CENTRE OF TESTING SERVICE INTERNATIONAL

OPERATE ACCORDING TO ISO/IEC 17025

TEST REPORT

RoHS 2011/65/EU

Test Report Number : CNB3150928-04608-C

CTS Testing Service Technology Co., Ltd.

TEST REPORT

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1 General Information

1.1 Application Details

The measurement results only apply to the submitted samples.
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1.2 Manufacturer & Buyer

Manufacturer name :

1.3 Description of the Test Item

Sample name : Lifting Column
Model No. : CTD-A 、CTD-B
Brand name : /
Condition of sample(s) : EFFECTIVE

2 Test results

2.1 Sample Receiving Date

Oct. 13, 2015

2.2 Testing Period

Oct. 13, 2015 to Oct. 15, 2015

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.

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2. Chemical test method

Test Item(s)	Test Method	Test Instrument
Lead (Pb)	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 62321:2008	UV-Vis
PBBs	With reference to IEC 62321:2008	GC-MS
PBDEs		

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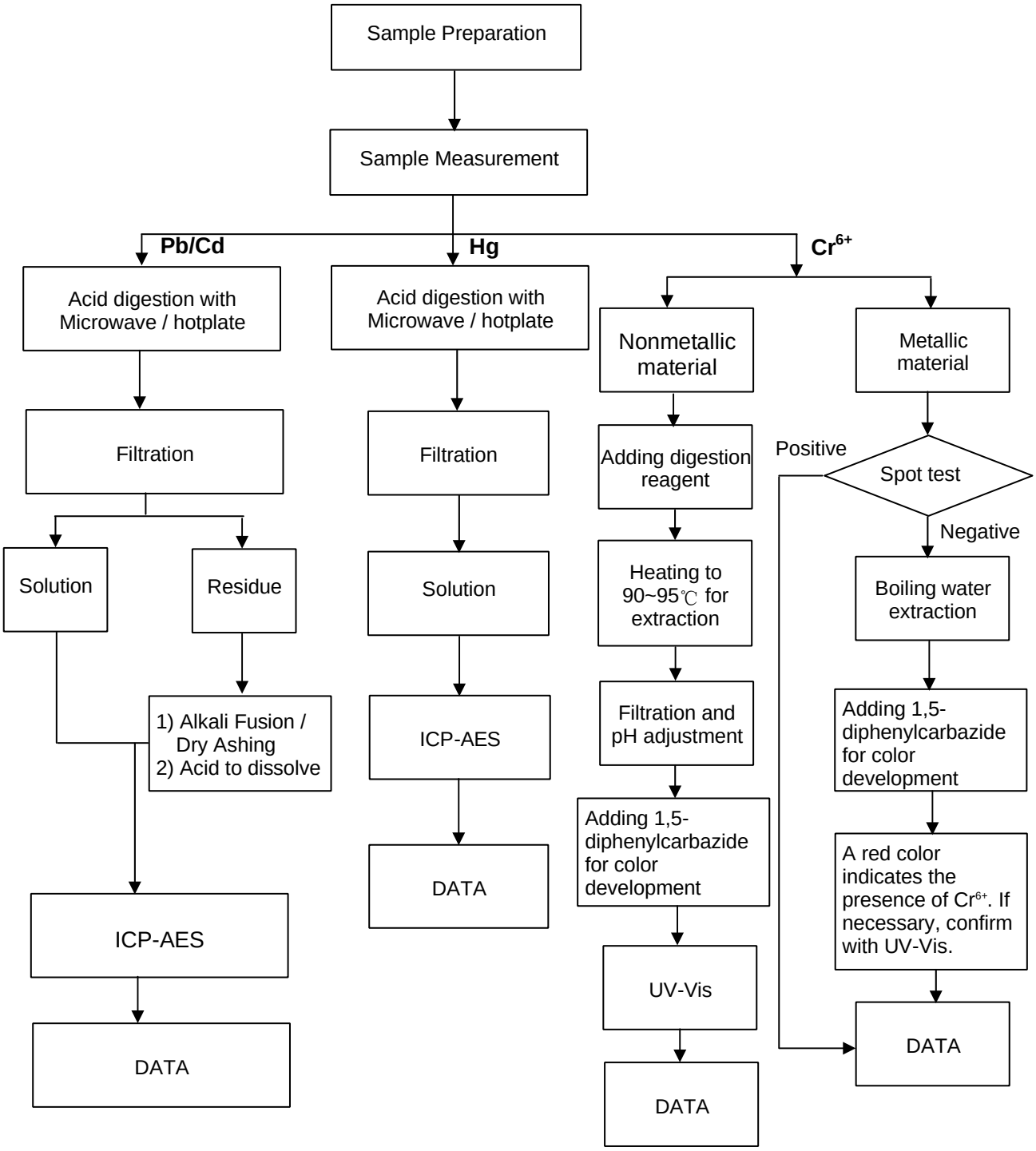
2.5 Chemical Test Method Flow Chart



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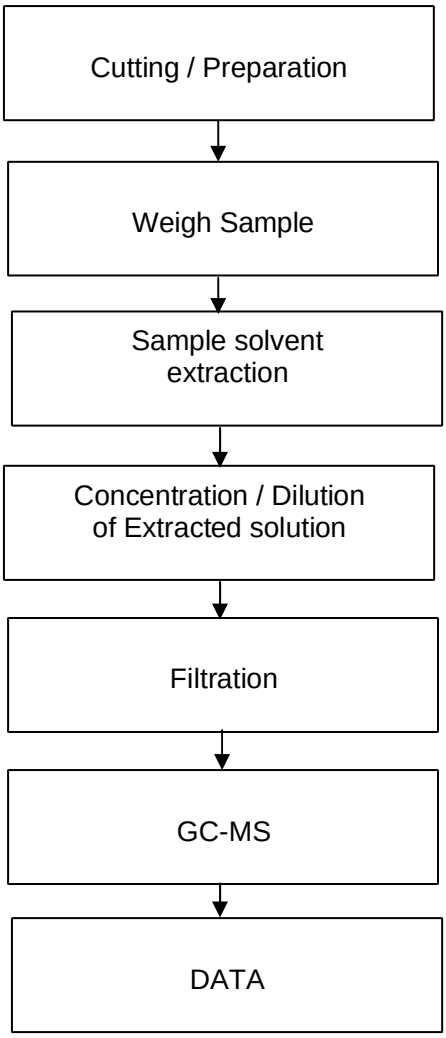
PBBs / PBDEs



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	Black jacket		P	P	P	P	P	/
2	Black plastic cover		P	P	P	P	P	/
3	Blue cable jacket		P	P	P	P	P	/
4	Blue semi-transparent cable jacket		P	P	P	P	P	/
5	Green semi-transparent cable jacket		P	P	P	P	P	/
6	IC	Black body	X	P	P	P	X	Pb: 1.7×10^{3}* PBBs: N.D. PBDEs: N.D.
7		Pin	X	P	P	P	/	Pb: 723
8	Hot-melt glue		P	P	P	P	P	/
9	Lockless switch	Black plastic	P	P	P	P	P	/
10		Silvery metal piece	P	P	P	P	/	/
11		Metal dome	P	P	P	P	/	/
12		Pin	P	P	P	P	/	/
13	PCB	Base material	P	P	P	P	P	/
14		Copper foil	P	P	P	P	/	/
15	Chip resistor		X	P	P	P	P	Pb: 2.7×10^{3}*
16	Chip capacitor		P	P	P	P	P	/
17	Chip audion		P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
18	Chip rectifier diode		P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
19	Black coating		P	P	P	P	P	/
20	Silvery metal substrate		P	P	P	P	/	/
21	Yellow EVA		P	P	P	P	P	/
22	Silvery metal bar		P	P	P	P	/	/

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23	Black rubber cover	P	P	P	P	P	/

No.	Sample Description		Results					Chemical Confirmation Result (Unit=mg/kg)
			Pb	Cd	Hg	Cr	Br	
24	White foam pad		P	P	P	P	P	/
25	Aluminum electrolytic capacitor	Black plastic jacket with white printing	P	P	P	P	P	/
26		Silvery metal cover	P	P	P	P	/	/
27		Black rubber end closure	P	P	P	P	P	/
28	Crystal head	Black plastic body	P	P	P	P	P	/
29		White transparent plastic	P	P	P	P	P	/
30		Copper metal wafer	X	P	P	P	/	Pb: 2.4×10^{3}#
31	Brown polyester capacitor	Brown encapsulation material	P	P	P	P	P	/
32		Capacitor film	P	P	P	P	P	/
33	White semi-transparent cable jacket		P	P	P	P	P	/
34	Rectifier diode	Black solid with silvery printing body	P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
35		Pin	P	P	P	P	/	/
36	Voltage stabilizing diode	Red black body	X	P	P	P	X	Pb: 1.7×10^{5}* PBBs: N.D. PBDEs: N.D.
37	Relay	Blue plastic cover	P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
38		Black plastic base	P	P	P	P	P	/
39		Enamelled wire	P	P	P	P	/	/
40		Golden metal piece	P	P	P	P	/	/
41		Copper-colored metal piece	P	P	P	P	/	/
42		Silvery metal piece	P	P	P	P	/	/
43	Beige plastic		P	P	P	P	P	/
44	Silvery metal parts		P	P	P	P	/	/
45	Black pyrocondensation tube		P	P	P	P	P	/

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46	Copper line		P	P	P	P	/	/
47	Motor	Silvery metal cover	P	P	P	P	/	/
48		Silvery gray metal back cover	P	P	P	P	/	/
49		Black plastic	P	P	P	P	P	/

Note : P = Below Limit (Pass)
F = Over Limit (Fail)
X = Inconclusive
N.D. = not detected (less than MDL)
1mg/kg=1ppm=0.0001%
Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed) Boiling-water-extraction:
Negative = Absence of CrVI coating
Positive = Presence of CrVI coating; The detected concentration in boiling-waterextraction solution is equal or greater than 0.02 mg/kg with 50cm^2 sample surface area.

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 ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F
Cd	P ≤ 50 < X < 130 ≤ F	P ≤ 50 < X < 130 ≤ F	X < 130 ≤ F
Hg	P ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F	P ≤ 500 < X < 1300 ≤ F
Cr	P ≤ 700 < X	P ≤ 700 < X	P ≤ 500 < X
Br	P ≤ 250 < X	/	P ≤ 250 < X

(2) Chemical Confirmation Result acceptable Limit:

Test items	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium (CrⅥ)	PBBs	PBDEs

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Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Acceptable Limit	1000	100	1000	1000	1000	1000

2.7.2 Test results by chemical analysis

Test items		Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium (CrVI)	PBBs	PBDEs
Unit		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Acceptable Limit		1000	100	1000	1000	1000	1000
50	Soldering tin and solder	139	N.D.	N.D.	Negative	N.A.	N.A.

Note : 1. Specimens, which requested to determine Cadmium, Mercury and Lead content, have been dissolved completely.

2. N.D. = not detected (less than MDL)

3. N.A. = not applicable 4. 1 mg/kg=1 ppm=0.0001%

5. **Spot –test:**

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
(The tested sample should be further verified by boiling-waterextraction method if the spot test result cannot be confirmed)
Boiling-water-extraction:
Negative = Absence of CrVI coating
Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50cm^2 sample surface area.

6. **Positive** indicates the presence of CrVI on the tested areas and result be regarded as conflict with RoHS requirement.

Negative indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.

7. * According to the declaration from client, the source of lead in the sample could be from the glass material .Lead in glass of electronic components（cathode ray tubes/fluorescent tubes ） is exempted from the requirement of RoHS Directive (2011/65/EU Annex III).

8. #According to the declaration from client, the source of lead in the

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sample could be from the steel alloy material. Lead as a copper alloy containing which is under 0.35% (3500ppm) is exempted from the requirement of RoHS Directive (2011/65/EU Annex III).

9. The test results only apply to the materials requested by applicant.

10. The method detect limit for each hazardous substances, and determined individual PBBs and individual PBDEs are:

Method Detect Limit in mg/kg		
Heavy Metals	Lead (Pb)	2
	Cadmium (Cd)	2
	Mercury (Hg)	2
	Chromium (CrⅥ)	2
PBBs	Monobromobiphenyl	5
	Dibromobiphenyl	5
	Tibromobiphenyl	5
	Tetrabromobiphenyl	5
	Pentabromobiphenyl	5
	Hexabromobiphenyl	5
	Heptabromobiphenyl	5
	Octabromobiphenyl	5
	Nonabromodiphenyl	5
	Decabromodiphenyl	5
PBDEs	Monobromodiphenyl ether	5
	Dibromodiphenyl ether	5
	Tibromodiphenyl ether	5
	Tetrabromodiphenyl ether	5
	Pentabromodiphenyl ether	5
	Hexabromodiphenyl ether	5
	Heptabromodiphenyl ether	5
	Octabromodiphenyl ether	5
	Nonabromodiphenyl ether	5
	Decabromodiphenyl ether	5

Written by: Jessie by: Susan Inspected by: Approved

End of Report

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3 Sample Reference Photo

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