

# Test Report

Report No. RLSHC000327160004

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**Applicant** SHANGHAI SEEFULL ELECTRONIC CO.,LTD.

**Address** 6 ZHENYE RD.,DONGJING,SONGJIANG DISTRICT,SHANGHAI,CHINA

**Report on the submitted sample(s) said to be:**

Sample Received Date Jun. 11, 2010

Testing Period Jun. 11, 2010 to Jun. 18, 2010

**Test Requested** To determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Antimony(Sb), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonates(PFOS), Polycyclic Aromatic Hydrocarbons(PAHs) contents in the submitted sample according to the request of client.

**Sample information:** Please refer to following pages.

**Test Method:** Please refer to following pages.

**Test Result(s):** Please refer to following pages.

Tested by



Approved by

*Chen Huan*

Technical Manager

Inspected by

*Zhong Yijun*

Date

Jun. 18, 2010

No. 94635445

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## Sample information:

No.	Sample Name	Sample Description	Part No.
1	AXIAL DIODE: GREEN MOLDING COMPOUND	MIXED ALL PARTS OF BODY	DO-41_HF (SD09AXXXE_HF, P4KEXXA_HF, P4KEXXA_HF, 1N5819_HF, SB1XX_HF, SB1100_HF, UF10XX_HF, UF15XXS_HF, UG10XX, SF10XG_HF, MUR1XX_HF, 1N49XX_HF, PR10XX_HF, PR15XXS_HF, 1N49XXG_HF, PR10XXG_HF, PR10XXR_HF, PR15XXGS_HF, 1N40XX_HF, 1N40XXT_HF, 1N53XXS_HF, 1N40XXG_HF ETC)
2		SILVER COLORED METAL PIN	
3		BLACK PLASTIC BODY WITHOUT SOLDER PASTE &DIE	

## Test Method :

Tested Item	Pretreatment Method	Measured Equipment	M.D.L.
Lead (Pb)/ Cadmium (Cd)	IEC 62321:2008 Ed.1 Sec.10	ICP-OES	2mg/kg
	Plating layer test method (In-house method) and IEC 62321:2008 Ed.1 Sec.9		2mg/kg
Mercury (Hg)	IEC 62321:2008 Ed.1 Sec.7	ICP-OES	2mg/kg
	Plating layer test method (In-house method)		2mg/kg
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex C	UV-Vis	2mg/kg
	IEC 62321:2008 Ed.1 Annex B		/
Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5mg/kg
Antimony(Sb)	Refer to US EPA 3052:1996	ICP-OES	5mg/kg
Fluorine (F)	Refer to BS EN 14582:2007	IC	10mg/kg
Chlorine (Cl)	Refer to BS EN 14582:2007	IC	10mg/kg
Bromine (Br)	Refer to BS EN 14582:2007	IC	10mg/kg
Iodine (I)	Refer to BS EN 14582:2007	IC	10mg/kg
Perfluorooctanoic Acid (PFOA)	Refer to US EPA 3550C:2007	LC-MS-MS	5mg/kg
			0.5µg/m <sup>2</sup>
Perfluorooctane Sulfonates (PFOS)	Refer to US EPA 3550C:2007	LC-MS-MS	5mg/kg
			0.5µg/m <sup>2</sup>
Polycyclic Aromatic Hydrocarbons (PAHs)	Refer to US EPA 8270D:2007	GC-MS	0.2 mg/kg

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**Test Result:**

Tested Item	Content		
	1	2	3
Lead (Pb)	1.62×10 <sup>4</sup> mg/kg	55mg/kg	N.D.
Cadmium (Cd)	N.D.	N.D.	/
Mercury (Hg)	N.D.	N.D.	/
Hexavalent Chromium (Cr(VI))	N.D.	Negative	/

Tested Item	Content		
	1	2	3
<b>Polybrominated Biphenyls(PBBs)</b>			
Monobromobiphenyl	N.D.	/	/
Dibromobiphenyl	N.D.	/	/
Tribromobiphenyl	N.D.	/	/
Tetrabromobiphenyl	N.D.	/	/
Pentabromobiphenyl	N.D.	/	/
Hexabromobiphenyl	N.D.	/	/
Heptabromobiphenyl	N.D.	/	/
Octabromobiphenyl	N.D.	/	/
Nonabromobiphenyl	N.D.	/	/
Decabromobiphenyl	N.D.	/	/
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>			
Monobromodiphenyl ether	N.D.	/	/
Dibromodiphenyl ether	N.D.	/	/
Tribromodiphenyl ether	N.D.	/	/
Tetrabromodiphenyl ether	N.D.	/	/
Pentabromodiphenyl ether	N.D.	/	/
Hexabromodiphenyl ether	N.D.	/	/
Heptabromodiphenyl ether	N.D.	/	/
Octabromodiphenyl ether	N.D.	/	/
Nonabromodiphenyl ether	N.D.	/	/
Decabromodiphenyl ether	N.D.	/	/

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Tested Item	Content		
	1	2	3
Antimony(Sb)	N.D.	/	/

Tested Item	Content		
	1	2	3
<b>Halogen</b>			
Fluorine (F)	N.D.	/	/
Chlorine (Cl)	N.D.	/	/
Bromine (Br)	N.D.	/	/
Iodine (I)	N.D.	/	/

Tested Item	Content		
	1	2	3
Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	/
Perfluorooctane Sulfonates(PFOS)	N.D.	N.D.	/

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Tested Item	Content		
	1	2	3
<b>Polycyclic Aromatic Hydrocarbons(PAHs)</b>			
Naphthalene	N.D.	/	/
Acenaphthylene	N.D.	/	/
Acenaphthene	N.D.	/	/
Fluorene	N.D.	/	/
Phenanthrene	N.D.	/	/
Anthracene	N.D.	/	/
Fluoranthene	N.D.	/	/
Pyrene	N.D.	/	/
Benzo[a]anthracene	N.D.	/	/
Chrysene	N.D.	/	/
Benzo[b]fluoranthene	N.D.	/	/
Benzo[[k]fluoranthene	N.D.	/	/
Benzo[a]pyrene	N.D.	/	/
Indenol[1,2,3-cd]pyrene	N.D.	/	/
Dibenz[a,h]anthracene	N.D.	/	/
Benzo[g,h,i]perylene	N.D.	/	/

**Note: The sample had been dissolved totally tested for Lead, Cadmium, Mercury and Antimony.**

-M.D.L. = Method Detection Limit

-N.D. = Not Detected (<M.D.L.)

-mg/kg= ppm =parts per million.

-Negative = Absence of Cr (VI). The Cr (VI) concentration detected in the boiling water extraction solution is less than 0.02 mg/kg with 50cm<sup>2</sup> sample surface area used.

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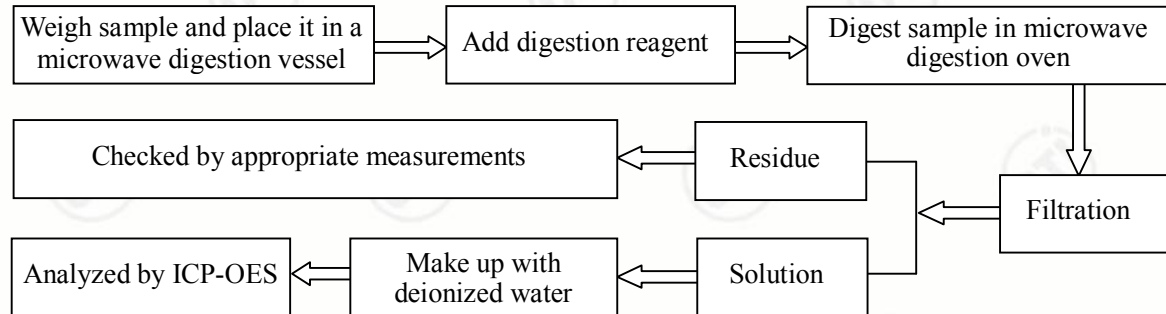
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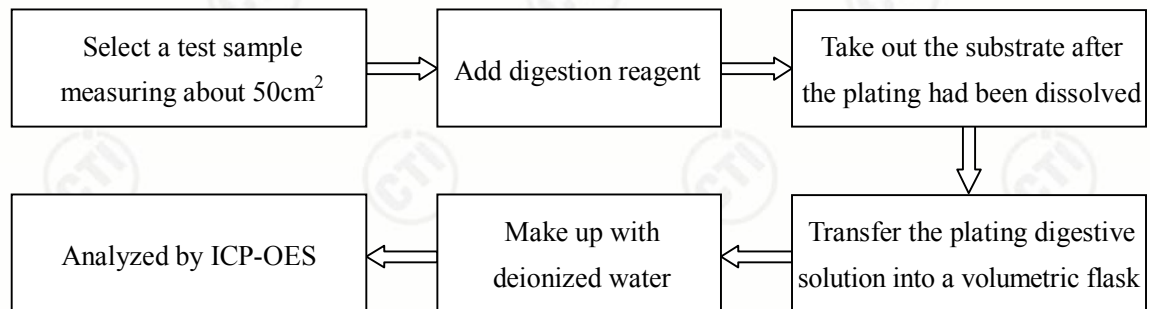
## Test Process :

### 1. Test for Pb/ Cd Content

#### (1) IEC 62321:2008 Ed.1 Sec.10

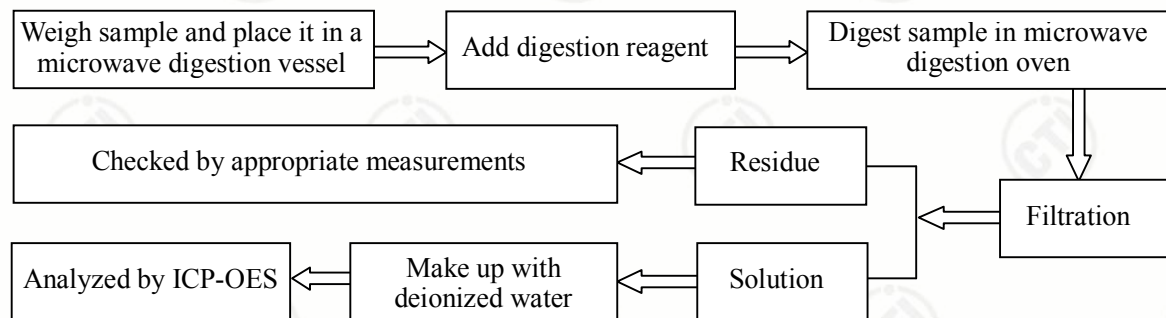


#### (2) Plating layer test method (In-house method)

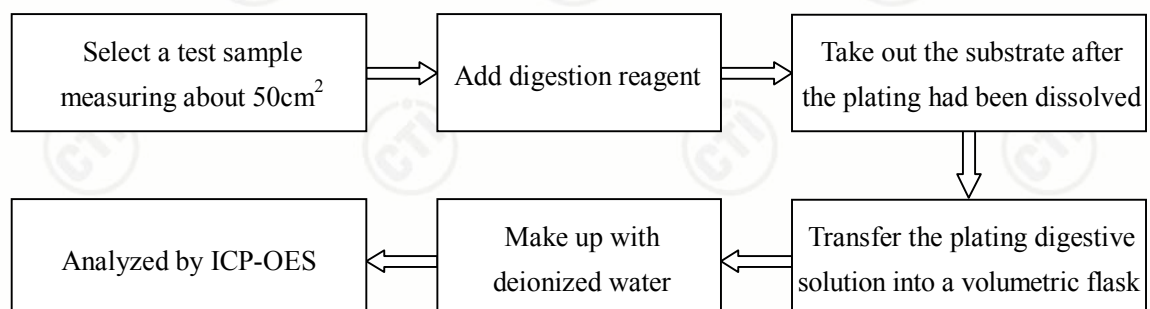


### 2. Test for Hg Content

#### (1) IEC 62321:2008 Ed.1 Sec.7



#### (2) Plating layer test method (In-house method)



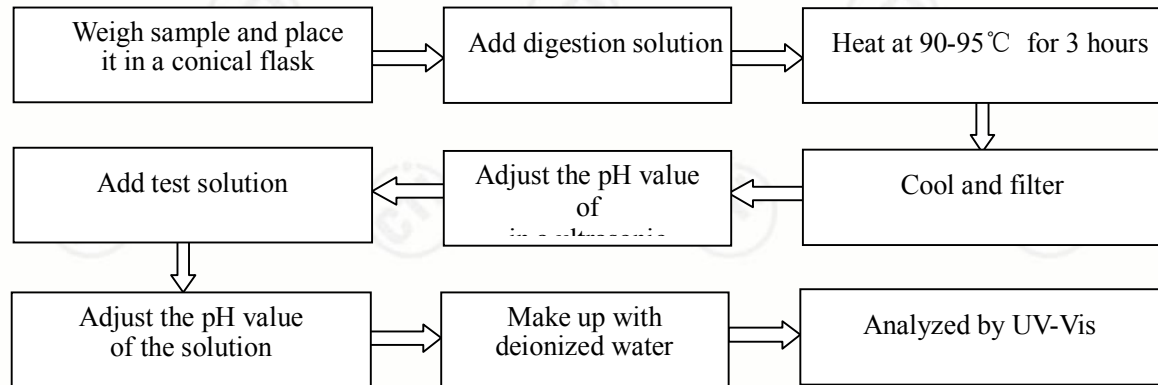
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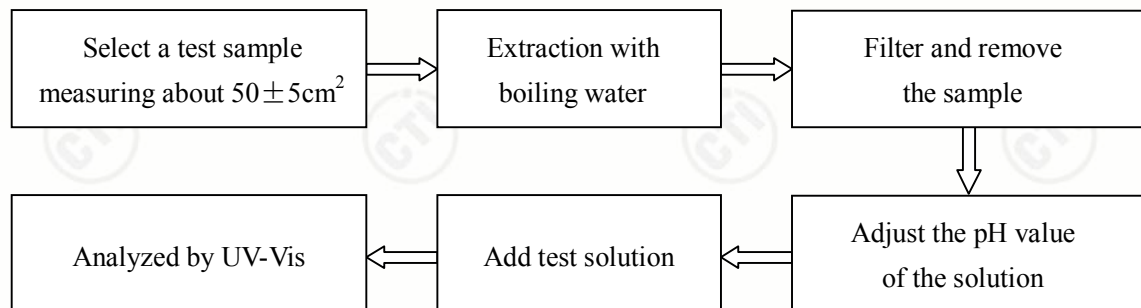
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### 3. Test for Cr (VI) Content

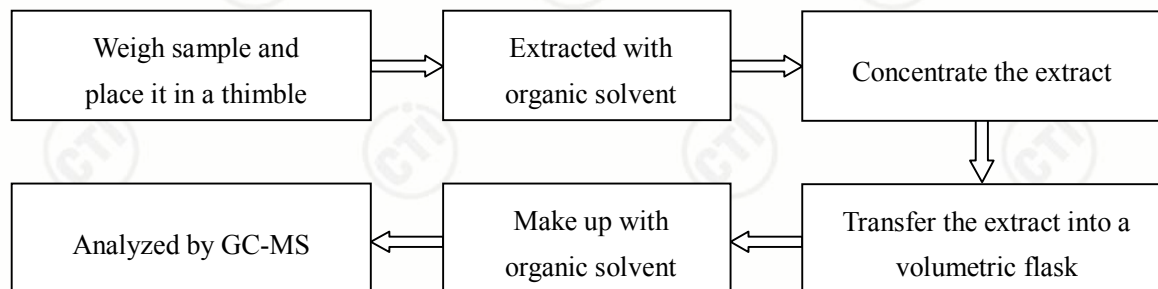
#### (1) IEC 62321:2008 Ed.1 Annex C



#### (2) IEC 62321:2008 Ed.1 Annex B



### 4. Test for PBBs /PBDEs Content

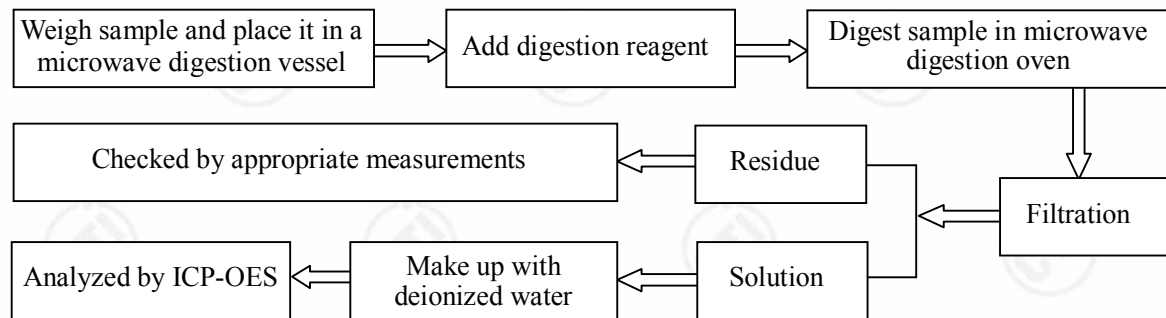


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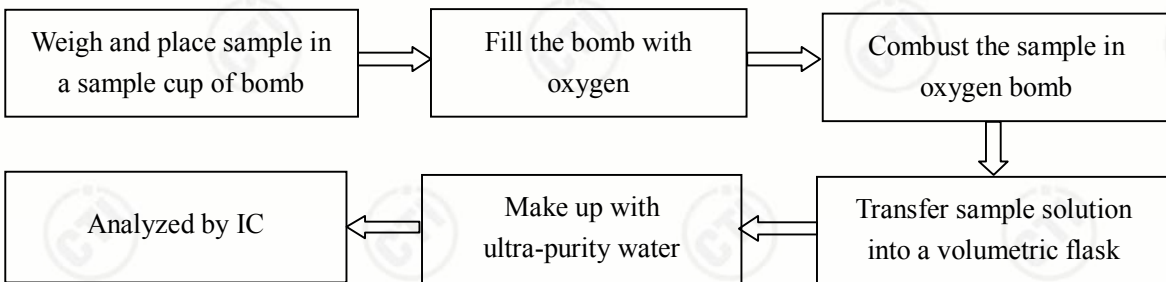
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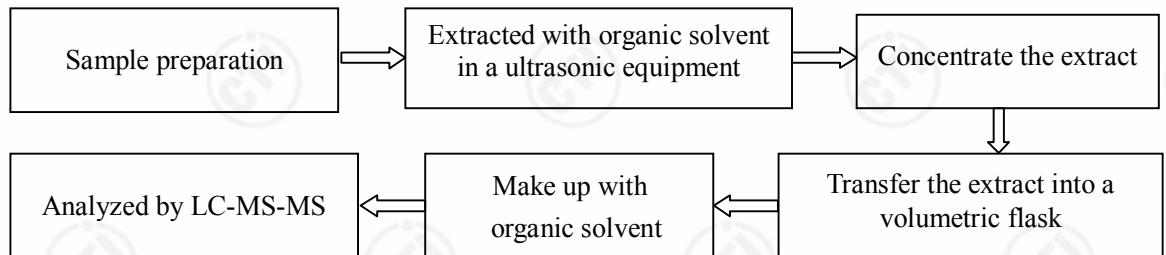
## 5. Antimony(Sb)



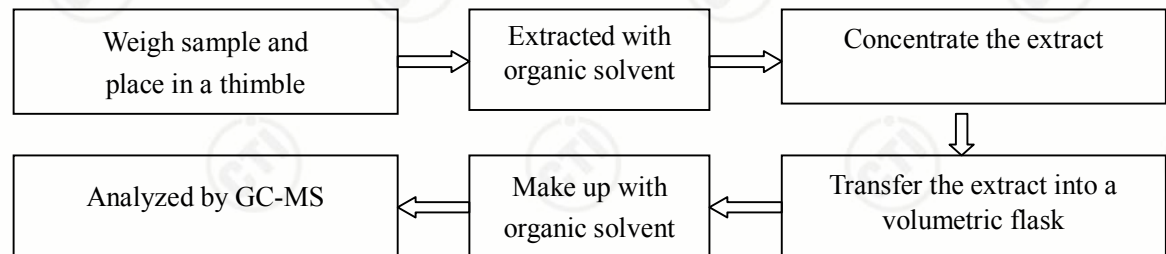
## 6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



## 7. Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonates (PFOS)



## 8. Polycyclic Aromatic Hydrocarbons(PAHs)

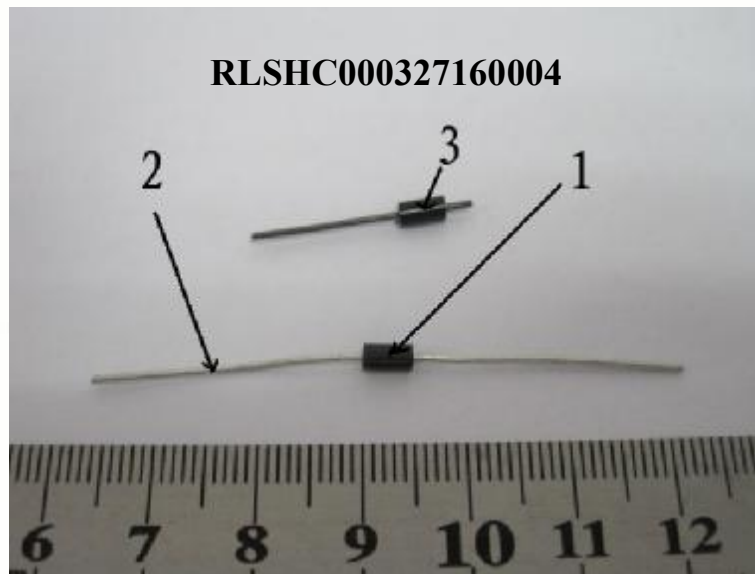


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## Photo of the sample



\*\*\* End of report \*\*\*

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