

承 認 書

SPECIFICATION FOR APPROVAL

客 戶
CUSTOMER

明泰科技股份有限公司

日 期
DATE

94 年 03 月 14 日

品 名
DESCRIPTION

WPF001 2.4 GHz Wireless PIFA
With MHF(L=89)

客 戶 料 號
CUSTOMER P/N

成 品 編 號
Part NO.

THW1055A1



萬旭電業股份有限公司

WANSHIH ELECTRONIC CO., LTD.

台北縣五股鄉五工六路 72 號 3 樓

3F 72 WU KONG 6TH RD., WU KU INDUSTRIAL DISTRICT

TAIPEI HSIEN, TAIWAN, R.O.C.

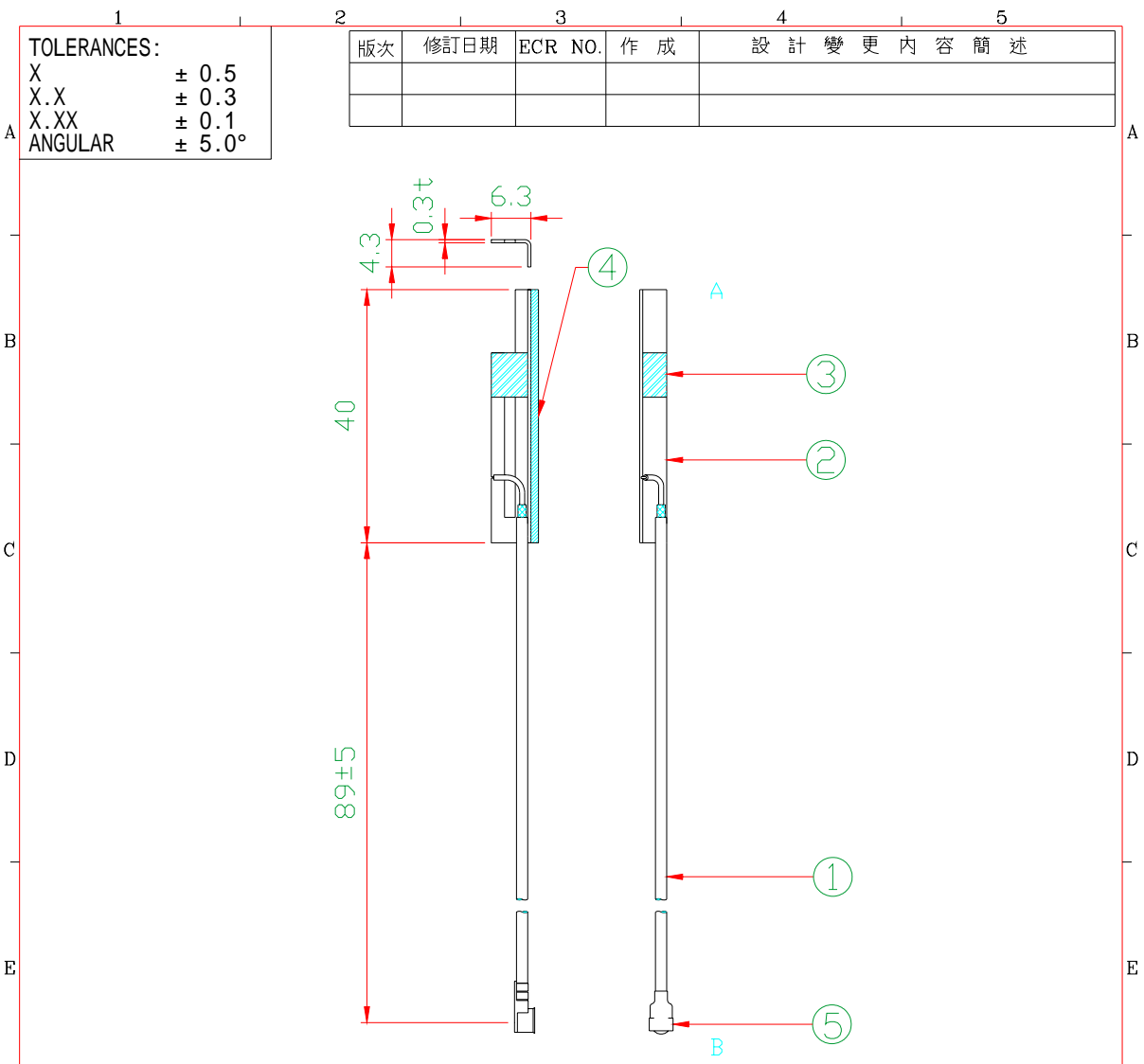
TEL : (02) 22988066 (5 LINE) FAX : (02)22981102

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SPECIFICATION

- | | |
|-------------------------------|----------------------------------|
| 1. Description | : 2.4 GHz Wireless PIFA With MHF |
| 2. Customer | : 明泰科技股份有限公司 |
| 3. Model No. | : WPF001 |
| 4. Part No. | : THW1055A1 |
| 5. Standard | : IEEE 802.11 b/g Wireless LAN |
| 6. Antenna Profile | : 40*6.3*4.3 |
| 7. Lead Length | : 89mm |
| 8. Electrical Characteristics | |
| Operating Frequency | : 2.4~2.5GHz |
| Antenna Type | : PIFA |
| Polarization Type | : Linear |
| Type of Radiation | : Toroid |
| Antenna Peak Gain | : 0dBi |
| Impedance | : 50 Ohm nominal |
| V.S.W.R. | : 2.0:1 Max. |
| 9. Mechanical Characteristics | |
| Core | : N/A |
| Connector | : MHF |
| 10. Raw Material | |
| Coaxial Cable | : Mini 1.13 |



TOLERANCES:

X	± 0.5
X.X	± 0.3
X.XX	± 0.1
ANGULAR	± 5.0°

版次	修訂日期	ECR NO.	作成	設計變更內容簡述

作業說明：

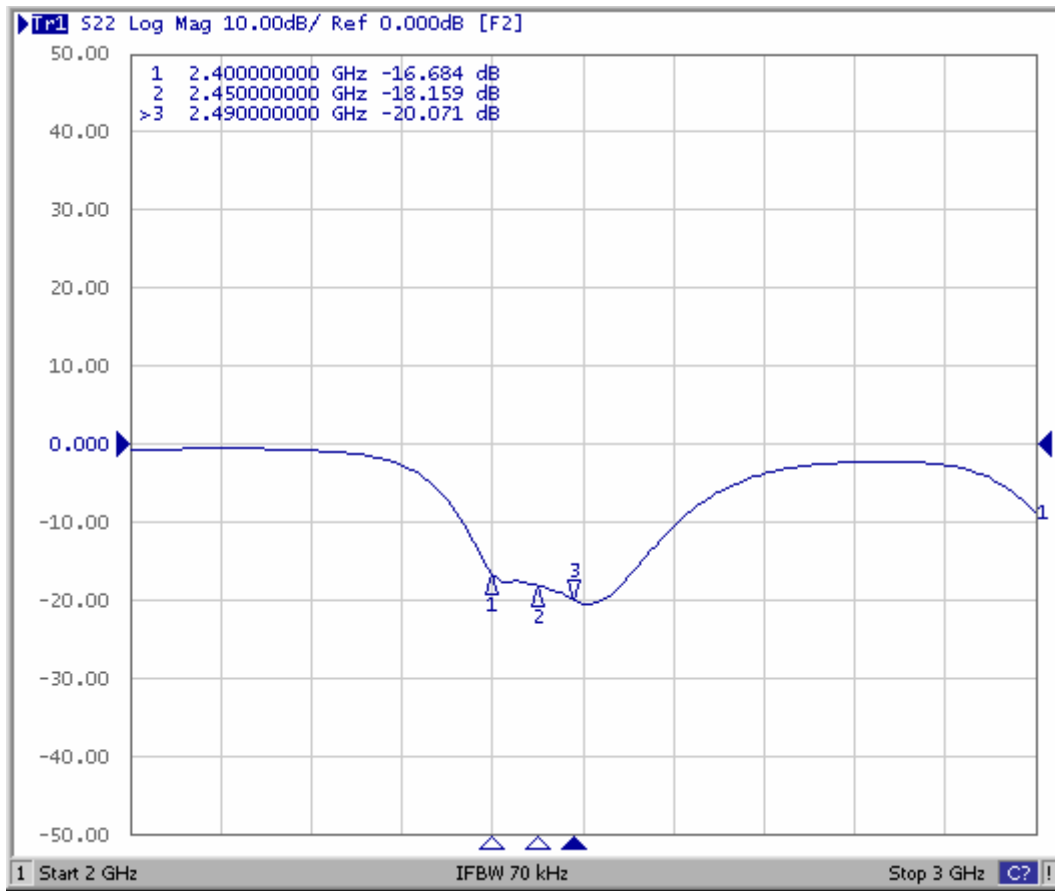
- PIFA組立，依照WSW0018 PIFA作業標準指導書規定製作，依據AQ-0018A QC管理工程圖，執行品質管制。
- 依WSW0010A 1.13 Mini Coaxial Cable With MHF作業標準指導書規定。依據AQ-0010A QC管理工程圖，執行品質管制。

5	MHF Connector	272027811R13JP	@20278-111R-13 (I-PEX)	金	1	或同級品		
4	壓克力泡棉膠帶	623M49450440GL	3M 4945 壓克力泡棉膠帶 W4*H1.1*L40mm	白	1	或同級品		
3	壓縮泡棉	69A155604070GW	P.E-LITE A-155 壓縮泡棉 W6*H4*L7	黑	1	或同級品		
2	PIFA 本體	29PIFA403000IX	PIFA 本體 40-30		1	或同級品		
1	MINI 1.13 Coaxial Cable	B1MI1131CB80RC	@MINI 1.13 1C+B CABLE 灰 (聯穎)	淺灰	106	1 或同級品		
NO	材料名稱	環材	電腦編號	零件規格	顏色	切斷尺寸	用量	備註

修訂日期：		制訂日期：94/03/07		承認圖號			
頁數：1/1	核准	審查	作成	品名			
第三角法	Mike	Lingo	郭雅珍	2.4 GHz Wireless PIFA with MHF (L=89)			
單位：mm				成品編號	THW1055	REV A	VERSION 1
比例：FREE							

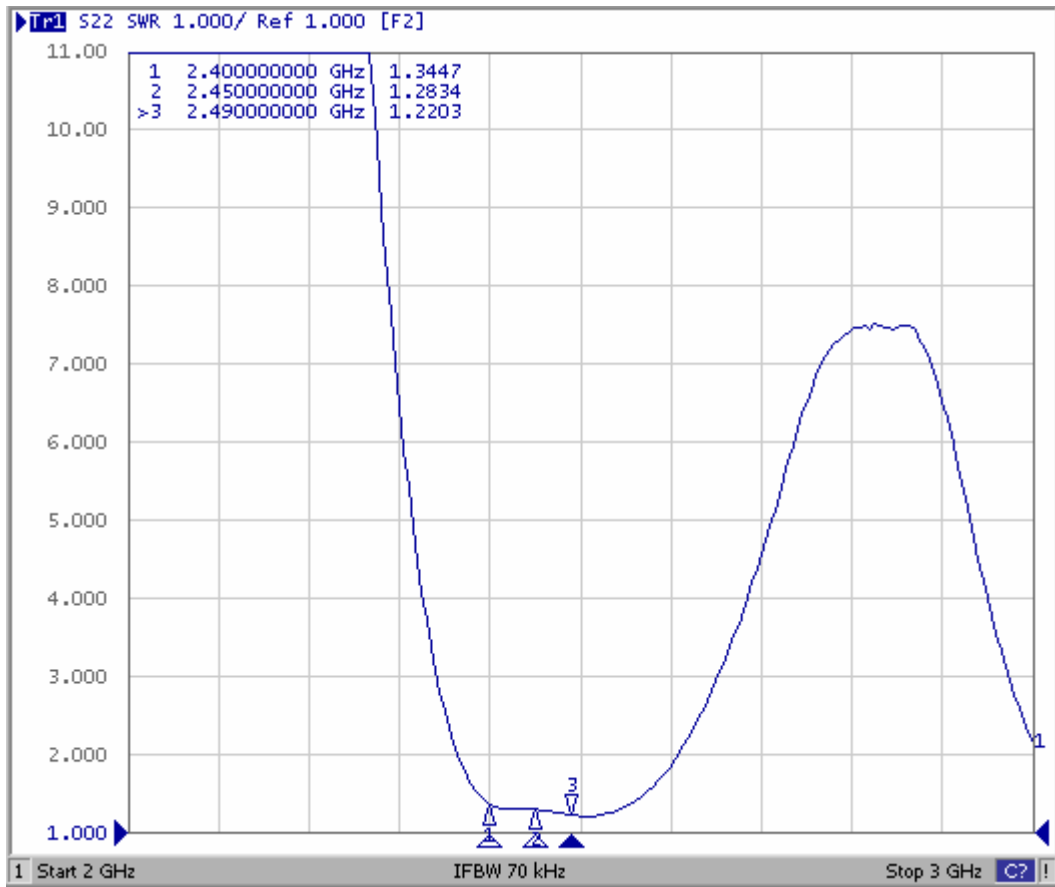
Electrical Properties

Return Loss



Electrical Properties

V.S.W.R



Material Data Sheet

Mini-1.13 Coaxial Cable

COPARTNER WIRE& CABLE MFG.CORP

SPECIFICATION

Xintang Road 68#, Changling Industrial Area, Xin tian Village, Fuyong County,
Baoan District of Shenzhen, Guangdong, China
TEL: 86-755-2731-2988, 2731-2746 FAX: 86-755-2731-2736

CUSTOMER: 萬 旭

STYLE: COAXIAL CABLE

SPEC.: 1C*32AWG+B

PART NO.: 3970132002

CUSTOMER CODE: _____

DATE : 2004/7/23

REVISION: A

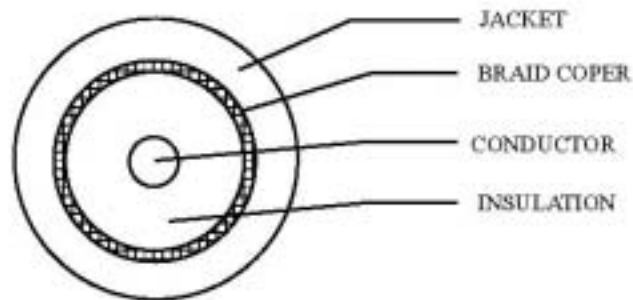
TOTAL PAGES: 3

COPARTNER SIGNATURE	CUSTOMER APP CUSTOMER P/N
PREPARED BY : LXY	CHECKED BY:
CHECKED BY:	APPROVED BY:
APPROVED BY :	DATE:

CABLE CONSTRUCTION(電纜結構):

ITEM(結構項目)		SPECIFICATION(規格說明)
CONDUCTOR 導體	AWG(線規)	32AWG
	MATERIAL(材質)	SC
	COND.SIZE(尺寸)	7/0.08±0.008 mm
INSULATION 絕緣體	MIN.AVGTHICK(最小厚度)	0.15 mm
	MATERIAL(材質)	PFA
	O . D(外徑)	0.66±0.05 mm
AL.MYLAR 鋁箔	N O.(線數)	1C
	COVERAGE(遮蔽率)	/
	OVERLAP(重疊率)	/
MYLAR 麥拉	COVERAGE(遮蔽率)	/
	OVERLAP(重疊率)	/
DRAIN 地線	AWG(線規)	/
	MATERIAL(材質)	/
	SIZE(尺寸)	/
BRAID 編織 COPPER	MATERIAL(材質)	TINNED COPPER
	SIZE(尺寸)	16x4/0.05±0.008 mm
	COVERAGE(遮蔽率)	90%MIN
COVERING 被覆體	MIN.AVGTHICK(最小厚度)	/
	MATERIAL(材質)	/
	O.D(外徑)	/
	NO.(線數)	/
FILLER 填充	MATERIAL(材質)	/
LAYER 集合	DIRECTION(絞向)	/
	PITCH(絞距)	/
FOAMED PP TAPE 發泡 PP 膜	COVERAGE(遮蔽率)	/
	OVERLAP(重疊率)	/
AL.MYLAR 鋁箔	COVERAGE(遮蔽率)	/
	OVERLAP(重疊率)	/
PAPER 紙	COVERAGE(遮蔽率)	/
	OVERLAP	/
DRAIN 地線	AWG(線規)	/
	MATERIAL(材質)	/
	SIZE(尺寸)	/
BRAID(編織) COPPER	MATERIAL(材質)	/
	SIZE(尺寸)	/
SPIRAL(纏繞) COPPER	MATERIAL(材質)	/
	SIZE(尺寸)	/
JACKET 被覆體	MIN.AVGTHICK(最小厚度)	0.10 mm
	MATERIAL(材質)	FEP
	COLOUR(顏色)	GRAY
	O . D(外徑)	1.13±0.10 mm
MARKING 印字	MARKING 印字	/

CONSTRUCTION(構造)



COLOR CODE:(顏色代碼)

NATURAL

PHYSICAL PROPERTY & TRANSMISSION PERFORMANGE SPECIFICATIONS

Electric Characters(電氣特性)

1. Conductor Resistance: at 20°C MAX 32AWG: 567Ω/km;
2. Insulation Resistance: 305MΩ-km min at 20°C de 500V
3. Dielectric Strength: AC 500V/1minute
4. Impedance test (normal) : 50±2 Ω @ TDR
5. Attenuation (normal): at 0.9GHz 1.82dB/M at 1.5GHz 2.37dB/M at 1.9GHz 2.70dB/M
at 2.4GHz 3.05dB/M at 3GHz 3.43dB/M at 4GHz 3.94dB/M at 5GHz 4.45dB/M
at 5.8GHz 4.89dB/M at 6GHz 5.16dB/M

Physical Characters of jacket (物理特性)

1. Tensile Strength: Unaed: 2500PSI min Aged: 75% min
2. Elongation: Unaged: 200% min Aged: 75%



Test Report

COPARTNER TECHNOLOGY CORP.
FLOOR 4, NO. 16, CHIENPA ROAD, FAREAST
CENTURY PLAZA (FECF) CHUNGHO CITY, TAIPEI
HSIEN, TAIWAN, R.O.C.

Report No. : CE/2004/90790B
Date : 2004/09/13
Page : 1 of 3

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

Type of Product : 1 C+B OD:1.13mm, OD: 0.81mm, OD: 1.37mm
Sample Received : 2004/09/06
Testing Date : 2004/09/06 TO 2004/09/13

Test Result : - Please see the next page -


Daniel Yen, M.P., Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

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SGS TAIWAN LIMITED | NO. 134-1, Wu Kung Road, Wuku Industrial Zone, Taipei county, Taiwan.
8866-21-22933629/8866-21-2299-2427 www.sgs.com.tw



Test Report

COPARTNER TECHNOLOGY CORP.
 FLOOR 4, NO. 16, CHIENPA ROAD, FAREAST
 CENTURY PLAZA (FECF) CHUNGHO CITY, TAIPEI
 HSIEN, TAIWAN, R.O.C.

Report No. : CE/2004/90790B
 Date : 2004/09/13
 Page : 2 of 3

Test Result

- PART NAME NO.1 : SILVER COLORED METAL WIRE
- PART NAME NO.2 : TRANSPARENT PLASTIC JACKET
- PART NAME NO.3 : SILVER COLORED METAL WIRE(WEAVED)
- PART NAME NO.4 : GRAY PLASTIC JACKET

Test Item (s):	Unit	Method	MDL	Result			
				No.1	No.2	No.3	No.4
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	19.0	N.D.	19.5	N.D.

Test Item (s):	Unit	Method	MDL	Result			
				No.1	No.2	No.3	No.4
PBBs(Polybrominated biphenyls)(CAS NO:67774-32-7)	%	With reference to USEPA3540 or USEPA3550. 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.	---	N.D.

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SGS TAIWAN LIMITED NO. 136-1, Wu Kong Road, WuKong Industrial Zone, Taipei county, Taiwan
 8866-21-22893331 8866-21-22893337 www.sgs.com.tw



Test Report

COPARTNER TECHNOLOGY CORP.
FLOOR 4, NO. 16, CHIENFA ROAD, FAREAST
CENTURY PLAZA (FECT) CHIUNGHO CITY, TAIPEI
HSIEN, TAIWAN, R.O.C.

Report No. : CE/2004/90790B
Date : 2004/09/13
Page : 3 of 3

Test Item (s):	Unit	Method	MDL	Result			
				No.1	No.2	No.3	No.4
PBDEs(PBDEs)(Polybrominated biphenyl ethers)	%	With reference to USEPA3540 or USEPA3550. 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.	---	N.D.

- NOTE:
- (1) N.D. = Not detected (<MDL)
 - (2) ppm = mg/kg
 - (3) MDL = Method Detection Limit
 - (4) " --- " = Not Applicable

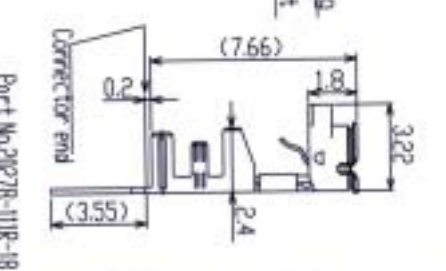
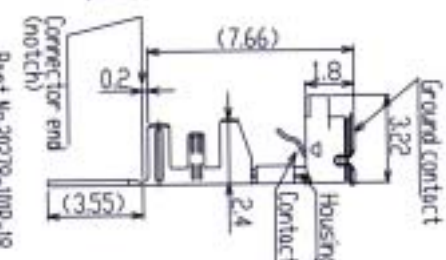
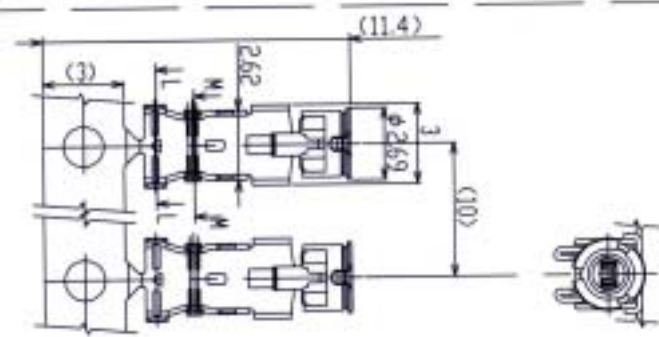
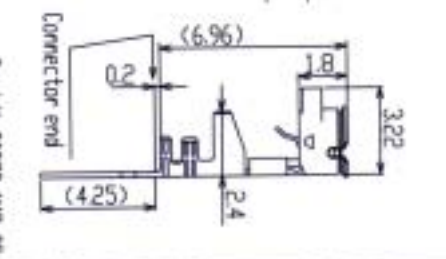
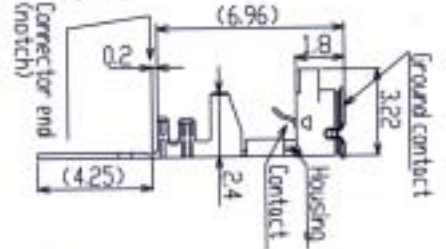
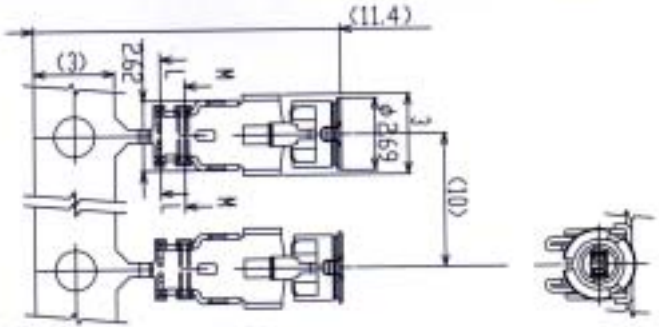
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Full Name: 90790B
NO. 136-1, Wu Kong Road, Wu Kong Industrial Zone, Taipei county, Taiwan.
(886-2) 2266-1818 (886-2) 2266-3237 www.sgs.com.tw

Material Data Sheet

MHF Connector

PART NO.
20278-10R-18



GENERAL TOLERANCE

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

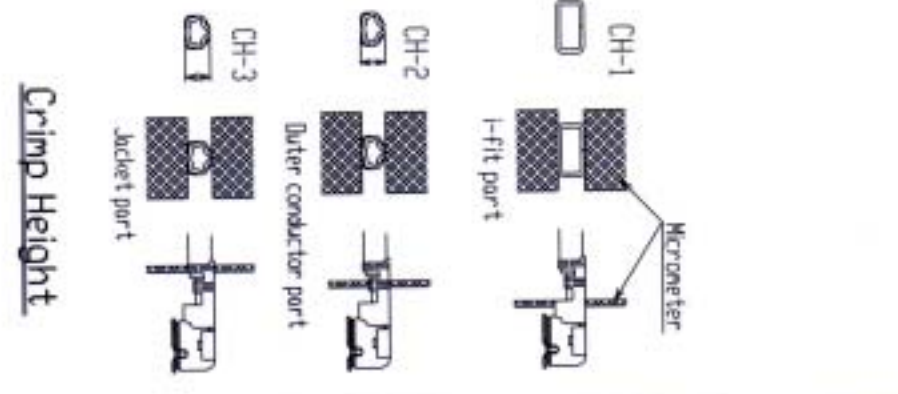
11C	2304	KD	HW	24/03	K	4	20278-10R-08	20278-11R-08	20278-10R-13	20278-11R-13	20278-10R-32	20278-11R-32
11C	2304	KD	HW	31/03	K	3	20278-10R-08	20278-11R-08	20278-10R-13	20278-11R-13	20278-10R-32	20278-11R-32
9	2229	KD	NV	75/02	K	2	20278-10R-08	20278-11R-08	20278-10R-13	20278-11R-13	20278-10R-32	20278-11R-32
8	2224	KD	NV	17/02	K	1	20278-10R-08	20278-11R-08	20278-10R-13	20278-11R-13	20278-10R-32	20278-11R-32
7	2180	KD	NV	29/02	K	0	20278-10R-08	20278-11R-08	20278-10R-13	20278-11R-13	20278-10R-32	20278-11R-32
6	2146	KD	NV	24/02	K	0	20278-10R-08	20278-11R-08	20278-10R-13	20278-11R-13	20278-10R-32	20278-11R-32
5	2117	KD	NV	17/02	K	0	20278-10R-08	20278-11R-08	20278-10R-13	20278-11R-13	20278-10R-32	20278-11R-32

DESIGNED BY	K. Ohsugish	DATE	JUN/13/01
CHECK BY		DATE	
APP'D BY	K. Ohsugish	DATE	JUN/13/01
CUSTOMER	IPPEX	PROJ. NO.	20278
DATE	6/11/01	SHEET	1/3

FORM REV. 4

WAS 1

Part No.	Applicable cable nominal dimension	Jacket Outer conductor silver or tin plating Dielectric core Inner conductor silver plating	P/N of Hand Tool	P/N of seal auto termination machine
20278-10R-08 20278-11R-08	2.09±0.1 1.25±0.1 1.16±0.1	φ0.81 Nominal (φ0.65) φ0.4 Nominal AWG#36(7/0.05)	Single / 1個組	90187-008C 90213-008C
20278-10R-13 20278-11R-13	2.09±0.1 1.25±0.1 1.16±0.1	φ1.13 Nominal (φ0.93) φ0.68 Nominal AWG#32(7/0.08)	Single / 1個組	90187-013C 90213-013C
20278-10R-32 20278-11R-32	2.09±0.1 1.25±0.1 1.16±0.1	φ1.32 Nominal (φ1.12) φ0.66 Nominal AWG#32(7/0.08)	Double / 2個組	90187-032C 90213-032C
20278-10R-18 20278-11R-18	2.09±0.1 1.25±0.1 1.16±0.1	φ1.8 Nominal RG178 B/U (φ1.35) φ0.84 Nominal AWG#30(7/0.102)	Single / 1個組	90233-018 90232-018



Crimp Height

GENERAL TOLERANCE

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

DESIGNED BY	DATE	CHK'D BY	DATE
APPROV BY	DATE	APPROV BY	DATE
CUSTOMER COPY	PROJECT NO.	SCALE	REV
SERIES No. 2814		20278	

I-PEX Interconnect and Packaging Electronics

MF Series micro coated connector plug
Vertical ground contact: gold plating

DATE: 2/21/11C

FORM REV.4

VAST



Test Report

I-PEX JP CO., LTD. TAIWAN BRANCH (JAPAN)
4F-4, NO.2, JIAN BA ROAD, CHUNG HO CITY,
TAIPEI 235, TAIWAN, R.O.C.

Report No : CE/2004/42496
Date : 2004/04/27
Page : 1 of 1

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

Type of Product : MHF CONNECTOR
Style/Item No : 20278-111R-XX
Sample Received : 2004/04/22.
Testing Date : 2004/04/22 TO 2004/04/27

Test Result

PART NAME NO.1 : MIX GOLDEN COLORED METAL & BLACK PLASTIC

Test Item(s):	Unit	Method	MDL	Result			
				NO.1			
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.			
Cadmium (Cd)	ppm	ICP-AES After As per EN 1122, Method B:2001 or other acid digestion.	2	N.D.			
Mercury (Hg)	ppm	ICP-AES After As per US EPA 3052 or other acid digestion.	2	N.D.			
Lead (Pb)	ppm	ICP-AES After As per 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) " ---" = Not Applicable


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

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