

Test Report

Report No. ECL01H067798001

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Applicant LITE-ON MICROELECTRONICS (WUXI) CO., LTD.
LITE-ON SEMICONDUCTOR CORP.

Address LAND LOT J7、J8WEPZ, NEW DISTRICT, WUXI CITY, JIANGSU, CHINA
9F,NO.233-2 PAO-CHIAO ROAD, HSIN-TIEN DISTRICT, NEW TAIPEI CITY 23145,
TAIWAN, R.O.C

Sample Received Date Jan. 4, 2016
Testing Period Jan. 4, 2016 to Jan. 8, 2016

Test Requested As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg),
Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs),
Polybrominated Diphenyl Ethers(PBDEs), Hexabromocyclododecane
(HBCDD), Phthalates in the submitted sample(s).

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex B	UV-Vis
	IEC 62321:2008 Ed.1 Annex C	
Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Phthalates	Refer to EN 14372:2004(E)	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3550C:2007 & US EPA 8270D:2007	GC-MS

Test Result(s) Please refer to the following page(s).

Tested by Yang Huifeng

Reviewed by Hu Hongmei

Approved by Su Hongwei
Su Hongwei
Senior Laboratory Manager

Date Jan.8,2016

No. R153067024

Centre Testing International Pinbiao(Shanghai) Co., Ltd. No.1996,Xinjinqiao Road, Pudong New District,Shanghai,China

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The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

No.	Sample Name	The sample description
1	TO BRIDGE W/B:	MIXED ALL PARTS OF BODY
2	LEAD FREE	SILVER COLORED METAL PIN
3	PLATING	BLACK PLASTIC BODY WITHOUT SOLDER WAFER&DIE

Part No. TO-220 W/B PACKAGE FAMILY (SBL10XXCTW, SBL20XXCTW, MBRXXXCTW, MBR20100CTW, STPR1XXXCTW, STPRA1XXXCTW, STPR2XXXCTW, STPRA2XXXCTW, LTPXXNXXP, LTPXXNFXXP, LZPXXNXXP, LSP640, ETC)

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Test Result(s)

Tested Item(s)	Result(Unit: mg/kg)			MDL
	1	2	3	
Lead (Pb)	4476	10	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	—	2 mg/kg
Mercury (Hg)	N.D.	N.D.	—	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	—	—	2 mg/kg
	—	Negative	—	/
Polybrominated Biphenyls(PBBs)				
Monobromobiphenyl	N.D.	—	—	5 mg/kg
Dibromobiphenyl	N.D.	—	—	5 mg/kg
Tribromobiphenyl	N.D.	—	—	5 mg/kg
Tetrabromobiphenyl	N.D.	—	—	5 mg/kg
Pentabromobiphenyl	N.D.	—	—	5 mg/kg
Hexabromobiphenyl	N.D.	—	—	5 mg/kg
Heptabromobiphenyl	N.D.	—	—	5 mg/kg
Octabromobiphenyl	N.D.	—	—	5 mg/kg
Nonabromobiphenyl	N.D.	—	—	5 mg/kg
Decabromobiphenyl	N.D.	—	—	5 mg/kg
Polybrominated Diphenyl Ethers(PBDEs)				
Monobromodiphenyl ether	N.D.	—	—	5 mg/kg
Dibromodiphenyl ether	N.D.	—	—	5 mg/kg
Tribromodiphenyl ether	N.D.	—	—	5 mg/kg
Tetrabromodiphenyl ether	N.D.	—	—	5 mg/kg
Pentabromodiphenyl ether	N.D.	—	—	5 mg/kg
Hexabromodiphenyl ether	N.D.	—	—	5 mg/kg
Heptabromodiphenyl ether	N.D.	—	—	5 mg/kg
Octabromodiphenyl ether	N.D.	—	—	5 mg/kg
Nonabromodiphenyl ether	N.D.	—	—	5 mg/kg
Decabromodiphenyl ether	N.D.	—	—	5 mg/kg

Tested Item(s)	Result(Unit: mg/kg)	MDL
	1	
Hexabromocyclododecane (HBCDD)	N.D.	5 mg/kg

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Tested Item(s)	Result(Unit: mg/kg)	MDL
	1	
Phthalates		
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50mg/kg
Dibutyl phthalate (DBP) CAS #:84-74-2	N.D.	50mg/kg
Benzylbutyl phthalate (BBP) CAS #:85-68-7	N.D.	50mg/kg
Bis(2-ethyl(hexyl)) phthalate (DEHP) CAS #:117-81-7	N.D.	50mg/kg
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	50mg/kg
Diisononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	50mg/kg
Diisodecyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	50mg/kg
Di-n-hexyl phthalate (DNHP) CAS#:84-75-3	N.D.	50mg/kg

Tested Sample/Part Description

1. Black body (Tested as a whole)
2. Silvery metal pin
3. Black body (Tested as a whole)

Remark: The sample had been dissolved totally tested for Lead, Cadmium, Mercury.

The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology. The result(s) shown on this report may be different from the content of any homogeneous material.

-MDL= Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.

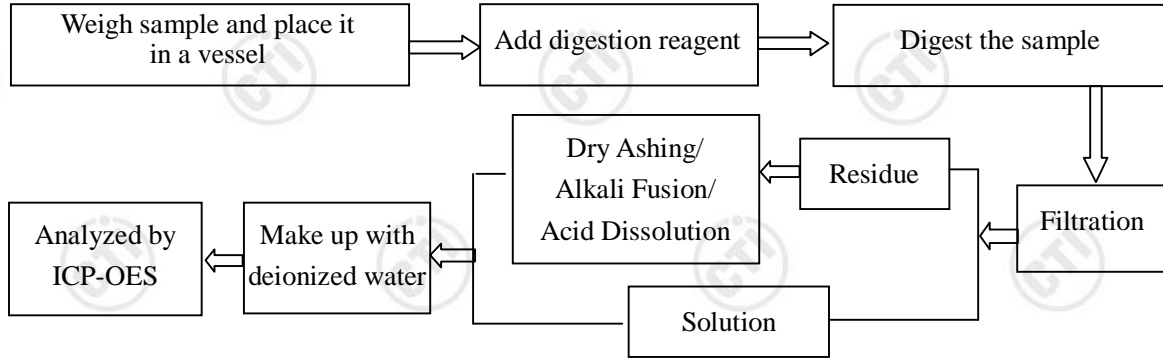
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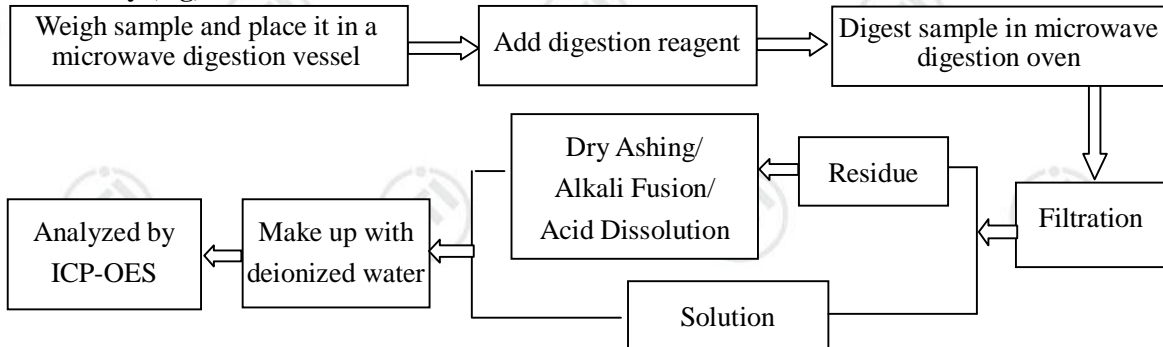
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Test Process

1. Lead(Pb), Cadmium(Cd)

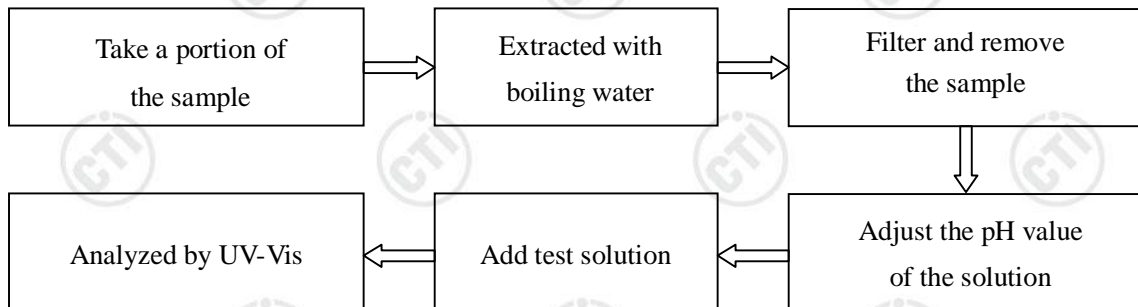


2. Mercury (Hg)

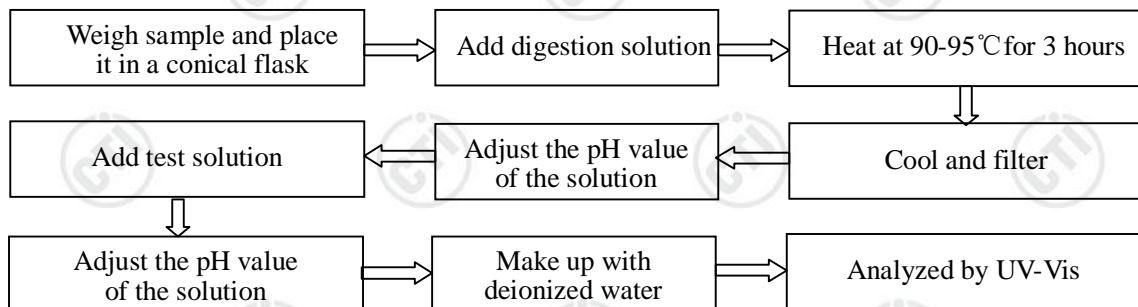


3. Hexavalent Chromium (Cr(VI))

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



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

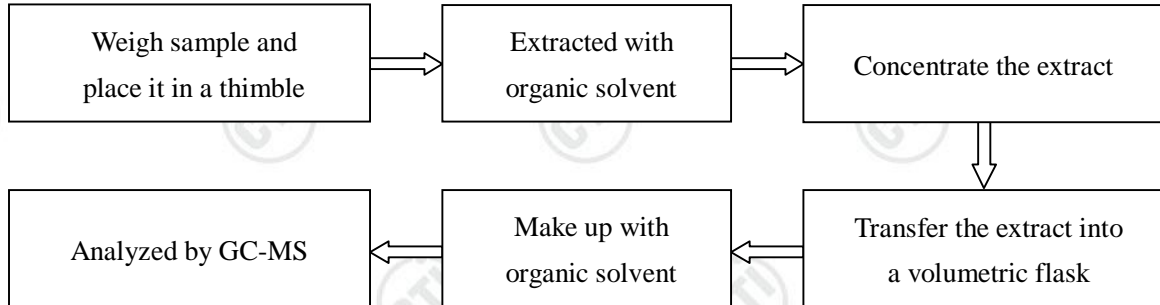


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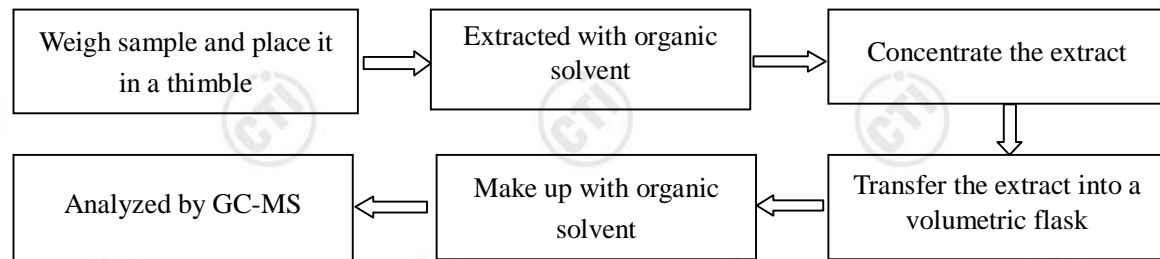
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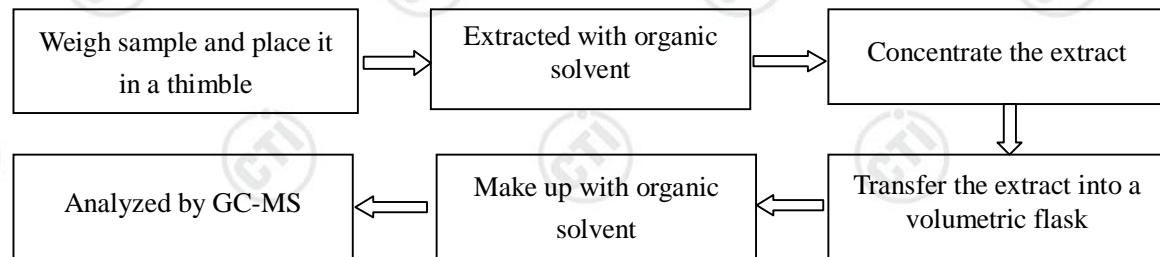
4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs)



5. Phthalates



6. Hexabromocyclododecane (HBCDD)

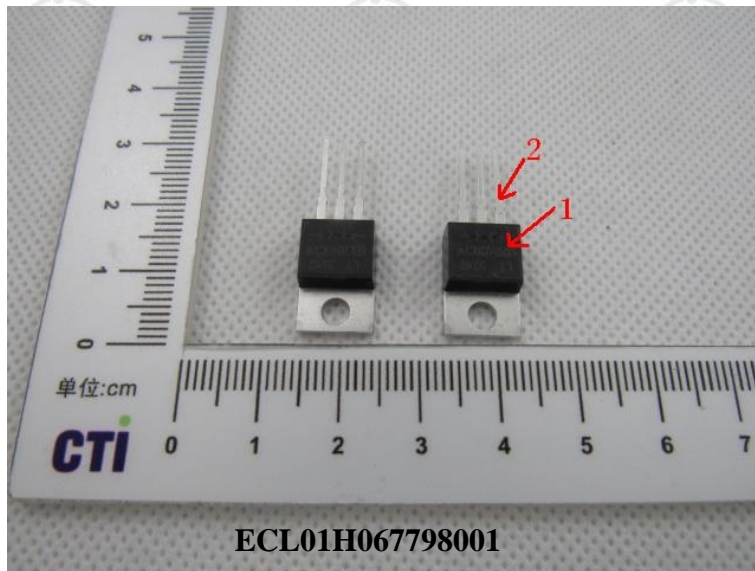


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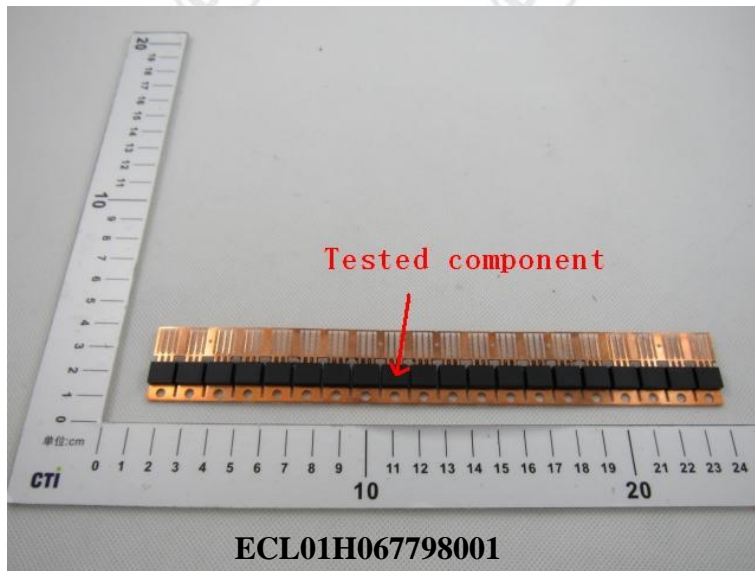
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Photo(s) of the sample(s)



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*** End of Report ***

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