

## 承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N):RJ11-001-G23057

品名规格 (PronameSpec): RJ11 水晶头 6P4C

送样日期 (Delivery Date):2021/12/23

承认日期 (Acknowledge Date):2021/12/23

Approved No:		客 户 Customer	
采 购 部 Purchasing Dept	品 质 部 QC Dept	工 程 部 Engineering Dept	确 认 Approved By
深 圳 市 华 联 威 电 子 科 技 有 限 公 司 SHEN ZHEN SHI HUA LIAN WEI ELECTRONICS TECHNOLOGY CO; LTD.			
业 务 部 Sales Dept	品 管 部 QC Dept	工 程 部 Engineering Dept	核 准 Checked By
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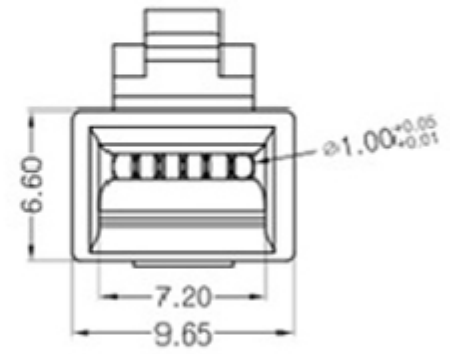
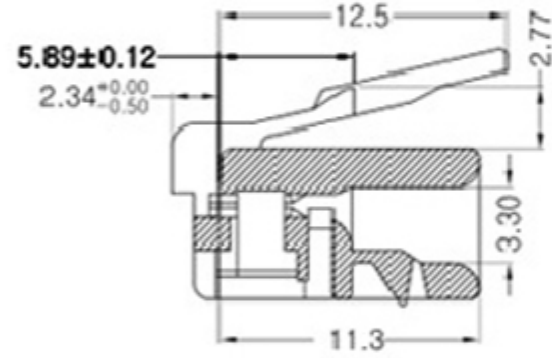
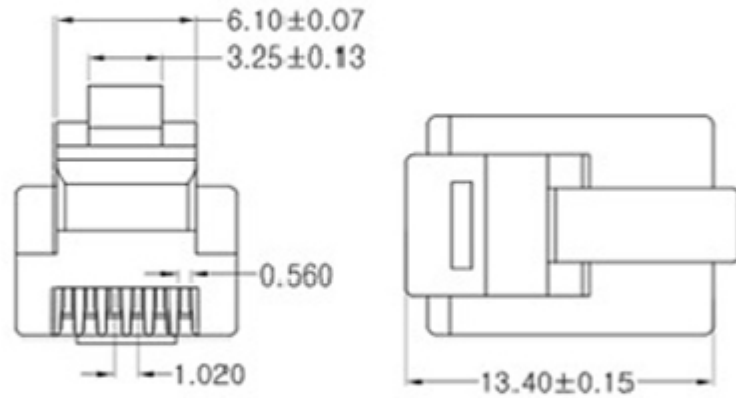
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REV.	ECN.NO.	APPD.
A0	NEW DWG	LJF



**FEATURES:**

**1.Electrlal Test**

- A.250V AC max at 2amps
- B.Dielecrtic with standing 500VOlts AC.
- C.Insulation Resistance: 500 megoohms.
- D.Termination Resistance: 35 megoohms.

**2 .Mechanical:**

- A.Cable-to-Plug strength-20LBs(89N)
- B.Durability:500 mating cycles
- c.gold plating

TOLERANCE UNLESS OTHERWISE SPECIFIED		<b>HLW</b> 深圳市华联威电子科技有限公司 HUA LIAN WEI TECHNOLOGY ELECTRONICS CO.;LTD.			
.XXX ±0.10	.XX ±0.20	.X ±0.30	.X' ±3'	.XX' ±2'	
APPROVED		PART NAME:	RJ11 水晶头 6P4C		
CHECKED		PART No:	RJ11-001-G23057		C
DRAWN	Deng Shan	PROJECTION:	UNIT:	SCALE	SHEET
DATE	2020.08.17		mm	1:1	10F1
					REV. A0

## RJ45/RJ11系列产品SPEC

版本版次: C

制定日期 20200707

适用范围 通用

## 1. Scope (范围)

## 1.1 Contents(内容)

This specification covers the performance, tests and quality requirements for the Electronics RJ45 Connector.  
(此份产品规格适用于RJ45连接器的产品功能, 测试方法及质量要求)

## 2. Requirements (要求):

## 2.1 Rating(额定条件)

A. Voltage rating(额定电压):125V AC

B. Current rating(额定电流):0.5A

C. Operation Temperature Range(操作温度范围):-30°C to +80°C

## 3. Test Condition(测试条件):

3.1 Temperature range(温度范围):-15°C to +35°C

3.2 Humidity range (湿度范围):25% to 85%

## 4. Test Methods and Requirements:(测试方法及要求)

## 4.1 Examination of product (产品外观)

4.1.1	Examination of Product 产品外观	(EIA-364-18B) Visual 目视	No peeling off the plating deformation of the base or damage. 不得有电镀层剥落, 塑料变形或破损
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## 4.2. Electrical Performance(电气性能)

4.2.1	Contact Resistance 接触阻抗	EIA-364-23C Subject mated contacts assembled housing to 20mV maximum 100Ma. Measured from plug side to PCB side.  组装好的端子施以最大电压20mV最大电流100mA从端口处到PCB端测试。	40mΩ Max (Initial) 50 mΩ Max(Final)  初始值最大40mΩ. 最终值最大50 mΩ.
4.2.2	Dielectric Withstanding Voltage (耐电压)	(EIA-364-20C) Mated connectors with 1000±5% VAC for 1 minute 0.5 mA between adjacent contacts or ground. 对组装好的独立端子或接地物之间施加交流1000VAC 0.5mA 电流1 分钟。	One minute hold with no breakdown or flashover. 不能有如跳电、击穿、破裂损坏。
4.2.3	Insulation Resistance 绝缘阻抗	(EIA-364-21C) Mated connectors with 500±10%VDC between adjacent contacts or ground.  对组装好的独立端子或接地物之间施以500±10%VDC的电压测试	500MΩ min (unmated)  没有配对需大于500 MΩ

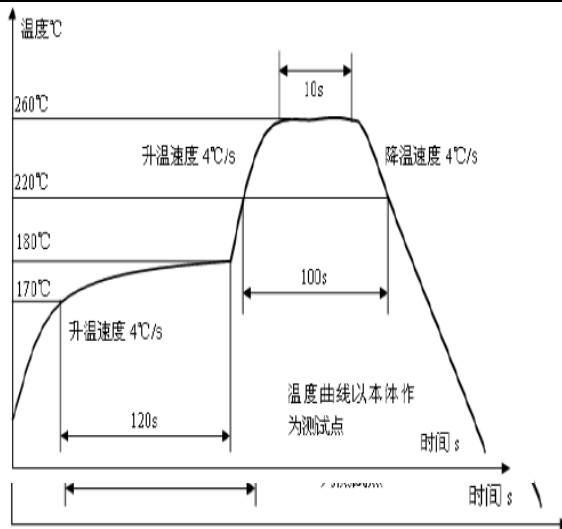
## 4.3 Mechanical Performance(机械性能)

4.3.1	Insertion/Withdrawal Force 插入力/拔出力	(EIA-364-13) Insertion and withdrawal speed: 25mm/minute. 插入和拔出的速度为25mm/分	Maximum insertion force 22N 插入力不超过30N(3.0/kg) Withdrawal force 22N max 拔出力不超过30N(3.0/kg)
4.3.2	Durability 寿命测试	(EIA-364-09) Operation Speed:10 To 20cycle/min. Durability cycles:750cycles 测试速度：每分钟10到20个循环，测试次数：750次循环最少	Meet visual requirements,show no physical damage,and meet requirements of additional tests as specified in the product qualification  测试后满足外观要求，无变形损伤.
4.3.3	Vibration 振动	(EIA-364-28条件3) Amplitude:1.52mm P-P or 147m/s <sup>2</sup> {15G} Sweep time: 50-2000-50Hz in 20 minutes. Duration: 12 times in each (total of 36 times) X, Y, Z, axes. Electrical load DC 100mA current shall be flowed during the test.(ANSI/EIA-364-28 Condition III) 在直流100毫安通电状态下测试，在X,Y,Z垂直3方向上，频率50-2000-50赫兹（加速度往复20分钟），全振幅1.52mm P-P或147 m/s <sup>2</sup> {15G}，每轴12回计36回	Appearance: No damage 外观：无损坏  Discontinuity: 1μ sec Max. 间断性：不超过1微秒
4.3.4	Physical shock 冲击性	(EIA-364-27条件A) Pulse width: 11msec Waveform: Half-sine 490m/s <sup>2</sup> (50G) 3 strokes in each X, Y, Z axes. (ANSI/EIA-364-27 condition A) 周期：11msec 冲击波形：正弦半波490m/s <sup>2</sup> (50G) 3循环在X, Y, Z 轴	Appearance: No damage 外观：无损坏  Discontinuity: 1μ sec Max. 间断性：不超过1微秒
4.4 Environmental Performance			
4.4.1	Thermal shock test 冷热冲击	EIA-364-32C条件1) 10 cycles of: a)-55±3℃ for 30 minutes b) +85±3℃ for 30 minutes 10个循环， a)-55±3℃ 30 分钟 b) +85±3℃ 30 分钟	Appearance: No Damage. 外观：没有损坏 Contact Resistance 接触阻抗 Contact: Change from initial Value 30mΩ Max Shell Part: Change from initial Value 50mΩ Max 端子：从初始值开始变化量小于30mΩ 外壳：从初始值开始变化量小于50mΩ

4.4..2	Solder ability 焊锡性	(EIA-364-52) To be sipped in the solder bath 245±5°C Coverage for 3 seconds. 将焊锡脚浸在245±5°C的锡炉中<3秒	The inspected area of each lead must have 95% solder coverage minimum
4.4..3	Humidity 恒温恒湿	(EIA-364-31B) (A) Mate connectors together and perform the test as follows 配对连接器测试条件 Temperature: +25°C to +85°C(温度: +25°C到+85°C) Relative Humidity: 80% to 90%(相对湿度: 80%到90%) Duration:4 cycles(96 hours) (持续时间: 4个循环共96小时) Upon completion of the test, specimens shall be conditioned ambient room conditions for 24 hours, after which the specified measurements shall be performed. 试验完成后, 样品放置于室温条件中24小时后再进行测试	Appearance: No Damage 外观, 没有损坏
4.4..4	Salt Spray 盐水喷雾	EIA-364-26B) Tested as below: Temperature:(35±2) °C Humidity:(95-98)%(R.H.) PH:6.5-7.2 It shall be subjected to stand ard atmospheric condition 1hours after removing the salt deposits. It should meet the contact resistance.object non-contact area: Temperature: (35±2) °C Salt-solution(5±1)% Duration time:12hours 测试条件如下: 温度:(35±2) °C 湿度:(95-98)%(R.H.) PH值:6.5-7.2 物体在移出盐水槽后应置于标准大气条件中一个小时后再进行测量动作: 盐水密度: (5±1) % 持续时间: 24小时	No detrimental corrosion( Terminal solder tail unrequested) 产品无氧化, 锈蚀 (端子焊脚镀锡处不作要求)  Does not include bending position; 不包含折弯处位置

4.4..5	Cold resistance (Unmated) 冷阻抗	(EIA-364-17B) Unmated connectors and expose to $-40\pm 3^{\circ}\text{C}$ for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 没配对的连接器放置于 $-40\pm 3^{\circ}\text{C}$ 温度中96小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试	Appearance: No Damage. 外观：没有损坏
4.4..6	Heat resistance (Unmated) 热阻抗	(EIA-364-17B) Mated connectors and expose to $85\pm 2^{\circ}\text{C}$ for 96hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 配对的连接器放置于 $85\pm 2^{\circ}\text{C}$ 温度中96小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试	Appearance: No Damage. 外观：没有损坏
4.4..7	Thermal Aging 高温老化	(EIA-364-31B, Condition 4, Method A) Unmated connectors and expose to $+105\pm 2^{\circ}\text{C}$ for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 没配对的连接器放置于 $+105\pm 2^{\circ}\text{C}$ 温度中96小时，当完成实验后，样品放置一般环境中1到2小时后，在进行测试	Appearance: No Damage. 外观：没有损坏
4.4.8	Resistance to Soldering Heat	for wave soldering : mil-std-202f,method 210 A,test condition B 波峰焊: mil-std-202f, method 210 A, 试验条件B Pre-heat : $80^{\circ}\text{C}$ , 60 Seconds 预热: $80^{\circ}\text{C}$ , 60秒 Temperature : $260 \pm 5^{\circ}\text{C}$ 温度: $260\pm 5^{\circ}\text{C}$ Immersion duration : $10 \pm 1$ sec. 浸泡时间: $10\pm 1$ 秒。	No physical damage shall occur. 不可有损坏 Reflow welding is not applicable to PBT 回流焊不适用于PBT

for manual soldering :手动焊接:  
 mil-std-202f,method 210 A,test condition A  
 Pre-heat : No预热:没有  
 Temperature : 350 ± 10 °C温度:350±10°C  
 Immersion duration :3.5±0.5 sec.浸泡时间:3.5±0.5秒



Note 1: Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2

说明1: 测试要求不能有物理损坏, 测试依据表格二的顺序进行

3.Product Qualification And Requalification Test:产品测试顺序表 Figure 2

Test or Examination	Test Group													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Test Sequence														
4.1.1.Examination of Product 产品外观	1,9	1,3	1,5	1	1,5	1,5	1,5	1,3	1,5	1,5	1,5	1,5	1,5	1
4.2.1.Contact Resistance 接触阻抗	2,8		2,4		2,4	2,4	2,4		2,4	2,4	2,4	2,4	2,4	
4.2.2.Dielectric Withstanding Voltage	3,7													
4.2.3.Insulation Resistance 绝缘阻抗	4,6													
4.3.1.Insertion/Withdrawal force 插拔力		2												



4.3.2.Durability 寿命测试			3											
4.3.3.Vibration 振动性				3										
4.3.4.Physical shock 冲击性					3									
4.4.1.Thermal shock test 冷热冲击						3								
4.4.2.Solderability 焊锡性							2							
4.4.3.Humidity 恒温恒湿	5							3						
4.4.4.Salt Spray 盐水喷雾									3					
4.4.5.Cold resistance 冷阻抗										3				
4.4.6.Heat resistance 热阻抗											3			
4.4.7.Thermal Aging 高温老化												3		
4.4.8.IR-reflow 回流焊测试													2	
NO. of Test samples(Min.) 测试样	5	5	5	5	5	5	5	5	5	5	5	5	5	5

NOTE 2: (a) Numbers indicate sequence in which tests are performed.

(b) Discontinuities shall not take place in this test group, during tests.

说明 2: (a)测试依照矩阵要求数量进行。

(b)在测试中，群组测试不能间断

核准：唐竹君

制作人：魏红

測試報告

TEST REPORT

產品名稱 Part Name	RJ11 水晶头 6P4C	測試日期 Date of Testing	2021.12.22- 2021.12.23	報告編號 Report NO.	MD20211223-01
產品型號Part Name	RJ11-001-G23057	樣品數量 Quantity	5PCS	測試環境 Measuring Environment	濕度 Temp:18~21°C 相對濕度RH:49%~57%

一.電性測試 ELECTRICAL TESTp

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄Testing Result					判定Judge	
					1	2	3	4	5	Pass	Fail
1	Contact resistance	Test current:100mA max	DIGITAL MICRO- OHMMETER	50mΩ Max	21.36 mΩ	20.05 mΩ	18.62 mΩ	20.55 mΩ	21.53 mΩ	P	
2	Insulation resistance	Test voltage:500VDC Operation stated:1min	ULTRA HIGH RESISTANCE METER	500MΩ Min	Pass	Pass	Pass	Pass	Pass	P	
3	Dielectric withstand voltage	Test voltage:1000VAC Cut-off current:0.5mA Operation stated:1 min	BREAKDOWN TESTER	No discharge or flashover occur	Pass	Pass	Pass	Pass	Pass	P	

二.機械特性測試 MECHANICAL TEST

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄Testing Result					判定Judge	
					1	2	3	4	5	Pass	Fail
1	Durability test	Rate:200cycles/hour Total: 750 cycles	LIFE TESTER FOR CONNECTOR	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Mating Force	29.4Newtons maximum at a maximum rare of 7.5mm(0.39") per minute	Insertion force testing machine	3.0kgf Max	Pass	Pass	Pass	Pass	Pass	P	

三.環境特性測試 ENVIRONMENTAL TEST

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄 Testing Result					判定 Judge	
					1	2	3	4	5	Pass	Fail
1	Humidity-Temperature cycle	Temperature: 40±2°C Humidity: 90~95% Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Heat test	Temperature: 70±2°C Duration:168H	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Cold test	Temperature: -25±3°C Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
4	Temperature cycling test	Temperature: -55~85°C Duration:10 cycle	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	

#### 四.物理測試 PHYSICAL TEST

序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄 Testing Result					判定 Judge	
					1	2	3	4	5	Pass	Fail
1	Salt spray test	Temperature: 35±2°C Concentration:5±1 % Duration:12H	SALT SPRAY TESTER	No Oxidation	Pass	Pass	Pass	Pass	Pass	P	
2	Resistance to soldering heat test	Temperature: 245°C Duration:3 sec	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Solder ability test	Temperature: 245±5°C Duration:5±0.5 sec	CONTROLLED CONSTANT-TEMP SOLDER POT	Soldering area ≥95□	Pass	Pass	Pass	Pass	Pass	P	
判定 Result		<input checked="" type="checkbox"/> 合格 (ACCEPT) <input type="checkbox"/> 不合格 (REJECT)									

核准(Approver): 欠必鋒

測試(Tester): 但芬

## 檢驗報告

首件檢驗
 入庫檢驗
 出貨檢驗
 客退檢驗
 退料檢驗
 其他

2021年12月23日 版次:A1

料號	RJ11-001-G23057	制令單號	/					送檢單位	工程部	首件製作者	裝配		
品名	RJ11 水晶头 6P4C	客戶代號	/					批 量	/	送檢時間	/		
								數 量	5PCS	確認時間	/		
抽樣標準		<input checked="" type="checkbox"/> 單次 <input type="checkbox"/> 雙次					抽樣數 ( 5PCS )	AQL	CRI:0	MAJ:0.40	MIN:0.65		
MIL-STD-105E(II)		<input checked="" type="checkbox"/> 正常 <input type="checkbox"/> 加嚴 <input type="checkbox"/> 減量						ACC/REJ	0	/	/		
不良數: CRI ( / ) MAJ ( / ) MIN ( / )									不良率(%)		/		
NO.	檢驗項目 單位:MM/G	檢測 儀器	檢 驗 記 錄					品管判定		CRI	MAJ	MIN	備注
			1	2	3	4	5	AC	RE				
尺 寸 測 量	6.10±0.07	D	6.12	6.14	6.13	6.09	6.10	√					
	3.25±0.13	D	3.28	3.26	3.30	3.27	3.31	√					
	13.40±0.15	D	13.42	13.46	13.47	13.40	13.44	√					
	12.5±0.30	D	12.56	12.54	12.58	12.55	12.53	√					
	11.3±0.30	D	11.33	11.38	11.35	11.36	11.32	√					
	6.60±0.20	D	6.67	6.62	6.64	6.63	6.65	√					
	7.20±0.20	D	7.24	7.26	7.27	7.25	7.28	√					
	9.65±0.20	D	9.64	9.68	9.63	9.62	9.67	√					
檢驗依據: <input checked="" type="checkbox"/> 《工程圖紙》 <input type="checkbox"/> 《檢驗規範》 <input type="checkbox"/> 《承認書》 <input type="checkbox"/> 樣品 <input type="checkbox"/> 其它													
檢測儀器:A游標卡尺 B千分尺 C厚薄儀 D投影鏡 E放大鏡 F顯微鏡 G錫爐 H插拔力器 I間位尺 J其它													
品保判定:		<input checked="" type="checkbox"/> 合格Accept <input type="checkbox"/> 退貨Reject <input type="checkbox"/> 特采Waive <input type="checkbox"/> 挑選Sort											

核准: 欠必鋒

審核: 刘联英

檢驗員: 但芬

## 电镀报告表

品名: RJ11 水晶头 6P4C		版次:A. 0			
电镀规格:Ni40u", Sn40u", Au G/Fu"		日期:2021/10/10		页次:1/1	
厂商:同华					
测试设备:CMI X-射线膜厚测试仪					
1、底层电镀测试 (Ni)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"MIN	60.5u"	OK	2021/10/10	14:15:03
2	40u"MIN	58.3u"	OK	2021/10/10	14:15:05
3	40u"MIN	67.5u"	OK	2021/10/10	14:15:07
4	40u"MIN	62.4u"	OK	2021/10/10	14:15:09
2、表层电镀测试 (Sn)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"MIN	45.3u"	OK	2021/10/10	14:20:12
2	40u"MIN	52.7u"	OK	2021/10/10	14:20:14
3	40u"MIN	58.9u"	OK	2021/10/10	14:20:16
4	40u"MIN	54.3u"	OK	2021/10/10	14:20:18
3、表层电镀测试 (Au)					
数据	测试标准	实测值	判定	测试日期	测试时间
1	0.5u"MIN	0.57u"	OK	2021/10/10	14:25:06
2	0.5u"MIN	0.53u"	OK	2021/10/10	14:25:08
3	0.5u"MIN	0.60u"	OK	2021/10/10	14:25:10
4	0.5u"MIN	0.56u"	OK	2021/10/10	14:25:12

核准: 欠必锋

审核: 刘联英

检验员: 但芬

## 盐水喷雾实验报告

试验方法	盐水喷雾腐蚀试验法	参考资料	MIL-STD-1344
METHOD	NEUTRL SALT SPRAY CORROSION TEST	REF	
客户	/	试验起始日期	2021年 12月22日 20:00 时起
		DATE	2021年12月 23日 08:00 时止
样品名称	RJ11 水晶头 6P4C	试验数量	5PCS
P/N	RJ11-001-G23057	QTY	
试验条件 (TEST CONDITION)			
1、盐水溶解 (SALT SOLUTION: 浓度 $50 \pm 10\text{g/L}$ , PH值6.5-7.2.			
2、试验室温度 (TEMP. IT THE SPRAY DHAMBR): $35 \pm 1^\circ\text{C}$ .			
3、盐水桶温度 (TEMP. OF SALE SOL' N TANK): $35 \pm 1^\circ\text{C}$ .			
4、压力桶温度 (TEMP. OF SAR SUPPLIERY): $47 \pm 1^\circ\text{C}$ .			
5、试验室相对湿度 (R. H IN THE CHAMBER ) 85%.			
6、压缩空气压力 (COMPRESSED AIR PRESSURE): $1.00 \pm 0.01\text{Kg/cm}^2$ .			
7、样品放置位置 (SPECIMEN SUPPORTED ANGLE ): 尼龙绳吊挂 $70^\circ - 90^\circ$ .			
8、喷雾收集量 (COLLECT RATE OF SALT SOL' N) $1-2\text{mL}/(8 \text{ cm}^2\text{hr})$ .			
9、盐雾测试时间: 12小时 (H)			
判定方法 (ADFUSGD METHOD )			
试验后以20倍放大镜观察、无蓝、绿色腐蚀物之现象, 即判定合格. (Inspext the ecimen at 20 xmagnification no blue or green corrosion products are acceptable)			
样品序号	试验后现象	判定	
	PHENOMENON AFTER TEST	COMMENT	
1	无蓝、绿色腐蚀物之现象	OK	
2	无蓝、绿色腐蚀物之现象	OK	
3	无蓝、绿色腐蚀物之现象	OK	
4	无蓝、绿色腐蚀物之现象	OK	
5	无蓝、绿色腐蚀物之现象	OK	

核准: 欠必锋

审核: 刘联英

试验员: 但芬



# 鉅鼎銅材廠檢驗報告單

公司名稱 Customer	鉅鼎銅材廠檢驗報告單				重量 Weight(kg)	1078	出貨日期 Date	2021/11/23		
品名 Article	標準 Standard No				尺寸 Dimension		狀態 Tenper	銅卷編號 Coil No		
C2680	JISH3100:2017				0.18*400		EH	1021-C-08		
化學成分Chemical Compositions(%)										
元素 Element	Cu %	Zn%	Pb%	Fe%	\	\	\	\	化學成分	雜質
規範 Spec	64.0-68.0	餘量	<0.05	<0.05	\	\	\	\	合格	合格
實測 Actual	64.32	餘量	0.0036	0.0136	\	\	\	\	合格	合格
機械性質Mechanical Properties										
項目 Item	結晶粒度 Grain Size Mm	硬度 Hardness Hv	抗拉強度 TensionStrength Mpa	伸長度 Elongation %	導電率 Electrical Conduc %IACS	彎曲試驗 Bending Test 180	表面粗度 Surface Roughness Ra(u m)	彎曲度 Camber mm/n		
規範MAX Spec	\	170-190	490-610	\	\	\	\	\		
實測 Actual	\	178	574	5	\	\	\	\		

品質部


 聯繫電話:0755-28111847  
 傳真: 0755-28110077  
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## Test Report

No. CANEC2119174201

Date: 22 Oct 2021

Page 1 of 4

SHENZHEN HUALIANWEI ELECTRONICS TECHNOLOGY CO.,LTD

101, 201, PLANT 1, NO.307, GUANLAN GUIHUA ROAD, GUIXIANG COMMUNITY, GUANLAN SUB-DISTRICT, LONGHUA DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : C2680 Terminal

SGS Job No. : CP21-055214 - GZ  
Model No. : C2680 terminal after plating  
Client Ref. Info. : Used for USB series, HDMI series, RJ series, 1394 series, MICRO series, MINI series, DISPLAYPORT series, VGA series, DVI series, TYPE-C series, JACK series  
Date of Sample Received : 18 Oct 2021  
Testing Period : 18 Oct 2021 - 22 Oct 2021  
Test Requested : Selected test(s) as requested by client.  
Test Method : Please refer to next page(s).  
Test Results : Please refer to next page(s).  
Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

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94BEAB15



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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## Test Report

No. CANEC2119174201

Date: 22 Oct 2021

Page 2 of 4

Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-191742.001	Silver-grey/brassy metal

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis .

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	44
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND

Notes :

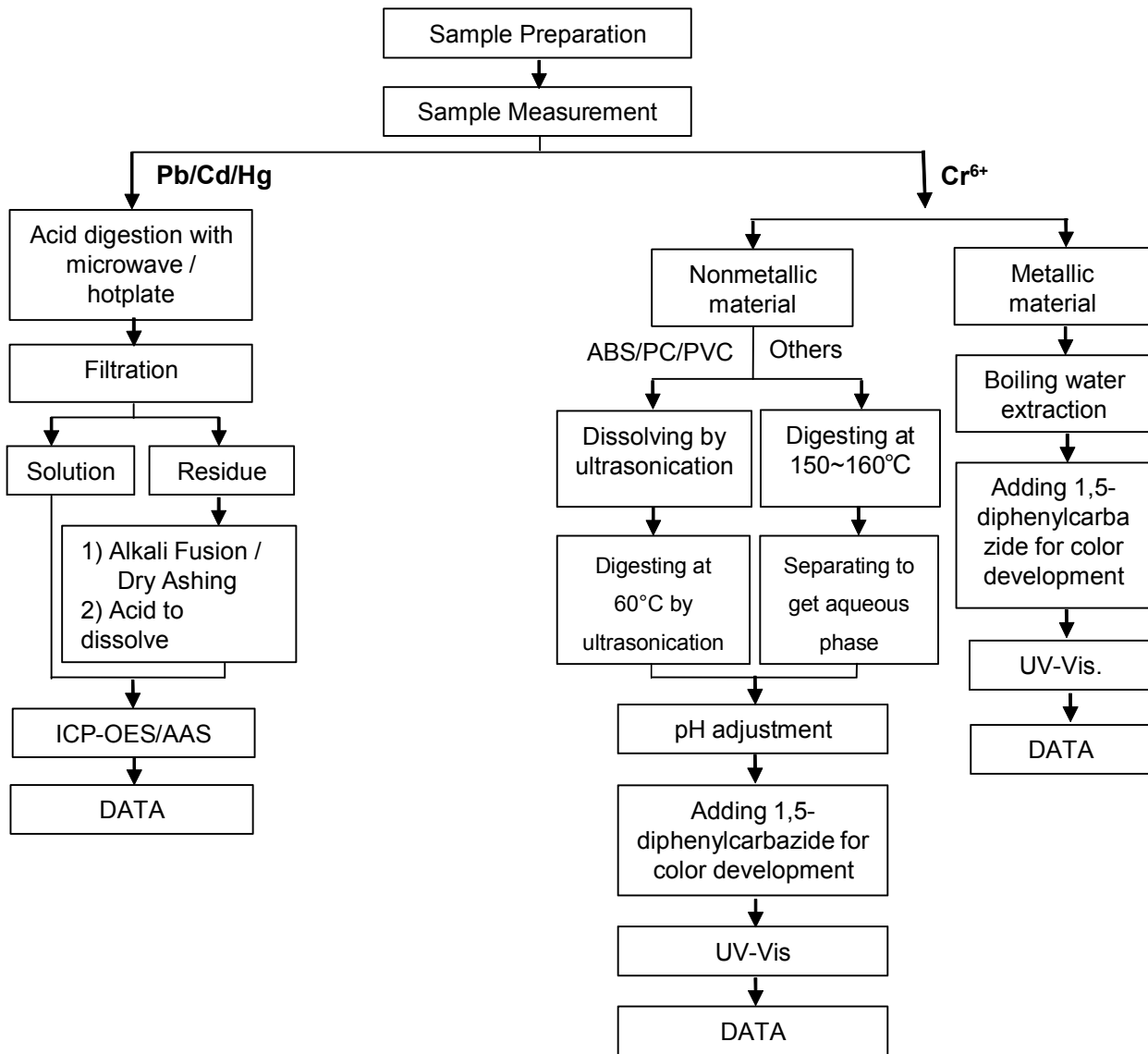
- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.



ATTACHMENTS

Pb/Cd/Hg/Cr<sup>6+</sup> Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded).



Sample photo:



SGS authenticate the photo on original report only

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



## Test Report

No. CANEC2117633801

Date: 27 Sep 2021

Page 1 of 8

SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD  
TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Glod( AU)

SGS Job No. : CP21-051017 - SZ  
Date of Sample Received : 18 Sep 2021  
Testing Period : 18 Sep 2021 - 27 Sep 2021  
Test Requested : Selected test(s) as requested by client.  
Test Method : Please refer to next page(s).  
Test Results : Please refer to next page(s).  
Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

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CANEC2117633801



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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## Test Report

No. CANEC2117633801

Date: 27 Sep 2021

Page 2 of 8

Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-176338.001	Gold plated metal

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	73
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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## Test Report

No. CANEC2117633801

Date: 27 Sep 2021

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

### Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) ▽ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

### Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method : With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND



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Notes :

- (1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
- (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



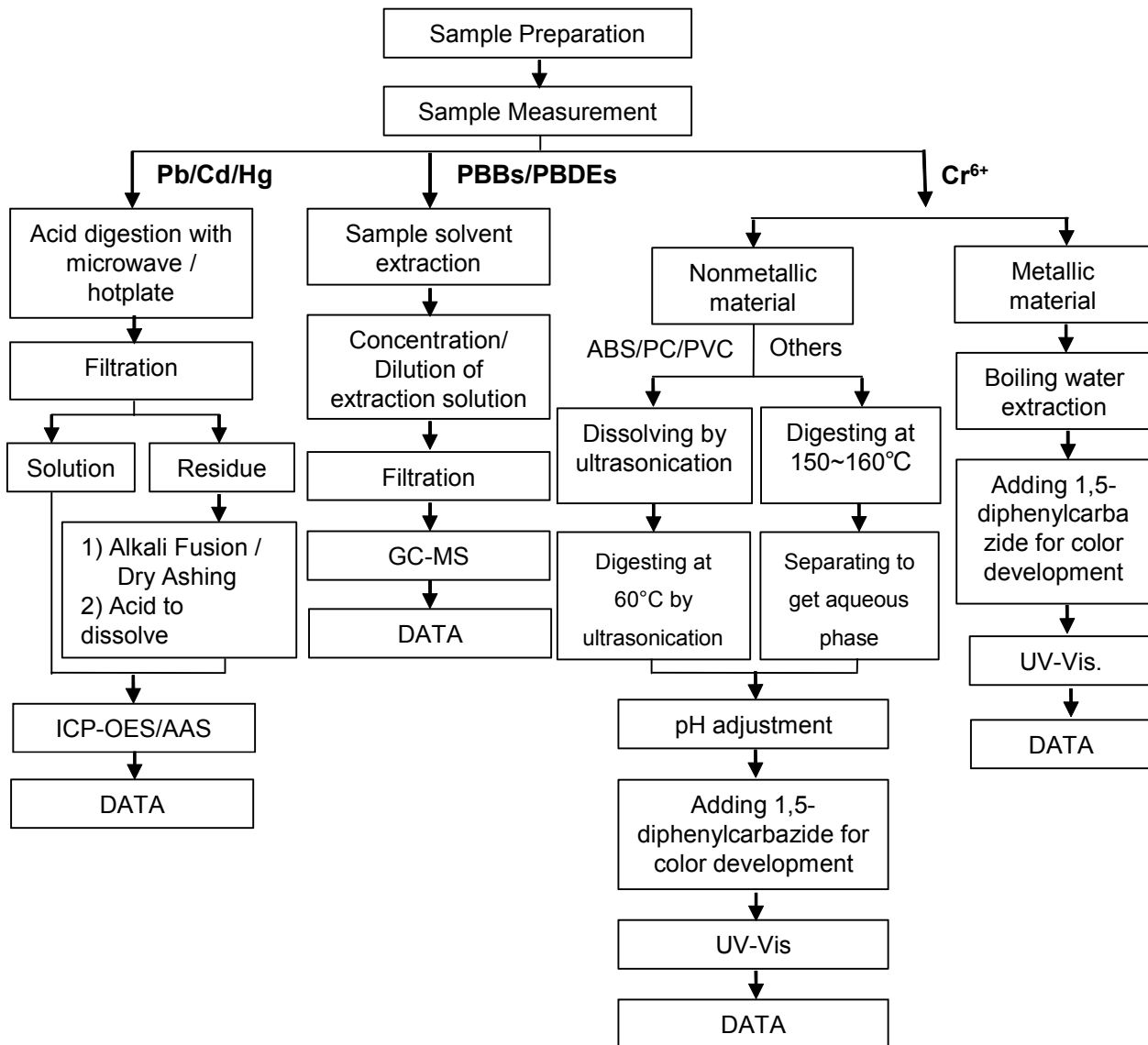
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**Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart**

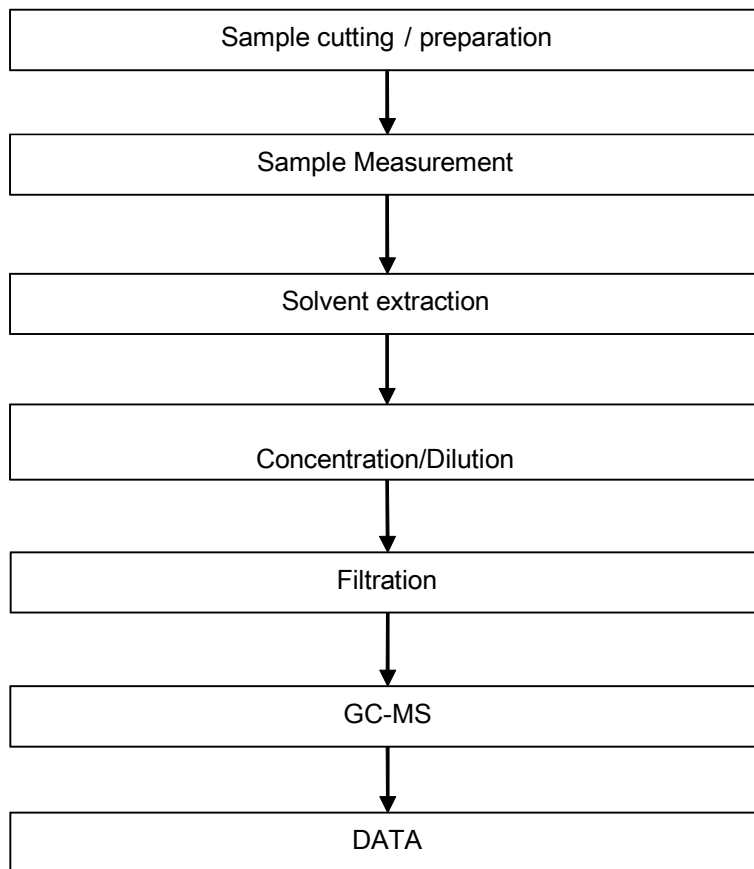
1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).





## ATTACHMENTS

### Phthalates Testing Flow Chart

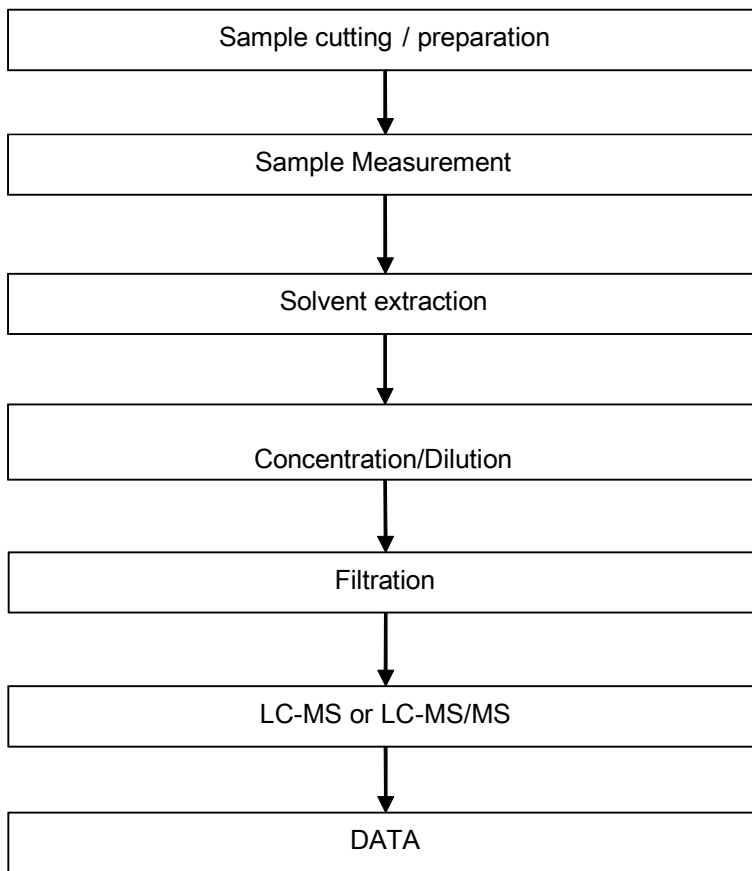


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PFOA / PFOS Testing Flow Chart



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Sample photo:



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## Test Report

No. CANEC2117633802

Date: 27 Sep 2021

Page 1 of 8

SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD

TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Bright Tin(SN)

SGS Job No. : CP21-051017 - SZ

Date of Sample Received : 18 Sep 2021

Testing Period : 18 Sep 2021 - 27 Sep 2021

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

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CANEC2117633802



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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## Test Report

No. CANEC2117633802

Date: 27 Sep 2021

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Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-176338.002	Silver-gray plated metal

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	002
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	29
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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## Test Report

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

### Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) ▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

### Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method : With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND



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## Notes :

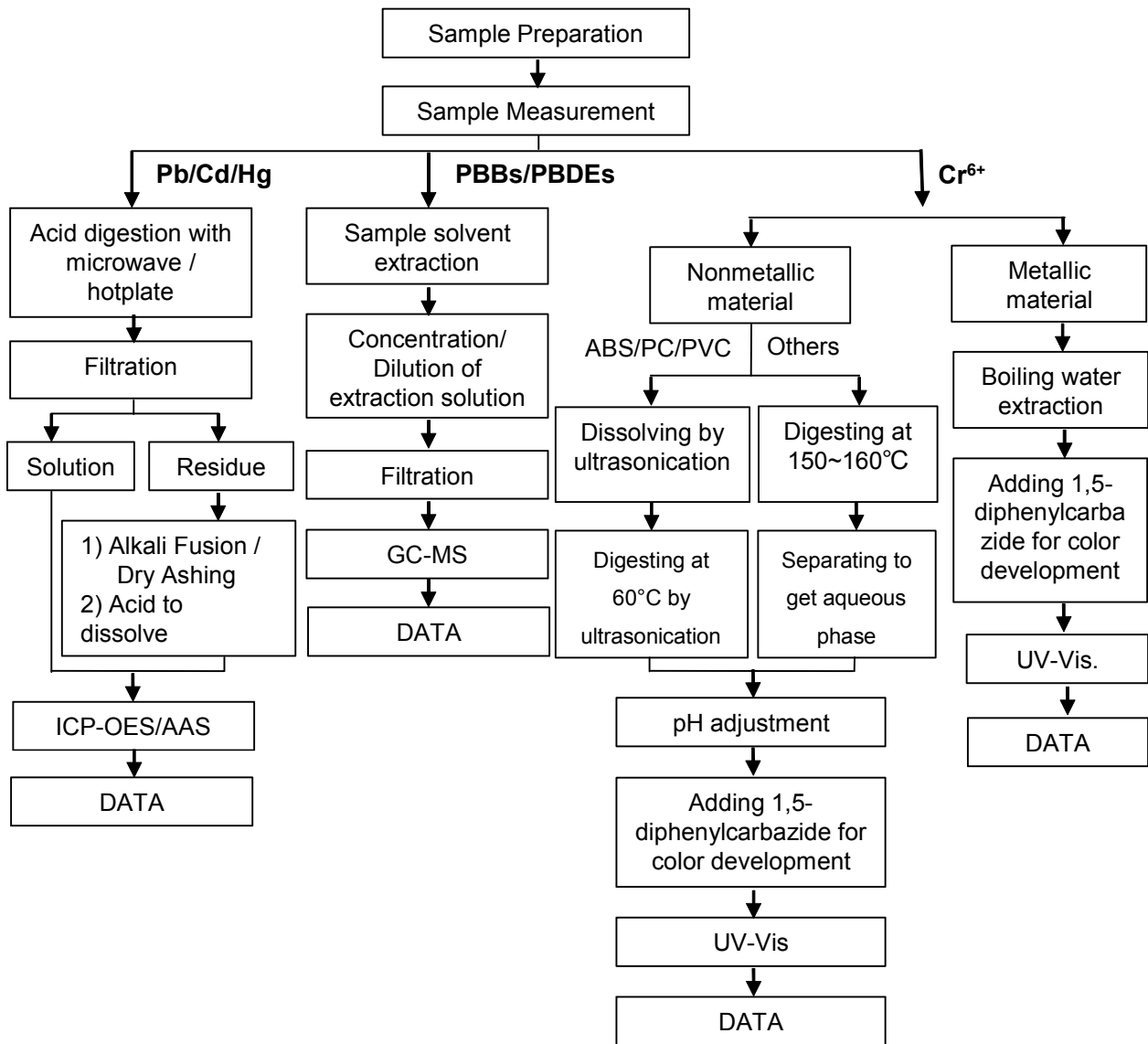
- (1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
- (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



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**Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart**

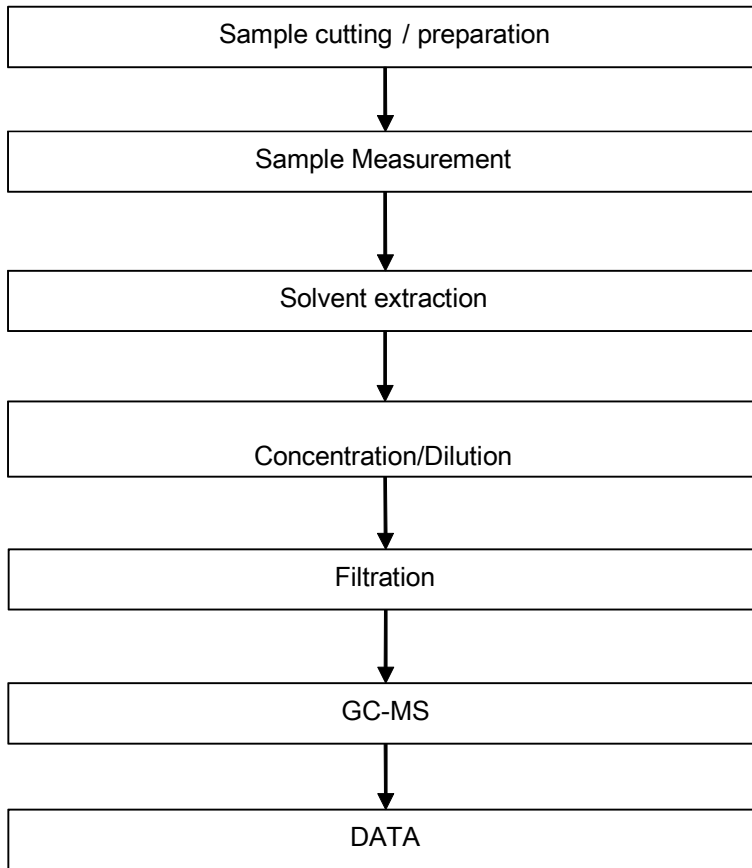
1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).





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Phthalates Testing Flow Chart

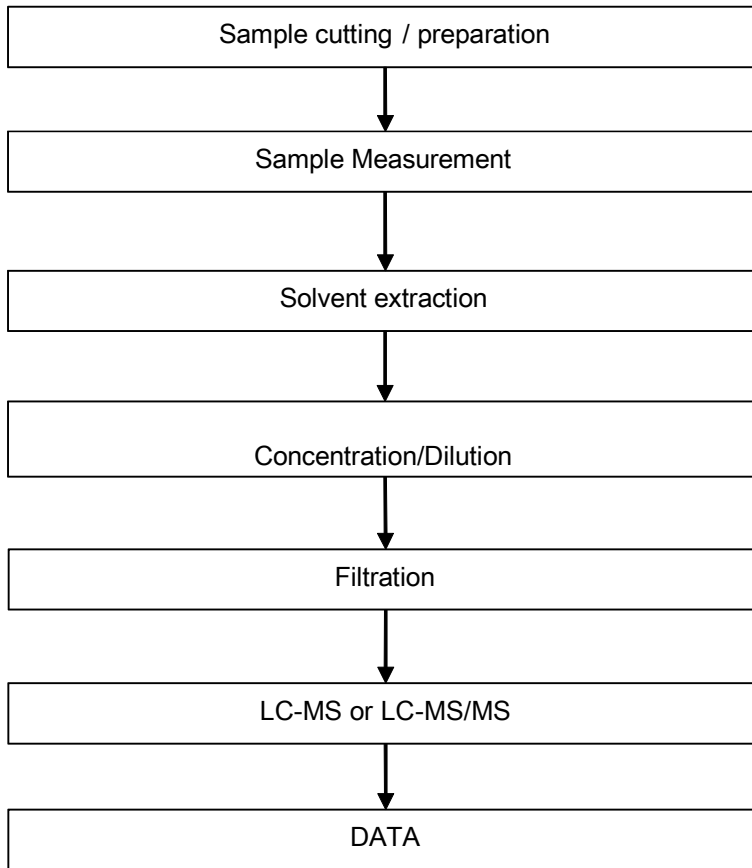


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PFOA / PFOS Testing Flow Chart



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Sample photo:



SGS authenticate the photo on original report only

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



## Test Report

No. CANEC2117633803

Date: 27 Sep 2021

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SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD

TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Nickel(Ni)

SGS Job No. : CP21-051017 - SZ

Date of Sample Received : 18 Sep 2021

Testing Period : 18 Sep 2021 - 27 Sep 2021

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen  
Approved Signatory

scan to see the report



CANEC2117633803



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory.

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## Test Report

No. CANEC2117633803

Date: 27 Sep 2021

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Test Results :

### Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-176338.003	Silver-gray plated metal

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

### RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	003
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	37
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm <sup>2</sup>	0.10	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND



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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

**Notes :**

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series  
[https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP\\_ORG\\_ID,FSP\\_LANG\\_ID:1258637,25](https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25)
- (3) ▽ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain CrVI  
 b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-CrVI based coating  
 c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination  
 Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

**Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives**

Test Method : With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND



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## Notes :

- (1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
- (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



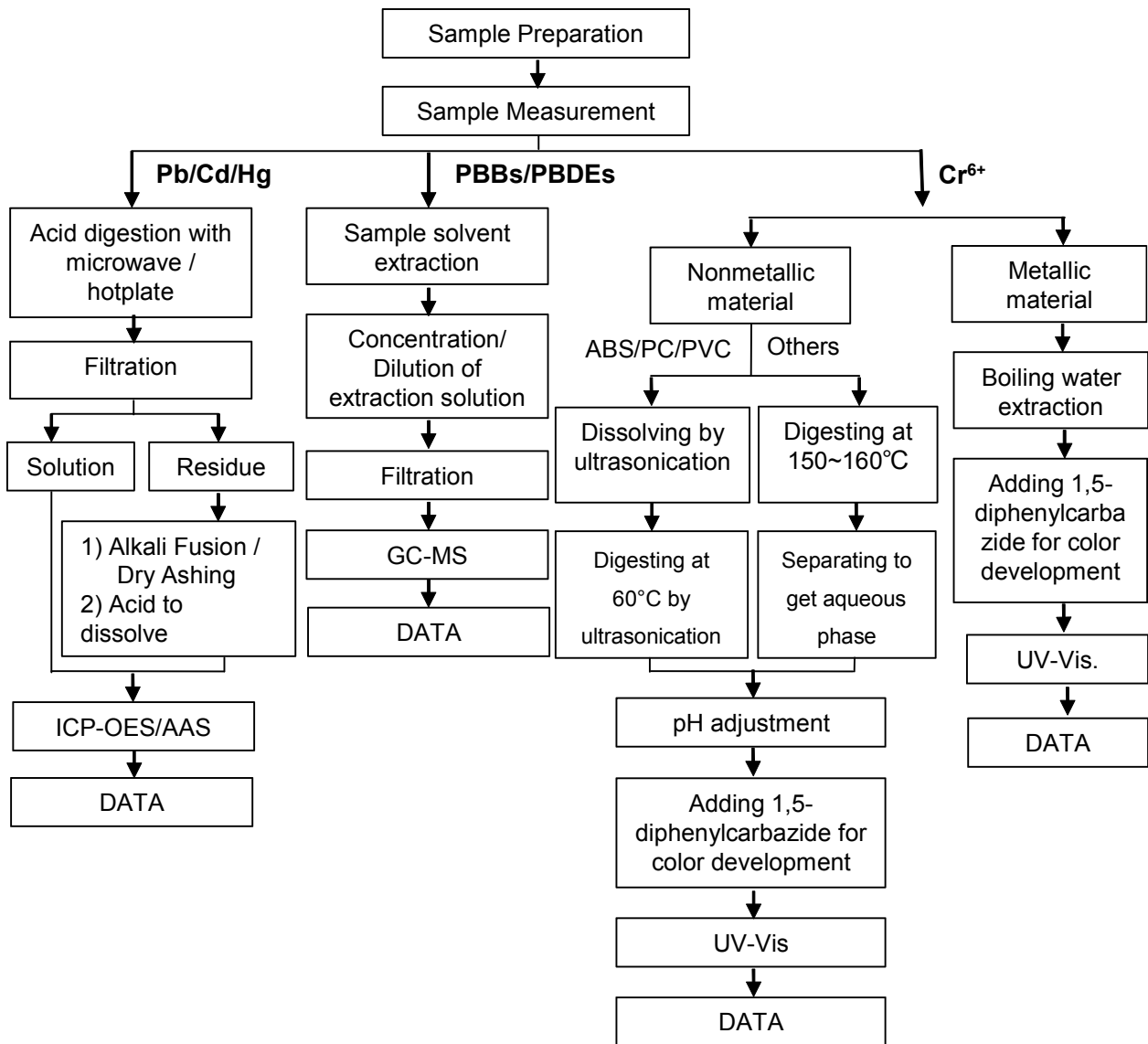
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Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing Flow Chart

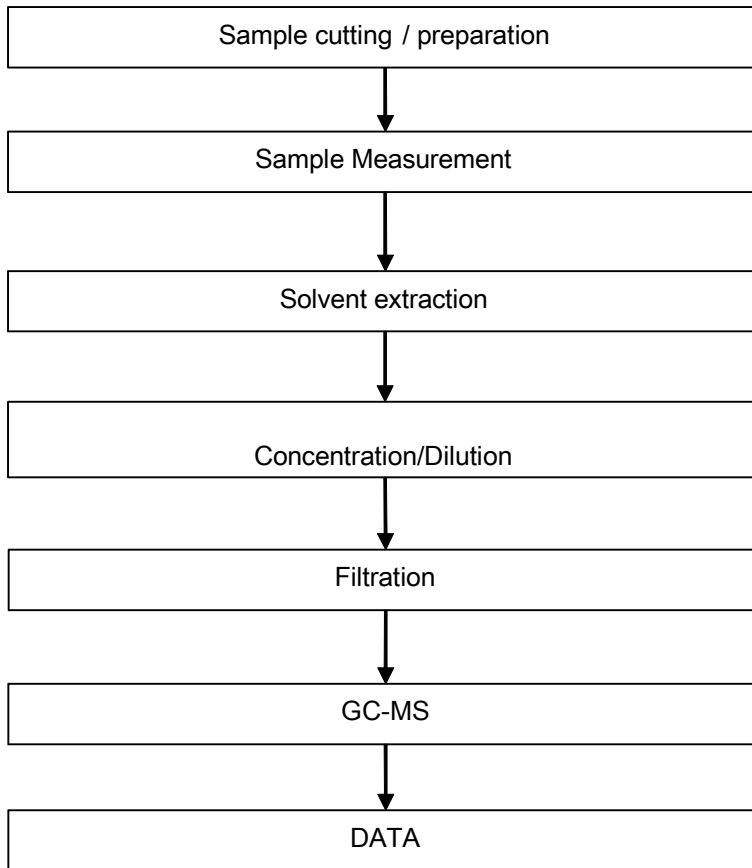
1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).





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Phthalates Testing Flow Chart

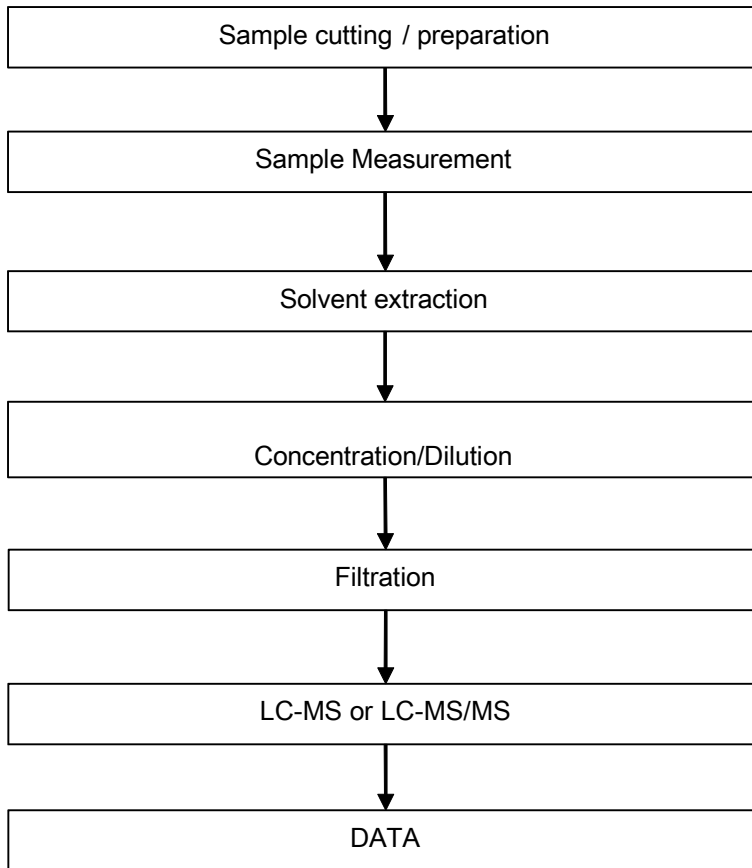


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ATTACHMENTS

PFOA / PFOS Testing Flow Chart



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