



Test Report

Report No.: HLF15005220E

Date: May 27, 2015

Page 1 of 5

Applicant : SHENZHEN HUILI ELECTRONICS TECHNOLOGY CO., LTD

Address : JINLUAN SHIDAI BUILDING 1213, LONGHUA OFFICE, LONGHUA NEW DISTRICT, SHENZHEN CITY

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

Sample Name : Lead Frame SPO2 Sensor and Detector assembly, Oximeter component

Sample Model : PD-090
IR2R413UT-038

Sample Lot : /

Sample Received Date : May 25, 2015

Test Completed Date : May 27, 2015

Test Method : Refer to the next page(s).

Test Results : Refer to the next page(s).

Test Requested	Conclusion
(1) RoHS Directive 2011/65/EU Annex II – Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(CrVI), Polybrominated Biphenyls (PBBs), Polybrominated Biphenyl Ethers(PBDEs)	PASS
Draft Commission Delegated Directive amending Annex II to Directive 2011/65/EU – DBP, BBP, DEHP, DIBP	PASS
(2) RoHS Directive 2011/65/EU Annex II – Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(CrVI),	PASS

Reviewed by:

Lab Senior Engineer

Authorized Signature:

Technology Manager

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Page 2 of 5

(1) Pb, Cd, Hg, Cr(VI), PBBs, PBDEs Test Results:

Test Item	Test method/Instrument	MDL (mg/kg)	Result (mg/kg)	Limit (mg/kg)
			A	
Lead(Pb)	IEC62321-5:2013/ICP-OES	2	N.D.	1000
Cadmium(Cd)	IEC62321-5:2013/ICP-OES	2	N.D.	100
Mercury(Hg)	IEC62321-4:2013/ICP-OES	2	N.D.	1000
Hexavalent Chromium(CrVI)	IEC62321:2008 /UV-VIS	2	N.D.	1000
Sum of PBBs	-	-	N.D.	1000
Monobromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Dibromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Tribromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Tetrabromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Pentabromodiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Hexabromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Heptabromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Octabromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Nonabromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Decabromobiphenyl	IEC62321:2008 /GC-MS	5	N.D.	--
Sum of PBDEs	-	-	N.D.	1000
Monobromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Dibromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Tribromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Tetrabromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Pentabromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Hexabromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Heptabromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Octabromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Nonabromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--
Decabromobiphenyl ether	IEC62321:2008 /GC-MS	5	N.D.	--

Note:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) N.D. = Not Detected (less than MDL)
- (3) MDL = Method Detection Limit
- (4) "--" = Not Regulated

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Phthalates Test Results:

Test Item	CAS No.	Test Method / Instrument	MDL (%)	Result(%)	Limit (%)
				A	
Dibutyl phthalate (DBP)	84-74-2	EN14372(2004) / GC-MS	0.005	N.D.	0.1
Butyl benzyl phthalate (BBP)	85-68-7	EN14372(2004) / GC-MS	0.005	N.D.	0.1
Bis-(2-ethylhexyl)phthalate (DEHP)	117-81-7	EN14372(2004) / GC-MS	0.005	N.D.	0.1
Di-iso-butyl ortho-phthalate (DIBP)	84-69-5	EN14372(2004) / GC-MS	0.005	N.D.	0.1

Notes: Reference Information: RoHS Directive 2011/65/EU & 2014.12.17 draft commission delegated directive amending (G/TBT/N/EU/256): Bis-(2-ethylhexyl)phthalate(DEHP), Butyl benzyl phthalate(BBP), Dibutyl phthalate(DBP), Di-iso-butyl ortho-phthalate(DIBP) is listed as restricted substances.

Note:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) N.D. = Not Detected (less than MDL)
- (3) MDL = Method Detection Limit
- (4) “-” = Not Regulated

(2) Pb, Cd, Hg, Cr(VI) Test Results:

Test Item	Test method/Instrument	MDL (mg/kg)	Result (mg/kg)	Limit (mg/kg)
			B	
Lead(Pb)	IEC62321-5:2013/ICP-OES	2	N.D.	1000
Cadmium(Cd)	IEC62321-5:2013/ICP-OES	2	N.D.	100
Mercury(Hg)	IEC62321-4:2013/ICP-OES	2	N.D.	1000
Hexavalent Chromium(CrVI)	IEC62321:2008 /UV-VIS	2	N.D.	1000

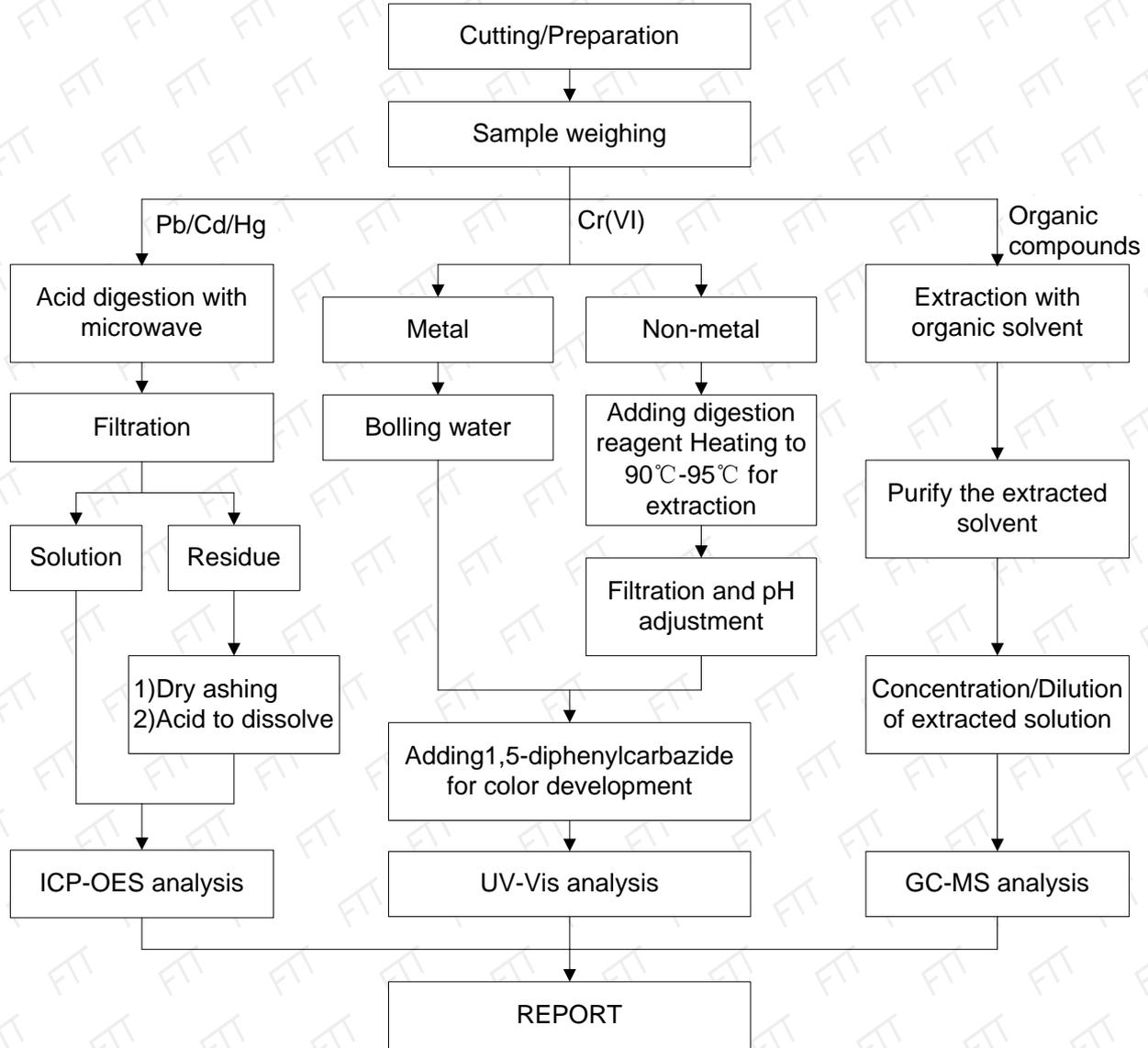
Note:

- (1) 1 mg/kg = 1 ppm = 0.0001%
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Pb, Cd, Hg, Cr(VI), Organic compounds Testing Flow Chart:



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Test Part Description:

A: Non-metal

B: Metal

Sample Photo



Remark: According to client's requirement, the provided sample separation for metal and non-metal.

Note: The results shown in this report refer only to the sample(s) tested.

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

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