOTO
17	A-17	engine base	MIXED	SEE THE PHOTO



2. Test result:

Sample No.	Component Description	Test Item	XRF Screening Result(mg/kg)	Verdict
A-1	skeleton	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-2	insulated rubber tape	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-3	TEX-E	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-4	piezoresistor	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-5	PCB	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-6	switching tube	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-7	resistance	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-8	diode	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-9	luminous diode	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	



Sample No.	Component Description	Test Item	XRF Screening Result(mg/kg)	Verdict
A-10	screw	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.A.	
A-11	soldering tin	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.A.	
A-12	cooling fin	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.A.	
A-13	silica gel	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-14	power line	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-15	Red cable	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-16	Black cable	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	
A-17	engine base	Cadmium (Cd)	N.D.	P
		Lead (Pb)	N.D.	
		Mercury (Hg)	N.D.	
		Chromium (Cr)	N.D.	
		Bromine (Br)	N.D.	



Remark:

- (1) P=Pass; F=Fail; IC=Inconclusive; N.A.=Not Applicable
- (2) N.D.= not detected, less than MDL
- (3) mg/kg = milligram per kilogram
- (4) MDL = method detection limit
- (5) IC# represents a region, the value fell on this area need further confirmation.
- (6) *1 Exceeds XRF screening limits, need further chemical confirmation.
- (7) #1 The test result is detected in the boiling-water-extraction solution and should not be interpreted as the Cr⁶⁺ concentration in the surface of the sample.
- (8) #2 This value is based on the concentration of extraction of 50 cm² area of the sample.
- (9) XRF screening result for reference only.
- (10) The product photo was in the report provided by the applicant



3. Test Method

3.1. XRF screening test

IEC 62321: 2013 for XRF screening limits in mg/kg for regulated elements in various material

Element	Polymer	Metal	Composite Materials
Cd	P≤70<IC< 130≤ F	P≤70< IC < 130≤ F	P≤70< IC <150≤ F
Pb	P≤700< IC < 1300≤ F	P≤700< IC < 1300≤ F	P≤500< IC < 1500≤ F
Hg	P≤700< IC < 1300≤ F	P≤700< IC < 1300≤ F	P≤500< IC < 1500≤ F
Cr	P≤500< IC	P≤700< IC	P≤500< IC
Br	P≤300< IC	---	P≤250< IC

Method Detection Limits in mg/kg for regulated elements in various material

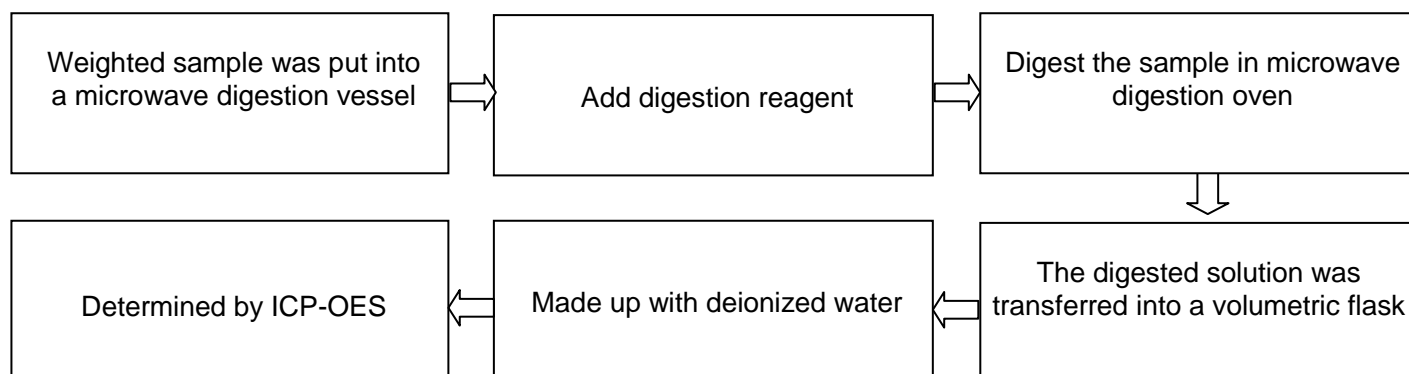
Element	MDL		
	Polymer	Metal	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	--	200

3.2. Chemical confirmation test

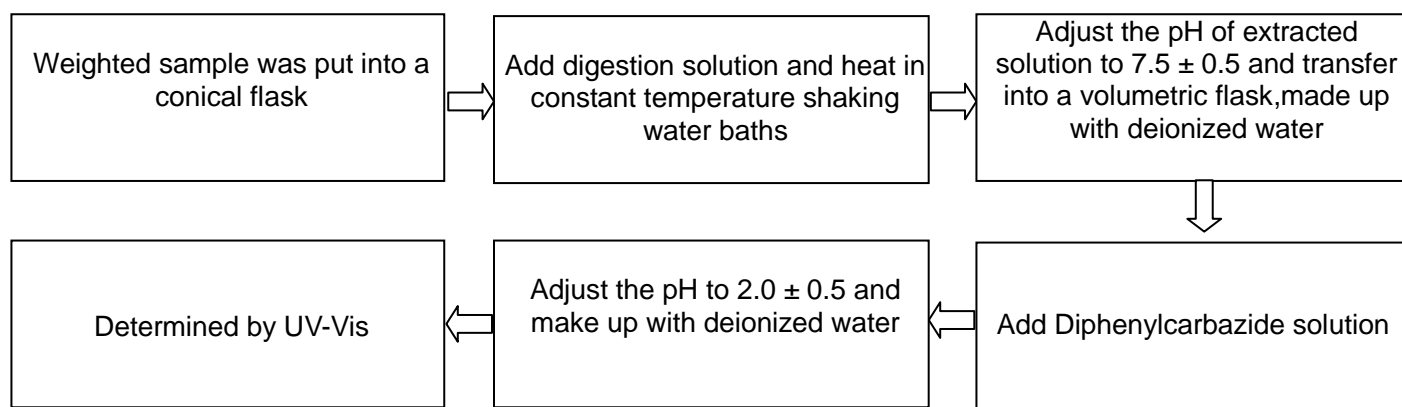
Test Item	Test method	Test instrument	MDL (mg/kg)	EU RoHS Limit (mg/kg)
Cd	IEC 62321:2013	ICP-OES	2	100
Pb	IEC 62321:2013	ICP-OES	2	1000
Hg	IEC 62321:2013	ICP-OES	2	1000
Cr ⁶⁺ (for non-metal)	IEC 62321:2013	UV-Vis	1	1000
Cr ⁶⁺ (for metal)	IEC 62321:2013	UV-Vis	0.02 ^{#2}	-----
PBBs	IEC 62321:2013	GC-MS	5	1000
PBDEs	IEC 62321:2013	GC-MS	5	1000

4. Measurement Flowchart

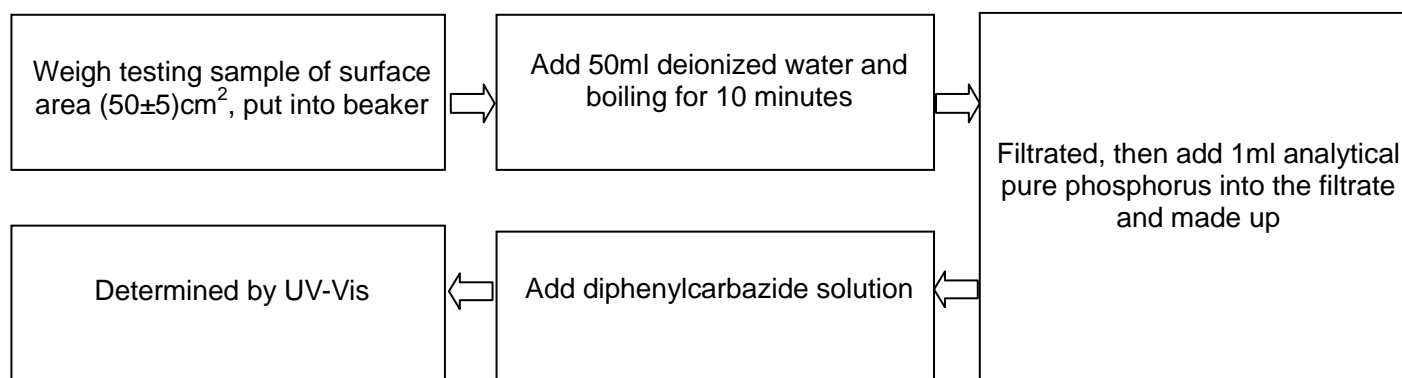
a. Test for Cd / Pb /Hg contents)



b. Test for Cr⁶⁺ content (for non-metal)

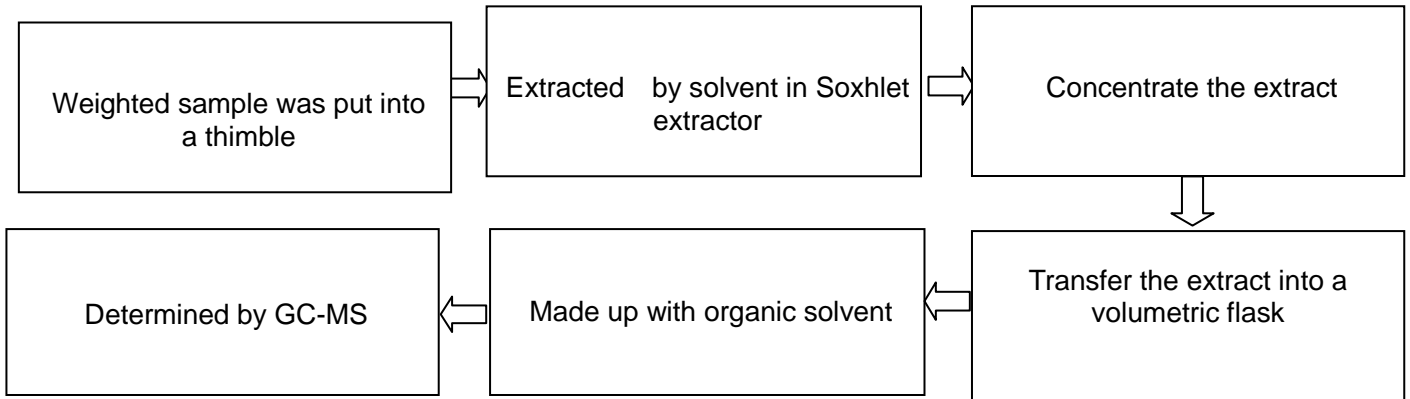


c. Test for Cr⁶⁺ content (for metal)



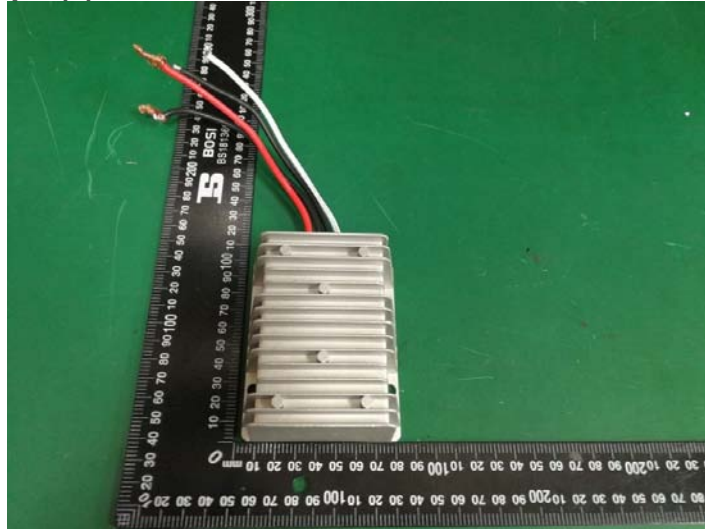


d. Test for PBBs/PBDEs contents





5. Photo(s) of the sample(s)



.....**End of Report**.....