



**CENTRE OF TESTING SERVICE
INTERNATIONAL**

OPERATE ACCORDING TO ISO/IEC 17025

TEST REPORT

RoHS 2011/65/EU

Test Report Number : CNB3171011-03405-C

**CTS (Ningbo) Testing Service Technology Co., Ltd.
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1 General Information

1.1 Application Details

Name : Shanghai Ninetian Automation Equipment Co., Ltd.
Address : Room 212, No. 999, Sunqiao Rd., Pudong New District, Shanghai, China (Mainland)
Contact : /
Telephone : +86-21-50187613
Fax : +86-21-51567138
Mobile telephone : +86-13816377866
Email : jimmy011@126.com

1.2 Manufacturer & Buyer

Manufacturer name : Shanghai Ninetian Automation Equipment Co., Ltd.
Address : Room 212, No. 999, Sunqiao Rd., Pudong New District, Shanghai, China (Mainland)
Contact : /
Telephone : +86-21-50187613
Fax : +86-21-51567138
Mobile telephone : +86-13816377866
Email : jimmy011@126.com
Buyer name : /

1.3 Description of the Test Item

Sample name : Thermometer
Model No. : ET925, ET922, ET923, ET924, ET926, ET927, ET928, ET929, ET930, HTC-1, HTC-2, TP-101, WSK
Brand name : FLYB
Condition of sample(s) : EFFECTIVE

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2 Test results

2.1 Sample Receiving Date

Oct. 11, 2017

2.2 Testing Period

Oct. 11, 2017 to Oct. 18, 2017

2.3 Test Requested

In accordance with the RoHS Directive 2011/65/EU Annex II.

2.4 Test Method

1. X-Ray Fluorescence Spectrometry method in reference to IEC 62321-3-1:2013.
2. Chemical test method

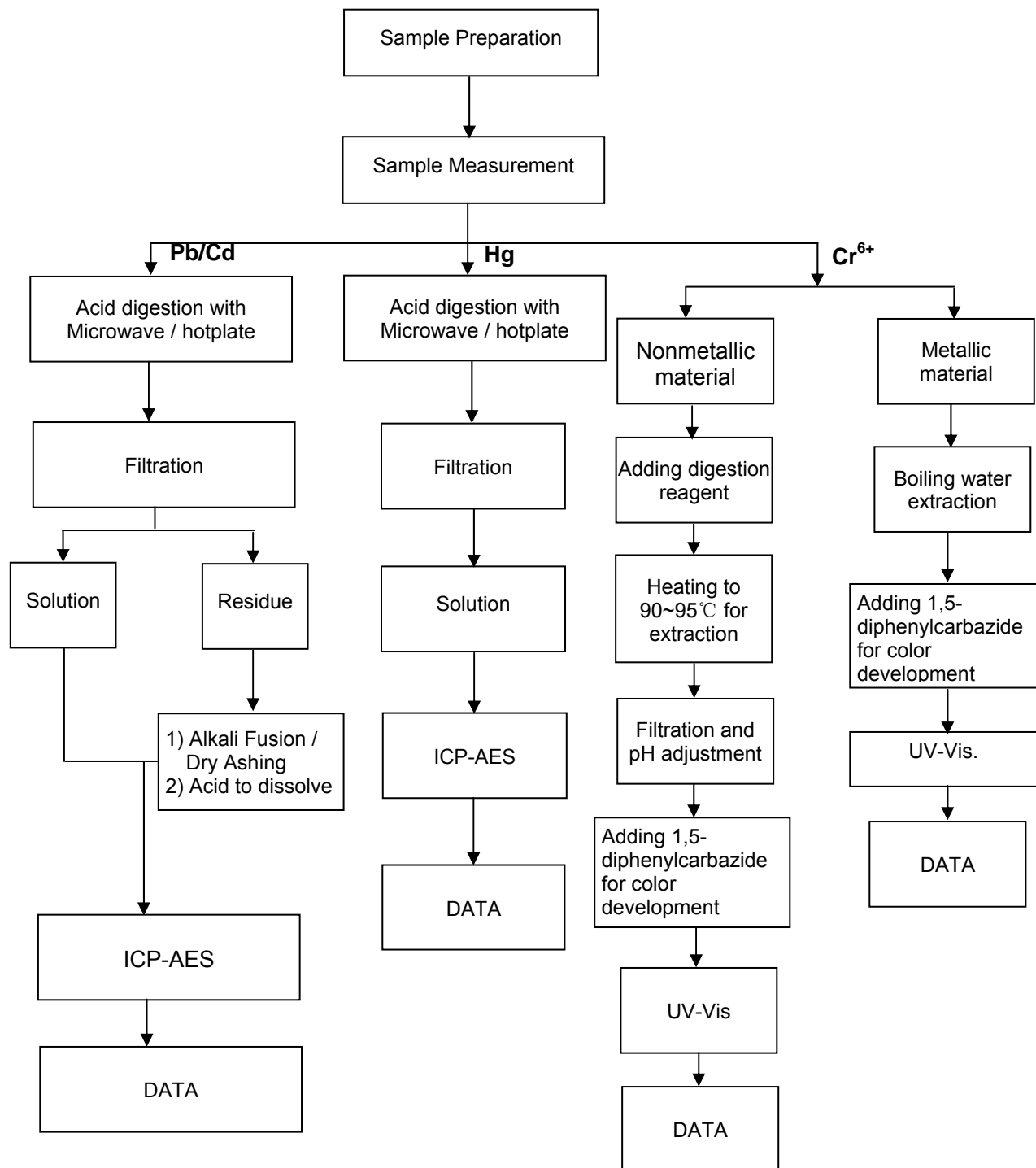
Test Item(s)	Sample preparation	Test Method	Test Instrument	
Lead (Pb)	With reference to IEC 62321-2:2013	With reference to IEC 62321-5:2013	ICP-AES	
Cadmium (Cd)		With reference to IEC 62321-5:2013	ICP-AES	
Mercury (Hg)		With reference to IEC 62321-4:2013	ICP-AES	
Chromium VI (Cr VI)		With reference to IEC 62321-7-1:2015 IEC 62321-7-2:2017	UV-Vis	
PBBs		With reference to IEC 62321-6:2015		GC-MS
PBDEs				

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2.5 Chemical Test Method Flow Chart



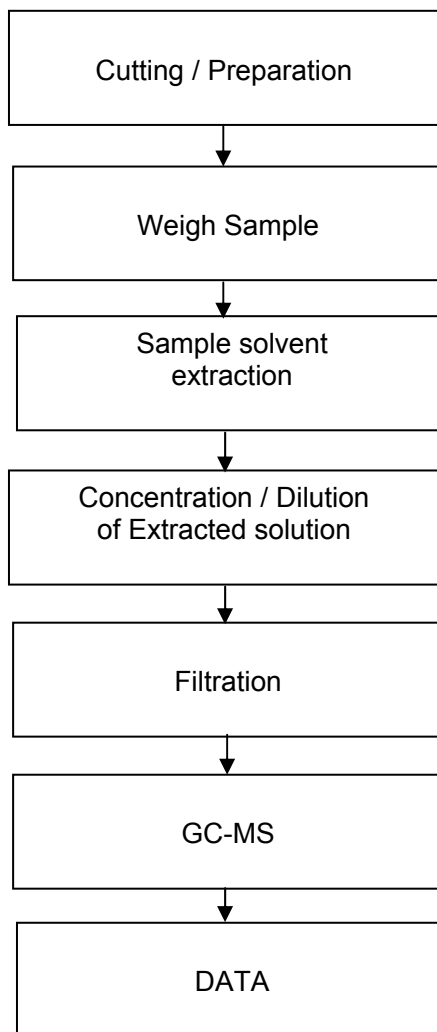
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PBBs / PBDEs



2.6 Conclusion

Based on the performed tests on submitted samples, the results of Lead, Cadmium, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

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2.7 Test Results

2.7.1 Test results of all parts by EDXRF and chemical confirmation

No.	Sample Description		Results					Chemical Confirmation Result (Unit=mg/kg)
			Pb	Cd	Hg	Cr	Br	
1	Silvery coating		P	P	P	P	P	/
2	White plastic substrate		P	P	P	P	P	/
3	Magnet		P	P	P	P	/	/
4	Cell box	White plastic	P	P	P	P	P	/
5		Spring	P	P	P	P	/	/
6		Metal wafer	P	P	P	P	/	/
7	Display screen	Glass	P	P	P	P	P	/
8		Transparent plastic film	P	P	P	P	P	/
9	Power wire with plug	Silvery plug pole	X	P	P	P	/	Pb: 1.9×10 ⁴ *
10		Black plastic frame	P	P	P	P	P	/
11		Black plug material	P	P	P	P	P	/
12	Silvery metal column		P	P	P	P	/	/
13	Black soft plastic		P	P	P	P	P	/
14	Silvery wire		P	P	P	P	/	/
15	White cable jacket		P	P	P	P	P	/
16	Silvery wire		P	P	P	P	/	/
17	White plastic switch		P	P	P	P	P	/
18	PCB	Base material	P	P	P	P	P	/
19		Copper foil	P	P	P	P	/	/
20	Silvery metal screw		P	P	P	P	/	/

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Note : P = Below Limit (Pass)
 F = Over Limit (Fail)
 X = Inconclusive
 N.D. = not detected (less than MDL)
 1mg/kg=1ppm=0.0001%
 * According to the declaration from client, the source of lead in the sample could be from the copper alloy material. Lead as a copper alloy containing which is under 4% (40000ppm) is exempted from the requirement of RoHS Directive (2011/65/EU Annex III).

Remarks:

(1) Results are obtained by EDXRF for primary screening, and further chemical testing is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013.

Element	Polymer Materials	Metallic Materials	Electronic Materials
Pb	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$
Cd	$P \leq 50 < X < 130 \leq F$	$P \leq 50 < X < 130 \leq F$	$X < 130 \leq F$
Hg	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 250 < X$	/	$P \leq 250 < X$

(2) Chemical Confirmation Result acceptable Limit and Method Detect Limit:

Test items	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (CrVI) by alkaline extraction	Chromium VI (CrVI) by boiling water extraction#	PBBs	PBDEs
Unit	mg/kg	mg/kg	mg/kg	mg/kg	$\mu g/cm^2$	mg/kg	mg/kg
Method Detection Limit	2	2	2	2	0.10	5	5
Acceptable Limit	1000	100	1000	1000	---	1000	1000

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- Note : 1. #=a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 $\mu\text{g}/\text{cm}^2$. The sample coating is considered to contain CrVI.
b. The sample is negative for CrVI if CrVI is N.D. (concentration less than 0.10 $\mu\text{g}/\text{cm}^2$). The coating is considered a non-CrVI based coating.
c. The result between 0.10 $\mu\text{g}/\text{cm}^2$ and 0.13 $\mu\text{g}/\text{cm}^2$ is considered to be inconclusive unavoidable coating variations may influence the determination.
2. Cr(VI) results represent status of the sample at the time of testing.
3. The tested part of the sample was specified by client.

Written by: *Jessie*

Inspected by: *Susei*

Approved by: *Jan*



End of Report

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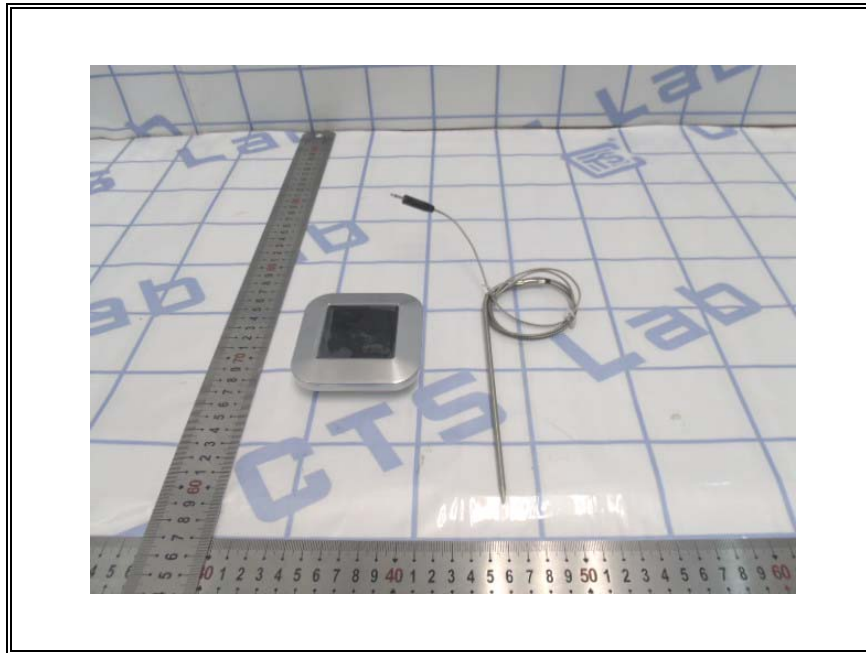
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3 Sample Reference Photo



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