亞 驪 企 業 股 份 有 限 公 司
ARISTOTLE ENTERPRISES

承 認 申 請 書

ROHS COMPLIANCE

客戶名稱: Customer	互億科技(股)有限公司
廠商料號: Part No.	RFA-02-C2H0-16W-80
品名: Description	2.4GHz,2dBi,RG178,L=80mm
圖號: Drawing No.	RFA-02-C2H0-16W-80.DWG
客戶料號: Drawing No.	

出廠簽章:

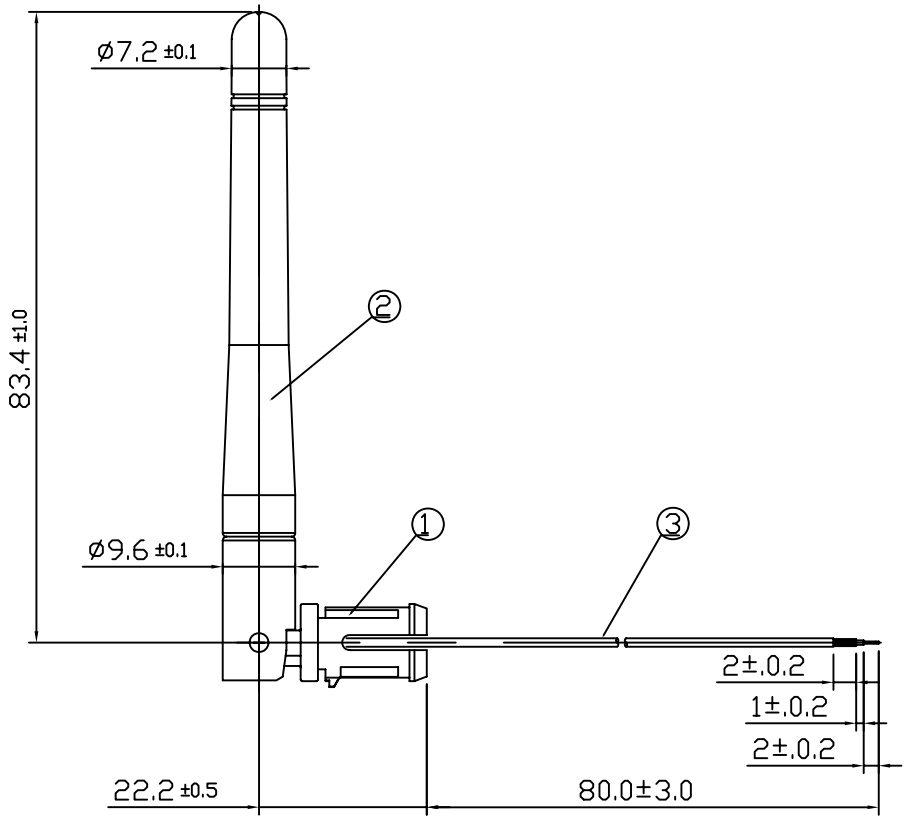
檢　　查 TEST BY	核　　對 CHECK BY	承　　認 APPROVE BY
周沂珮	黃秋芳	廖煥文

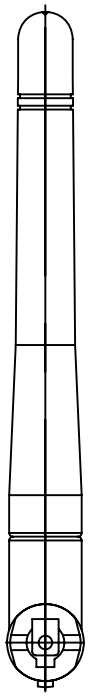
承認簽章:

檢　　查 TEST BY	核　　對 CHECK BY	承　　認 APPROVE BY

地址:台北縣中和市莒光路 63 號 8 樓
電話:02-2225-8209
傳真:02-2225-7523

NO.	NAME	FINISH	MAT'L	Q'TY	MEMO
1.	Hinge	BLACK	ABS	1	
2.	Housing	BLACK	ABS	1	
3.	Cable	BROWN	TEFLON	1	RG178





ARISTOTLE ENTERPRISES INC. 亞驪企業股份有限公司

				PROJECTION	UNITS	mm	TITLE: RFA-02-C2H0-16W-80
					SCALE	1/1	SHEET: 1/1
4.					PAPER	A4	
3.				APPD.			
2.				CHKD			DWG NO.
1.				DESIGN			REV.
REV	ECN	NAME	DATE	DRAW	J.W.Lee	96/4/23	RFA-02-C2H0-16W-80.DWG: A

CHI MEI CORPORATION

59-1 SAN CHIA, JEN TE, TAINAN COUNTY, TAIWAN R.O.C. TEL: 886-6-266-5000, FAX: 886-6-266-5555~7

泛用級 ABS, POLYLAC® PA-757

V1W

材料特性

特性(Properties)	測試方法(Test Method)	測試條件(Test Condition)	單位(Unit)	PA-757
引張強度 Tensile Strength	ASTM D638	1/8",6 mm/min	$Kg/cm^2(lb/in^2)$	480(6800)
延伸率 Tensile Elongation	ASTM D638	1/8",6 mm/min	%	20
彎曲強度 Flexural Strength	ASTM D790	1/4",2.8 mm/min	$Kg/cm^2(lb/in^2)$	820(11660)
彎曲彈性率 Flexural Modulus	ASTM D790	1/4",2.8 mm/min	$Kg/cm^2(lb/in^2)$	27000(380000)
IZOD 衝擊強度 Izod Impact Strength	ASTM D256(Notched)	1/4",23℃ 1/8",23℃	Kg-cm/cm(ft-lb/in) Kg-cm/cm(ft-lb/in)	18(3.3) 20(3.7)
流動係數 Melt Flow Index	ASTM D1238	200℃ , 5Kg	g/10min	1.8
硬度 Hardness	ASTM D785	1/2"	R Scale	116
比重 Specific Gravity	ASTM D792	23℃	-	1.05
軟化點 Vicat Softening Temp	ASTM D1525	1/8",50℃ /hr	℃ (℉)	105(221)
熱變形溫度 H.D.T Annealed(85℃ , 8hr) Unannealed	ASTM D648	1/4",120℃ /hr	℃ (℉)	99(210) 88(190)
燃燒率 Flammability	UL 94	-	-	1/16"HB

以上數據僅代表一般通用數據，不代表每一產品的規格值

若有任何疑問請洽產品推廣課 06-2665000, 06-2663000

奇美實業股份有限公司

台灣省台南縣仁德鄉三甲村59-1號. 電 話 : 886-6-266-5000, 傳 真 : 886-6-266-5555~7

物質安全資料表

V1W

1. 物品及廠商資料

產品名稱	**Polylac ®** PA-707 PA-757 PA-757N PA-717C PA-727 PA-747 PA-709
製造商	奇美實業股份有限公司
地址	台灣省台南縣仁德鄉三甲村 59-1 號
電話.	886-6-2663000 Ext. 1361 (產品推廣課)
緊急電話.	886-6-2663000 Ext. 1361 (產品推廣課)
傳真電話.	886-6-2667981

2. 成品辨識資料

單一產品或混合物	單一產品
化學名稱	Acrylonitrile-Butadiene-Styrene Copolymer
含量	＞98％(添加劑≦2％)
化學式	$(C_3H_3N, C_4H_6, C_8H_8)_x$
CAS No.	9003-56-9
危害性不純物	無

3. 危害性分類

健康危害效應	無
環境影響	無
物理性及化學性危害	無
特殊危害	無

4. 急救措施

吸入	若吸入熔融樹脂逸出之氣體，將患者移至通風處，立即送醫。
皮膚接觸	若接觸到塑膠粒或塑膠粉末，以清水沖洗。 若接觸到熔膠，以大量(肥皂)水沖洗患部及衣物，立即送醫。
眼睛接觸	若接觸到塑膠粒或塑膠粉末，以大量清水至少沖洗 15 分鐘。 若有不適，立即送醫。 若接觸到高溫熔融樹脂逸出之氣體，以大量清水至少沖洗 15 分鐘。 若有不適，立即送醫。
吞食	催吐，以清水漱口，若有不適，立即送醫。

5. 消防措施

適用滅火劑	水、泡沫、乾粉
滅火時可能遭遇之特殊危害	無
特殊滅火程序	移除可燃物
消防人員之特殊防護設備	使用供氧式呼吸防護具

6. 洩漏處理方法

個人應注意事項	若塑膠粒或塑膠粉末殘留於地面上，可能會導致人員滑倒。
環境注意事項	為防止鳥類或魚類由排水系統中攝食，須徹底回收
清理方法	回收或廢棄

7. 安全處置與儲存方法

處置	操作處所須嚴禁煙火，做好整理整頓以避免粉塵累積。為防止塵爆，空氣輸送管路、袋濾器及儲槽須加裝靜電消除裝置，並確實接地。袋濾器之濾材採導電性材質。
儲存	存放於陰涼處所，避免直射陽光、雨淋及急遽之溫差。儲存處嚴禁煙火

8. 暴露預防措施

容許濃度(TLV)	未定
通風設備	排除粉塵、煙及氣體時使用
個人防護設備	呼吸防護 清洗成型機時使用防毒面具。
	手部防護 接觸熔膠時使用皮手套。
	眼睛防護 平時使用安全眼鏡，清洗成型機時使用護目鏡

9. 物理及化學性質

物質狀態	米白色膠粒
形狀	粒狀
顏色	米白色
氣味	無
閃火點	404 ℃
自燃溫度	466 ℃
爆炸界限	45 g/m^3
最小著火能量	3.6 mJ
最大爆炸壓力	7×10^5 Pa
最大壓力上升速度	3.2×10^7 Pa/S
比重	1.03~1.10
溶解度	無

10. 安定性及反應性

安定性	依一般操作及儲存程序時，安定性佳。
危害性分解物	CO, HCN, AN, SM and NO
燃燒能量	3.53×10^7 J/kg (8424 Kcal/kg)

11. 毒性資料

刺激性 分解後之塑膠所產生的煙及蒸氣會刺激眼睛.

12. 生態資料

為防止被海洋生物或鳥類攝食，嚴禁丟棄至海洋或水域。.

13. 廢棄物處理

適當之焚化爐燃燒或掩埋法。不適當之焚化爐可能會產生有毒氣體如 CO, HCN, AN and SM.

14. 運送資料

未分類

15. 法規資料

無

16. 其他資料

無

CHI MEI CORPORATION

59-1 SAN CHIA JEN TE TAINAN HSIEN TAIWAN

Material Designation: PA-757 (+)

Product Description: Acrylonitrile Butadiene Styrene (ABS), designated "Polylac" furnished as pellets.

Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
ALL	1.5	HB	4	0	85	80	85	-	-
	3.0	HB	3	0	85	80	85	-	-

CTI: 0 **IEC CTI:** - **HVTR:** 1 **D495:** 1 **IEC Ball Pressure** (°C): -

Dielectric Strength (kV/mm): -
ISO Tensile Strength (MPa): -
ISO Tensile Impact (kJ/m²): -

Volume Resistivity (10*ohm-cm): -
ISO Flexural Strength (MPa): -
ISO Izod Impact (kJ/m²): -

Dimensional Stability(%): -
ISO Heat Deflection (°C): -
ISO Charpy Impact (kJ/m²): -

(+) Optional prefix or suffix may be used to denote 0-0.5% acid scavengers.

Report Date: 6/23/1983 Underwriters Laboratories Inc®

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.

CHI MEI CORPORATION

59-1 SAN CHIA, JEN TE, TAINAN COUNTY, TAIWAN R.O.C. TEL: 886-6-266-5000, FAX: 886-6-266-5617

Data issued: May 25, 2005

We hereby certify that the follow Polylac ABS resin (list as follow) produced by Chi Mei Corporation

GP-Grade	PA-707, PA-757, PA-717C, PA-727, PA-747, PA-709,
HF-Grade	PA-756, PA-756S, PA-756H,PA-756B, PA-716, PA-746, PA-746H, PA-737
Extrusion Grade	PA-747F, PA-747R, PA-747S, PA-709S
HH-Grade	PA-777B, PA-777D, PA-777E
Transparent Grade	PA-758

conforms to the requirement that no chemicals as following are added.

1. PBBEs (Poly Bromo Bisphenyl Ethers)
2. PBBs (Poly Bromo Bisphenyls)
3. Ozone Depleting Chemicals(CFC's&HCFC'S)
4. Chlorinated Paraffin (C10-C13)
5. Polyvinyl Chloride (PVC)
6. Mercury(Hg) and its compounds,
7. Lead(Pb) and its compounds,
8. Cadmium(Cd) and its compounds,
9. Chromium(Cr) and its compounds,
10. Arsenic(As) and its compounds,
11. Antimony(Sb) and its compounds,
12. Selenium(Se) and its compounds,
13. Barium(Ba) and its compounds,
14. Chromium(Cr) VI and its compounds
15. Organic tin compounds
16. Polychlorinated Biphenyls(PCB's) and Terphenyls(PCT's)
17. Poly naphthalenes
18. Azo compounds
19. Polychlorinated biphenyl
20. Polychlorinated naphthalene
21. Asbestos
22. Phthalates

With regard to composition of above grade, they can comply with the Directives of RoHS (2002/95/EC), 2003/11/EC , TCO'99, Blue Angel and SONY (SS-00259)

Sincerely Yours,

Eric Chou

Manager

Department of Product Strategy & Service

SPECIFICATION FOR APPROVAL

DOCUMENT: A30178B0031

STYLE： 105℃ 30V
RG-178B/U

SIZE: 7/0.102 SCCS

RECOGNIZED: UL 1979

WONDERFUL HI-TECH CO.,LTD

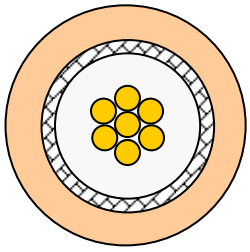
OFFICE：72WU KONG 6TH ROAD,
WU KU IND. DISTRICT
TAIPEI HSIEN,TAIWAN

TEL：(02)22988033
FAX：(02)22988031-2

FACTORY：17 PEI YUAN ROAD,
CHUNG-LI IND. PARK
TAIWAN, R.O.C.

TEL：(03)4527777
FAX：(03)4517214

WONDERFUL HI-TECH CO., LTD
SPECIFICATION

STYLE	105℃ 30V UL1979	DOCUMENT NO : A30178B0031	
SIZE	RG-178B/U	ESTABLISHED DATE: 2004/03/22	
STANDARD : MIL-C-17			
Conductor	Size	AWG	30
	Material	----	Silver-Coated Copper Clad Steel
	Conductors No.	----	7
	Conductors Size	mm	0.102
	O.D.	mm	0.30
Insulation	Average Thickness	mm	0.28
	Diameter	mm	0.86 ±0.03
	Material	----	FEP
	Color	----	Clear
Braid	Material	----	Silver-Coated Copper
	Construction	mm	16 / 3 / 0.10
	Coverage	%	95
Jacket	Average Thickness	mm	0.25
	Diameter	mm	1.80 ±0.05
	Material	----	FEP
	Color	----	Brown
Marking			
Drawing			

WONDERFUL HI-TECH CO., LTD.
SPECIFICATION

Electrical & Physical Properties							
Item			RG-178B/U				
Rating Temp Voltage			105℃ 30V				
Conductor Resistance			838 OHM/KM/20℃ MAX.				
Insulation Resistance			3000 MEGA OHM/KM MIN.				
Dielectric Strength			AC 500V/Minute				
Spark Test			2.5 KV				
Insulation	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / ㎟)				
		Elongation	200% MIN.				
	Aged	Tensile Strength	**UNAGED MIN 75%(168HRS×232℃)**				
		Elongation	**UNAGED MIN 75%(168HRS×232℃)**				
Jacket	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / ㎟)				
		Elongation	200% MIN.				
	Aged	Tensile Strength	**UNAGED MIN.75%(168HRS×232℃)**				
		Elongation	**UNAGED MIN.75%(168HRS×232℃)**				
Nom. Impedance			50 Ohms				
Nom. Capacitance			95.8 pF/m				
Nom. Vel. of Prop.			69.5%				
VSWR (0 – 6 GHZ)			UNDER 1.3				
Attenuation (dB/100m)	100MHz	1GHz	1.8GHz	2.4GHz	5.2GHz	6GHz	
	46	155	295	340	505	550	

RoHS REPORT INDEX-RFA-02-C2H0-16W-80

	NAME	供應商	RoHS report
1	Antenna Housing/Hinge-PA757	CHI MEI CORPORATION	KA/2007/10032
2	Cable-RG178	WONDERFUL HI-TECH CO., LTD.	CE/2007/11112

Test Report

CHI MEI CORPORATION.
NO.59-1, SANJIA VILLAGE, RENDE TOWNSHIP, TAINAN COUNTY 717, TAIWAN (R.O.C.)

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

Sample Description	:	ACRYLONYTRILE-BUTADIENE-STYRENE COPOLYMER
Style/Item No.	:	POLYLAC® PA-757 J01
Color	:	BLACK
Sample Receiving Date	:	2007/01/02
Testing Period	:	2007/01/02 TO 2007/1/9

==

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

Test Method :

(1) With reference to US EPA 3052 for Cadmium Content. Analysis was performed by ICP-AES.

(2) With reference to US EPA Method 3052 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 IEC 62321, Ed.1 111/54/CDV. Determination of Hexavelent Chromium for non-metallic samples by UV/Vis Spectrometry.

(5) With reference to US EPA 3540C for PBBs/PBDEs Content. Analysis was performed by GC/MS.

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

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

Test Report

CHI MEI CORPORATION.
NO.59-1, SANJIA VILLAGE, RENDE TOWNSHIP, TAINAN COUNTY 717, TAIWAN
(R.O.C.)

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

Test item (s):	Method (Refer to)	Result No.1	MDL
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
Sum of PBDEs (Mono to Nona)(Note 4)		n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
Sum of PBDEs (Mono to Deca)		n.d.	-

TEST PART DESCRIPTION:
NO.1 : BLACK PLASTIC PELLETS

TWA127727

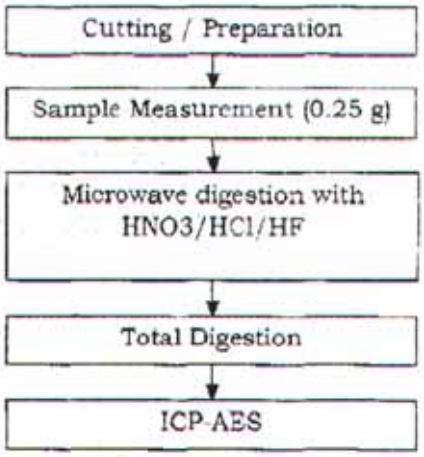
CHI MEI CORPORATION.
NO.59-1, SANJIA VILLAGE, RENDE TOWNSHIP, TAINAN COUNTY 717, TAIWAN
(R.O.C.)

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. " - " = Not Regulated

CHI MEI CORPORATION.
NO 59-1, SANJIA VILLAGE, RENDE TOWNSHIP, TAINAN COUNTY 717, TAIWAN
(R.O.C.)

Per requirements of SONY QAR-05-002:
1)These samples were dissolved totally by pre-conditioning method according to below flow chart.
2)Name of the person who made measurement: Hungming Li
3)Name of the person in charge of measurement: George Huang

Flow Chart of Digestion for Plastic -EPA3052 for Pb · Cd (without residue)



Test Report

CHI MEI CORPORATION.
NO.59-1, SANJIA VILLAGE. RENDE TOWNSHIP, TAINAN COUNTY 717, TAIWAN
(R.O.C.)

** End of Report **

Test Report

No. : CE/2007/11112 Date : 2007/01/11 Page : 1 of 5

WONDERFUL HI-TECH CO., LTD.
NO. 17, PEI-YUAN ROAD, CHUNG-LI IND. PARK, TAOYUAN,
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-316/U, RG-179/U, RG-178B/U, RF405A MINI 1.13mm RF, MINI 1.32mm RF, MINI 1.37mm RF, MINI 0.8mm RF
Sample Receiving Date	:	2007/01/04
Testing Period	:	2007/01/04 TO 2007/01/11

==========

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.

(5) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium for non-metallic samples. Analysis was performed by UV/Vis Spectrometry.

(6) With reference to US EPA 3540C for PBBs/PBDEs Content. Analysis was performed by GC/MS.

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

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

WONDERFUL HI-TECH CO., LTD.
NO. 17, PEI-YUAN ROAD, CHUNG-LI IND. PARK, TAOYUAN,
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	
Cadmium (Cd)	(1)	n.d.	n.d.	n.d.	n.d.	2
Lead (Pb)	(2)	9.6	n.d.	8.7	n.d.	2
Mercury (Hg)	(3)	n.d.	n.d.	n.d.	n.d.	2
Hexavalent Chromium Cr(VI)	(4)	n.d.	---	n.d.	---	2
	(5)	---	n.d.	---	n.d.	2
Sum of PBBs	(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
Sum of PBDEs (Mono to Nona) (Note 4)		---	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
Sum of PBDEs (Mono to Deca)		---	n.d.	---	n.d.	-

TEST PART DESCRIPTION:

NO.1 : SILVER COLORED METAL WIRE
NO.2 : TRANSPARENT PLASTIC INSULATION
NO.3 : SILVER COLORED METAL WIRE (WEAVED)
NO.4 : BROWN PLASTIC JACKET

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TAIWAN, R. O. C.

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. "-" = Not Regulated
6. "---" = Not Conducted

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** End of Report **