



WHA YU INDUSTRIAL CO., LTD. (HEAD OFFICE)  
 DONGGUAN AEON TECH CO., LTD. (CHINA)  
 TAI HWA ELECTRONIC CO., LTD. (CHINA)  
 SHANGHAI HUA YU ELECTRONIC CO., LTD. (CHINA)  
 SU ZHOU AEON TECH CO., LTD. (CHINA)

## SPECIFICATION FOR APPROVAL

**CUSTOMER:** 台揚科技股份有限公司


**PART NAME:** RF Antenna Cable Assembly

**PART NO.:**

**REVISION:**

**W. Y. P/NO.:** C841-590014-A

**REV.:** XI

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :		
DATE :	05/12/05 1600	

### WHA YU GROUP

WHA YU INDUSTRIAL CO., LTD. (HEAD OFFICE)

華裕實業股份有限公司

Address: No. 326, Sec. 2, Kung Tao 5 Road, Hsin Chu City, Taiwan, R.O.C.

Tel: +886-3-5714225 (REP.) Fax: + 886-3-5713853 · + 886-3-5723600

DONGGUAN AEON TECH CO., LTD. (CHINA)

東莞台霖電子通訊有限公司

Address: Lakeside Industrial Park, Da Ling Shan Town, Dong Guan City, Guangdong, China

Tel: + 86-769-85655858 Fax: + 86-769-8565525

TAI HWA ELECTRONIC FACTORY

台樺電業製品廠

Address: Pak Ho District, Hou Street Town, Dong Guan City, Guangdong, China

Tel: + 86-769-85599375 · + 86-769-85912375 Fax: + 86-769-85599376

HUA HONG INTERNATIONAL LTD.

華弘國際有限公司

Address: Rm. 1103A, President Commercial Centre, 608 Nathan Road, Mong Kok, Kowloon, Hong Kong

Tel: + 86-852-27712210 Fax: + 86-852-23843747

SHANGHAI HUA YU ELECTRONIC CO., LTD. (CHINA)

上海華裕電子有限公司

Address: 3586, Wai Qing Song Road, Qing Pu County, Shanghai China

Tel: + 86-21-59741348 · + 86-21-59744101-4 Fax: + 86-21-59741347

SU ZHOU AEON TECH CO., LTD. (CHINA)

蘇州華廣電通有限公司

Address: Limin North Road, LiLi Town, LiLi Industrial Park, LinHu Economic Zone

Wujiang City, Jiangsu Province, China

Tel: + 86-512-63627980 Fax: + 86-512-63627981

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# C841-590014-A SPECIFICATION

## **1. Electrical Specification**

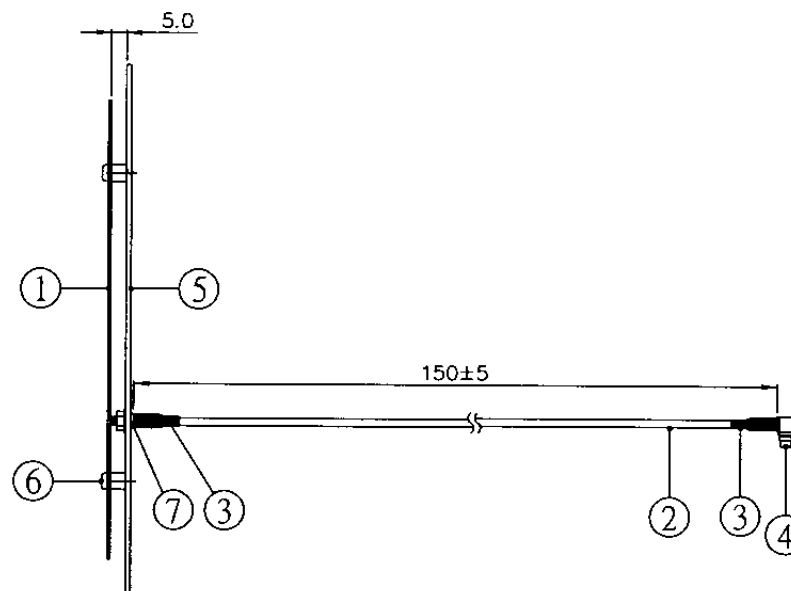
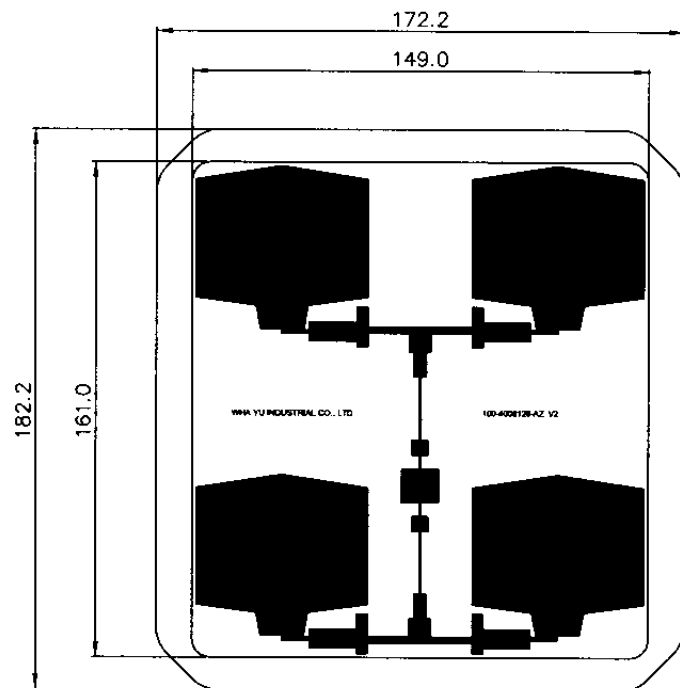
1.1	Frequency Range :	2.3 ~ 2.7GHz
1.2	Peak Gain:	13 (dBi) typ.
1.3	VSWR:	1.7 : 1 max.
1.4	HPBW/H:	34° typ..
1.5	HPBW/E:	33° typ.
1.6	Impedance:	50Ω
1.7	Polarization:	Linear; Vertical
1.8	Power Handling:	10 W
1.9	Connector:	RA MMCX Plug
1.10	Extended Cable	RG-316, 150 mm.

## **2. Mechanical Specification**

2.1	Operating Temperature:	-30℃~+80℃
2.2	Storage Temperature:	-40℃~+85℃
2.3	Humidity:	95% RH
2.5	Reflecting Plate Material:	Alu 6061 T1.6mm
2.6	Dimension(WxLxH):	172.2 x 182.2 x 9 (mm)
2.7	Weight:	190 gf

CG-

REV	DATE	DESCRIPTION
X1	5/17-2007	NEW ISSUE



7	Housing	RG-316 Housing	1	
6	Screw	M3xP0.5x4Lmm; Carbon Steel ; Plated Nickel	4	
5	Reflecting plate	AL6061; L182.2xW172.2xT1.6mm	1	
4	Connector	MMCX Right Angle Plug	1	
3	H.S Tube	Heat Shrink Tube ; Black	2	
2	Coaxial cable	RG-316 Cable	1	
1	PCB	FR4-86, 31mil	1	
NO	DESCRIPTION		QTY	REMARK

CUSTOMER'S SIGNATURE

XX	±5	APPROVED
X	±3.0	CHECKED
.X	±1.0	
.XX	±0.5	
.XXX	±0.1	DRAWING
程淑娟		

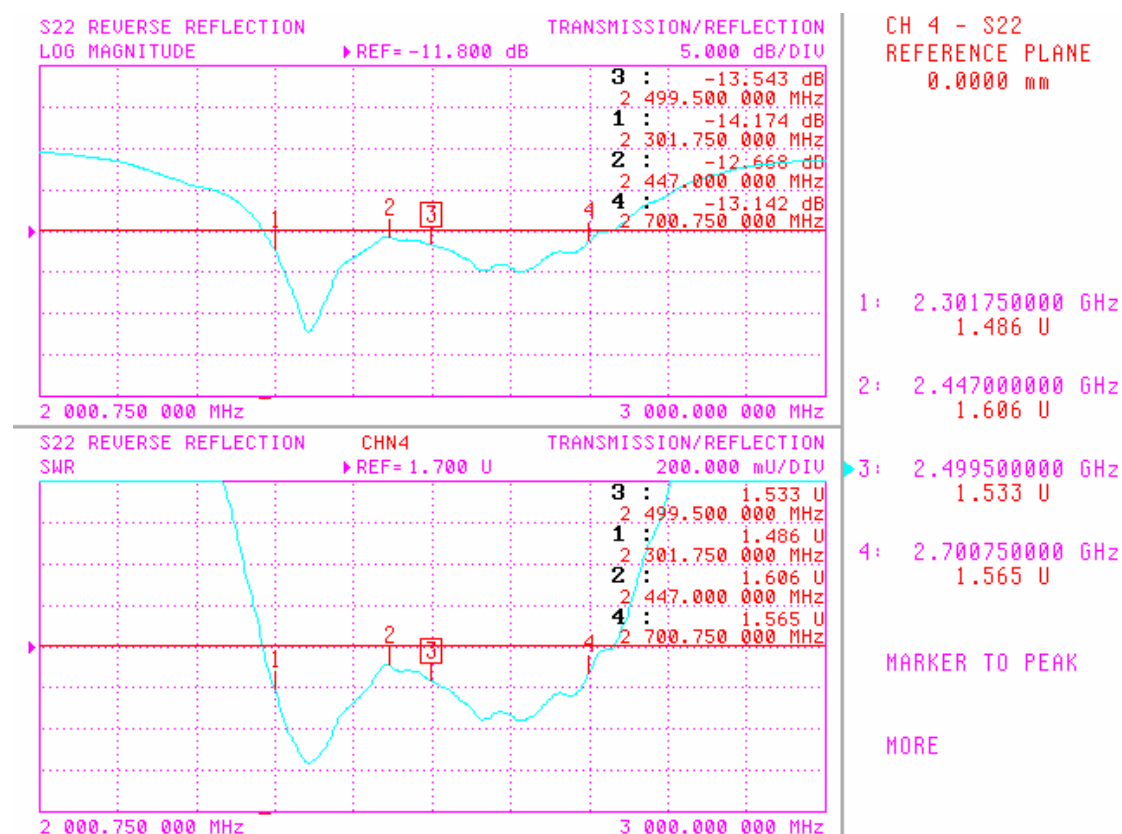
CUSTOMER: 台揚		
PART NO :		
PARTNAME: RF Antenna Cable Assembly		
W.Y P/NO : C841-590014-A		
REV	UNIT	FILE :
X1	m/m	SHEET : 1/1

**M.gear** Wha Yu Group

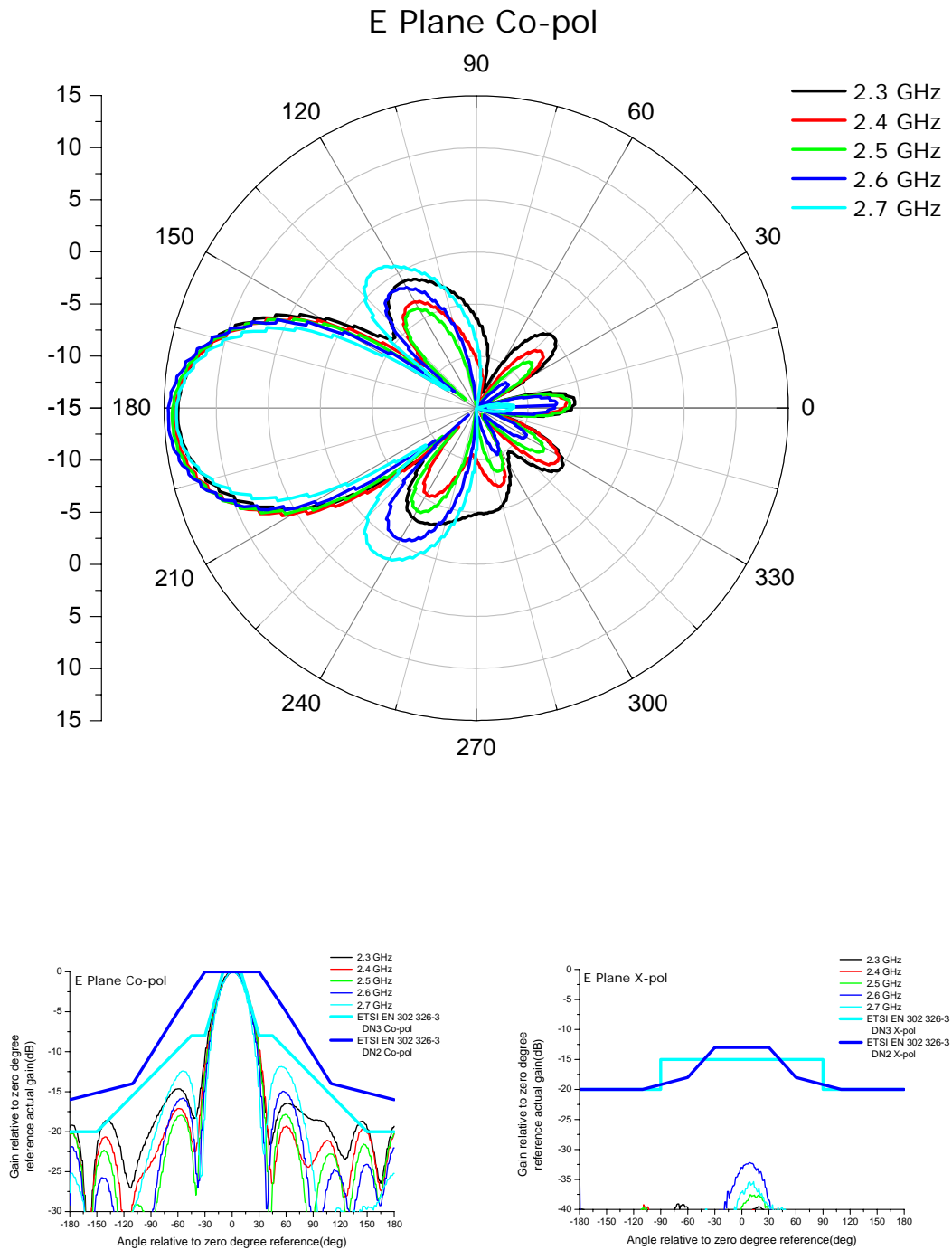
THIS DRAWING, AND ITS INHERANT DESIGN CONCEPTS, ARE THE PROPERTY OF WHA YU AND AS SUCH MAY NOT BE COPIED, REPRODUCED, OR GIVEN TO THIRD PARTIES WITHOUT THE WRITTEN CONSENT OF WHA YU.

# C841-590014-A

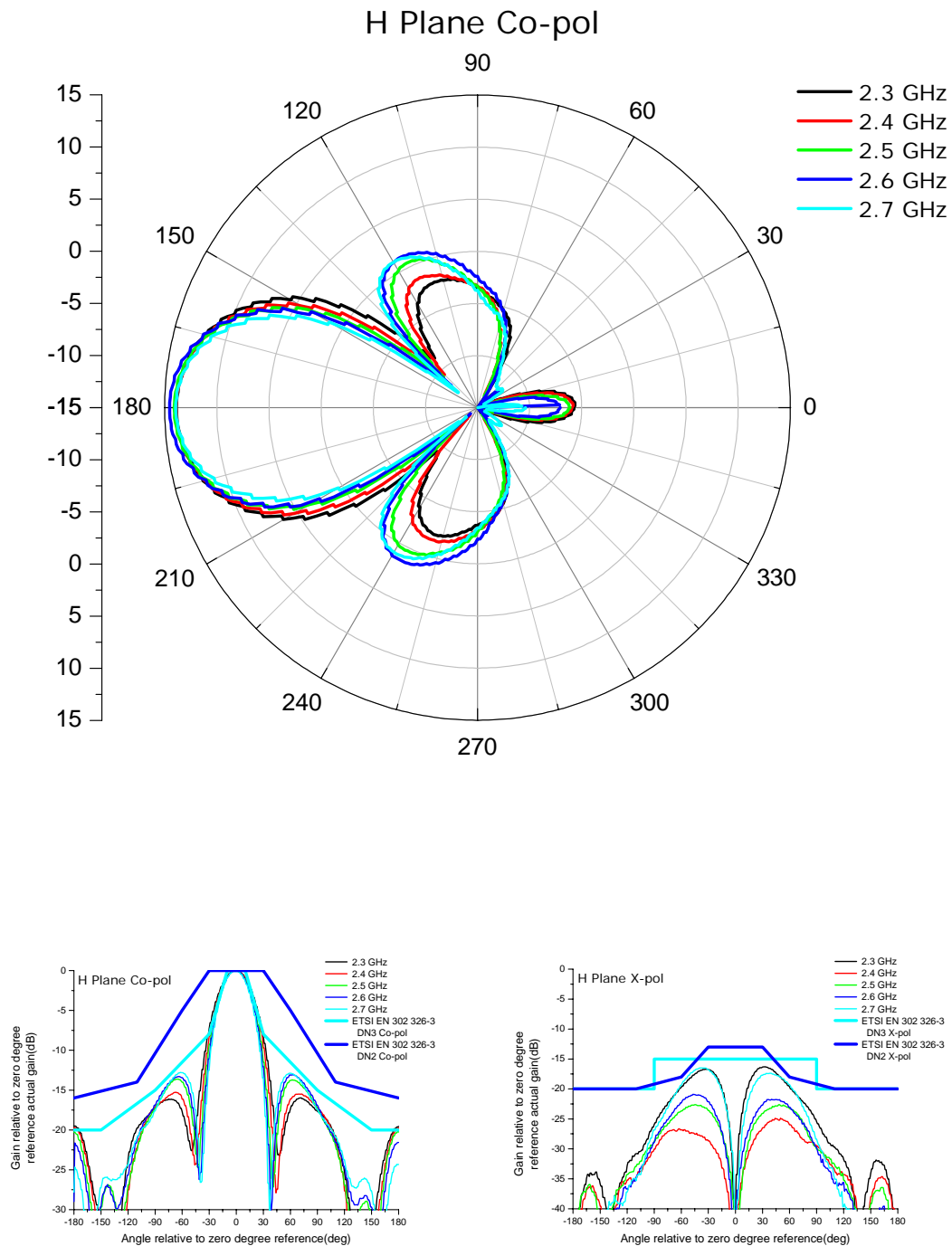
## VSWR & Return Loss



## E Plane Co-Polarization Patterns



## H Plane Co-Polarization Patterns



品名: 絞合導體

# 日進電線股份有限公司 NIZING ELECTRIC CO., LTD.

台北縣新莊市三泰路 11 之 15 號 11-15 Santai Rd, Hsinchuang, Taipei Hsien, Taiwan, R.O.C.  
Tel : (02)29016164, 29087519 Fax : 886-2-29050644 E-mail : shenbingnizing@yahoo.com.tw

## 規 格 書

1. 品名：RG-316/U

2. 電線結構及特性：

項	目	單 位	規 格 明 細
1. 絞合導體	材質	---	鍍銀銅包銅線
	構造	No/mm	7/0.175
	導體外徑	mm	0.53
2. 絕緣押出	材質	---	Teflon FEP
	外徑	mm	1.52 ± 0.08
	顏色	---	自然色
3. 編織導體	材質	---	鍍銀銅線
	構造	No/mm	16/5/0.1
	外徑	mm	約 1.92
	遮蔽率	%	95↑
4. 外被押出	材質	---	Teflon FEP
	外徑	mm	2.50 ± 0.1
	顏色	---	棕色
5. 特性阻抗	---	歐姆	50 ± 2

3. 包裝方式：300mm 塑膠軸

4. 包裝單長：1200 M/軸

5. 月產能：50,000 M

# RG316/U 構造尺寸量測值

項 目		單位	規 格 明 細	規 格 量 測 值 NO:				
				1	2	3	4	5
1. 絞合導體	材質	----	鍍銀銅包銅線	OK	OK	OK	OK	OK
	構造	No/mm	7/0.175	OK	OK	OK	OK	OK
	導體外徑	mm	0.53	0.530	0.525	0.535	0.520	0.530
2. 絕緣押出	材質	----	Teflon FEP	OK	OK	OK	OK	OK
	外徑	mm	1.52 ±0.08	1.52	1.51	1.52	1.52	1.51
	顏色	----	自然色	OK	OK	OK	OK	OK
3. 編織導體	材質	----	鍍銀銅線	OK	OK	OK	OK	OK
	構造	No/mm	16/5/2.1	OK	OK	OK	OK	OK
	外徑	mm	約 1.92	1.98	2.05	2.03	1.99	2.05
	花數	Pick / inch	12.8±2	12.80	12.80	12.80	12.80	12.80
	遮蔽率	%	95以上	95.24	95.24	95.24	95.24	95.24
4. 外被押出	材質	----	Teflon FEP	OK	OK	OK	OK	OK
	外徑	mm	2.5 ±0.1	2.50	2.52	2.51	2.53	2.50
	顏色	----	棕色	OK	OK	OK	OK	OK

主管



檢查者 盧國銘 92.11.11



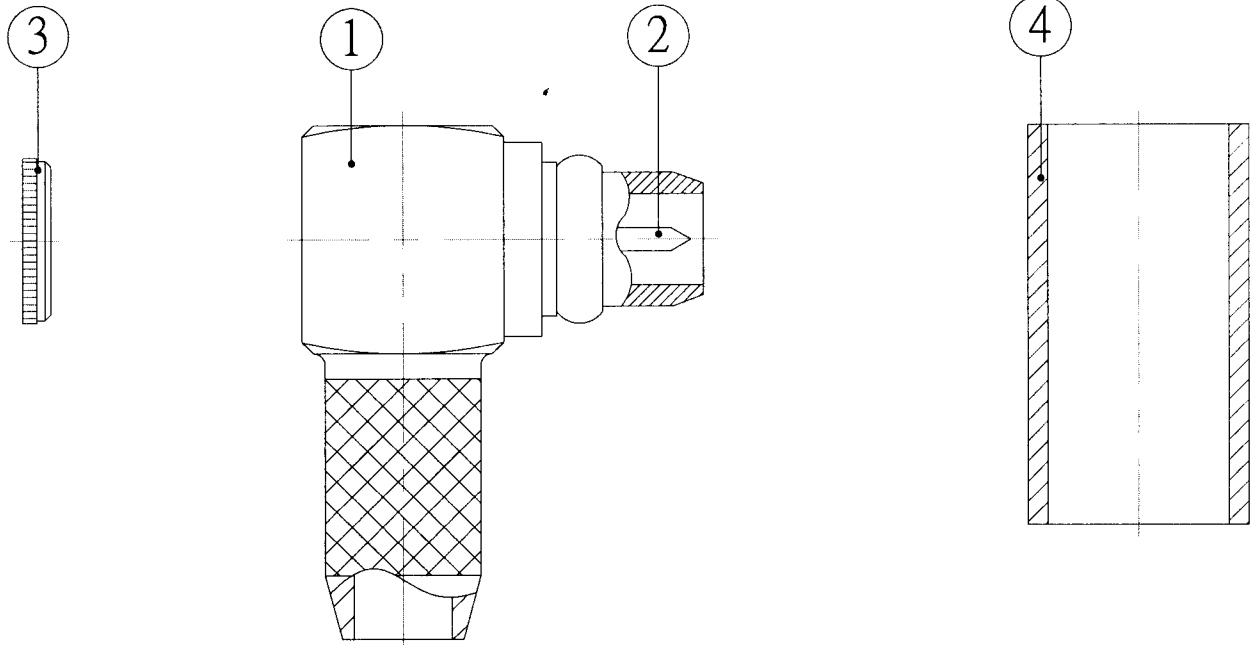
譚裕實業股份有限公司

WHA YU INDUSTRIAL CO., LTD

Connector 材質證明書

譚裕料號 Whayu P/N	100-2002031-AZ	產品名稱 Product Name	MMCX STD R/A Crimp Plug For RG-316 & RG-174
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結構圖面



材質成份

表面處理

1	本體	Brass	Cu	Pb	Fe	Fe+Sn	Zn		鍍金
2	中心針	Brass	Cu	Pb	Fe	Fe+Sn	Zn		鍍金
3	CAP	Brass	Cu	Pb	Fe	Fe+Sn	Zn		鍍金
4	尾管	Copper	Cu	Pb	Fe	Fe+Sn	Zn		鍍金

Remark :

請蓋公司章



ET-QA-0017-A2

# SGS Test Report

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**Product : RF Antenna**

## Contents

No	Description		Report No.	Page
1	PCB	FR4	CE/2006/63691	P.10~12
2	Reflecting plate	AL6061	CE/2007/38159	P.13~18
3	Cable	RG-316 Cable	CE/2007/16985	P.19~24
4	H.S Tube	Heat Shrink Tube	CE/2006/C6257A	P.25~29
5	Connector	MMCX Right Angle Plug	KA/2006/72739 KA/2006/B1255 KA/2007/11514	P.30~38
6	Screw	Carbon Steel;Ni Plated	CE/2006/86534	P.39~42
7	Housing	RG-316 Housing	GZ0701003511/CHEM GZ0701003698/CHEM	P.43~47

**Result for RoHS : PASS**

# Test Report

TAIWAN SHUANGMING INDUSTRY CO., LTD.  
NO. 25, ALLEY 177, LANE 879, GOANG FWU RD.,  
TAOYUAN HSIEN, TAIWAN, R. O. C.

Report No. : CE/2006/63691  
Date : 2006/06/19  
Page : 1 of 3

**The following merchandise was (were) submitted and identified by the client as :**

Type of Product : PCB  
Style/Item No : FR-4 GOLD  
Sample Received : 2006/6/12  
Testing Date : 2006/6/12 TO 2006/06/19

=====

**Test Result** : - Please see the next page -

  
Daniel Yeh, M.R. / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

# Test Report

TAIWAN SHUANGMING INDUSTRY CO., LTD.  
NO. 25, ALLEY 177, LANE 879, GOANG FWU RD.,  
TAOYUAN HSIEN, TAIWAN, R. O. C.

Report No. : CE/2006/63691  
Date : 2006/06/19  
Page : 2 of 3

## Test Result

PART NAME NO.1 : GREEN PCB (MIXED ALL PARTS)

Test Item (s):	Unit	Method	MDL	Result
				No.1
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.
Dibromobiphenyl	%		0.0005	N.D.
Tribromobiphenyl	%		0.0005	N.D.
Tetrabromobiphenyl	%		0.0005	N.D.
Pentabromobiphenyl	%		0.0005	N.D.
Hexabromobiphenyl	%		0.0005	N.D.
Heptabromobiphenyl	%		0.0005	N.D.
Octabromobiphenyl	%		0.0005	N.D.
Nonabromobiphenyl	%		0.0005	N.D.
Decabromobiphenyl	%		0.0005	N.D.
<b>Total PBBs (Polybrominated biphenyls)/Sum of above</b>	%		-	N.D.
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.
Dibromobiphenyl ether	%		0.0005	N.D.
Tribromobiphenyl ether	%		0.0005	N.D.
Tetrabromobiphenyl ether	%		0.0005	N.D.
Pentabromobiphenyl ether	%		0.0005	N.D.
Hexabromobiphenyl ether	%		0.0005	N.D.
Heptabromobiphenyl ether	%		0.0005	N.D.
Octabromobiphenyl ether	%		0.0005	N.D.
Nonabromobiphenyl ether	%		0.0005	N.D.
Decabromobiphenyl ether	%		0.0005	N.D.
<b>Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above</b>	%		-	N.D.
<b>Total of Mono to Nona-brominated biphenyl ether. (Note 4)</b>	%		-	N.D.

# Test Report

TAIWAN SHUANGMING INDUSTRY CO., LTD.  
NO. 25, ALLEY 177, LANE 879, GOANG FWU RD.,  
TAOYUAN HSIEN, TAIWAN, R. O. C.

Report No. : CE/2006/63691  
Date : 2006/06/19  
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Test Item (s):	Unit	Method	MDL	Result
				No. 1
Chromium VI (Cr+6)	ppm	UV-VIS(US EPA 7196A) after reference to US EPA 3060A.	2	N.D.
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	N.D.
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	N.D.
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	N.D.

- NOTE: (1) N.D. = Not detected (<MDL)  
(2) ppm = mg/kg  
(3) MDL = Method Detection Limit  
(4) Decabromobiphenyl ether (DecaBDE) in polymeric applications is exempted by  
Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified  
under document 2005/717/EC.  
(5) PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.  
(6) " - " = Not Regulation

## 測試報告

號碼：CE/2007/38159

日期：2007/04/04

頁數：1 of 6

卓揚五金股份有限公司

SURSUN METALS CO., LTD.

台北縣新莊市建國一路96號

NO. 96, JIAN-KUO YI ROAD, HSIN CHUANG CITY, TAIPEI HSIEN, 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 sample(s) was/were submitted and identified by/on behalf of the client as)：

樣品名稱(Sample Description) : 鋁材  
 樣品型號(Style/Item No.) : AL6061 JIS H4000  
 收件日期(Sample Receiving Date) : 2007/03/28  
 測試期間(Testing Period) : 2007/03/28 TO 2007/04/04

=====

**測試需求 / Test Requested** : 參照 RoHS 2002/95/EC 及其修定指令要求。 / In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

**測試方法 / Test Method** : 參考 IEC 62321, Ed. 1 111/54/CDV 方法檢測。 / With reference to IEC 62321, Ed.1 111/54/CDV. Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.

(1) 用感應耦合電漿原子發射光譜儀檢測鎘含量。 / Determination of Cadmium by ICP-AES.


(2) 用感應耦合電漿原子發射光譜儀檢測鉛含量。 / Determination of Lead by ICP-AES.

(3) 用感應耦合電漿原子發射光譜儀檢測汞含量。 / Determination of Mercury by ICP-AES.

(4) 針對金屬材質之樣品，用 Spot test / Colorimetric 方法檢測六價鉻含量。 / Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.

(5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / Determination of PBB and PBDE by GC/MS.

**測試結果 / Test Result(s)** : 請見下一頁。

  
 Daniel Yeh, M.R. / Operation Manager  
 Signed for and on behalf of  
 SGS TAIWAN LTD.

## 測試報告

號碼：CE/2007/38159

日期：2007/04/04

頁數：2 of 6

卓揚五金股份有限公司

SUNSHINE METALS CO., LTD.

台北縣新莊市建國一路96號

NO. 96, JIAN-KUO YI ROAD, HSIN CHUANG CITY, TAIPEI HSIEN, TAIWAN



## 測試結果 (單位: mg/kg) / Test Result(s)

測試項目 / Test Item (s):	測試方法 Method (Refer to)	結果 / Result	方法偵測 極限值 (MDL)
		No.1	
鎘 / Cadmium (Cd)	(1)	n.d.	2
鉛 / Lead (Pb)	(2)	8	2
汞 / Mercury (Hg)	(3)	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water	(4)	Negative	See Note 5
多溴聯苯總和 / Sum of PBBs	(5)	n.d.	-
一溴聯苯 / Monobromobiphenyl		n.d.	5
二溴聯苯 / Dibromobiphenyl		n.d.	5
三溴聯苯 / Tribromobiphenyl		n.d.	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	5
五溴聯苯 / Pentabromobiphenyl		n.d.	5
六溴聯苯 / Hexabromobiphenyl		n.d.	5
七溴聯苯 / Heptabromobiphenyl		n.d.	5
八溴聯苯 / Octabromobiphenyl		n.d.	5
九溴聯苯 / Nonabromobiphenyl		n.d.	5
十溴聯苯 / Decabromobiphenyl		n.d.	5
多溴聯苯醚總和 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)		n.d.	-
一溴聯苯醚 / Monobromobiphenyl ether		n.d.	5
二溴聯苯醚 / Dibromobiphenyl ether		n.d.	5
三溴聯苯醚 / Tribromobiphenyl ether		n.d.	5
四溴聯苯醚 / Tetrabromobiphenyl ether		n.d.	5
五溴聯苯醚 / Pentabromobiphenyl ether		n.d.	5
六溴聯苯醚 / Hexabromobiphenyl ether		n.d.	5
七溴聯苯醚 / Heptabromobiphenyl ether		n.d.	5
八溴聯苯醚 / Octabromobiphenyl ether		n.d.	5
九溴聯苯醚 / Nonabromobiphenyl ether		n.d.	5
十溴聯苯醚 / Decabromobiphenyl ether		n.d.	5
多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)		n.d.	-

## 測試部位描述 / TEST PART DESCRIPTION:

NO.1 : 銀色金屬 / SILVER COLORED METAL

## 測試報告

號碼：CE/2007/38159

日期：2007/04/04

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卓揚五金股份有限公司



SUNSHINE METALS CO., LTD.

台北縣新莊市建國一路96號

NO. 96, JIAN-KUO YI ROAD, HSIN CHUANG CITY, TAIPEI HSIEN, TAIWAN

Note: 1. mg/kg = ppm

2. n.d. = Not Detected / 未檢出

3. MDL = Method Detection Limit / 方法偵測極限值

4. According to 2005/717/EC DecaBDE is exempt.

根據2005年10月13日歐盟會議公佈2005/717/EC，修訂2002/95/EC內容，通過解除  
高分子材質中十溴聯苯醚之使用限制。

5. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the  
spot test result cannot be confirmed.)

Negative=鍍層中偵測不到六價鉻，Positive=鍍層中偵測到六價鉻；

當該測項無法確認時，測試樣品可藉由boiling-water-extraction測試方法進一步確認

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer; the detected concentration in

boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50

cm<sup>2</sup>

Negative=鍍層中偵測不到六價鉻，Positive=鍍層中偵測到六價鉻；

該濃度溶液 $\geq 0.02$  mg/kg with 50 cm<sup>2</sup> (sample surface area)

6. "-" = Not Regulated / 無規格值

## 測試報告

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卓揚五金股份有限公司

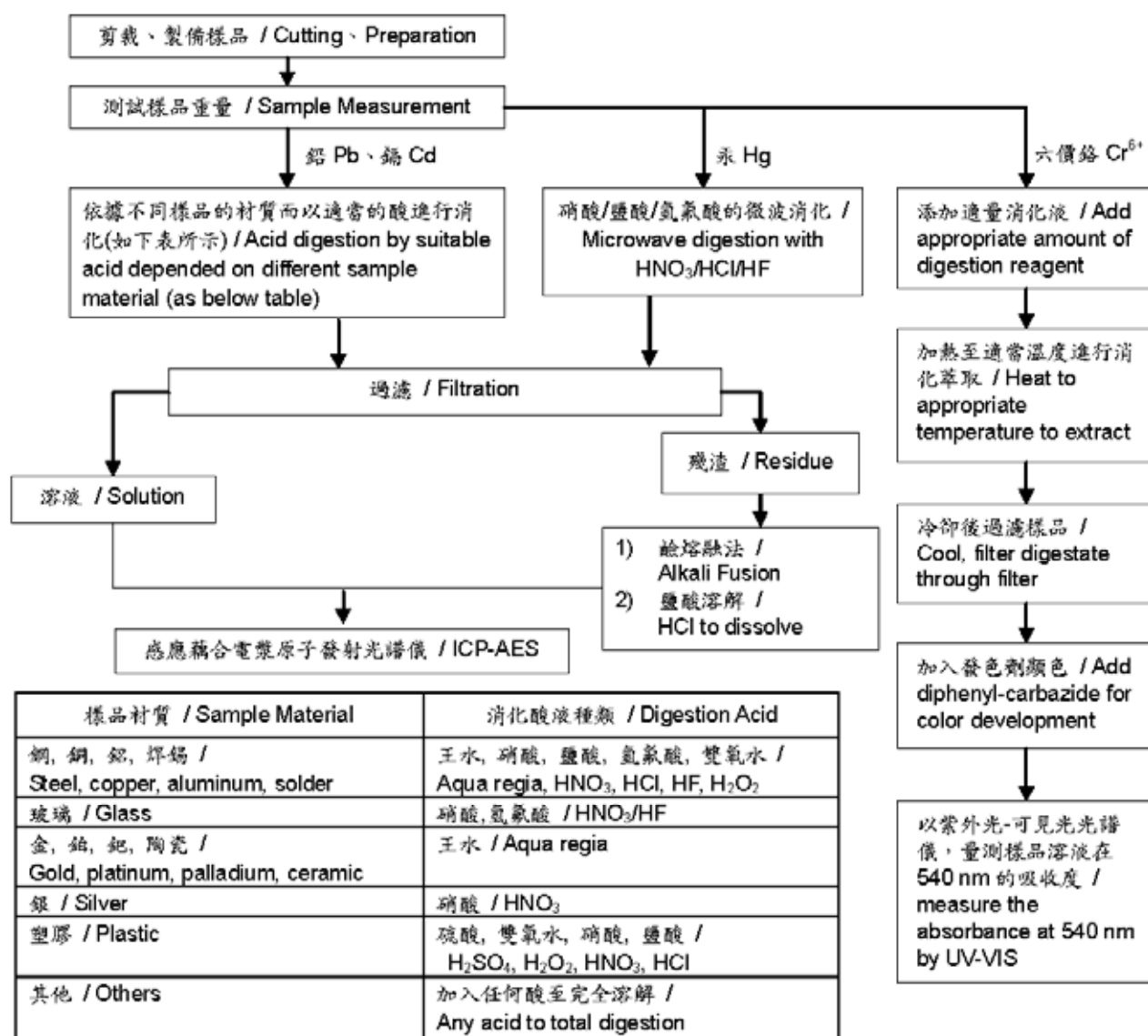
SUNSHINE METALS CO., LTD.

台北縣新莊市建國一路96號

NO. 96, JIAN-KUO YI ROAD, HSIN CHUANG CITY, TAIPEI HSIEN, 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<sup>6+</sup> test method excluded)
- 2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
- 3) 測試負責人：葉禮源 / Name of the person in charge of measurement: Daniel Yeh



## 測試報告

號碼：CE/2007/38159

日期：2007/04/04

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卓揚五金股份有限公司

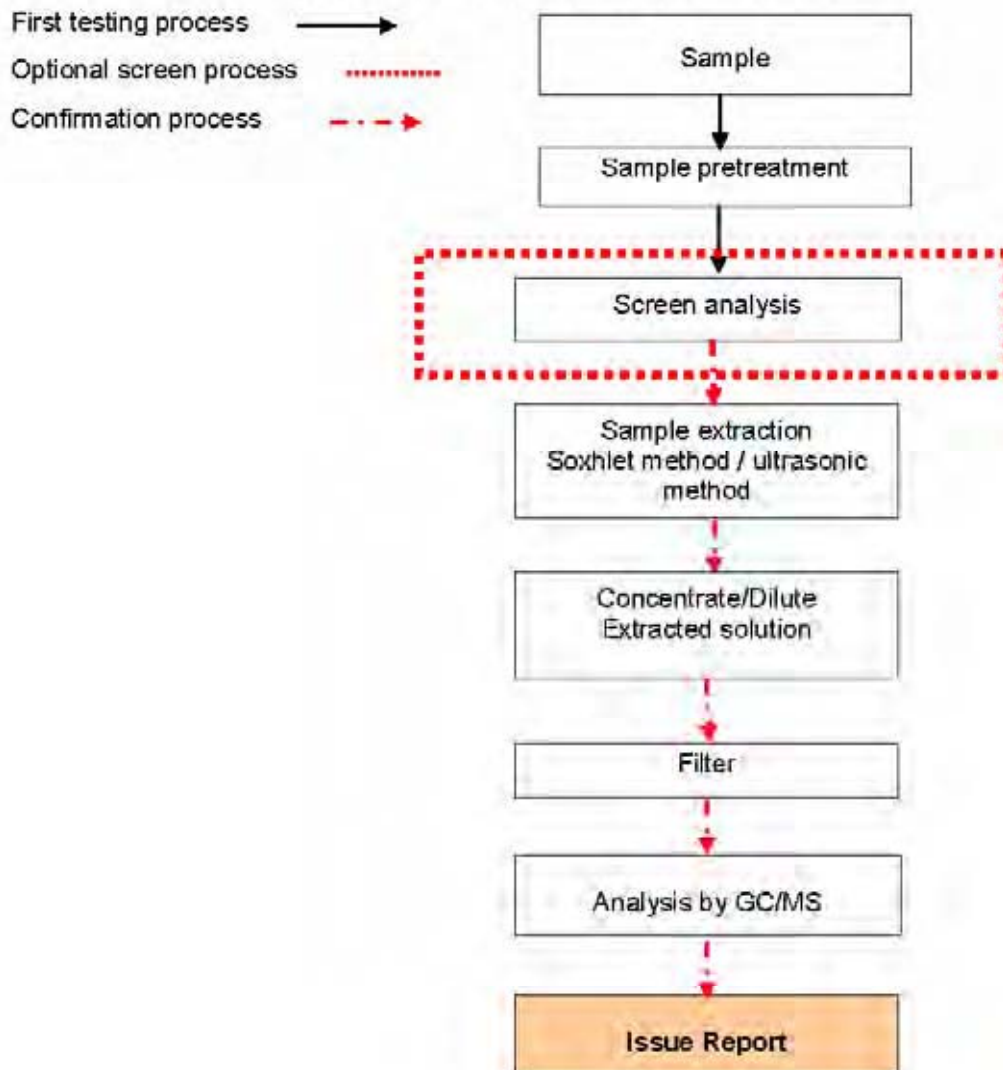
SURSUN METALS CO., LTD.

台北縣新莊市建國一路96號

NO. 96, JIAN-KUO YI ROAD, HSIN CHUANG CITY, TAIPEI HSIEN, TAIWAN



### PBB/PBDE analytical FLOW CHART



## 測試報告

號碼：CE/2007/38159

日期：2007/04/04

頁數：6 of 6

卓揚五金股份有限公司

SURSUN METALS CO., LTD.

台北縣新莊市建國一路96號

NO. 96, JIAN-KUO YI ROAD, HSIN CHUANG CITY, TAIPEI HSIEN, TAIWAN



\*\* 報告結尾 \*\*

## Test Report

No. : CE/2007/16985      Date : 2007/02/01      Page : 1 of 6

NIZING ELECTRIC CO., LTD.  
11-15, SANTAI RD., HSINCHUANG, TAIPEI HSIEN, TAIWAN  
R. O. C.



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

Sample Description : RF COAXIAL CABLE  
Style/Item No. : RG-178B / U, RG-179 / U, RG-316 / U  
Sample Receiving Date : 2007/01/25  
Testing Period : 2007/01/25 TO 2007/02/01

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321, Ed.1 111/54/CDV  
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.

- (1) Determination of Cadmium by ICP-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury by ICP-AES.
- (4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
- (5) Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.
- (6) Determination of PBB and PBDE by GC/MS.

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

*[Signature]*  
Daniel Yen, M.R. / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

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## Test Report

No. : CE/2007/16985

Date : 2007/02/01

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NIZING ELECTRIC CO., LTD.

11-15, SANTAI RD., HSINCHUANG, TAIPEI HSIEN, TAIWAN

R. O. C.



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result					MDL
		No.1	No.2	No.3	No.4	No.5	
Cadmium (Cd)	(1)	n.d.	n.d.	---	n.d.	n.d.	2
Lead (Pb)	(2)	n.d.	n.d.	---	n.d.	6.4	2
Mercury (Hg)	(3)	n.d.	n.d.	---	n.d.	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	---	---	n.d.	---	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(5)	---	---	Negative	---	---	See Note 5
<b>Sum of PBBs</b>	(6)	n.d.	---	---	n.d.	---	-
Monobromobiphenyl		n.d.	---	---	n.d.	---	5
Dibromobiphenyl		n.d.	---	---	n.d.	---	5
Tribromobiphenyl		n.d.	---	---	n.d.	---	5
Tetrabromobiphenyl		n.d.	---	---	n.d.	---	5
Pentabromobiphenyl		n.d.	---	---	n.d.	---	5
Hexabromobiphenyl		n.d.	---	---	n.d.	---	5
Heptabromobiphenyl		n.d.	---	---	n.d.	---	5
Octabromobiphenyl		n.d.	---	---	n.d.	---	5
Nonabromobiphenyl		n.d.	---	---	n.d.	---	5
Decabromobiphenyl		n.d.	---	---	n.d.	---	5
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>		n.d.	---	---	n.d.	---	-
Monobromobiphenyl ether		n.d.	---	---	n.d.	---	5
Dibromobiphenyl ether		n.d.	---	---	n.d.	---	5
Tribromobiphenyl ether		n.d.	---	---	n.d.	---	5
Tetrabromobiphenyl ether		n.d.	---	---	n.d.	---	5
Pentabromobiphenyl ether		n.d.	---	---	n.d.	---	5
Hexabromobiphenyl ether		n.d.	---	---	n.d.	---	5
Heptabromobiphenyl ether		n.d.	---	---	n.d.	---	5
Octabromobiphenyl ether		n.d.	---	---	n.d.	---	5
Nonabromobiphenyl ether		n.d.	---	---	n.d.	---	5
Decabromobiphenyl ether		n.d.	---	---	n.d.	---	5
<b>Sum of PBDEs (Mono to Deca)</b>		n.d.	---	---	n.d.	---	-

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## Test Report

No. : CE/2007/16985

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NIZING ELECTRIC CO., LTD.

11-15, SANTAI RD., HSINCHUANG, TAIPEI HSIEN, TAIWAN

R. O. C.



Test Item (s):	Method (Refer to)	Result	MDL
		No.6	
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(5)	Negative	See Note 5

### TEST PART

NO.1	:	TRANSPARENT-BROWN PLASTIC JACKET
NO.2	:	SILVER COLORED METAL WIRE (WEAVED)
NO.3	:	PLATING LAYER OF SILVER COLORED METAL WIRE (WEAVED)
NO.4	:	TRANSPARENT PLASTIC JACKET
NO.5	:	SILVER COLORED METAL WIRE
NO.6	:	PLATING LAYER OF SILVER COLORED METAL WIRE

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.

5. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer.

Positive = Presence of Cr(VI) coating / surface layer;

the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area.

6. "-" = Not Regulated

7. "---" = Not Conducted

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TW4505130

# Test Report

No. : CE/2007/16985

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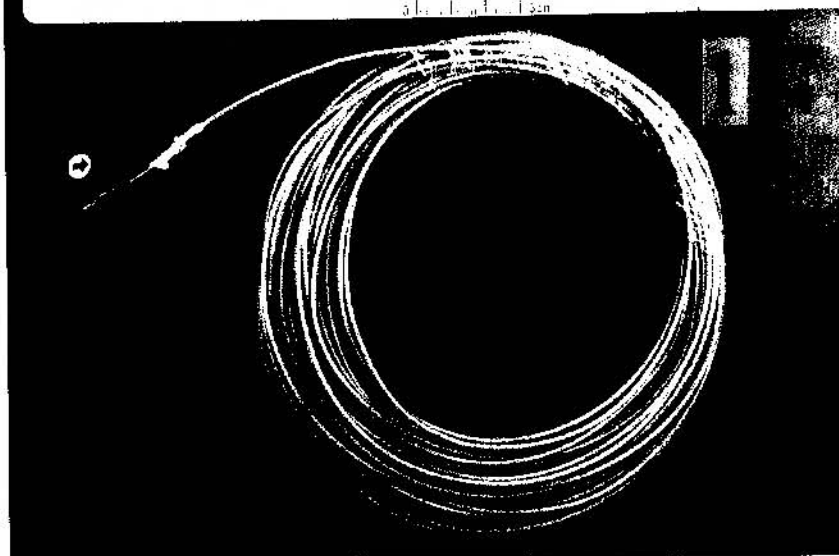
NIZING ELECTRIC CO., LTD.

11-15, SANTAI RD., HSINCHUANG, TAIPEI HSIEN, TAIWAN

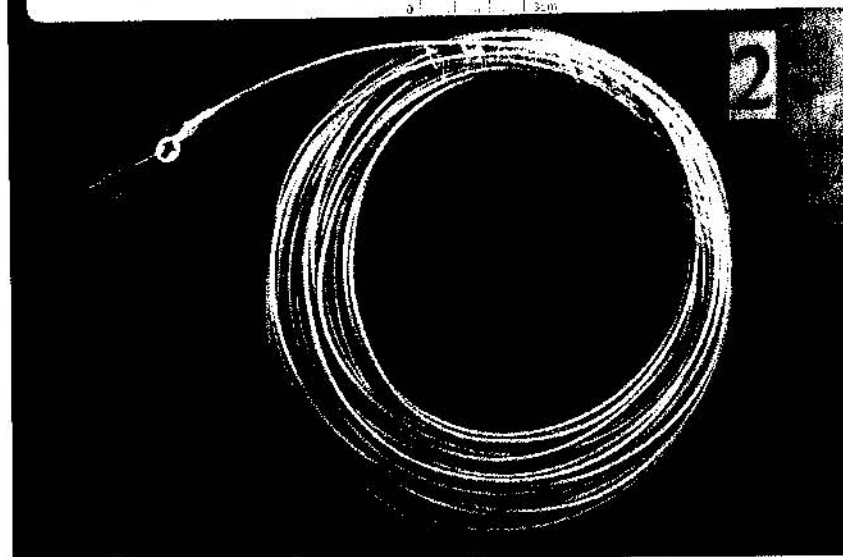
R. O. C.



CE/2007/16985



CE/2007/16985



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# Test Report

No. : CE/2007/16985

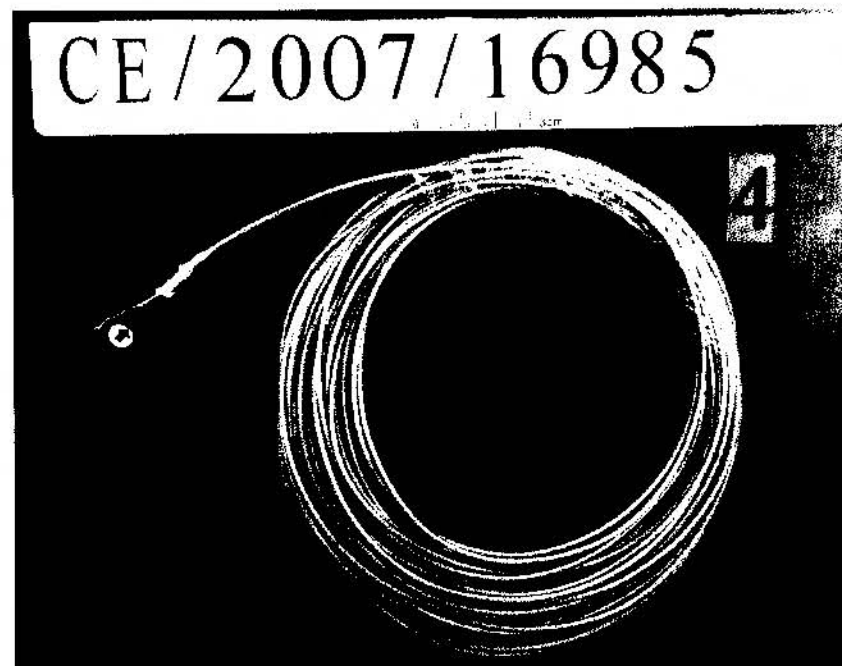
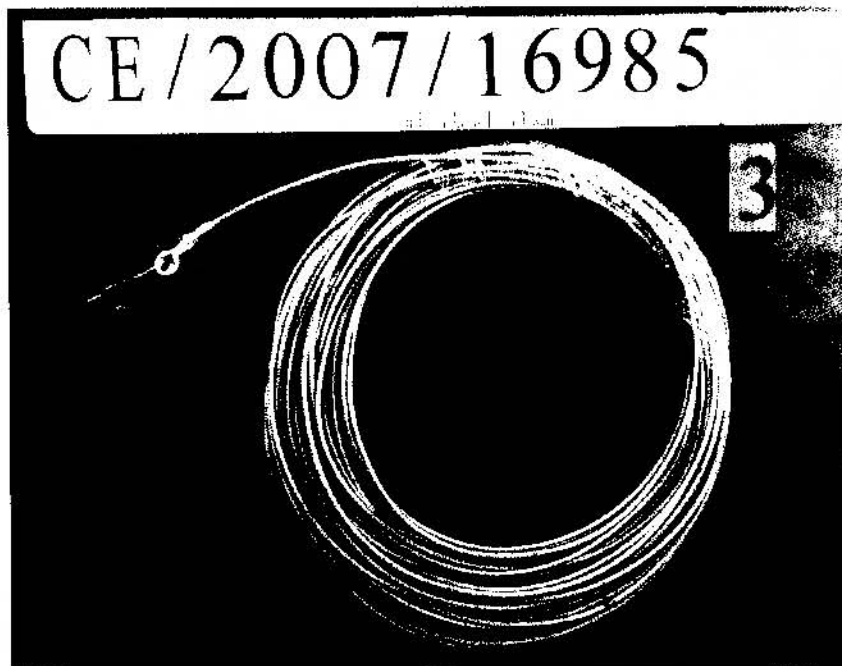
Date : 2007/02/01

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NIZING ELECTRIC CO., LTD.

11-15, SANTAI RD., HSINCHUANG, TAIPEI HSIEN, TAIWAN

R. O. C.



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# Test Report

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Date : 2007/02/01

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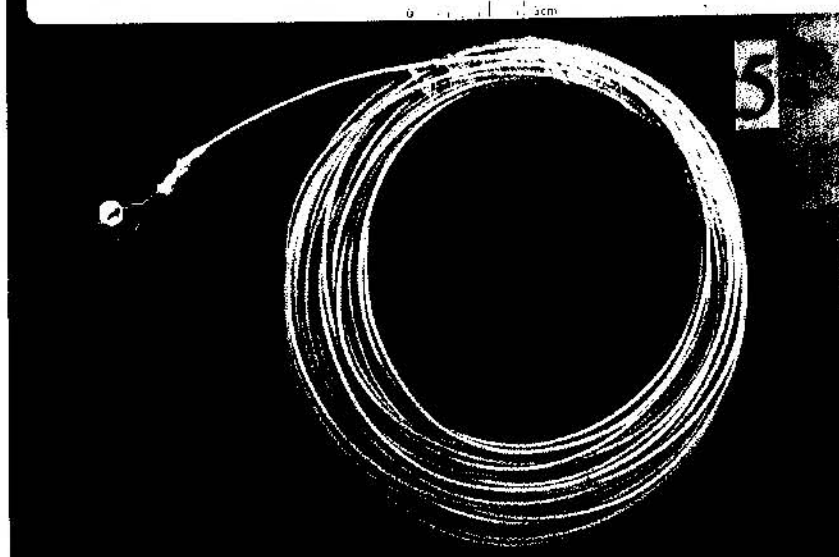
NIZING ELECTRIC CO., LTD.

11-15, SANTAI RD., HSINCHUANG, TAIPEI HSIEN, TAIWAN

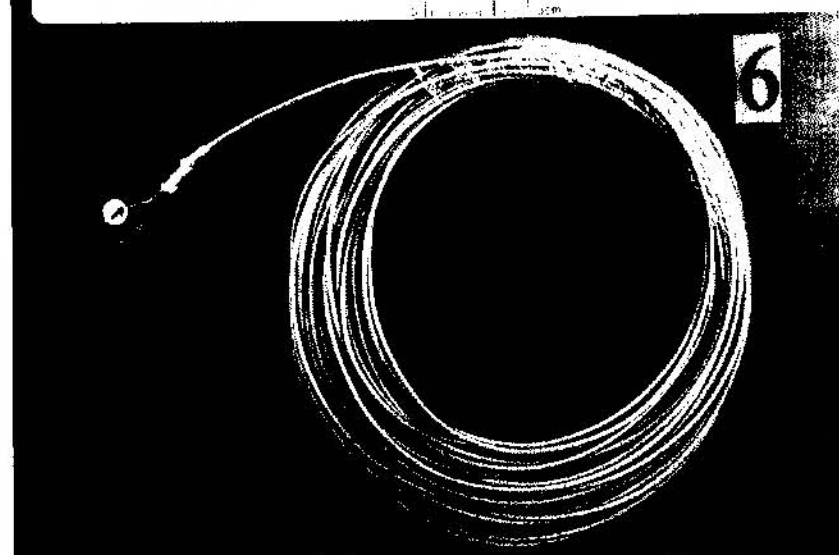
R. O. C.



CE/2007/16985



CE/2007/16985



\*\* End of Report \*\*

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4505133

# 測試報告

號碼：CE/2006/C6257A 日期：2007/01/03 頁數：1 of 5

漢保實業股份有限公司

HAMBURG INDUSTRIES CO., LTD.

台北縣深坑鄉北深路三段270巷12號6樓

6F., NO. 12, LANE 270, SEC. 3, PEISHEN ROAD, SHEN KENG

HSIANG, TAIPEI HSIEN, TAIWAN 222



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 sample(s) was/were submitted and identified by/on behalf of the client as :

樣品名稱(Sample Description) : HEAT SHRINKABLE TUBE  
 樣品型號(Style/Item No.) : HAMBURG H-2 / H-2 (CB) TUBE  
 收件日期(Sample Receiving Date) : 2006/12/26  
 測試期間(Testing Period) : 2006/12/26 TO 2007/01/03

測試需求 / Test Requested : 參照 RoHS 2002/95/EC 及其修定指令要求。 / In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

測試方法 / Test Method : 參考 IEC 62321, Ed. 1 111/54/CDV 方法檢測。 / With reference to IEC 62321, Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.

- (1) 用感應耦合電漿原子發射光譜儀(ICP-AES)檢測鎘含量。 / Determination of Cadmium by ICP-AES.
- (2) 用感應耦合電漿原子發射光譜儀(ICP-AES)檢測鉛含量。 / Determination of Lead by ICP-AES
- (3) 用感應耦合電漿原子發射光譜儀(ICP-AES)檢測汞含量。 / Determination of Mercury by ICP-AES
- (4) 針對非金屬材質之樣品，用UV-VIS檢測六價鉻含量。 / Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
- (5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / Determination of PBB and PBDE by GC/MS.

測試結果 / Test Result(s) : 請見下一頁。

  
 Daniel Yeh, M.R. / Operation Manager  
 Signed for and on behalf of  
 SGS TAIWAN LTD.

# 測試報告

號碼：CE/2006/C6257A 日期：2007/01/03 頁數：2 of 5

漢保實業股份有限公司

HAMBURG INDUSTRIES CO., LTD.

台北縣深坑鄉北深路三段270巷12號6樓

6F., NO. 12, LANE 270, SEC. 3, PEISHEN ROAD, SHEN KENG

HSIANG, TAIPEI HSIEN, TAIWAN 222



## 測試結果 (單位: mg/kg) / Test Result(s)

測試項目 / Test Item (s):	測試方法 Method (Refer to)	結果 / Result	方法偵測 極限值 (MDL)
		No.1	
鎘 / Cadmium (Cd)	(1)	n.d.	2
鉛 / Lead (Pb)	(2)	14.3	2
汞 / Mercury (Hg)	(3)	n.d.	2
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
多溴聯苯總和 / Sum of PBBs	(5)	n.d.	-
一溴聯苯 / Monobromobiphenyl		n.d.	5
二溴聯苯 / Dibromobiphenyl		n.d.	5
三溴聯苯 / Tribromobiphenyl		n.d.	5
四溴聯苯 / Tetrabromobiphenyl		n.d.	5
五溴聯苯 / Pentabromobiphenyl		n.d.	5
六溴聯苯 / Hexabromobiphenyl		n.d.	5
七溴聯苯 / Heptabromobiphenyl		n.d.	5
八溴聯苯 / Octabromobiphenyl		n.d.	5
九溴聯苯 / Nonabromobiphenyl		n.d.	5
十溴聯苯 / Decabromobiphenyl		n.d.	5
多溴聯苯醚總和 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)		n.d.	-
一溴聯苯醚 / Monobromobiphenyl ether		n.d.	5
二溴聯苯醚 / Dibromobiphenyl ether		n.d.	5
三溴聯苯醚 / Tribromobiphenyl ether		n.d.	5
四溴聯苯醚 / Tetrabromobiphenyl ether		n.d.	5
五溴聯苯醚 / Pentabromobiphenyl ether		n.d.	5
六溴聯苯醚 / Hexabromobiphenyl ether		n.d.	5
七溴聯苯醚 / Heptabromobiphenyl ether		n.d.	5
八溴聯苯醚 / Octabromobiphenyl ether		n.d.	5
九溴聯苯醚 / Nonabromobiphenyl ether		n.d.	5
十溴聯苯醚 / Decabromobiphenyl ether		n.d.	5
多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)		n.d.	-

## 測試部位描述 / TEST PART DESCRIPTION:

NO.1 : 黑色塑膠管 / BLACK PLASTIC TUBE

# 測試報告

號碼：CE/2006/C6257A 日期：2007/01/03 頁數：3 of 5

漢保實業股份有限公司

HAMBURG INDUSTRIES CO., LTD.

台北縣深坑鄉北深路三段270巷12號6樓

6F., NO. 12, LANE 270, SEC. 3, PEISHEN ROAD, SHEN KENG  
HSIANG, TAIPEI HSIEN, TAIWAN 222



Note: 1. mg/kg = ppm

2. n.d. = Not Detected / 未檢出

3. MDL = Method Detection Limit / 方法偵測極限值

4. Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.

根據2005年10月13日歐盟會議公佈2005/717/EC，修訂2002/95/EC內容，通過解除  
高分子材質中十溴聯苯醚之使用限制。

5. "-" = Not Regulated / 無規格值

6. 原報告號碼CE/2006/C6257作廢

## 測試報告

號碼：CE/2006/C6257A 日期：2007/01/03 頁數：4 of 5

漢保實業股份有限公司

HAMBURG INDUSTRIES CO., LTD.

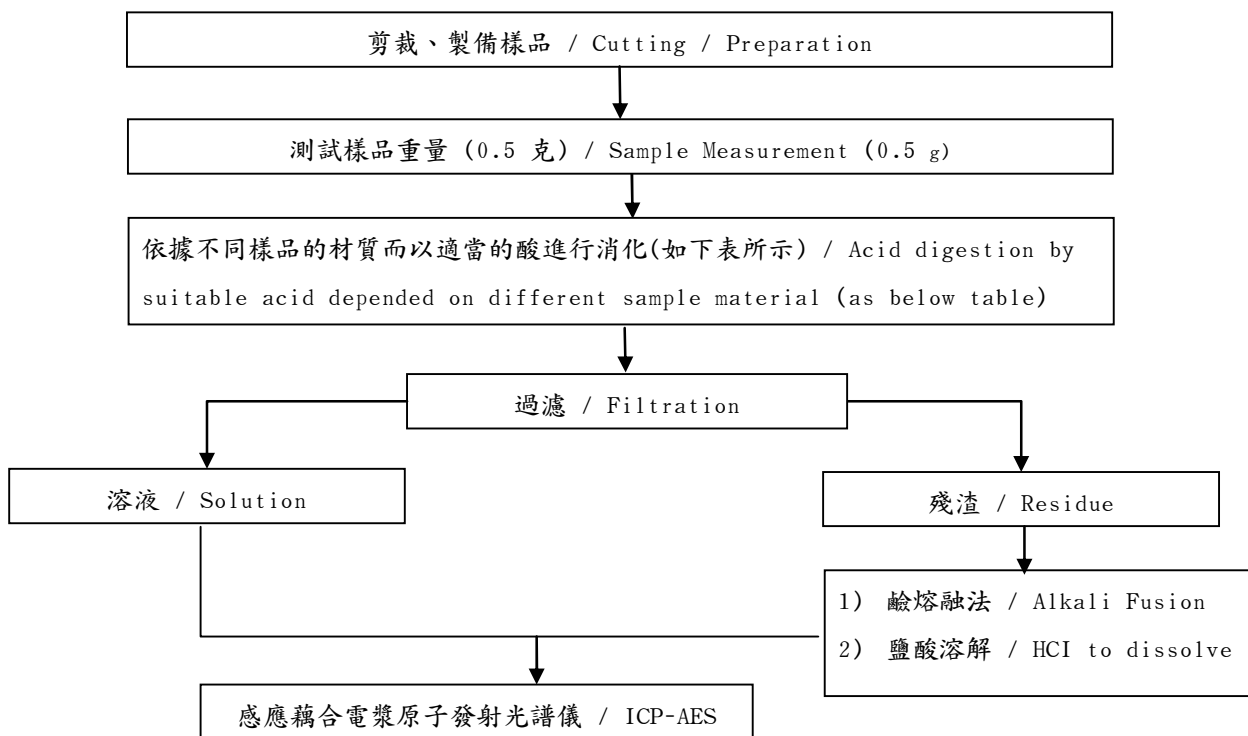
台北縣深坑鄉北深路三段270巷12號6樓

6F., NO. 12, LANE 270, SEC. 3, PEISHEN ROAD, SHEN KENG

HSIANG, TAIPEI HSIEN, TAIWAN 222



- 1) 根據以下的流程圖之條件，樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
- 3) 測試負責人：葉禮源 / Name of the person in charge of measurement: Daniel Yeh

鎘、鉛的消化流程圖 / Method 1: Flow Chart of Digestion for Cd、Pb analysis

鋼, 銅, 鋁, 焊錫 / Steel, copper, aluminum, solder	王水, 硝酸, 鹽酸, 氫氟酸, 雙氧水 / Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
玻璃 / Glass	硝酸, 氫氟酸 / HNO <sub>3</sub> /HF
金, 鉑, 鈀, 陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO <sub>3</sub>
塑膠 / Plastic	硫酸, 雙氧水, 硝酸, 鹽酸 / H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

## 測試報告

號碼：CE/2006/C6257A 日期：2007/01/03 頁數：5 of 5

漢保實業股份有限公司

HAMBURG INDUSTRIES CO., LTD.

台北縣深坑鄉北深路三段270巷12號6樓

6F., NO. 12, LANE 270, SEC. 3, PEISHEN ROAD, SHEN KENG

HSIANG, TAIPEI HSIEN, TAIWAN 222



\*\* 報告結尾 \*\*



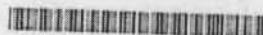
## Test Report

HUANG LIANG PRECISION ENTERPRISE CO.,LTD.  
NO.10, ANLIN 5TH ST., YANCHAO TOWNSHIP, KAOHSIUNG  
COUNTY 824, TAIWAN (R.O.C.)

Report No. : KA/2006/72739

Date : 2006/8/7

Page : 1 of 3

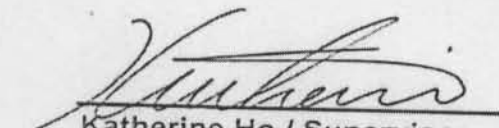


The following sample(s) was/were submitted and identified by/on behalf of the client as :

Sample Description : BRASS(C3604) Ø14.5  
Sample Received : 2006/07/31  
Testing Date : 2006/07/31 TO 2006/8/7

### Test Result(s)

: - Please see the next page(s) -

  
Katherine Ho / Supervisor  
Signed for and on behalf of  
SGS Taiwan Limited

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Tel: 886-7-3330920 Fax: 886-7-3330921  
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## Test Report

HUANG LIANG PRECISION ENTERPRISE CO.,LTD.  
NO.10, ANLIN 5TH ST., YANCHAO TOWNSHIP, KAOHSIUNG  
COUNTY 824, TAIWAN (R.O.C.)

Report No. : KA/2006/72739

Date : 2006/8/7

Page : 2 of 3



### Test Result(s)

PART NAME NO.1 : BRASS(C3604)Ø 14.5

Test Item (s)	Unit	Method	MDL	Result
				No. 1
Cadmium (Cd)	mg/Kg	With reference to EN 1122; method B:2001. Analysis by ICP-AES.	2	40.4
Chromium VI (Cr+6)	mg/Kg	With referece to US EPA 3060A. Analysis by UV-VIS (US EPA 7196A)	2	N.D.
Mercury (Hg)	mg/Kg	With reference to US EPA 3052. Analysis by ICP-AES.	2	N.D.
Lead (Pb)	mg/Kg	With reference to US EPA 3050B. Analysis by ICP-AES.	2	24900

NOTE: (1) N.D. = Not Detected (<MDL)  
(2) mg/Kg = ppm, 0.1% = 1000 ppm(mg/Kg), 0.0005% = 5  
(3) MDL = Method Detection Limit

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3064640

# SGS

## Test Report

HUANG LIANG PRECISION ENTERPRISE CO.,LTD.  
NO.10, ANLIN 5TH ST., YANCHAO TOWNSHIP, KAOHSIUNG  
COUNTY 824, TAIWAN (R.O.C.)

Report No. : KA/2006/72739

Date : 2006/8/7

Page : 3 of 3



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# Test Report

No. :KA/2006/B1255

Date: 20061124 Page: 1 of 3

TAIWAN TOTAL CO.,LTD

NO.39, FUCIANG RD., GUANTIAN TOWNSHIP, TAINAN COUNTY 720, TAIWAN (R.O.C.)



Report on the submitted sample said to be Au.

Sample Receiving Date : 2006/11/17  
Testing Period : 2006/11/17 TO 2006/11/24

## Test Requested

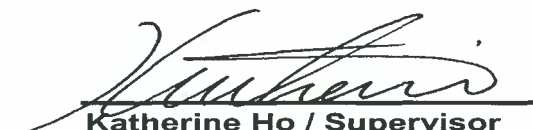
: In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

## Test Method

- (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.
- (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.
- (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.
- (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium for non-metallic samples. Analysis was performed by UV/Vis Spectrometry.

## Test Result(s)

: Please refer to next page(s).

  
**Katherine Ho / Supervisor**  
**Signed for and on behalf of**  
**SGS Taiwan Limited**

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**TW 4167750**

## Test Report

No. :KA/2006/B1255

Date: 20061124 Page: 2 of 3

TAIWAN TOTAL CO.,LTD

NO.39, FUCIANG RD., GUANTIAN TOWNSHIP, TAINAN COUNTY 720, TAIWAN (R.O.C.)



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium (CrVI)	(4)	n.d.	2

## Test Part Description:

NO.1 : GOLDEN COLORED Au

- Note :
1. mg/kg = ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit

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TW 4167749

## Test Report

No. :KA/2006/B1255

Date: 20061124 Page: 3 of 3

TAIWAN TOTAL CO.,LTD

NO.39, FUCIANG RD., GUANTIAN TOWNSHIP, TAINAN COUNTY 720, TAIWAN (R.O.C.)



\*\* End of Report \*\*

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TW 4167748

# Test Report

No. :KA/2007/11514

Date: 20070129 Page: 1 of 3

SHUANG SHENG ENTERPRISE CO.,LTD  
NO 8.JHONGLU VILLAGE,ALIAN TOWNSHIP,KAOHSIUNG COUNTY 82243,TAIWAN



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


Sample Description : COPPER TUBING  
Sample Receiving Date : 2007/01/22  
Testing Period : 2007/01/22 TO 2007/1/29

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method :

- (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.
- (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.
- (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.
- (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.

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

  
Katherine Ho / Supervisor  
Signed for and on behalf of  
SGS Taiwan Limited

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TW 4160394

# Test Report

No. :KA/2007/11514

Date: 20070129 Page: 2 of 3

SHUANG SHENG ENTERPRISE CO.,LTD

NO 8.JHONGLU VILLAGE,ALIAN TOWNSHIP, KAOHSIUNG COUNTY 82243,TAIWAN



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI)	(4)	n.d.	2

## TEST PART DESCRIPTION:

NO.1 : REDDISH METAL

- Note :
1. mg/kg = ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit

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TW 4160393

## Test Report

No. :KA/2007/11514

Date: 20070129 Page: 3 of 3

SHUANG SHENG ENTERPRISE CO.,LTD

NO 8.JHONGLU VILLAGE,ALIAN TOWNSHIP, KAOHSIUNG COUNTY 82243,TAIWAN



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**TW 4160392**

## 測試報告

俐業股份有限公司  
CASHI COMPONENTS CORP.  
\*300新竹市牛埔東路386號  
NO. 386, NIU-PU EAST RD., HSIN-CHU, TAIWAN.

報告號碼 : CE/2006/86534  
日期 : 2006/08/28  
頁數 : 1 of 4

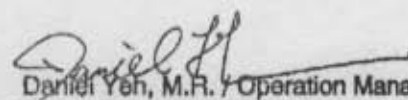


以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下：

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

樣品名稱	:	SCREW, STEEL / NICKEL
Sample Description	:	SCREW, STEEL / NICKEL
收件日期(Sample Received)	:	2006/08/21.
測試期間(Testing Period)	:	2006/08/21 TO 2006/08/28

測試結果 : - 請見下一頁 -

  
Daniel Yeh, M.R. / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

## 測試報告

俐業股份有限公司  
CASHI COMPONENTS CORP.  
\*300新竹市牛埔東路386號  
NO. 386, NIU-PU EAST RD., HSIN-CHU, TAIWAN.

報告號碼 : CE/2006/86534  
日期 : 2006/08/28  
頁數 : 2 of 4



### 測試結果

測試部位/PART NAME NO.1 : 銀色金屬  
測試部位/PART NAME NO.2 : 銀色金屬鍍層

測試項目 (Test Item)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果(Result)	
				NO.1	NO.2
六價鉻 / Chromium VI (Cr+6)	mg/kg (ppm)	參考 IEC 62321 Ed. 1 (111/54/CDV) - Section 9方法, 用UV-VIS分析 / With reference to IEC 62321 Ed. 1 (111/54/CDV; Section 9 method.) Analysis was performed by UV-VIS	2	---	Negative
鎘 / Cadmium (Cd)	mg/kg (ppm)	參考 US EPA 3052 方法, 用感應耦 合電漿原子發射光譜儀(ICP-AES)分 析 / With reference to US EPA 3052. Analysis was performed by ICP-AES.	2	N.D.	---
汞 / Mercury (Hg)	mg/kg (ppm)	參考 US EPA 3052 方法, 用感應耦 合電漿原子發射光譜儀(ICP-AES)分 析 / With reference to US EPA 3052. Analysis was performed by ICP-AES.	2	N.D.	---
鉛 / Lead (Pb)	mg/kg (ppm)	參考 US EPA 3052 方法, 用感應耦 合電漿原子發射光譜儀(ICP-AES)分 析 / With reference to US EPA 3052. Analysis was performed by ICP-AES.	2	N.D.	---

備註: (1) N.D. = Not Detected. (<MDL) / 未檢出(低於方法偵測極限值)

(2) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

(3) MDL = Method Detection Limit / 方法偵測極限值

(4) Decabromobiphenyl ether (DecaBDE) in polymeric applications is exempted by  
Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified  
under document 2005/717/EC. / 根據2005年10月13日歐盟會議公佈2005/717/EC, 修  
訂2002/95/EC內容, 通過解除高分子材質中十溴聯苯醚之使用限制。

(5) PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.

(6) Sample was totally digested for Pb, Cd, Hg / 對於鉛鎘汞測項, 樣品是完全消化

(7) Negative / 陰性(未偵測到), Positive / 陽性(已偵測到)

(8) "----" = Not Applicable / 未測項目

## 測試報告

俐業股份有限公司  
CASHI COMPONENTS CORP.  
\*300新竹市牛埔東路386號  
NO. 386, NIU-PU EAST RD., HSIN-CHU, TAIWAN.

報告號碼 : CE/2006/86534

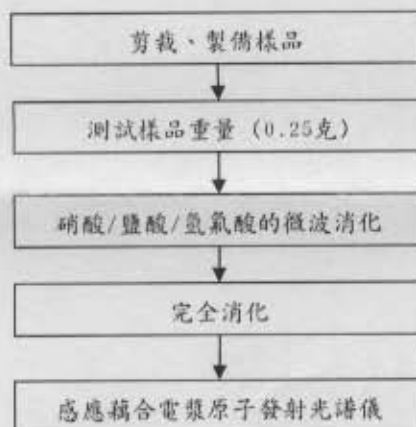
日期 : 2006/08/28

頁數 : 3 of 4



- 1) 根據以下的流程圖之條件，樣品已完全溶解。
- 2) 測試人員：李安仁
- 3) 測試負責人：葉禮源

消化流程圖 - 鉛、鎘的測試方式為 EPA3052 (無殘渣)



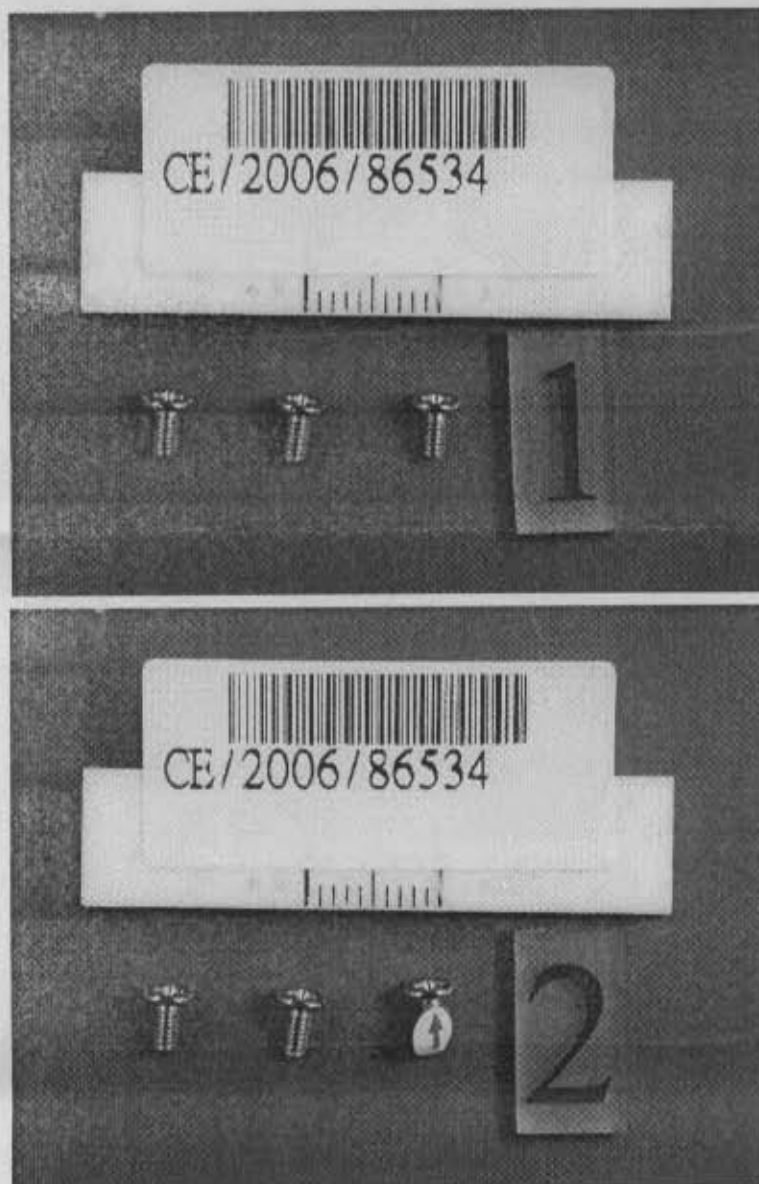
## 測試報告

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 CASHI COMPONENTS CORP.  
 \*300新竹市牛埔東路386號  
 NO. 386, NIU-PU EAST RD., HSIN-CHU, TAIWAN.

報告號碼 : CE/2006/86534

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NO. 136-1, Wu Kung Road, WuKu Industrial Zone, Taipei county, Taiwan.  
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**SGS**

Member of the SGS Group (SGS SA)

**Test Report**

No.: GZ0701003511/CHEM

Date: JAN 12, 2007

Page 1 of 3

DONGGUAN CITY HUAYU METALS MATERIAL CO., LTD  
GUANTOU INDUSTRIAL, DALANG TOWN, DONGGUAN CITY

The following sample(s) was/were submitted and identified on behalf of the applicant as C3604 快削钢

SGS Ref No. : SZ10211611  
Sample Receiving Date : JAN 09, 2007  
Testing Period : JAN 09, 2007 TO JAN 12, 2007

Test Requested : To determine the Cadmium, Lead, Mercury & Hexavalent Chromium content in the submitted sample.

Test Method : With reference to IEC 62321 Ed.1 111/54/CDV  
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products  
(1) Determination of Cadmium by ICP.  
(2) Determination of Lead by ICP.  
(3) Determination of Mercury by ICP.  
(4) Determination of Hexavalent Chromium by Colorimetric Method.

Test Results : Please refer to next page.

Signed for and on behalf of  
SGS-CSTC Ltd.



Huang Fang, Sunny  
Sr. Engineer

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**SGS****Test Report**

No.: GZ0701003511/CHEM

Date: JAN 12, 2007

Page 2 of 3

Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	No.1	MDL
Cadmium(Cd)	(1)	4	2
Lead (Pb)	(2)	28678	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by Spot test	(4)	Negative	See Note 4

**Test Part Description:**

No.1 Brassy metal wire

Note: 1. mg/kg = ppm

2. N.D. = Not Detected (&lt; MDL)

3. MDL = Method Detection Limit

4. Spot-test:

Negative = Absence of CrVI coating. Positive = Presence of CrVI coating.

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

**Boiling-water-extraction:**

Negative = Absence of CrVI coating

Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area.

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# SGS

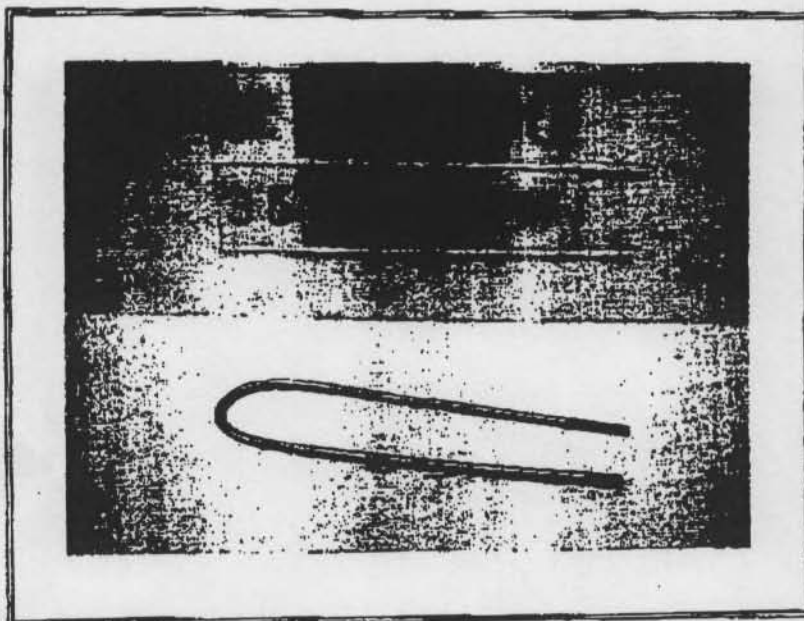
## Test Report

No.: GZ0701003511/CHEM

Date: JAN 12, 2007

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Sample photo :



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



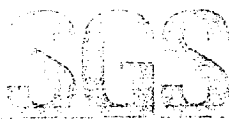
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12.

**Test Report**

No.: GZ0701003698/CHEM

Date: JAN 15, 2007

Page 1 of 2

DUO XING ELECTROPLATE FACTORY  
JIANGBIAN THIRD INDUSTRIAL ZONE, BAOAN DISTRICT, SHENZHEN CITY

The following sample(s) was/were submitted and identified on behalf of the applicant as 金电镀液

SGS Ref No. : SZ10221952-2.1

Sample Receiving Date : JAN 09, 2007

Testing Period : JAN 09, 2007 TO JAN 15, 2007

Test Requested : To determine the Cadmium, Lead, Mercury & Hexavalent Chromium content in the submitted sample.

Test Method : With reference to IEC 62321 Ed.1 111/54/CDV  
Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products  
(1) Determination of Cadmium by ICP.  
(2) Determination of Lead by ICP.  
(3) Determination of Mercury by ICP.  
(4) Determination of Hexavalent Chromium by Colorimetric Method.

Test Results : (Unit: mg/kg)

Test Item(s):	Method (refer to)	No.1	MDL
Cadmium(Cd)	(1)	N.D.	2
Lead (Pb)	(2)	N.D.	2
Mercury (Hg)	(3)	N.D.	2
Hexavalent Chromium (CrVI) by alkaline extraction	(4)	N.D.	2

**Test Part Description:**

No.1 Yellow liquid

- Note : 1. mg/kg = ppm  
2. N.D. = Not Detected (< MDL)  
3. MDL = Method Detection Limit

Signed for and on behalf of  
SGS-CSTC Ltd.

  
Jiang YongPing, Terry  
Sr. Engineer

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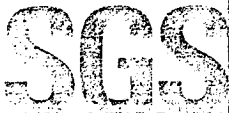
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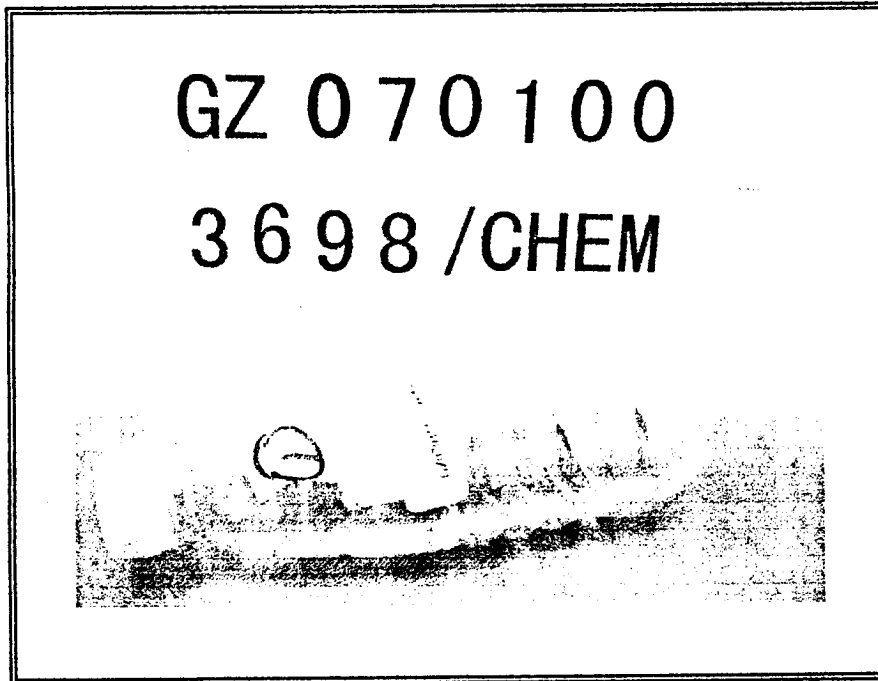
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Date: JAN 15, 2007

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Sample photo :



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**華裕實業股份有限公司**  
WHA YU INDUSTRIAL CO., LTD

## RoHS 排外條款說明 RoHS Exclusive item Hazardous Substance

本公司保證，本產品均屬環保產品，皆符合 RoHS 法規要求，並適用於 RoHS 規定之排除條款。

We hereby confirm and assure that all parts and sub-materials delivered to your company comply with RoHS Standard and apply to RoHS Exclusive item.

RoHS 合金類排除條款要求如下：

RoHS Exclusive item：

合金種類 alloys item	鉛允許含量(ppm) Lead acceptance concentration
鋼材 steel	<3,500ppm
鋁合金 aluminium alloys	<4,000ppm
銅合金 copper alloys	<40,000ppm
焊錫 solder	<1,000ppm

立承諾書人

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company name: WHA YU INDUSTRIAL CO., LTD

公司地址：新竹市公道五路二段 326 號  
company address: No.326. Sec 2. Kung Tao 5 Road. Hsin Chu City, Taiwan

聯絡電話：03-5714225  
TEL: +886-3-5714225

負責人：\_\_\_\_\_ 林祺生 \_\_\_\_\_ 董事長  
sign by

立約日期：西元 2006 年 9 月 05 日  
Date: 2006. 09. 05

