

Specification For Approval

Date: 2012 / 03 / 21

File No.: 120321005

Version: 1.0

Customer : 多威通信系统（上海）有限公司

Customer P/N : /

INVAX P/N : NB0250-A

Description : Antenna

Cortec Checked By:



Customer Approved By:



INVAX System Technology Corp.
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Product Number: NB0250-A

Product Name: Antenna



1. Specification

Sample Photo



A. Electrical Characteristics

Frequency	2400 ~ 2500 MHz
S.W.R.	<= 2.0
Efficiency (by dBi)	- 4.9 ~ - 3.6 dBi
Efficiency (by %)	32 ~ 42 %
Peak Gain (dBi)	+ 0.6 ~ + 1.5 dBi
Polarization	Linear
Impedance	50 Ohm
Antenna Type	PIFA

B. Material & Mechanical Characteristics

Material of Radiator	ZSNH
Cable Type	O.D. 1.13 mm
Connector Type	Mini Connector for O.D. 1.13 mm Coaxial Cable
Pull Test	>= 1.0 Kg

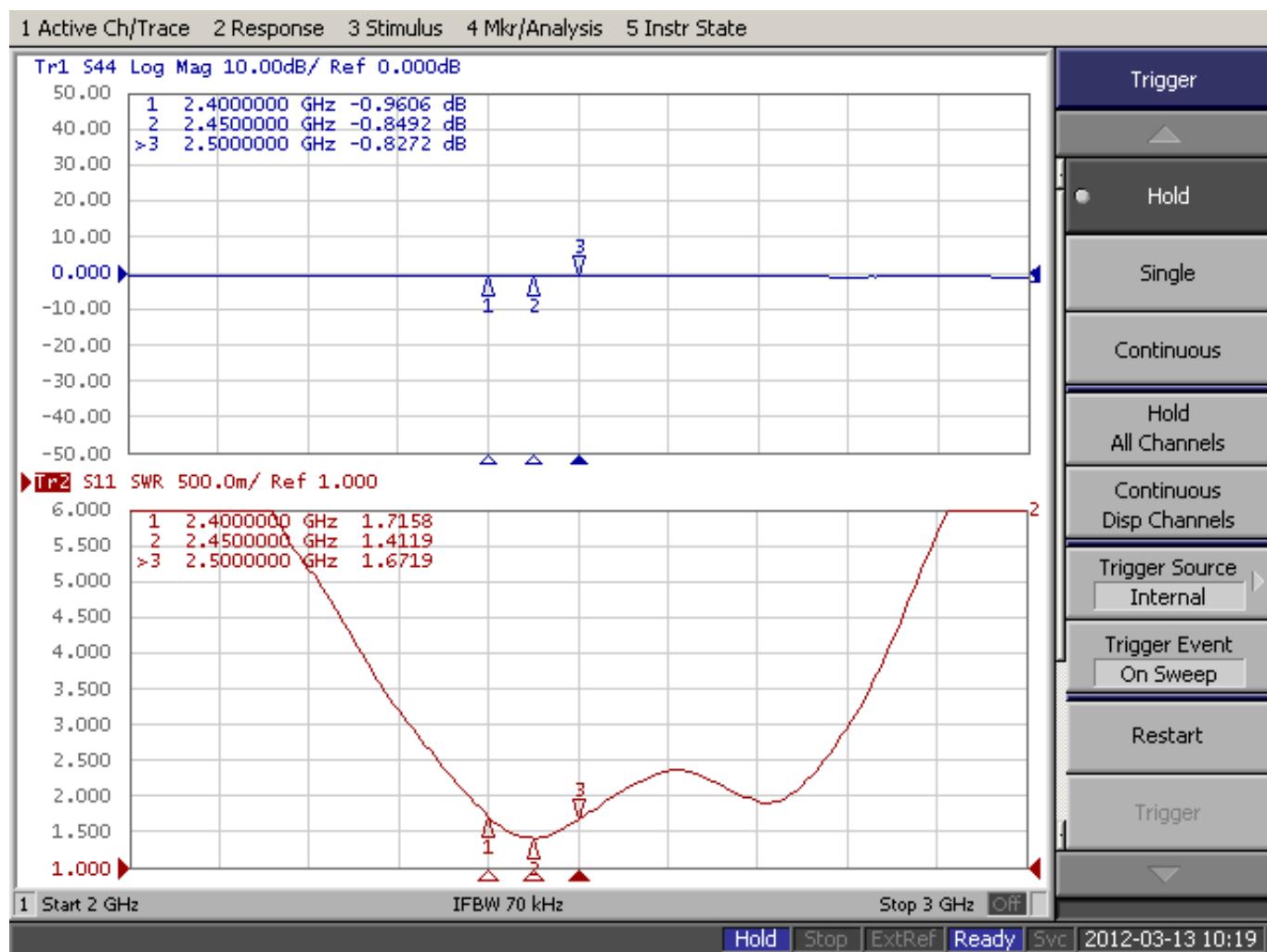
C. Environmental

Operation Temperature	- 40 °C ~ + 65 °C
Storage Temperature	- 40 °C ~ + 80 °C

2. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	GB / T2423 . 48-1997 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80 to 20 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol.<= 5%
M2	Random Drop	GB / T2423.8-1995 Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<= 5%
M3	Solderability	GB 2423 . 28- 82 Solder iron: 260±5°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M5	Terminal-Torque Test	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	GB / T 2423 . 17- 93 Temp: 35°C; RH: >= 95%; NaCl solution: >= 5%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E2	Humidity	GB / T 2423 . 4 - 93 Temp: 80°C / 12 H; -40°C / 12H RH: >= 90%; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E3	Thermal Shock	GB / T 2423 . 22 - 87 1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
E4	Life (High Temp.)	GB /T 2423 . 2 - 89 Temp: 80°C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<= 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2002/95/EC
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

3. Antenna - S Parameter Test Data

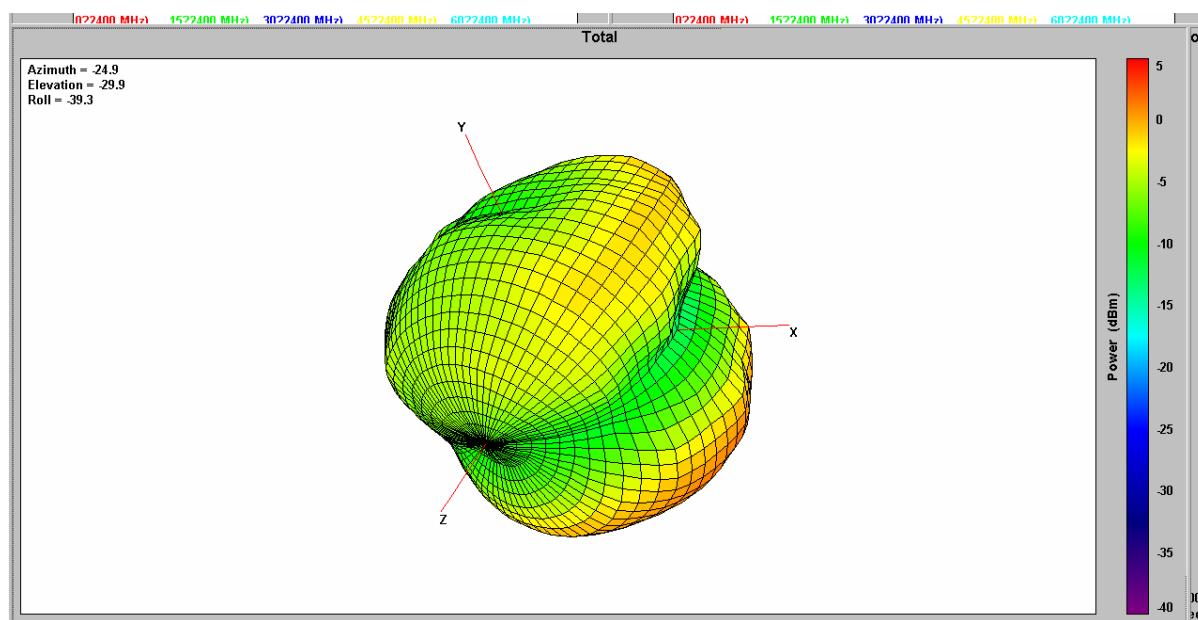


Product Number: NB0250-A

Product Name: Antenna

Cortec®

4. Antenna - Radiation Pattern Test Data



Point Values	Ant. Port Input Pwr. (dBm)	Tot. Rad. Pwr. (dBm)	Peak EIRP (dBm)	Directivity (dBi)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
Frequency (MHz)							
2400	0	-4.92468	0.65103	5.57571	-4.92468	32.176	0.65103
2410	0	-4.84417	0.725057	5.56922	-4.84417	32.7781	0.725057
2420	0	-4.72421	0.908867	5.63308	-4.72421	33.6961	0.908867
2430	0	-4.79518	0.879568	5.67475	-4.79518	33.1499	0.879568
2440	0	-4.71706	1.01374	5.73079	-4.71706	33.7516	1.01374
2450	0	-4.47182	1.24149	5.71331	-4.47182	35.7123	1.24149
2460	0	-4.2834	1.40321	5.68661	-4.2834	37.2958	1.40321
2470	0	-4.03564	1.58825	5.62389	-4.03564	39.4854	1.58825
2480	0	-3.93824	1.53074	5.46898	-3.93824	40.3809	1.53074
2490	0	-3.72139	1.58049	5.30188	-3.72139	42.4483	1.58049
2500	0	-3.69903	1.41782	5.11685	-3.69903	42.6675	1.41782

5. Mechanical Drawing

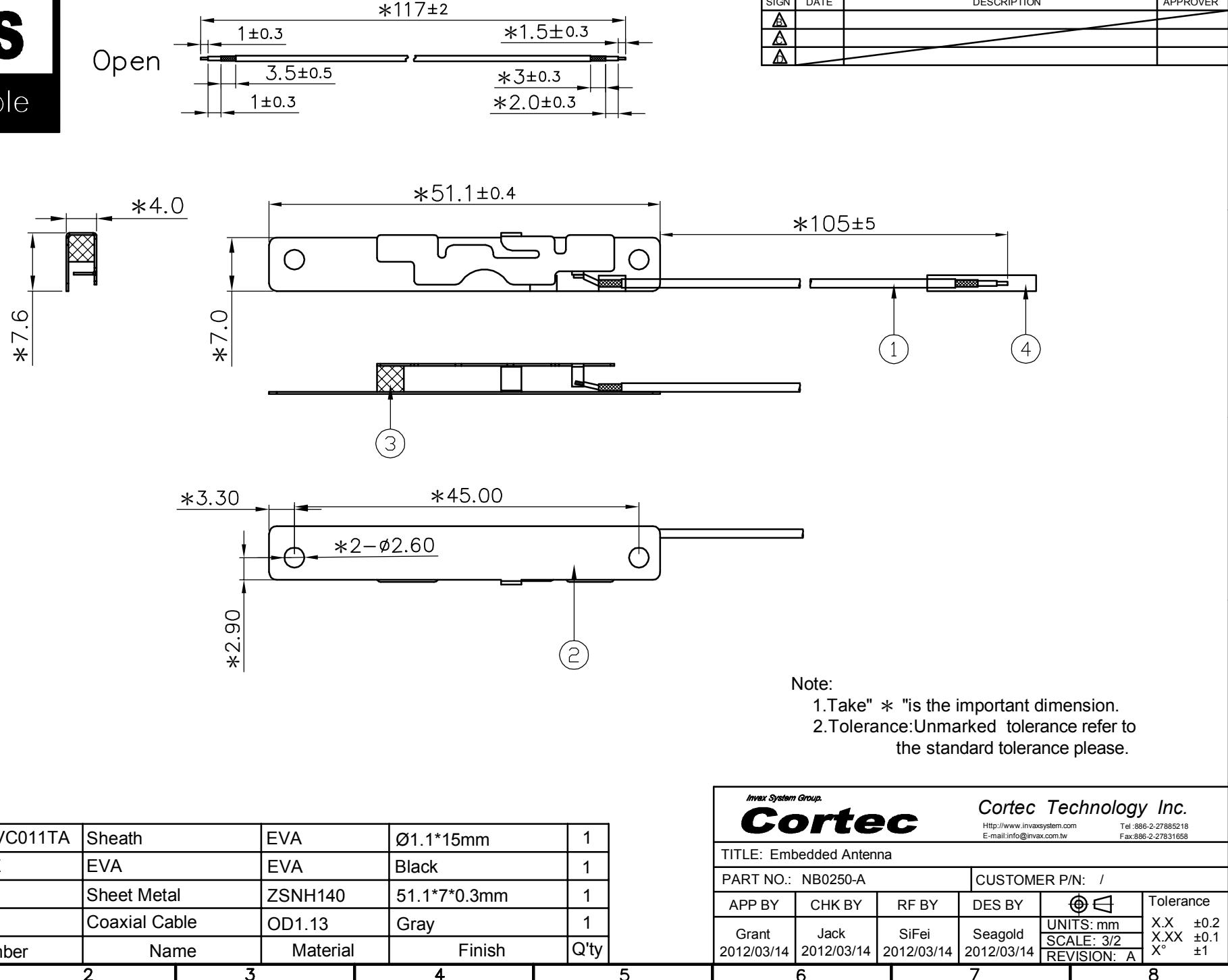
See attached files

6. Material Description and RoHS Test Report

See attached files

RoHS

Compatible



Invox System Group.
Cortec

TITLE: Embedded Antenna

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PART NO.: NB0250-A

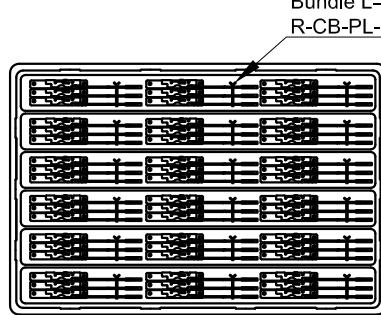
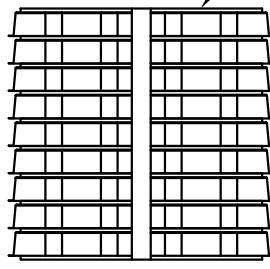
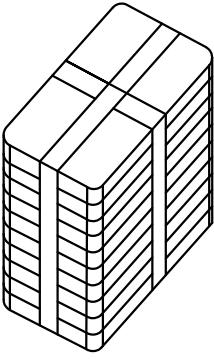
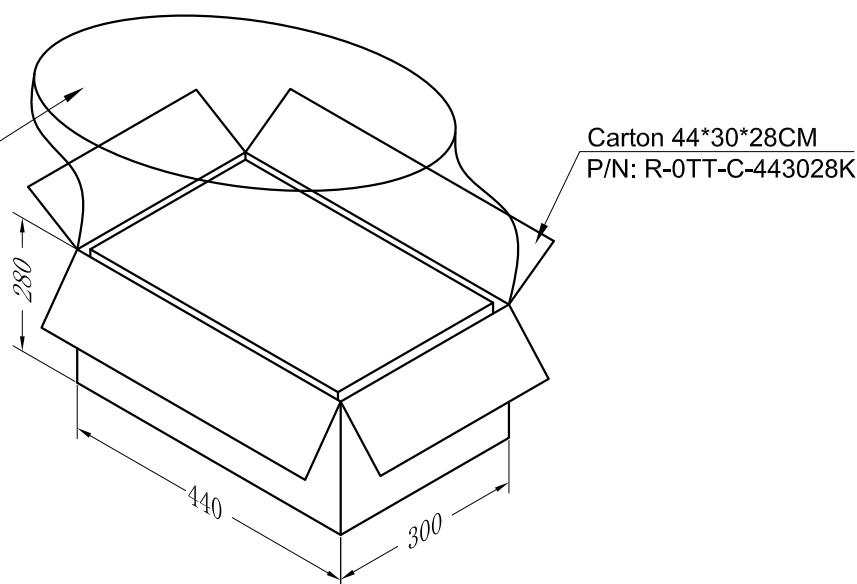
CUSTOMER P/N: /

APP BY	CHK BY	RF BY	DES BY	Tolerance
Grant 2012/03/14	Jack 2012/03/14	SiFei 2012/03/14	Seagold 2012/03/14	UNITS: mm SCALE: 3/2 REVISION: A
				X.X ±0.2 X.XX ±0.1 X° ±1

產品包裝規範

PACKING CRITERION



Part Number : NB0250-A	Revision : A
Name: Embedded Antenna	Customer : 多威
1. 180 PCS/per Tray	
	
	
2. 1800 PCS/per Bundle	
	
3. 1800 PCS/per Carton	
	
	
	
	

請輸入以下報告正確資料及檢查碼以便查核

1. 報告編號
2. 報告日期 (YYYY/MM/DD)
3. 產品名稱 (輸入前 10 個字不含空白)
4. 圖示檢查碼 (依指示畫面)



康捷電子有限公司	
填表：	時麗
部門：	研發部
職務：	文員

物料中HSF對象物質含量調查表

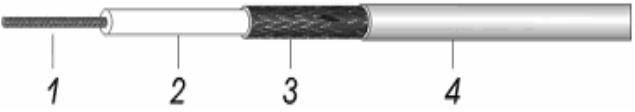
物料名稱：NB0250-A

序號	物料型號	物料各構成名稱	各構成物料的材質	測試報告裡RoHS對應物質測試結果						檢測報告編號	測試日期	測試名稱	測試機構名稱
				Cd	Pb	Hg	Cr(VI)	PBBs	PBDEs				
1	NB0250-A01	sheet Metal	ZSNH	N.D.	N.D.	N.D.	Negative	N.D.	N.D.	CE/2011/B1565	2011.11.15	鋅錫鎳合金	SGS
2	GS-IVX0005-E	EVA	EVA	N.D.	19	N.D.	N.D.	N.D.	N.D.	CANEC1201490109	2012.02.27	Environmental	SGS
3	R-HSTUBE-PVC011TA	Sheath	EVA	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1103678901	2011.09.29	HEAT SHRINKABLE	SGS
4	R-CB-113A	Cable	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RLSHD000593720006	2011.04.25	cable	CTI
5			FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	RLSHD000593720006	2011.04.25	cable	CTI
6			鍍錫銅線	N.D.	N.D.	N.D.	Negative			RLSHD000593720006	2011.04.25	cable	CTI
7			鍍銀銅線	N.D.	N.D.	N.D.	Negative			RLSHD000593720006	2011.04.25	cable	CTI

根據測試報告如實填寫鉛、鎘、汞、六價鉻、PBBs和PBDEs六項禁用物質的含量

包裝材料中鉛、鎘、汞、六價鉻總含量不超過100ppm，鎘的允許濃度為5ppm

歐盟ROHS指令豁免條款2009/95/BC、鋼中合金元素中的鉛含量達0.35%、鋁含量達0.4%、銅合金中的鉛含量達4%

型号 Type	RF-1.13/50	料号 P/N	SY113/50-020(Gray)			
结构图 Structure drawing						
结构特性 Structure characteristics						
结构 Structure	项目 Item		标准值 Standard value			
①内导体 Inner conductor	材料 Material		镀银铜线 Silverplated copper wire			
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every wire(mm)		7/0.083			
	(绞合)标称外径(mm) (Intertwist)NOM.O.D.(mm)		0.249±0.02			
②绝缘层 Insulation	材料 Material		聚全氟乙丙烯 FEP			
	颜色 Color		透明 Clarity			
	标称外径(mm) NOM.O.D.(mm)		0.7±0.03			
③外导体 Outer conductor	材料 Material		镀锡铜线 Tinned copper wire			
	组成:总根数/单根外径(mm) Makeup:total / O.D. of every wire(mm)		4/0.05			
	标称外径(mm) NOM.O.D.(mm)		0.92±0.05			
	覆盖率(%) Coverage ratio(%)		90±5			
④护套层 Jacket	材料 Material		聚全氟乙丙烯 FEP			
	颜色 Color		灰 Gray			
	标称外径(mm) NOM.O.D.(mm)		1.13±0.05			
电性能特性 Electrical characteristics						
项目 Item	标准值 Standard value	项目 Item	频率 Frequency	标准值 Standard value 单位 Unit:dB/m		
电容(pF/m) Capacitance(pF/m)	98	衰减 Attenuation	1GHz	≤2.2		
速率(%) Velocity(%)	70		2GHz	≤3.1		
阻抗(Ω) Impedance(Ω)	50±2		3GHz	≤3.8		
驻波比 Standing wave ratio	≤1.3@0~6GHz		4GHz	≤4.4		
最大工作电压(V) Max.operating voltage(V)	1000		5GHz	≤4.9		
最大工作频率(GHz) Max.operating frequency(GHz)	6		6GHz	≤5.4		
可靠性 Dependability						
项目 Item	单位 Unit	标准值 Standard value				
最小弯曲半径(一次) Min.bending radius static	mm	4				
最小弯曲半径(重复) Min.bending radius repeated	mm	—				
工作温度范围 Operating temperature	°C	-55~+200				



測試報告 Test Report

號碼(No.) : CE/2011/B1565 日期(Date) : 2011/11/15 頁數(Page) : 1 of 9



鉅貿科技股份有限公司

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NO. 18, WUCHUN 5TH RD., WUKU IND. ZONE, NEW TAIPEI CITY, TAIWAN

以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as) :

樣品名稱(Sample Description) : 鋅錫鎳合金

樣品型號(Style/Item No.) : ZSNH

收件日期(Sample Receiving Date) : 2011/11/08

測試期間(Testing Period) : 2011/11/08 TO 2011/11/15

測試結果(Test Results) : 請見下一页 (Please refer to next pages).



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測試報告

Test Report

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鈦貿科技股份有限公司

TAIMAO TECHNOLOGY CO., LTD.

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NO. 18, WUCHUN 5TH RD., WUKU IND. ZONE, NEW TAIPEI CITY, TAIWAN

測試結果(Test Results)

測試部位(PART NAME) No.1 : 銀色金屬 (SILVER COLORED METAL)

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: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	**	參考IEC 62321: 2008方法, 以沸水萃取法檢測. / With reference to IEC 62321: 2008 and performed by Boiling water extraction Method. #	#	Negative
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	參考US EPA 3540C: 1996方法, 以液相層析質譜儀檢測全氟辛烷磺酸含量. / With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.
全氟辛酸(銨) / PFOA (CAS No.: 335-67-1)	mg/kg	參考US EPA 3540C: 1996方法, 以液相層析質譜儀檢測全氟辛酸(銨)含量. / With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.

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測試報告

Test Report

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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	No.1
多溴聯苯總和 / Sum of PBBS			-	n.d.
一溴聯苯 / Monobromobiphenyl			5	n.d.
二溴聯苯 / Dibromobiphenyl			5	n.d.
三溴聯苯 / Tribromobiphenyl			5	n.d.
四溴聯苯 / Tetrabromobiphenyl			5	n.d.
五溴聯苯 / Pentabromobiphenyl			5	n.d.
六溴聯苯 / Hexabromobiphenyl			5	n.d.
七溴聯苯 / Heptabromobiphenyl			5	n.d.
八溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl			5	n.d.
十溴聯苯 / Decabromobiphenyl			5	n.d.
多溴聯苯醚總和 / Sum of PBDEs			-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether			5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether			5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether			5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether			5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.
八溴聯苯醚 / Octabromodiphenyl ether			5	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether			5	n.d.
十溴聯苯醚 / Decabromodiphenyl ether			5	n.d.
鹵素 / Halogen				
鹵素(氟) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg		50	n.d.
鹵素(氯) / Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg		50	n.d.
鹵素(溴) / Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg			n.d.
鹵素(碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg			n.d.

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測試報告

Test Report

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TAIMAO TECHNOLOGY CO., LTD.
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NO. 18, WUCHUN 5TH RD., WUKU IND. ZONE, NEW TAIPEI CITY, TAIWAN

**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. "-" = Not Regulated (無規格值)
5. **= Qualitative analysis (No Unit) 定性分析(無單位)
6. # =
 - a. Positive means the presence of CrVI on the tested areas
(Positive表示測試區域偵測到六價鉻)
 - b. Negative means the absence of CrVI on the tested areas
(Negative表示測試區域未偵測到六價鉻)

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² tested areas. / 該溶液濃度≥0.02 mg/kg with 50 cm² (tested areas)

PFOS參考資訊(Reference Information) : 指令 2006/122/EC (Directive 2006/122/EC)

(1) 該物質不可置於市場上或使用於特殊物質或配置成分重量濃度等於或大於0.005%.

(May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005 % by mass.)

(2) 該物質不可置於市場上的半成品或商品或其物件；假若零件上明顯地具有PFOS並參照結構上及微細構造上計算PFOS重量濃度等於或大於0.1%，而紡織品或其他覆蓋物質，如果PFOS在覆蓋物質中含量等於或大於1μg/m².

(May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1 % by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than 1μg/m² of the coated material.)

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測試報告

Test Report

號碼(No.) : CE/2011/B1565 日期(Date) : 2011/11/15 頁數(Page) : 5 of 9

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頁數 (Page) : 5 of 9

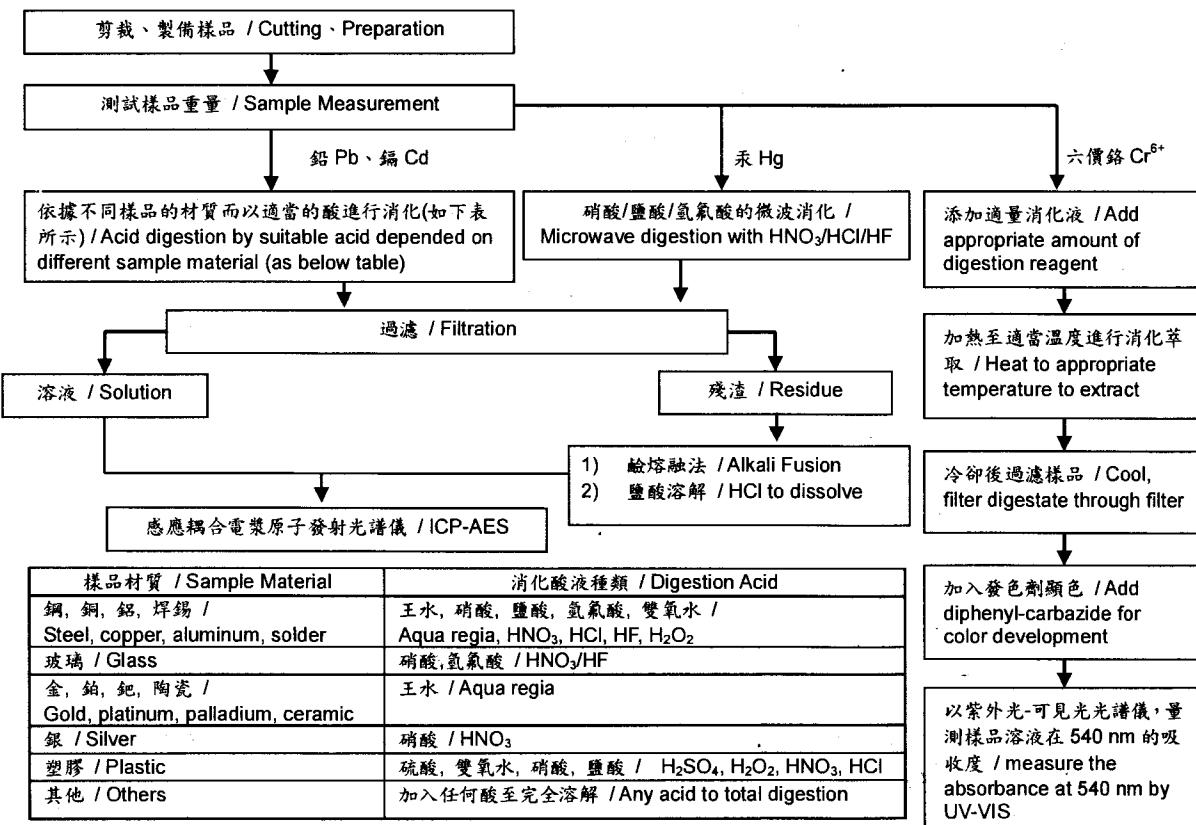
鉑貿科技股份有限公司

TAIMAO TECHNOLOGY CO., LTD.

新北市五股工業區五權五路18號

NO. 18, WUCHUN 5TH RD., WUKU IND. ZONE, NEW TAIPEI CITY, TAIWAN

1) 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. (Cr^{6+} test method excluded)
2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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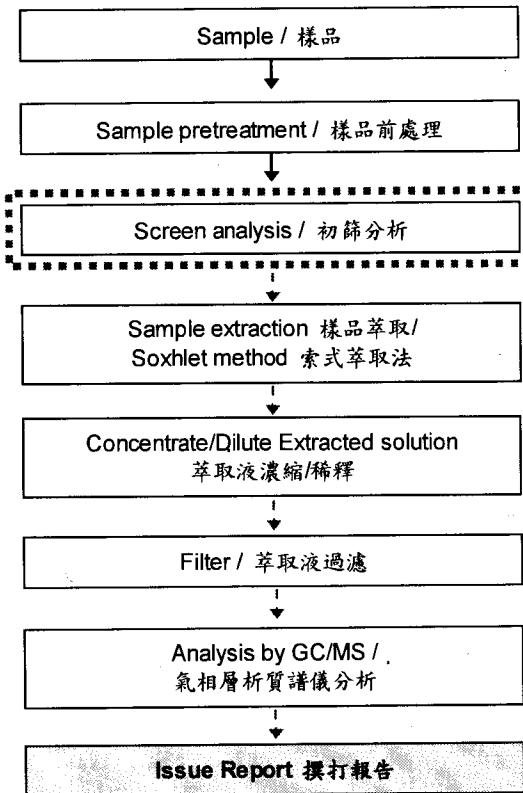
多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 1) 測試人員 : 翁賜彬 / Name of the person who made measurement: Roman Wong
- 2) 測試負責人 : 張啓興 / Name of the person in charge of measurement: Troy Chang

初次測試程序 / First testing process →

選擇性篩檢程序 / Optional screen process

確認程序 / Confirmation process - - - →



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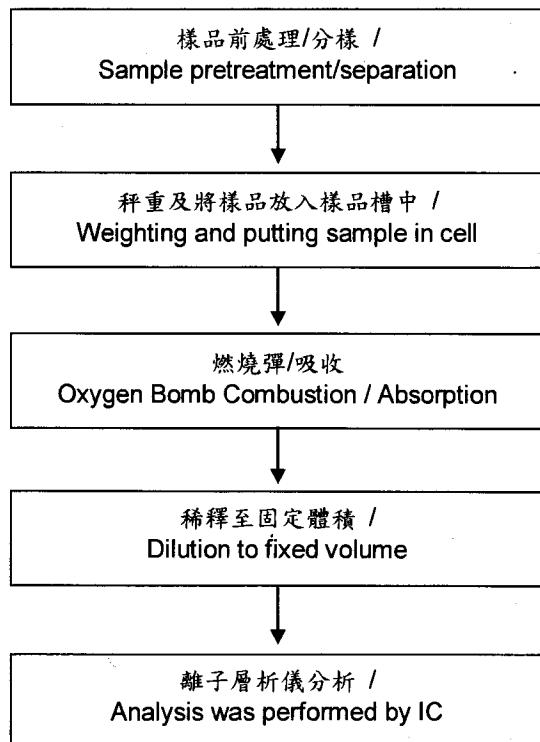
號碼(No.) : CE/2011/B1565 日期(Date) : 2011/11/15 頁數(Page) : 7 of 9

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鹵素分析流程圖 / Analytical flow chart of halogen content

- 測試人員：陳恩臻 / Name of the person who made measurement: Rita Chen
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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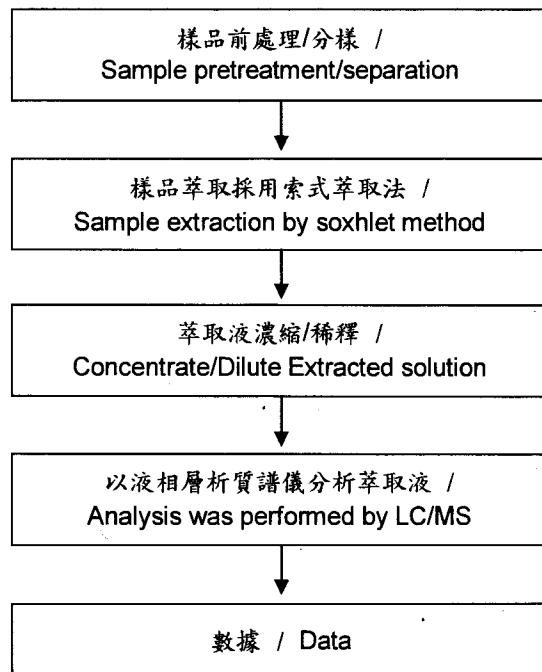
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索式萃取分析流程圖 / Analytical flow chart of Soxhlet extraction (LC/MS) procedure

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

【測試項目：全氟辛烷磺酸/全氟辛酸(鉛)、苯並三唑類化合物 /
Test Items: PFOS/PFOA、Benzotriazole】



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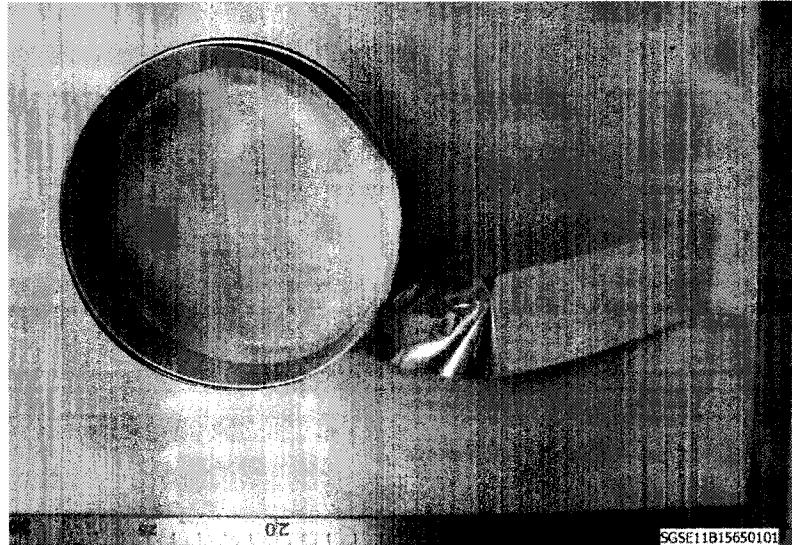
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* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。*
(The tested sample / part is marked by an arrow if it's shown on the photo.)

CE/2011/B1565



CE/2011/B15650101SGS

** 報告結尾(End of Report) **



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Test Report

No. CANEC1201490109

Date: 27 Feb 2012

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HUI ZHOU CITY FAN-ZHONG-BAO RUBBER&PLASTIC FOAM FACTORY CO.,LTD.

XINTANG INDUSTRIAL ZONE,QIU-BAO ROAD,QIU-CHANG TOWN,HUYIANG
DISTRICT,HUIZHOU,GUANGDONG PROVINCE
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Environmental Protection Material of Ethylene Styrofoam

SGS Job No. : CP12-005438 - SZ

Date of Sample Received : 22 Feb 2012

Testing Period : 22 Feb 2012 - 27 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).

Conclusion : Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.



Annie Liang
Approved Signatory

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Test Report

No. CANEC1201490109

Date: 27 Feb 2012

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	CAN12-014901.005	Black foam

Remarks :

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

RoHS Directive 2011/65/EU

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.

Test Item(s)	Limit	Unit	MDL	005
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	19
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	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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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>005</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 the directive 2011/65/EU, Annex II

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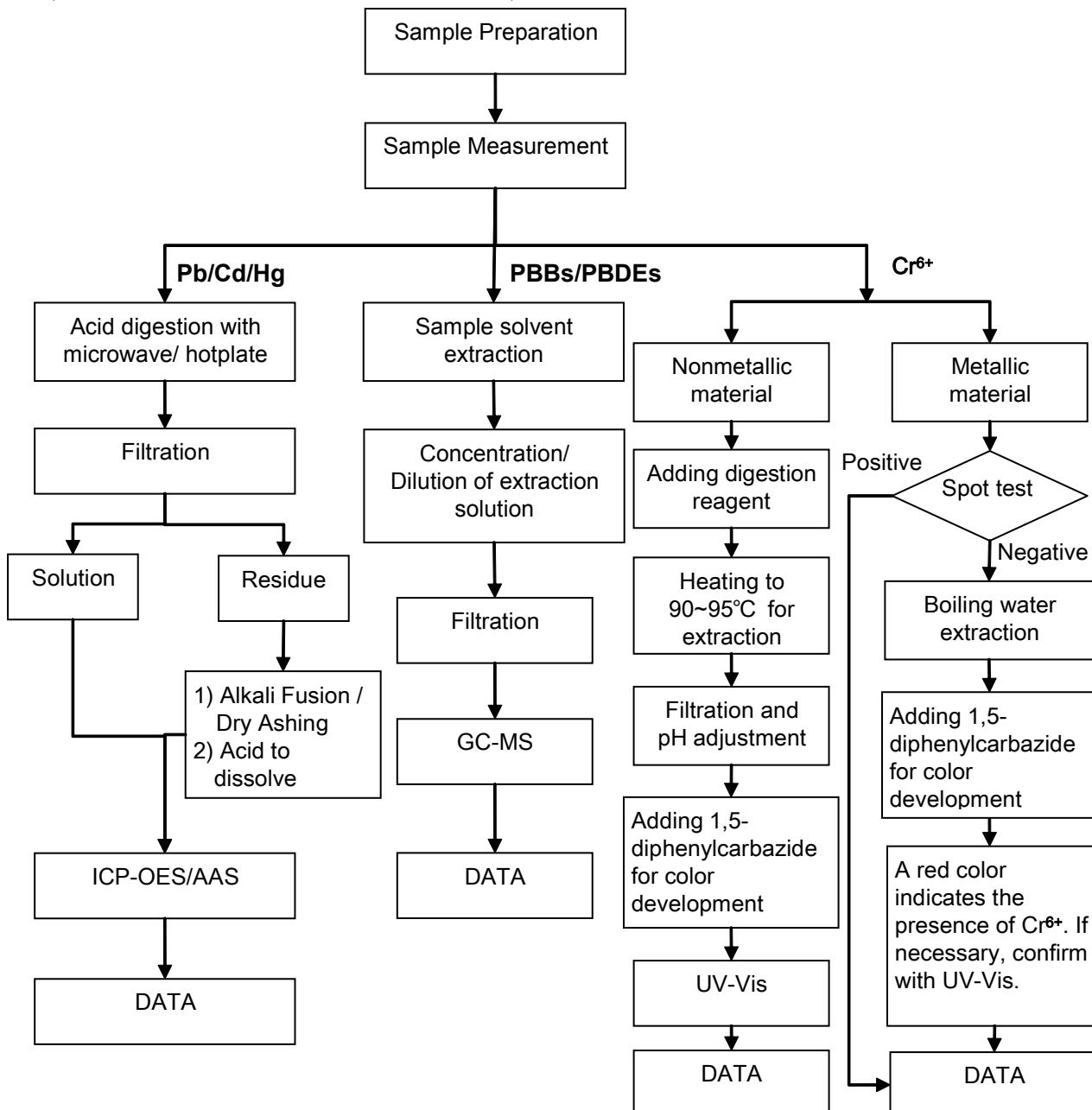
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ATTACHMENTS
RoHS Testing Flow Chart

- 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

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Guangzhou Science City Testing Center Chemical Laboratory

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Test Report

No. CANEC1200932901

Date: 16 Feb 2012

Page 1 of 7

DONGGUAN SALIPT CO.,LTD.

SALIPT SCIENCE PARK,JINGXIANG INDUSTRY DIST.,LIAOBU,DONGGUAN CITY,GUANGDONG PROVINCE CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : HEAT SHRINKABLE TUBING(Clear)

SGS Job No. : CP12-003272 - SZ
Client Ref. Info. : S-901-600/S-901-300
Manufacturer : SALIPT
Tested sample info. : S-901-600
Date of Sample Received : 09 Feb 2012
Testing Period : 09 Feb 2012 - 16 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).
Conclusion : A:Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of
SGS-CSTC Ltd.

Silva Zhou
Approved Signatory

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Date: 16 Feb 2012

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	CAN12-009329.001	Transparent plastic tube

Remarks :

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

A:RoHS Directive 2011/65/EU

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.

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 (CrVI)	1,000	mg/kg	2	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

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<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 the directive 2011/65/EU, Annex II

B:Hexabromocyclododecane (HBCDD)

Test Method : Determination of HBCDD by GC-MS based on IEC 62321:2008.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

Notes :

(1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Hexabromocyclododecane (HBCDD) is considered as a priority for risk evaluation and substance restriction.

C:Phthalates

Test Method : Determination of phthalates by GC-MS based on EN 14372:2004.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibutyl Phthalate (DBP)	% (w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	% (w/w)	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	% (w/w)	0.003	ND

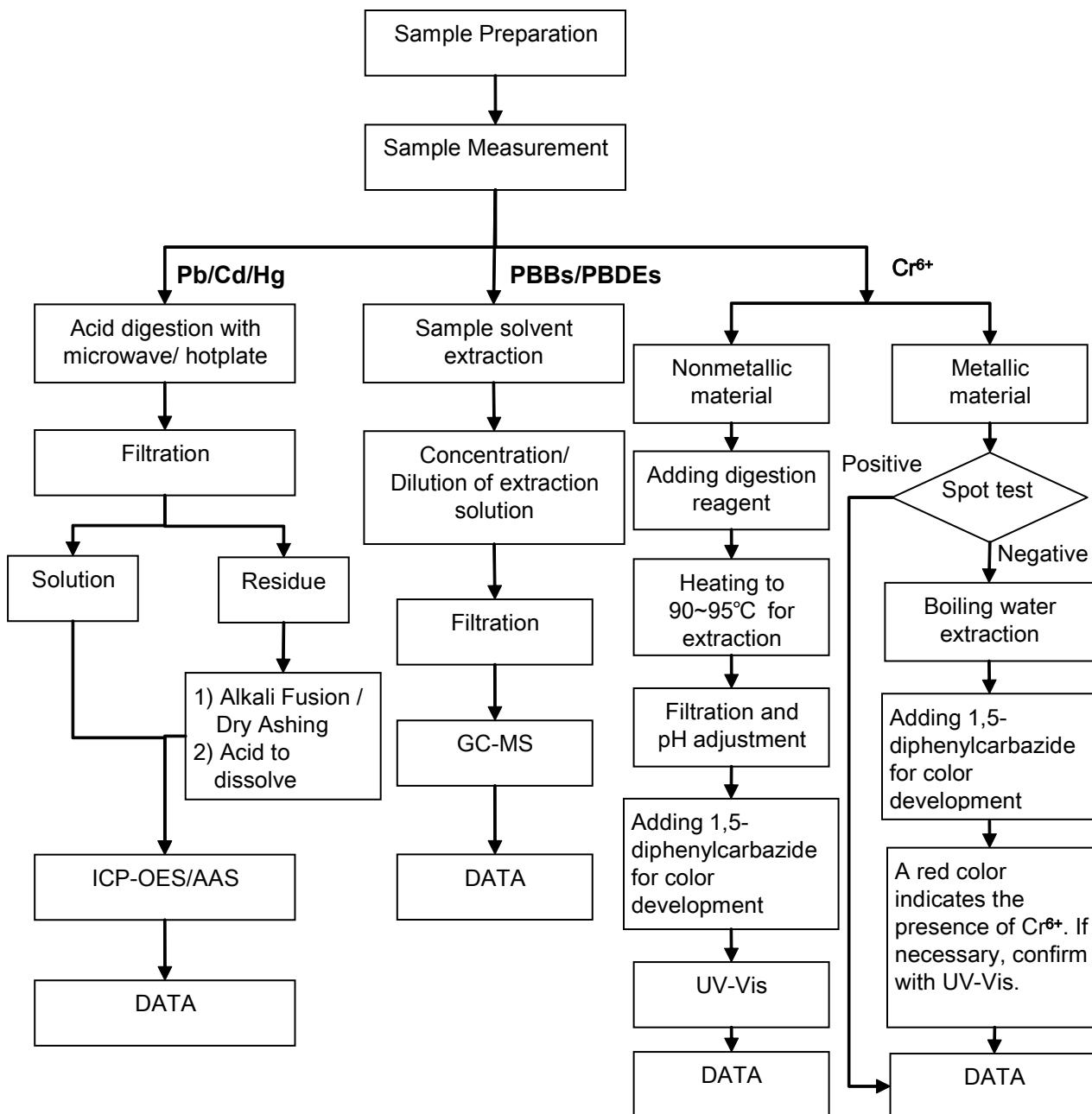
Notes :

(1) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:
Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.

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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



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Test Report

No. CANEC1200932901

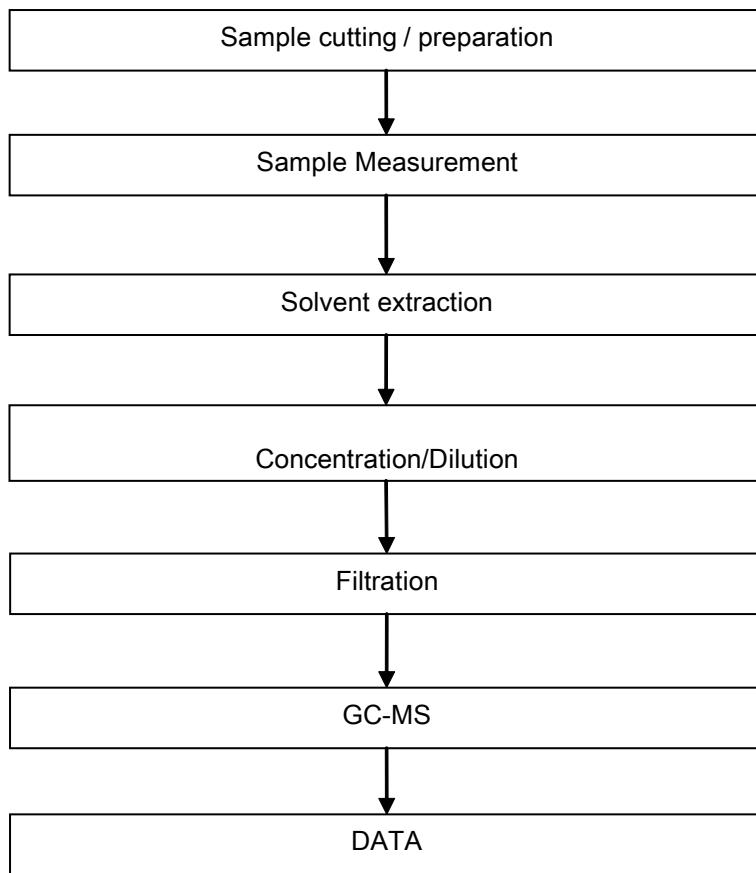
Date: 16 Feb 2012

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ATTACHMENTS

HBCDD Testing Flow Chart

- 1) Name of the person who made testing: Cutey Yu
- 2) Name of the person in charge of testing: Ryan Yang



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Test Report

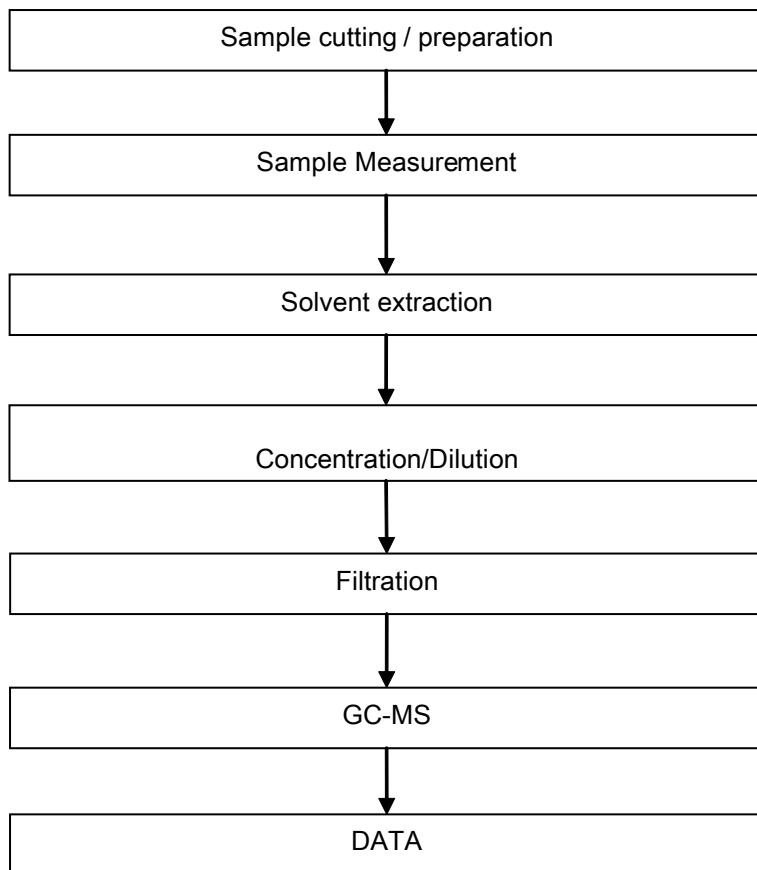
No. CANEC1200932901

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ATTACHMENTS**Phthalates Testing Flow Chart**

- 1) Name of the person who made testing: Tina Zhao
- 2) Name of the person in charge of testing: Ryan Yang



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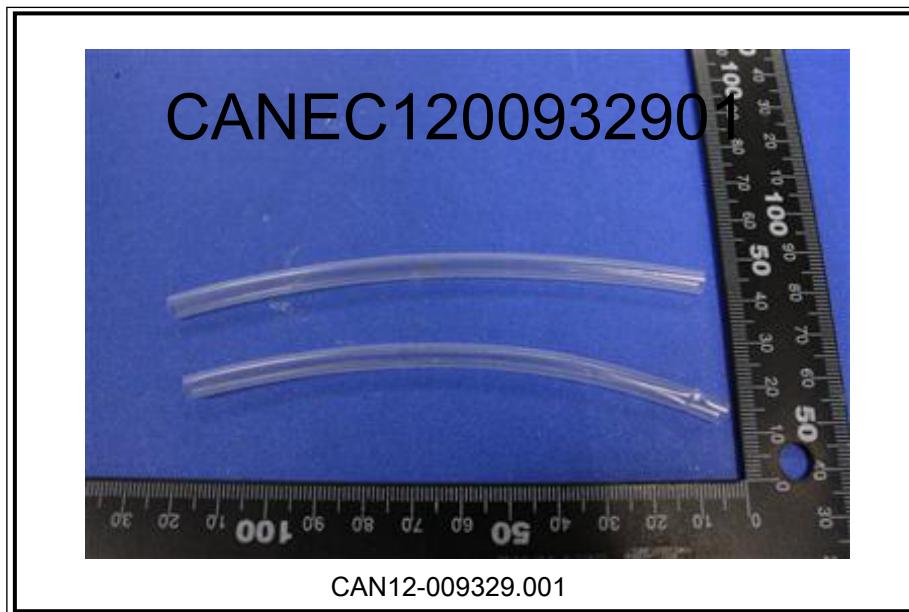
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Sample photo:



SGS authenticate the photo on original report only

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Test Report

Report No. RLSHD000593720006

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Applicant SHENYU COMMUNICATION TECHNOLOGY INC.

Address NO.275 EAST WAIHUAN ROAD,JIANGYIN CITY,JIANGSU P.R.CHINA

Report on the submitted sample said to be

Sample Name

Cable

- 1. Silver plating copper wire inner conductor
- 2. FEP Insulation
- 3. Tinning copper wire external conductor
- 4. Grey FEP tegument

Sample Description

- 1. Silvery metal wire
- 2. Colorless transparent plastic wire skin
- 3. Silvery metal wire
- 4. Grey plastic wire skin

Part No.

No need

Sample Received Date

Apr.19,2011

Testing Period

Apr.19,2011 to Apr.25,2011

Test Requested

To determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I) content in the submitted sample according to the request of client.

Test Result: Please refer to the following pages.

Tested by

Inspected by

Zhang Yijun

Approved by

Date

Apr.25,2011



No. 94636707

Test Report

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Test Method

Tested Item	Test Method	Measured Equipment	M.D.L.
Lead (Pb)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES	2 mg/kg
	IEC 62321:2008 Ed.1 Sec.9		
Cadmium (Cd)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES	2 mg/kg
	IEC 62321:2008 Ed.1 Sec.9		
Mercury (Hg)	IEC 62321:2008 Ed.1 Sec.7	ICP-OES	2 mg/kg
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex B	UV-Vis	/
	IEC 62321:2008 Ed.1 Annex C		
Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5 mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5 mg/kg
Fluorine (F)	Refer to BS EN 14582:2007	IC	10mg/kg
Chlorine (Cl)	Refer to BS EN 14582:2007	IC	10mg/kg
Bromine (Br)	Refer to BS EN 14582:2007	IC	10mg/kg
Iodine (I)	Refer to BS EN 14582:2007	IC	10mg/kg

Test Result

Tested Item	Content (mg/kg)			
	1	2	3	4
Lead (Pb)	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium (Cr(VI))	Negative	N.D.	Negative	N.D.

Test Report

Report No. RLSHD000593720006

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Tested Item(s)	Content (mg/kg)			
	1	2	3	4
Polybrominated Biphenyls(PBBs)				
Monobromobiphenyl	/	N.D.	/	N.D.
Dibromobiphenyl	/	N.D.	/	N.D.
Tribromobiphenyl	/	N.D.	/	N.D.
Tetrabromobiphenyl	/	N.D.	/	N.D.
Pentabromobiphenyl	/	N.D.	/	N.D.
Hexabromobiphenyl	/	N.D.	/	N.D.
Heptabromobiphenyl	/	N.D.	/	N.D.
Octabromobiphenyl	/	N.D.	/	N.D.
Nonabromobiphenyl	/	N.D.	/	N.D.
Decabromobiphenyl	/	N.D.	/	N.D.
Polybrominated Diphenyl Ethers(PBDEs)				
Monobromodiphenyl ether	/	N.D.	/	N.D.
Dibromodiphenyl ether	/	N.D.	/	N.D.
Tribromodiphenyl ether	/	N.D.	/	N.D.
Tetrabromodiphenyl ether	/	N.D.	/	N.D.
Pentabromodiphenyl ether	/	N.D.	/	N.D.
Hexabromodiphenyl ether	/	N.D.	/	N.D.
Heptabromodiphenyl ether	/	N.D.	/	N.D.
Octabromodiphenyl ether	/	N.D.	/	N.D.
Nonabromodiphenyl ether	/	N.D.	/	N.D.
Decabromodiphenyl ether	/	N.D.	/	N.D.

Tested Item	Content (mg/kg)			
	1	2	3	4
Halogen				
Fluorine (F)	/	3.72×10^5	/	3.86×10^5
Chlorine (Cl)	/	N.D.	/	N.D.
Bromine (Br)	/	N.D.	/	N.D.
Iodine (I)	/	N.D.	/	N.D.

Note: The sample had been dissolved totally tested for Lead, Cadmium, and Mercury.

-M.D.L. = Method Detection Limit -N.D. = Not Detected (<M.D.L.)

-mg/kg = ppm = parts per million

-Negative = Absence of Cr (VI). The Cr (VI) concentration detected in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.

Test Report

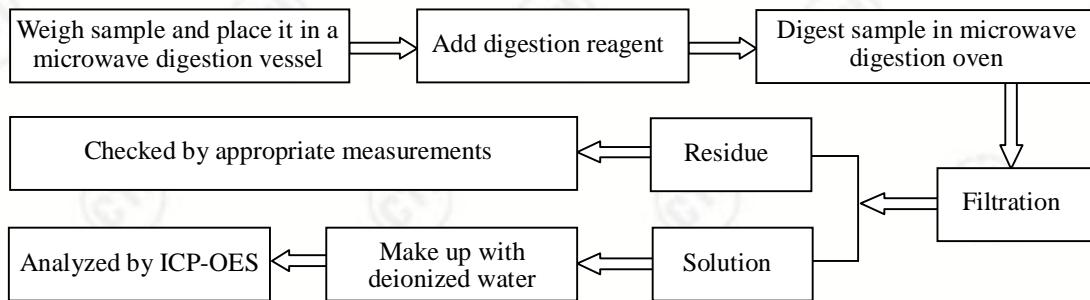
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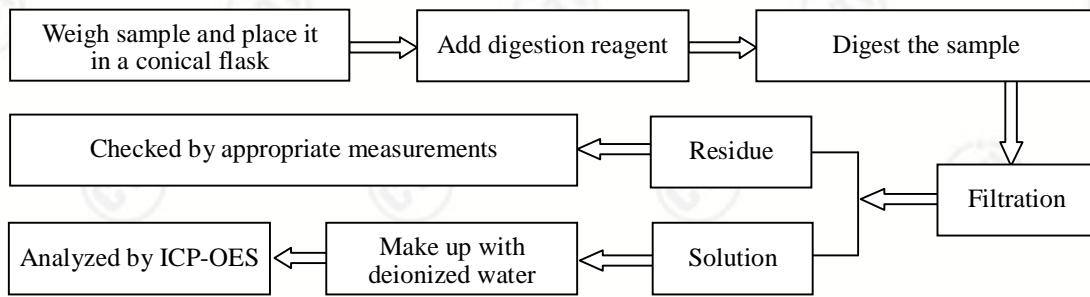
Test Process

1. Test for Pb/Cd Content

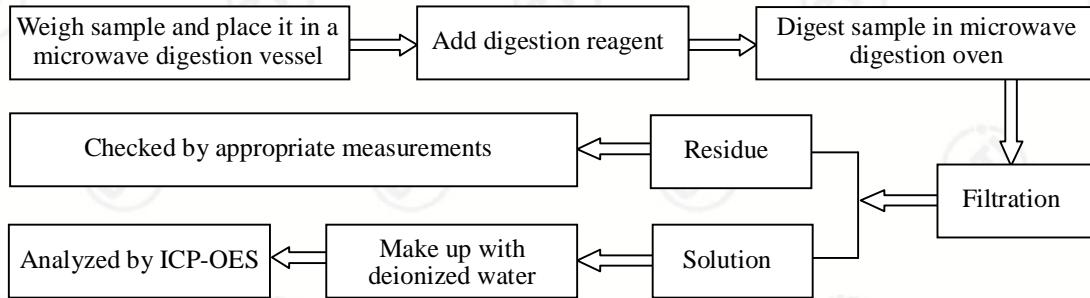
(1) IEC 62321:2008 Ed.1 Sec.8



(2) IEC 62321:2008 Ed.1 Sec.9



2. Test for Hg Content



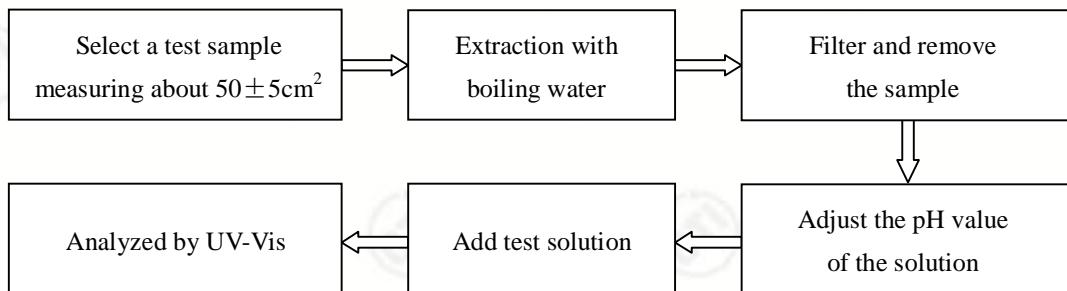
Test Report

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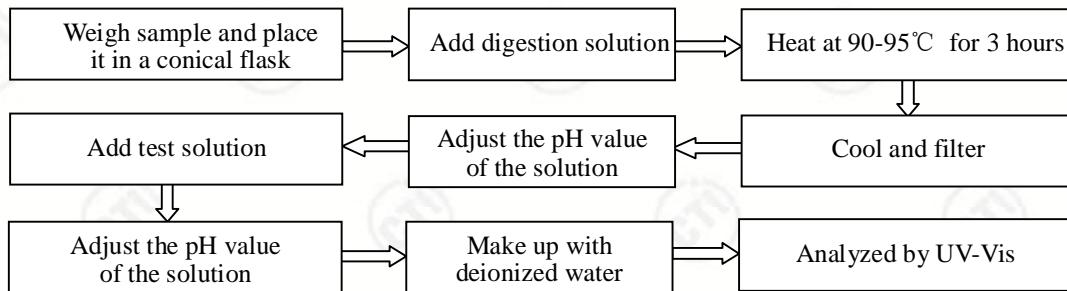
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3. Test for Cr (VI) Content

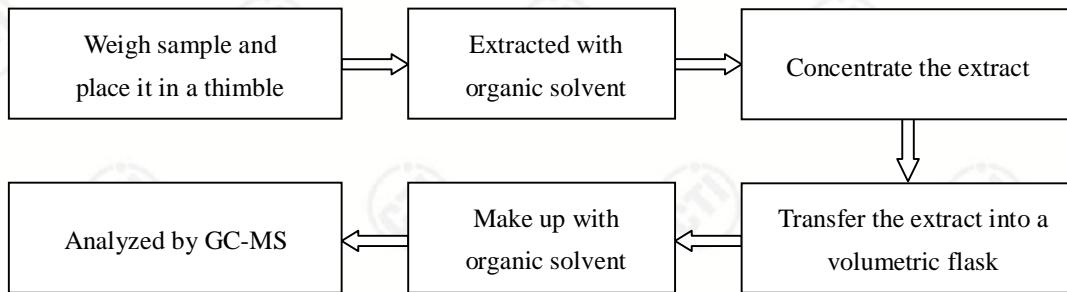
(1) IEC 62321:2008 Ed.1 Annex B



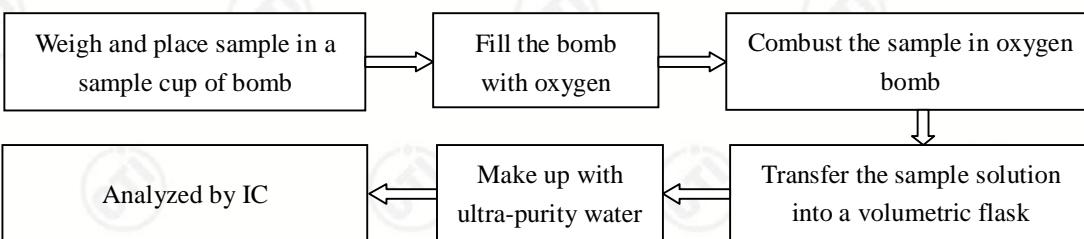
(2) IEC 62321:2008 Ed.1 Annex C



4. Test for PBBs /PBDEs Content



5. Test for F/ Cl/Br/I Content



Test Report

Report No. RLSHD000593720006

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Photo of the sample



1



2



3



4

*** End of report ***

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