

# TEST REPORT

**Test Report No.: 20163070310**

**Applicant:** IGEN Tech Co., Ltd  
**Manufacturer:** IGEN Tech Co., Ltd  
**Factory:** IGEN Tech Co., Ltd  
**Name of the sample:** Data acquisition equipment  
**Brand Name:** SOLARMAN  
**Model:** LX series, MX series

**Test Result:** PASS.**STATEMENT**

1. This test report shall not be reproduced in full or partial without the written approval of Jiangsu Electronic Information Product Quality Supervision and Inspection Institute.
2. The test results presented in this report relate only to the sample and the item tested.
3. This test report is ineffective if it is without special inspection seal of the test laboratory.
4. If you have any question or comment, please bring them to our attention within 15 days, after you receive the test report. (Please lodge them to the assignment department if the task is consigned by the government.)
5. Please retake the samples in 60 days after you receive the report, the laboratory will dispose the samples after exceeding the time limit.
6. The test items in the report with accreditation symbols have already been accredited by related accreditation bodies (except for the items with \*)

**Date of test:** Aug 03, —Aug 12, 2016**Tested by:** Wu Weidong  
Wu Weidong**Checked by:** Mao Zhiling  
Mao Zhiling**Approved by:** Zhang Zhiqiang **Date:** Aug. 15, 2016  
Zhang Zhiqiang**Issued By:** Jiangsu Electronic Information Product Quality Supervision & Inspection Institute**LAB Address:** No.100 Jinshui Road, WuXi, Jiangsu, P.R.China

**Test standard:**

1. DIRECTIVE 2011/65/EU RoHS and its revised DIRECTIVE( EU )2015/863;
2. IEC 62321-3-1:2013 Determination of certain substances in electrotechnical products –Part 3-1: Screening – Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry ;
3. IEC 62321-4:2013 Determination of certain substances in electrotechnical products –Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS;
4. IEC 62321-5:2013 Determination of certain substances in electrotechnical products –Part 5: Cadmium, lead and chromium in polymers and electronics and cadmium and lead in metals by AAS, AFS, ICP-OES and ICP-MS;
5. IEC 62321-6:2015 Determination of certain substances in electrotechnical products-Part 6: Polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatography-mass spectrometry(GC-MS);
6. IEC 62321-7-1:2015 Determination of certain substances in electrotechnical products - Part 7-1: Hexavalent chromium - Presence of hexavalent chromium (Cr(VI)) in colourless and coloured corrosion-protected coatings on metals by the colorimetric method.

**Test item description:**

Model/Type reference: LX series

Ratings: /

**Possible test case verdicts:**

- test case does not apply to the test object: N/A
- test object does meet the requirement: P (Pass)
- test object does not meet the requirement: F (Fail)

**General product information:**

1. Sample photo:



data acquisition device front photo



data acquisition device back photo



2. Sample models difference description:

This application for test of products: Data acquisition equipment;

The application of product coverage model: LX series, MX series,

The inspection of the product model: LX series.

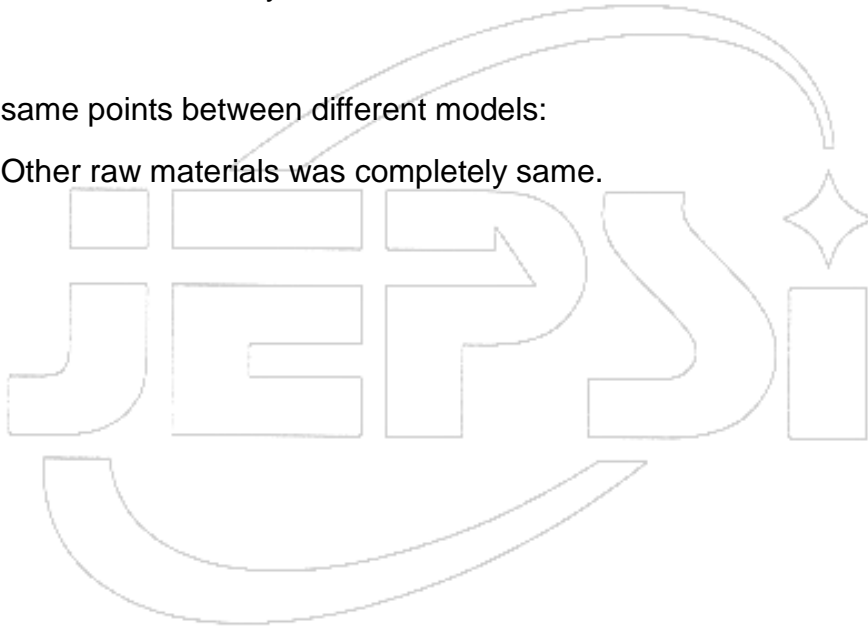
The differences between different models:

1, the appearance is not the same;

2, the communication system is not the same;

The same points between different models:

Other raw materials was completely same.



## Test Results

a) the results of the Data acquisition equipment

Unit: mg/kg

Test Results									
Name			Pb	Cd	Hg	Cr(VI)	PBB <sub>s</sub>	PBDE <sub>s</sub>	Conclusion
No.	Parts	Test unit	/	/	/	/	/		/
1	shell	Upper cover	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
2		Lower cover	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
3		Side baffle	N.D.	N.D.	N.D.	N.D.	N.D.	707	P
4	Indicator light board	Indicator light board	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
5	Plastic rivet	Plastic rivet	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
6	Screw 1	Screw 1	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	P
7	Screw 2	Screw 2	N.D.	N.D.	N.D.	Negative	N.A.	N.A.	P
8	Metal needle	Metal needle	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
9	Antenna	Plastic cap	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
10		Pan head screw	N.D.	4858*	N.D.	N.D.	N.A.	N.A.	P*
11		copper coil	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
12		Heat shrinkable sleeve	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
13		Copper screw	N.D.	9497*	N.D.	N.D.	N.A.	N.A.	P*
14		O- type circle	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
15		Washer	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
16		White plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
17		Copper core	N.D.	7471*	N.D.	N.D.	N.A.	N.A.	P*
18		solder	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
19	Wireless module	Label	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
20		Shielding box	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
21		IC1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
22		IC1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
23		chip resistor	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
24		Chip capacitor	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
25		PCB green oil	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
26		PCB epoxy plate	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
27		PCB copper foil	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
28		Crystal oscillator	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
29		Solder	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
30	IC1	IC1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P

### Test Results

Name			Pb	Cd	Hg	Cr(VI)	PBB <sub>s</sub>	PBDE <sub>s</sub>	Conclusion
No.	Parts	Test unit	/	/	/	/	/		/
31	IC2	Body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
32		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
33	IC3	IC3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
34	Switch	Black plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
35		Metal shell	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
36		Spring	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
37		Ball	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
38		Reed	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
39		Red plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
40		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
41		Adapter	Metal shell	N.D.	17133*	N.D.	N.D.	N.A.	N.A.
42	Pin		N.D.	18809*	N.D.	N.D.	N.A.	N.A.	P*
43	White plastic		N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
44	Cable socket	Black plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
45		Metal shell	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
46		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
47	Power supply socket	Black plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
48		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
49		Contact rod	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
50		Solder	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
51	Integrated circuit	Body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
52		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
53	Electrolytic capacitor	Heat shrinkable sleeve	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
54		Aluminum shell	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
55		Rubber plug	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
56		Anode aluminum foil	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
57		Negative aluminum foil	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
58		Electrolytic paper	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
59		Electrode slice	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
60		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
61	Rectifier diode	Body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
62		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
63	button battery	Body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
64		Guide bar	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P

### Test Results

Name			Pb	Cd	Hg	Cr(VI)	PBBs	PBDEs	Conclusion
No.	Parts	Test unit	/	/	/	/	/		/
65	Tact Switch	Metal shell	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
66		Black plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
67		Reed	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
68		Contact	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
69		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
70	Crystal oscillator	Body	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
71		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
72	LED	Plastic casing	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
73		Body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
74		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
75	Triode	Body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
76		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
77	Patch diode	Body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
78		Pin	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
79	Patch Transistor	Patch Transistor	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
80	Patch IC	Patch IC	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
81	Chip capacitor	Chip capacitor	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
82	chip resistor	chip resistor	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
83	PCB	Green oil	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
84		Copper foil	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P
85		Epoxy plate	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
86		Solder	N.D.	N.D.	N.D.	N.D.	N.A.	N.A.	P

Note :

1. P means Pass; F means Fail;
2. N.A. = Not Available;
3. N.D. = Not Detected (< MDL);
4. MDL means Method Detection Limit of chemical test, MDL of Pb, Cd, Hg, Cr<sup>6+</sup> =2mg/kg, MDL of PBBs and PBDEs =5mg/kg;
5. Negative=Absence of CrVI coating, Positive=Presence of CrVI coating;
6. Exemptions:  
 \*\*: the sample was copper alloy, according to 2011/65/EU RoHS, item 6th, Pb as a copper alloy containing up to 4% lead by weight was exempted.



b) Sample split photos of the Data acquisition equipment



Photo 1: Upper cover



Photo 2: Lower cover



Photo 3: Side baffle



Photo 4: Indicator light board

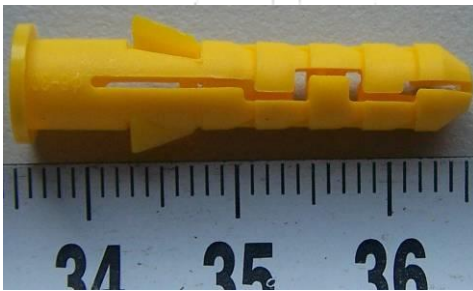


Photo 5: Plastic rivet



Photo 6: Screw 1



Photo 7: Screw 2



Photo 8: Metal needle





Photo 9: Plastic cap



Photo 10: Pan head screw



Photo 11: copper coil



Photo 12: Heat shrinkable sleeve

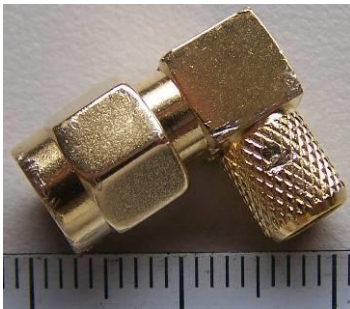


Photo 13: Copper screw



Photo 14: O-type circle



Photo 15: Washer

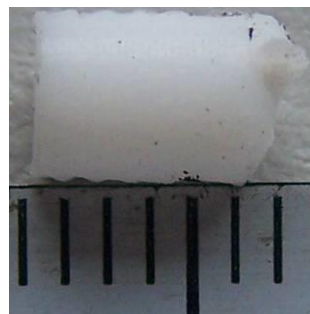


Photo 16: White plastic







Photo 17: Pin



Photo 18: Wireless module

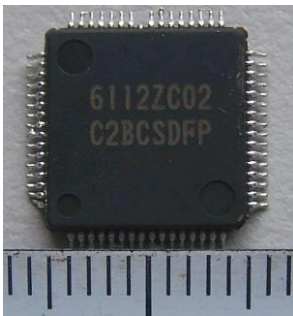


Photo 19: IC1



Photo 20: IC2



Photo 21: IC3

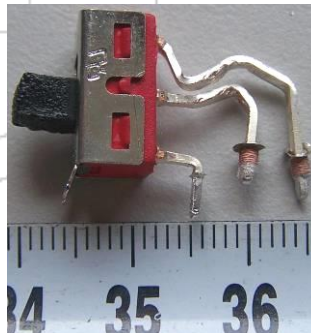


Photo 22: Switch



Photo 23: Adapter

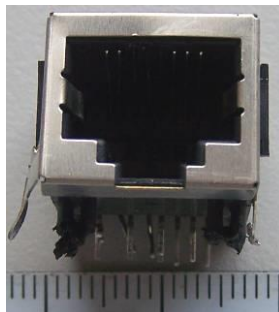


Photo 24: Cable socket

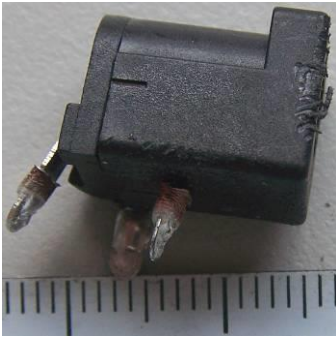


Photo 25: Power supply socket

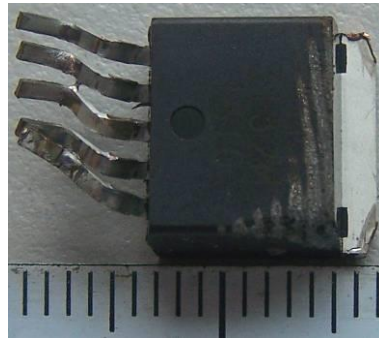


Photo 26: Integrated circuit

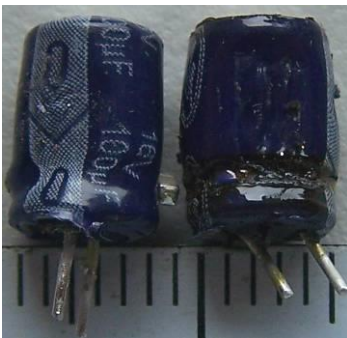


Photo 27: Electrolytic capacitor

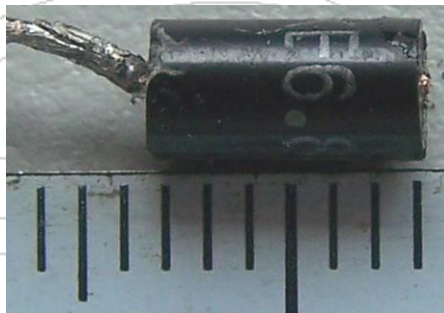


Photo 28: Rectifier diode



Photo 29: button battery

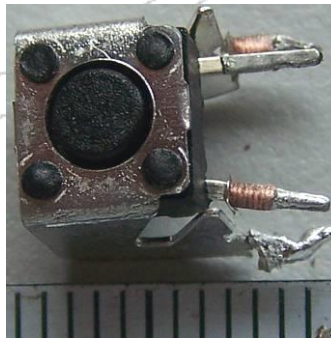


Photo 30: Tact Switch

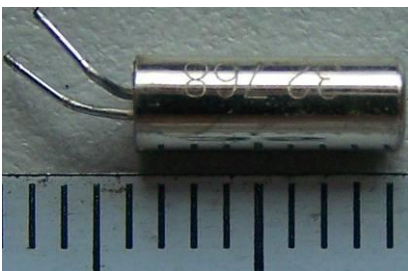


Photo 31: Crystal oscillator

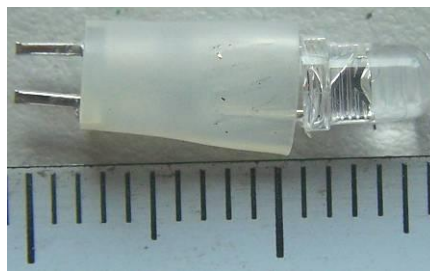


Photo 32: LED



Photo 33: Triode



Photo 34: Patch diode

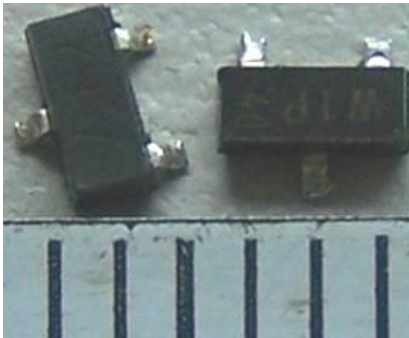


Photo 35: Patch Transistor



Photo 36: Patch IC



Photo 37: Chip capacitor

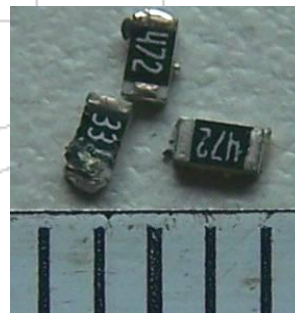


Photo 38: chip resistor

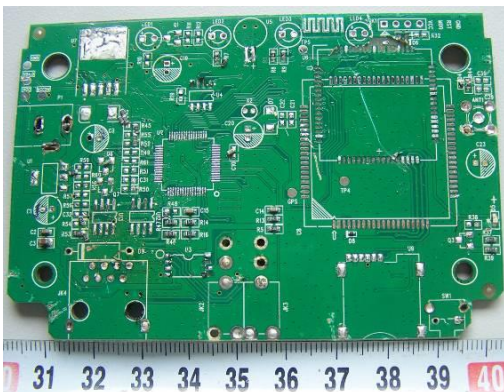
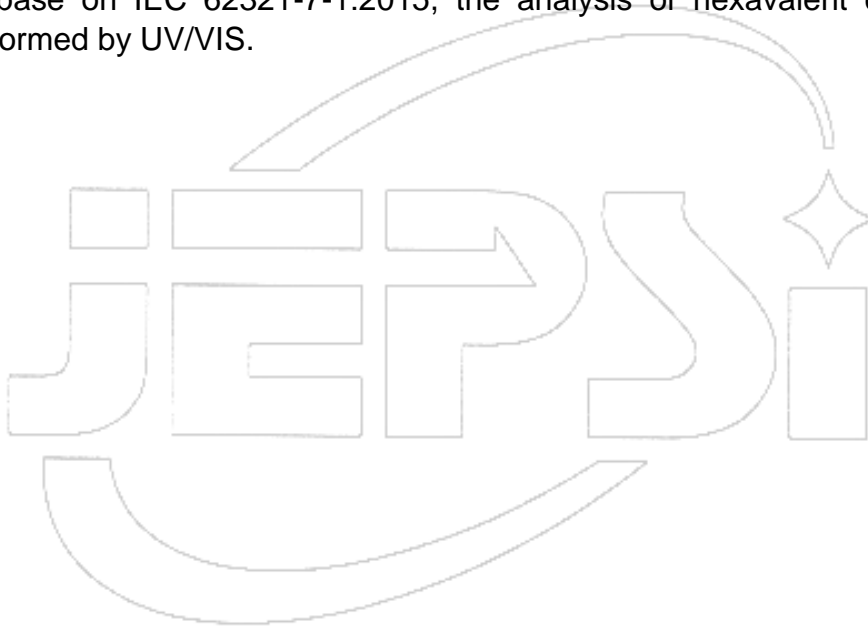


Photo 39: PCB



## Test Specifications

1. With base on IEC 62321-3-1: 2013, mercury(Hg), lead(Pb) , cadmium(Cd), total chromium (Cr) and total bromine (Br) are screened by X-ray fluorescence spectrometry;
2. With base on IEC 62321-4:2013 and IEC 62321-5:2013, mercury(Hg), lead(Pb) and cadmium(Cd) in samples are determined by Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) after acid digestion;
3. With base on IEC 62321-6: 2015, polybrominated biphenyls(PBBs) and polybrominated diphenyl ethers(PBDEs) in samples are determined by GC/MS after solvent extraction;
4. With base on IEC 62321-7-1:2015, the analysis of hexavalent chromium(Cr<sup>VI</sup>) is performed by UV/VIS.



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

