

承 认 书

Approval Sheet

客户 (Customer): /

客户料号 (Cus .P/N): /

华联威料号 (HLW P/N): U318 - 0121 - 36E011

品名规格 (PronameSpec): USB 3.0 AM SMT

送样日期 (Delivery Date): 2021/11/16

承认日期 (Acknowledge Date): 2021/11/18

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
将成英	欠必锋	魏红	唐竹君

地址: 深圳市龙华区观澜街道桂香社区观澜桂花路 307 号

TEL: 0755-28888886 28888866

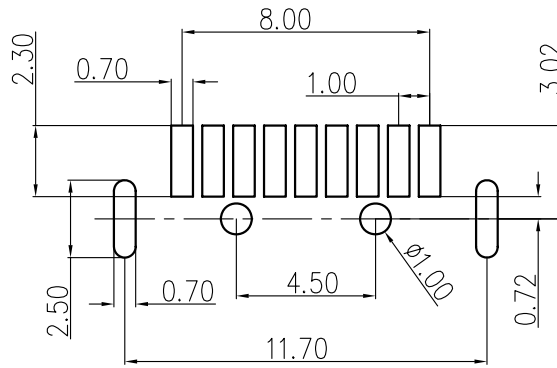
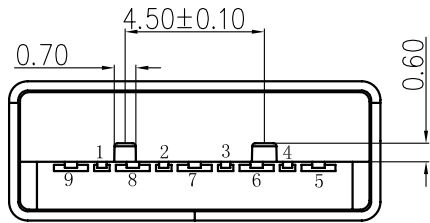
hua@hlwconn.com

[Http://www.hlwconn.com](http://www.hlwconn.com)

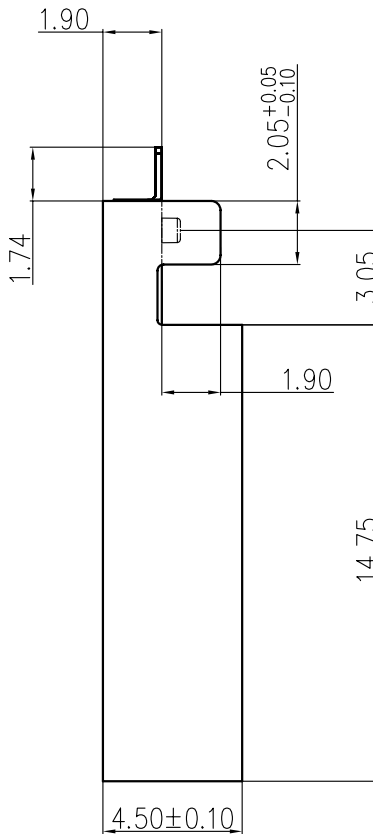
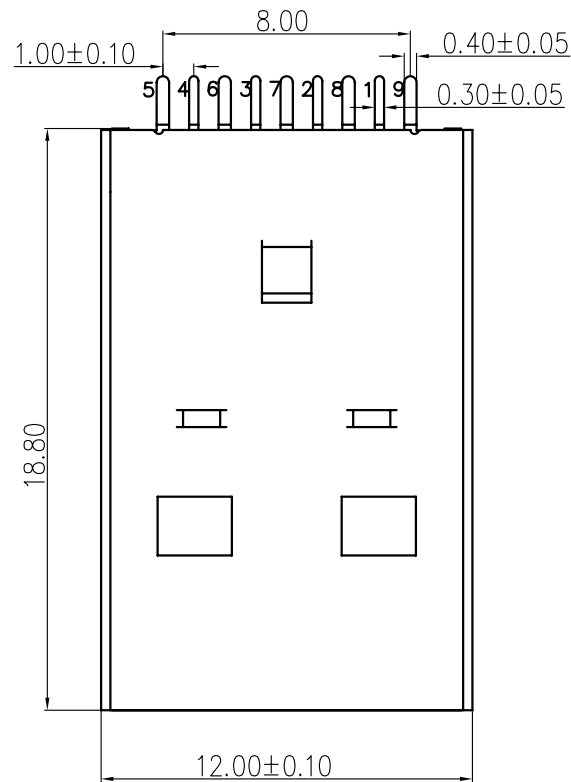
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PCB LAYOUT



Remark:

1.MATERIAL:

- 1.1 Housing:thermoplastic plastics.
- 1.2 terminals:Copper Alloy
- 1.3 Shell:Copper Alloy/SPCC.

2.characteristics:

- 2.1 Rating Voltage : 30V AC.
- 2.2 Rating Current:PIN1&PIN4(Vbus&Correponding ground PIN) 1.8A MAX Other PINS 0.25A min.
- 2.3 Contact Resistance:PIN1&PIN4:30 mΩ MAX. Other PINS: 50 mΩ
- 2.4 Insulation Resistance:100 MΩ MIN.
- 2.5 Withstanding Voltage:AC 100V between adjacent contacts
- 2.6 Mating force: 3.57Kgf MAX(35N MAX)
- 2.7 Extraction force:1Kgf Min(9.8N Min)
- 2.8 Life test:1500Cycles MIN.
- 2.9 Temperature Range: -30℃~+80℃.

U318-012X-XXX0X1

- 1:Iron alloy Ni plating
- 5:Copper alloy Ni plating
- 1:Au 1u"
- 3:Au 3u"
- 5:Au 5u"
- 7:Au 10u'
- 8:Au 15u"
- A:Au 30u"
- 1:PA66
- 2:PBT
- 6:LCP
- 1:tray
- 2:Tube
- 8:Tape&Reel
- 9:Tape&Reel+Mylar
- 1:Black
- 7:Blue 300C
- 8:Blue 300C-1
- C:Blue 300C-2
- E:Blue 300C-3
- 9:Carbon black425C

Pin Number	Signal Name	Pin Number	Signal Name
1	VBUS	5	SSRX-
2	D-	6	SSRX+
3	D+	7	GND
4	GND	8	SSTX-
Shell	Shield	9	SSTX+

TOLERANCE UNLESS OTHERWISE SPECIFIED	
.XXX ±0.10	.X' ±3'
.XX ±0.20	.XX' ±2'
.X ±0.30	

FLW 深圳市华联威电子科技有限公司

HUA LIAN WEI TECHNOLOGY ELECTRONICS CO; LTD.

APPROVED		PART NAME:	USB3.0 AM 贴片式			
CHECKED		PART No:	U318-012X-XXX0X1	C		
DRAWN	pengchaoyong	PROJECTION:	UNIT:	SCALE:	SHEET:	REV.
DATE	2014.09.28		mm	1:1	1 OF 1	A



TEST ITEM		REQUIREMENT	PROCEDURE
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.
2	Operating Temperature	-55°C to 85 °C	
3	Storage Temperature	-20°C to 60 °C	
ELECTRICAL REQUIREMENT			
4	Rating Voltage	30VAC max	on any signal pin with respect to the shield
5	Rating Current	PIN1&PIN4(Vbus&Correponding ground PIN)1.8A MAX Other PINS 0.25A min.	55°C,maximum ambient 85°C,maximum temperature change (ANSI/EIA 364-70,TP-70)
6	Contact Resistance	30 mΩ maximum for pin1 & pin4 (50 mΩ maximum for others) when measured at 20 mV maximum open circuit at 100 mA. Mated test contacts must be in a connector housing. Measurements to include Power, Ground, D+ and D- contacts of connector. 10 mΩ maximum change for post test LLCR	The object of this test is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur. Measurement to use Kelvin 4-wire method. Measurements shall be taken form receptacle terminal to plug terminal. EIA 364-23
7	Dielectric withstanding Voltage	The dielectric must withstand 100 VAC for one minute at sea level.100 V AC for Mini/Micro Series.	The object of this test procedure is to detail a test method to prove that a USB connector can operate safely at its rated voltage and withstand momentary over potentials due to switching, surges and/or other similar phenomena. EIA 364-20
8	Insulation Resistance	Pre test Standard — 1,000 MΩ minimum. MicroUSB — 1,00 MΩ minimum Mini Series — 100 MΩ minimum. Post test 100 MΩ minimum final.	The object of this test procedure is to detail a standard method to assess the insulation resistance of USB connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members. EIA 364-21
9	Temperature Rising	30°C Max. Under loaded rating current	Contact series-wired, apply test current of loaded rating current to the circuit, and measure the temperature rising by probing on soldered areas of contacts, after the temperature becomes stabilized deduct ambient temperature from the measured value.
Mechanical Requirement			
10	Connector Mating Force	35 Newtons maximum at a maximum rate of 12.5 mm (0.492") per minute.	The object of this test is to detail a standard method for determining the mechanical forces that are required for inserting a USB connector. EIA 364-13



TEST ITEM		REQUIREMENT	PROCEDURE
11	Connector Unmating Force	9.8 Newtons minimum 8 Newtons minimum after the specified at a maximum rate of 12.5 mm (0.492") per minute.	The object of this test is to detail a standard method for determining the mechanical forces that are required for extracting a USB connector. EIA 364-13
12	Durability	1500 cycles Min(standard durability class) 5000 cycles Min (High durability class) 10,000 cycles Min(Micro series)	The object of this test procedure is to detail a uniform test method for determining the effects caused by subjecting a USB connector to the conditioning action of insertion and extraction, simulating the expected life of the connectors. Durability cycling with a gauge is intended only to produce mechanical stress. Durability performed with mating components is intended to produce both mechanical and wear stress. EIA 364-09
13	Vibration	No discontinuities of 1 μ S or longer duration when mated USB connectors are subjected to 5.35 GRMS. 15 minutes in each of three mutually perpendicular planes.	Test Condition V Test Letter A This test procedure tests the ability of USB connectors to withstand conditions involving vibration. EIA 364-28
14	Mechanical Shock	No discontinuities of 1 μ S or longer duration when mated USB connectors are subjected to 11 ms duration 30 Gs halfsine shock pulses. Three shocks in each direction applied along three mutually perpendicular planes for 18 shocks.	Test Condition H The object of this test procedure is to detail a standard method to assess the ability of a USB connector to withstand specified severity of mechanical shock EIA 364-27
15	Solder ability	USB contact solder tails shall pass 95% coverage after 8-hour steam age. Note: If lead free solder is required, solder temperature is 245 \pm 5 $^{\circ}$ C .	1)Temperature of fused solder: 245 \pm 5 $^{\circ}$ C . 2)Dipping time:10 \pm 1s EIA 364-52
Environmental Requirements			
16	Resistance to Solder Heat	Forming resin shall not be distorted, and terminations shall not be separated.	1) Depth of dipping termination: the distance between the mounting surface and solder surface shall be 1 mm to 2mm. 2)Temperature:245 \pm 5 $^{\circ}$ C . 3) Dipping time: 10 \pm 1s Socket EIA 364-56
17	Thermal Shock	10 Cycles - 55OC and +85OC. The USB connectors under test must be mated. There shall be no evidence of damage.	Test Condition I The object of this test is to determine the resistance of a USB connector to exposure at extremes of high and low temperatures and to the shock of alternate exposures to these extremes, simulating the worst case conditions for storage, transportation and application. EIA 364-32



TEST ITEM		REQUIREMENT	PROCEDURE
18	Steady State Humidity	168 Hours minimum (seven complete cycles). The USB connectors under test shall be tested in accordance with EIA 364-31.	Test Condition A Method III The object of this test procedure is to detail a standard test method for the evaluation of the properties of materials used in USB connectors as the effects of high humidity and heat influences them.
19	Temperature Life (Heat Aging)	Must meet the minimum requirements specified by the most current version of Chapter 6 of the USB Specification and must be free of cosmetic and/or mechanical imperfections that will prevent normal use.	Test Condition 4 - Method A. The object of this test procedure is to detail a standard method to assess the ability of a USB connector to withstand $+85^{\circ}\text{C} \pm 2$ temperatures without applied voltage for 500 hours EIA 364-17
20	Salt Spray	Visual Inspection-No physical damage LLCR-50 mΩ max per contact	Mated connector expose to 5% salt concentration for 12 hours at temperature $35 \pm 2^{\circ}\text{C}$. After the test specimens shall be washed with running water and dried naturally EIA 364-26

Product Qualification and Requalification test

Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	J
	Test Sequence (a)									
Examination of Product	1, 7	1, 9	1, 6	1, 5	1, 5	1, 5	1, 5	1, 3	1, 3	1, 3
Contact Resistance		2, 8	2, 5	2, 4	2, 4	2, 4	2, 4			
Dielectric withstanding	3, 6									
Insulation Resistance	2, 5									
Temperature Rising								2		
Mating Force		3, 7								
Unmating Force		4, 6								
Durability		5								
Vibration			3							
Mechanical Shock			4							
Solderability										2
Resistance to Soldering									2	
Thermal Shock				3						
Humidity Temperature	4				3					
Temperature Life						3				
Salt Spray							3			
備注	無客戶指定增加測試項目外，依照此標準進行產品可靠性評估。									

審核：黃國華

制定：趙晶

3	Cold test	Temperature: $-25 \pm 3^{\circ}\text{C}$ Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
4	Temperature cycling test	Temperature: $70 \sim -25^{\circ}\text{C}$ Duration:5 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: $35 \pm 2^{\circ}\text{C}$ Concentration: $5 \pm 1\%$ Duration:12H	SALT SPRAY TESTER	No Oxidation	Pass	Pass	Pass	Pass	Pass	P	
2	Resistance to soldering heat test	Temperature: $245 \pm 5^{\circ}\text{C}$ Duration: $10 \pm 1\text{sec}$	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
3	Solder ability test	Temperature: $245 \pm 5^{\circ}\text{C}$ Duration: $10 \pm 1\text{sec}$	CONTROLLED CONSTANT-TEMP SOLDER POT	Soldering area $\geq 95\%$	Pass	Pass	Pass	Pass	Pass	P	
判定 Result		<input checked="" type="checkbox"/> 合格 (ACCEPT) <input type="checkbox"/> 不合格 (REJECT)									

審核(Approver): 汪志根

測試(Tester): 陈晓宇



深圳市华联威电子科技有限公司

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11月18日 版次:A

料號	U318-0121-36E011	制令單號	/	送檢單位	工程部	首件製作者	裝配
品名	USB 3.0 AM SMT	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		抽样数 (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 / /	

不良数: 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				
	0.70±0.20	D	0.70	0.72	0.71	0.72	0.70	√					
	4.50±0.10	D	4.52	4.50	4.52	4.50	4.51	√					
	0.60±0.20	D	0.62	0.61	0.62	0.60	0.61	√					
	1.00±0.10	D	1.02	1.01	1.00	1.02	1.01	√					
	8.00±0.20	D	8.02	8.01	8.02	8.01	8.03	√					
	0.40±0.05	D	0.42	0.41	0.42	0.41	0.42	√					
	0.30±0.05	D	0.31	0.30	0.31	0.32	0.31	√					
	18.80±0.20	A	18.82	18.81	18.82	18.83	18.80	√					
	12.00±0.10	A	12.02	12.01	12.03	12.01	12.03	√					
	1.90±0.20	D	1.92	1.90	1.93	1.90	1.92	√					
	1.74±0.20	D	1.75	1.73	1.76	1.75	1.76	√					
	1.90±0.20	D	1.92	1.90	1.93	1.92	1.91	√					
	2.05+0.05/-0.10	D	2.05	2.06	2.05	2.03	2.05	√					
	3.05±0.20	D	3.06	3.05	3.07	3.06	3.07	√					
	14.75±0.20	A	14.76	14.77	14.73	14.75	14.76	√					
	4.50±0.10	D	4.52	4.51	4.50	4.52	4.51	√					

0

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: 合格Accept 退貨Reject 特采Waive 挑選Sort

核 准 汪志根 / 檢驗員 陈晓宇

保存期限:三年

QR-M-003



深圳市华联威电子科技有限公司
电镀报告表

品名:USB 3.0 AM SMT (端子)	版次:A.0
电镀规格:Ni40u", Sn40u", Au3u"	日期:2021-11-5
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	55.4u"	OK	2021-11-5	14:10:25
2	40u"MIN	56.1u"	OK	2021-11-5	14:10:27
3	40u"MIN	62.7u"	OK	2021-11-5	14:10:29
4	40u"MIN	51.3u"	OK	2021-11-5	14:10:31

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	127.5u"	OK	2021-11-5	14:15:02
2	40u"MIN	118.6u"	OK	2021-11-5	14:15:04
3	40u"MIN	122.3u"	OK	2021-11-5	14:15:06
4	40u"MIN	115.5u"	OK	2021-11-5	14:15:08

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	3u"MIN	3.36u"	OK	2021-11-5	14:20:13
2	3u"MIN	3.20u"	OK	2021-11-5	14:20:15
3	3u"MIN	3.17u"	OK	2021-11-5	14:20:17
4	3u"MIN	3.22u"	OK	2021-11-5	14:20:19

核准:汪志根

审核:唐竹君

检验员:陈晓宇



深圳市华联威电子科技有限公司
电镀报告表

品名:USB 3.0 AM SMT (外壳)	版次:A.0
电镀规格:Cu:40u",Ni:40u"	日期:2021-11-5
页次:1/1	

厂商:同华
测试设备:CMI X-射线膜厚测试仪

1、表层电镀测试 (Ni)

数据	测试标准	测点实测值	判定	测试日期	测试时间
1	40u"min	54.8u"	OK	2021-11-5	14:52:10
2	40u"min	66.2u"	OK	2021-11-5	14:52:12
3	40u"min	60.7u"	OK	2021-11-5	14:52:14
4	40u"min	52.5u"	OK	2021-11-5	14:52:16

2、底层电镀测试 (Cu)

数据	测试标准	测点实测值	判定	测试日期	测试时间
1	40u"min	52.8u"	OK	2021-11-5	14:57:08
2	40u"min	55.4u"	OK	2021-11-5	14:57:10
3	40u"min	50.3u"	OK	2021-11-5	14:57:12
4	40u"min	49.6u"	OK	2021-11-5	14:57:14

核准:汪志根

审核:唐竹君

检验员:陈晓宇



深圳市华联威电子科技有限公司

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11月17日 20::00 时起
		DATE	2021年11月18日 08:00 时止
样品名称	USB 3.0 AM SMT	试验数量	5PCS
P/N	U318-0121-36E011	QTY	
试验条件 (TEST CONDDITION)			
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 (不包含折弯处, 不包含镀锡区), 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:汪志根2020-04-05

审核:唐竹君2020-04-05

试验员:陈晓宇2020-04-05

东莞市海嵘兴塑胶有限公司

LCP材质分析报告

品名	比例	用途
杜邦LCP树脂	0.68	构成材料主要成份
抗氧剂	0.003	抗氧化
日本住友TAP	0.002	润滑及增加流动性
大洋安定剂	0.005	稳定机械性能, 方便重复使用
玻纤	0.30	增强
色母	0.01	着色

注: 以上数据真实可靠, 但并非绝对值, 并不做任何商业依据。





REPORT OF MATERIAL TEST

怡程金属(深圳)有限公司

地址: 深圳市龙岗区坪山镇深圳出口加工区

TEL: 0755-61291589 FAX: 0755-61291289

DATE: NOV.24.06

Customer:	Commodity: C 2680 R BRASS STRIP (H)	INVOICE/NO: LD951124
Applied Standard: CNS 4383 Brass Sheets, Plates and Strips		

Chemical Analysis Test

I/No.	Size of Product			Cu(%)	Fe(%)	Pb(%)	Zn(%)			
	Thickness (mm)	Width (mm)	Length (mm)							
	Standard									
	0.2	27.8		64.00 - 68.00	max. 0.050	max. 0.070	REM.			
6	0.2	27.8		65.61	0.035	0.007	REM.			
7	0.2	19		65.61	0.035	0.007	REM.			
8	0.2	32		65.61	0.035	0.007	REM.			
9	0.2	32.8		65.61	0.035	0.007	REM.			
10	0.2	68		65.61	0.035	0.007	REM.			

Mechanical & Physical Test

I/No.	Size of Product			Dimension Test		Tension Test		Hardness Test HV	Grain Size (mm)	Electric Conductivity (%)
	Thickness (mm)	Width (mm)	Length (mm)	Thickness (mm)	Width (mm)	Tensile Strength (kgf/mm ²)	Elongation (%)			
	Standard				(-)0.10 - (+) 0.00					
6	0.2	27.8		GOOD.	GOOD.	42-55	-	min-	-	-
7	0.2	19		GOOD.	GOOD.	49.32	7.55	148-158	-	24.03
8	0.2	32		GOOD.	GOOD.	49.32	7.55	148-158	-	24.03
9	0.2	32.8		GOOD.	GOOD.	49.32	7.55	148-158	-	24.03
10	0.2	68		GOOD.	GOOD.	49.32	7.55	148-158	-	24.03

QC Supervisor: 李会

产品质量证明书

INSPECTION CERTIFICATE

江苏省南京市中华门外新建 邮编 210039
Xinjian, Zhonghuamen
210039 Nanjin, Jiangsu, China
TEL (025)86385286
FAX (025)86385266

制造单元: 上海宝山钢铁股份有限公司
Manufacturer: SHANGHAI MEISHAN IRON & STEEL Co., LTD.

订货单位 CUSTOMER		产品名称 PRODUCT	冷轧钢带	
收货单位 PURCHASER		代号 CUSTOMER'S NO.	000107	证书号 CERTIFICATE NO.
标准 SPECIFICATION	Q/BQB 402-2009 SPCC-SD [B PT.A-PW.A-PT.A	客户订单编号 CUSTOMER ORDER NO.		
		签发日期 DATE OF ISSUE	2010/01/13	
		许可证号 LICENSE NO.		合同号 CONTRACT NO.

序号 NO.	钢卷/捆包号 COIL/PACK NO.	件数 QTY	炉号 HEAT NO.	规格及重量 MATERIAL DESCRIPTION				化学成分 CHEMICAL COMPOSITION % (熔体分析 HEAT ANALYSIS)											拉伸试验 TENSILE TEST (GL=L2)			弯曲 BEND TEST	硬度 HARDNESS	杯突 *01 rmm	BH 值 MPa		
				厚度 THICK	宽度 WIDTH	长度 LENGTH	卷数 SHEETS	重量 MASS (kg)	C	Si	Mn	P	S	Al	屈服 Y.S.	抗拉 T.S.	伸长 EL										
									x10 ²	x10 ²	x10 ²	x10 ²	x10 ²	x10 ²				x10	x10	x10	x10					x10	x10
1	10700128001	1	165826	0.30	1020	COIL		4940	3	1	22	18	8	34								355	38.5	OK			
2	10700126002	1	165826	0.30	1020	COIL		4970	3	1	22	18	8	34								355	38.5	OK			
3	10700126103	1	165825	0.30	1020	COIL		4230	3	1	19	19	8	36								345	42	OK			
4	10700129801	1	165833	0.30	1020	COIL		4870	3	1	19	14	7	37								345	40.5	OK			
5	10700129803	1	165833	0.30	1020	COIL		4760	3	1	19	14	7	37								345	40.5	OK			
6	10700129901	1	165826	0.30	1020	COIL		3890	3	1	22	18	8	34								355	40.5	OK			
7	10700129902	1	165826	0.30	1020	COIL		3910	3	1	22	18	8	34								355	40.5	OK			
8	10700129903	1	165826	0.30	1020	COIL		3770	3	1	22	18	8	34								355	40.5	OK			
9	10700130001	1	165833	0.30	1020	COIL		5060	3	1	19	14	7	37								350	43	OK			
10	10700130002	1	165833	0.30	1020	COIL		3990	3	1	19	14	7	37								350	43	OK			
合计 Total			10					44390																			

备注
REMARKS

注释
NOTES
Y.S.=YIELD STRENGTH T.S.=TENSILE STRENGTH EL=ELONGATION G.L.=GAUGE LENGTH L1=5.65SQRT(F0) L2=50MM L3=80MM L4=200MM L5=11.3SQRT(F0)
*01:ERICHSEN

会签者
SURVEYOR TO

本产品已按上述要求进行制造和检验, 其结果符合要求, 特此证明。
WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HERELY HAS MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE MATERIAL SPECIFICATION.

质量负责人
QUALITY MANAGER

刘建潮

服务热线 800-820-6590 021-26648888

Test Report

No. CANEC2119174206

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 : Nickel plating of iron shell

SGS Job No. : CP21-055214 - GZ
Model No. : Iron shell 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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165D1802



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Test Report

No. CANEC2119174206

Date: 22 Oct 2021

Page 2 of 4

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-191742.006	Silver-grey plated 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 .

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>006</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm ²	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
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². 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/cm²). The coating is considered a non-CrVI based coating
 c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.



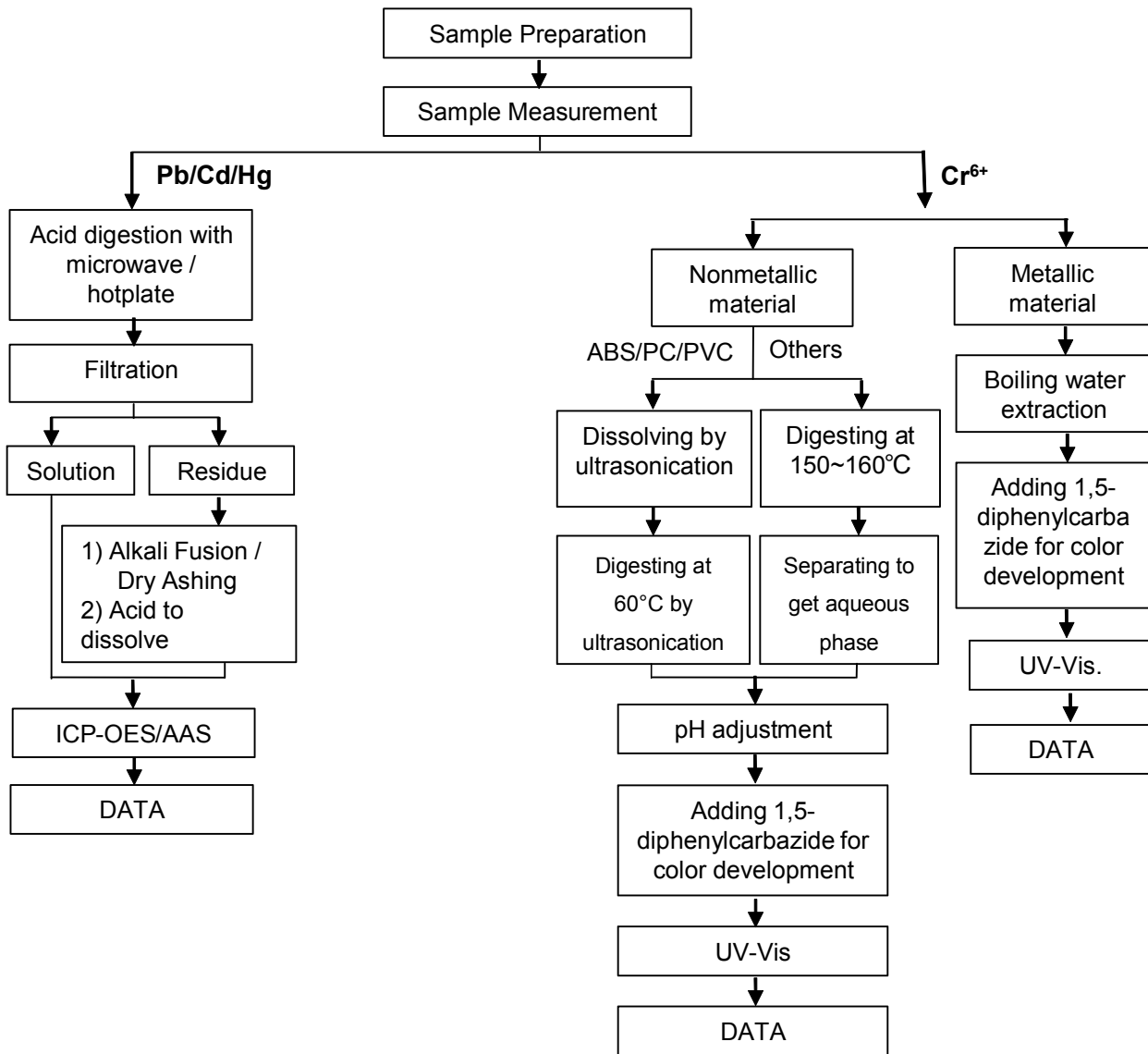
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ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺ Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded).



Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***



Test Report

No. CANEC2119174209

Date: 22 Oct 2021

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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 : LCP plastic blue color

SGS Job No. : CP21-055214 - GZ
Model No. : LCP Plastic
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 selected part of 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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Test Report

No. CANEC2119174209

Date: 22 Oct 2021

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN21-191742.009	Blue plastic

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 62321-7-2:2017 , IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s)	Limit	Unit	MDL	009
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	7
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	8	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. CANEC2119174209

Date: 22 Oct 2021

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>009</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)	1,000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1,000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1,000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1,000	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
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.



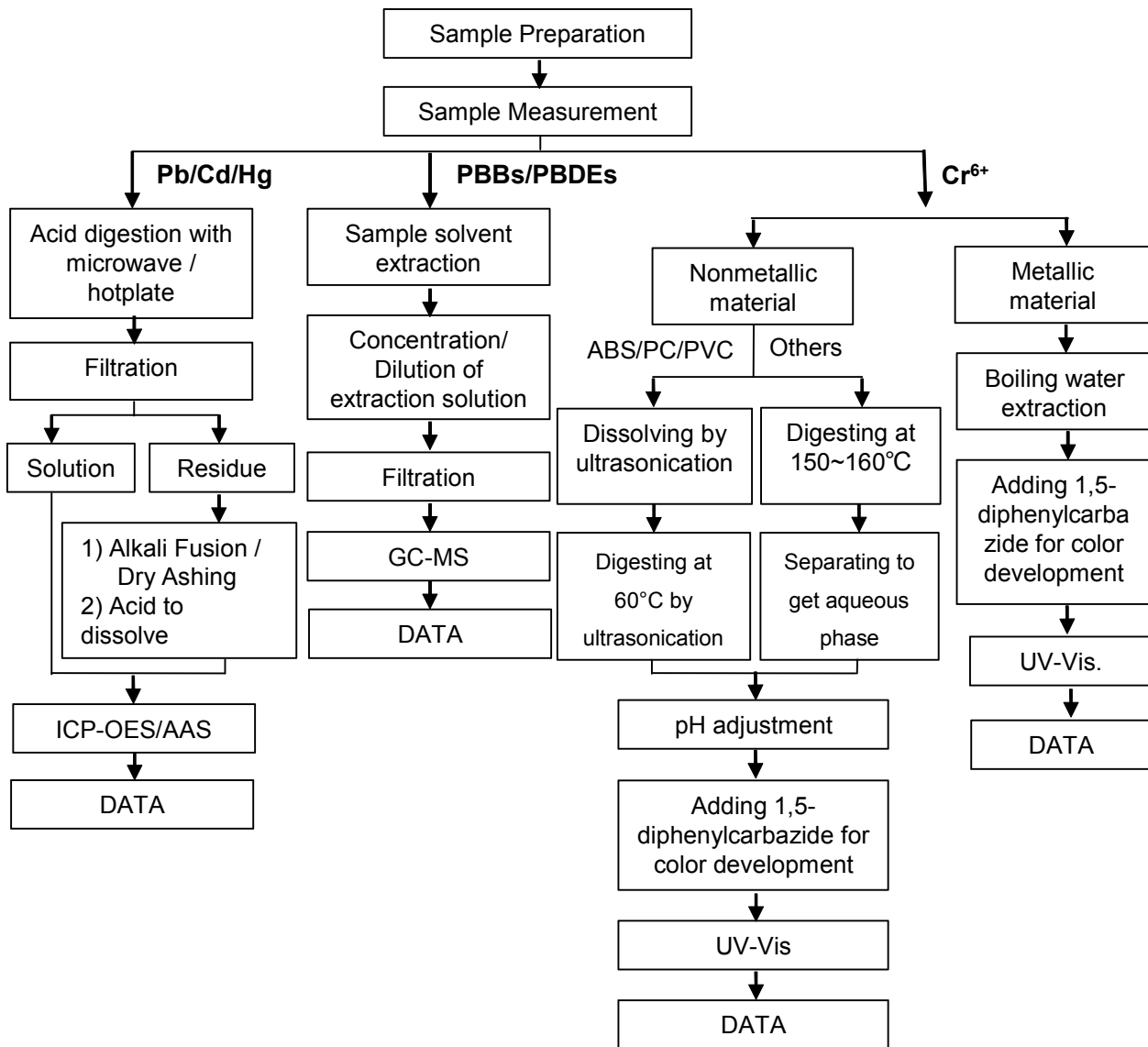
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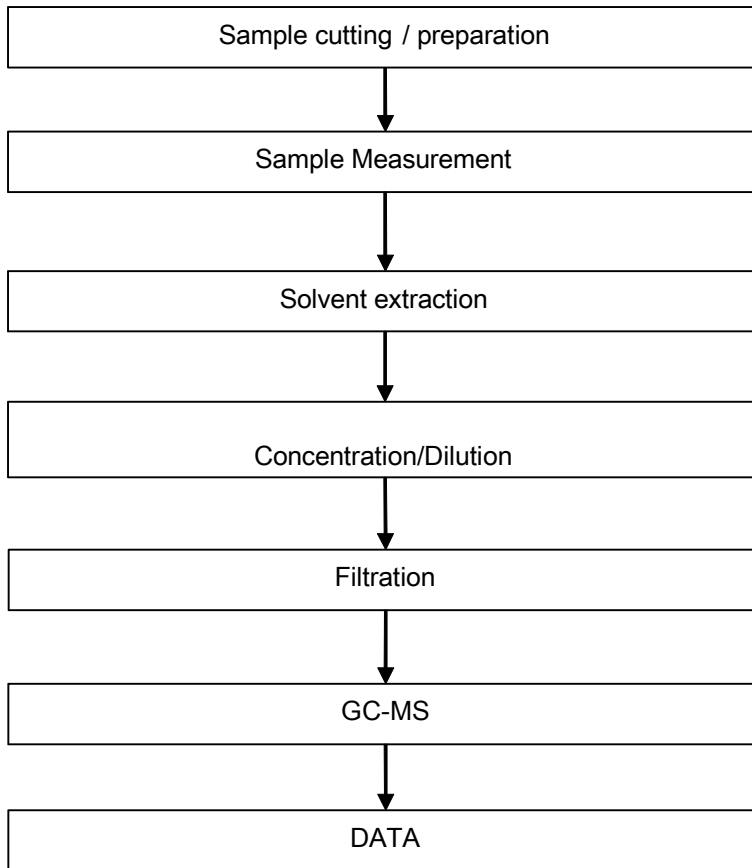
Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).

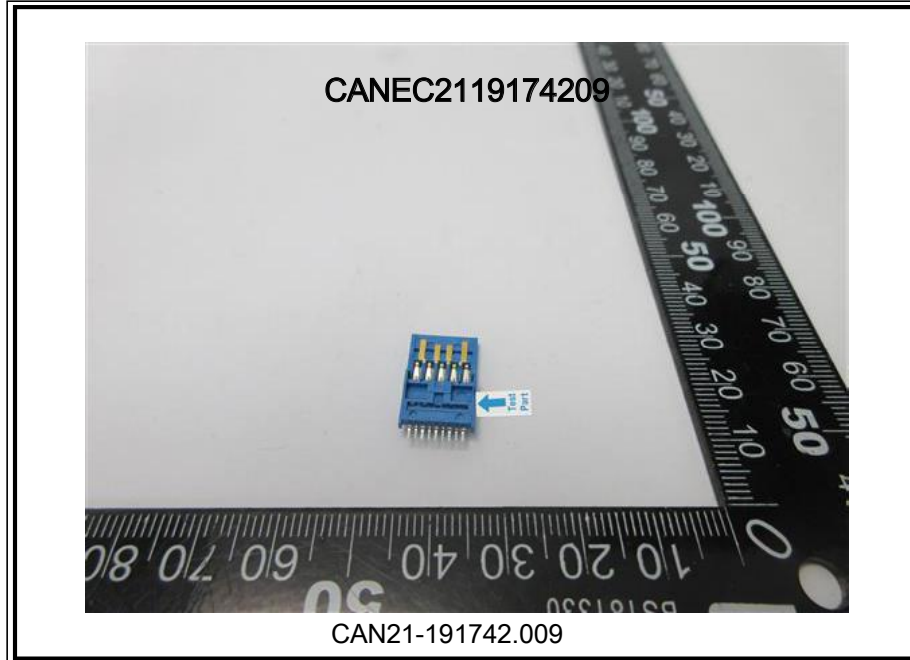


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Phthalates Testing Flow Chart



Sample photo:



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*** End of Report ***



Test Report

No. CANEC2119174201

Date: 22 Oct 2021

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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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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 ²	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
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². 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/cm²). The coating is considered a non-CrVI based coating
 c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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.



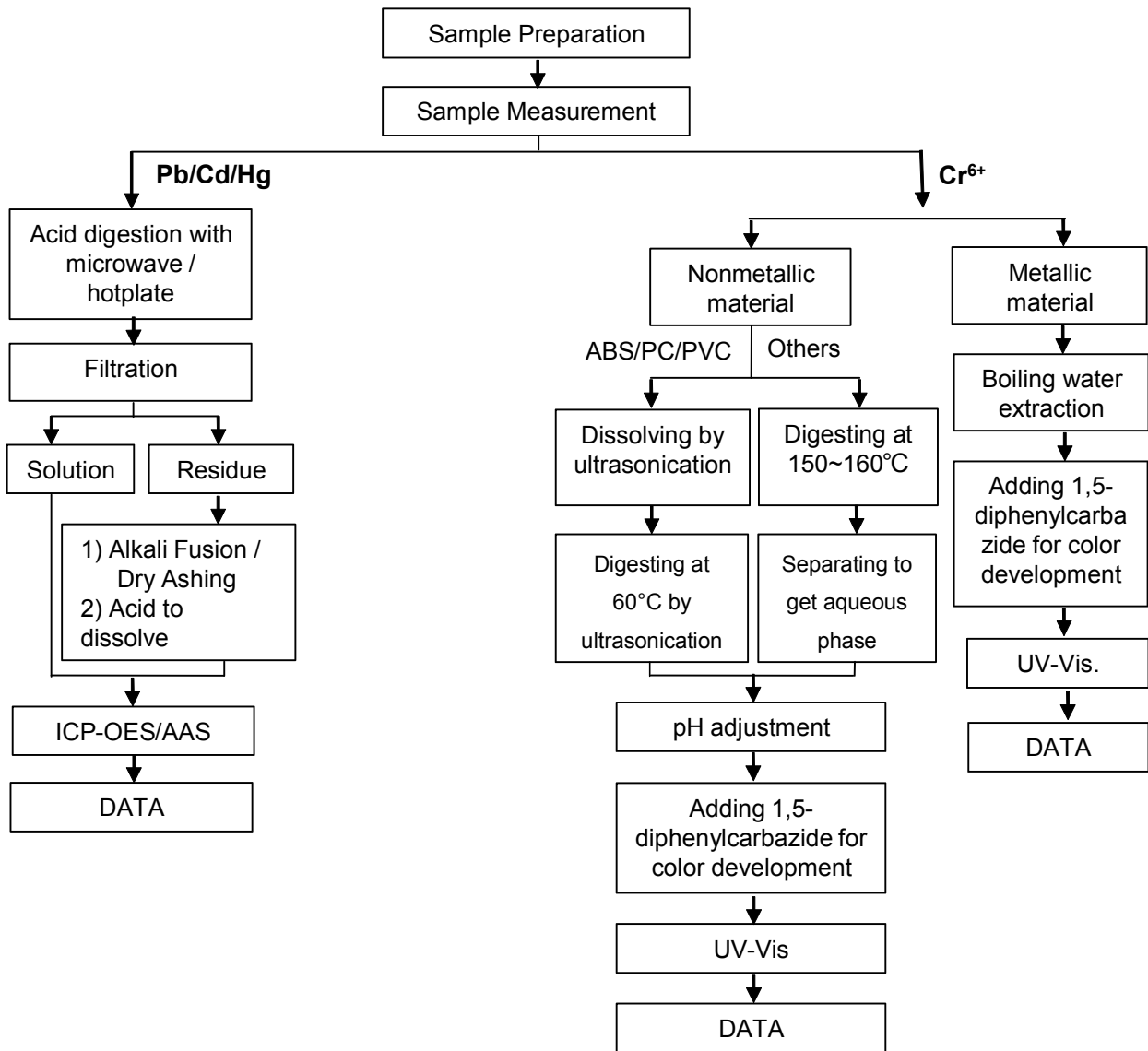
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Pb/Cd/Hg/Cr⁶⁺ Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded).



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Sample photo:



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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

scan to see the report



CANEC2117633801



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Test Report

No. CANEC2117633801

Date: 27 Sep 2021

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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 ²	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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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
- (3) ▽ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². 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/cm²). The coating is considered a non-CrVI based coating
 c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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-NH₄ (CAS No.: 29081-56-9), PFOS-NH(OH)₂ (CAS No.: 70225-14-8), PFOS-N(C₂H₅)₄ (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



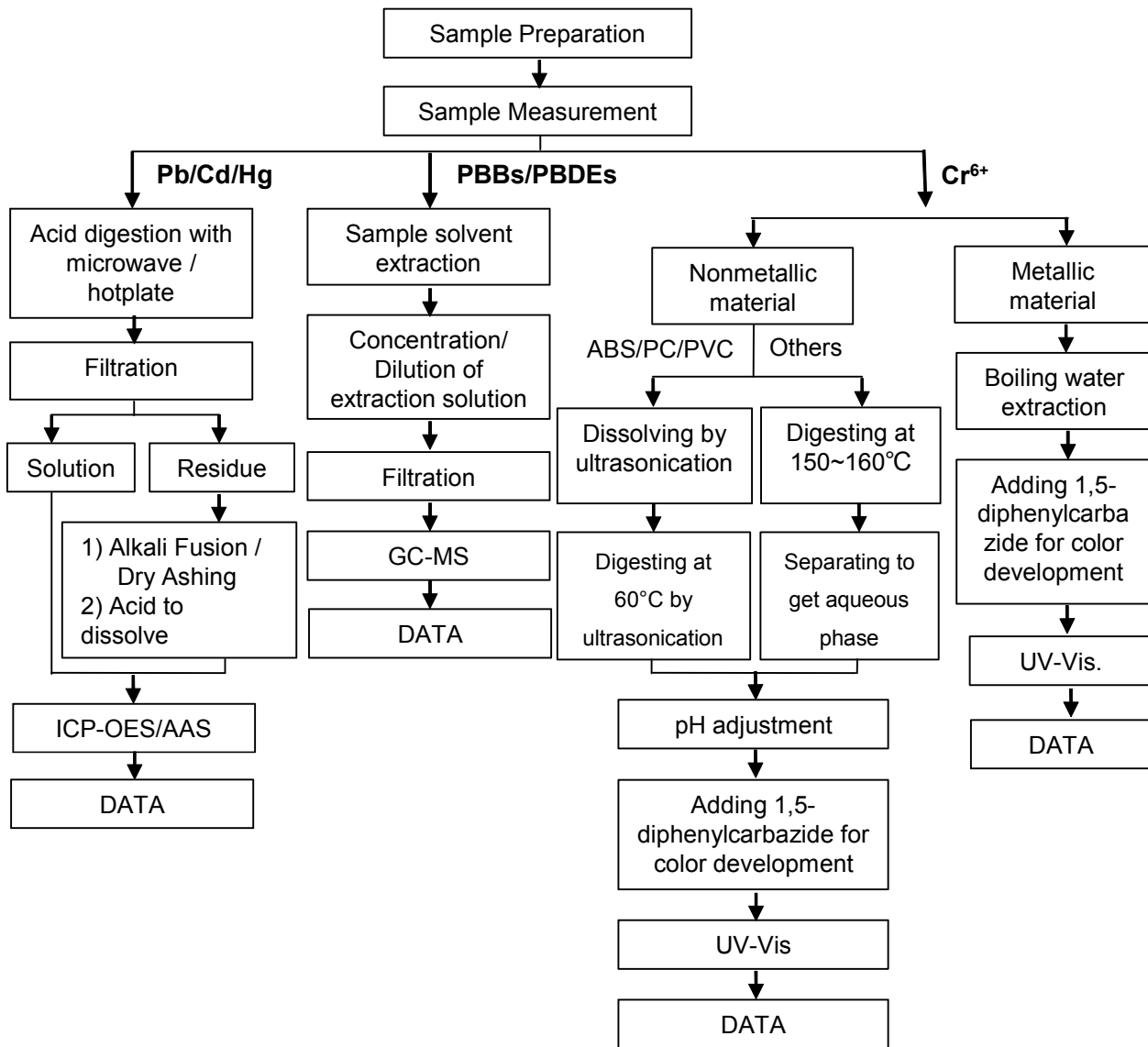
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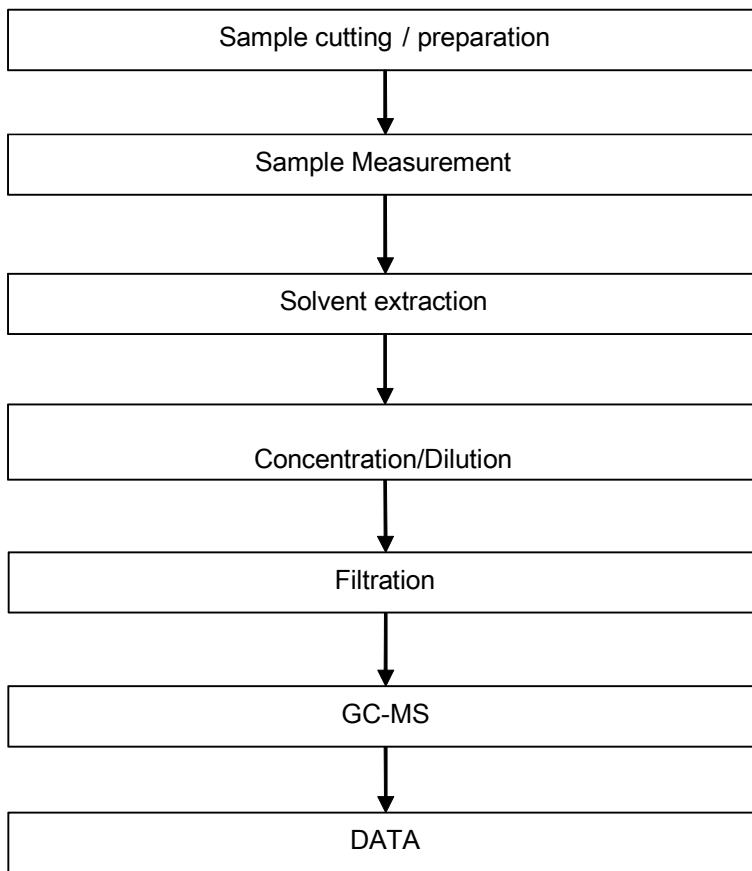
Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).



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Phthalates Testing Flow Chart

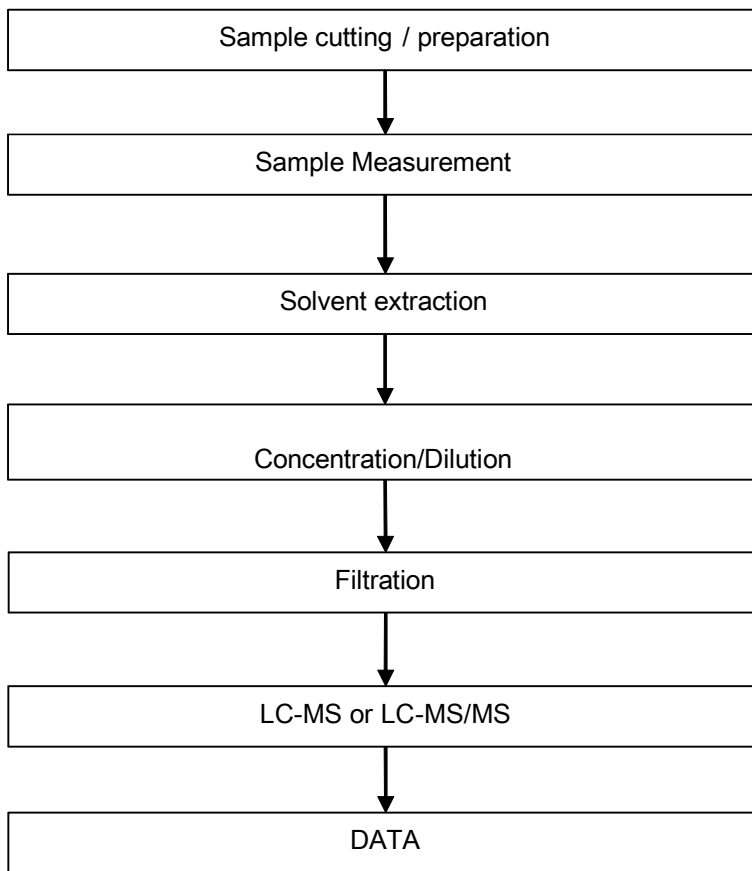


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PFOA / PFOS Testing Flow Chart



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Sample photo:



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*** End of Report ***



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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Guangzhou Branch Testing Center Chemical Laboratory.

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Test Report

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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 ²	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>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
- (3) ▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². 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/cm²). The coating is considered a non-CrVI based coating
 c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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-NH₄ (CAS No.: 29081-56-9), PFOS-NH(OH)₂ (CAS No.: 70225-14-8), PFOS-N(C₂H₅)₄ (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



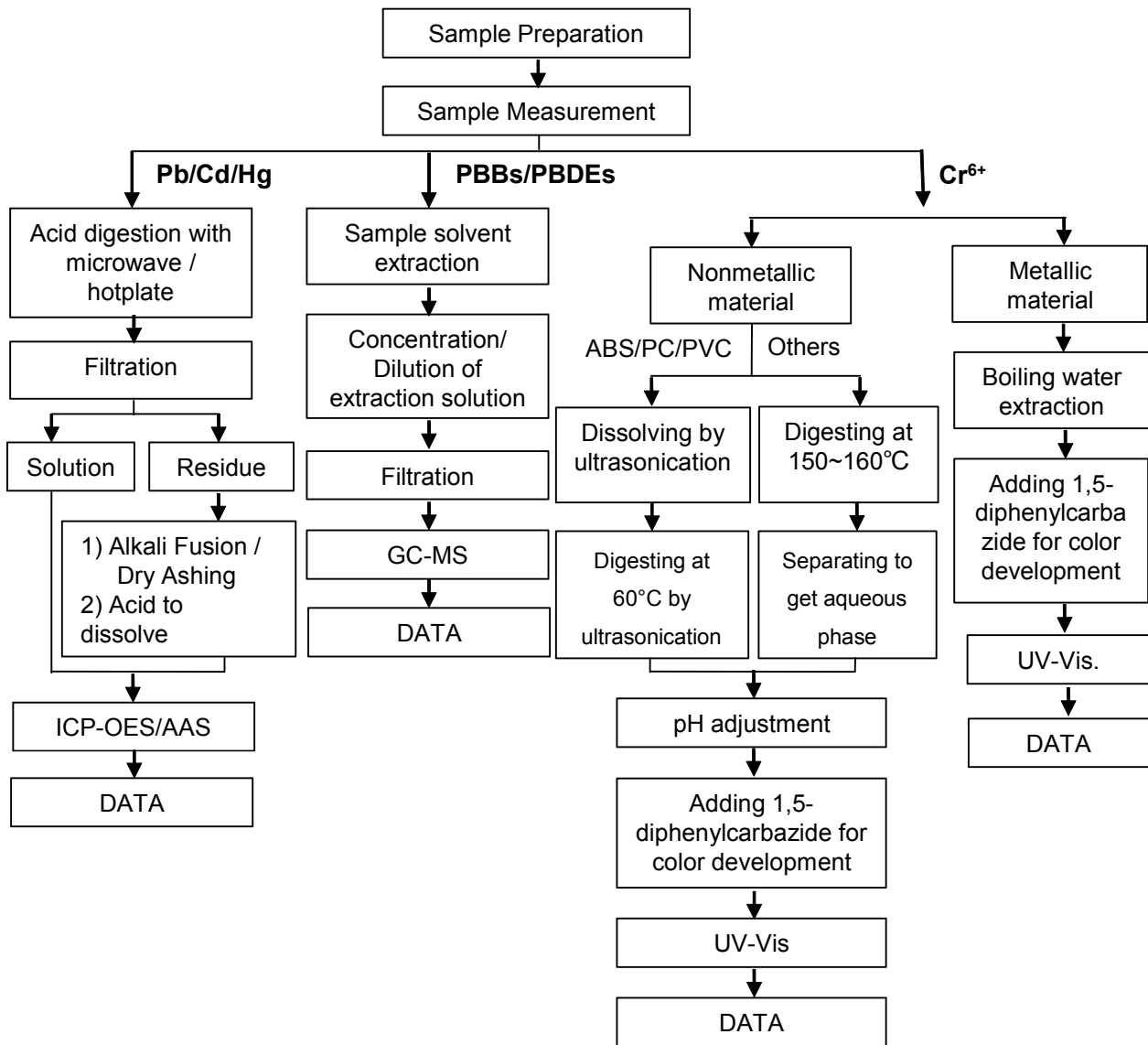
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Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).

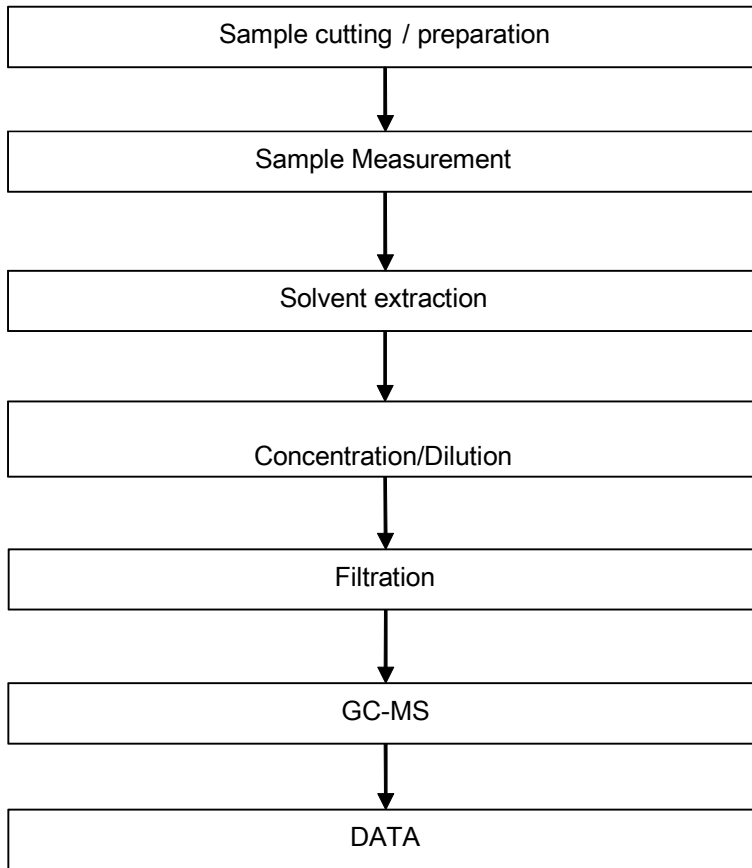


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Phthalates Testing Flow Chart

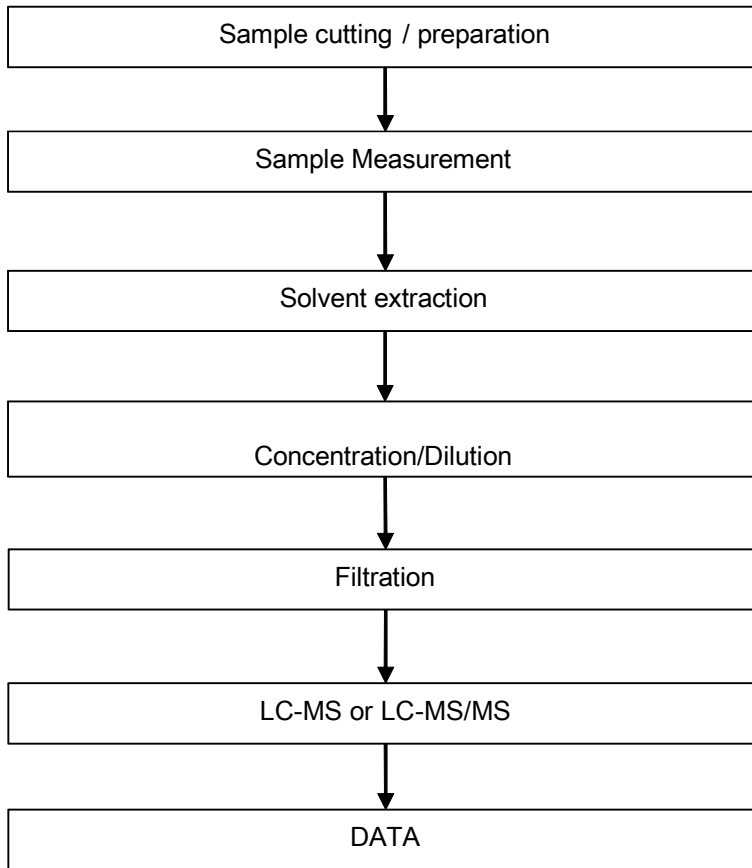


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PFOA / PFOS Testing Flow Chart



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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

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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 ²	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
- (3) ▼ = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². 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/cm²). The coating is considered a non-CrVI based coating
 c. The result between 0.10 µg/cm² and 0.13 µg/cm² 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-NH₄ (CAS No.: 29081-56-9), PFOS-NH(OH)₂ (CAS No.: 70225-14-8), PFOS-N(C₂H₅)₄ (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)



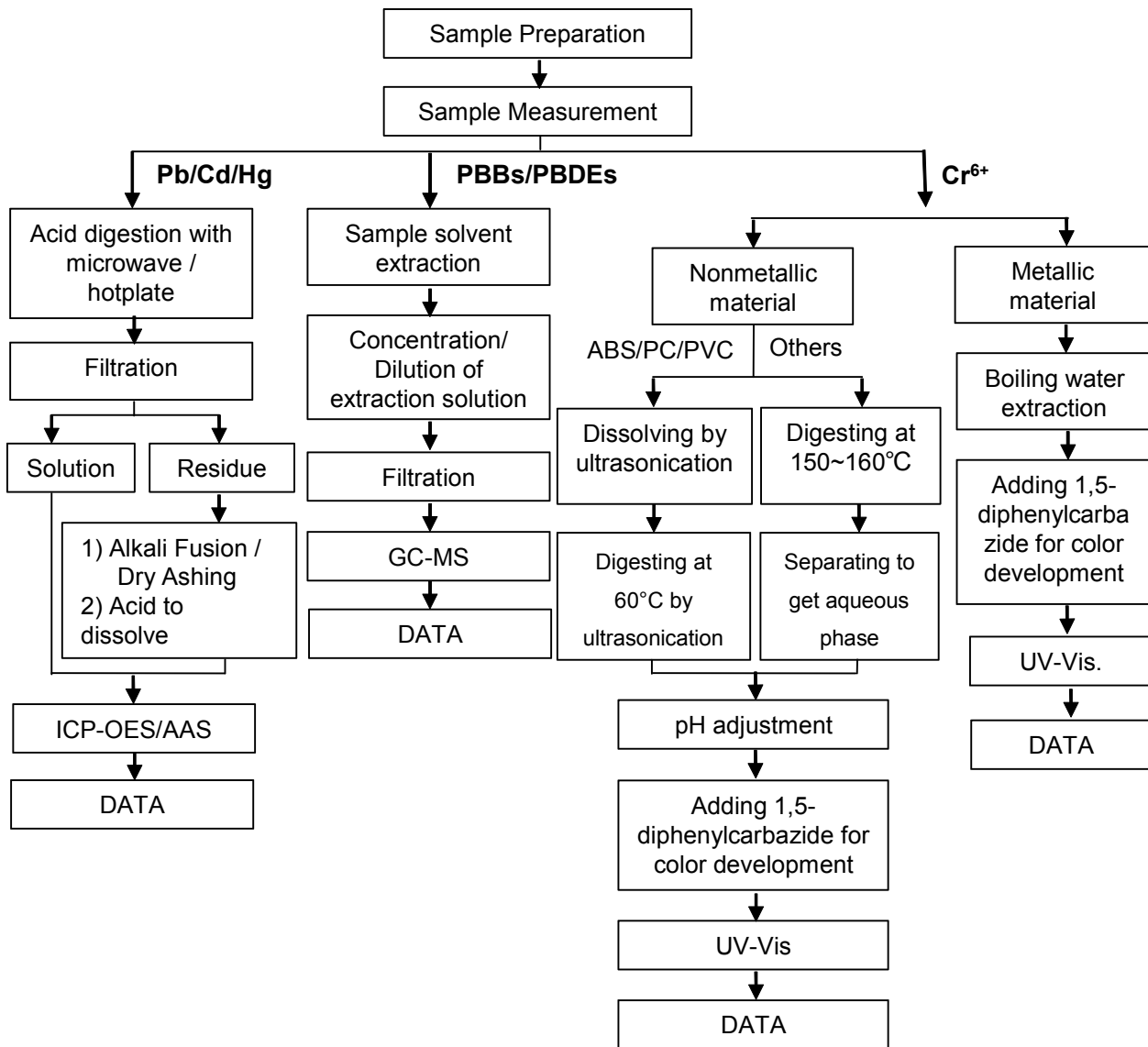
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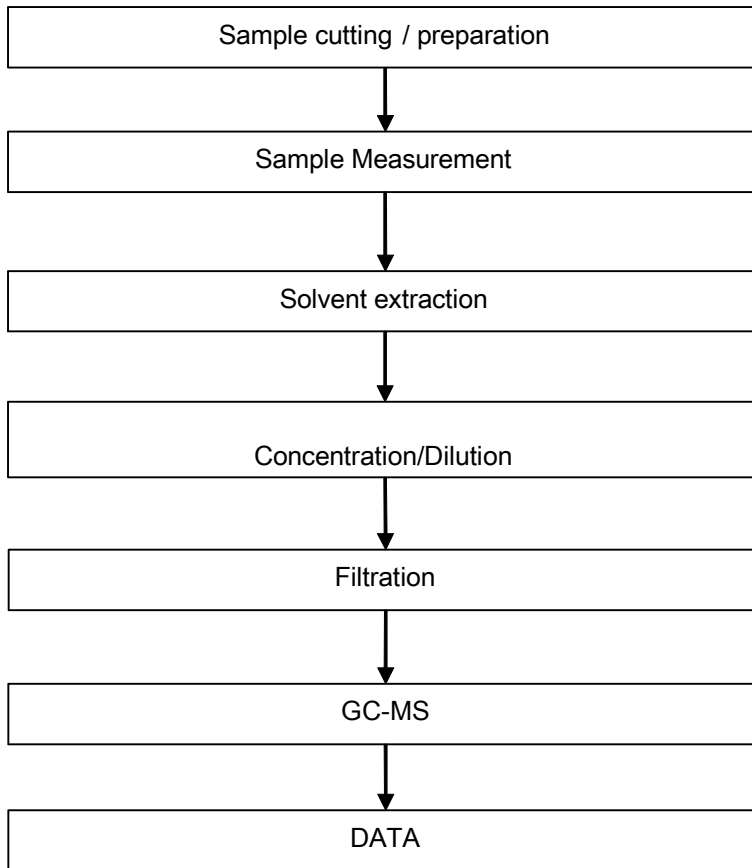
Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).



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Phthalates Testing Flow Chart

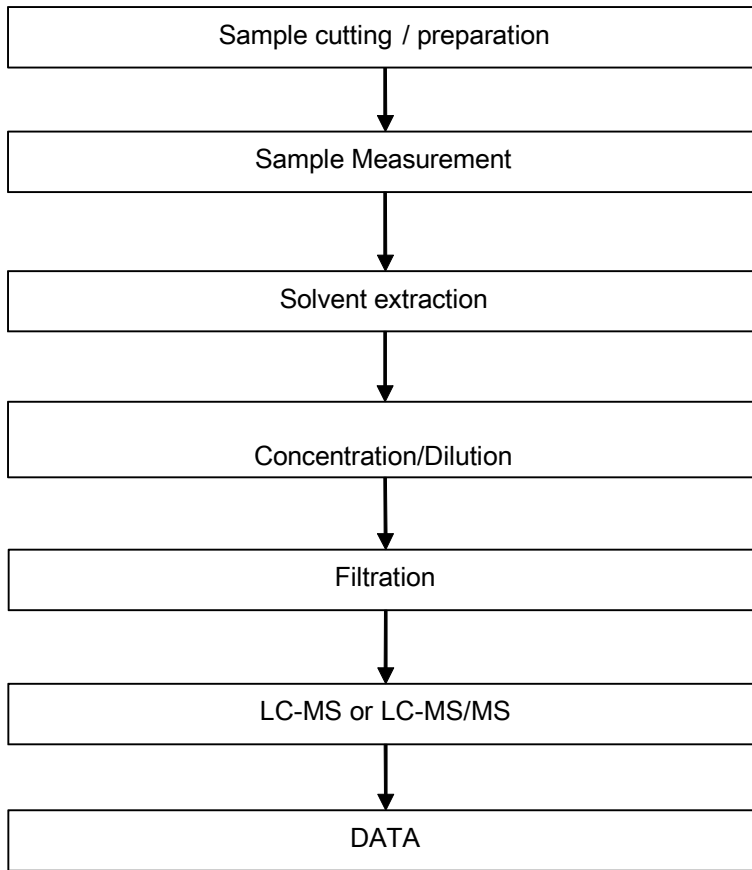


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PFOA / PFOS Testing Flow Chart



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