



**CENTRE OF TESTING SERVICE
INTERNATIONAL**

OPERATE ACCORDING TO ISO/IEC 17025

TEST REPORT

RoHS 2011/65/EU

Test Report Number : CGZ3170330-00943-C



CTS (Ningbo) Testing Service Technology Co., Ltd.

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1 General Information

1.1 Application Details

Name : CHROMATEQ
Address : 191 Allée de Lauzard - Bat B, Rdc 1 34980 St Gély du Fesc France
Contact : BOURJOT
Telephone : +86-13422062209
Fax : /
Mobile telephone : /
Email : /

1.2 Manufacturer & Buyer

Manufacturer name : CHROMATEQ
Address : 191 Allée de Lauzard - Bat B, Rdc 1 34980 St Gély du Fesc France
Contact : BOURJOT
Telephone : +86-13422062209
Fax : /
Mobile telephone : /
Email : /
Buyer name : /

1.3 Description of the Test Item

Sample name : DMX Controller
Model No. : CLUB 1024, DIN 1024, LP512, CQSA 1024, LP32, PRO NET 16, CQSA 512
Brand name : /
Condition of sample(s) : EFFECTIVE



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2 Test results

2.1 Sample Receiving Date

Apr. 18, 2017

2.2 Testing Period

Apr. 18, 2017 to Apr. 20, 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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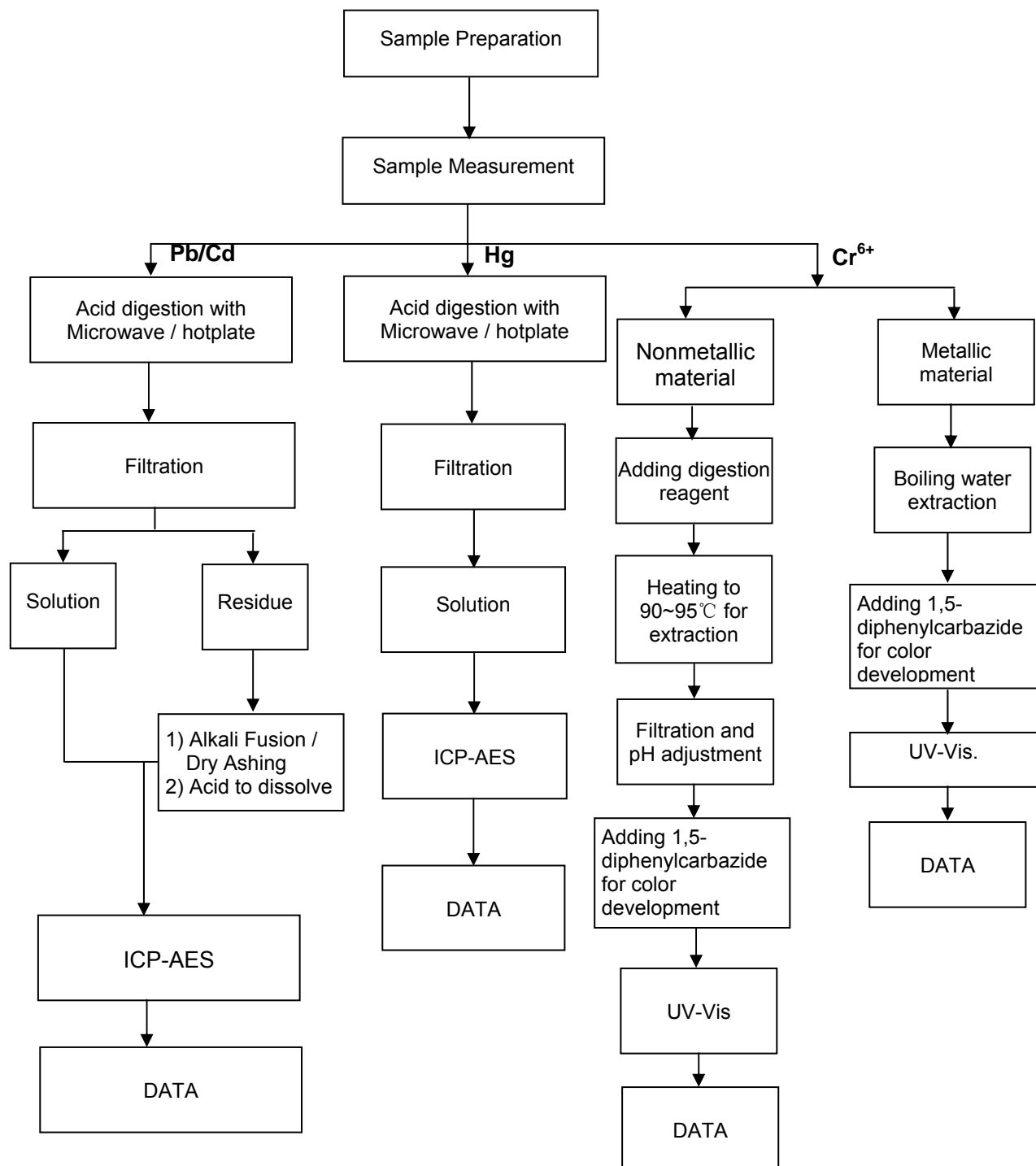
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2.5 Chemical Test Method Flow Chart



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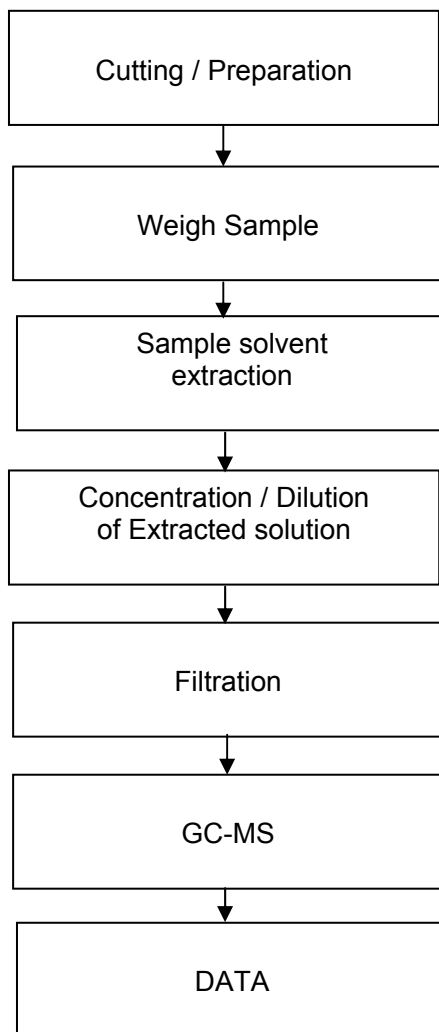
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PBBs / PBDEs**2.6 Conclusion**

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	Grey plastic		P	P	P	P	P	/	
2	Bright black plastic		P	P	P	P	P	/	
3	Black plastic		P	P	P	P	P	/	
4	Silvery metal cover		P	P	P	P	/	/	
5	Black coating		P	P	P	P	P	/	
6	Jack	Black plastic frame	P	P	P	P	X	PBBs,PBDEs= N.D.	
7		Silvery metal contact piece	P	P	P	P	/	/	
8		Silvery metal pole	P	P	P	P	/	/	
9	PCB	Green fibreboard	P	P	P	P	X	PBBs/PBDEs= N.D.	
10		Soldering tin	X	P	P	P	/	Pb=643	
11		Chip resistor	P	P	P	P	X	PBBs/PBDEs= N.D.	
12		Chip capacitor	P	P	P	P	X	PBBs/PBDEs= N.D.	
13		Chip audion	P	P	P	P	X	PBBs/PBDEs= N.D.	
14		Chip diode	P	P	P	P	X	PBBs/PBDEs= N.D.	
15		IC	Black body	P	P	P	P	P	/
16		Crystal oscillator	Silvery body	P	P	P	P	P	/

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No.	Sample Description			Results					Chemical Confirmation Result (Unit=mg/kg)
				Pb	Cd	Hg	Cr	Br	
17	PCB	Wire holder	Green plastic	P	P	P	P	P	/
18			Silvery metal screw	P	P	P	P	/	/
19			Silvery metal contact piece	P	P	P	P	/	/
20			Beige plastic	P	P	P	P	P	/
21			Silvery metal pole	P	P	P	P	/	/
22		LED	Green body	P	P	P	P	X	PBBs/PBDEs= N.D.
23			Black body	P	P	P	P	X	PBBs/PBDEs= N.D.
24		Lockless switch	Black plastic base	P	P	P	P	X	PBBs/PBDEs= N.D.
25			Black plastic handle	P	P	P	P	X	PBBs/PBDEs= N.D.
26			Silvery metal	P	P	P	P	/	/
27			White plastic	P	P	P	P	P	/
28			Transparent plastic	P	P	P	P	P	/
29		USB jack	Silvery metal cover	P	P	P	P	/	/
30			Black plastic frame	P	P	P	P	X	PBBs/PBDEs= N.D.

Note : P = Below Limit (Pass)
 F = Over Limit (Fail)
 X = Inconclusive
 N.D. = not detected (less than MDL)
 1mg/kg=1ppm=0.0001%

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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	$\mu\text{g}/\text{cm}^2$	mg/kg	mg/kg
Method Detection Limit	2	2	2	2	0.10	5	5
Acceptable Limit	1000	100	1000	1000	---	1000	1000

- 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: Amanda

Inspected by: Annie

Approved by: Hyt

End of Report

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3 Sample Reference Photo



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