



Radiation Technology, Inc.

昆山昕芮特电子科技有限公司

Specification For Approval

Customer: 芯发威达

Description: WIFI INNER PCB ANTENNA

Customer P/N: 32505-001703-100-RS

RTI P/N: C0255-ANG0042

Customer Rev: N/A

RTI Rev: SB

Date: 2022.08.31

Customer Approval Result

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Radiation Technology Inc. Approval



www.rt-inc.com



SYSTEM CERTIFIED

ISO/TS 16949:2009 No.01274/0
ISO 9001:2008 No.04431/0
ISO 14001:2004 No.01578/0



SPECIFICATION FOR APPROVAL

零件承認書

IEI Part Number :
(威強電料號)

32505-001703-100-RS

IEI Description :
(威強電料號描述)

WIFI INNER PCB ANTENNA

Manufacturer :
(製造商)

RTI(昆山昕芮特电子科技有限公司)

Manufacturer Model Name :
(製造商型號)

WIFI INNER PCB ANTENNA

Manufacturer Part Number :
(製造商料號)

C0255-ANG0042

Manufacturer / Supplier Description :
(製造商/代理商料號描述)

WIFI INNER PCB ANTENNA L=70mm

RoHS or Halogen Free :
(符合 RoHS 或無鹵)

Yes

Manufacturer/Supplier contact window & stamped
(製造商/代理商窗口資訊及用印)

李雪梅

[Tel:+86-512-82606588*803](tel:+86-512-82606588*803)

Cell:18036112464

Fax:+86-512-82606586/7

E-mail:tina.li@umtek.com.cn



Enclosure List (附件清單)

One .Component approving sheet (零件承認書)

Y N

- | | |
|--|--|
| 1.English file name.....
(英文檔名) | ☒ ☐ |
| 2. Component Spec.....
(零件規格) | ☒ ☐ |
| 3. Component Monomer Packing.....
(零件單體封裝) | ☐ ☒ |
| 4. Component Dimension.....
(零件尺寸) | ☒ ☐ |
| 5. Component material approving.....
(零件材料承認) | ☒ ☐ |
| 6. Safety certificate of plastic material or component.....
(塑膠材質安規或零件安規) | ☐ ☒ |
| 7. Component Shipment Packing.....
(零件出貨包裝) | ☐ ☒ |
| 8. Quality assurance after the delivered.....
(零件出廠保存期限，指出貨到我司,未上線並存放於倉庫,不影響零件功能的時間) | <u>半年</u> |

Two .Component RoHS test report in one year (零件一年內 RoHS 檢測報告)

- | | |
|--|--|
| 1. The third party test report...ex. SGS TEST REPORT.....
(第 3 公正單位測試報告...例如: SGS,ICT) | ☒ ☐ |
| 2. If there's no test report, please add the announcement at the attachment
(無第 3 公正單位測試報告,提供自我宣告書) | ☒ ☐ |
| 3. The better is to add the MSDS at the attachment.....
(各原材料 MSDS) | ☐ ☒ |

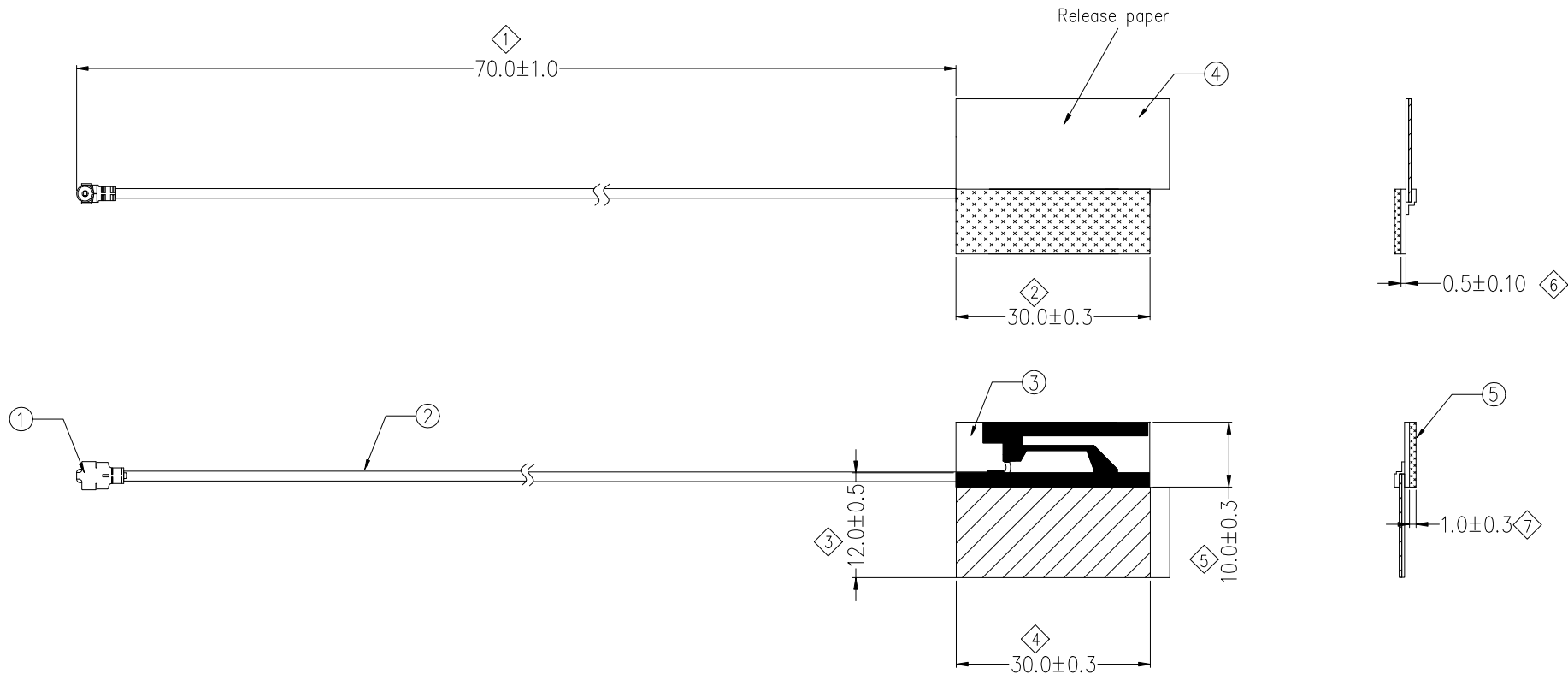
Three. Item Attributes(零件特性)

- | | |
|--|------------------------|
| 1. Operating Temperature(Max.)..... | <u>+65°C</u> |
| (最高使用溫度) | |
| 2. Operating Temperature(Min.)..... | <u>-20°C</u> |
| (最低使用溫度) | |
| 3. Storage Temperature(Max.)..... | <u>+65°C</u> |
| (最高儲存溫度) | |
| 4. Storage Temperature(Min.)..... | <u>-20°C</u> |
| (最低儲存溫度) | |
| 5. Meeting IPC/JEDEC J-STD-20 MSL Classifications | <u>IPC/WHMA-A-620B</u> |
| (符合 IPC/JEDEC J-STD-20 MSL Classifications 等級) | |
| 6. If not meeting Item5,that can meet _____(standard) and attached documents for certifying. | |
| (如不符合上述第 5 項,可符合 _____標準，並提供相關資料說明) | |

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THE COMPONENT(S), INCLUDING ANY PLATING OR COATINGS, SUPPLIED PER THIS DRAWING MUST BE COMPLIANT WITH EU DIRECTIVE 2011/65/EU (RoHS DIRECTIVE)

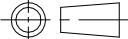
REVISIONS			
REV.	ECN#	DESCRIPTION	CHNGD BY/ DATE
SA	XX-XX-XX	FRIST RELEASE FOR SAMPLE BUILD	Wendy/2015.12.01
SB		Add antenna type	John/2022.08.31



NOTES:

- Frequency: 2.4~2.5GHz ; 5.15~5.85GHz
- VSWR: 2.0 Max(2.4~2.5GHz) 2.0 Max(5.15~5.85GHz)
- Peak gain: 2.0dBi(Excluding cable loss)
- Impedance: 50 ohm
- Radiation: Omni-directional
- Polarization: Vertical
- Antenna type:PIFA
- Operating temperature range -20°C to +65°C

ITEM	NAME	MATERIAL	QTY
⑤	Sponge	30mm*10mm*T1.0mm White	1PC
④	Brass foil	Brass Foil 30.0*12.0*0.25mm	1PC
③	PCB	Material FR-4 30.0*10.0*0.5mm	1SET
②	Cable	Ø1.13 Coaxial Cable,Charcoal grey	1PC
①	Connector	MHF SERIES MICRO PLUG VERTICAL FOR 1.13mm,P/N:20278-112R-13	1SET
BILL OF MATERIAL			

THIRD ANGLE PROJECTION				DRAWING APPROVAL		 Radiation Technology, Inc. 昆山昕芮特电子科技有限公司			
				DWN:					
TOLERANCES UNLESS OTHERWISE SPECIFIED		CHKD:		CUS:				RTI P/N: C0255-ANG0042	
		APPD:		103100				CUS P/N:32505-001703-100-RS	
				ITEM:					
ONE PLACE DECIMAL .X	N/A	SIZE:	UNIT:	WIFI INNER PCB ANTENNA L=70mm					
TWO PLACE DECIMAL .XX	N/A	A4	mm						
THREE PLACE DECIMAL .XXX	N/A	SCALE: — : —		SHEET:	1 OF 1	CUS REV:	N/A	RTI REV:	SB
HOLE DIA. VARIATION .XX	N/A								
ANGULAR DIMENSION (ENG)	N/A								

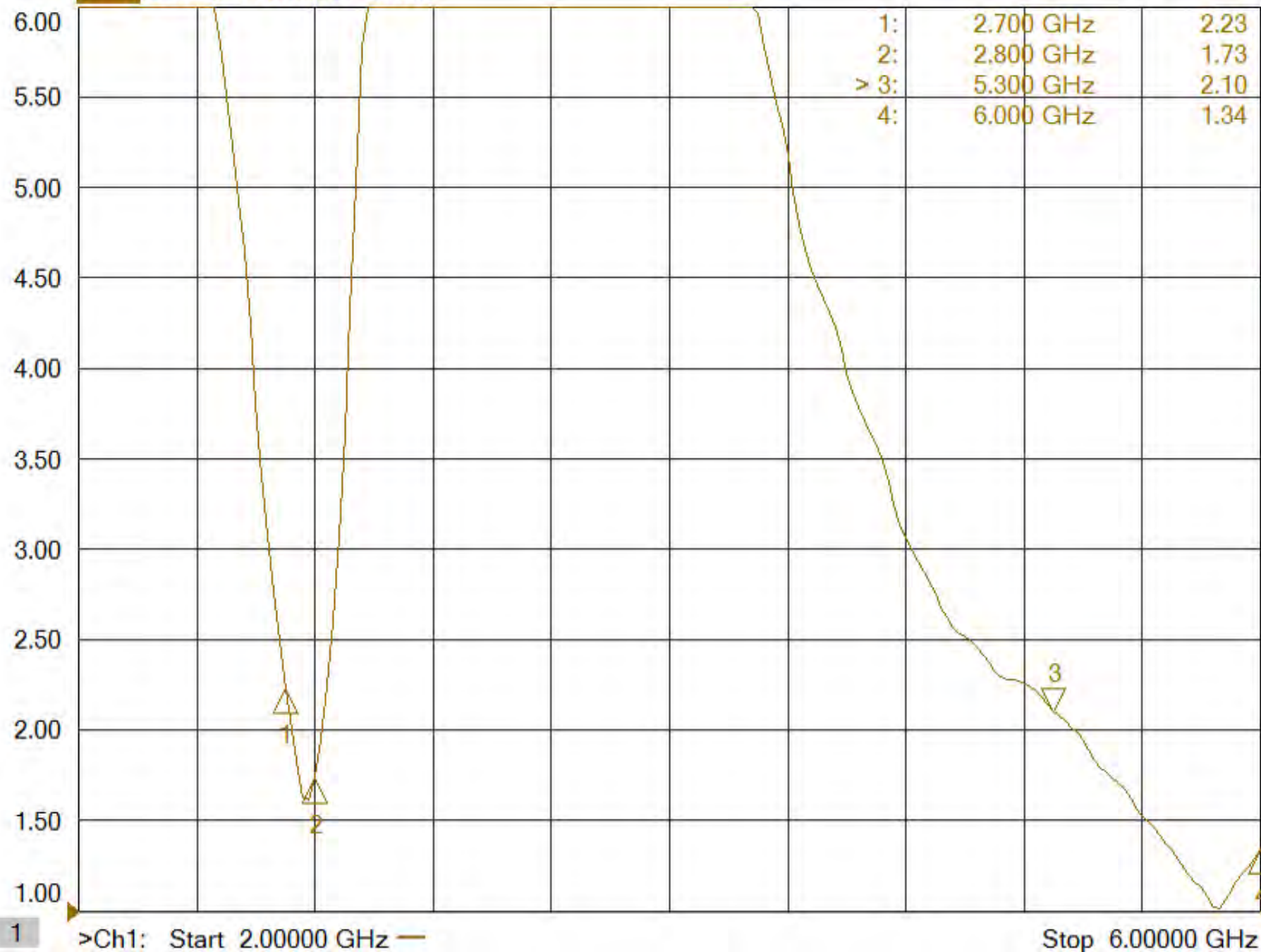
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R_{TI} Radiation Technology, Inc.
昆山昕芮特电子科技有限公司



Marker 3 | 5.3000000000 GHz

Marker

Tr 1 S11 SWR 0.500U/ 1.00U

☒ Marker 1☒ Marker 2☒ Marker 3☐ Reference

More Markers ▶

Turn Off
Markers ▶

Properties ▶

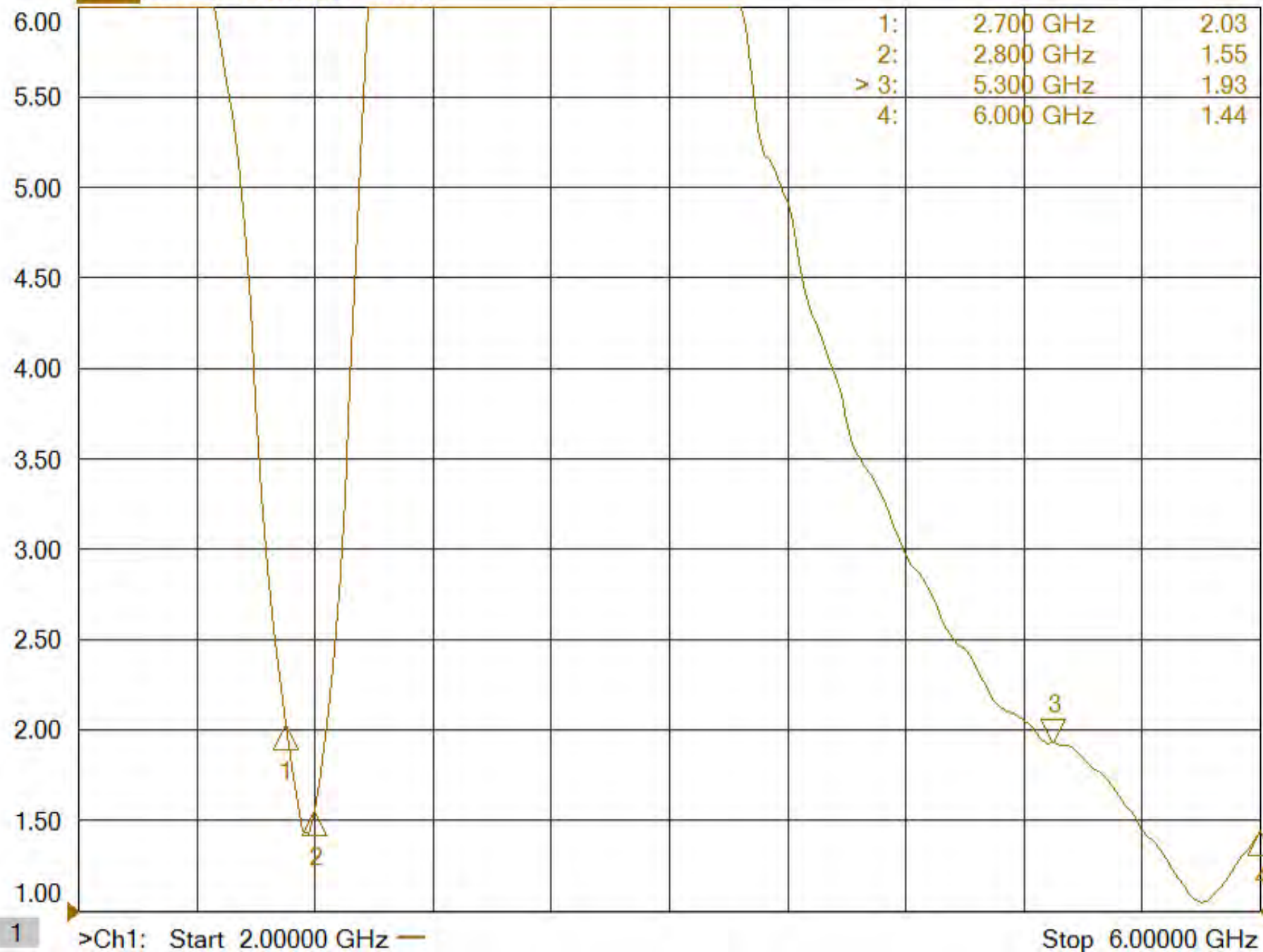
Marker ->
Functions ▶



Marker 3 | 5.3000000000 GHz

Marker

Tr 1 S11 SWR 0.500U/ 1.00U

☒ Marker 1☒ Marker 2☒ Marker 3☐ Reference

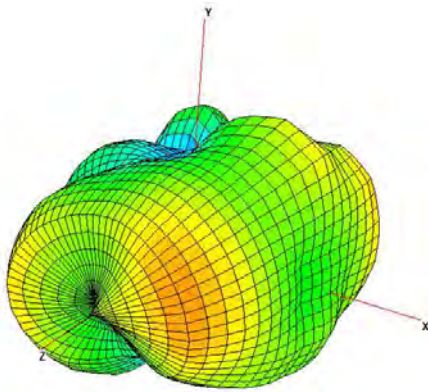
More Markers ▶

Turn Off
Markers ▶

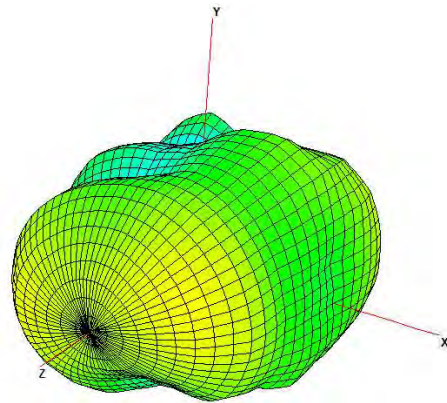
Properties ▶

Marker ->
Functions ▶

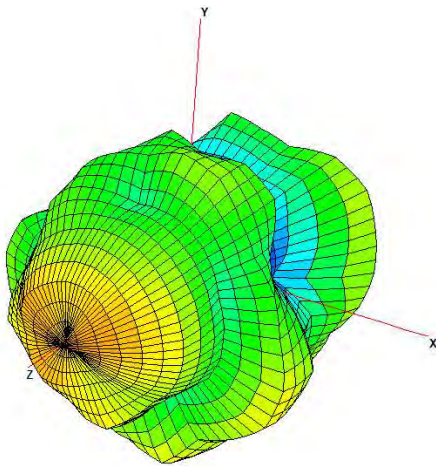
PATTERN AND GAIN



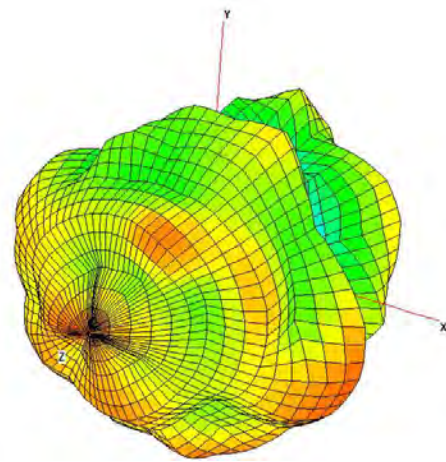
2400Mhz



2500Mhz



5150Mhz



5800Mhz

Total Attributes	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	-6.5691	-1.98982	4.57928	-6.5691	22.0338	-0.843001
	2500	0	-5.63928	-1.17223	4.46705	-5.63928	27.2943	2.00000
	5150	0	-4.59736	0.304646	4.90201	-4.59736	34.6948	0.304646
	5800	0	-2.41394	1.15446	3.56841	-2.41394	57.3595	2.00000

无锡源达电工材料有限公司

WUXI YUANDA ELECTRICAL MATERIAL CO., LTD.

中国江苏省江阴市青阳镇南陈村 邮编 214401

Nachen, Qingyang Town, Jiangyin City 214400, Jiangsu, China

客户/Customer: _____

客户料号/ Customer P/N: _____

规格书 Specification

50 Ω (PFA) 绝缘射频电缆

50 Ω FEP Insulated Coaxial Cable

YD113 系列

YD113 SERIES

编制/Signed by: cool lai

编制日期/ Date: 20th April 2009

无锡源达电工材料有限公司

WUXI YUANDA ELECTRICAL MATERIAL CO., LTD.

中国江苏省江阴市青阳镇南陈村 邮编 214401
Nachen,Qingyang Town, Jiangyin City 214400,Jiangsu, China

1. 适用范围:

Scope
本规格书制定了 50Ω PFA 绝缘射频电缆 YD113 系列的结构和电气特性。
This specification covers the construction and the electrical properties of YD113 series of 50Ω FEP Insulation Coaxial Cable.

2. 结构/Construction: 单位/Unit:mm

项目/Item		详细资料/Details
导体/Conductor	材料/Material	镀银铜线/Silver-coated Copper Wire
	构成(根/mm) Composition(No./mm)	7/0.080
	标称直径/NOM. O. D	0.24±0.03
绝缘层 /Insulation	材料/Material	聚全氟乙丙烯/FEP
	标称绝缘厚度/Nom. Thick. (mm)	0.23
	标称外径/NOM. O. D	0.70±0.03
屏蔽层/Shield	材料/Material	镀锡铜线/Tinned annealed copper wire
	构成/Composition	0.05单线编织/Single Braid of 0.05
护套/Jacket	材料/Material	聚全氟乙丙烯/FEP
	标称护套厚度/ Nom. Thick (mm)	0.10
	标称外径/Nom. O. D (mm)	1.13±0.05
	颜色/Color	按与客户确认的颜色/According to corresponding have approved by the suppliers and customers

3. 电气特性(20℃时)/Electrical Properties(at 20℃)

项目/Item	单位/Unit	详细资料/Details
导体电阻/Conductor Resistance	Ω/km	Max. 581
绝缘电阻/Insulation Resistance	MΩ. km	Min. 200
耐压强度/Dielectric Strength	V(AC)/min	1000
静电容/Capacitance	pF/m	105
特性阻抗 /Characteristic Impedance	Ω	50±2.0

无锡源达电工材料有限公司

WUXI YUANDA ELECTRICAL MATERIAL CO.,LTD.

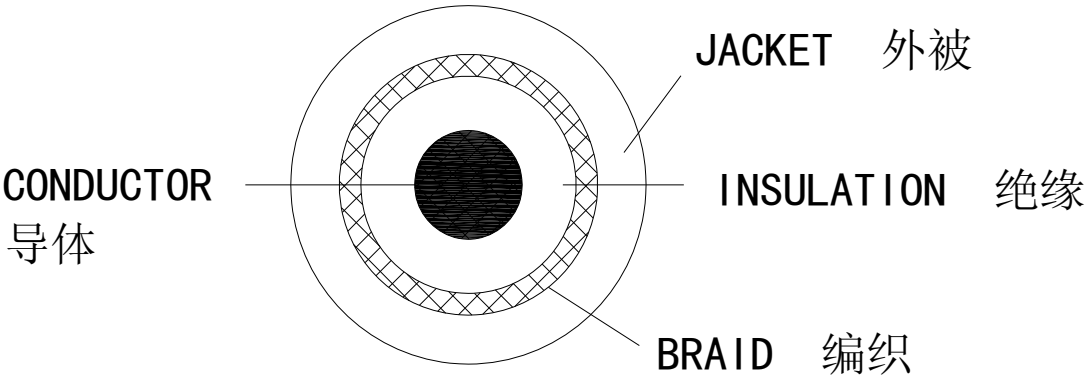
中国江苏省江阴市青阳镇南陈村 邮编 214401
Nachen,Qingyang Town, Jiangyin City 214400,Jiangsu, China

衰减/Attenuation	dB/m	1GHz	2.00
		2GHz	2.90
		3GHz	3.70
		4GHz	4.25
		5GHz	4.85
		6GHz	5.50
驻波比/Standing wave (0-6GHz)	/	≤1.35	

4. 包装 Packing

标准单位包装长度为 1000 米/盘, 每盘最多允许 5 个接头, 接头最短长度 20 米, 在搬运过程中不能损坏包装.

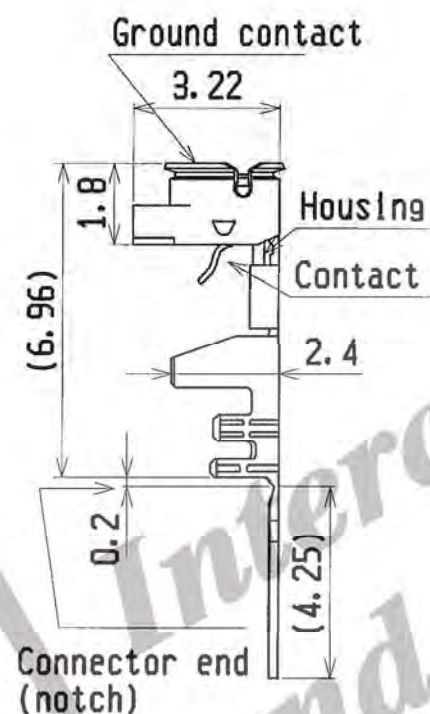
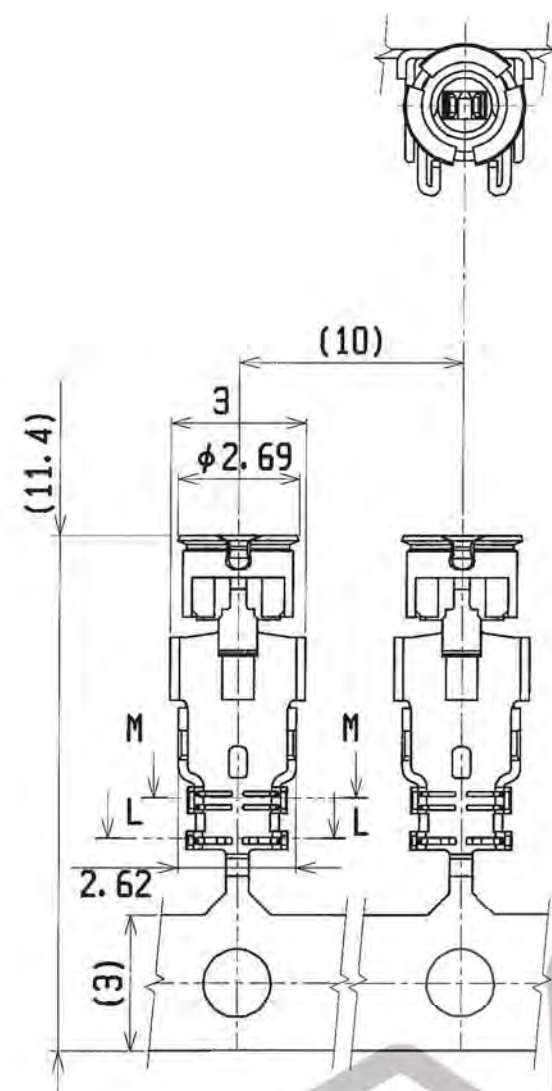
Standard unit length of finished cable shall be 1000m on reel, frequency of joint max.5/reel, the mini length is 20m. The finished cable shall be packed not be damaged during transportation



本产品有时不适合车载用途的情况也有,所以使用前请先和本公司业务部门进行商谈.
This product is not suitable for automobile application in some cases.Please contact with our sales department before you use this product.

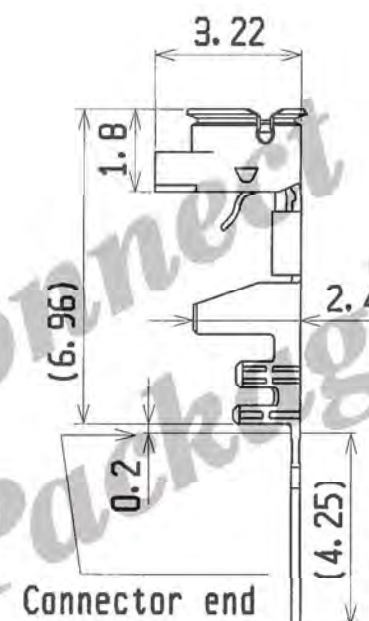
规格书完
End of specification

PART NO.
20278-***R-***



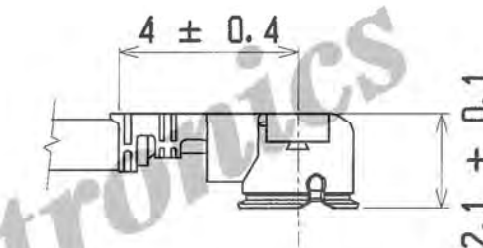
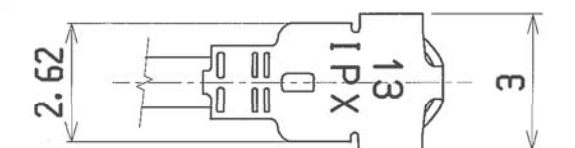
Part No. 20278-101R-08
20278-102R-08
20278-101R-13
20278-102R-13
20278-101R-32
20278-102R-32

For hand tool
(with notch)



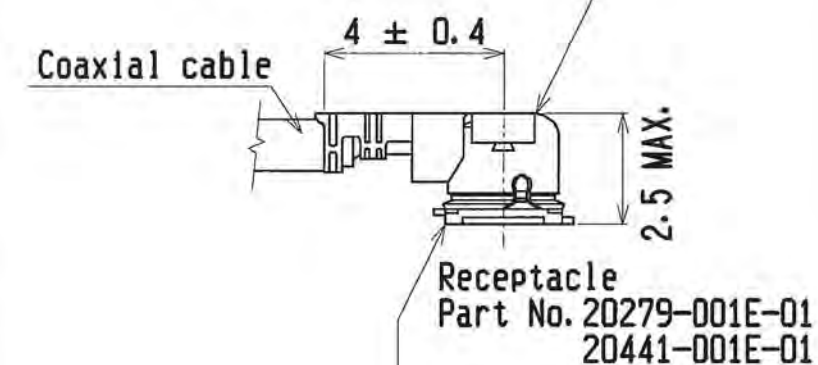
Part No. 20278-111R-08
20278-112R-08
20278-111R-13
20278-112R-13
20278-111R-32
20278-112R-32

For semi auto
termination machine
(without notch)



Cable Ass'y

Plug
P/N 20278-1**R-08
P/N 20278-1**R-13
P/N 20278-1**R-32



MATING

GENERAL TOLERANCE

6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

FORM REV. 4

WAS T

I-PEX Interconnect
and Packaging Electronics
TOKYO, JAPAN

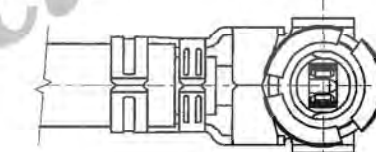
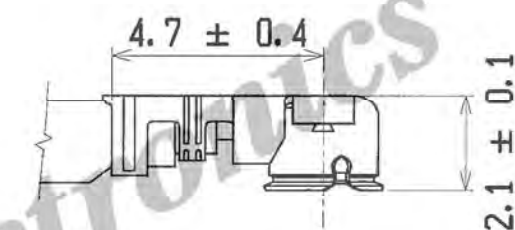
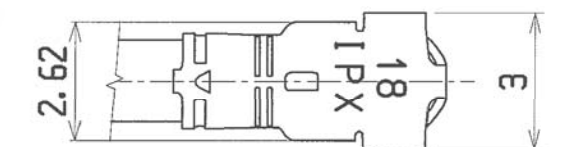
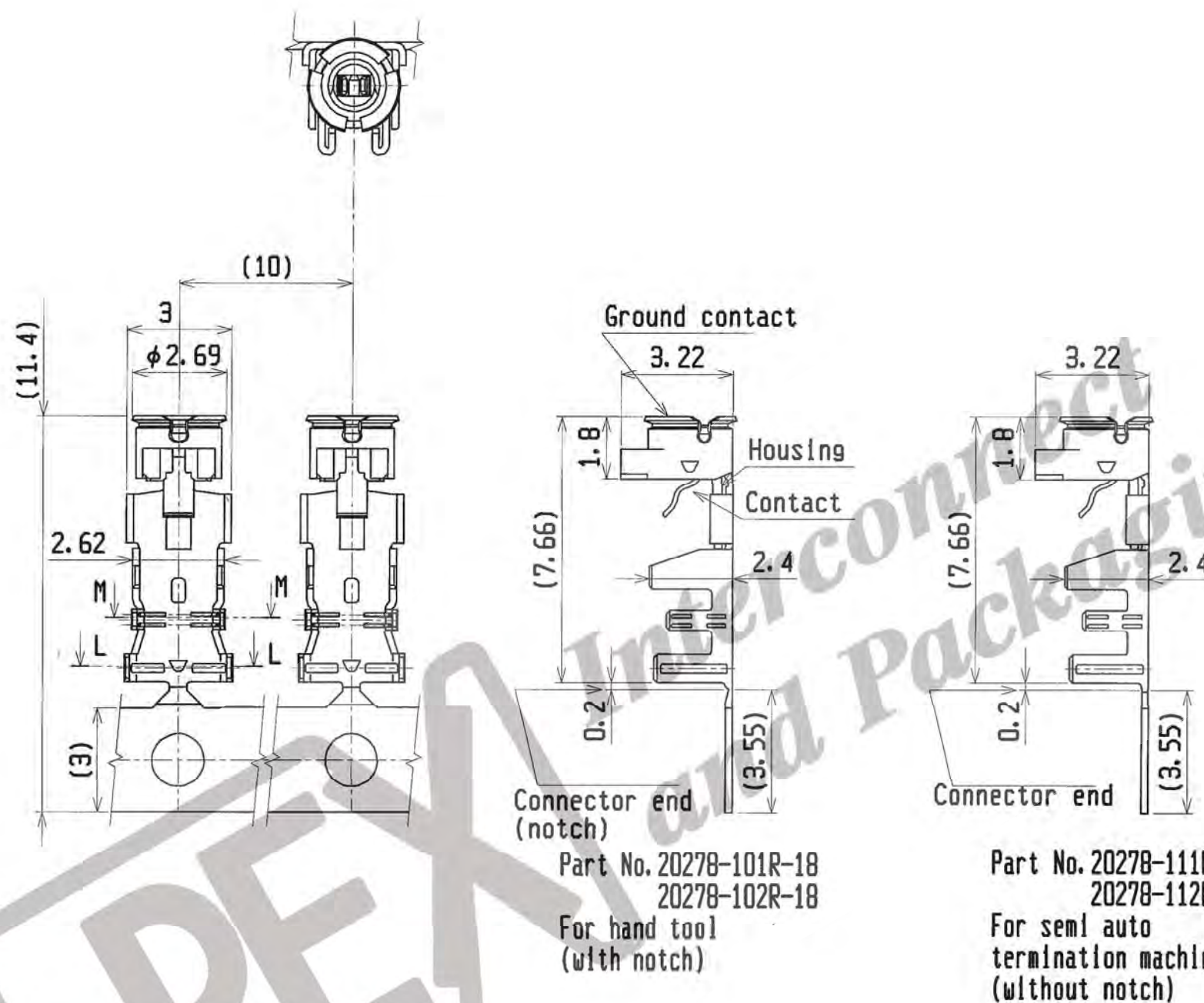
TITLE
MHF series micro coaxial connector plug
vertical (ground contact : gold plating)

General

SCALE UNIT DWG. No.
6/1 mm 20278

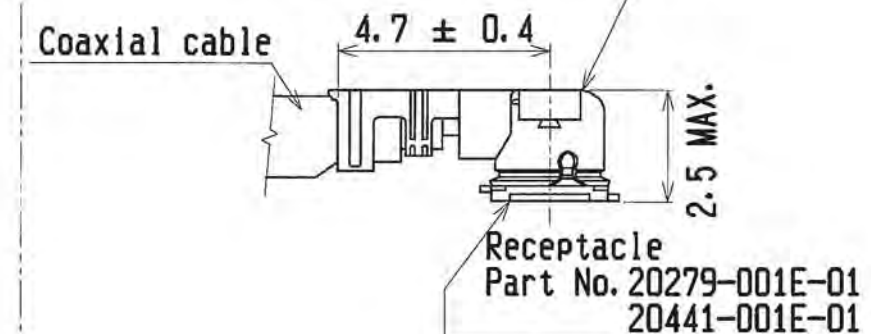
SHEET REV.
1/4 19C

PART NO.
20278-***R-*



Cable Ass'y

Plug
P/N 20278-1**R-18



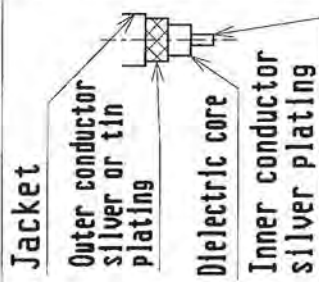
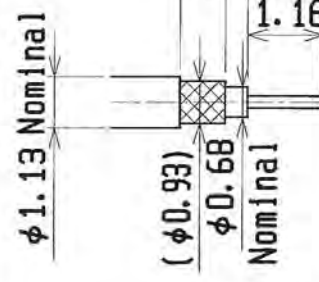
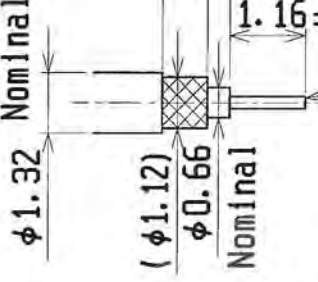
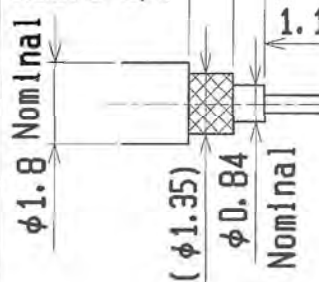
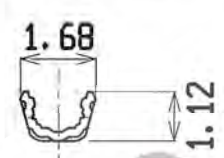
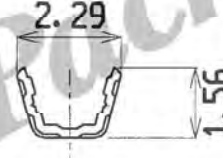
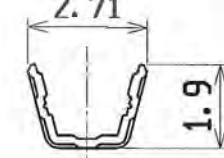
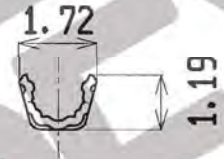
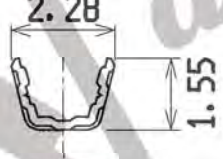
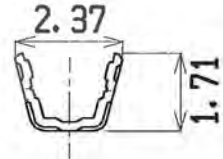
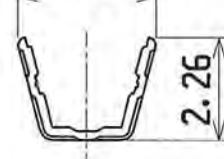
MATING

GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

FORM REV. 4

WAS T

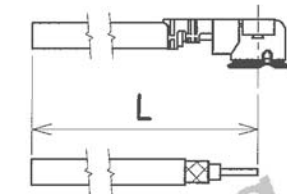
I-PEX		Interconnect and Packaging Electronics TOKYO, JAPAN	
TITLE		General	
MHF series micro coaxial connector plug vertical (ground contact : gold plating)			
SCALE	UNIT	DWG. No.	SHEET REV.
6/1	mm	20278	2/4 19C

Part No. of non halogen free type	20278-101R-08 20278-111R-08	20278-101R-13 20278-111R-13	20278-101R-32 20278-111R-32	20278-101R-18 20278-111R-18
Part No. of halogen free type	20278-102R-08 20278-112R-08	20278-102R-13 20278-112R-13	20278-102R-32 20278-112R-32	20278-102R-18 20278-112R-18
Housing color	White	Black	Black	White
Applicable cable nominal dimension	 ※ NOTE-1	 ※ NOTE-1	 ※ NOTE-1	 ※ NOTE-1
Braided shield of Outer conductor 外部導体の編組	Single / 1重編組	Single / 1重編組	Double / 2重編組	Single / 1重編組
P/N of hand Tool	90187-008C	90187-013C	90187-032C	90233-018
P/N of semi auto termination machine	90213-008C	90213-013C	90213-032C	90232-018
Sect. M-M				
Sect. L-L				
Crimp Height	CH-1	1.34~1.40	1.34~1.40	1.34~1.40
	CH-2	0.76~0.84	1.06~1.14	1.20~1.30
	CH-3	0.85~0.97	1.15~1.35	1.26~1.46

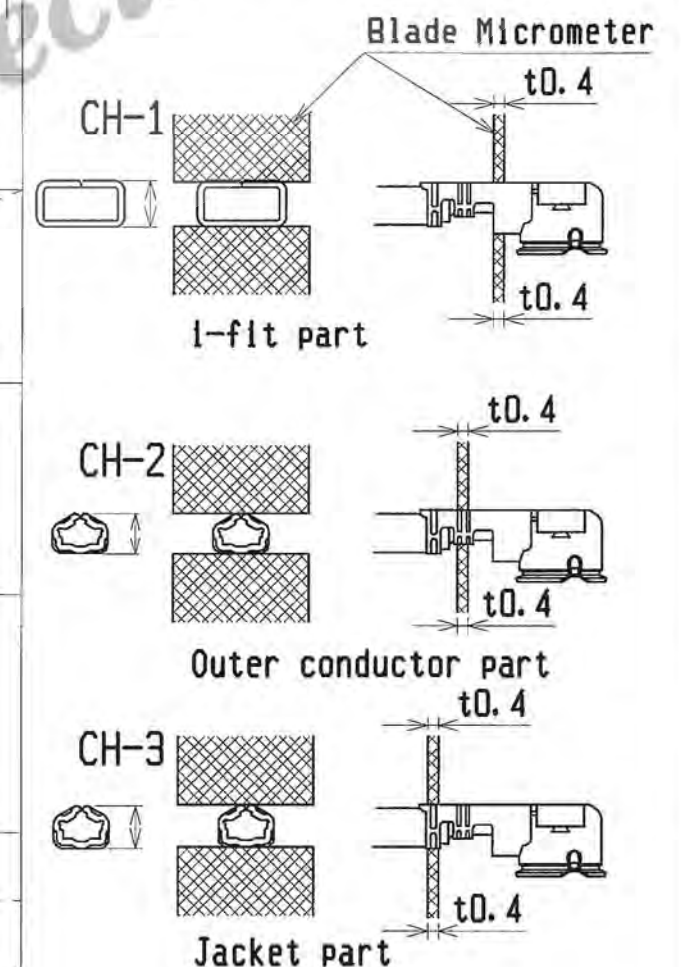
NOTE-1

中心導体, 外部導体への半田コーティングは不可
Must not use solder coated
Inner conductor and outer conductor.

Cable cut length



Crimp Height



I-PEX		Interconnect and Packaging Electronics TOKYO, JAPAN	
TITLE		General	
MHF series micro coaxial connector plug vertical (ground contact : gold plating)			
SCALE	UNIT	DWG. No.	SHEET REV.
-/-	mm	20278	3/4 19C

Notes

1. Material

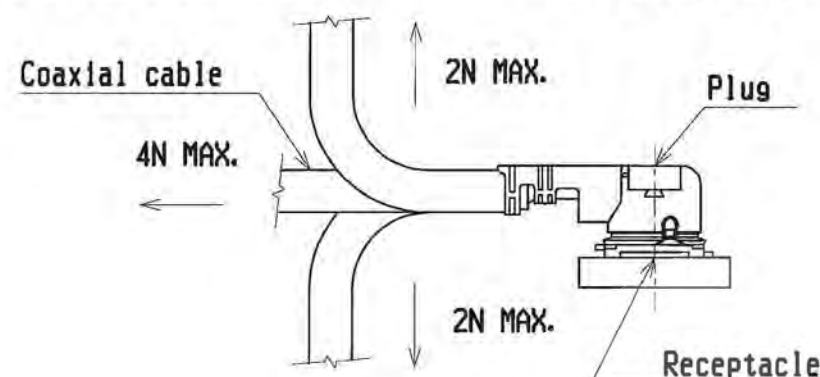
- (1) Housing : PBT , UL94V-0
- (2) Contact
phosphor bronze
gold plating 0.1 μ m MIN.
over nickel 1.27 μ m MIN.

- (3) Ground contact
phosphor bronze
gold plating 0.05 μ m MIN.
over nickel 1.27 μ m MIN.

2. Packing : reel

3. Mating partner part No.
: 20279-001E-01, 20441-001E-01

4. Permissible load of cable at mating



5. Suggestions for mating & unmating operation.

5-1 Mating.

Please mate the connector straightly to vertical direction as much as possible, adjusting the mating axis of plug and receptacle. As excessive slant angle mating may break the connector, please don't do it.

1. 材料

- (1)ハウジング: PBT, UL94V-0
- (2)コンタクト
りん青銅
金メッキ0.1 μ m MIN.
下地 ニッケル1.27 μ m MIN.

- (3)グラウンドコンタクト
りん青銅
金メッキ0.05 μ m MIN.
下地 ニッケル1.27 μ m MIN.

2. 梱包 : リール

3. かん合相手 part No.
: 20279-001E-01, 20441-001E-01

4. コネクタかん合後のケーブルに対する荷重

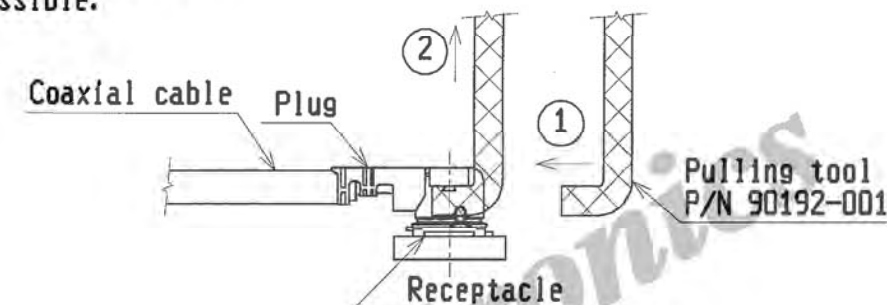
5. コネクタかん合時および抜去時の注意

5-1 コネクタ挿入時

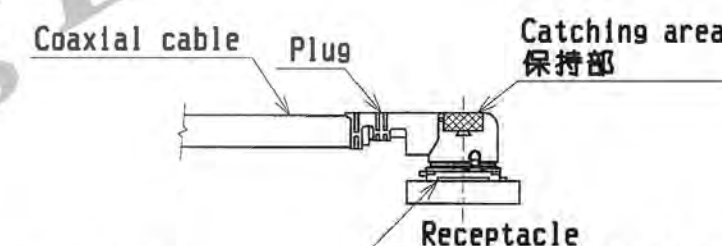
PlugとReceptacleのかん合軸を合わせ、できるだけ垂直に挿入して下さい。極端な斜め挿入は行わないで下さい。コネクタ破損の原因となりますので、過度なこじり挿入は行わないで下さい。

5-2 Unmating.

- (1) In case of unmating by pulling tool.
Please use the pulling tool as the following drawing, and please pull plug to vertical direction as directly as possible.



- (2) In case of unmating directly by hand
Please catch the catching area of plug, and please pull plug to vertical direction as directly as possible.



5-2 コネクタ抜去時

- (1) 抜去ジグを用いる場合
下図のようにできるだけ垂直に引き抜いて下さい。

- (2) 手で直接引き抜く場合
下図の保持部をつかみ、できるだけ垂直に引き抜いて下さい。

5-3 Crimp over standards of outer conductor

Standards: Less than 10% from total numbers of outer conductor
(Numbers of outer conductor's crimp over from outer conductor's barrel)

5-4 Caution about Heat shrinkage tubes

Please be careful not to melt housing when using heat shrinkage tubes. It will become cause of open circuit.

6. This is 'Pb-free' connector.

5-3 外部導体はみ出し量

外部導体はみ出し量規定:
外部導体トータル本数の10%以下
(外部導体パレルの外にはみ出し量)

5-4 熱収縮チューブについての注意

熱収縮チューブで外部導体を覆う場合は、導通不良の原因となりますので、熱によりハウジングを溶融させないように注意してください。

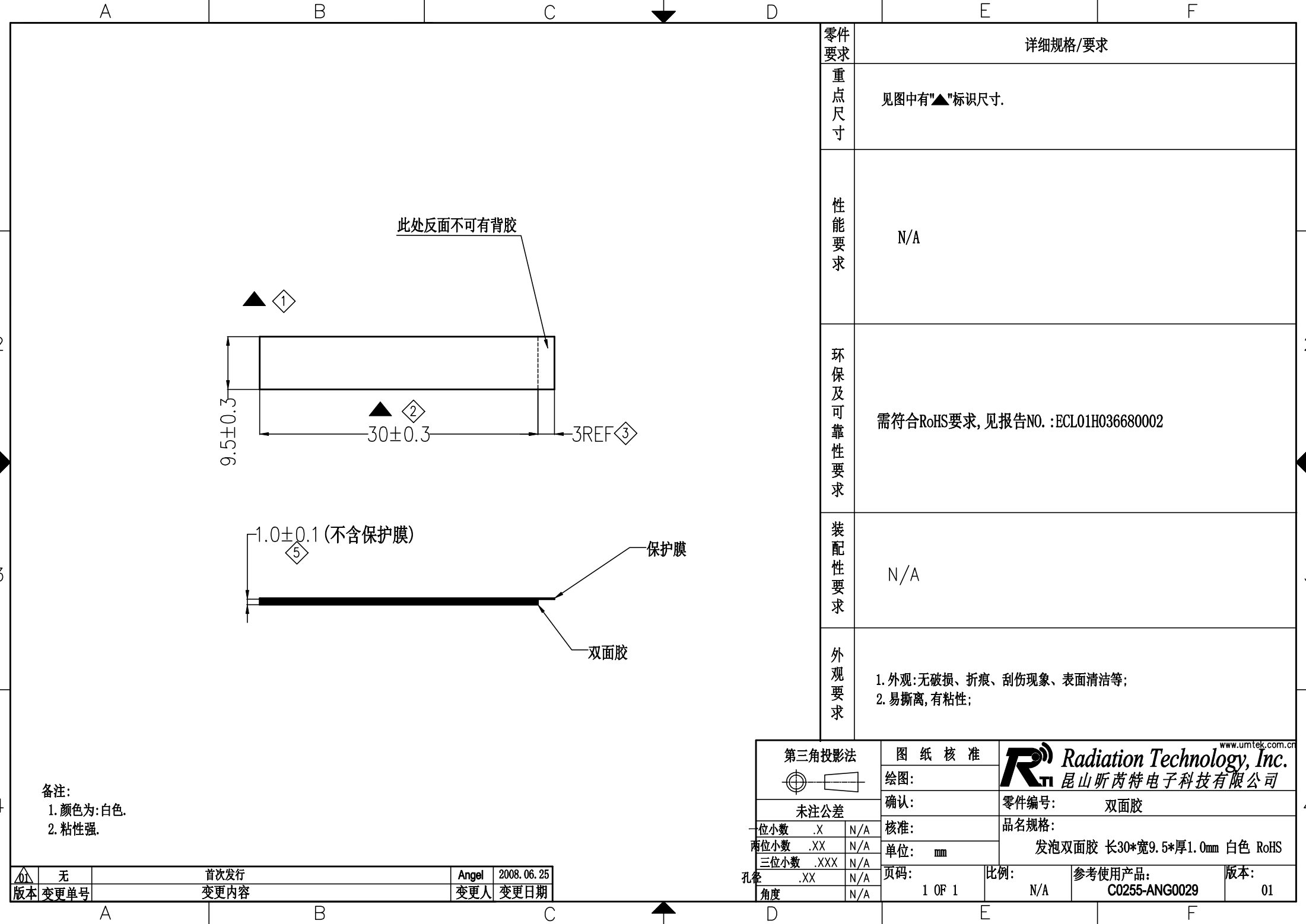
6. 本コネクタは'Pb-free'である

GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

FORM REV. 4

WAS T

I-PEX		<i>Interconnect and Packaging Electronics</i>		TOKYO, JAPAN	
TITLE MHF series micro coaxial connector plug vertical (ground contact : gold plating)				General	
SCALE -/-	UNIT mm	DWG. No. 20278	SHEET 4/4	REV. 19C	



备注:
1. 颜色为:白色.
2. 粘性强.

版本	无	首次发行	Angel	2008.06.25
变更单号		变更内容	变更人	变更日期

零件要求	详细规格/要求
重点尺寸	见图中有"▲"标识尺寸.
性能要求	N/A
环保及可靠性要求	需符合RoHS要求, 见报告NO. :ECL01H036680002
装配性要求	N/A
外观要求	1. 外观:无破损、折痕、刮伤现象、表面清洁等; 2. 易撕离, 有粘性;

第三角投影法	图 纸 核 准	www.umtek.com.cn R_{TI} Radiation Technology, Inc. 昆山昕芮特电子科技有限公司		
未注公差	绘图:	确认:	零件编号:	双面胶
一位小数 .X N/A	核准:	品名规格:	发泡双面胶 长30*宽9.5*厚1.0mm 白色 RoHS	
两位小数 .XX N/A	单位: mm	比例:	参考使用产品:	版本:
三位小数 .XXX N/A	页码: 1 OF 1	N/A	C0255-ANG0029	01
孔径 .XX N/A				
角度 N/A				

[illegible]



Pony Testing International Group

检测报告

报告编号: I12122002904D

日期: 2014.12.17

第 1 页, 共 4 页

委托单位: 昆山大洋电路板有限公司

地址: 昆山市千灯镇上巷路 1 号

委托单位提供样品信息如下:

样品名称: PCB

样品型号: OSP

测试部位描述: 混测

样品接收日期: 2014.12.12

样品检测日期: 2014.12.12 至 2014.12.17

参考要求: RoHS 2011/65/EU 指令附录 II 要求

参考方法: IEC62321 Edition 1.0 :2008 的方法: 电子电气产品中限用物质含量的测定程序

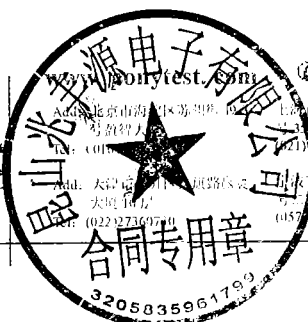
- (1) 用原子吸收光谱仪测定铅的含量
- (2) 用原子吸收光谱仪测定镉的含量
- (3) 用电感耦合等离子体原子发射光谱仪测定汞的含量
- (4) 用紫外-可见分光光度计测定六价铬的含量
- (5) 用气相色谱-质谱仪测定多溴联苯和多溴联苯醚的含量

检测结果: 请参见下页

批准人:

Code: sra1gig7d

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Hotline 400-819-5688

Address: 北京市通州区亦庄经济开发区 19 号路 1 号 3 号楼 4 层
上海浦东新区桂平路 680 号 3 号楼 4 层
深圳市南山区创业路中兴 1 号 6 层
青岛市崂山区株洲路 199 号 6 层
地址: 大德路 11 号 14 号楼 4 层
地址: 高翔路 150 号 14 号楼 4 层
地址: 海沧区双湖路 189 号海沧科技园 3 号楼 7 层
电话: (010) 84851999
(021) 34851999
(0755) 26050009
(0532) 88706888
(022) 92736970
(0572) 87736499
(020) 89224310



Pony Testing International Group

检测报告 报告编号: I12122002904D

日期: 2014.12.17

第 2 页, 共 4 页

检测结果 (单位: mg/kg)

检测项目	方法检出限	检测结果	RoHS 限量
铅	1	未检出	1000
镉	1	未检出	100
汞	1	未检出	1000
六价铬	1	未检出	1000
多溴联苯	—	—	1000
一溴	5	未检出	—
二溴	5	未检出	—
三溴	5	未检出	—
四溴	5	未检出	—
五溴	5	未检出	—
六溴	5	未检出	—
七溴	5	未检出	—
八溴	5	未检出	—
九溴	5	未检出	—
十溴	5	未检出	—
多溴联苯醚	—	—	1000
一溴	5	未检出	—
二溴	5	未检出	—
三溴	5	未检出	—
四溴	5	未检出	—
五溴	5	未检出	—
六溴	5	未检出	—
七溴	5	未检出	—
八溴	5	未检出	—
九溴	5	未检出	—
十溴	5	未检出	—

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www.ponytest.com

Hotline 400-819-5688

Add: 北京市海淀区苏州街 49-3 号盈得大厦
Tel: (010) 82618116

上海市徐汇区桂平路 680 号 35 号楼 4 层
(021) 64851999

深圳市南山区创业路中兴工业城 6 栋 1 层
(0755) 26050909

青岛市城阳区棘洪滩路 196 号 6 层
(0532) 88706866

Add: 天津市南开区红旗路 3 号 10 层
Tel: (022) 27360730

宁波市高新区新甬路 150 号二期 1 号楼 4 层
(0574) 87736499

广州市海珠区敦和路 189 号海珠科技园 3 号楼 7 层
(020) 89224310



Pony Testing International Group

检测报告 报告编号: H2122002904D

日期: 2014.12.17

第3页, 共4页

备注: (1) mg/kg = ppm

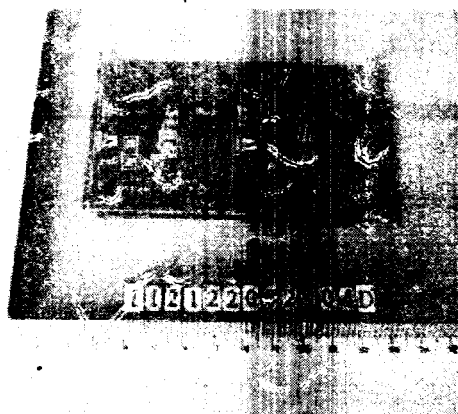
(2) “—”= 未规定

(3) 最大允许极限值引用 RoHS 指令 2011/65/EU 附录 II 的限值要求

(4) 未检出(<方法检出限)

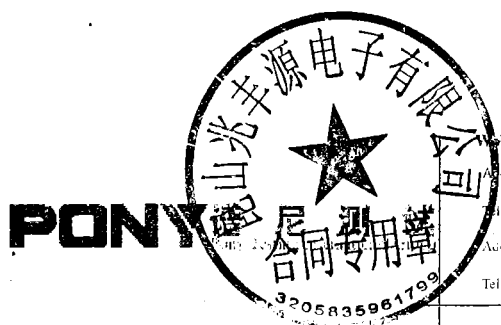
(5) 样品的混合测试是基于申请人的请求, 因此报告中样品的混合测试结果不表明样品中个别单一材质的含量。

照片:



仅对报告照片中的样品负责

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Hotline 400-819-5688

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深圳市南山区创业路中兴工业城6栋1层
(0755) 26050909

青岛市场三路190号6层
(0532) 88706866

Address: 天津市河东区新旅路欣荣大厦10层
Tel: (022) 27360730

宁波市高新区新甬路150号二期4号楼4层
(0574) 87736499

广州市海珠区敦和路189号海珠科技园3号楼7层
(020) 89224310



Pony Testing International Group

检测报告 报告编号: I12122002904D

日期: 2014.12.17

第 4 页, 共 4 页

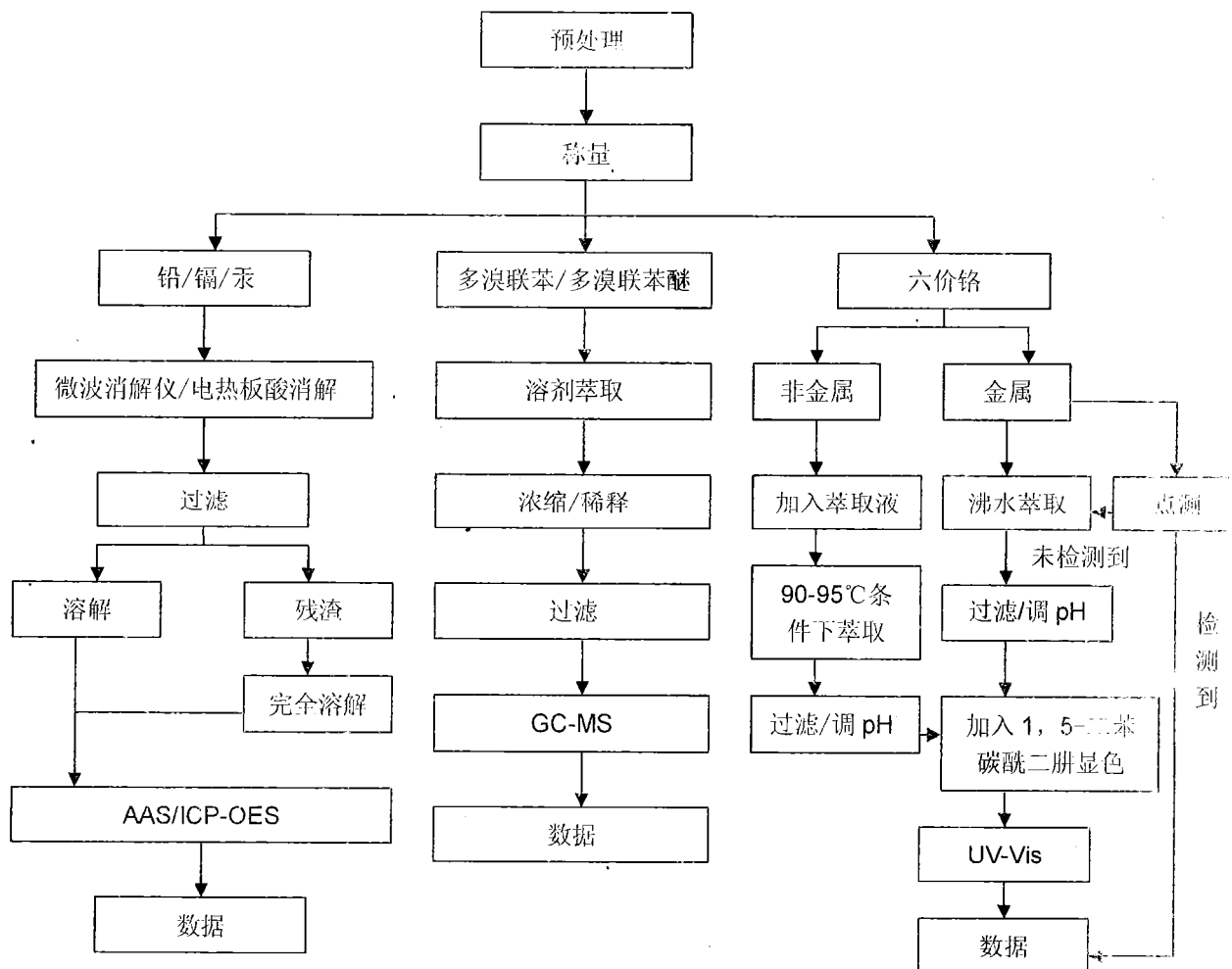
检测流程图

测试人员: 赵婷

审核人员: 张耀强

实验室负责人: 张代琴

样品按照下述流程被完全消解 (六价铬和多溴联苯/多溴联苯醚除外)。



报告结束



PONY

www.ponytest.com

Hotline 400-819-5688

Add: 北京市海淀区苏州街 49-3 号 谱尼大厦
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Add: 天津市南开区红旗路高瓷大厦 10 层
Tel: (022) 27360730

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(0574) 87736499

广州市海珠区敦和路 189 号海珠科技园 3 号楼 7 层
(020) 89224310

Test Report

Report No. ECL01H036680002

Page 1 of 6

Applicant SHANGHAI SMITH ADHESIVE TAPE DEVELOPMENT CO.,LTD
Address NO.89,DAJIANG ROAD,YONGFENG STREET,SONGJIANG DISTRICT,
SHANGHAI

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

Sample Name Cotton double-sided tape
Part No. JA106 、 JA210、 JA212、 JA215红 、 JA215、 JA215兰 、
JA215E、 JA215MP、 JA215N
Sample Received Date Jul. 22, 2015
Testing Period Jul. 22, 2015 to Jul. 25, 2015

Test Requested As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg),
Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs) ,
Polybrominated Diphenyl Ethers(PBDEs), Hexabromocyclododecane
(HBCDD), Phthalates, Perfluorooctane Sulfonates(PFOS),
Perfluorooctanoic Acid(PFOA) in the submitted sample(s).

Test Method Please refer to the following page(s).

Test Result(s) Please refer to the following page(s).



Tested by Yang Huifeng

Prepared by Su Hongwei

Su Hongwei

Senior Laboratory Manager

Reviewed by

Xu Jing

Date

Jul. 25, 2015

No. R144401095

Centre Testing International (Shenzhen) Co., Ltd. Shanghai Branch

No.1996, Xinjinqiao Road, Pudong District, Shanghai, China

Test Report

Report No. ECL01H036680002

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Test Method

Test Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321:2008 Ed.1 Annex C	UV-Vis
Polybrominated Biphenyl(PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Polybrominated Diphenyl Ethers(PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Hexabromocyclododecane (HBCDD)	Refer to US EPA 3550C:2007 & US EPA 8270D:2007	GC-MS
Phthalates	Refer to EN 14372:2004(E)	GC-MS
Perfluorooctane Sulfonates(PFOS)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Perfluorooctanoic Acid(PFOA)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

Test Result(s)

Tested Item(s)	Result	MDL
Lead (Pb)	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg
Mercury (Hg)	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	2 mg/kg

Tested Item(s)	Result	MDL
Polybrominated Biphenyl(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Test Report

Report No. ECL01H036680002

Page 3 of 6

Tested Item(s)	Result	MDL
Polybrominated Diphenyl Ethers(PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg
Tested Item(s)	Result	MDL
Hexabromocyclododecane (HBCDD)	N.D.	5 mg/kg
Tested Item(s)	Result	MDL
Perfluorooctane Sulfonates(PFOS)	N.D.	5 mg/kg
Perfluorooctanoic Acid(PFOA)	N.D.	5 mg/kg
Tested Item(s)	Result	MDL
Phthalates		
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butylbenzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-2-ethylhexyl phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg

Tested Sample/Part Description White adhesive

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

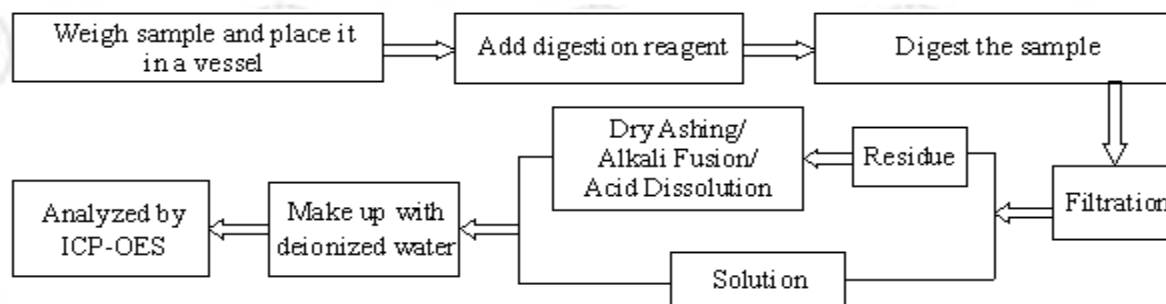
Test Report

Report No. ECL01H036680002

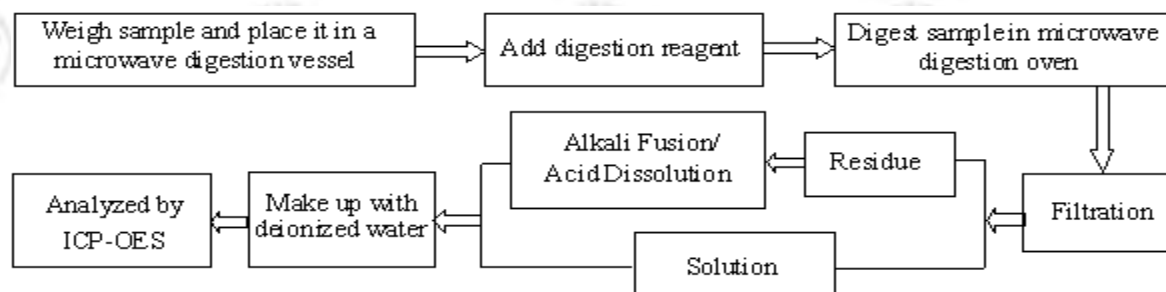
Page 4 of 6

Test Process

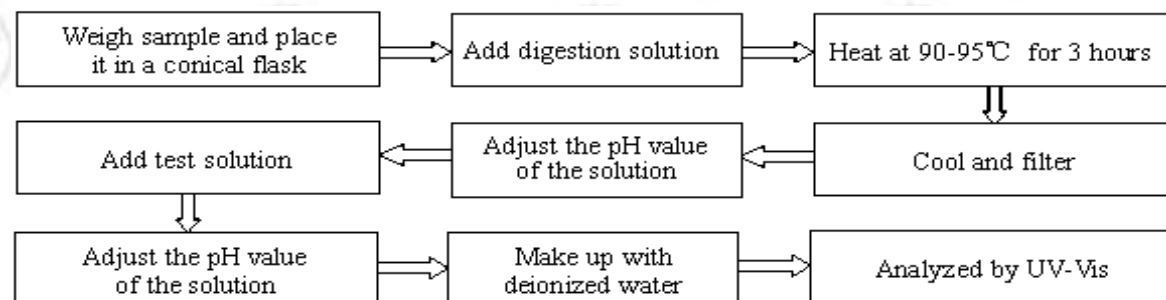
1. Lead (Pb), Cadmium (Cd)



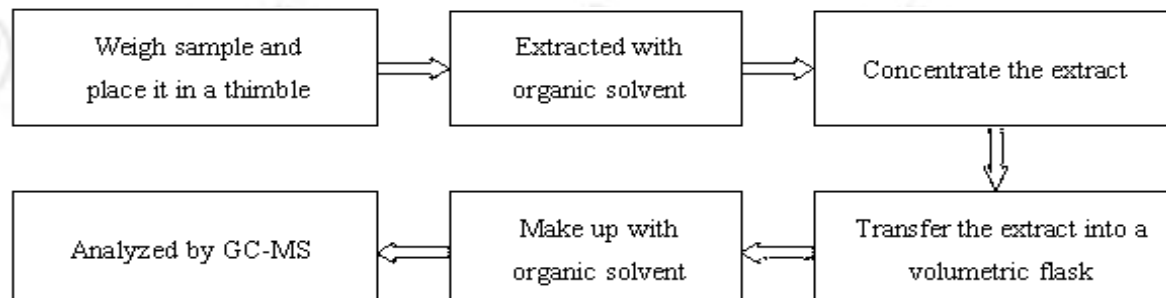
2. Mercury (Hg)



3. Hexavalent Chromium(Cr(VI))



4. Hexabromocyclododecane (HBCDD)

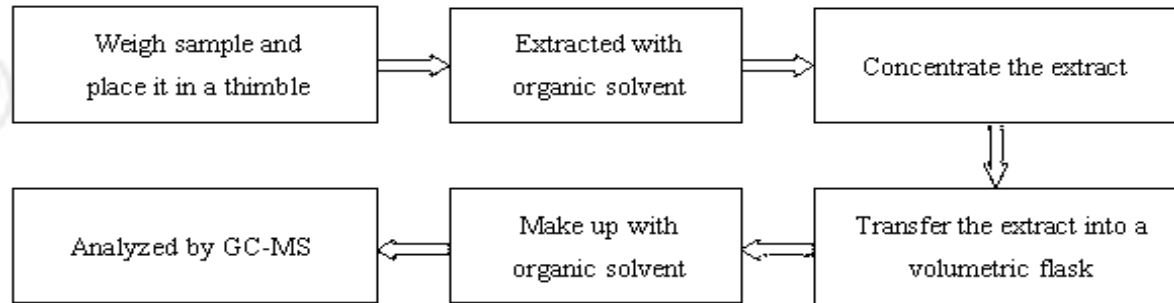


Test Report

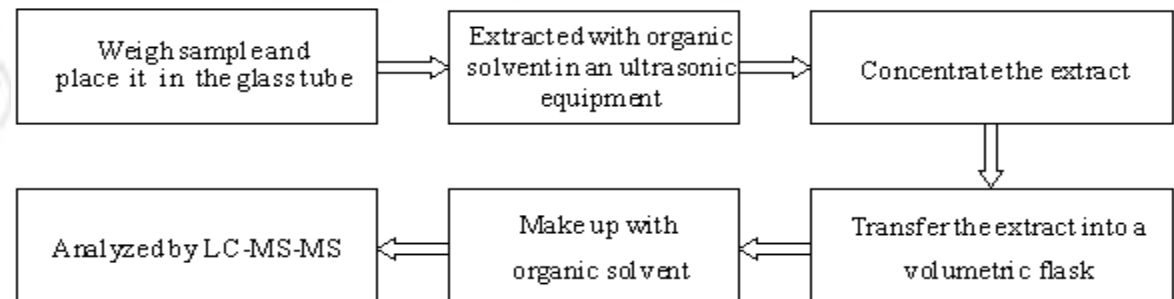
Report No. ECL01H036680002

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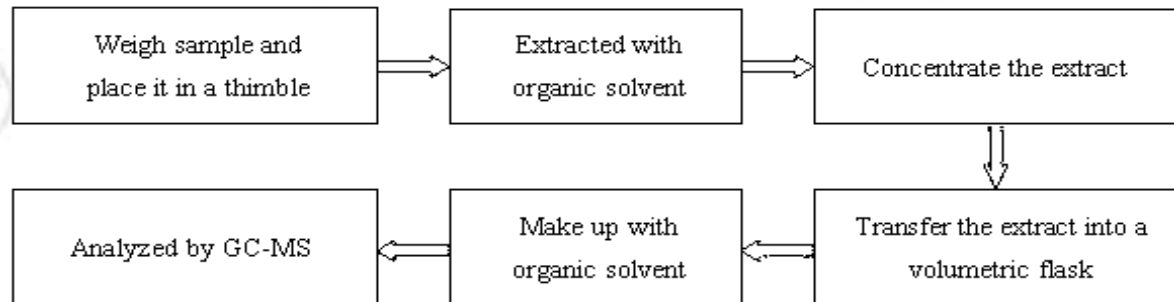
5. Phthalates



6. Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA)



7. Polybrominated Biphenyl(PBBs) , Polybrominated Diphenyl Ethers(PBDEs)

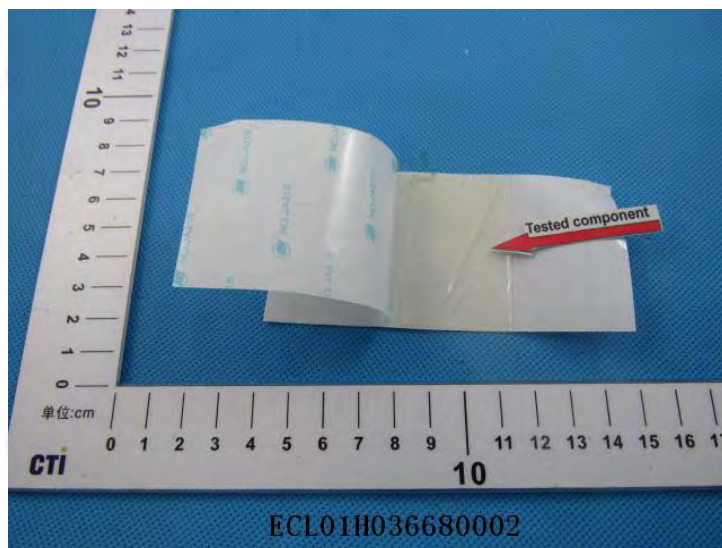


Test Report

Report No. ECL01H036680002

Page 6 of 6

Photo(s) of the sample(s)



*** End of report ***

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

检测报告

报告编号 ECL01G029771002C

第 1 页 共 6 页

申请单位 昆山宇特宏电子材料有限公司

地 址 昆山市玉山镇城北环庆路2588号原创业基地1号楼2楼

以下测试之样品及样品信息由申请者提供并确认

样品名称 单导铜箔胶带 / 铜箔麦拉胶带 / 铜箔麦拉/纯铜箔 / 双导铜箔胶带/三导铜箔胶带

样品型号 YTH-CU918、YTH-CU925、YTH-CU935、YTH-CU950、YTH-CU975、YTH-CU9100、YTH-CU9XXX、/YTH-CUPET925、YTH-CUPET9XXX、/YTH-CUPET825、YTH-CUPET8XXX/YTH-CUPET25、YTH-CUPET38、YTH-CUPET50 YTH-CUPET75、YTH-CUPET100、YTH-CUPETXXX、/YTH-CU718、YTH-CU725、YTH-CU750、YTH-CU7100、YTH-CU7XXX/YTH-CU818、YTH-CU825、YTH-CU835、YTHCU850、YTH-CU875、YTH-CU8100、YTH-CU8XXX/YTH-CU8820、YTH-CU8825、YTH-CU8830 YTH-CU88XXX

样品接收日期 2014.12.06

样品检测日期 2014.12.06 2014.12.10

检测要求 根据客户要求,对所提交样品中的铅(Pb),镉(Cd),汞(Hg),六价铬(Cr(VI)),多溴联苯(PBBs),多溴二苯醚(PBDEs),氟(F),氯(Cl),溴(Br),碘(I),全氟辛酸磺酸盐(PFOS)进行测试。

检测依据 请参见下页。

检测结果 请参见下页。

主 检

杨广满

审 核

徐 静



苏红伟

实验室高级经理

日 期

2014.12.10

No. R187774788

上海市浦东新区新金桥路1996号

检测报告

报告编号 ECL01G029771002C

第 3 页 共 6 页

测试项目	结果	方法检测限
多溴二苯醚(PBDEs)		
一溴二苯醚	N. D.	5 mg/kg
二溴二苯醚	N. D.	5 mg/kg
三溴二苯醚	N. D.	5 mg/kg
四溴二苯醚	N. D.	5 mg/kg
五溴二苯醚	N. D.	5 mg/kg
六溴二苯醚	N. D.	5 mg/kg
七溴二苯醚	N. D.	5 mg/kg
八溴二苯醚	N. D.	5 mg/kg
九溴二苯醚	N. D.	5 mg/kg
十溴二苯醚	N. D.	5 mg/kg

测试项目	结果	方法检测限
卤素		
氟(F)	N. D.	10 mg/kg
氯(Cl)	N. D.	10 mg/kg
溴(Br)	N. D.	10 mg/kg
碘(I)	N. D.	10 mg/kg

测试项目	结果	方法检测限
全氟辛酸磺酸盐(PFOS)	N. D.	5 mg/kg

测试样品/部位描述 铜箔胶带

注释: 对于检测铅, 镉, 汞之样品已完全溶解。

-N.D. = 未检出 (小于方法检测限)

-mg/kg = ppm = 百万分之几

检测报告

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检测依据

测试项目	测试方法	测试仪器
铅 (Pb)	IEC 62321-5:2013 Ed. 1.0	ICP-OES
镉 (Cd)	IEC 62321-5:2013 Ed. 1.0	ICP-OES
汞 (Hg)	IEC 62321-4:2013 Ed. 1.0	ICP-OES
六价铬 (Cr (VI))	IEC 62321:2008 Ed. 1 Annex C	UV-Vis
多溴联苯 (PBBs)	IEC 62321:2008 Ed. 1 Annex A	GC-MS
多溴二苯醚 (PBDEs)	IEC 62321:2008 Ed. 1 Annex A	GC-MS
氟 (F)	参考 BS EN 14582:2007	IC
氯 (Cl)	参考 BS EN 14582:2007	IC
溴 (Br)	参考 BS EN 14582:2007	IC
碘 (I)	参考 BS EN 14582:2007	IC
全氟辛烷磺酸盐 (PFOS)	参考 US EPA 8321-B:2007 & US EPA 8321-B:2007	LC-MS-MS

检测结果

测试项目	结果	方法检测限
铅 (Pb)	N. D.	2 mg/kg
镉 (Cd)	N. D.	2 mg/kg
汞 (Hg)	N. D.	2 mg/kg
六价铬 (Cr (VI))	N. D.	2 mg/kg

测试项目	结果	方法检测限
多溴联苯 (PBBs)		
一溴联苯	N. D.	5 mg/kg
二溴联苯	N. D.	5 mg/kg
三溴联苯	N. D.	5 mg/kg
四溴联苯	N. D.	5 mg/kg
五溴联苯	N. D.	5 mg/kg
六溴联苯	N. D.	5 mg/kg
七溴联苯	N. D.	5 mg/kg
八溴联苯	N. D.	5 mg/kg
九溴联苯	N. D.	5 mg/kg
十溴联苯	N. D.	5 mg/kg

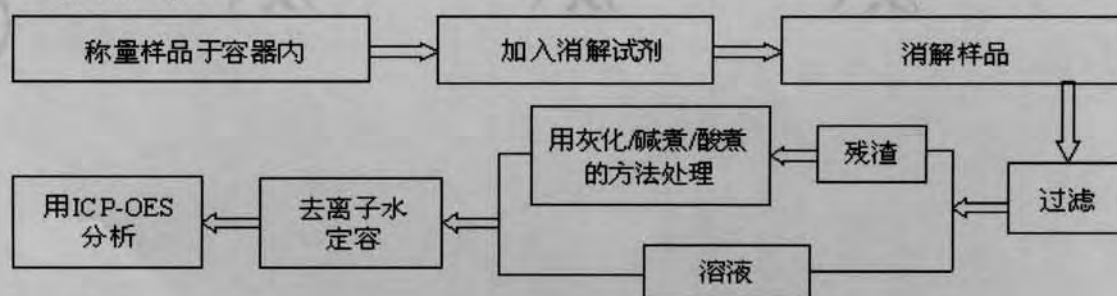
检测报告

报告编号 ECL01G029771002C

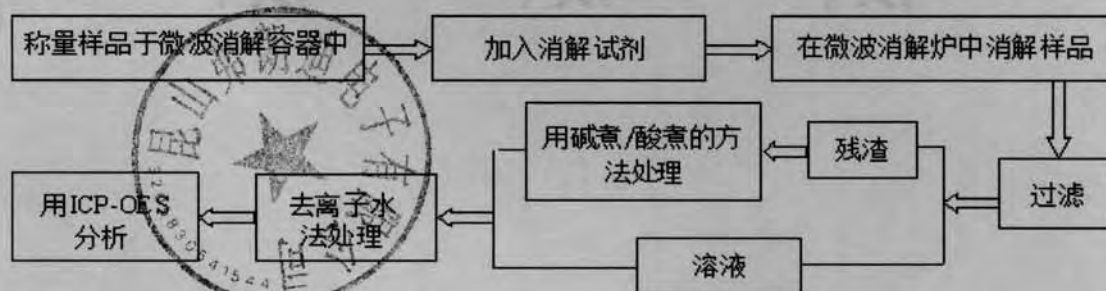
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检测流程

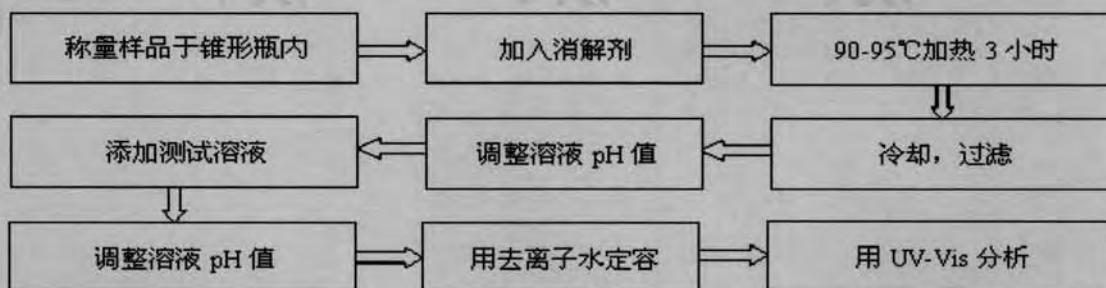
1. 铅(Pb), 镉(Cd)



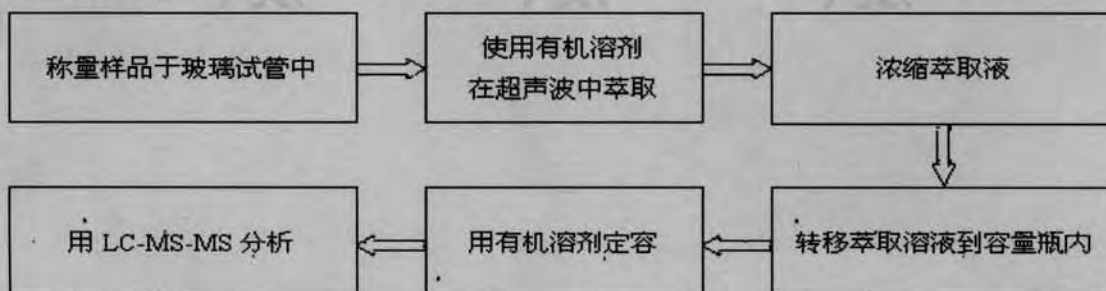
2. 汞(Hg)



3. 六价铬(Cr(VI))



4. 全氟辛烷磺酸盐(PFOS)

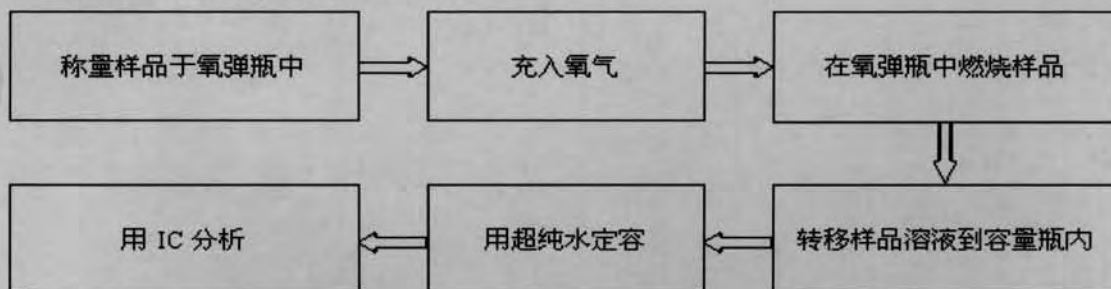


检测报告

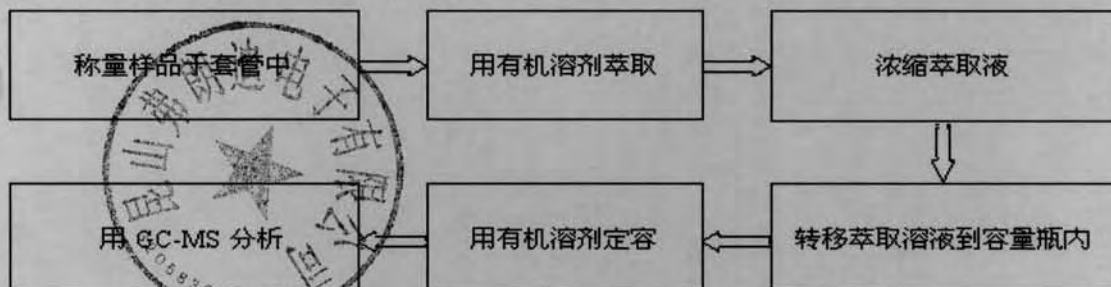
报告编号 ECL01G029771002C

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5. 溴(Br), 氯(Cl), 氟(F), 碘(I)



6. 多溴联苯(PBBs), 多溴二苯醚(PBDEs)



检测报告

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样品图片



报告结束

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



Certificate of Compliance on RoHS Directive

DAI-ICHI SEIKO Co., Ltd warrants that the following listed product(s) conforms to the use of the certain hazardous substances in electrical and electronic equipment (RoHS).

Or if present, are below the threshold concentration levels as indicated.

Product Name	I-PEX Product Number
MHF PLUG	20278-112R-13

These Hazardous Substances enclose the following items:

Cadmium (Cd)	< 100 ppm
Lead (Pb)	< 1000 ppm
Mercury (Hg)	< 1000 ppm
Hexavalent Chromium (Cr+6)	< 1000 ppm
Polybrominated biphenyls (PBB)	< 1000 ppm
Polybrominated diphenyl ethers (PBDE)	< 1000 ppm

Note: The above concentration value indicates RoHS limit.

Issue Date: Jan. 1st, 2012

DAI-ICHI SEIKO Co., Ltd.
I-PEX Business Company
Quality Assurance Dept. (Japan)
Manager

Approved by	Prepared by
 S.Ishibashi	 Y.Goto

江苏源达线缆科技有限公司

产品 ROHS 环保说明书

我公司为良特电子（昆山）有限公司提供的以下附表所列射频同轴电缆产品均符合欧盟 2011/65/EU 环保标准，有害物质含量均低于标准限值。如果我公司提供的产品不符合 2011/65/EU 环保标准，我们会承担相应责任。

特此申明！

附表：	
料件编号	厂商料号
XRF1316260114GX064	YD316-5223114
XRF0137260910GX064	YD137-2121127
XRF0113280110GX064	YD113-9121111
XRF0113240912GX064W	YD113-1324123
XRF0113240912GX064	YD113-1324123
XRF0113240910RX064W	YD113-2121120
XRF0113240910RX064W	YD113-2121120
XRF0113240910RX064	YD113-2121120
XRF0113240910GX064W	YD113-1124120
XRF0113240910GX064W	YD113-1124120
XRF0113240910GX064	YD113-1124120
XRF0081240900GX064	YD081-1121126
XRF0081240100GX064	YD081-1121112
XRF0081240010GX064	YD081-1121101
XRF1178663000RX064	YD178-522213H

江苏源达线缆科技有限公司

二零一三年十月十二日



昆山昕芮特电子科技有限公司

Radiation Technology, Inc.

Address: No.233 Bin Jiang S. Rd, Zhang Pu Town, Kunshan City, Jiangsu

地址: 昆山市张浦镇滨江南路 233 号

Tel :86-512-82606588

Zip Code:215321

Fax:86-512-82606586

Declaration of RoHS 2 Conformity

To minimize the environmental impact and take more responsibility to the earth we live, Radiation Technology, Inc. hereby confirms that the following product series comply with Directive 2011/65/EU (RoHS 2), of the European Parliament RoHS(Restriction of Hazardous Substances).

Content of Compliance

Lead	< 0.1% by weight (1000 ppm)
Mercury	< 0.1% by weight (1000 ppm)
Cadmium	< 0.01% by weight (100 ppm)
Hexavalent Chrome(Cr+6)	< 0.1% by weight (1000 ppm)
PBBs	< 0.1% by weight (1000 ppm)
PBDEs	< 0.1% by weight (1000 ppm)

The application of these substances is exempted from the requirements of 2011/65/EU (RoHS 2) Article 4(1) in the following circumstances, such as:

- ⊙ Lead as an alloying element in steel containing up to 0.35% lead by weight, aluminium containing up to 0.4% lead by weight and as a copper alloy containing up to 4% lead by weight.
- ⊙ Lead in high melting temperature type solders(i.e. tin-lead solder alloys containing more than 85% lead)

Product Series

RF Cables, Antenna Cables, Earphone Cables, Wire Harnesses, Computer Cables, Medical Cables, Connectors will be compliance to RoHS 2.

Delivery

The actual delivery date for RoHS compliance products will depend on our inventory status. Please contact our sales representatives for details.

Signed for and on behalf of

Printed name: Alan Chiang

Title: General Manager

Date: 2015/3/2





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Succeed with Quality



CERTIFICATE

Quality Austria Trainings-, Zertifizierungs- und Begutachtungs GmbH awards this **quality** austria Certificate to the following organisation:

RADIATION TECHNOLOGY INC.

No. 233, South Binjiang Road, Zhongpu Town,
Kunshan City, Jiangsu Province, China

Manufacture, assembly & sales connection, cable assembly (antenna, earphone cables, wire harnesses, computer cables, medical cables, RF cables, power cables, etc.), microwave network products assembly (duplexer, filter, coupler, isolate, etc.) and electronics assembly

The validity of the **quality** austria Certificate will be maintained via annual surveillance audits and one renewal audit after three years.

This **quality** austria Certificate confirms the application and further development of an effective

ENVIRONMENTAL MANAGEMENT SYSTEM

complying with the requirements of standard

ISO 14001:2004

Registration No.: 01578/0

Date of initial issue: 21 October 2011

Valid until: 24 September 2017

Vienna, 17 March 2015

Quality Austria Trainings-, Zertifizierungs- und Begutachtungs GmbH,
A-1010 Vienna, Zelinkagasse 10/3

Scheiber

Konrad Scheiber
General Manager

Hackenauer

Ing. Wolfgang Hackenauer, MSc
Specialist representative



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<http://www.qualityaustria.com/en/cert> FAC: 19

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Quality Austria Trainings-, Zertifizierungs- und Begutachtungs GmbH awards this **quality austria** Certificate to the following organisation:

RADIATION TECHNOLOGY INC.

No. 233, South Binjiang Road, Zhangpu Town,
Kunshan City, Jiangsu Province, China

Manufacture, assembly & sales connection,
cable assembly (antenna, earphone cables,
wire harnesses, computer cables, medical cables,
RF cables, power cables, etc.), microwave network
products assembly (diplexer, filter, coupler, isolate,
etc.) and electronics assembly

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ISO 9001:2008

Registration No.: 04431/0

Date of initial issue: 29 July 2005

Valid until: 5 March 2018

Vienna, 12 March 2015

Quality Austria Trainings-, Zertifizierungs- und Begutachtungs GmbH,
A-1010 Vienna, Zelinkagasse 10/3

Scheiber

Konrad Scheiber
General Manager

E. J. Bauer

Eckehard Bauer, MSc
Specialist representative



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获证企业组织机构代码: 71684445-2

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Begutachtungs GmbH is
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the Austrian Accreditation
Act by the BMWA
(Federal Ministry of
Economic Affairs and
Labour).

Quality Austria is accredi-
ted as an organization for
environmental verification
by the BMFLW (Federal
Ministry of Agriculture,
Forestry, Environment
and Water Management).

Quality Austria is authori-
zed by the VDA
(Association of the
Automotive Industry).

For accreditation
registration details please
refer to the applicable
conditions of recognition
documents.

Quality Austria is the
Austrian member of IQNet
(International Certification
Network).

Doc. Nr. FO_24_028



CERTIFICATE

Quality Austria Trainings-, Zertifizierungs- und
Begutachtungs GmbH awards this **quality** austria
Certificate to the following organisation:

RADIATION TECHNOLOGY INC.

No. 233, South Binjiang Road, Zhangpu Town,
Kunshan City, Jiangsu Province, China

Manufacture of antenna and related cables

This **quality** austria Certificate confirms the application
and further development of an effective

QUALITY MANAGEMENT SYSTEM

complying with the requirements of standard

ISO/TS 16949:2009,

without product design

Registration No.: 01274/0

IATF-Registration No.: 0204898

Issue Date : 12 March 2015

Valid until: 5 March 2018

Vienna, 12 March 2015

Quality Austria Trainings-, Zertifizierungs- und Begutachtungs GmbH,
A-1010 Vienna, Zelinkagasse 10/3

Konrad Scheiber
General Manager

Gerald Perschler
Specialist representative