

# Test Report

No. SZR161219006001

Date: Dec. 23, 2016

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**Applicant** : Shanghai High-Flying Electronics Technology Co., Ltd  
**Address** : Room 1002,Building 1,No.3000,Longdong Avenue,Pudong New Area,Shanghai,China,201203

**The submitted sample and sample information was/were submitted and identified by/on the behalf of the client**

**Sample name** : HF-LPT100F  
**Type /model** : HF-LPT100F  
**Manufacturer** : /  
**Sample received date** : Dec. 19, 2016  
**Testing period** : Dec. 19, 2016 to Dec. 23, 2016

**Test requested** : As specified by client, to test to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs), Polybrominated Diphenyl Ethers (PBDEs), Dibutyl phthalate(DBP), Di-2-ethylhexyl phthalate(DEHP), Di-isobutyl phthalate(DIBP), Benzyl butyl phthalate(BBP) in the submitted sample.

**According to the RoHS Directive 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863 with effective from 22 July 2019**

**Test Method:** Please refer to the following page(s).

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



Tested by Wang Li

Inspected by Sahon Chen

Approved by Joe Li

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**Tested Sample/Part Description:**

No.	Sample description	No.	Sample description
1*	PCB board mixed	9*	Chip inductor mixed
2	Soldering tin	10*	Crystal oscillator mixed
3	Copper metal wire	11*	White IC mixed
4*	IC mixed	12*	Chip capacitor (big) mixed
5*	IC body mixed	13*	Chip capacitor (small) mixed
6	Pin	14*	Chip resistor mixed
7	Silvery metal contact pin	15*	IC body mixed
8	Black plastic	16	Pin

**Test Method:**

Tested Item(s)	Test Method	Measured Equipment(s)	MDL Unit (mg/kg)	Limit Unit (mg/kg)
Lead(Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2	1000
Cadmium(Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2	100
Mercury(Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES	2	1000
Hexavalent Chromium(Cr(VI))	IEC 62321-7-1:2015 Ed.1.0	UV-Vis	/	1000
	IEC 62321:2008 Ed.1 Annex C		2	1000
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5	1000
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5	1000
Phthalates	EN 14372:2004(E)	GC-MS	50	1000

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**Test Result(s):**

Tested Item(s)	Result Unit (mg/kg)			
	1*	2	3	4*
Lead (Pb)	N.D.	169	N.D.	N.D.
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (Cr(VI))	N.D.	Negative	Negative	N.D.

Tested Item(s)	Result Unit (mg/kg)			
	5*	6	7	8
Lead (Pb)	N.D.	115	25	N.D.
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (Cr(VI))	N.D.	Negative	Negative	N.D.

Tested Item(s)	Result Unit (mg/kg)			
	9*	10*	11*	12*
Lead (Pb)	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (Cr(VI))	N.D.	Negative	N.D.	N.D.

Tested Item(s)	Result Unit (mg/kg)			
	13*	14*	15*	16
Lead (Pb)	101	905	N.D.	88
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	N.D.	Negative

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Tested Item(s)	Result			
	Unit (mg/kg)			
	1*	2	3	4*
<b>Polybrominated Biphenyls(PBBs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.

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Tested Item(s)	Result			
	Unit (mg/kg)			
	5*	6	7	8
<b>Polybrominated Biphenyls(PBBs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.

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Tested Item(s)	Result			
	Unit (mg/kg)			
	9*	10*	11*	12*
<b>Polybrominated Biphenyls(PBBs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.

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Tested Item(s)	Result			
	Unit (mg/kg)			
	13*	14*	15*	16
<b>Polybrominated Biphenyls(PBBs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>	N.D.	N.D.	N.D.	N.D.
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.

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Tested Item(s)	Result Unit (mg/kg)			
	1*	2	3	4*
Di-isobutyl phthalate(DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate(DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.
Benzylbutyl phthalate(BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.
Di-2-ethylhexyl phthalate(DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.

Tested Item(s)	Result Unit (mg/kg)			
	5*	6	7	8
Di-isobutyl phthalate(DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate(DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.
Benzylbutyl phthalate(BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.
Di-2-ethylhexyl phthalate(DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.

Tested Item(s)	Result Unit (mg/kg)			
	9*	10*	11*	12*
Di-isobutyl phthalate(DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate(DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.
Benzylbutyl phthalate(BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.
Di-2-ethylhexyl phthalate(DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.



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Tested Item(s)	Result			
	Unit (mg/kg)			
	13*	14*	15*	16
Di-isobutyl phthalate(DIBP) CAS #:84-69-5	N.D.	N.D.	N.D.	N.D.
Dibutyl phthalate(DBP) CAS #:84-74-2	N.D.	N.D.	N.D.	N.D.
Benzylbutyl phthalate(BBP) CAS #:85-68-7	N.D.	N.D.	N.D.	N.D.
Di-2-ethylhexyl phthalate(DEHP) CAS #:117-81-7	N.D.	N.D.	N.D.	N.D.

**Note:**

-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 0.10ug/cm<sup>2</sup>.

-Positive = Presence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is equal to or greater than 0.13ug/cm<sup>2</sup>

-1\*/4\*/5\*/9\*/10\*/11\*/12\*/13\*/14\*/15\* = According to the applicant's request, the admixture of specimen 1/4/5/9/10/11/12/13/14/15 is tested as a whole. The testing results of specimen 1/4/5/9/10/11/12/13/14/15 may be different from that of any sole material in specimen 1/4/5/9/10/11/12/13/14/15.

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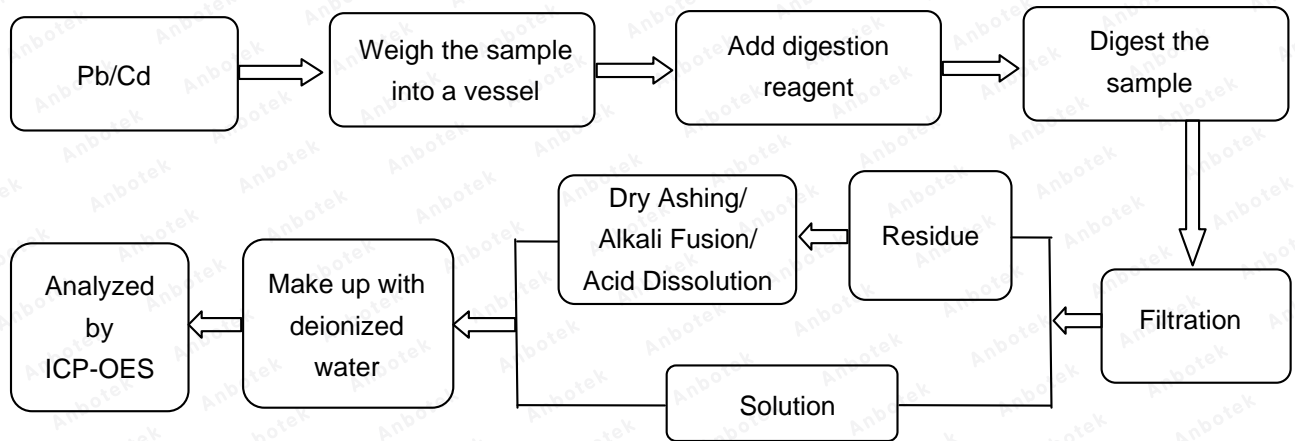
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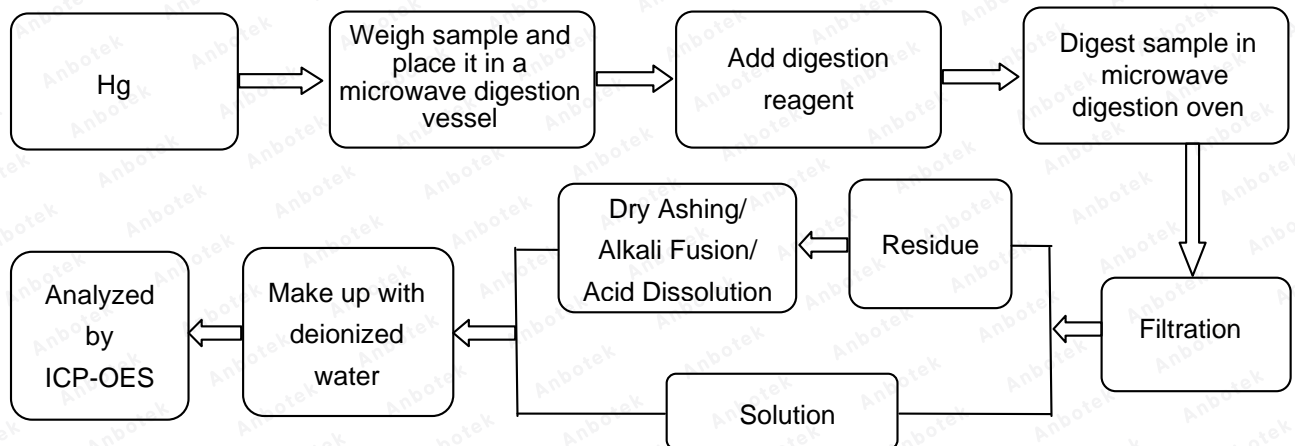
**Test Process:**

The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

◆ IEC 62321-5:2013 Ed.1.0



◆ IEC 62321-4:2013 Ed.1.0



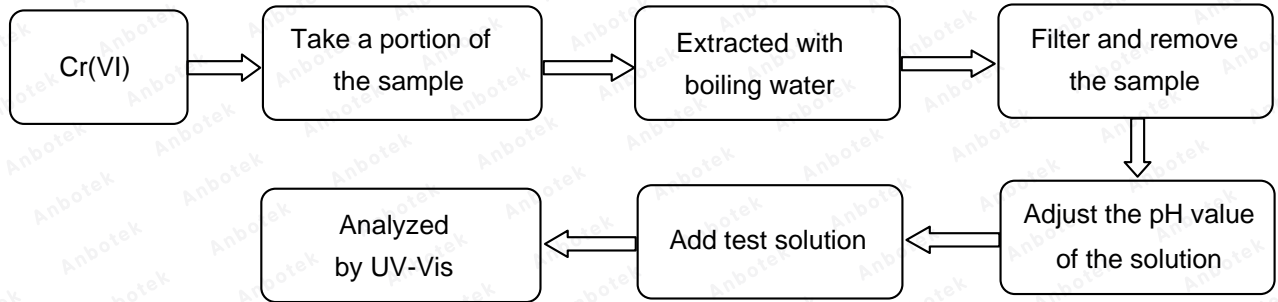
# Test Report

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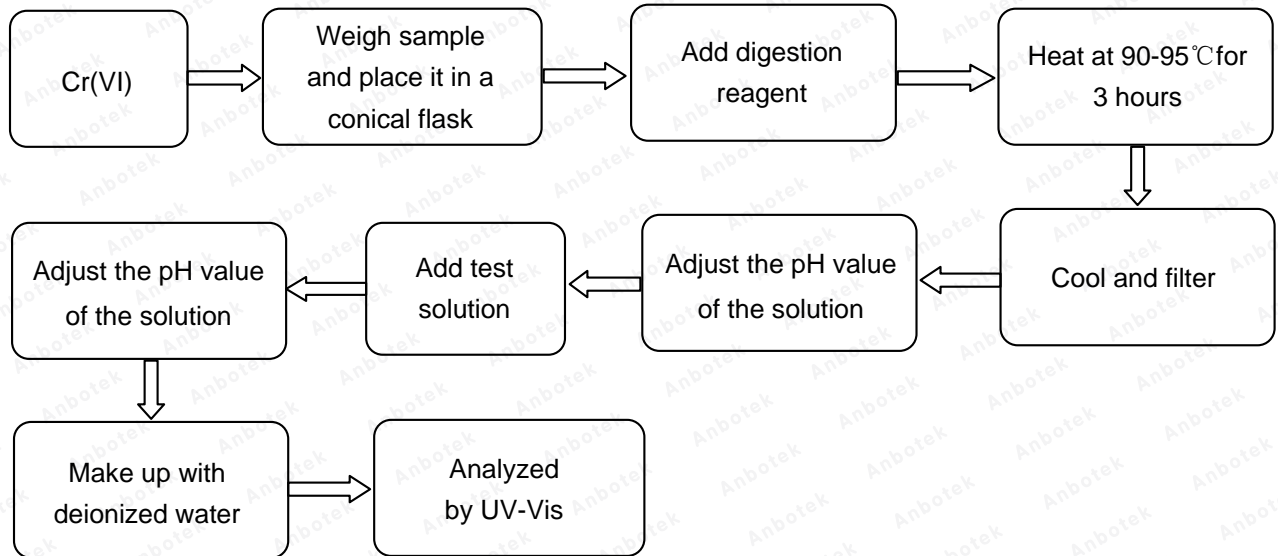
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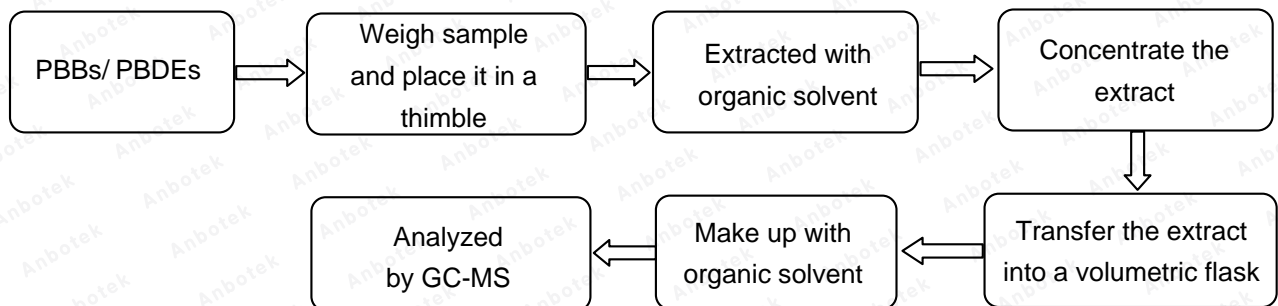
◆ IEC 62321-7-1:2015 Ed.1.0



◆ IEC 62321:2008 Ed.1 Annex C



◆ IEC 62321-6:2015 Ed.1.0



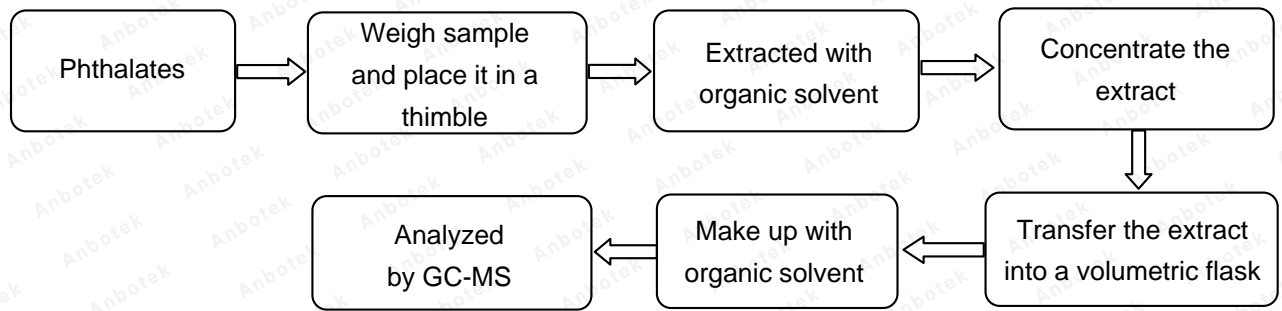
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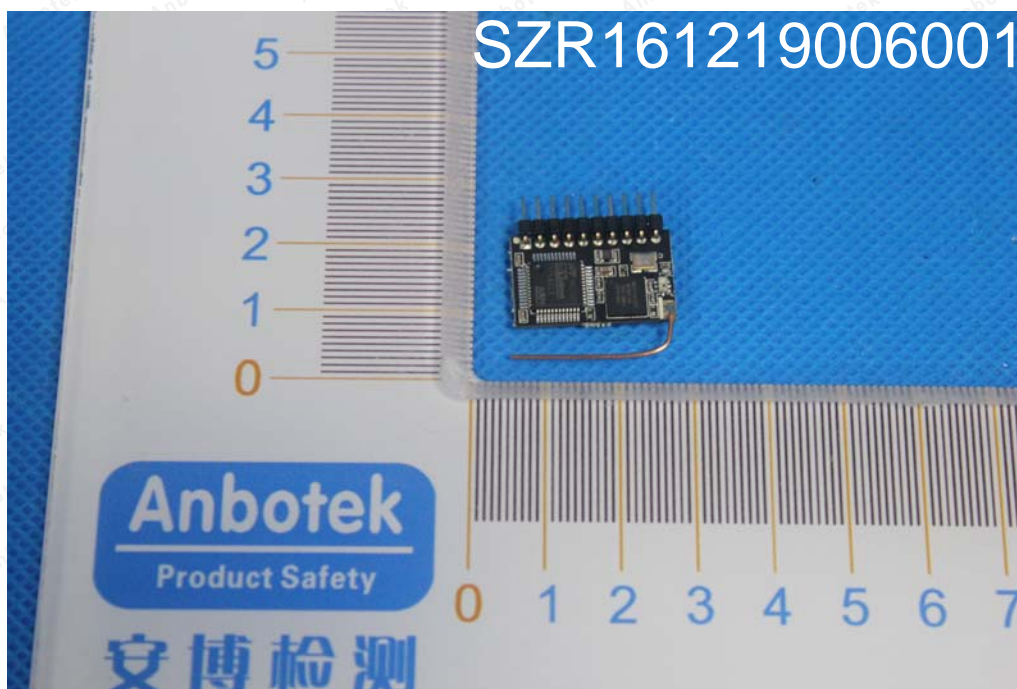
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◆ **EN14372:2004**



### Photograph of Sample



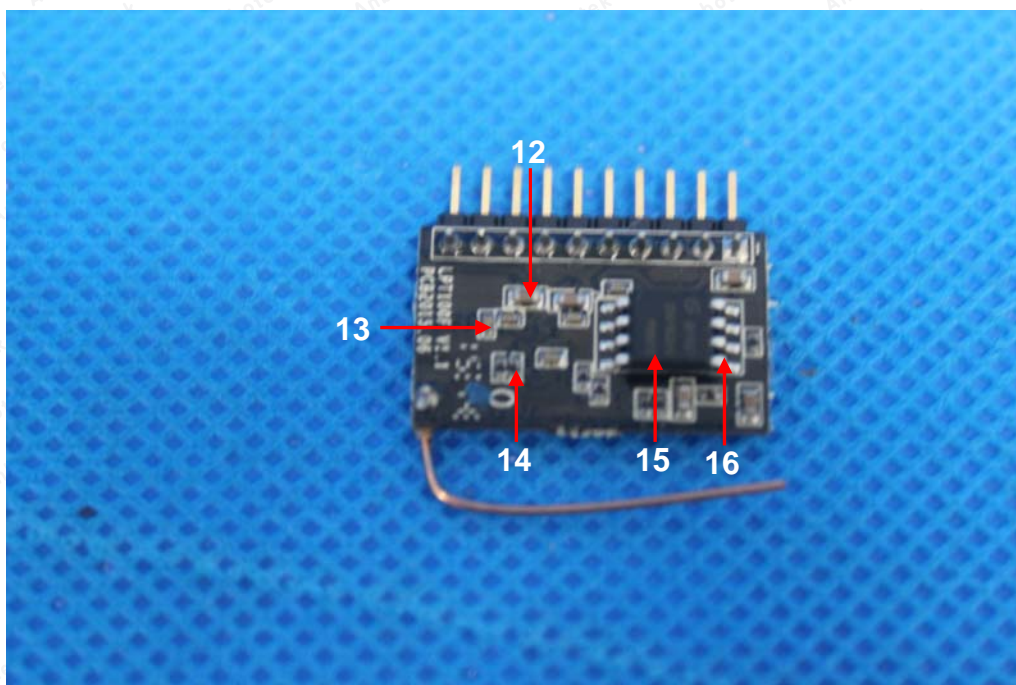
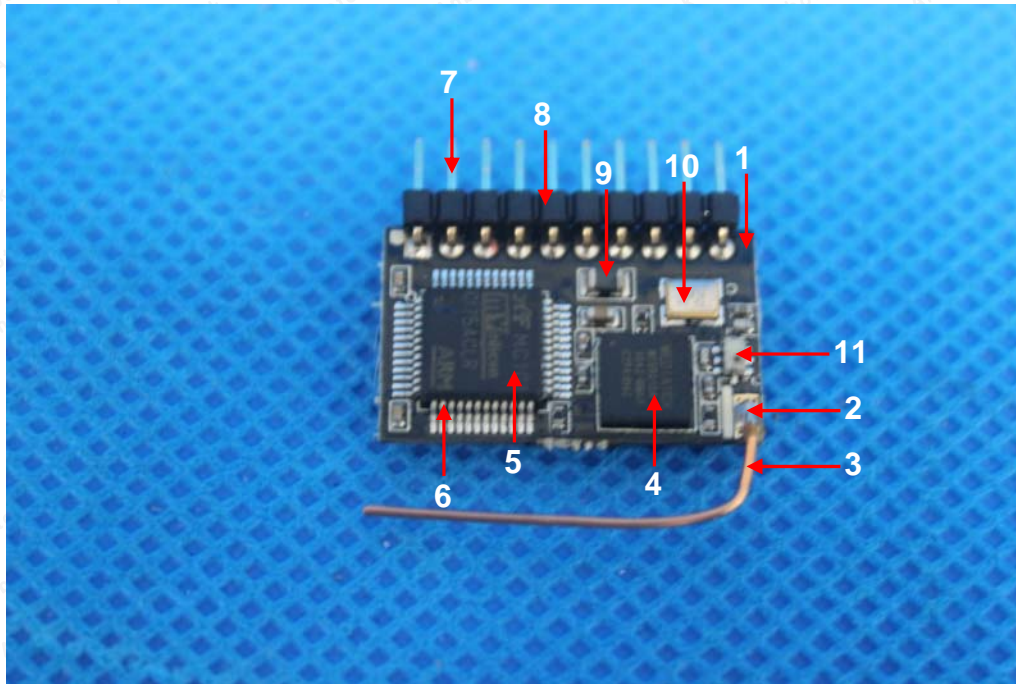
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## Photo(s) of the tested component(s)



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

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of Anbotek, this report can't be reproduced except in full.

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