


承 认 书

Approval Sheet

客 户
Customer: _____
客户料号
Cus.P/N: _____
华联威料号
HLW P/N: 91-US01-680
品名规格
Pro name Spec: USB BF 3.0 DIP
送样日期
Delivery Date: _____
承认日期
Approved No: 2012.08.13

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

深 圳 市 观 兰 镇 丹 坑 村 润 塘 工 业 区 6 栋

TEL: 0755-28888886 28888866

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

USB 3.0 系列產品SPEC

TEST ITEM		REQUIREMENT	PROCEDURE
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.
2	Operating Temperature :	-55°C ~ +105°C	
3	Operating environment	20% TO 90% RH	
ELECTRICAL REQUIREMENT			
4	Rating Voltage	30V AC max	
5	Rating Current	1.8Ampheres max	
6	Contact Resistance	[30] m Ohm Max	Test method complies with EIA-364-06. Maximum applied voltage 20mV at a current of 100mA per. Current leakage is 0.5mA.
7	Dielectric withstanding Voltage	No flashover ,no creeping discharge, no breakdown	Test method complies with EIA 364-20 Mated connectors , apply 100VAC for 1 minute between adjacent terminal or ground
8	Insulation Resistance	1000 M Ohm Min.	Test method complies with EIA 364-21 Apply 500V(DC) for immediately between adjacent terminals.
Mechanical Requirement			
9	Connector Insertion Force	35N MAX	Test method complies with EIA 364-13 Mating the connector with standard audio plug at a rate of 12.5 mm per minute
10	Contact Extraction force	10N MIN	Test method complies with EIA 364-13 Unmating the connector with standard audio plug at a rate of 12.5 mm per minute
11	Terminal retention force	0.5 Kgf / PER PIN MIN	The test method complies with EIA-364-29
12	Durability	Visual Inspection-No physical damage LLCR-30 mΩ max per contact initial,100 mΩ after 1500 insertions.	Test method complies with EIA 364-09 Insertion and extraction with plug up to 5000 cycles at a maximum rate of 200 cycles per hour.

USB 3.0 系列產品SPEC

ENVIRONMENTAL REQUIREMENTS			
13	Resistance to Soldering Heat	No physical damage shall occur.	Test method complies with EIA-364-56. Solder Temp. : 260°C, 10±0.5sec.
14	Thermal Shock	No physical damage to the samples and LLCR-30 mΩ max per contact	Test method complies with EIA 364-32 It shall be subjected to temperature cycle at the following condition 1 cycle consists of - 55 °C±3°C for 30 minutes.+105°C±2°C for 30 minutes . Time of cycles: 5 cycles.
15	Humidity	See Note	Test method complies with EIA-364-31B. Subject samples to temperature of 40 ±2°C and a relative humidity of 90 ~ 95% for a period of 96 hours.
16	Temperature Life	See Note	Test method complies with EIA-364-17. Subject samples a temperature of 105°C ±2°C of accuracy oven of 250 hours.
17	Cold Resistance	See Note	Test method complies with EIA-364-59. It shall be subjected to temperature of -55±3°C for 96 hours.
OTHERS			
18	Solder ability	Wet solder coverage:95%Min	Test method complies with EIA 364-52 1)Temperature of fused solder: 265+5°C. 2)Dipping time:5+0.5s
19	Vibration	No electrical discontinuity greater than 0.1 or 1 μ sec shall occur. See Note.	Test method complies with EIA-364-28 Subject mated connectors to 10-55-10 Hz traversed in 1minutes at 1.52mm amplitude 2 Hours each of 3 mutually perpendicular planes. 100mA Max. Applied.
20	Salt spray test	Visual Inspection-No physical damageLLCR-30 mΩ max per contact	Test method complies with EIA 364-26 Mated connector expose to 5% salt concentration for 12 hours at temperature 35+2°C .After the test specimens shall be washed with running water and dried naturally
NOTE:		Shall meet visual end requirements,show no physical damage,and meet requirement of additional as specified in the test sequence in Figures 2	

審核：PH.Zhang

制定：Hexing

深圳市华联威电子科技有限公司
SHENZHENHUALIANWEIELECTRONICS CO., LTD.

測試報告

TEST REPORT

產品名稱 Part Name	USB BF 3.0 DIP	測試日期 Date of Testing	2012.08.11~ 2012.08.12	報告編號 Report NO.	MD20120811-02						
產品型號 Part Name	91-US01-680	樣品數量 Quantity	10PCS	測試環境 Measuring Environment	濕度Temp:18~21°C 相對濕度R.H.:49%~57%						
一.電性測試 ELECTRICAL 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	Contact resistance	Test current:150mA max	DIGITAL MICRO-OHMMETER	30 mΩ Max	14.57 mΩ	15.28 mΩ	16.34 mΩ	17.15 mΩ	18.21 mΩ	P	
2	Insulation resistance	Test voltage:500VDC Operation stated:1min	ULTRA HIGH RESISTANCE METER	1000 MΩ Min	1573 MΩ	1624 MΩ	1485 MΩ	1733 MΩ	1627 MΩ	P	
3	Dielectric withstand voltage	Test voltage:500VAC Cut-off current:0.5mA Operation stated:1 min	BREAKDOWN TESTER	No discharge or flashover occur	Pass	Pass	Pass	Pass	Pass	P	
二.機械特性測試 MECHANICAL TEST											
序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄Testing Result					判定Judge	
					1	2	3	4	5	Pass	Fail
1	Durability test	Rate:200cycles/hour Total: 5000 cycles	LIFE TESTER FOR CONNECTOR	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Mating Force	35 Newtons maximum at a maximum rare of 7.5mm(0.492") per minute	Insertion force testing machine	3.5kgf Max	Pass	Pass	Pass	Pass	Pass	P	
3	Un-Mating Force	10 Newtons minimum at a maximum rare of 7.5mm(0.492") per minute	Insertion force testing machine	1.0kgf.min	Pass	Pass	Pass	Pass	Pass	P	
三.環境特性測試 ENVIRONMENTAL TEST											
序號 NO.	測試項目 Testing Item	測試條件 Testing Conditions	測試設備 Testing Equipment	規格 SPEC	測試記錄Testing Result					判定Judge	
					1	2	3	4	5	Pass	Fail
1	Humidity-Temperature cycle	Temperature: 40±2°C Humidity: 90~95% Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	P	
2	Heat test	Temperature: 70±2°C Duration:168H	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	P	

3	Cold test	Temperature: $-25 \pm 3^{\circ}\text{C}$ 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: $5 \pm 0.5\text{sec}$	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): 耿运宏

測試(Tester): 蔡念



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

2012年08月03日 版次:A1

料號	91-US01-680	制令單號	/	送檢單位	工程部	首件製作者	裝配	
品名	USB BF 3.0 DIP	客戶代號	/	批 量	/	送檢時間	/	
				數 量	5PCS	確認時間	/	
抽樣標準		<input checked="" type="checkbox"/> 單次 <input type="checkbox"/> 雙次		抽樣數 (5PCS)	AQL	CRI:0	MAJ:0.40	MIN:0.65
MIL-STD-105E(II)		<input checked="" type="checkbox"/> 正常 <input type="checkbox"/> 加嚴 <input type="checkbox"/> 減量			ACC/REJ	0	/	/
不良數: CRI (/) MAJ (/) MIN (/)						不良率(%)		/

NO.	檢驗項目 單位:MM/G	檢測 儀器	檢 驗 記 錄					品管判定		CRI	MAJ	MIN	備注
			1	2	3	4	5	AC	RE				
尺寸 測 量	6.59±0.10	6.63	6.62	6.60	6.59	6.54	6.55	✓					
	5.6±0.10	5.63	5.62	5.60	5.65	5.64	5.63	✓					
	1.61±0.05	1.64	1.63	1.62	1.61	1.64	1.65	✓					
	7.24±0.30	7.28	7.24	7.25	7.27	7.28	7.26	✓					
	3.67±0.30	3.72	3.70	3.67	3.69	3.70	3.72	✓					
	4.80±0.30	4.83	4.80	4.82	4.84	4.81	4.83	✓					
	5.64±0.10	5.67	5.65	5.64	5.68	5.65	5.67	✓					
	12.9±0.45	12.97	12.95	12.93	12.98	12.94	12.92	✓					
	6.46±0.30	6.48	6.46	6.49	6.45	6.46	6.48	✓					
	8.45±0.10	8.49	8.45	8.47	8.46	8.45	8.43	✓					
	12.91±0.30	12.97	12.95	12.97	12.93	12.94	12.95	✓					
	14.40±0.30	14.47	14.45	14.40	14.43	14.40	14.43	✓					
	12.00±0.30	12.07	12.05	12.03	12.00	12.06	12.07	✓					
	18.30±0.30	18.35	18.33	18.37	18.34	18.35	18.33	✓					
	8.00±0.30	8.02	8.05	8.03	8.07	8.05	8.04	✓					
	2.5±0.10	2.52	2.53	2.50	2.51	2.52	2.54	✓					
	5.0±0.10	5.02	5.00	5.04	5.03	5.01	5.02	✓					
	8.5±0.10	8.55	8.53	8.52	8.50	8.54	8.52	✓					
	18.3±0.45	18.38	18.36	18.33	18.37	18.34	18.32	✓					
	12.2±0.45	12.28	12.26	12.24	12.23	12.27	12.25	✓					
2.7±0.10	2.73	2.70	2.72	2.74	2.71	2.73	✓						
2.0±0.10	2.02	2.01	2.03	2.00	2.01	2.03	✓						
4.0±0.10	4.02	4.03	4.00	4.02	4.04	4.01	✓						
2.38±0.30	2.37	2.42	2.43	2.40	2.39	2.37	✓						

檢驗依據: 《工程圖紙》 《檢驗規範》 《承認書》 樣品 其它

檢測儀器:A游標卡尺 B千分尺 C厚薄儀 D投影鏡 E放大鏡 F顯微鏡 G錫爐 H插拔力器 I間位尺 J其它

品保判定:	<input checked="" type="checkbox"/> 合格Accept <input type="checkbox"/> 退貨Reject <input type="checkbox"/> 特采Waive <input type="checkbox"/> 挑選Sort				
核 准 APP	耿运宏	審 核 CHK	/	檢 驗 員 INSPBY	蔡念

保存期限:三年

保存部門:品保部

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 BF 90度端子			版次:A.0		
电镀规格:Ni40u", Sn40u", Au1u"		日期:2012-07-25		页次:1/1	
厂商:尚笠五金电镀厂					
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	52.1u"	OK	2012-7-25	14:40:02
2	40u"MIN	48.4u"	OK	2012-7-25	14:40:04
3	40u"MIN	55.6u"	OK	2012-7-25	14:40:06
4	40u"MIN	50.5u"	OK	2012-7-25	14:40:08
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	62.3u"	OK	2012-7-25	14:45:08
2	40u"MIN	68.2u"	OK	2012-7-25	14:45:10
3	40u"MIN	75.5u"	OK	2012-7-25	14:45:12
4	40u"MIN	77.4u"	OK	2012-7-25	14:45:14
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	1u"MIN	1.05u"	OK	2012-7-25	14:30:05
2	1u"MIN	1.12u"	OK	2012-7-25	14:30:07
3	1u"MIN	1.08u"	OK	2012-7-25	14:30:09
4	1u"MIN	1.05u"	OK	2012-7-25	14:30:11



深圳市华联威电子科技有限公司

电镀报告表

品名:USB 3.0 BF90度外壳		版次:A.0																														
电镀规格:Cu:40u",Ni:40u"	日期:2012-07-26	页次:1/1																														
厂商:尚笠五金电镀厂																																
测试设备:CMI X-射线膜厚测试仪																																
2、底层电镀测试 (Cu)																																
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核准: 耿运宏2012/07/26

审核: 余凤涛2012/07/26

检验员: 张勇2012/07/26

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	2012年 07月27日 20:00 时起
		DATE	2012年 07月28日 08:00 时止
样品名称	USB BF 3.0 90 DIP	试验数量	5PCS
P/N	91-US01-680	QTY	
试验条件 (TEST CONDITION)			
1、盐水溶解 (SALT SOLUTION: 浓度 $50 \pm 10\text{g/L}$, PH值6.5-7.2.			
2、试验室温度 (TEMP. IT THE SPRAY DHAMBR): $35 \pm 1^\circ\text{C}$.			
3、盐水桶温度 (TEMP. OF SALE SOL' N TANK): $35 \pm 1^\circ\text{C}$.			
4、压力桶温度 (TEMP. OF SAR SUPPLIERY): $47 \pm 1^\circ\text{C}$.			
5、试验室相对湿度 (R. H IN THE CHAMBER) 85%.			
6、压缩空气压力 (COMPRESSED AIR PRESSURE): $1.00 \pm 0.01\text{Kg/cm}^2$.			
7、样品放置位置 (SPECIMEN SUPPORTED ANGLE): 尼龙绳吊挂 $70^\circ - 90^\circ$.			
8、喷雾收集量 (COLLECT RATE OF SALT SOL' N) $1-2\text{mL}/(8 \text{ cm}^2\text{hr})$.			
9、盐雾测试时间: 12小时 (H)			
判定方法 (ADFUSGD METHOD)			
试验后以20倍放大镜观察、无蓝、绿色腐蚀物之现象, 即判定合格. (Inspext the ecimen at 20 xmagnification no blue or green corrosion products are acceptable)			
样品序号	试验后现象		判定
	PHENOMENON AFTER TEST		COMMENT
1	无蓝、绿色腐蚀物之现象		OK
2	无蓝、绿色腐蚀物之现象		OK
3	无蓝、绿色腐蚀物之现象		OK
4	无蓝、绿色腐蚀物之现象		OK
5	无蓝、绿色腐蚀物之现象		OK
以下空白			

長春人造樹脂廠股份有限公司

台北市 10477 松江路三零一號七樓

CHANG CHUN PLASTICS CO.,LTD.

TLX:2253 LONGLITE

NO.301 SONGKIANG ROAD, 7FL., TAIPEI. 10477 TAIWAN

FAX: (02)25033378

CABLE ADDRESS: LONGLITE TAIPEI

TEL: (02)25038131

材質證明*

MATERIAL FORMULATION CONFIDENTIAL REPORT *

廠商 Customer :

材質名稱 Type of Material : PBT (Poly Butylene terephthalate)聚丁烯對苯二甲酸酯

規格 Grade : PBT 4830

說明 Description :

PBT-4830 複合材料包含 PBT 純樹脂、玻纖、溴化耐燃劑及少量添加劑。

The raw material of PBT-4830 compound contains PBT pure resin, glass fiber, flame retardant, and few of additives.

PBT 複合材料成分表

Chemical Composition of PBT Compound

規格 Grade			4830
組成 Chemical Composition	Molecular formula	CAS Number	含量(%) Content (%)
1 PBT 樹脂 PBT resin	$(C_{12}H_{12}O_4)_n$	26062-94-2	45~63
2 玻璃纖維 Glass Fiber	$SiO_2 \cdot CaO \cdot Al_2O_3$	65997-17-3	28~32
3 耐燃劑 Flame Retardant	$(C_{18}H_{16}Br_4O_3)_n$ $(C_{16}H_{10}Br_4O_3)_n$	68928-70-1 71342-77-3	6~12
4 耐燃劑 Flame Retardant	Sb_2O_3	1309-64-4	2~4
5 添加劑 Additives	N.A._	NA	1~7

供應商 MATERIAL SUPPLIER

Company : CHANG CHUN PLASTICS CO., LTD. ZHANGZHOU FACTORY

Signature : Tseng, Ching-Neng

Address : BAOSHENG ROAD, LONGCHI DEVELOPMENT AREA,

ZHANGZHOU, FUJIAN, CHINA.

Date : Jul.04, 2006



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(%)	Electric Conductivity (%)
	Thickness (mm)	Width (mm)	Length (mm)					
	Standard							
6	0.2	27.8		64.00 - 68.00	max. 0.050	max. 0.070	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									
6	0.2	27.8		GOOD.	(+)0.10 - (+) 0.00	42-55	-	min-	-	-
7	0.2	19		GOOD.	GOOD.	49.52	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.	49.52	7.55	148-158	-	24.03

QC Supervisor: 秦会

东莞市强能金属有限公司

产品质量证明书

牌号	状态	规格	公差(mm)		重量(kg)	日期
			厚度	宽度		
C2680 (H65)	H	0.3*305	+0.01/-0.02	+0/-0.1	kg	2011-1-16
化学成份	元素	CU%	P%	Pb%	Fe%	Zn%
	标准	63.5-68	0.01	0.03	0.1	余量
	实际值	64.72	0.001	0.006	0.017	余量
成品性能	项目	抗拉强度 Mpa	延伸率 %	硬度值 HV	深冲值 mm	晶粒度 mm
	实际值	479	21.3	147		
执行标注:	GB/T2059-2000		检验员:	欧明端	质管部经理	覃中文
备注: 货到用户:请顾客在七天内提出供货质量异议我厂负责产品质量三包,超出七天后顾客反映供货质量异议,我厂概不负责.						

INSPECTION CERTIFICATE

ใบรับรองคุณภาพสินค้า



Thal Cold Rolled Steel Sheet Public Co., Ltd.
 Head office : 28/1 Prapawit Bldg. 5th floor Surasak road,
 Siom, Bangrak, Bangkok, 10500 Thailand
 Tel. (662) 630-0300 Fax. (662) 630-0321
 Plant office : 111 Moo 4 Maeraphueng District,
 Bangsaphan, Prachuabhinhan
 71140, Thailand
 Tel. (032) 548-375-81 Fax. (032) 548-382-3

V2071

Customer : GOLDEN ELECTRICAL TRADING CO., LTD
 Purchaser : MARUBUNI-ITOCHU STEEL PTE LTD BANGKOK BR
 Reference No. : EX0900
 Commodity : COLD REDUCED CARBON STEEL COIL
 Specification : SPCC-SD-OILED
 Size : 0.200 X 1000 X COIL

Certificate No. : 59117
 Page No. : 01 of 01
 Date : 24/10/2009
 Contract No. : C069B01-003

Coil No.	Quantity	Mass (Ton)	Chemical Composition (%)					Tensile Test				HRB	Heat No.		
			C	Si	Mn	P	S	Cr	N	YP	TS			EL	
424281	2	14.380	20	1	16	9	6								
42429	3	19.020	20	1	15	20	7								
TOTAL =	5	33.400													

We hereby certify that the material described herein has been tested and inspected with satisfactory results in accordance with the above specification.

Signature

A. Sjai

Manager of Technical and Quality Control, Department

Test Report

No. CANEC1201224802

Date: 21 Feb 2012

Page 1 of 5

DONGGUAN CITY XIANGJUN PLASTIC PRODUCTS LTD.
LANGZHOU INDUSTRIAL CHANGPING TOWN DONGGUAN GUANGDONG
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : PBTHB+GF BL

SGS Job No. : CP12-004641 - GZ
Date of Sample Received : 16 Feb 2012
Testing Period : 16 Feb 2012 - 21 Feb 2012
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).

Signed for and on behalf of
SGS-CSTC Ltd.



Trophy Zhang
Approved Signatory

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Test Report

No. CANEC1201224802

Date: 21 Feb 2012

Page 2 of 5

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	CAN12-012248.002	Blue plastic sheet

Remarks :

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

Elementary Analysis & Flame Retardants

Test Method : With reference to IEC 62321:2008

- (1) Determination of Cadmium by ICP-OES.
- (2) Determination of Lead by ICP-OES.
- (3) Determination of Mercury by ICP-OES.
- (4) Determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
- (5) Determination of PBBs / PBDEs content by GC-MS.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Cadmium (Cd)	mg/kg	2	ND
Lead (Pb)	mg/kg	2	ND
Mercury (Hg)	mg/kg	2	ND
Hexavalent Chromium (CrVI)	mg/kg	2	ND
Sum of PBBs	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	mg/kg	-	ND
Monobromodiphenyl ether	mg/kg	5	ND

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Test Report

No. CANEC1201224802

Date: 21 Feb 2012

Page 3 of 5

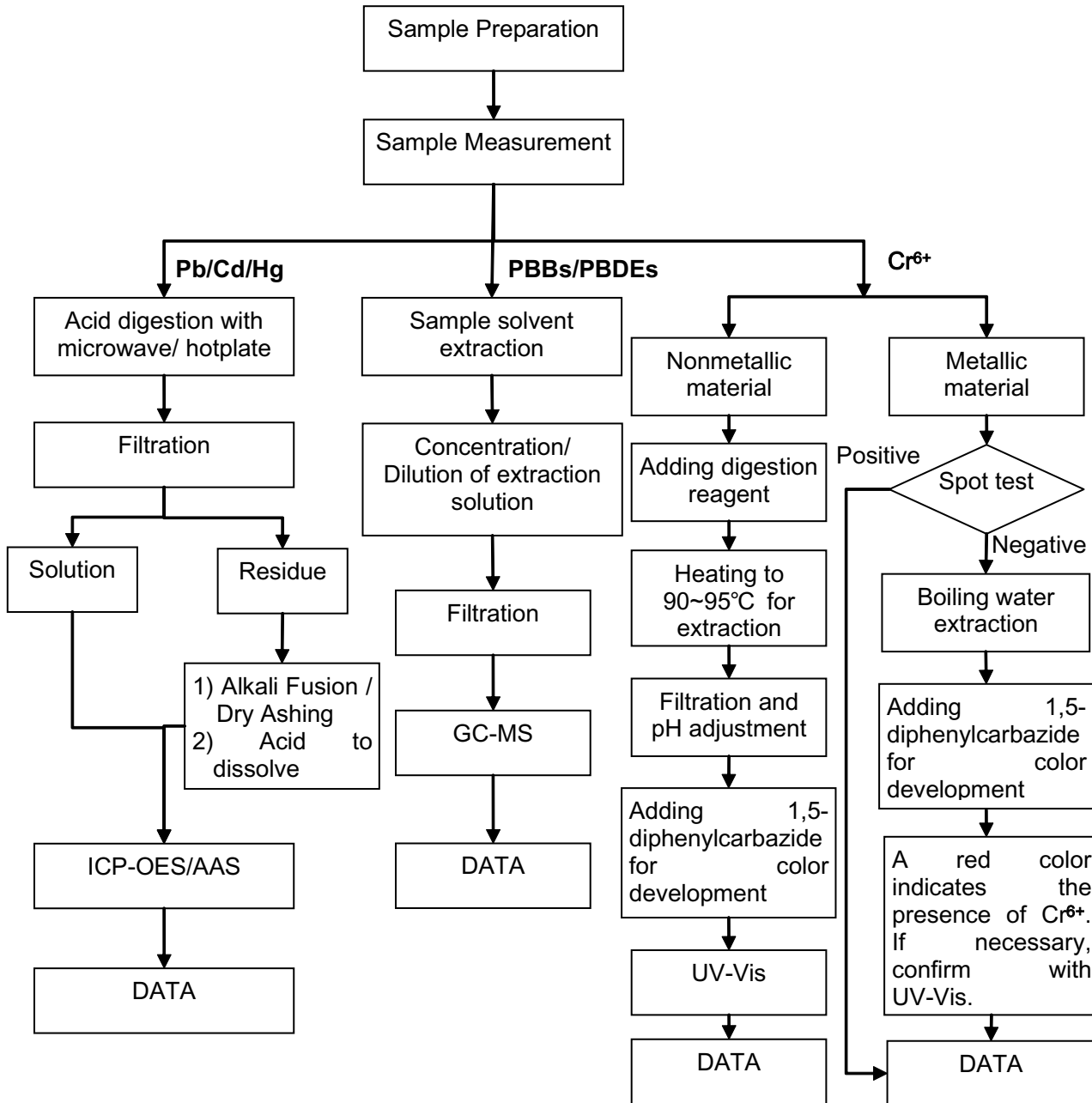
<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Dibromodiphenyl ether	mg/kg	5	ND
Tribromodiphenyl ether	mg/kg	5	ND
Tetrabromodiphenyl ether	mg/kg	5	ND
Pentabromodiphenyl ether	mg/kg	5	ND
Hexabromodiphenyl ether	mg/kg	5	ND
Heptabromodiphenyl ether	mg/kg	5	ND
Octabromodiphenyl ether	mg/kg	5	ND
Nonabromodiphenyl ether	mg/kg	5	ND
Decabromodiphenyl ether	mg/kg	5	ND

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ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Bella Wang / Cutey Yu / Ross Zhan
- 2) Name of the person in charge of testing: Adams Yu / Ryan Yang
- 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

*** End of Report ***

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测试报告

No. CANEC1103662202

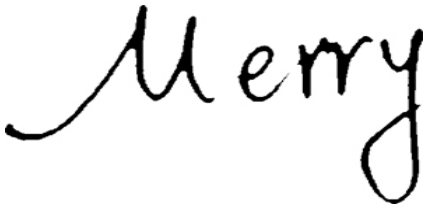
日期: 2011年09月27日 第1页,共4页

深圳市华联威电子科技有限公司
中国深圳市宝安区观澜福民丹坑村润塘工业区6栋

以下测试之样品是由申请者所提供及确认:
C2680 黄铜端子

SGS工作编号 : 13365904 - GZ
测试样品信息 : A/F 双层端子
客户参考信息 : USB系列端子,D-SUB系列端子,RJ45 系列端子,音频JACK 系列端子,1394 系列端子
供应商 : 深圳市宏鑫表面处理有限公司
内部编号 : 12.2
样品接收日期 : 2011年09月22日
测试周期 : 2011年09月22日 - 2011年09月27日
测试要求 : 根据客户要求测试
测试方法 : 请参见下一页
测试结果 : 请参见下一页
结论 : 基于所送样品进行的测试,铅、镉、汞、六价格的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求。

通标标准技术服务有限公司
授权签名



Merry Lv 吕爱凤
批准签署人

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测试报告

No. CANEC1103662202

日期: 2011年09月27日 第2页,共4页

测试结果:

样品1 ID : CAN11-036622.001
 样品1描述 : 带有银灰色/浅金色镀层的金属

RoHS指令2011/65/EU

测试项目	单位	测试方法 (参考)	测试结果	MDL	限值
镉 (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
铅 (Pb)	mg/kg	IEC 62321:2008, ICP-OES	11	2	1000
汞 (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
沸水萃取法测六价铬 (CrVI)	-	IEC 62321:2008, UV-Vis	Negative	◇	#

注释:

1. mg/kg = ppm
2. N.D. = 未检出 (< MDL)
3. MDL = 方法检测限
4. ◇=点测试:

Negative = 未检测到六价铬, Positive = 检测到六价铬;

(如果点测试结果为Negative或不能确认, 测试样品需进一步由沸水萃取法进行测试)。

沸水萃取法:

Negative = 未检测到六价铬

Positive = 检测到六价铬; 每50cm²表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于0.02mg/kg。

由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

5. # Positive = 阳性

Negative = 阴性

6. "-" = 未规定

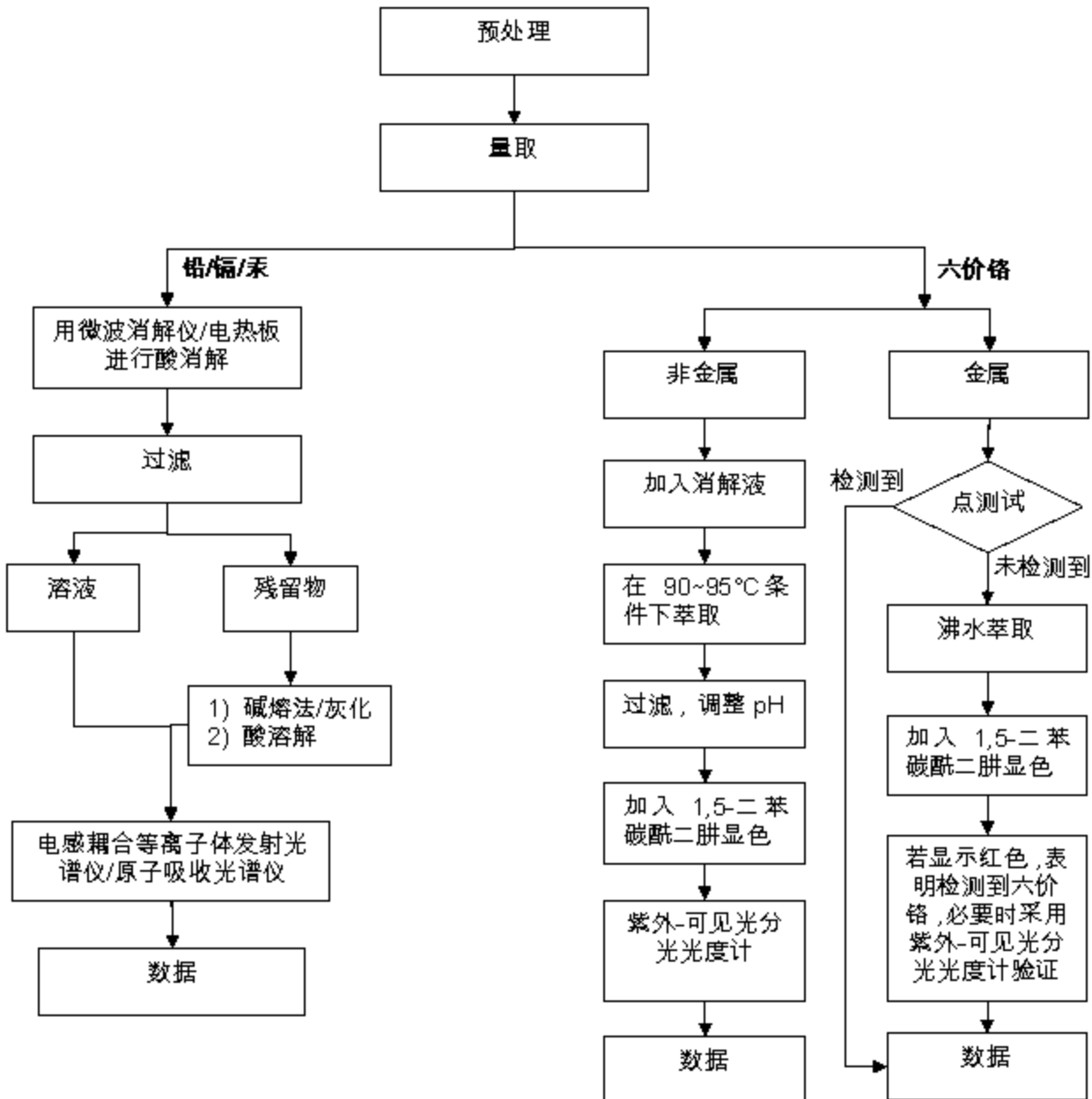
备注: 本测试报告内容是参照报告编号为CANEC1103662201的中文译本, 中英文版本如有歧异, 概以英文版为准。

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附件

RoHS 测试流程图

- 1) 分析人员: 汪丹 / 詹达琦
- 2) 项目负责人: 余奕东
- 3) 样品按照下述流程被完全消解 (六价铬测试除外)



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测试报告

No. CANEC1103662202

日期: 2011年09月27日 第4页,共4页

样品照片:



此照片仅限于随SGS正本报告使用
*** 报告完 ***

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测试报告

No. CANEC1103662212

日期: 2011年09月27日 第1页,共4页

深圳市华联威电子科技有限公司
中国深圳市宝安区观澜福民丹坑村润塘工业区6栋

以下测试之样品是由申请者所提供及确认:

铜壳 C2680

SGS工作编号 : 13365904 - GZ
测试样品信息 : HDMI 铜壳
客户参考信息 : USB 系列铜壳,HDMI 系列铜壳,1394系列铜壳
供应商 : 东莞市强能金属有限公司
内部编号 : 12.12
样品接收日期 : 2011年09月22日
测试周期 : 2011年09月22日 - 2011年09月27日

测试要求 : 根据客户要求测试

测试方法 : 请参见下一页

测试结果 : 请参见下一页

结论 : 基于所送样品进行的测试,铅、镉、汞、六价格的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求。

通标标准技术服务有限公司
授权签名



Merry Lv吕爱凤
批准签署人

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测试报告

No. CANEC1103662212

日期: 2011年09月27日 第2页,共4页

测试结果:

样品1 ID : CAN11-036622.006
样品1描述 : 银灰色金属

RoHS指令2011/65/EU

测试项目	单位	测试方法 (参考)	测试结果	MDL	限值
镉 (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
铅 (Pb)	mg/kg	IEC 62321:2008, ICP-OES	140	2	1000
汞 (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
沸水萃取法测六价铬 (CrVI)	-	IEC 62321:2008, UV-Vis	Negative	◇	#

注释:

1. mg/kg = ppm
2. N.D. = 未检出 (< MDL)
3. MDL = 方法检测限
4. ◇=点测试:

Negative = 未检测到六价铬, Positive = 检测到六价铬;

(如果点测试结果为Negative或不能确认, 测试样品需进一步由沸水萃取法进行测试)。

沸水萃取法:

Negative = 未检测到六价铬

Positive = 检测到六价铬; 每50cm²表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于0.02mg/kg。

由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

5. # Positive = 阳性

Negative = 阴性

6. "-" = 未规定

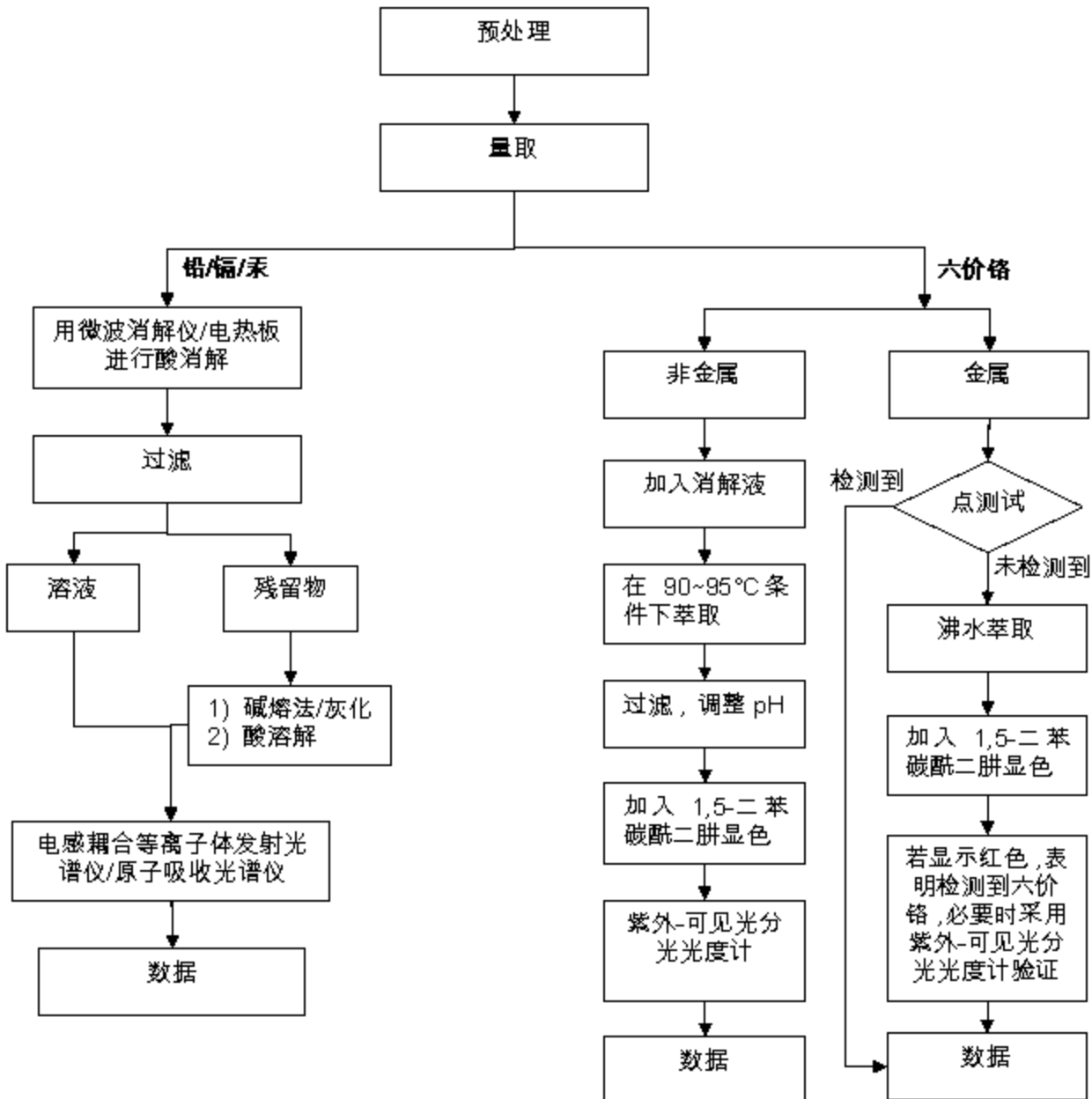
备注: 本测试报告内容是参照报告编号为CANEC1103662211 的中文译本, 中英文版本如有歧异, 概以英文版为准。

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附件

RoHS 测试流程图

- 1) 分析人员: 汪丹 / 詹达琦
- 2) 项目负责人: 余奕东
- 3) 样品按照下述流程被完全消解 (六价铬测试除外)



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测试报告

No. CANEC1103662212

日期: 2011年09月27日 第4页,共4页

样品照片:



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测试报告

No. CANEC1103662210

日期: 2011年09月27日 第1页,共4页

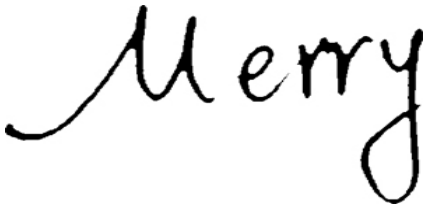
深圳市华联威电子科技有限公司
中国深圳市宝安区观澜福民丹坑村润塘工业区6栋

以下测试之样品是由申请者所提供及确认:

铁壳

SGS工作编号 : 13365904 - GZ
测试样品信息 : A/F 双层铁壳
客户参考信息 : USB 系列铁壳,PS2 系列铁壳,RJ45 系列铁壳,音频 JACK 系列铁壳,D-SUB 系列铁壳,1394 系列铁壳
供应商 : 铭丰金属材料有限公司
内部编号 : 12.10
样品接收日期 : 2011年09月22日
测试周期 : 2011年09月22日 - 2011年09月27日
测试要求 : 根据客户要求测试
测试方法 : 请参见下一页
测试结果 : 请参见下一页
结论 : 基于所送样品进行的测试,铅、镉、汞、六价格的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求。

通标标准技术服务有限公司
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Merry Lv 吕爱凤
批准签署人

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测试报告

No. CANEC1103662210

日期: 2011年09月27日 第2页,共4页

测试结果:

样品1 ID : CAN11-036622.005
样品1描述 : 银灰色金属

RoHS指令2011/65/EU

测试项目	单位	测试方法 (参考)	测试结果	MDL	限值
镉 (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
铅 (Pb)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
汞 (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
沸水萃取法测六价铬 (CrVI)	-	IEC 62321:2008, UV-Vis	Negative	◇	#

注释:

1. mg/kg = ppm
2. N.D. = 未检出 (< MDL)
3. MDL = 方法检测限
4. ◇=点测试:

Negative = 未检测到六价铬, Positive = 检测到六价铬;

(如果点测试结果为Negative或不能确认, 测试样品需进一步由沸水萃取法进行测试)。

沸水萃取法:

Negative = 未检测到六价铬

Positive = 检测到六价铬; 每50cm²表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于0.02mg/kg。

由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅能代表测试时样品含六价铬的状态。

5. # Positive = 阳性

Negative = 阴性

6. "-" = 未规定

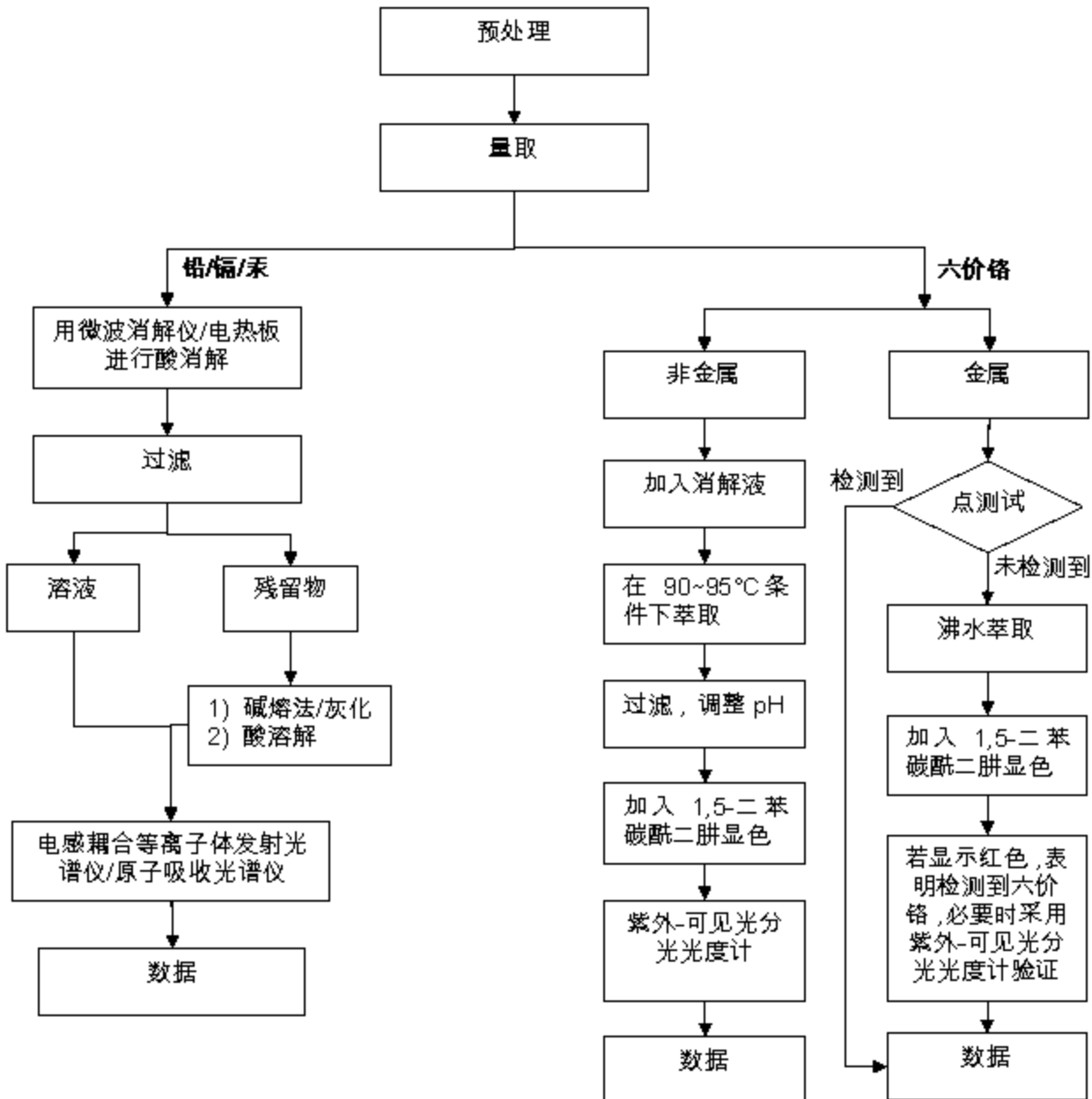
备注: 本测试报告内容是参照报告编号为CANEC1103662209的中文译本, 中英文版本如有歧异, 概以英文版为准。

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附件

RoHS 测试流程图

- 1) 分析人员: 汪丹 / 詹达琦
- 2) 项目负责人: 余奕东
- 3) 样品按照下述流程被完全消解 (六价铬测试除外)



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测试报告

No. CANEC1103662210

日期: 2011年09月27日 第4页,共4页

样品照片:



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测试报告

No. GZ1109127163/CHEM

日期：2011年10月11日 第1页，共5页

伟尔普五金制品(深圳)有限公司
深圳市宝安区西乡镇固戍三围华丰工业园十栋

以下测试之样品是由申请者所提供及确认：电镀镍

SGS 工作编号 : CP11-001461-SZ
SGS 内部编号 : 12.6
客户参考信息 : 主要成份：镍
收样日期 : 2011年9月30日
测试周期 : 2011年9月30日 - 2011年10月11日
测试要求 : 根据客户选择测试。
测试方法 : 见后续页。
测试结果 : 见后续页。

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Alison Zhang 张心颖
批准签署人

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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

Member of the SGS Group (SGS SA)

测试结果:

测试部件外观描述:

样品编号	SGS 样品 ID	描述
1	GZ1109127159.001	银灰色金属片(镀层)

备注:

- (1) 1mg/kg=1ppm=0.0001%
- (2) MDL = 检测极限值
- (3) ND = 未检测出 (< MDL)
- (4) “-” = 未规定

元素分析和阻燃剂

测试方法: 参考 IEC 62321:2008:

- (1) 用 ICP-OES 测定镉的含量
- (2) 用 ICP-OES 测定铅的含量
- (3) 用 ICP-OES 测定汞的含量
- (4) 用点测试法/紫外-可见分光光度计比色法测定六价铬的含量
- (5) 用 GC-MS 测定 PBBs(多溴联苯)和 PBDEs(多溴二苯醚) 的含量

测试项目:	单位	MDL	001
镉(Cd)	mg/kg	2	ND
铅 (Pb)	mg/kg	2	ND
汞 (Hg)	mg/kg	2	ND
六价铬(Cr(VI))	-	◇	Negative
多溴联苯(PBBs)之和	mg/kg	-	ND
一溴联苯	mg/kg	5	ND
二溴联苯	mg/kg	5	ND
三溴联苯	mg/kg	5	ND
四溴联苯	mg/kg	5	ND
五溴联苯	mg/kg	5	ND
六溴联苯	mg/kg	5	ND
七溴联苯	mg/kg	5	ND
八溴联苯	mg/kg	5	ND
九溴联苯	mg/kg	5	ND
十溴联苯	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	mg/kg	-	ND
一溴二苯醚	mg/kg	5	ND
二溴二苯醚	mg/kg	5	ND

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测试报告

No. GZ1109127163/CHEM

日期：2011年10月11日 第3页，共5页

三溴二苯醚	mg/kg	5	ND
四溴二苯醚	mg/kg	5	ND
五溴二苯醚	mg/kg	5	ND
六溴二苯醚	mg/kg	5	ND
七溴二苯醚	mg/kg	5	ND
八溴二苯醚	mg/kg	5	ND
九溴二苯醚	mg/kg	5	ND
十溴二苯醚	mg/kg	5	ND

备注：

(1) ◇点测试法：

Negative= 镀层中未检测到六价铬，**Positive** = 镀层中检测到六价铬；

(当点测试结果为 **Negative** 或无法确定时，将用沸水萃取法作进一步的结果验证。)

◇沸水萃取法：

Negative = 镀层中未检测到六价铬

Positive = 镀层中检测到六价铬；表明 50 cm² 表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于 0.02 mg/kg

针对金属表面的防腐涂层：由于未获知样品的存储条件和生产日期，样品的六价铬测试结果仅代表测试时样品的状态。

(2) 本测试报告内容是参照报告编号为 GZ1109127162/CHEM 的中文译本，中英文版本如有歧异，概以英文版为准。

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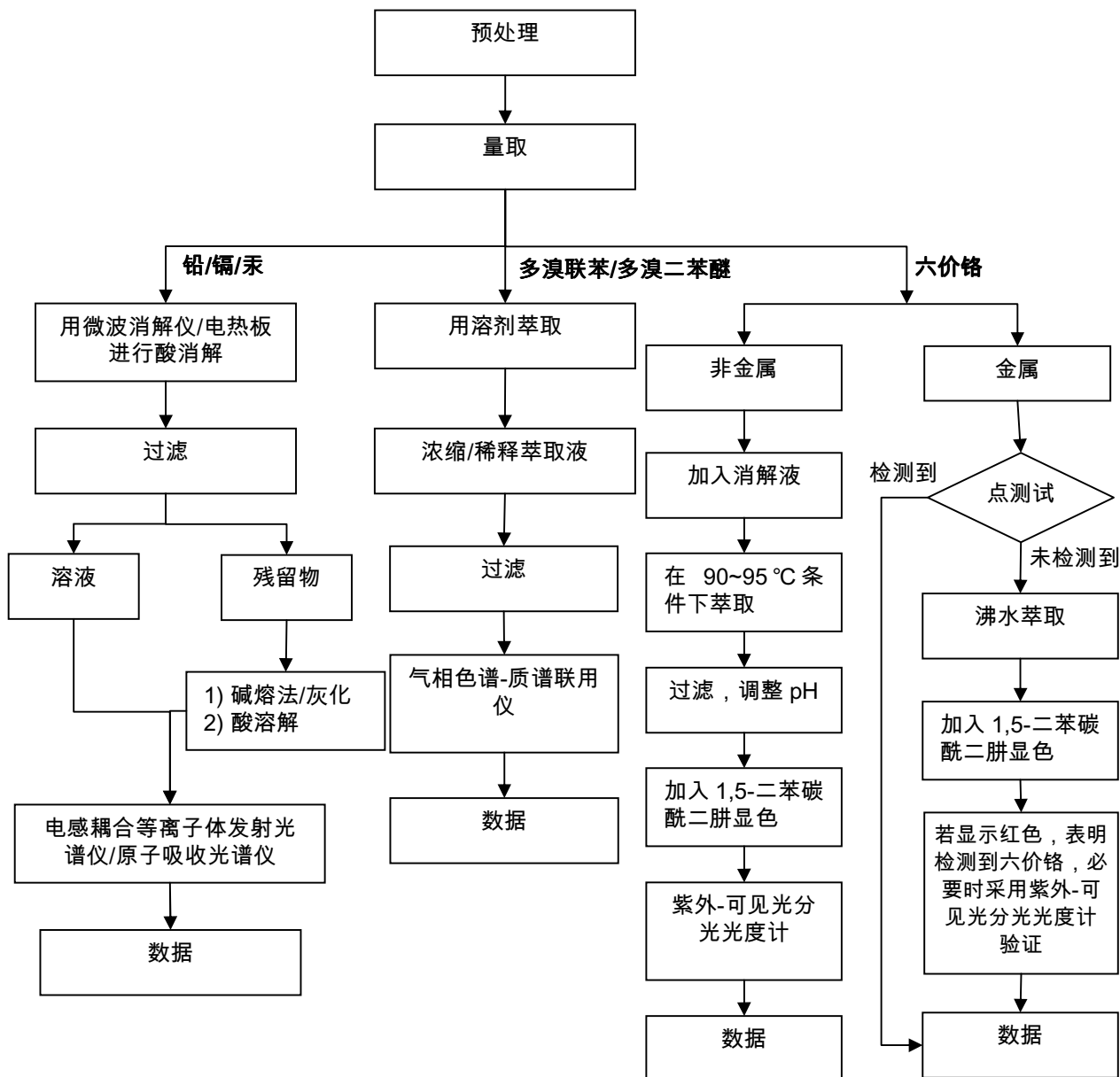


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附件

RoHS 测试流程图

- 1) 分析人员：汪丹 / 余晓璐 / 詹达琦
- 2) 项目负责人：余奕东 / 杨伟兴
- 3) 样品按照下述流程被完全消解（六价铬和多溴联苯/多溴二苯醚测试除外）。



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测试报告

No. GZ1109127159/CHEM

日期：2011年10月11日 第1页，共5页

伟尔普五金制品(深圳)有限公司
深圳市宝安区西乡镇固戍三围华丰工业园十栋

以下测试之样品是由申请者所提供及确认：电镀金

SGS 工作编号 : CP11-001461-SZ
SGS 内部编号 : 12.2
客户参考信息 : 主要成份：金
收样日期 : 2011年9月30日
测试周期 : 2011年9月30日 - 2011年10月11日
测试要求 : 根据客户选择测试。
测试方法 : 见后续页。
测试结果 : 见后续页。

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Alison Zhang 张心颖
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Member of the SGS Group (SGS SA)

测试结果:

测试部件外观描述:

样品编号	SGS 样品 ID	描述
1	GZ1109127159.001	带银灰色衬背的金色金属片(镀层)

备注:

- (1) 1mg/kg=1ppm=0.0001%
- (2) MDL = 检测极限值
- (3) ND = 未检测出 (< MDL)
- (4) "-" = 未规定

元素分析 和阻燃剂

测试方法: 参考 IEC 62321:2008:

- (1) 用 ICP-OES 测定镉的含量
- (2) 用 ICP-OES 测定铅的含量
- (3) 用 ICP-OES 测定汞的含量
- (4) 用点测试法/紫外-可见分光光度计比色法测定六价铬的含量
- (5) 用 GC-MS 测定 PBBs(多溴联苯)和 PBDEs(多溴二苯醚) 的含量

测试项目:	单位	MDL	001
镉(Cd)	mg/kg	2	ND
铅 (Pb)	mg/kg	2	7
汞 (Hg)	mg/kg	2	ND
六价铬(Cr(VI))	-	◇	Negative
多溴联苯(PBBs)之和	mg/kg	-	ND
一溴联苯	mg/kg	5	ND
二溴联苯	mg/kg	5	ND
三溴联苯	mg/kg	5	ND
四溴联苯	mg/kg	5	ND
五溴联苯	mg/kg	5	ND
六溴联苯	mg/kg	5	ND
七溴联苯	mg/kg	5	ND
八溴联苯	mg/kg	5	ND
九溴联苯	mg/kg	5	ND
十溴联苯	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	mg/kg	-	ND
一溴二苯醚	mg/kg	5	ND
二溴二苯醚	mg/kg	5	ND

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测试报告

No. GZ1109127159/CHEM

日期：2011年10月11日 第3页，共5页

三溴二苯醚	mg/kg	5	ND
四溴二苯醚	mg/kg	5	ND
五溴二苯醚	mg/kg	5	ND
六溴二苯醚	mg/kg	5	ND
七溴二苯醚	mg/kg	5	ND
八溴二苯醚	mg/kg	5	ND
九溴二苯醚	mg/kg	5	ND
十溴二苯醚	mg/kg	5	ND

备注：

(1) ◇点测试法：

Negative= 镀层中未检测到六价铬，**Positive** = 镀层中检测到六价铬；(当点测试结果为 **Negative** 或无法确定时，将用沸水萃取法作进一步的结果验证。)

◇沸水萃取法：

Negative = 镀层中未检测到六价铬**Positive** = 镀层中检测到六价铬；表明 50 cm² 表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于 0.02 mg/kg

针对金属表面的防腐涂层：由于未获知样品的存储条件和生产日期，样品的六价铬测试结果仅代表测试时样品的状态。

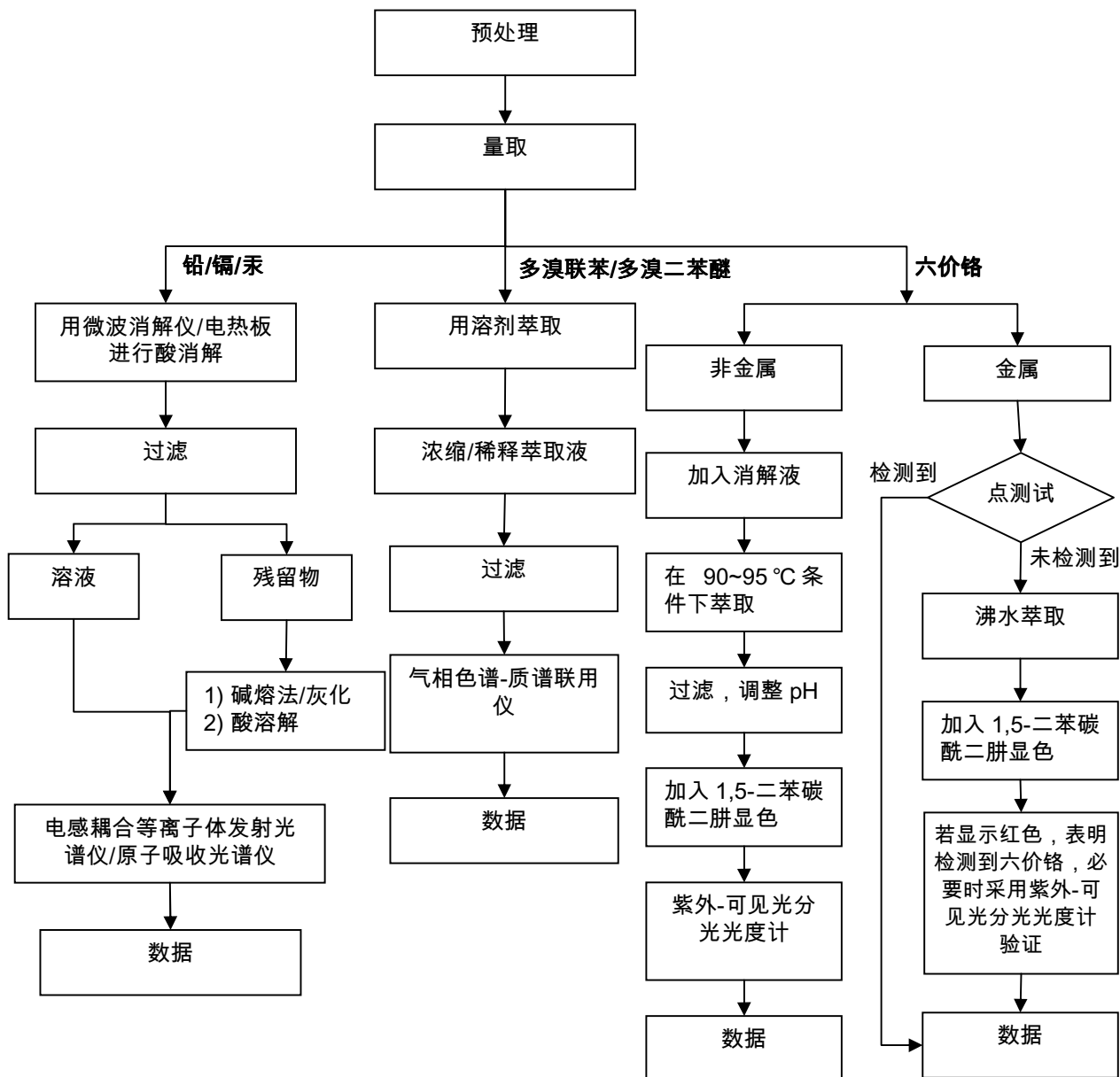
(2) 本测试报告内容是参照报告编号为 GZ1109127158/CHEM 的中文译本，中英文版本如有歧异，概以英文版为准。

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附件

RoHS 测试流程图

- 1) 分析人员：汪丹 / 余晓璐 / 詹达琦
- 2) 项目负责人：余奕东 / 杨伟兴
- 3) 样品按照下述流程被完全消解（六价铬和多溴联苯/多溴二苯醚测试除外）。



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样品照片：



此图片仅限于随 SGS 正本报告使用

*** 报告完 ***

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测试报告

No. CANEC1201695304

日期: 2012年03月02日 第1页,共6页

伟尔普五金制品(深圳)有限公司
中国深圳市宝安区西乡镇固戍三围华丰工业园九,十栋

以下测试之样品是由申请者所提供及确认: 电镀锡

SGS工作编号: CP12-006260 - SZ
样品接收日期: 2012年02月27日
测试周期: 2012年02月27日 - 2012年03月02日
测试要求: 根据客户要求测试
测试方法: 请参见下一页
测试结果: 请参见下一页
结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬、多溴联苯(PBB)、多溴二苯醚(PBDE)的测试结果符合欧盟RoHS指令2002/95/EC的重订指令2011/65/EU附录II的限值要求

通标标准技术服务有限公司
授权签名



Kenny Wang 王伟利
批准签署人

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测试报告

No. CANEC1201695304

日期: 2012年03月02日

第2页,共6页

测试结果:

样品部件外观描述:

样品编号	SGS样品ID	描述
1	CAN12-016953.001	带银色镀层的金属

备注:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = 方法检测限
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

RoHS 指令 2011/65/EU

测试方法: 参考IEC 62321:2008:

- (1) 用ICP-OES测定镉的含量.
- (2) 用ICP-OES测定铅的含量.
- (3) 用ICP-OES测定汞的含量.
- (4) 用点测试法/紫外-可见分光光度计比色法测定六价铬的含量
- (5) 用GC-MS测定PBBs(多溴联苯)和PBDEs(多溴二苯醚)的含量

测试项目	限值	单位	MDL	001
镉(Cd)	100	mg/kg	2	ND
铅(Pb)	1,000	mg/kg	2	14
汞(Hg)	1,000	mg/kg	2	ND
六价铬(Cr(VI))	-	-	◇	阴性
多溴联苯之和(PBBs)	1,000	mg/kg	-	ND
一溴联苯	-	mg/kg	5	ND
二溴联苯	-	mg/kg	5	ND
三溴联苯	-	mg/kg	5	ND
四溴联苯	-	mg/kg	5	ND
五溴联苯	-	mg/kg	5	ND
六溴联苯	-	mg/kg	5	ND
七溴联苯	-	mg/kg	5	ND
八溴联苯	-	mg/kg	5	ND
九溴联苯	-	mg/kg	5	ND
十溴联苯	-	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	1,000	mg/kg	-	ND
一溴二苯醚	-	mg/kg	5	ND

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测试报告

No. CANEC1201695304

日期: 2012年03月02日

第3页,共6页

测试项目	限值	单位	MDL	001
二溴二苯醚	-	mg/kg	5	ND
三溴二苯醚	-	mg/kg	5	ND
四溴二苯醚	-	mg/kg	5	ND
五溴二苯醚	-	mg/kg	5	ND
六溴二苯醚	-	mg/kg	5	ND
七溴二苯醚	-	mg/kg	5	ND
八溴二苯醚	-	mg/kg	5	ND
九溴二苯醚	-	mg/kg	5	ND
十溴二苯醚	-	mg/kg	5	ND

备注:

- (1) 最大允许极限值引用自指令2011/65/EU 附录II
- (2) ◇ =a. 阴性为未检测到六价铬;
b. 阳性为检测到六价铬.

针对金属表面的防腐涂层: 由于未获知样品的存储条件和生产日期, 样品的六价铬测试结果仅代表测试时样品的状态.

全氟辛烷磺酰基化合物(PFOS)和全氟辛酸(PFOA)

测试方法: 参照US EPA 3550C: 2007方法测定, 采用HPLC-MS进行分析.

测试项目	限值	单位	MDL	001
全氟辛烷磺酰基化合物 (PFOS)- 酸,金属盐和酰胺	-	µg/m ²	1	ND
全氟辛酸 (PFOA)	-	µg/m ²	1	ND

备注:

- (1) PFOS 参考信息: 1907/2006/EC Reach附录XVII的修正指令——552/2009/EC第53条 (前身为2006/122/EC)
 - (i) PFOS作为纯物质或者制备原料时,若浓度大于等于0.005%(重量)则不可以投放市场.
 - (ii) PFOS用于半成品、成品或零部件时,若浓度大于等于0.1%(参照明确含有PFOS结构或者微结构部分重量计算)则不可以投放市场; 对于纺织品或其它涂层材料, 若PFOS的含量大于或等于1µg/m²(相对于涂层部分)则不可以投放市场.
- 详细信息请参见Regulation (EC) No 552/2009

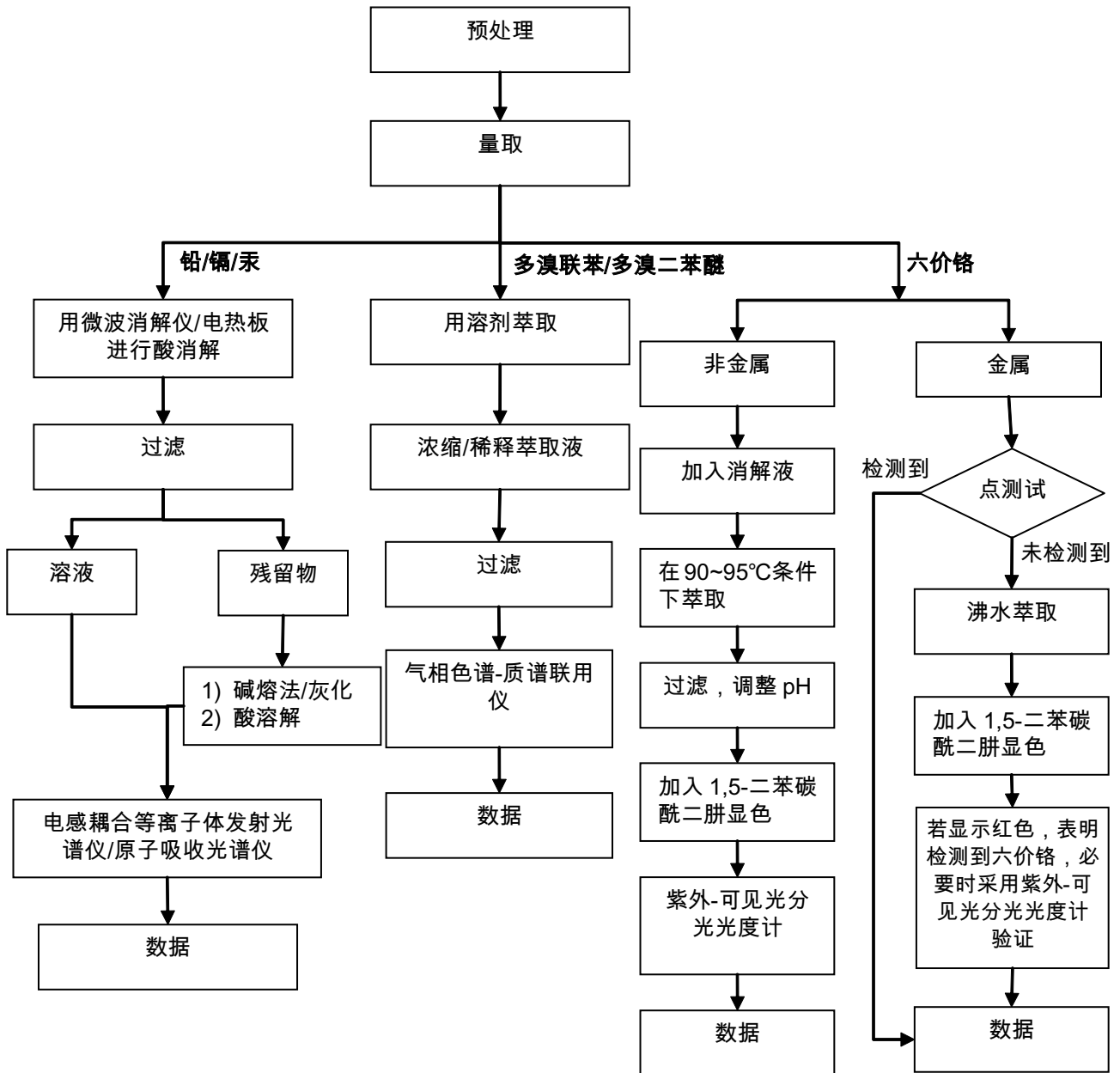
备注: 本测试报告内容是参照报告编号为CANEC1201695303的中文译本, 中英文版本如有歧异, 概以英文版为准.

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附件

RoHS 测试流程图

- 1) 分析人员: 汪丹 / 余晓璐 / 詹达琦
- 2) 项目负责人: 余奕东 / 杨伟兴
- 3) 样品按照下述流程被完全消解 (六价铬和多溴联苯/多溴二苯醚测试除外)。



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