

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.

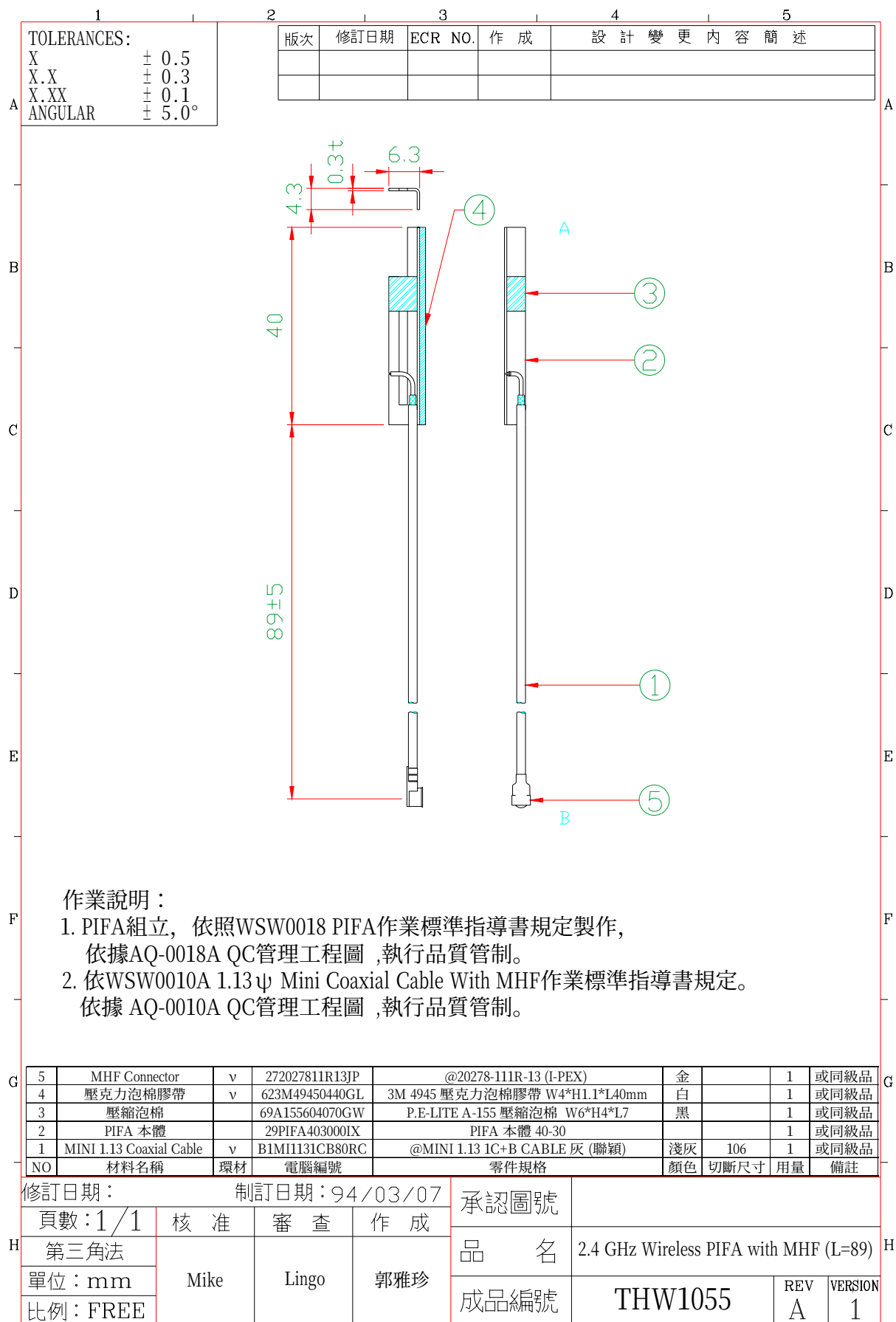
TEL : (02) 22988066 (5 LINE) FAX : (02)22981102

Table of Contents

Table of Contents		1
Specification		2
Antenna Drawing		3
Electrical Properties		
Return Loss		4
V.S.W.R		5
Material Data Sheet		
Coaxial Cable		6-11
MHF Connector		12-15

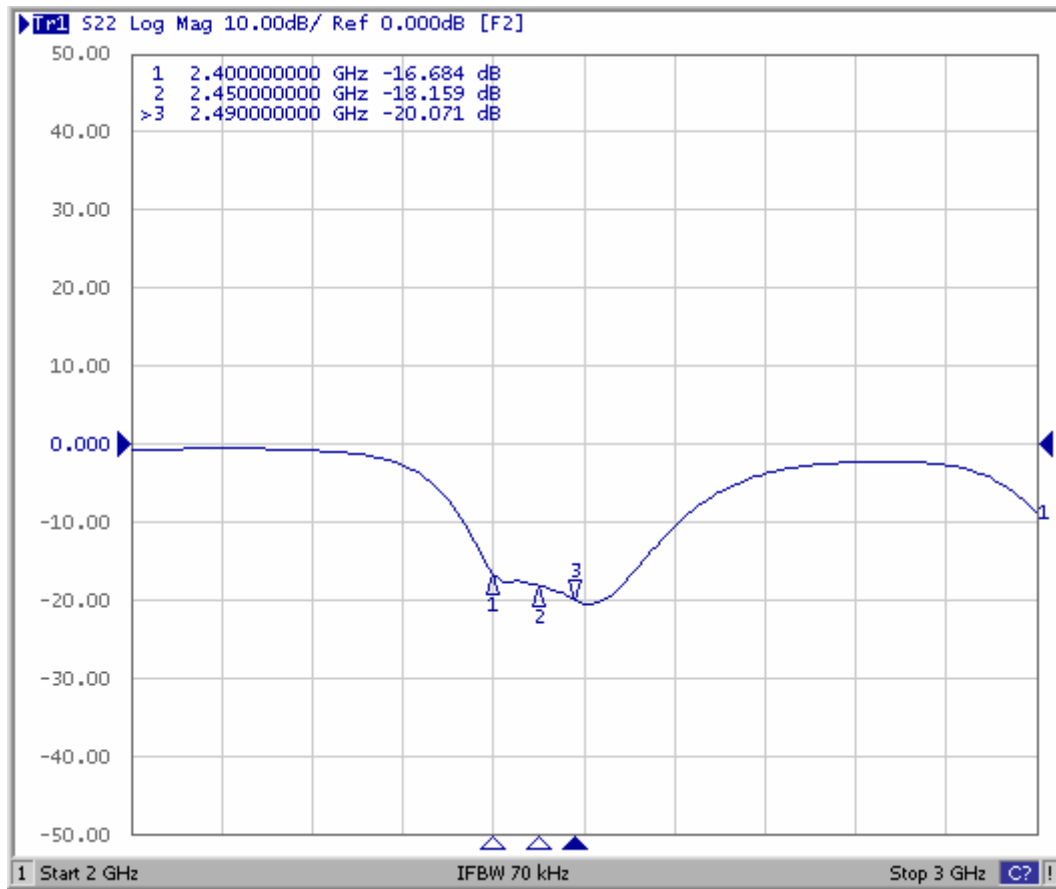
SPECIFICATION

- | | |
|-------------------------------|----------------------------------|
| 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 |



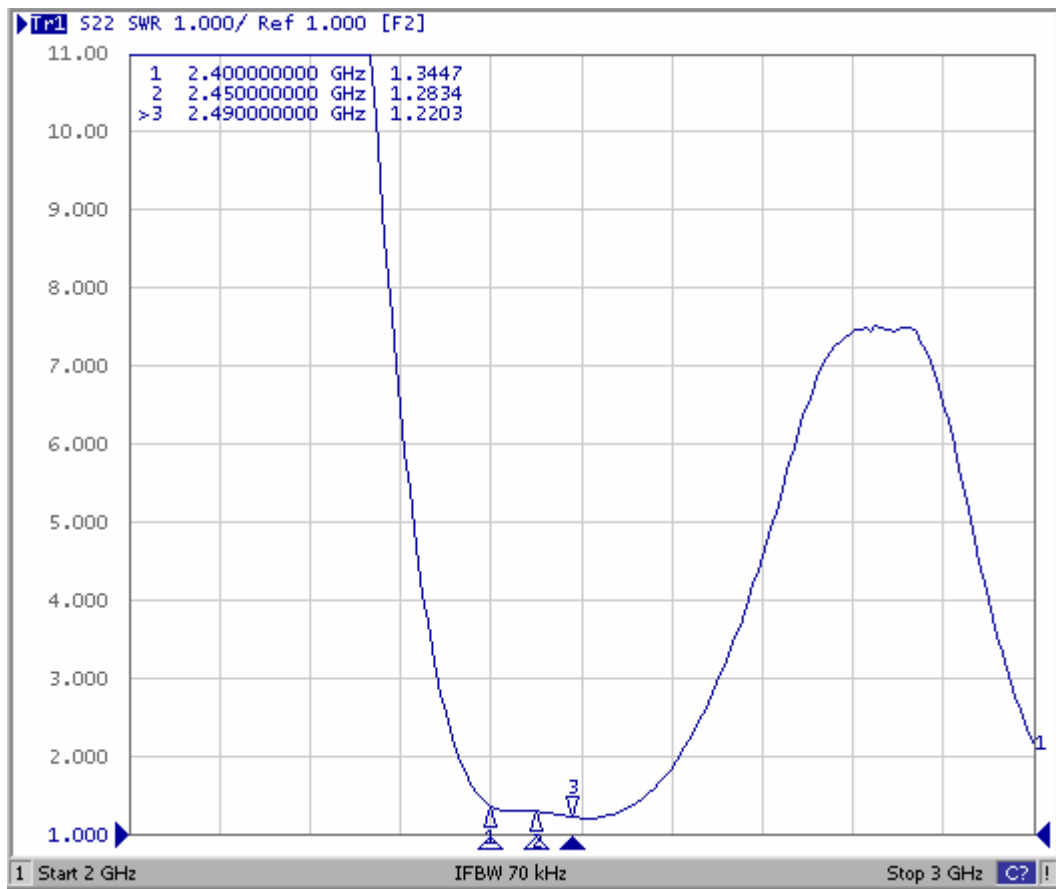
Electrical Properties

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

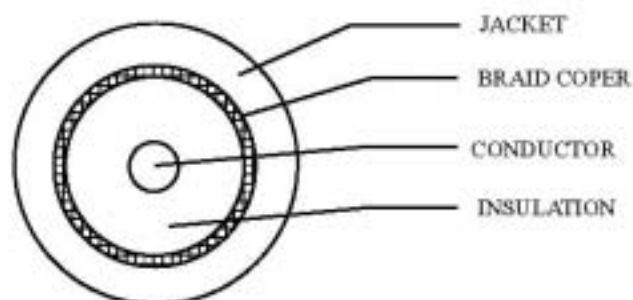
TOTAL PAGES: 3

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
	N.O.(線數)	1C
AL.MYLAR 鋁箔	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℃ MAX 32AWG: 567Ω/km;
2. Insulation Resistance: 305MΩ-km min at 20℃ 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.

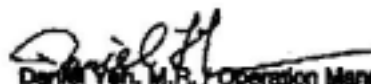
Report No. : CE/2004/90790B
Date : 2004/09/13
Page : 1 of 3

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.R., Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

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886-2-22993829/886-2-2299-2427 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(WEAVER)
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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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

NO. 136-1, WuKung Road, WuKu Industrial Zone, Taipei county, Taiwan.
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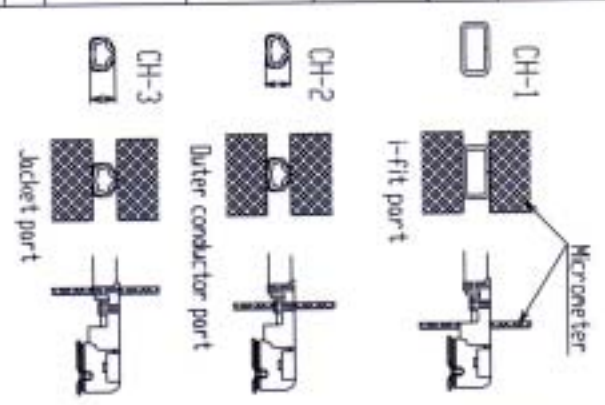
Material Data Sheet

MHF Connector

Part No.	20278-111R-08	20278-111R-13	20278-111R-32
For hand tool			
For semi auto termination machine (without notch)			

REV	BY	DATE	APP	SERIES NO.	2014
1	111C	2014/11/13	111C	111C	111C
2	111C	2014/11/13	111C	111C	111C
3	111C	2014/11/13	111C	111C	111C
4	111C	2014/11/13	111C	111C	111C
5	111C	2014/11/13	111C	111C	111C
6	111C	2014/11/13	111C	111C	111C
7	111C	2014/11/13	111C	111C	111C
8	111C	2014/11/13	111C	111C	111C
9	111C	2014/11/13	111C	111C	111C
10	111C	2014/11/13	111C	111C	111C
11	111C	2014/11/13	111C	111C	111C
12	111C	2014/11/13	111C	111C	111C
13	111C	2014/11/13	111C	111C	111C
14	111C	2014/11/13	111C	111C	111C
15	111C	2014/11/13	111C	111C	111C
16	111C	2014/11/13	111C	111C	111C
17	111C	2014/11/13	111C	111C	111C
18	111C	2014/11/13	111C	111C	111C
19	111C	2014/11/13	111C	111C	111C
20	111C	2014/11/13	111C	111C	111C
21	111C	2014/11/13	111C	111C	111C
22	111C	2014/11/13	111C	111C	111C
23	111C	2014/11/13	111C	111C	111C
24	111C	2014/11/13	111C	111C	111C
25	111C	2014/11/13	111C	111C	111C
26	111C	2014/11/13	111C	111C	111C
27	111C	2014/11/13	111C	111C	111C
28	111C	2014/11/13	111C	111C	111C
29	111C	2014/11/13	111C	111C	111C
30	111C	2014/11/13	111C	111C	111C
31	111C	2014/11/13	111C	111C	111C
32	111C	2014/11/13	111C	111C	111C
33	111C	2014/11/13	111C	111C	111C
34	111C	2014/11/13	111C	111C	111C
35	111C	2014/11/13	111C	111C	111C
36	111C	2014/11/13	111C	111C	111C
37	111C	2014/11/13	111C	111C	111C
38	111C	2014/11/13	111C	111C	111C
39	111C	2014/11/13	111C	111C	111C
40	111C	2014/11/13	111C	111C	111C
41	111C	2014/11/13	111C	111C	111C
42	111C	2014/11/13	111C	111C	111C
43	111C	2014/11/13	111C	111C	111C
44	111C	2014/11/13	111C	111C	111C
45	111C	2014/11/13	111C	111C	111C
46	111C	2014/11/13	111C	111C	111C
47	111C	2014/11/13	111C	111C	111C
48	111C	2014/11/13	111C	111C	111C
49	111C	2014/11/13	111C	111C	111C
50	111C	2014/11/13	111C	111C	111C
51	111C	2014/11/13	111C	111C	

Part No.	20278-10R-08 20278-11R-08	20278-10R-13 20278-11R-13	20278-10R-32 20278-11R-32	20278-10R-18 20278-11R-18
Applicable cable nominal dimension				
Jacket	Outer conductor silver or tin plating	Dielectric core	Inner conductor silver plating	
Provided shield of outer conductor	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 CH-2 0.76~0.84 CH-3 0.85~0.97	1.34~1.40 1.06~1.14 1.15~1.35	1.34~1.40 1.20~1.30 1.26~1.46	1.34~1.40 1.41~1.49 1.70~1.80



GENERAL TOLERANCE		REVISION BY DATE APP		CHECK BY DATE	
6 MAX. ±0.2	6 OVER MAX.30 ±0.3	REV. RECORDED	DATE	APP'D BY	DATE
30 OVER MAX.120 ±0.5	ANGLE ±2°	SERIES NO. 2814	COPY	PROJECTOR	DATE
FORM REV.4		VAST		TITLE	
				I-PEX Interconnect and Packaging Electronics	
				M6 Series micro coated connector plug	
				Vertical ground contact (gold plating)	
				DATE No. 20278	
				2/311C	

Notes

1. Material

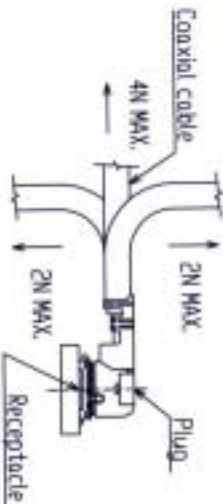
- (1) Housing: PBT, UL94V-0, black
- (2) Contact: phosphor bronze, gold plating
- (3) Ground contact: phosphor bronze, gold plating
2. Packing: reel
3. Mating partner part No.: 20279-001E-01

1. 材質

- (1) ハウジング: PBT, UL94V-0, 黒色
- (2) コネクタ: ばね鋼, 全メッキ
- (3) グランドコネクタ: ばね鋼, 全メッキ
2. 梱包: リール
3. かん合相手 part No.: 20279-001E-01

4. Permissible load of cable at mating

コネクタかん合時のケーブルに対する荷重

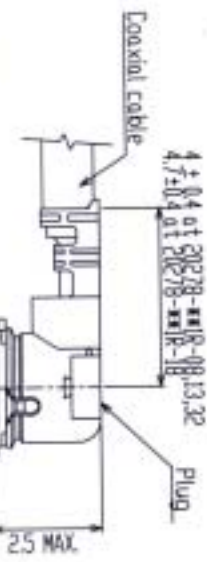


5. Suggestions for mating & unmating operation

5-1 コネクタ挿入時

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.

5-1 コネクタ挿入時
PlugとReceptacleのかん合を合わせ、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。



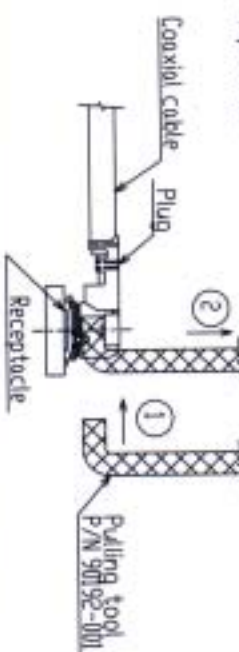
GENERAL TOLERANCE		
6. MAX.	±0.2	
6. OVER MAX.	±0.3	
30. OVER MAX.	±0.5	
ANGLE	±2°	

5-2 Unmating

5-2 コネクタ抜き時

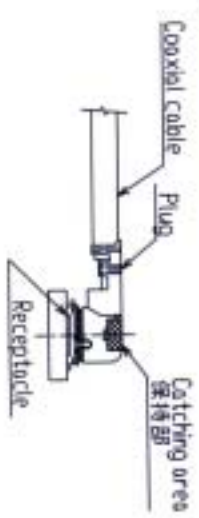
- (1) In case of unmating by pulling tool.
Please use the following drawing, tool as the following drawing, and please pull plug to vertical direction as directly as possible.

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



- (2) 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.

- (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。



DESIGNED BY		DATE	
CHK'D BY	DATE	CHK'D BY	DATE
APPR'D BY	DATE	APPR'D BY	DATE
CUSTOMER		PRODUCTION	
SERIES NO.	2014	CDP	1-1/4mm
TITLE			
I-PEX Interconnect and Packaging Electronics TOKYO JAPAN			
MF series micro coaxial connector plug vertical (ground contact, gold plating)			
VER. 1.0		SHEET 1/1	
20278		3/311C	



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 :

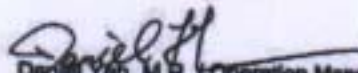
Type of Product : MHF CONNECTOR
Style/Item No : 20278-111R-XX
Sample Received : 2004/04/22.
Testing Date : 2004/04/22 TO 2004/04/27

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

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