

1941

SPECIFICATION

承 认 书

客戶名稱 (CUSTOMER) : 拓邦

客戶料號(CUSTOMER P/N): 121610520

勝藍料號(PART NO) : UCB11-16BM11ANL-R

規 格 (CATEGORY.) : USB C TYPE 母座单排16PIN

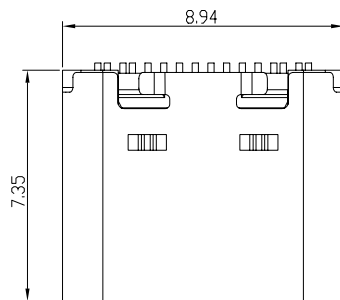
日 期 (DATE) : 2017.03.29

貴公司承認 CUSTOMER APPROVAL			勝藍科技股份有限公司 Shenglan Technology Co.,LTD		
採購部 PUR DEP	品保部 QA DEP	工程部 ENG DEP	工程部 EGN DEP	品質部 QA DEP	制定 PREPARED
		<i>[Signature]</i> 郭正桃	郭正桃	<i>[Signature]</i> 胡沅烽	何香菊

香港公司:富強精工電子有限公司 *[Signature]*
 HK Company : Fuconn Industrial Electronics Limited
 地 址:香港皇后大道 251 號太興中心第二座五樓
 Address :5 Floor Tower 2 Tern Centre 251 Queen' s Road HONGKONG
 TEL:00852-21230235 FAX:00852-21211095

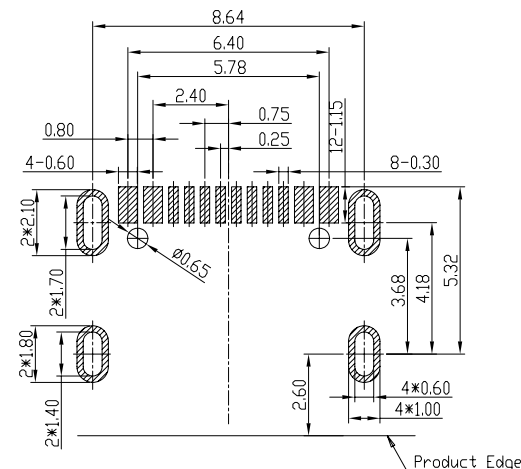
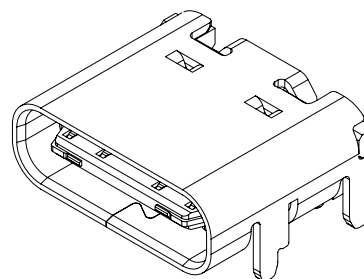
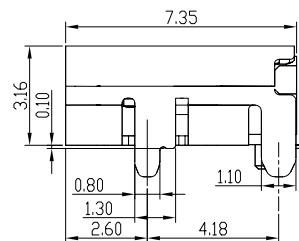
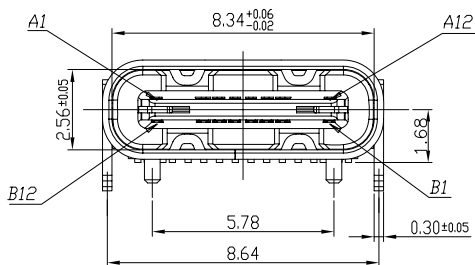
大陸工廠: 勝藍科技股份有限公司
 Factory(mainland): Shenglan Technology Co., LTD
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 Address : No.199, Yanbang Road, Wujiang Economic & technological development zone, Wujiang city, Jiangsu, China
 TEL: 0512-81556552 FAX: 0512-81556553

RoHS

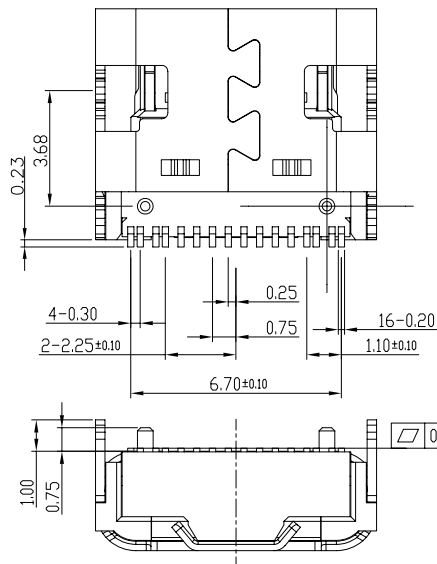


SPECIFICATIONS:

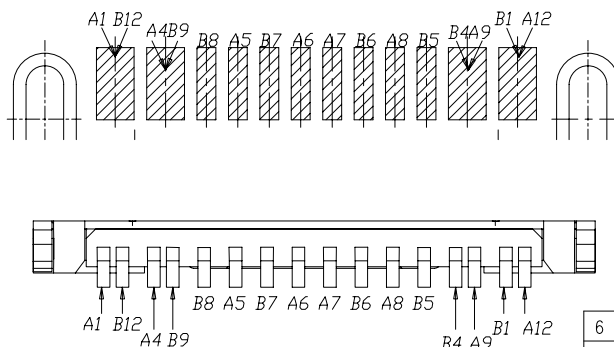
1. ELECTRICAL CHARACTERISTICS:
 - 1-1. CONTACT RESISTANCE: 30mΩ MAX.
 - 1-2. DIELECTRIC WITHSTANDING VOLTAGE: 100V AC FOR ONE MINUTE.
 - 1-3. INSULATION RESISTANCE: 100MΩ MIN. MEASURED BY 500 VDC
2. MECHANICAL CHARACTERISTICS:
 - 2-1. INSERTION FORCE :0.5-2.0Kgf(REF.)
 - 2-2. WITHDRAWAL FORCE :0.8-2.0Kgf(REF.)
3. LIFE TEST: 10,000 CYCLES.
4. TO CONFORM TO THE KRCONN HAZARDOUS SUBSTANCE FREE SPEC.



RECOMMENDED P.C.B. LAYOUT (T:1.00mm)
TOLERANCE UNSPECIFIED ±0.05mm



Pin Position description:



A1	GND	B12	GND
A4	VBUS	B9	VBUS
A5	CC1	B8	SBU2
A6	DP1	B7	DN2
A7	DN1	B6	DP2
A8	SBU1	B5	CC2
A9	VBUS	B4	VBUS
A12	GND	B1	GND
PIN	SIGNAL NAME	PIN	SIGNAL NAME

6	SHELL	STAINLESS STEEL	Ni Plated	1PCS
5	SHIELDING PLATE	STAINLESS STEEL	---	1PCS
4	MD	HIGH TEMPERATURE PLASTIC	---	1PCS
3	CONTACT	COPPER ALLOY	Au/Ni Plated	1SET
2	CONTACT	COPPER ALLOY	Au/Ni Plated	1SET
1	HOUSING	HIGH TEMPERATURE PLASTIC	---	1PCS
NO.	DESCRIPTION	MATERIAL	REMARKS	QTY

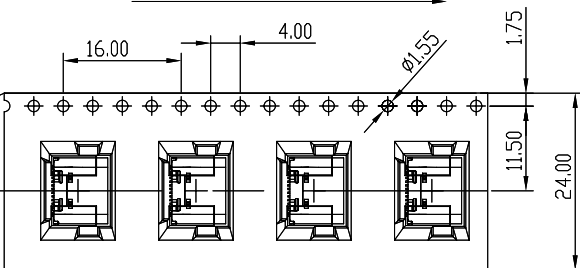
REV.	REVISION RECORD	DATE	GENERAL TOLERANCES		SCALE:	NAME	DATE
A0	新图面发行	16.06.16	LINEAR	ANGLES	1:1	郭正桃	16.12.16
A1	优化产品结构	16.12.16	0.00±0.25	X° REF±6°	APPROVED	郭广宇	16.12.16
			0.00±0.20	X° ±3°	DESIGNER	郭金波	16.12.16
			0.000±0.08	X° X'±2°	DRAWN		

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TERMINAL&CONNECTORS 东莞市富智达电子科技有限公司
TITLE: USB C TYPE 母座单排16PIN

PART. NO: UCB11-16BM11ANL-R
DWG. NO: ENDE05
REV: A0 SHEET: 1/2

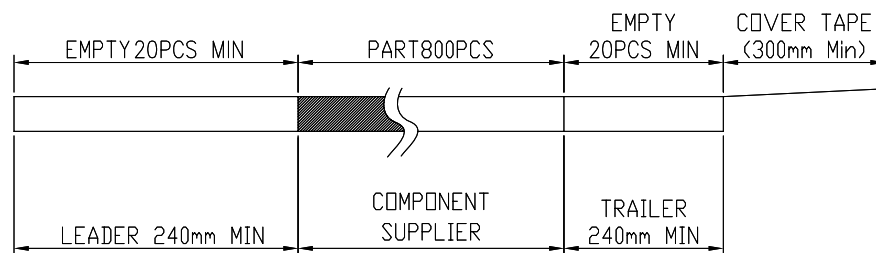
RoHS

User Direction of Unreeling



NOTES

1. NUMBER OF CONNECTORS: 800 PCS/REEL
2. LEAD TAPE LENGTH

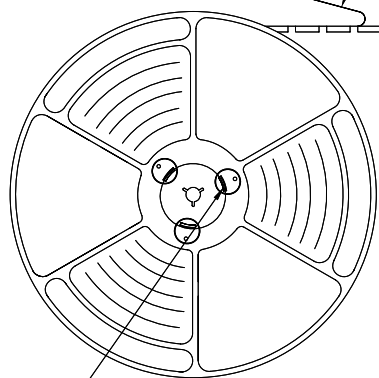


3. QUANTITY: 8000PCS/CARTON

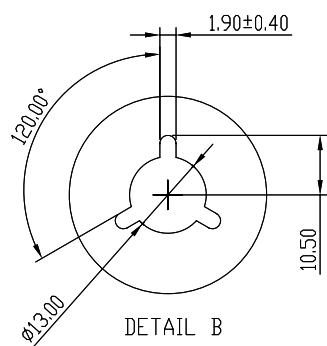
COVER TAPE PEELING ANGLE: 165°~180°
PEELING FORCE: 20~130g

CARRIER TAPE

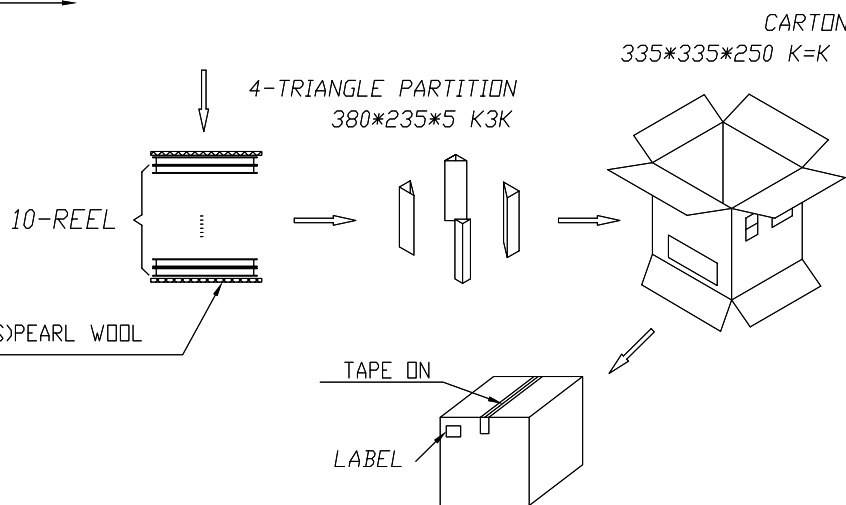
User Direction of Unreeling



DETAIL B



DETAIL B



REV.	REVISION RECORD	DATE	UNIT: MM	GENERAL TOLERANCES		SCALE: 1:1	NAME	DATE	PART. NO: UCB11-16BM11ANL-R
A0	新图面发行	16.09.26			LINEAR	ANGLES	APPROVED	郭正桃	
A1	优化产品结构	16.12.16		0.00±0.20	X° REF±6°	DESIGNER	郭广宇	16.12.16	DWG. NO: ENDE05
			SIZE: A4	0.000±0.10	X° X'±2°	DRAWN	郭金波	16.12.16	REV: A1 SHEET: 2/2

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TERMINAL&CONNECTORS 东莞市富智达电子科技有限公司

TITLE: USB C TYPE 母座单排16PIN



主题 SUBJECT :

SPEC for TYPE.C Series

产品料号 PRODUCT NO.:

UCB11-16BM11ANL-R

PAGE

Revision

Page 1 of 8

A

***** CONTENT *****


Item	Description	Page
	Content (目录)	1
	Revision History (修改履历)	2
1	Scope (范围)	3
1.1	Contents(目录)	3
1.2	Qualification(条件)	3
2	APPLICABLE DOCUMENT(执行文件)	3
3	REQUIREMENTS(要求)	3
3.1	Design and construction(结构设计)	3
3.2	Materials(材质)	3
3.3	Ratings(额定参数)	3~4
3.4	Performance requirement and test description (性能测试要求与条件)	4
3.5	Test requirements and procedures summary (测试条件与步骤摘要)	4~7
3.6	TEST SEQUENCE (测试顺序)	8

	APPROVED	CHECKED	PREPARED	ISSUED BY: King Hsu
BY	Kevin.Deng	Simon.Mo	King Hsu	
DATE				

	主題 SUBJECT : <p style="text-align: center;">SPEC for TYPE.C Series</p>	产品料号 PRODUCT NO.: <p style="text-align: center;">UCB11-16BM11ANL-R</p>	
		PAGE	Revision
		Page 2 of 8	A

******* REVISION HISTORY*******

版次	ECN NO.	修 訂 頁 次	備 註
A	RD1211003	First Issue	/
B	RD0414001	产品图面	/

	主题 SUBJECT :	产品料号 PRODUCT NO.:	
	SPEC for TYPE.C Series	UCB11-16BM11ANL-R	
		PAGE	Revision
	Page 3 of 8	A	

1. SCOPE(范围)

1.1. Contents(目录)

This specification covers the performance, tests and quality requirements for the **Type.C plug and Receptacle connector**.

此份规格书包含了 Type.C 插头和母座连接器的性能，测试及品质要求。

1.2. Qualification(条件)

When tests are performed on the subject product line, the procedures specified specifications shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

当所有测试项目被应用于生产线时，规格书上的这写指定程序将被使用，所有的检验须按照对应的检验规范及产品图纸执行。

2. APPLICABLE DOCUMENT(执行文件)

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

源于此规格书的部分文件仅限于此，除非有最新版本文件指定发行，当此规格书标准与产品图纸有冲突时，以产品图纸为准，当此规格书与参考文献相冲突时，以此规格书为准。

3. REQUIREMENTS(要求)

3.1. Design and construction(结构设计)

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

产品的设计，结构和物理尺寸须详细的标示在产品图纸上

3.2. Materials(材质)

A. Housing: refer to KRCONN drawings

胶芯：参考精睿兴业产品图纸

B. Terminal: refer to KRCONN drawings

端子：参考精睿兴业产品图纸

C. Shall: refer to KRCONN drawings

外壳：参考精睿兴业产品图纸

3.3. Ratings(额定参数)

A. Voltage: **30 V DC/AC** (RMS. max) 电压：直流/交流电 30 伏

B. Current: **5Amps Max** for total Vbus pins (Pin A4,A9,B4,B9); **1.25Amps Max** for Vconn(B5 of Plug)with

return path through the corresponding GND pins(PIN A1,A12,B1,B12)

0.25 Amps MIN. for all other contact.

电流: Vbus 电流 5A, GND 电流 1.25A, 其他 PIN 0.25A

C. Operating temperature:-30°C ~ +80°C

工作温度: -30°C ~ +80°C

3.4. Performance requirement and test description (性能测试要求与条件)

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. All tests shall be performed at ambient environmental conditions.

表 1 详细描述了产品的电器, 机械和环境的测试要求, 所有测试都需在温室条件下执行

3.5. Test requirements and procedures summary (测试条件与步骤摘要)

Test item(测试项目)	Requirement(规格/要求)	Requirements(步骤/条件)
1 Appearance of product 产品外观	Meets requirements of product drawing. No physical damage 对照产品图纸, 无物理损伤	Visual inspection. EIA-364-18 目视检查, 参考 EIA-364-18
Electrical Requirement(电气性能)		
2 Contact Resistance 接触电阻	40mΩ max(initial) 10mΩ max change for post test 初始时最大 40 毫欧 测试后最大改变 10 毫欧	Subject mated contacts assembled in housing to 20mV max open circuit at 100mA max. EIA-364-23B 一端子与胶芯组装后, 最大电压 20 毫伏, 短路电路最大 100 毫安培 参考 EIA-364-23B
3 Dielectric withstanding voltage 耐电压	No flashover& spark over & excess leakage & breakdown 不可跳火, 不可有火花, 不可超出泄露额, 不可击穿	Test voltage 100V AC between adjacent contacts of mated and unmated connector assemblies for one minute. Interval of shield case and contacts too, in the same way EIA-364-20B 100 伏交流电下测试未配对连接器间相邻端子电路一分钟 参考 EIA-364-20B
4 Insulation resistance 绝缘阻抗	Initial:1,000 MΩ min. Final(post test) 100 MΩ min. 初始:最小 1000 兆欧姆 最终(测试后)最小 100 兆欧姆	Test voltage 100±10V DC between adjacent contacts of mated and unmated connector assemblies interval of shield case and contacts too in the same way. EIA-364-21C 100±10 伏交流电下测试相邻位配对连接器间电路 参考 EIA-364-21C
Mechanical requirement(机械性能)		

5	Mating force 插入力	5~20N max. 5~20 牛顿	Measure force necessary to mate connector assemblies at maximum rate of 12.5mm/min. EIA-364-13 测试插入力需要配对的连接器完全契合,运行速度 12.5 毫米每分钟 参考: EIA-364-13
6	Unmating force 拔出力	8~20N min. 8~20 牛顿	Measure force necessary to mate connector assemblies at maximum rate of 12.5mm/min. EIA-364-13 测试插入力需要配对的连接器完全契合,运行速度 12.5 毫米每分钟 参考: EIA-364-13
7	Durability 耐久性	Mating force:5~20N Unmating force:8~20N Contact resistance:10mΩ max change for post test appearance :no breakdown 插入力:5~20 牛顿 拔出力: 8~20 牛顿 接触阻抗:测试完成后改变最大 10 毫欧	Mate and unmated connector assemblies for 10,000 cycles at. Cycle rate of 200 cycles per hour if done EIA-364-09 插拔次数 10000 次,速度 200 次每小时, 参考:EIA-364-09
8	Random vibration 耐振动	No discontinuities of 1us or longer duration Contact resistance:10mΩ max Change for post test 没有超过一微秒的断电 接触阻抗:测试完成后改变最大 10 毫欧	Mated connectors are subjected to 5.35Ggrms, 15 minutes in each of 3 mutually perpendicular planes. 100mA max. Applied. EIA-364-28
9	Physical shock 物理冲击	No discontinuities of 1us or longer duration Contact resistance:10mΩ max Change for post test Appearance: no breakdown 没有超过一微秒的断电 接触阻抗:测试完成后改变最大 10 毫欧,外观无损伤	Mated connectors are subjected to 11ms duration 30G half-sine shock pulses three shocks in each direction applied along three mutually perpendicular planes for 18 shocks EIA-364-27B condition. H



主题 SUBJECT :

SPEC for TYPE.C Series

产品料号 PRODUCT NO.:

UCB11-16BM11ANL-R

PAGE

Revision

Page 6 of 8

A

Environmental requirements (环境性能)

10	Solder-ability 可焊接性	Solder tails shall pass 95% min coverage 粘锡面积最小 95%	Solder temperature:245±5°C Duration:5±0.5sec .EIA-364-52 焊接温度: 245±5°C 持续时间: 5±0.5sec . 参考 EIA-364-52
11	Resistance to soldering heat 耐焊锡热量	No physical damage shall occur 无外观损伤	Pre heat:150~180°C,90±30sec. Heat:230°C min. , 35±5sec Peak temp.: 250°C max. Duration:2 cycles 初始温度: 150~180 摄氏度, 90±30 秒 温度: 最小 230 摄氏度, 35±5 秒 最高温度: 最大 250 摄氏度 周期 2 次
12	Thermal shock 热冲击	Withstand voltage:100VAC Insulation resistance:100MΩ Min There shall be no evidence of damage 耐电压: 100 伏交流电 绝缘阻抗: 最小 100 兆欧 无明显损伤	Mated connector -30±3°C(30 minutes), +85±2°C(30 minutes) Perform this 1 cycle ,repeat 10 cycles EIA-364-32C condition 1 先将连接器放置于-30±3 摄氏度环境中三十分分钟, 再置于+85±2 摄氏度环境中三十分分钟, 此为一周期, 重复 10 周期次 参考 EIA-364-32C 条件 1
13	Humidity life 恒温恒湿	Withstand voltage: no breakdown Insulation resistance:100 MΩ Min. Contact resistance:10mΩ max. change for post test Appearance :no breakdown 耐电压: 不可击穿 绝缘阻抗: 最小 100 兆欧 接触阻抗: 测试完成后最大改变 10 毫欧 外观: 无损伤	Mated connector 25~65°C, 90~95% RH, 1 cycle:24 hours, 7cycles EIA-364-31B 将连接器放置于温度 25~65 摄氏度, 90~95% RH 湿度中, 一次 24 小时, 共 7 次 参考 EIA-364-31B
14	Temperature life (heat aging) 高温老化	Withstand voltage: no breakdown Insulation resistance:100 MΩ Min. Contact resistance:10mΩ max. change for post test Appearance :no breakdown 耐电压: 不可击穿 绝缘阻抗: 最小 100 兆欧 接触阻抗: 测试完成后最大改变 10 毫欧 外观: 无损伤	Mated connector to 85±2°C for 120 hours upon completion of the exposure period, test 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. EIA-364-17B 将连接器放在 85±2 摄氏度环境下 120 小时后取出放在室温下 1 到 2 小时候后按制定方法测量 参考 EIA-364-17B



主题 SUBJECT :

SPEC for TYPE.C Series

产品料号 PRODUCT NO.:

UCB11-16BM11ANL-R

PAGE

Revision

Page 7 of 8

A

15	Salt spray 盐雾测试	Contact resistance:10 mΩ max change for post test appearance: by visual inspection terminal without noticeable rust 接触电阻：测试完成后最大改变 10 毫欧，对试验后的外观变化：通过 目视检查端子没有明显的锈迹	Subject mated connectors to 35±2°C and 5±1% salt condition for 48 hours. After test, rinse the sample with water and recondition the room temperature for 1 hour EIA-364-26B 将连接器放置于温度 35±2 摄氏度，盐水浓 度 5±1%条件下 48 小时后，用清水清洗样品 置于室温条件下 1 小时 参考 EIA-364-26B
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主题 SUBJECT :

SPEC for TYPE.C Series

产品料号 PRODUCT NO.:

UCB11-16BM11ANL-R

PAGE

Revision

Page 8 of 8

A


3.6. TEST SEQUENCE (测试顺序)

Test Item(测试项目)	Test Group and Sequence(测试组及顺序)										
	A	B	C	D	E	F	G	H	I	J	K
1.Appearance 外观	1,3	1,8	1,9	1,5	1,5	1,9	1,9	1,9	1,5	1,3	1,3
2.Low level contact resistance 接触电阻		2,5	2,8	2,4	2,4	2,6	2,6	2,6	2,4		
3.Dielectric Withstanding Voltage 耐电压		4,7				4,8	4,8	4,8			
4.Insulation Resistance 绝缘阻抗		3,6				3,7	3,7	3,7			
5.Temperature Rising 温升	2										
6.Mating Force 插入力			3,6								
7.Un-mating Force 拔出力			4,7								
8.Durability 耐插拔			5								
9.Random Vibration 耐振动性				3							
10.Physical shock 物理冲击					3						
11.Solder-ability 可焊接性										2	
12.Resistance to soldering heat 耐焊锡热											2
13.Thermal shock 热冲击							5				
14.Humidity life 恒温恒湿						5					
15.Temperature life 高温老化								5			
16.Salt spray 盐雾测试									3		

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339001

(A) 测试项目：	插拔力	仪器照片： 
(B) 测试日期：	01/17/2017	
(C) 测试规格：	客户规格	
(D) 测试仪器说明：		
1. 仪器型号	2. 仪器厂商	
1220S	深圳市联欣科技有限公司	
3. 仪器名称	全自动电脑插拔力试验机	

(E) 测试样品说明：

1. 样品	料号	UCB11-16BM11ANL	2. 取样方法	样本	5 个	3. 制造
	产品名称	USB C type 单排 SMT		取样	5 个	

(F) 测试：

项目	方法和规格	测试数据 (单位: N)			判定	备注
插拔力	依据 EIA 364-13 测试方式, 操作速度 12.5mm /min. 插拔 3 次后开始记录数据.	条件	插入力	拔出力	PASS	/
		样品				
		1#	11.7	11.2		
	2#	12.0	11.0			
	3#	11.2	10.8			
	4#	11.5	10.8			
	插入力: 5N-20N 拔出力: 8N-20N	5#	11.2	10.5		

核准: 方明建

审核:

制作: 尹霖

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339002

(A) 测试项目:	耐久测试	仪器照片:
(B) 测试日期:	01/17/2017	
(C) 测试规格:	客户规格	
(D) 测试仪器说明:		
1. 仪器型号	2. 仪器厂商	
SJ-5800	深圳市联欣科技有限公司	
3. 仪器名称	卧式插拔力试验机	

(E) 测试样品说明:

1. 样品	料号	UCB11-16BM11ANL-R	2. 取样方法	样本	1 个	3. 制造
	产品名称	USB C type 单排 SMT		取样	1 个	

(F) 测试:

项目	方法和规格	测试数据 (单位: N)				判定	备注		
耐久测试	依据 EIA 364-09 公头与母头对插 10000 次, 插拔速度: 200 次每小时。 初次: 插入力 5N-20N 拔出力 8N-20N; 耐久后: 插入力 5N-20N, 拔出力 8N-20N. 接触电阻: 40mΩ MAX 前后变化量 10mΩ MAX	条件	插入力		拔出力		PASS	/	
			样品	初次	耐久后	初次			耐久后
		1#		11.5	9.3	10.8			8.7
		2#							
		3#							
		4#							
5#									

接触电阻 (单位: mΩ)

1#														
PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12	PIN 13	PIN 14	PIN 15
28.1	27.2	29.5	27.1	29.8	30.2	29.8	28.6	31.2	30.7	30.1	33.4	29.2	30.8	31.5
1#														
PIN 16	PIN 17	PIN 18	PIN 19	PIN 20	PIN 21	PIN 22	PIN 23	PIN 24						
28.9	29.5	32.3	31.2	28.6	29.2	31.4	30.2	32.3						

核准: 方明建

审核:

制作: 尹霖

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339003

(A) 测试项目：	焊锡附着性	仪器照片：
(B) 测试日期：	01/17/2017	
(C) 测试规格：	客户规格	
(D) 测试仪器说明：		
1. 仪器型号	2. 仪器厂商	
FX308	TAKGIKO	
3. 仪器名称	无铅钛锡炉	

(E) 测试样品说明：						
1. 样品	料号	UCB11-16BM11ANL-R	2. 取样方法	样本	2 个	3. 制造
	产品名称	USB C TYPE 单排 SMT		取样	2 个	

(F) 测试:					
项目	方法和规格	测试数据		判定	备注
焊锡附着性	将产品 Tail 端浸入 260±5℃的溶锡中 3±0.5 秒	条件	锡覆盖面积	PASS	/
		样品			
		1#	>95%		
		2#	>95%		
		3#	>95%		
	4#	>95%			
	沾锡面积 95%以上, 无针孔	5#	>95%		



核准: 方明建


审核:

制作: 尹霖

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339006

(A) 测试项目：	恒温恒湿	仪器照片： 
(B) 测试日期：	01/19/2017	
(C) 测试规格：	客户规格	
(D) 测试仪器说明：		
1. 仪器型号	2. 仪器厂商	
LX-100	深圳市联欣科技有限公司	
3. 仪器名称	恒温恒湿试验机	

(E) 测试样品说明：						
1. 样品	料号	UCB11-16BM11ANL-R	2. 取样方法	样本	5 个	3. 制造
	产品名称	USB C TYPE 单排 SMT		取样	5 个	

(F) 测试：							
项目	方法和规格	测试数据			判定	备注	
恒温恒湿	对插在周期 25°C+/-3°C 温度 80%+/-3%湿度和 65°C +/-3°C 温度 50%+/-3%湿度之间, 时间应 0.5 小时和停顿时间 0.5 小时, 24 个周期。 外观: 无损伤, 电镀层无破坏.	条件	外观			PASS	/
		样品					
		1#	无损伤, 电镀层无破坏				
		2#	无损伤, 电镀层无破坏				
		3#	无损伤, 电镀层无破坏				
		4#	无损伤, 电镀层无破坏				
5#	无损伤, 电镀层无破坏						

核准: 方明建

审核:

制作: 尹霖

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339005

(A) 测试项目：	接触阻抗	仪器照片： 
(B) 测试日期：	01/17/2017	
(C) 测试规格：	客户规格	
(D) 测试仪器说明：		
1. 仪器型号	2. 仪器厂商	
SJ2511	/	
3. 仪器名称	直流低电阻测试仪	

(E) 测试样品说明：						
1. 样品	料号	UCB11-16BM11ANL-R	2. 取样方法	样本	2 个	3. 制造
	产品名称	C TYPE 单排 SMT		取样	2 个	

(F) 测试:

项目	方法和规格	测试数据(单位: mΩ)														判定	备注	
		端子	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12				
接触阻抗	一组对插好的连接器; 测试开路电压: 20mV max; 测试短路电流: 100m A max.	样品															PASS	/
		1# 配合公头	22.3	24.5	22.9	23.5	24.8	22.5	23.2	22.7	23.9	20.3	21.2	20.7				
		2# 配合公头	23.8	24.2	23.5	24.1	21.4	22.1	21.9	23.0	22.7	23.3	22.9	24.5				
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12					
	40 mΩ Max.	1# 配合公头	22.6	23.7	22.7	23.6	22.4	22.1	24.4	21.3	22.4	22.7	23.8	22.5				
		2# 配合公头	25.1	23.7	22.6	23.1	22.5	20.8	24.5	21.8	22.0	24.3	21.6	22.7				

核准: 方明建

审核:

制作: 尹霖

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339006

(A) 测试项目 :	绝缘阻抗	仪器照片 :
(B) 测试日期 :	01/19/2017	
(C) 测试规格 :	客户规格	
(D) 测试仪器说明 :		
1. 仪器型号	2. 仪器厂商	
Zentech 9053	Taiwan Zentech	
3. 仪器名称	程式安规耐压测试仪	

(E) 测试样品说明 :						
1. 样品	料号	UCB11-16BM11ANL-R	2. 取样方法	样本	5 个	3. 制造
	产品名称	C TYPE 单排 SMT		取样	5 个	

(F) 测试:						
项目	方法和规格	测试数据			判定	备注
绝缘阻抗	加 250V DC 的电压于相邻两端子之间 1 分钟	条件	公母配对	公母不配对	PASS	/
		样品				
		1#	>100M Ω	>100M Ω		
	2#	>100M Ω	>100M Ω			
	3#	>100M Ω	>100M Ω			
	4#	>100M Ω	>100M Ω			
	绝缘阻抗 : 100MΩ Min。	5#	>100M Ω	>100M Ω		

核准: 方明建

审核:

制作: 尹霖

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339007

(A) 测试项目 :	冷热冲击	仪器照片 :
(B) 测试日期 :	01/17/2017	
(C) 测试规格 :	IEC	
(D) 测试仪器说明 :		
1. 仪器型号	2. 仪器厂商	
LX-50C	深圳市联欣科技有限公司	
3. 仪器名称	冷热冲击试验机	

(E) 测试样品说明 :

1. 样品	料号	UCB11-16BM11ANL-R	2. 取样方法	样本	5 个	3. 制造
	产品名称	USB C TYPE 单排 SMT		取样	5 个	

(F) 测试:

项目	方法和规格	测试数据		判定	备注
冷热冲击	在-55+0/-3℃中放置 30 分钟,然后在常温 25℃中放置最多 5 分钟,接着在 85+3/-0℃中放置 30 分钟,最后在常温中放置最多 5 分钟,如此循环 10 次后,常温常湿中放置 1~2 小时后测定.	条件	外观	PASS	/
		样品			
		1#	无损伤		
	2#	无损伤			
	3#	无损伤			
	4#	无损伤			
	外观: 无损伤	5#	无损伤		

核准: 方明建


审核:

制作: 尹霖

胜蓝科技股份有限公司

信赖性测试报告

报告编号: 20190339008

(A) 测试项目:	盐雾测试	仪器照片: 
(B) 测试日期:	01/17/2017	
(C) 测试规格:	客户规格	
(D) 测试仪器说明:		
1. 仪器型号	2. 仪器厂商	
SJ-8669	深圳市三杰仪器设备有限公司	
3. 仪器名称	精密型盐水喷雾试验机	

(E) 测试样品说明:

1. 样品	料号	UCB11-16BM11ANL-R	2. 取样方法	样本	5 个	3. 制造
	产品名称	USB C TYPE 单排 SMT		取样	5 个	

(F) 测试:

项目	方法和规格	测试数据		判定	备注
盐雾测试	对插产品测试环境: 温度: 35±2℃, 盐水 浓度: 重量比 5±1%, 时间: 48 小时. 测试 后常温水洗, 干燥.	条件	外观	PASS	/
		样品			
		1#	无损伤		
	2#	无损伤			
	3#	无损伤			
	4#	无损伤			
5#	无损伤				
	外观: 无损伤;				



核准: 方明建

审核:

制作: 尹霖

QC工程图

USB CF单排SMT		文件编号:SOP-USB-003-00				页次:1 / 1			
品名		修改日期:2016-12-26				版本:A/U			
料号		检查内容				参考表单			
工序	工程项目	流程	作业标准	设备/治具	检查项目	频率	检查者/责任人	检查方法	检验标准
1	进料检验		进料检验规范	卡尺 投影仪	外观 性能	依抽样计划抽检	IQC	目视 测试	IQC进料检验规范 工程图纸、
2	制作首件		首件制作规范	卡尺 投影仪 相关测试工具	外观 尺寸 性能	全检	组装组长 IPQC	目视 测试	组装制程检验规范
3	折铁壳		依SOP SOP-USB-081-001	目视/配戴手指套	外观	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
4	全检半成品		依SOP SOP-USB-081-002	目视/配戴手指套	外观	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
5	折端子料头 胶芯料带		依SOP SOP-USB-081-003&004	目视/配戴手指套/治具	外观	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
6	组装检验铁片 半成品		依SOP SOP-USB-081-005&006	目视/配戴手指套/治具	外观	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
7	组装铆合铁壳		依SOP SOP-USB-081-007&008	气动铆压机	外观	首件 巡检	IPQC 作业人员	目视	
8	折成品料带		依SOP SOP-USB-081-009	目视/配戴手指套/治具	外观	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
9	插公头检舌片		依SOP SOP-USB-081-010	治具	功能	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
10	检测平面度		依SOP SOP-USB-081-011	CCD检测治具 /目视	外观 尺寸	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
11	包装/装箱		依SOP SOP-USB-081-012	/	外观/数量	首件 巡检	IPQC 作业人员	目视	依SOP、 检验规范、 首件样品
	入库检验		入库检验规范	/	外观 包装	依抽样计划抽检	OQC	目视	依检验规范、 客户要求。
P. S.工程记号:		表示制程或搬运				表示检验及重点工位		流程图	
核准:		审核:				制表:		尹霖	

胜蓝科技股份有限公司

样品检验报告

外来 自制

送样原因: 新厂商 新规格 产品改良 新客户 新模具 其它

制造商	胜蓝	送样日期	2017-3-29	检测日期	2017-3-29
品名规格	UCB11-16BM11ANL-R	样品数	50PCS	检测数	8PCS
模穴数		成型数		送样次数	第1次


外观检测:

无氧化. 无变形. 无毛边. OK

功能检测:

无不良 OK

尺寸测量及角度分布

序号		A	B	C	D	E	F	G	H	判定	
规格值	1	8.94±0.20	8.845	8.869	8.861	8.859	8.841	8.834	8.868	8.859	OK
	2	7.35±0.20	7.351	7.348	7.346	7.342	7.364	7.356	7.344	7.355	OK
	3	8.34+0.06/-0.02	8.352	8.356	8.356	8.357	8.373	8.337	8.361	8.376	OK
	4	2.56±0.05	2.590	2.550	2.548	2.553	2.543	2.582	2.570	2.584	OK
	5	5.78±0.20	5.782	5.773	5.772	5.772	5.790	5.784	5.778	5.779	OK
	6	8.64±0.20	8.669	8.626	8.628	8.631	8.639	8.665	8.656	8.645	OK
	7	0.30±0.05	0.320	0.294	0.299	0.306	0.286	0.285	0.319	0.302	OK
	8	1.68±0.20	1.668	1.688	1.703	1.677	1.670	1.678	1.684	1.662	OK
	9	0.23±0.20	0.215	0.242	0.240	0.235	0.225	0.227	0.257	0.212	OK
	10	3.68±0.20	3.699	3.690	3.677	3.676	3.665	3.686	3.702	3.699	OK
	11	0.30±0.20	0.300	0.303	0.325	0.299	0.325	0.286	0.298	0.304	OK
	12	2.25±0.10	2.257	2.276	2.269	2.269	2.263	2.268	2.257	2.238	OK
	13	0.25±0.20	0.247	0.260	0.268	0.243	0.239	0.261	0.251	0.240	OK
	14	0.75±0.20	0.776	0.770	0.751	0.782	0.766	0.782	0.766	0.752	OK
	15	0.20±0.20	0.211	0.222	0.204	0.215	0.185	0.189	0.182	0.182	OK
	16	1.10±0.10	1.088	1.117	1.102	1.127	1.128	1.095	1.122	1.124	OK
	17	6.70±0.10	6.711	6.689	6.726	6.701	6.695	6.693	6.704	6.714	OK
	18	1.00±0.20	1.003	0.990	0.994	1.002	1.021	1.021	0.984	1.018	OK
	19	0.75±0.20	0.773	0.760	0.768	0.747	0.736	0.730	0.735	0.773	OK
	20		0.036	0.027	0.036	0.025	0.034	0.019	0.036	0.042	OK
	21	7.35±0.20	7.380	7.348	7.372	7.367	7.345	7.356	7.369	7.378	OK
	22	3.16±0.20	3.185	3.169	3.177	3.187	3.152	3.168	3.180	3.162	OK
	23	0.10±0.20	0.122	0.110	0.116	0.102	0.119	0.126	0.083	0.090	OK
	24	0.80±0.20	0.786	0.810	0.795	0.791	0.787	0.804	0.816	0.802	OK
	25	1.30±0.20	1.300	1.323	1.281	1.323	1.304	1.307	1.286	1.294	OK
	26	2.60±0.20	2.598	2.599	2.584	2.625	2.601	2.609	2.614	2.611	OK
	27	1.10±0.20	1.099	1.107	1.084	1.128	1.127	1.115	1.115	1.086	OK
	28	4.18±0.20	4.195	4.181	4.168	4.170	4.190	4.190	4.166	4.206	OK

综合判定	<input checked="" type="checkbox"/> 认可 <input type="checkbox"/> 重新送样 <input type="checkbox"/> 不认可 <input type="checkbox"/> 条件认可	核准	胡泥峰	审核	/	检测	全秋萍
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备注:

批示:

Cpk Report

PART NUMBER:UCB11-16BM11ANL-R DATE INSPECTED:2017.03.08

PART NAME: USB C TYPE单排SMT INSPECTED BY: yinlin

DRAWING SPECIFICATIONS

NUMBER	1#	2#	3#	4#	5#	6#	7#	8#
Nominal	8.34	2.56						
Upper Tol.	0.06	0.05						
Lower Tol.	0.02	0.05						
USL	8.40	2.61						
LSL	8.32	2.51						
Total Tol	0.08	0.10						
Xbar	8.35	2.56						
Stdv	0.01	0.01						
Zu	2.89	1.67						
Zl	1.37	1.48						
Cp	2.13	1.58						
Cpk	1.37	1.48						
Max	8.36	2.58						
Min	8.34	2.54						

DIMENSIONAL DATA

Sample	1#	2#	3#	4#	5#	6#	7#	8#
1.00	8.34	2.56						
2.00	8.36	2.55						
3.00	8.35	2.56						
4.00	8.35	2.57						
5.00	8.35	2.58						
2.35	8.36	2.56						
7.00	8.34	2.55						
8.00	8.34	2.56						
9.00	8.34	2.55						
10.00	8.35	2.58						
11.00	8.35	2.54						
12.00	8.34	2.55						
13.00	8.35	2.56						
14.00	8.35	2.54						
15.00	8.34	2.56						
16.00	8.35	2.57						
17.00	8.34	2.56						
18.00	8.34	2.56						
19.00	8.35	2.56						
20.00	8.35	2.55						
21.00	8.34	2.54						
22.00	8.34	2.56						
23.00	8.34	2.57						
24.00	8.35	2.56						
25.00	8.34	2.56						
26.00	8.35	2.55						
27.00	8.34	2.55						
28.00	8.34	2.54						
29.00	8.34	2.55						
30.00	8.35	2.56						

检测报告 Test Report

报告编号 SCL01I012865001E
Report No. SCL01I012865001E

第 1 页 共 7 页
Page 1 of 7

申请单位 东莞市东莞复达复合材料有限公司
Applicant DONGGUAN FUDA COMPOSITE MATERIALS CO.,LTD
地 址 东莞市常平镇霞坑村霞坑工业二路吉达科技园1楼
Address 1ST FLOOR ,JIDA TECH-PARK ,XIAKENG INDUSTRIAL 2ND ROAD,XIAKENG VILLAGE,CHANGPING TOWN ,DONGGUAN CITY,GUANGDONG PROVINCE,CHINA

以下测试之样品及样品信息由申请者提供并确认

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

样品名称 Sample Name LCP
样品颜色 Color 黑 BLACK
材料名称 Material LCP
客户参考信息 FD34750/FD34750A/FDE471i/FD11300/FD21300A/S475/S475A/E471i/E130i/21300A/MG350/E6808/E6006/E4008/E6008
Client Reference Information FD34750/FD34750A/FDE471i/FD11300/FD21300A/S475/S475A/E471i/E130i/21300A/MG350/E6808/E6006/E4008/E6008

样品接收日期 2016.03.01
Sample Received Date Mar. 1, 2016

样品检测日期 2016.03.01-2016.03.04
Testing Period Mar. 1, 2016 to Mar. 4, 2016

检测要求 根据客户要求, 对所提交样品中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)进行测试。

Test Requested As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Phthalates(DBP, BBP, DEHP, DIBP) in the submitted sample(s).

检测依据/检测结果 请参见下页。
Test Method/Test Result(s) Please refer to the following page(s).

主 检
Tested by

张绍祥

审 核
Reviewed by

黄艳

批 准
Approved by

刘少蔚

日 期
Date

2016.03.04

刘少蔚
技术经理 Technical Manager

华测检测认证集团股份有限公司
Centre Testing International Group Co.,Ltd.

No. R169561184
广东省深圳市宝安区 70 区鸿威工业园
Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China

检测报告 Test Report

报告编号 SCL01I012865001E
Report No. SCL01I012865001E

第 2 页 共 7 页
Page 2 of 7

检测依据 Test Method

测试项目 Test Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅(Pb) Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
镉(Cd) Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
汞(Hg) Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
六价铬(Cr(VI)) Hexavalent Chromium(Cr(VI))	IEC 62321:2008 Ed.1 Annex C	UV-Vis
多溴联苯(PBBs) Polybrominated Biphenyl(PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚(PBDEs) Polybrominated Diphenyl Ethers(PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯(DBP, BBP, DEHP, DIBP) Phthalates(DBP, BBP, DEHP, DIBP)	参考EN 14372:2004 (E) Refer to EN 14372:2004(E)	GC-MS

检测报告 Test Report

报告编号 SCL01I012865001E

第 3 页 共 7 页

Report No. SCL01I012865001E

Page 3 of 7

检测结果 Test Result(s)

测试项目 Test Item(s)	结果 Result	方法检出限 MDL
铅(Pb) Lead (Pb)	N. D.	2 mg/kg
镉(Cd) Cadmium (Cd)	N. D.	2 mg/kg
汞(Hg) Mercury (Hg)	N. D.	2 mg/kg
六价铬(Cr(VI)) Hexavalent Chromium (Cr(VI))	N. D.	2 mg/kg

测试项目 Test Item(s)	结果 Result	方法检出限 MDL
多溴联苯(PBBs) Polybrominated Biphenyl(PBBs)		
一溴联苯 Monobromobiphenyl	N. D.	5 mg/kg
二溴联苯 Dibromobiphenyl	N. D.	5 mg/kg
三溴联苯 Tribromobiphenyl	N. D.	5 mg/kg
四溴联苯 Tetrabromobiphenyl	N. D.	5 mg/kg
五溴联苯 Pentabromobiphenyl	N. D.	5 mg/kg
六溴联苯 Hexabromobiphenyl	N. D.	5 mg/kg
七溴联苯 Heptabromobiphenyl	N. D.	5 mg/kg
八溴联苯 Octabromobiphenyl	N. D.	5 mg/kg
九溴联苯 Nonabromobiphenyl	N. D.	5 mg/kg
十溴联苯 Decabromobiphenyl	N. D.	5 mg/kg

测试项目 Test Item(s)	结果 Result	方法检出限 MDL
多溴二苯醚(PBDEs) Polybrominated Diphenyl Ethers(PBDEs)		
一溴二苯醚 Monobromodiphenyl ether	N. D.	5 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N. D.	5 mg/kg
三溴二苯醚 Tribromodiphenyl ether	N. D.	5 mg/kg
四溴二苯醚 Tetrabromodiphenyl ether	N. D.	5 mg/kg
五溴二苯醚 Pentabromodiphenyl ether	N. D.	5 mg/kg
六溴二苯醚 Hexabromodiphenyl ether	N. D.	5 mg/kg
七溴二苯醚 Heptabromodiphenyl ether	N. D.	5 mg/kg
八溴二苯醚 Octabromodiphenyl ether	N. D.	5 mg/kg
九溴二苯醚 Nonabromodiphenyl ether	N. D.	5 mg/kg
十溴二苯醚 Decabromodiphenyl ether	N. D.	5 mg/kg

检测报告 Test Report

报告编号 SCL01I012865001E
Report No. SCL01I012865001E

第 4 页 共 7 页
Page 4 of 7

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
邻苯二甲酸酯 Phthalates		
邻苯二甲酸二正丁酯 (DBP) Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
邻苯二甲酸丁基苄酯 (BBP) Butylbenzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
邻苯二甲酸二(2-乙基己基)酯 (DEHP) Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg
邻苯二甲酸二异丁酯 (DIBP) Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg

测试样品/部位描述 黑色塑料颗粒
Tested Sample/Part Description Black plastic grains

备注: 对于检测铅, 镉, 汞之样品已完全溶解。
-N.D. = 未检出 (小于方法检出限)
-mg/kg= ppm = 百万分之一

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million

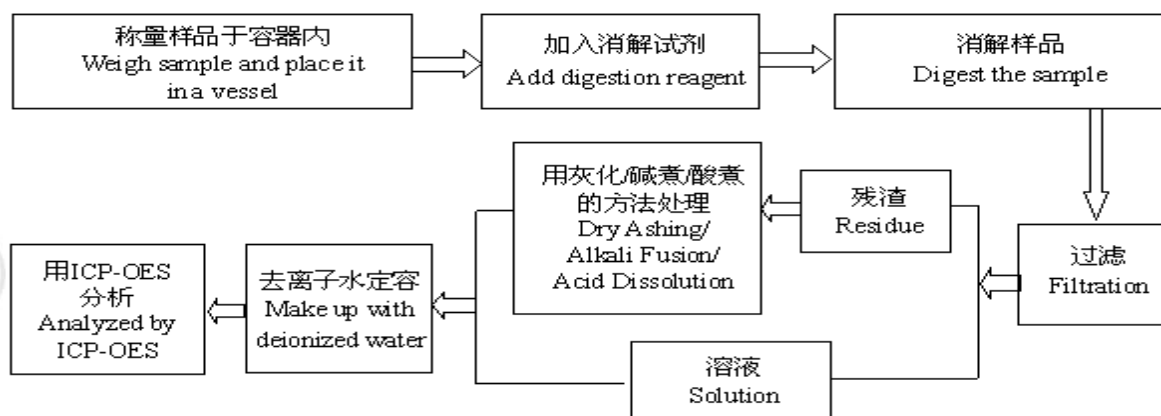
检测报告 Test Report

报告编号 SCL01I012865001E
Report No. SCL01I012865001E

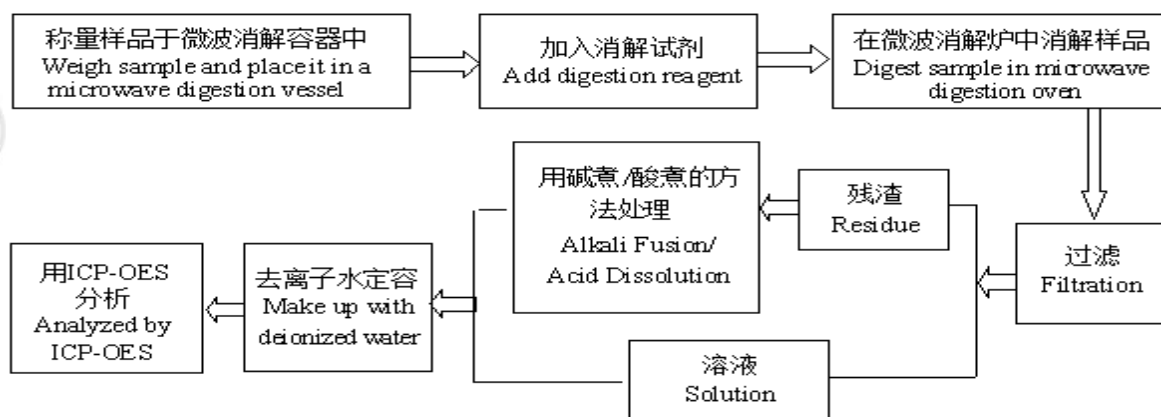
第 5 页 共 7 页
Page 5 of 7

检测流程 Test Process

1. 铅(Pb), 镉(Cd) Lead (Pb), Cadmium (Cd)



2. 汞(Hg) Mercury (Hg)

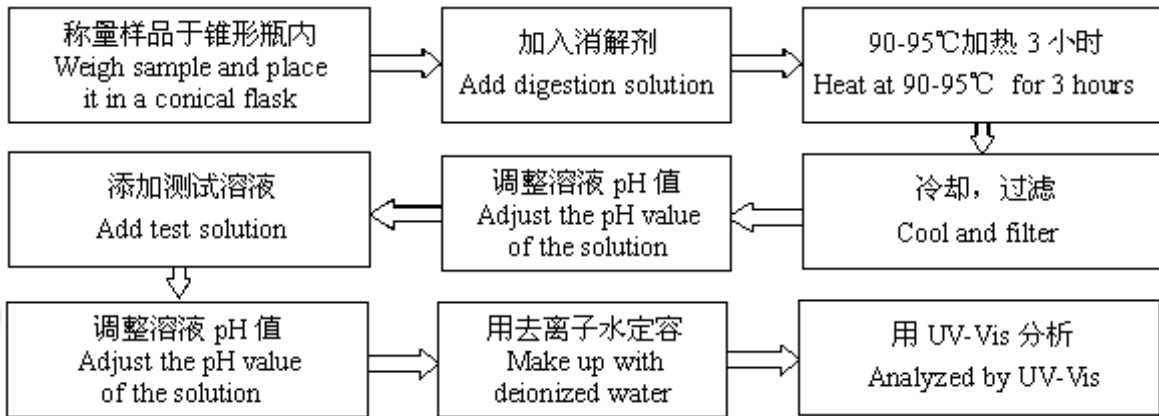


检测报告 Test Report

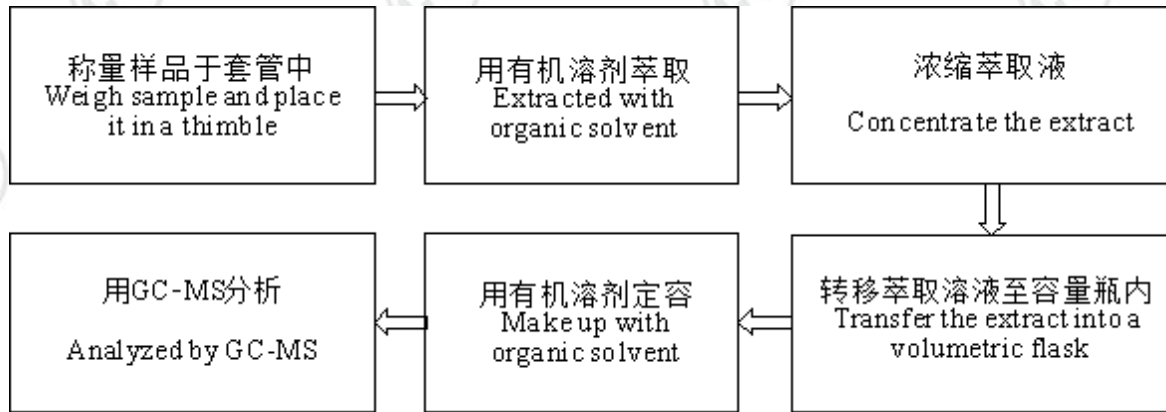
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Report No. SCL01I012865001E

第 6 页 共 7 页
Page 6 of 7

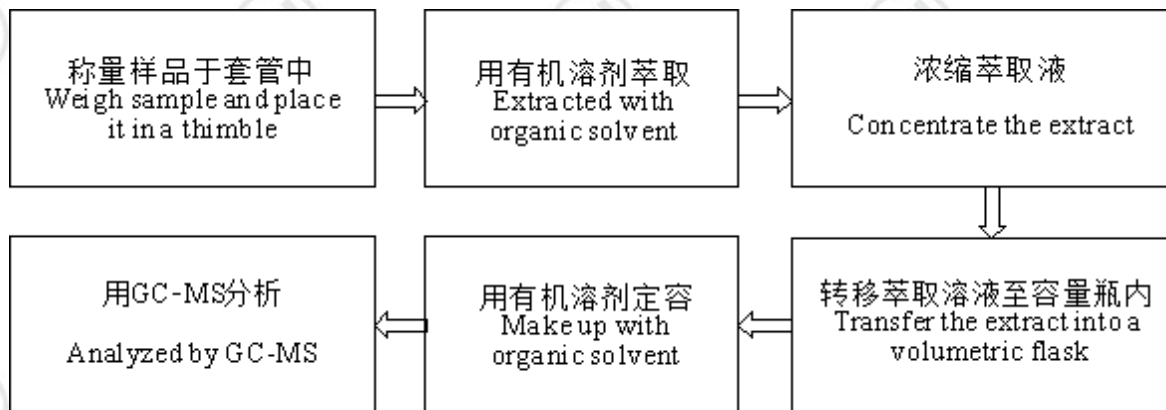
3. 六价铬 (Cr(VI)) Hexavalent Chromium(Cr(VI))



4. 多溴联苯 (PBBs), 多溴二苯醚 (PBDEs) Polybrominated Biphenyl(PBBs), Polybrominated Diphenyl Ethers(PBDEs)



5. 邻苯二甲酸酯 (DBP, BBP, DEHP, DIBP) Phthalates(DBP, BBP, DEHP, DIBP)



检测报告 Test Report

报告编号 SCL01I012865001E
Report No. SCL01I012865001E

第 7 页 共 7 页
Page 7 of 7

样品图片 Photo(s) of the sample(s)



报告结束
*** End of report ***

检测报告无批准人签字及“报告专用章”无效，本报告检测结果仅对受测样品负责。未经CTI书面同意，不得部分复制本报告。

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SHEN ZHEN RILIAN SHANFENG METAL MATERIAL CO.,LTD.

2F NO.23 LANE 7 JUEYUAN NEW VILLAGE BOGANG SHAJING BAOAN DISTRICT SHENZHEN CITY

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

SGS Job No. : RP16-000048 - SZ

Model No. : 304

Date of Sample Received : 21 Sep 2016

Testing Period : 21 Sep 2016 - 26 Sep 2016

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) 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. Shenzhen Branch



Sunny Nie
Approved Signatory



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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SZX16-000052.002	Silver-gray metal sheet

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 :
- (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 - (2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
 - (3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
 - (4)With reference to IEC 62321-7-1:2015 , determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
 - (5)With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	002
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
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



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Test Report

No. SZXEC1600005202

Date: 26 Sep 2016

Page 3 of 5

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
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

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
 - (2) ▼= 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.
IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25



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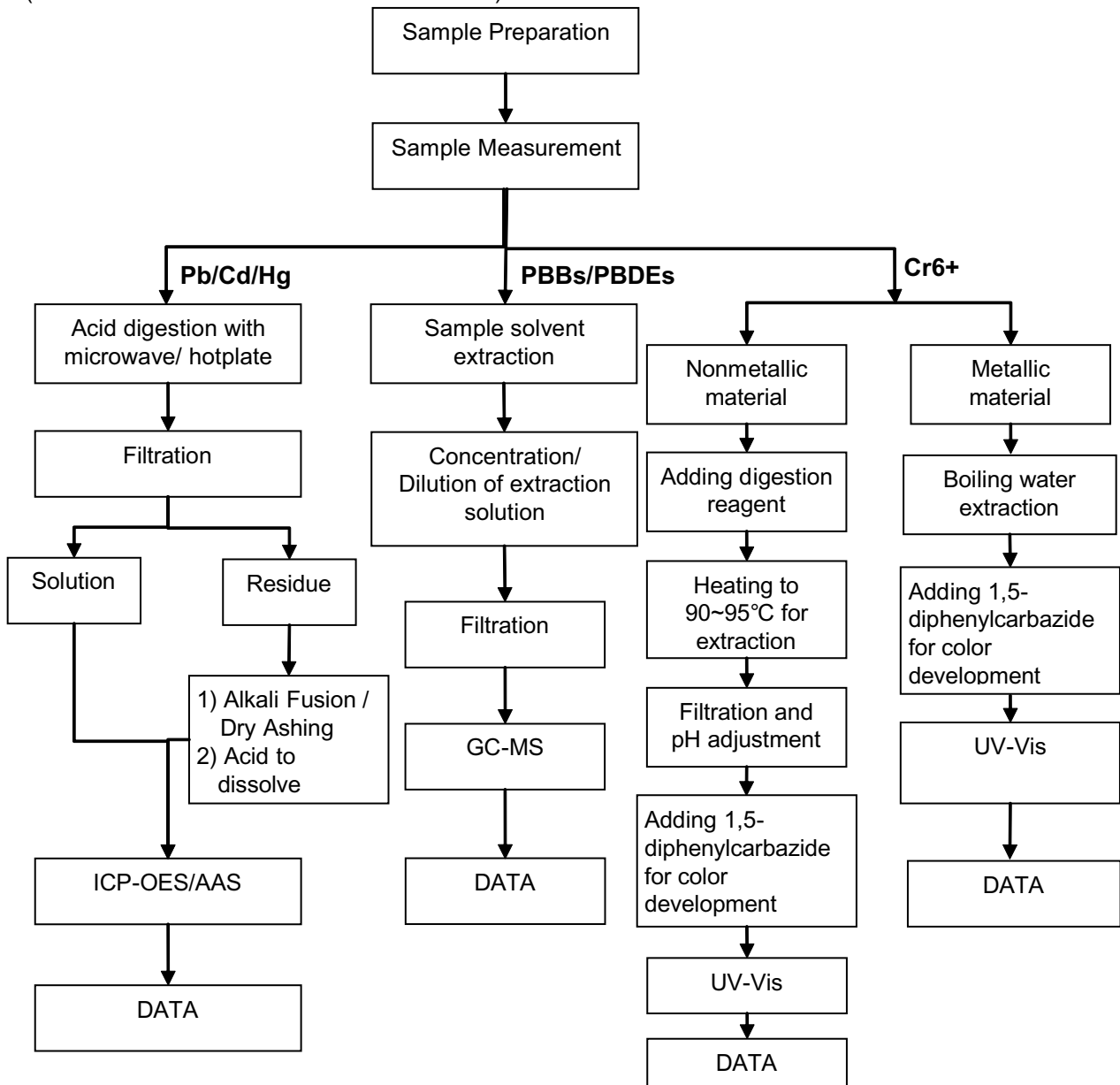
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ATTACHMENTS

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

- 1) Name of the person who made testing: Billy Wu / David Mai / Truly Ren
- 2) Name of the person in charge of testing: Zoe Luo / Laurel Li / Muky Tong /
- 3) 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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Sample photo:



SGS authenticate the photo on original report only

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SHEN ZHEN RILIAN SHANFENG METAL MATERIAL CO.,LTD.

2F NO.23 LANE 7 JUEYUAN NEW VILLAGE BOGANG SHAJING BAOAN DISTRICT SHENZHEN CITY

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

SGS Job No. : RP16-000048 - SZ

Model No. : 301

Date of Sample Received : 21 Sep 2016

Testing Period : 21 Sep 2016 - 26 Sep 2016

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) 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. Shenzhen Branch



Sunny Nie
Approved Signatory



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Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SZX16-000052.001	Silver-gray metal sheet

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 :
- (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 - (2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
 - (3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
 - (4)With reference to IEC 62321-7-1:2015 , determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
 - (5)With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.

Test Item(s)	Limit	Unit	MDL	001
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
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



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Test Report

No. SZXEC1600005201

Date: 26 Sep 2016

Page 3 of 5

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
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

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
 - (2) ▼= 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.
 IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25



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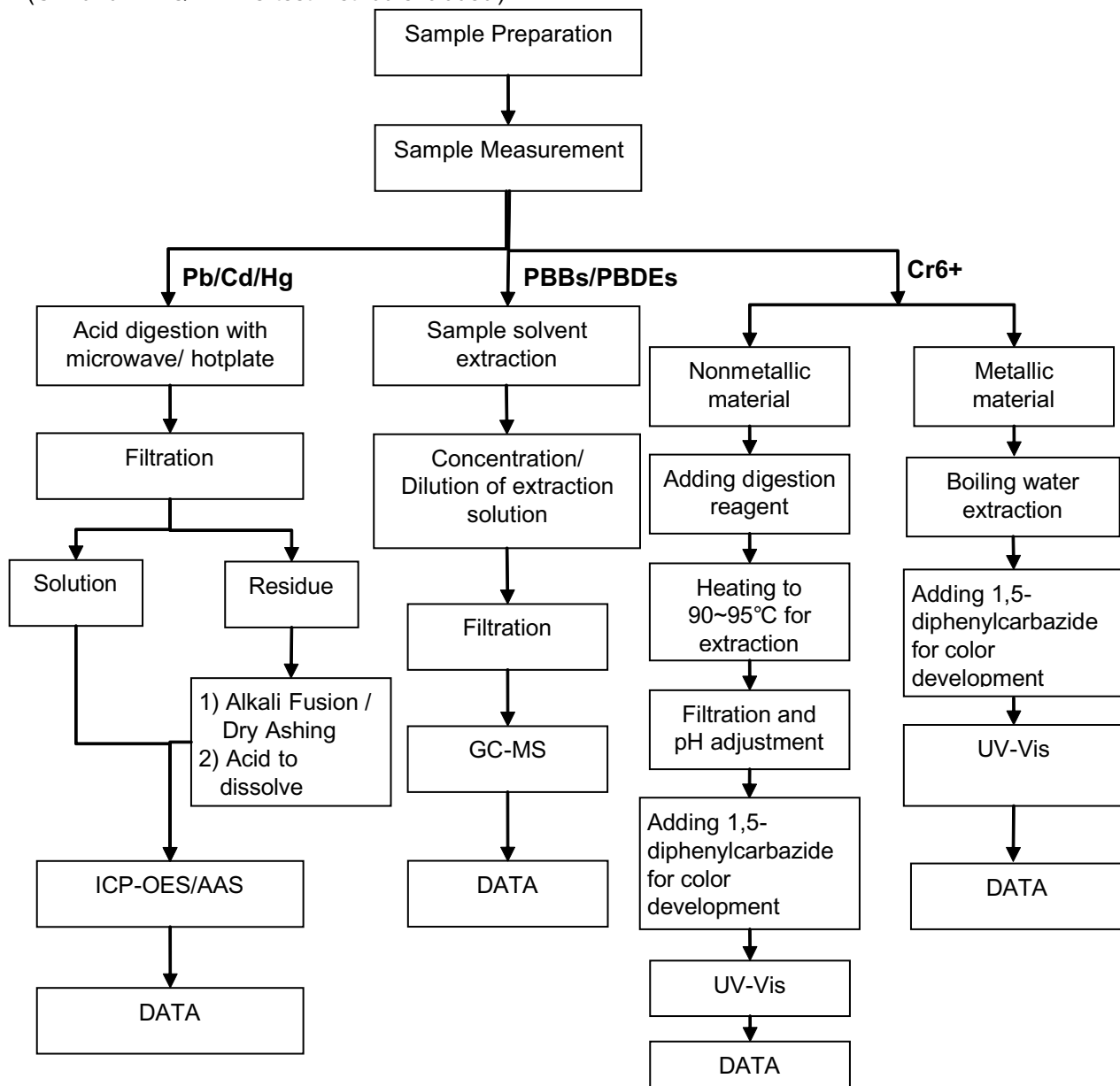
SGS-CSTC (Shenzhen) Technical Services Co., Ltd.
 Shenzhen Branch Testing Center Chemical Laboratory

SGS Bldg, No.3, Jianghao Industrial Park, No.430, Jihua Road, Banliao, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgs.com.cn
 中国·深圳·龙岗区坂田吉华路430号江灏工业园3栋SGS大楼 邮编: 518129 t (86-755) 25328888 f (86-755) 83106190 e sgs.china@sgs.com

ATTACHMENTS

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

- 1) Name of the person who made testing: Billy Wu / David Mai / Truly Ren
- 2) Name of the person in charge of testing: Zoe Luo / Laurel Li / Muky Tong /
- 3) 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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Sample photo:



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*** End of Report ***



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測試報告

號碼(No.) : CE/2016/63852

日期(Date) : 2016/06/24

頁數(Page): 1 of 4

Test Report

第一伸銅科技股份有限公司

FIRST COPPER TECHNOLOGY CO., LTD.

高雄市小港區沿海一路479號

479, YANHAI 1ST. ROAD, SHAW KANG DISTRICT, KAOHSIUNG, TAIWAN R. O. C.



以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as) :

送樣廠商(Sample Submitted By) : 第一伸銅科技股份有限公司 (FIRST COPPER TECHNOLOGY CO., LTD.)
樣品名稱(Sample Description) : Cr-Zr-Cu ALLOY (鉻鋇銅)
樣品型號(Style/Item No.) : C1814
收件日期(Sample Receiving Date) : 2016/06/17
測試期間(Testing Period) : 2016/06/17 TO 2016/06/24

測試需求(Test Requested) : 依據客戶要求, 參考 RoHS 指令 2011/65/EU Annex II 測試鎘、鉛、汞、六價鉻。
(As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI) contents in the submitted sample.)

測試方法(Test Method) : 請見下一頁 (Please refer to next pages).

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).


JR Wang / Asst. Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

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測試報告

號碼(No.) : CE/2016/63852

日期(Date) : 2016/06/24

頁數(Page): 2 of 4

Test Report

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FIRST COPPER TECHNOLOGY CO., LTD.

高雄市小港區沿海一路479號

479, YANHAI 1ST. ROAD, SHAW KANG DISTRICT, KAOHSIUNG, TAIWAN R. O. C.



測試結果(Test Results)

測試部位(PART NAME)No. 1 : 銅色金屬片 (COPPER COLORED METAL SHEET)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No. 1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321-5 (2013), 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321-5 (2013) and performed by ICP-AES.	2	n. d.
汞 / Mercury (Hg)	mg/kg		2	n. d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321-5 (2013), 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321-5 (2013) and performed by ICP-AES.	2	n. d.
六價鉻 / Hexavalent Chromium Cr(VI)(#2)	µg/cm ²	參考IEC 62321-7-1 (2015), 以UV-VIS檢測. / With reference to IEC 62321-7-1 (2015) and performed by UV-VIS.	0.10	n. d.

備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n. d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. (#2) =
 - a. 當六價鉻結果大於0.13 µg/cm², 表示樣品表層含有六價鉻. / The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm². The sample coating is considered to contain Cr(VI).
 - b. 當六價鉻結果為n. d. (濃度小於0.10 µg/cm²), 表示表層不含六價鉻. / The sample is negative for Cr(VI) if Cr(VI) is n. d. (concentration less than 0.10 µg/cm²). The coating is considered a non-Cr(VI) based coating.
 - c. 當六價鉻結果介於 0.10 及 0.13 µg/cm² 時, 無法確定塗層是否含有六價鉻. / The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.

測試報告

號碼(No.) : CE/2016/63852

日期(Date) : 2016/06/24

頁數(Page): 3 of 4

Test Report

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FIRST COPPER TECHNOLOGY CO., LTD.

高雄市小港區沿海一路479號

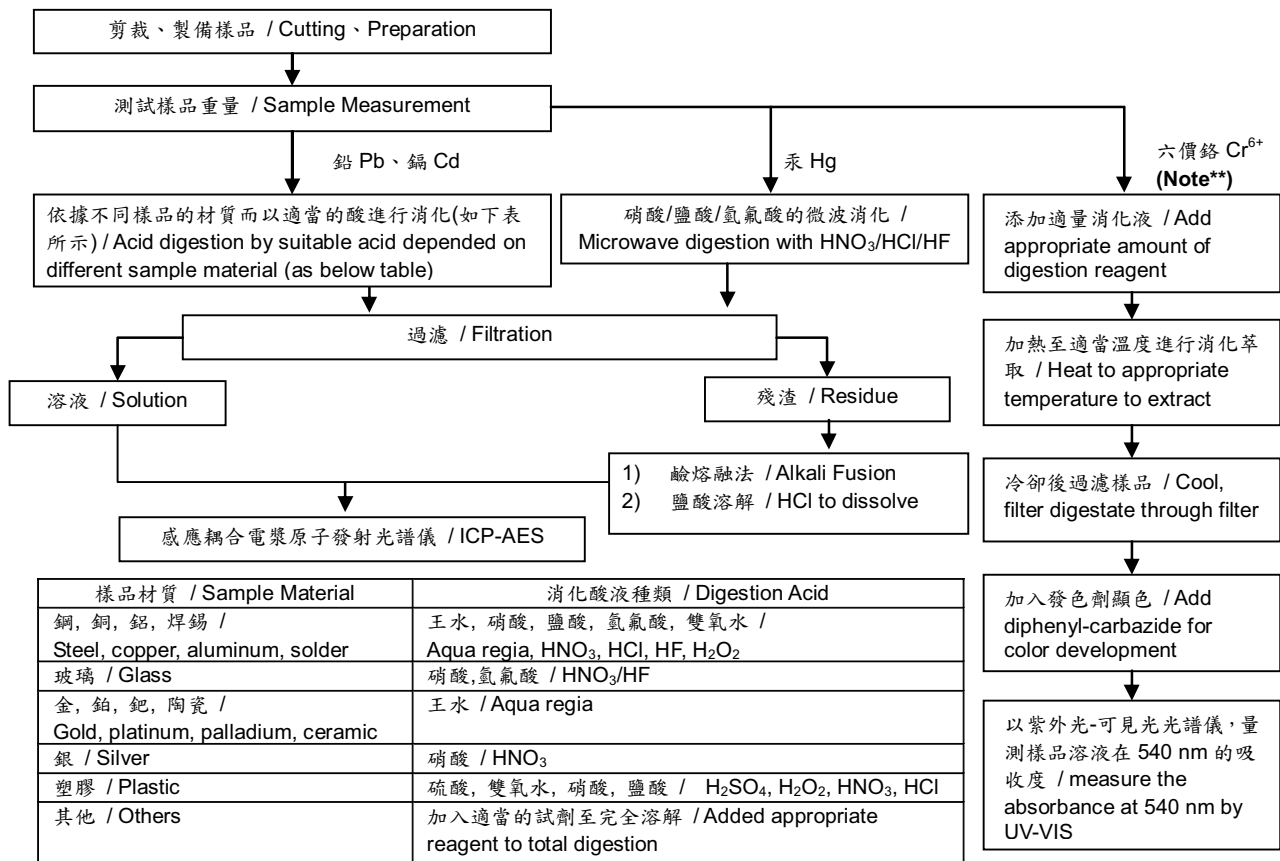
479, YANHAI 1ST. ROAD, SHAW KANG DISTRICT, KAOHSIUNG, TAIWAN R. O. C.



根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外)

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

- 測試人員：王志璋 / Technician : JR Wang
- 測試負責人：張啟興 / Supervisor: Troy Chang



Note** (For IEC 62321)

- (1) 針對非金屬材料加入鹼性消化液，加熱至 90~95°C 萃取。 / For non-metallic material, add alkaline digestion reagent and heat to 90~95°C.
- (2) 針對金屬材料加入純水，加熱至沸騰萃取。 / For metallic material, add pure water and heat to boiling.

測試報告

號碼(No.) : CE/2016/63852

日期(Date) : 2016/06/24

頁數(Page): 4 of 4

Test Report

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* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。
(The tested sample / part is marked by an arrow if it's shown on the photo.)

CE/2016/63852



** 報告結尾 (End of Report) **

DONGGUAN JIEYE HARDWARE PRODUCTS CO,LTD
DONGGUAN HUMEN SHIAJIAO LIHAI INDUSTRIAL ROAD

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

SGS Job No. : SZIN1606008337PC - SZ
Material : phosphor copper
Date of Sample Received : 17 Jun 2016
Testing Period : 17 Jun 2016 - 21 Jun 2016
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

Violet

Violet, Shi
Approved Signatory



Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN16-115394.001	Silver-gray 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 : (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 (2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
 (3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
 (4)With reference to IEC 62321-7-1:2015 , determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	17
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) ▼= 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.

IEC 62321 series is equivalent to EN 62321 series

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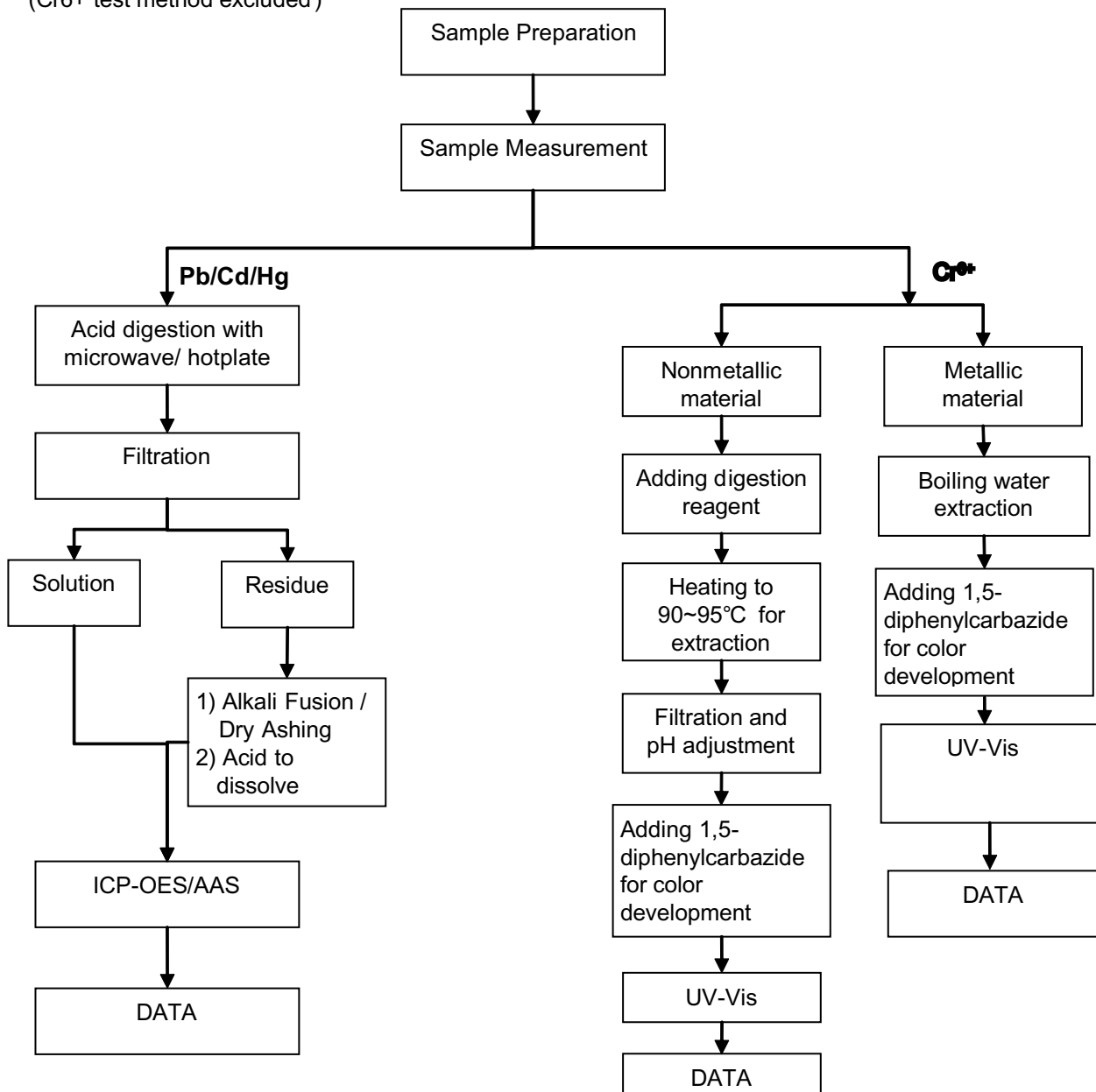
FSP_LANG_ID:1258637,25



ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺ Testing Flow Chart

- 1) Name of the person who made testing: Bruce Xiao
- 2) Name of the person in charge of testing: Bella Wang
- 3) 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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DONGGUAN JIEYE HARDWARE PRODUCTS CO,LTD
DONGGUAN HUMEN SHIAJIAO LIHAI INDUSTRIAL ROAD

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

SGS Job No. : SZIN1606008334PC - SZ
Material : phosphor copper
Date of Sample Received : 17 Jun 2016
Testing Period : 17 Jun 2016 - 21 Jun 2016
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

Violet

Violet, Shi
Approved Signatory



Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN16-115402.001	Golden surfaced metal sheet

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 :
- (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 - (2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
 - (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
 - (4) With reference to IEC 62321-7-1:2015 , determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	13
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) ▼= 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.

IEC 62321 series is equivalent to EN 62321 series

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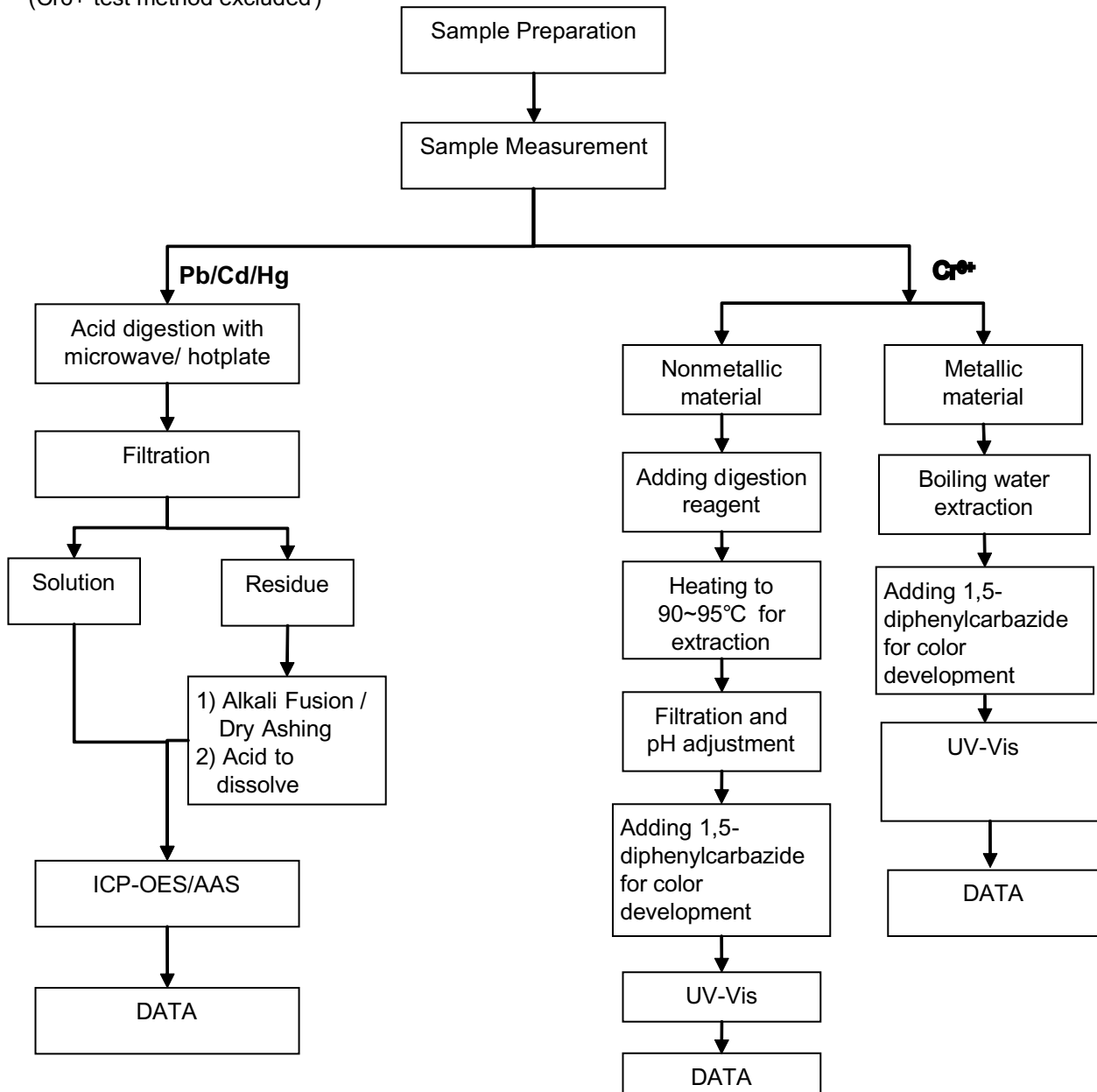
FSP_LANG_ID:1258637,25



ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺ Testing Flow Chart

- 1) Name of the person who made testing: Bruce Xiao
- 2) Name of the person in charge of testing: Bella Wang
- 3) These samples were dissolved totally by pre -conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)



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 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

Sample photo:



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*** End of Report ***

INSPECTION CERTIFICATE

NOW STAR INC,
NO.13,LANE 546,WEN CHN ROAD
TAINAN,TAIWAN

DATE:04-MAR-15
CERTIFICATE NO: 2314096103

COIL NO:	NAME OF ARTICLE	SIZE	TYPE	FINISH	WEIGHT(KG)					
	COLD ROLLED STAINLESS STEEL STRIP IN COLL	0.30	304	1/2H	3105					
CHEMICAL COMPOSITION (%)										
Composition	C	SI	Mn	P	S	Cr	Ni	MO	HV	HARD NESS
	0.048	0.480	1.420	0.015	0.005	18.201	8.011	0.000	280	
<p>Data shown are typical, For reference only, and should not be construed as maximum or minimum value for specification or for final design data on any particular piece of material may vary from those shown herein.</p>										

周真

INSPECTION CERTIFICATE

DATE:12-JAN-16
 CERTIFICATE NO: 12301816

NOW STAR INC,
 NO.13,LANE 546,WEN CEN ROAD
 TAINAN,TAIWAN

COIL NO:	NAME OF ARTICLE	SIZE	TYPE	FINISH	WEIGHT(KG)				
	COLD ROLLED STAINLESS STEEL STRIP IN COLL	0.20	301	1/2H	1015				
HARD NESS									
Composition	C	SI	Mn	P	S	Cr	Ni	MO	HV
	0.110	0.720	1.620	0.020	0.005	17.210	6.200	0.000	325
Data shown are typical, For reference only, and should not be construed as maximum or minimum value for specification or for final design data on any particular piece of material may vary from those shown herein.									
								品管組長	劉名銓
								QC Manager	周真





201600

第一伸銅科技股份有限公司 FIRST COPPER TECHNOLOGY CO., LTD.

檢驗報告表 Inspection Report

1609078

序號: F0224008 ~105 ~1
Serial NO.

客戶名稱 Customer			重量 Weight(Kg)	597.0	出貨日期 Date	20160302
品名 Article	標準 Standard NO.	尺寸 & 質別 Dimension & Temper			製程代號 P-Code	鋼卷編號 Coil NO.
C1814	JIS H3100	0.12mm*265mm*H材			T2H1200	FT2E06058
化學成份 Chemical Compositions (%)						
元素 Element	Cu	Si	Zr	Cr		
規範 Spec.	MAX MIN	.0500 .0050	.2500 .0500	.4500 .1500		
實測 Actual	REM REM	.0291	.1039	.2140		
機械性質 Mechanical Properties						
項目 Item	硬度 Hardness HV(500P)	抗張強度 Tension Strength N/mm ²	伸長率 Elongation %			
規範 Spec.	MAX MIN	170.0 150.0	590 510	↑ 3.0		
實測 Actual	156.6	551	10.9			

A2I 抗張強度(Tension Strength)伸長率(Elongation)以ASTM E8-98試片

Q.A. 品質保證經理
Signature: [Handwritten Signature]
Date: 3/20/16
PCF39-1

材质证明

主成份	含 量 LCP E130i Bk	备 注
LCP 树脂	69%±5%	
玻纤	30%±5%	
脱模剂	0.3%	
润滑剂	0.3%	
黑种	0.4%	