



權億科技股份有限公司
Master Wave Technology Co., Ltd.

承認書

APPROVAL SHEET

Customers: NETGEAR Inc.

Customer Model No.:

Master Wave Model No. 907X00747X35

Product Description: 2+5G銅管天線

Issue Date: 2022/01/21

REV.: 01

客戶承認用印		權億承認用印	
			
核准 Approve	主管 Chief		承辦 Responsible
Hero	Matt		Grace

MASTER WAVE TECHNOLOGY CO., LTD.

權億科技股份有限公司

Address: No. 19, Hezun N. Rd., Zhongli Dist., Taoyuan City 320, Taiwan (R.O.C.)

Tel: +886-3-4529998 Fax: +886-3-4522866

Shengyih Electronic Plastic Co. Ltd (Shou Zhou)

聲億電子塑膠有限公司(蘇州廠)

Address: No.95 Wusong south Rd of Luzhi Town Wu zhong Area Suzhou City, China

Tel : +86-512-65046030 Fax : +86-512-65046033

Shengyih Electronic Co. Ltd (Dongguan)

聲億電子有限公司(東莞廠)

Address: Mu-Lun Administration Area, Changping Town, Dongguan City, Guangdong Province, China

Tel : +86-769-83914045 Fax : +86-769-83914046



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-Electrical test
-Antenna Efficiency
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3. Material Certifications

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-Cable

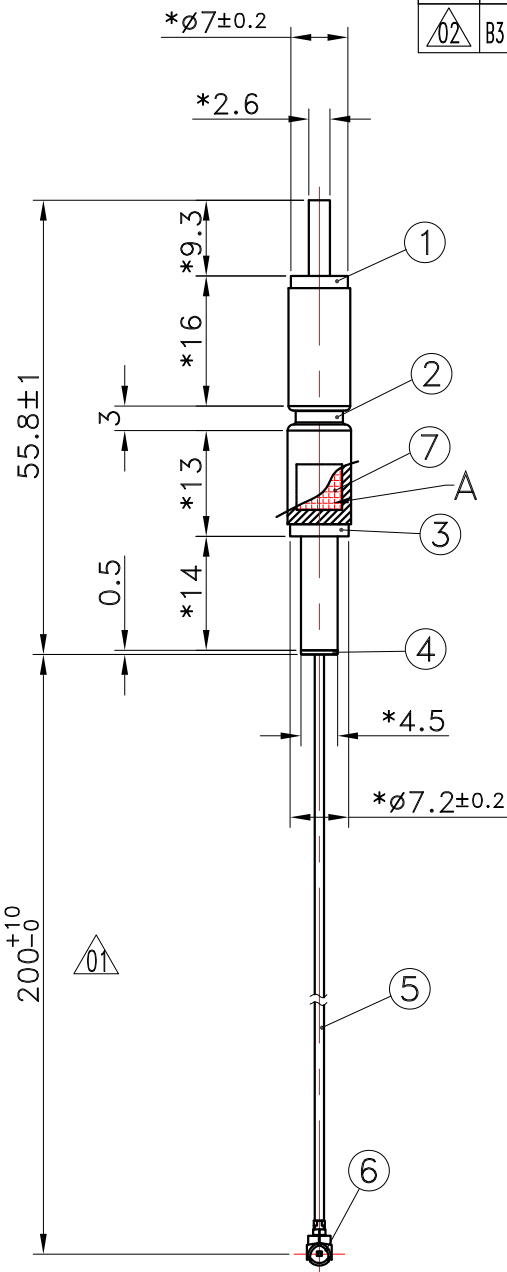
4. Packing

-PE Bag
-Carton

Modification History:

REV.	Date	Content
00	2019/3/14	
01	2019/5/9	線長290mm更改為200mm，更改電氣值

REV	ZONE	DESCRIPTION	ENG	APPROVED	DATE
01	2C 4C	線長290mm更改為200mm , 更改電氣值	Mango	Ian	2019/5/9
02	B3 C2	新增I-PEX 替代零件,修改圖面標示	Doris	Tony	2021/02/01



DETAIL : A/A
SCALE : 1/1

01 02

Electrical Properties		
Frequency Range	2.4~2.5 GHz	5.15~5.85 GHz
Impedance	50Ω	
V.S.W.R.	<2.5	
Radiation	Omni	
Polarization	Vertical	
Mechanical Properties		
Whip	Brass	
Connector	Brass	
Operating Temp	-20°C~+65°C	

02

⑦	Double Side Tape	7 * 7 mm	-	1
⑥	Mini PCI	Brass	Ni/Gold	1
⑤	Cable	ø1.13 Low Loss	Gray	1
④	Latter Plug	PA66	White	1
③	Copper Tube	Brass	Ni	1
②	Heat Shrink Tube	ø8*30L	Black	1
①	Copper Tube	Brass	Ni	1
ITEM	Name	Material	Finish	QTY

NOTES:
1.*為重點尺寸

UNLESS OTHERWISE
SPECIFIED
TOLERANCES ON : ±0.5

DATE: 2020/04/27

MAT'L:

UNIT: mm

FINISH:

THIRD ANGLE
PROJECTION

SCALE: 1/1



權億科技股份有限公司
Master Wave Technology Co., Ltd.

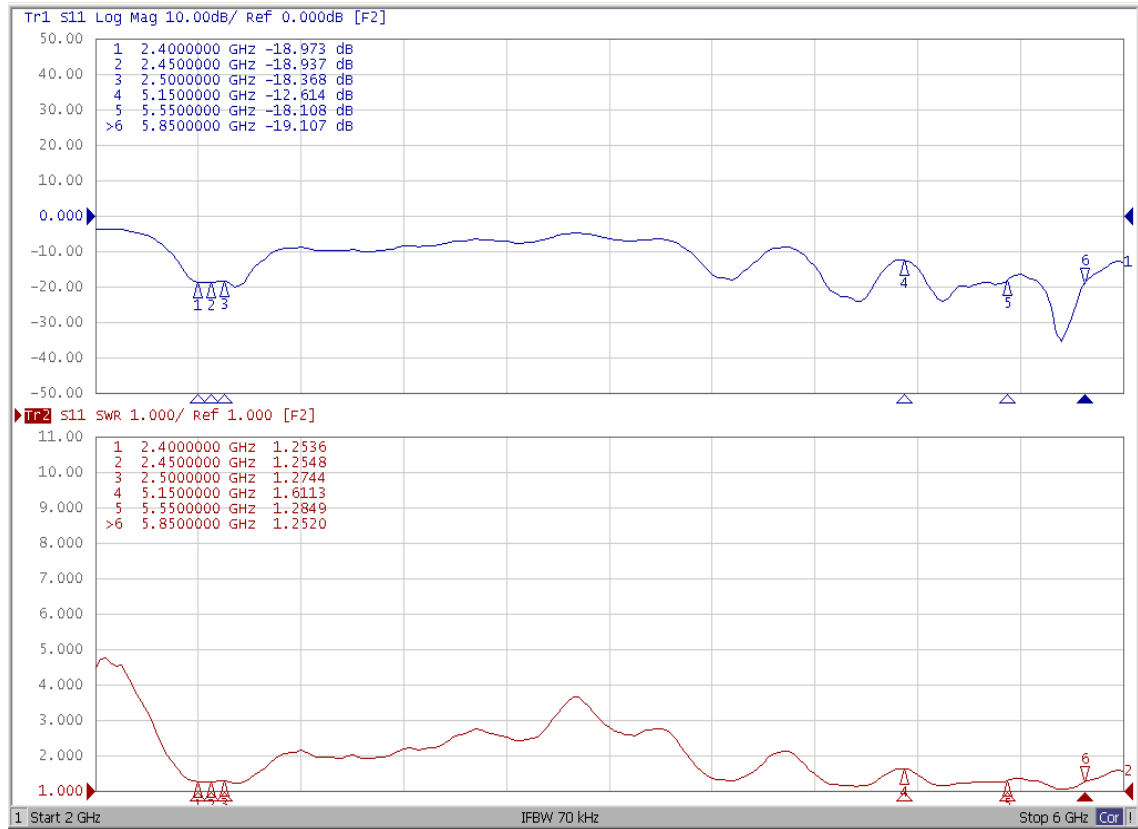
TITLE : 2+5G銅管天線

APPROVED BY:	CHECKED BY:	DESIGNED BY:	DRAWN BY:	WEIGHT:	MODEL NO. : 907X00747X35	REV
		Ian	Mango		PART NO. :	02

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MASTER WAVE AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.



Electrical Test (裸測)





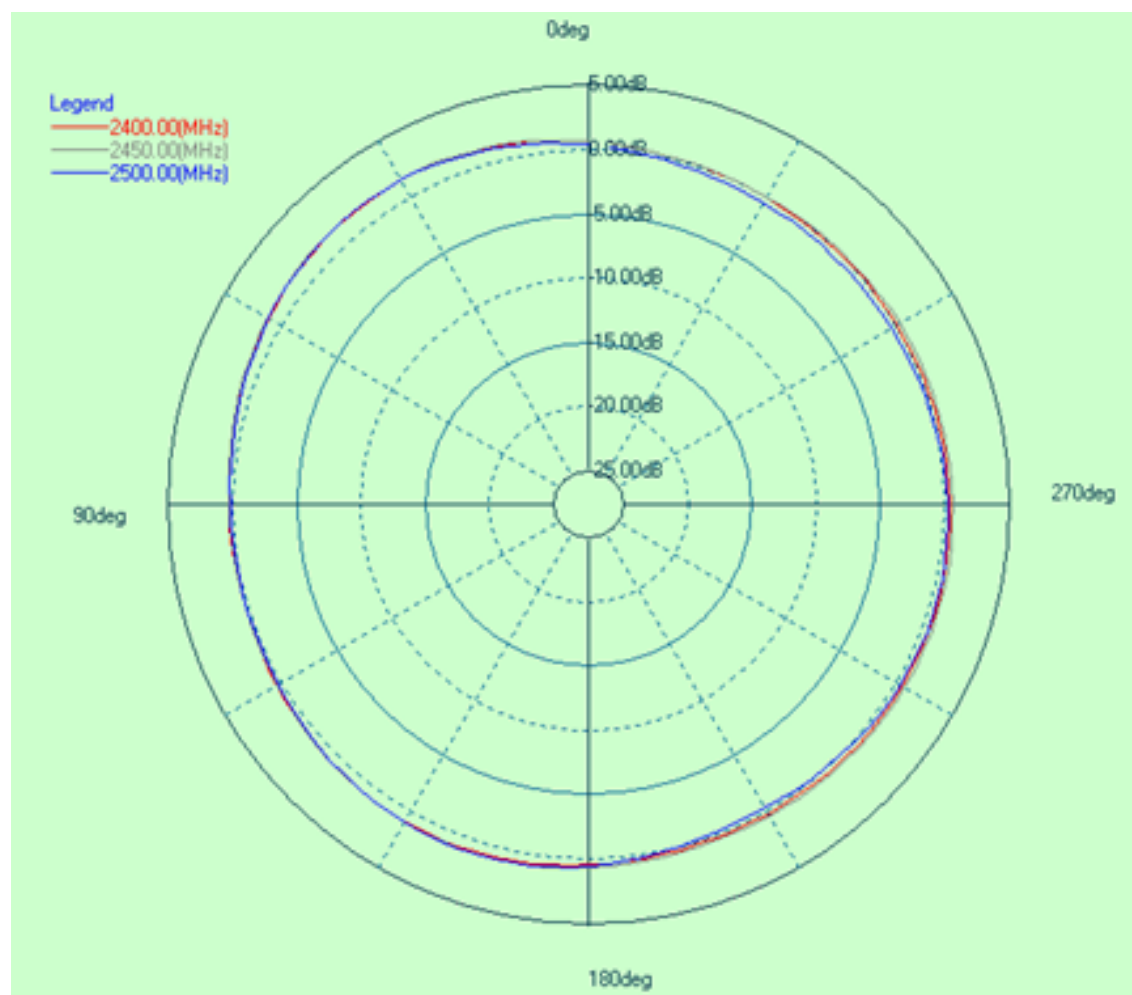
Antenna Efficiency (裸測)

Frequency(MHz)	2400	2450	2500
Efficiency (%)	72%	74%	71%
Peak Gain (dBi)	1.42	1.61	1.47



2D Radiation Pattern-2G

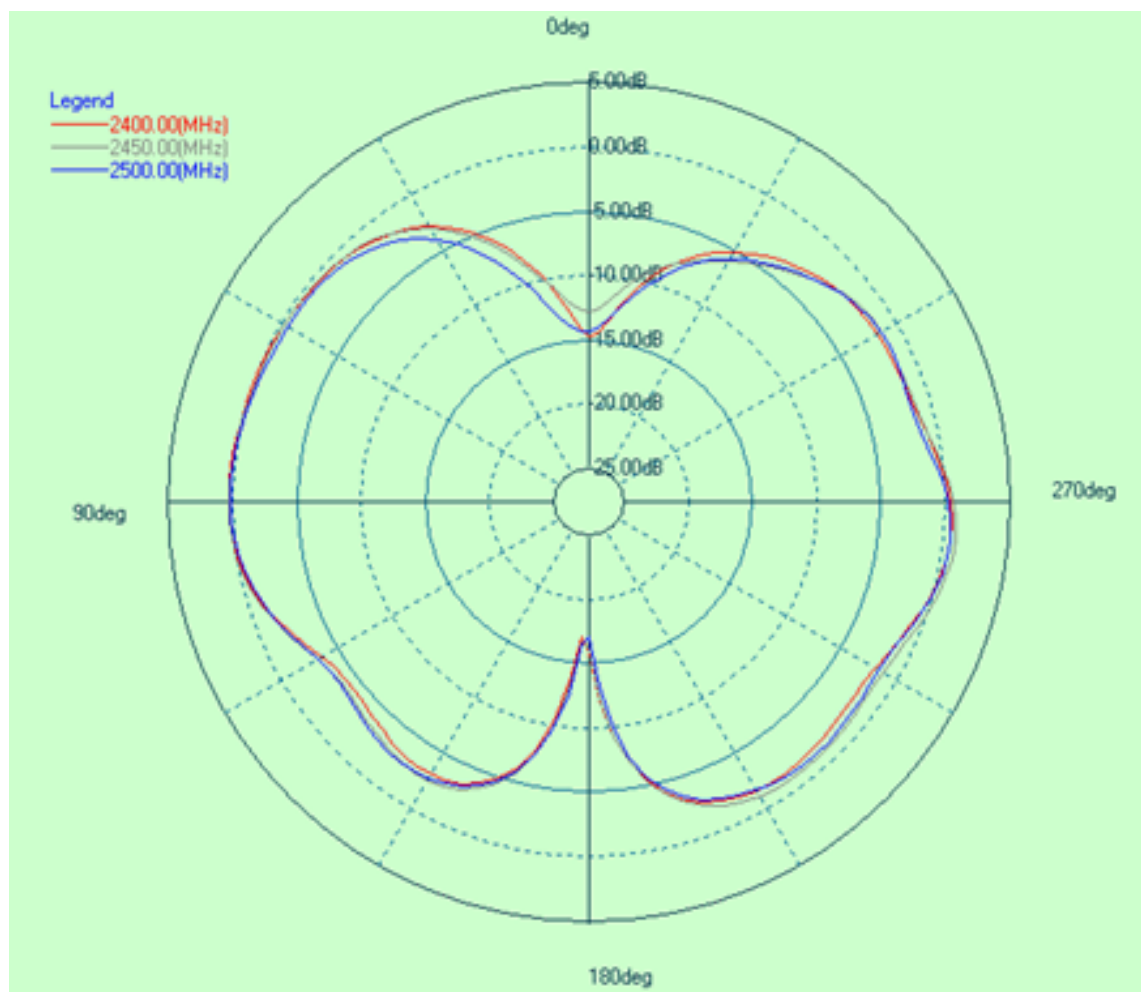
xy ($\theta = 90^\circ$)





2D Radiation Pattern-2G

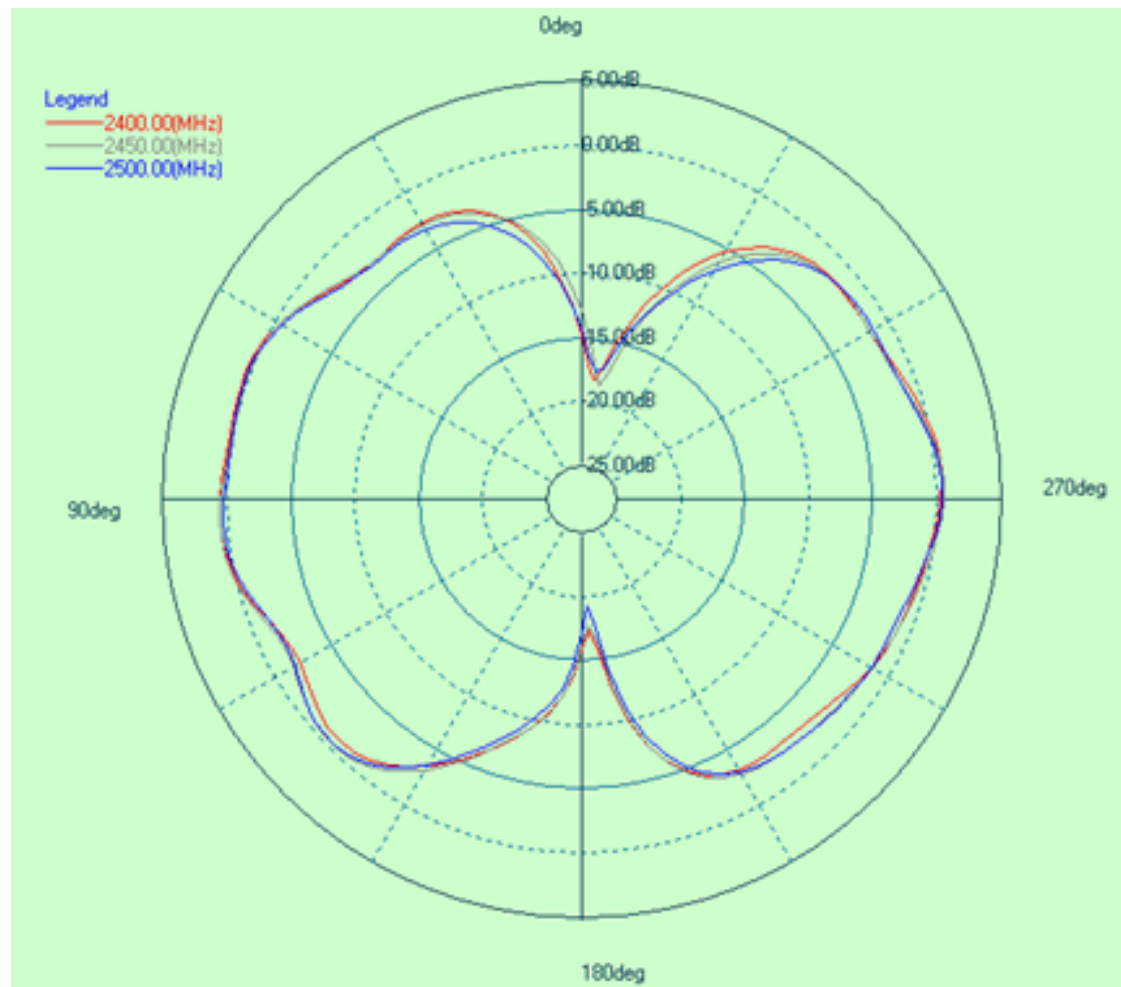
xz ($\phi = 0^\circ$)





2D Radiation Pattern-2G

yz ($\phi = 90^\circ$)



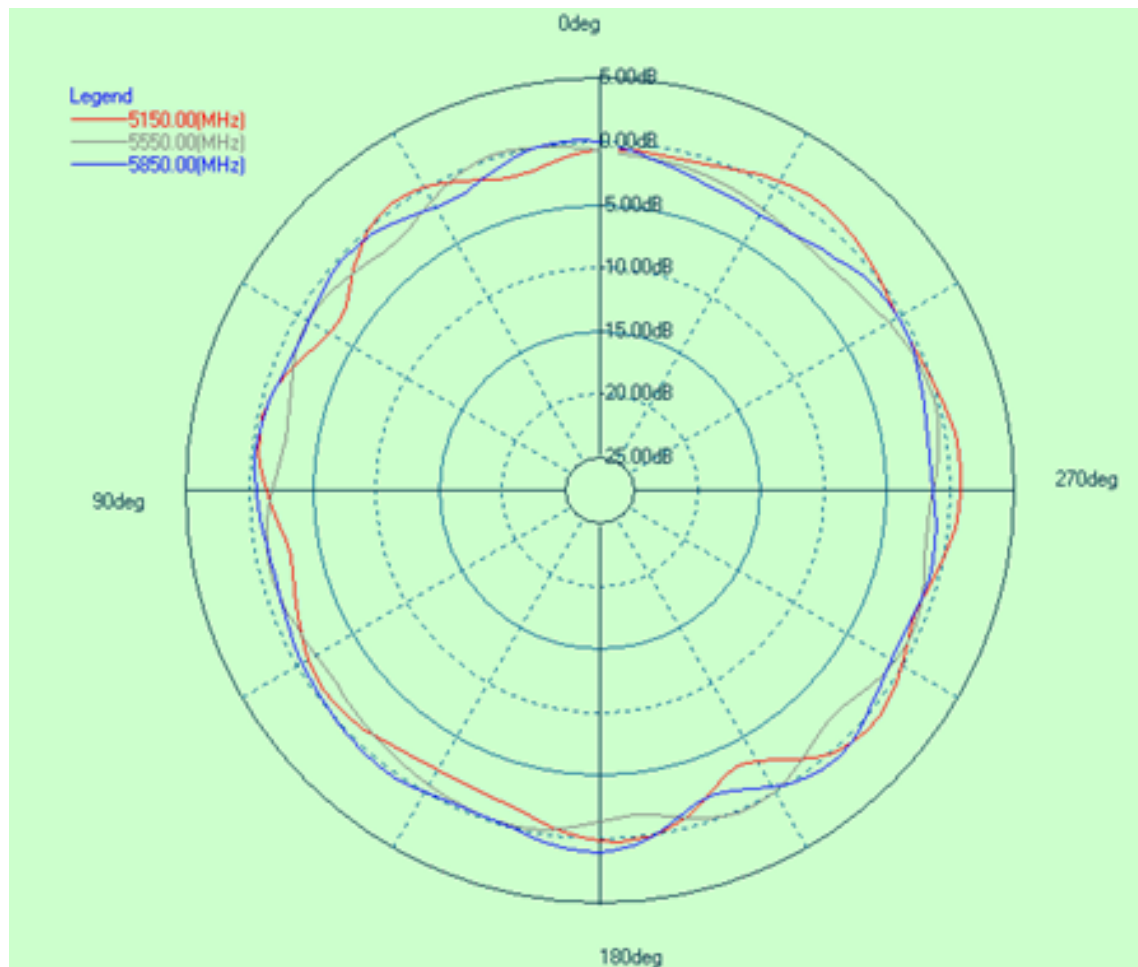


Antenna Efficiency (裸測)

Frequency(MHz)	5150	5550	5850
Efficiency (%)	65%	66%	66%
Peak Gain (dBi)	2.03	2.02	2.33



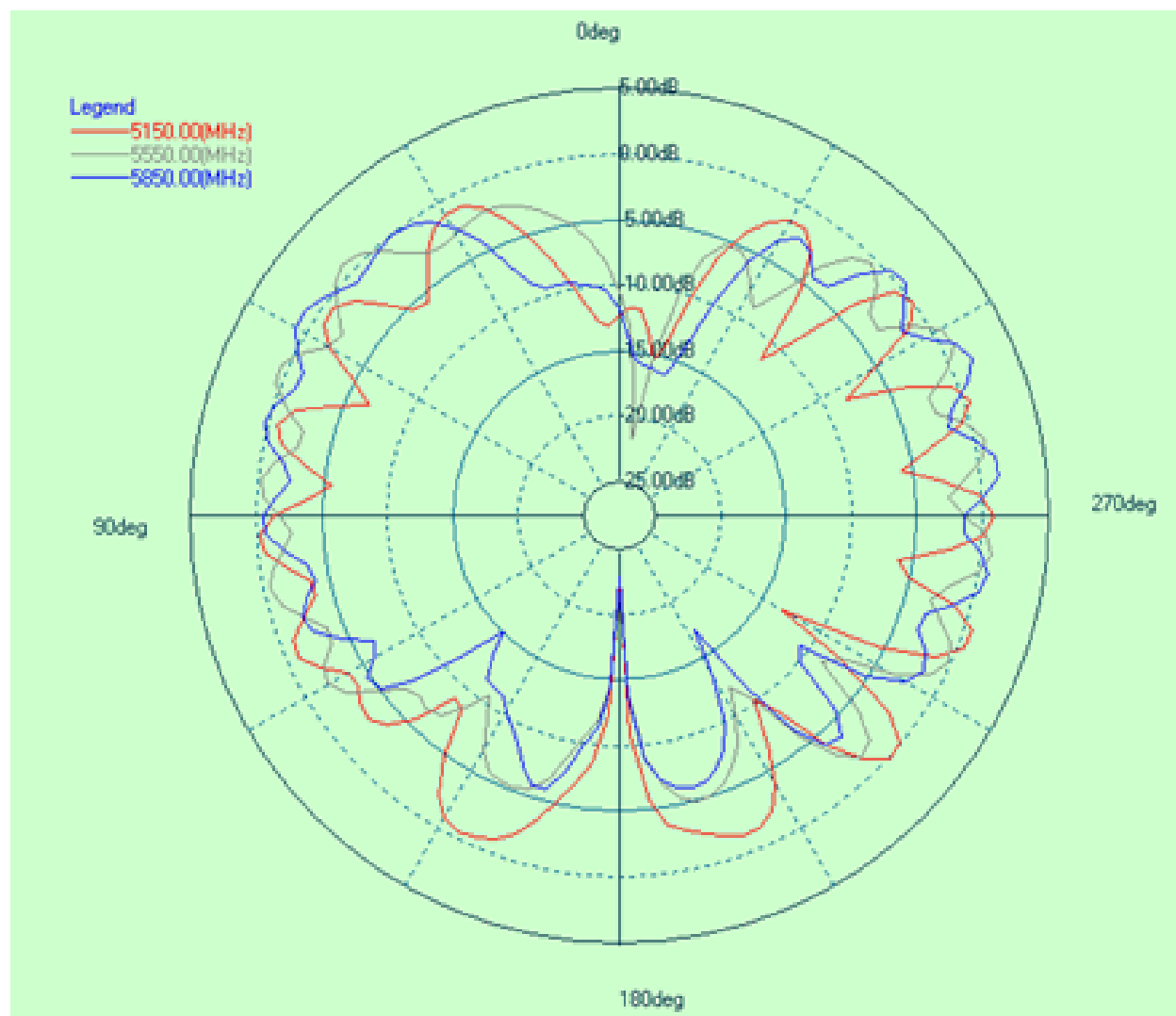
2D Radiation Pattern-5G xy ($\theta = 90^\circ$)





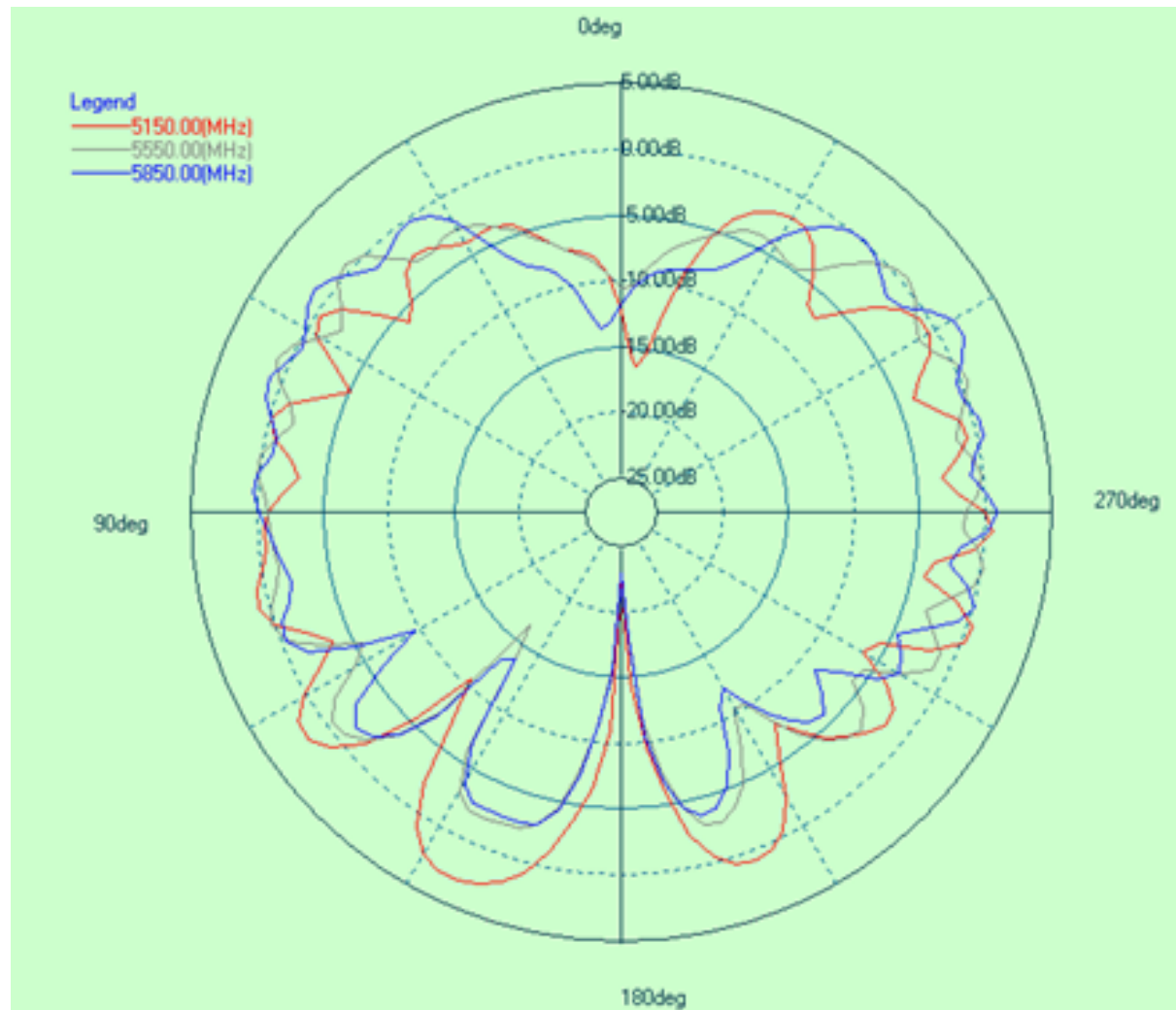
2D Radiation Pattern-5G

xz ($\phi = 0^\circ$)

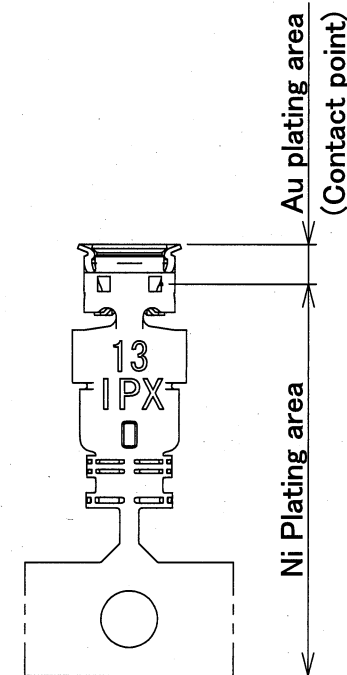
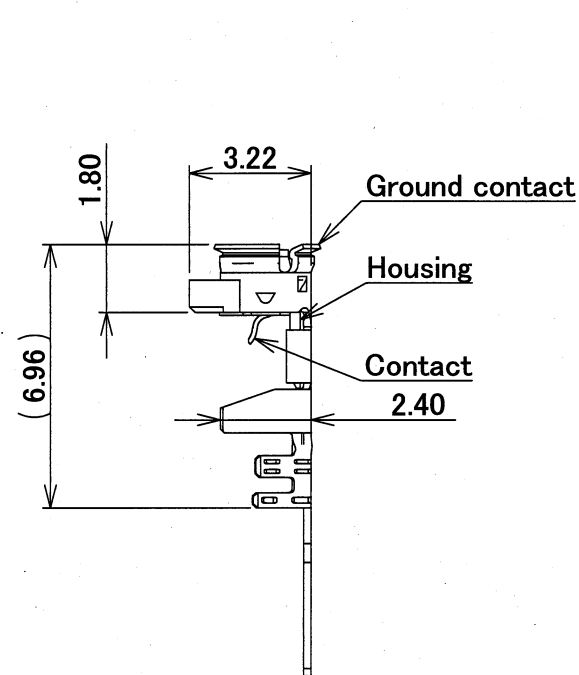
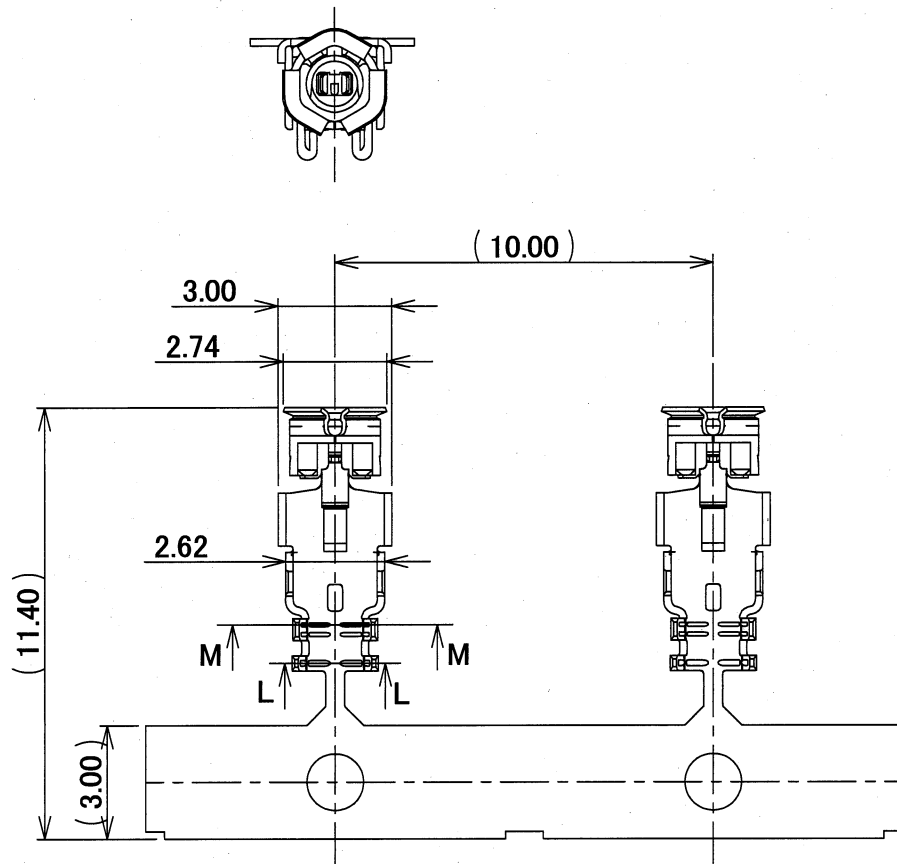




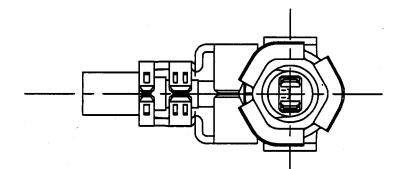
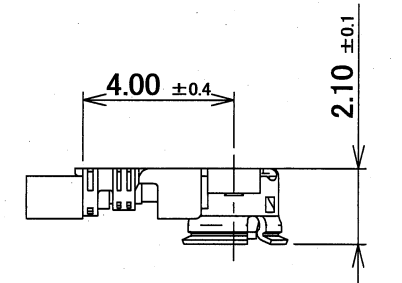
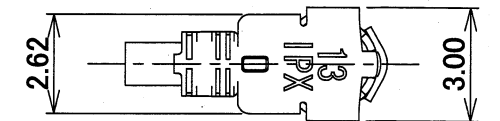
2D Radiation Pattern-5G yz ($\phi = 90^\circ$)



PART No.
20670-001R-**-**



Part No. 20670-001R-08
20670-001R-13
20670-001R-32
For semi auto termination machine



Cable Ass'y

Plug
20670-001R-08
20670-001R-13
20670-001R-32

Coaxial cable

Receptacle
Part No.20279-001E-**-**
20441-001E-01

MATING

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

					DESIGN'D BY T. Yuzuki DATE Aug. 18/15
					CHK'D BY T. Yuzuki DATE Aug. 20/15
0	Z150889	Tad	Aug/18/'15		APP'D BY T. Takano DATE Aug. 20/15
REV	ECN	BY	DATE	APP	
REV.RECORD					CUSTOMER COPY
SERIES No.		R0			PROJECTION 
					

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I-PEX Business Company

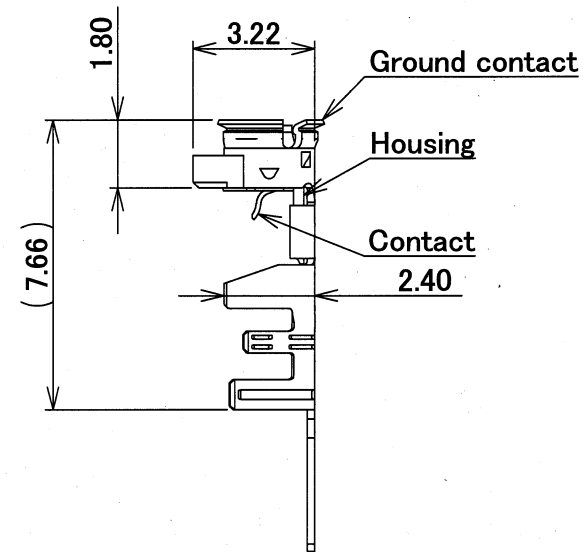
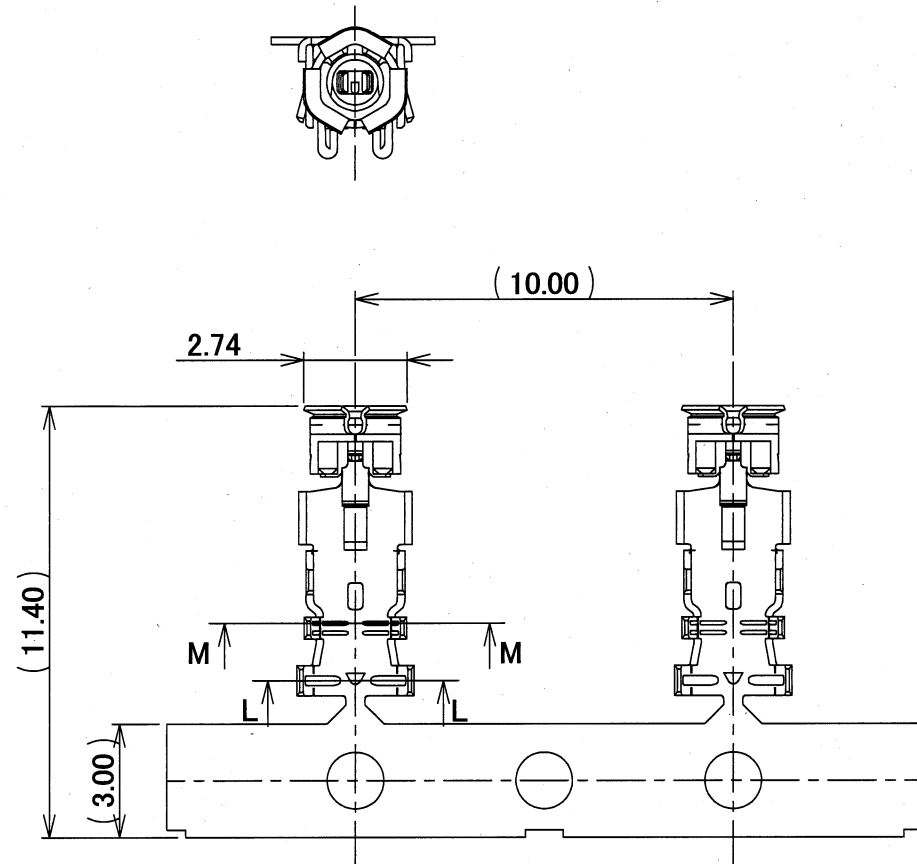
TITLE MHF PLUG ASS'Y				
SCALE 5:1	UNIT mm	DWG. No. 20670	SHEET 1/6	REV. 0

Recommended P/N

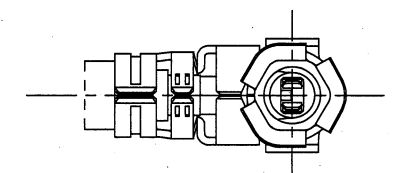
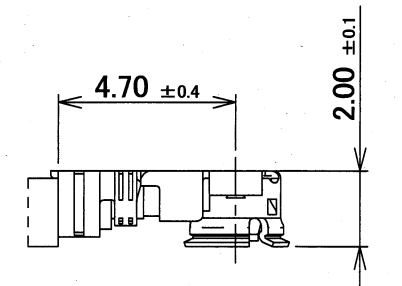
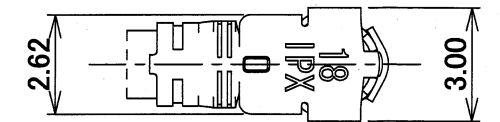
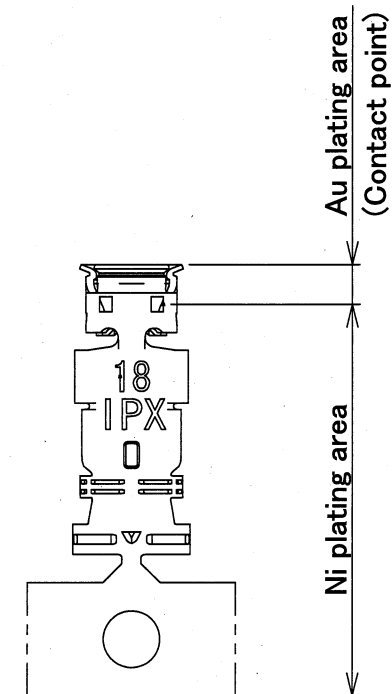
20670-001R-**-

PART No.

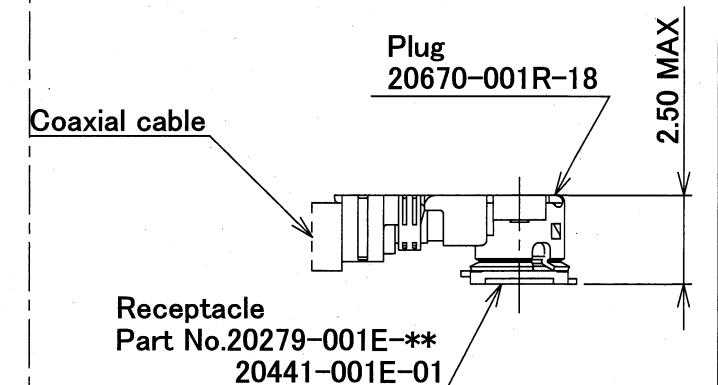
20670-001R-18



Part No. 20670-001R-18
For semi auto termination machine



Cable Ass'y



MATING

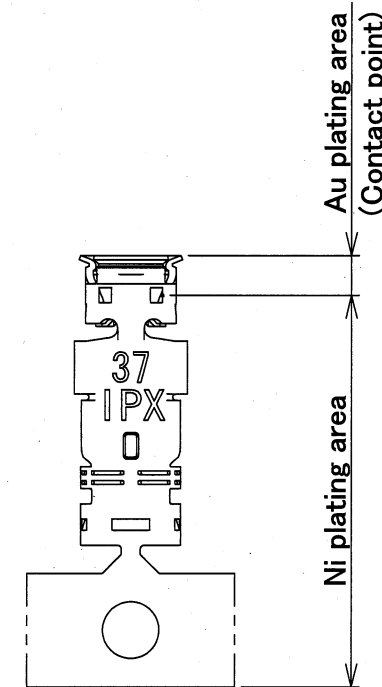
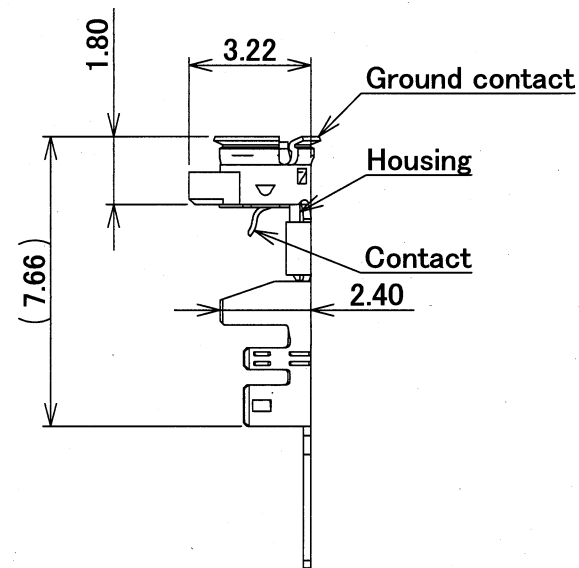
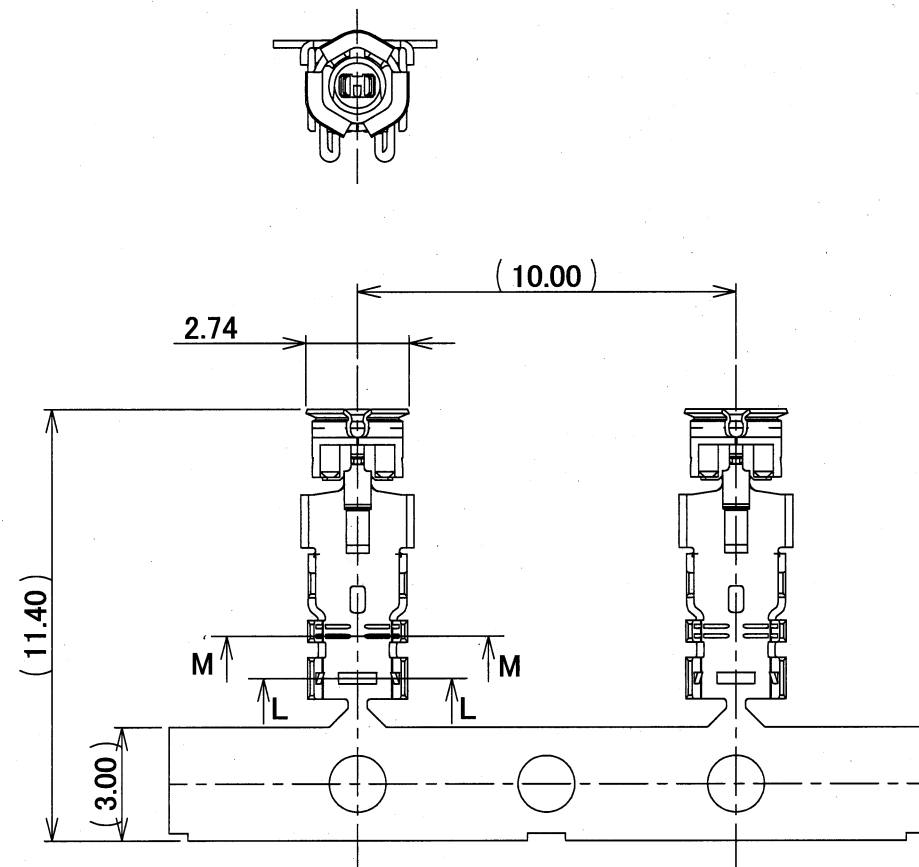
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

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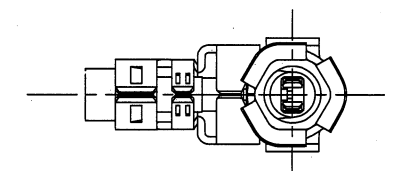
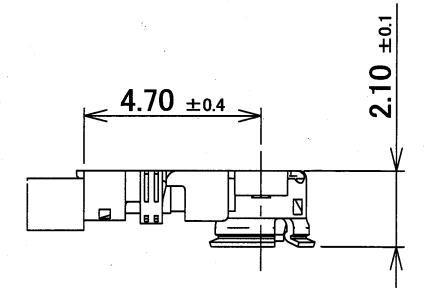
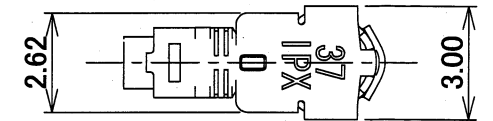
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CHK'D BY	DATE					
APP'D BY	DATE					
CUSTOMER COPY	PROJECTION	SCALE	UNIT	DWG. No.	SHEET	REV.
		5:1	mm	20670	2/6	0

QKE-DFFDE06-02 REV.7

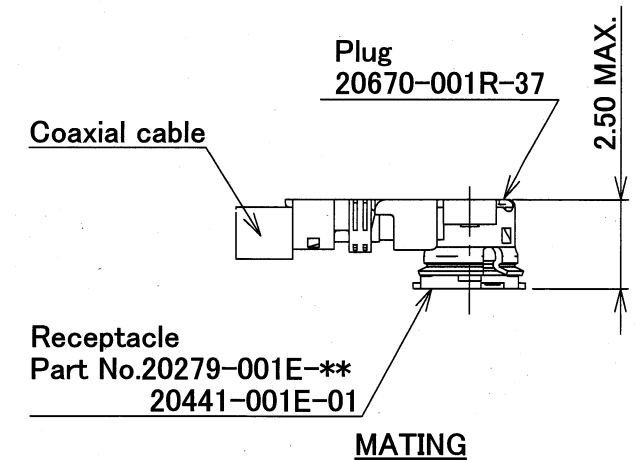
PART No.
20670-001R-37



Part No. 20670-001R-37
For semi auto termination machine



Cable Ass'y



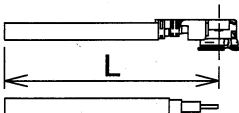
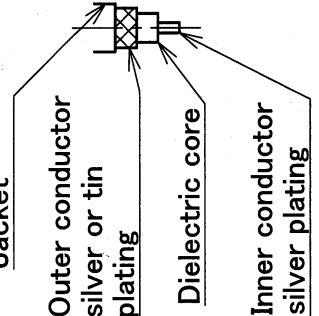
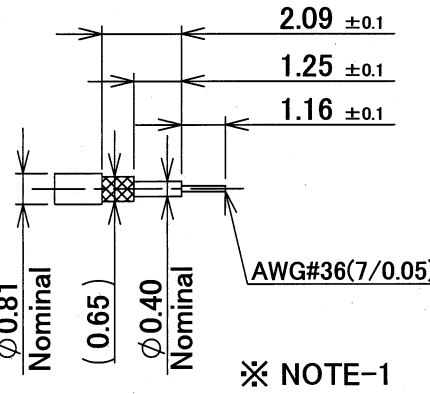
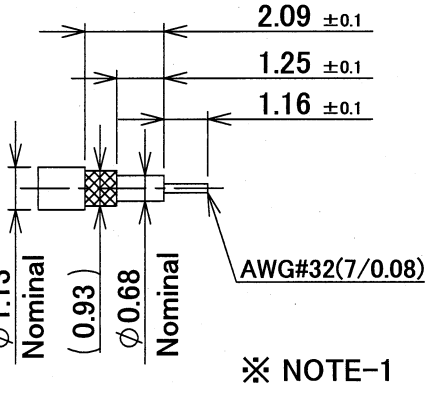
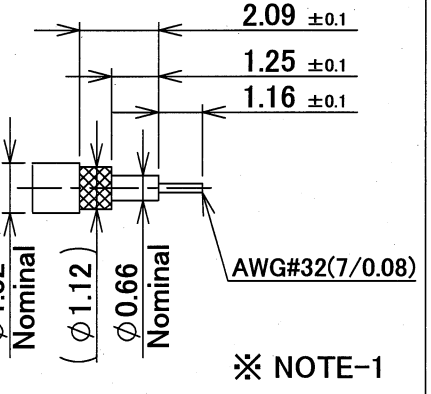
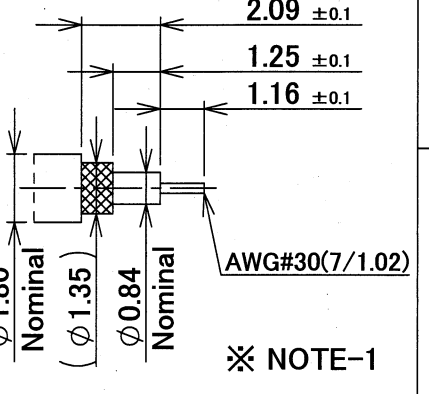
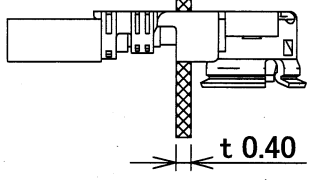
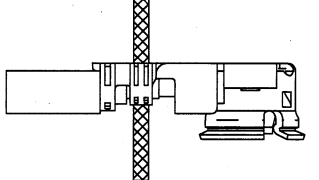
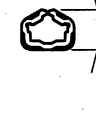
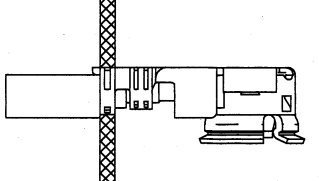
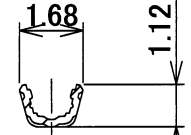
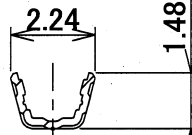
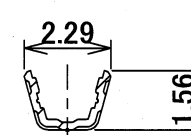
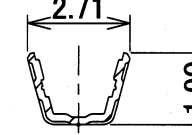
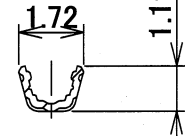
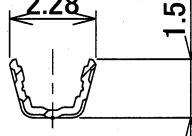
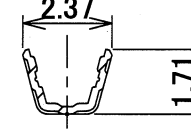
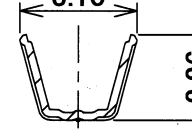
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

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DESIGN'D BY	DATE
CHK'D BY	DATE
APP'D BY	DATE
CUSTOMER COPY	PROJECTION

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I-PEX Business Company

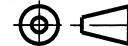
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SCALE	UNIT	DWG. No.	SHEET
5:1	mm	20670	3/6
		REV.	0

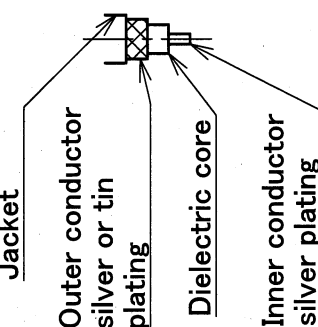
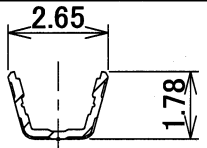
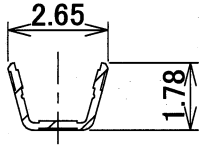
Part No.		20670-001R-08	20670-001R-13	20670-001R-32	20670-001R-18	Cable cut length 
Housing color		Black	Black	Black	Black	
Applicable cable nominal dimension 		 ※ NOTE-1	 ※ NOTE-1	 ※ NOTE-1	 ※ NOTE-1	Crimp Height  CH-1  i-fit part  CH-2  Outer conductor part  CH-3  Jacket part 
Braided shield of Outer 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 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	1.34~1.40	
	CH-2	0.76~0.84	1.06~1.14	1.20~1.30	1.41~1.49	
	CH-3	0.85~0.97	1.15~1.35	1.26~1.46	1.70~1.80	

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.

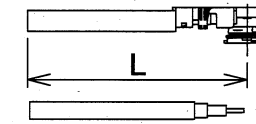
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

Confidential III C

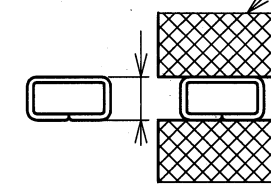
DESIGN'D BY	DATE	 DAI-ICHI SEIKO CO.,LTD. I-PEX Business Company			
CHK'D BY	DATE				
APP'D BY	DATE				
CUSTOMER COPY		PROJECTION	SCALE	UNIT	DWG. No.
			---	mm	20670
					SHEET
					4/6
					REV.
					0

Part No.		20670-001R-37
Housing color		Black
Applicable cable nominal dimension		 2.30 ±0.1 1.10 ±0.1 1.16 ±0.1 AWG#32(7/0.08) ※ NOTE-1
Braided shield of Outer conductor 外部導体の編組		Single / 1重編組
P/N of semi auto termination machine		90232-037
Sect. M-M		
Sect. L-L		
Crimp Height	CH-1	1.34~1.40
	CH-2	1.14~1.20
	CH-3	1.34~1.40

Cable cut length

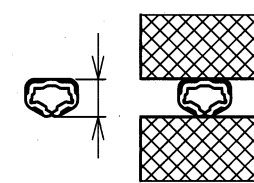
Crimp Height
Blade Micrometer

CH-1



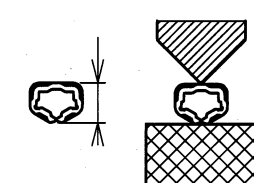
i-fit part

CH-2



Outer conductor part

CH-3



Jacket part

t 0.40

t 0.40

t 0.40

t 0.40

t 0.50

Notes.

1. Must not use solder coated inner conductor and outer conductor.

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

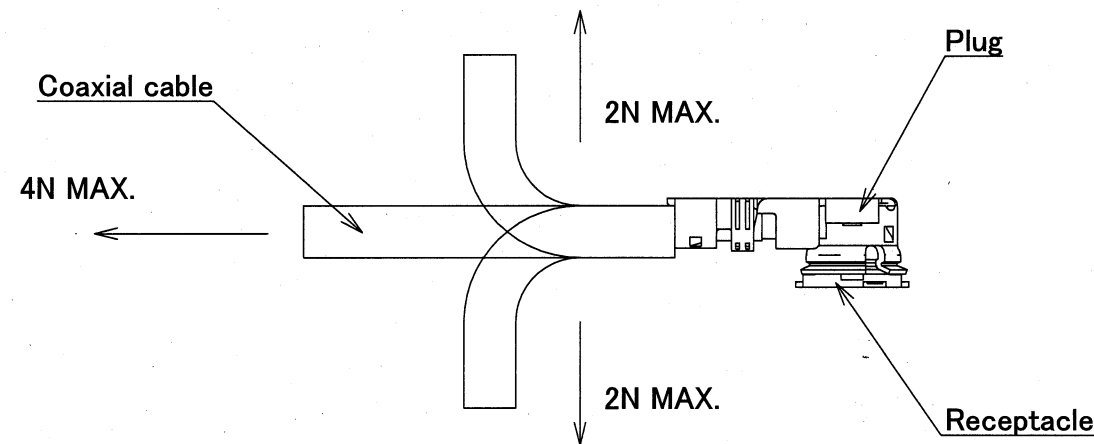
Confidential III C

DESIGN'D BY		DATE		DAI-ICHI SEIKO CO.,LTD. I-PEX Business Company			
CHK'D BY		DATE					
APP'D BY		DATE					
				TITLE			
				MHF PLUG ASS'Y			
CUSTOMER COPY	PROJECTION		SCALE	UNIT	DWG. No.	SHEET	REV.
			--	mm	20670	5/6	0

Notes

- 1.Material
(1) Housing : PBT , UL94V-0
(2) Contact
Phosphor Bronze : Au over Ni
(3) Ground contact
Phosphor Bronze : Au over Ni
Au plating area : Au over Ni
Ni plating area : Ni only
2.Packing : Reel
3.Mating partner part No.
: 20279-001E-**, 20441-001E-01
4. Permissible load of cable at mating

1. コネクタの材料
(1) ハウジング : PBT, UL94V-0
(2) コンタクト
りん青銅 : 金メッキ、下地 ニッケルメッキ
(3) グランドコンタクト
りん青銅
金メッキエリア : 金メッキ、下地 ニッケルメッキ
ニッケルメッキエリア : ニッケルメッキ
2. 梱包 : リール
3. かん合相手 Part No.
: 20279-001E-**, 20441-001E-01
4. コネクタかん合後のケーブルに対する荷重



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.

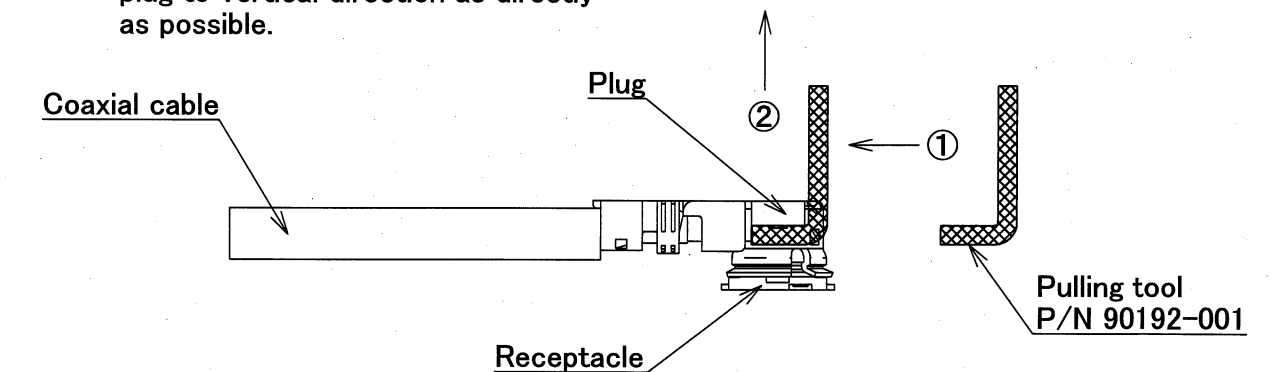
5. コネクタかん合時および抜去時の注意
- 5-1 コネクタ挿入時
PlugとReceptacleのかん合軸を合わせ、できるだけ垂直に挿入して下さい。
極端な斜め挿入は行わないで下さい。
コネクタ破損の原因となりますので、過度なこじり挿抜は行わないで下さい。

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

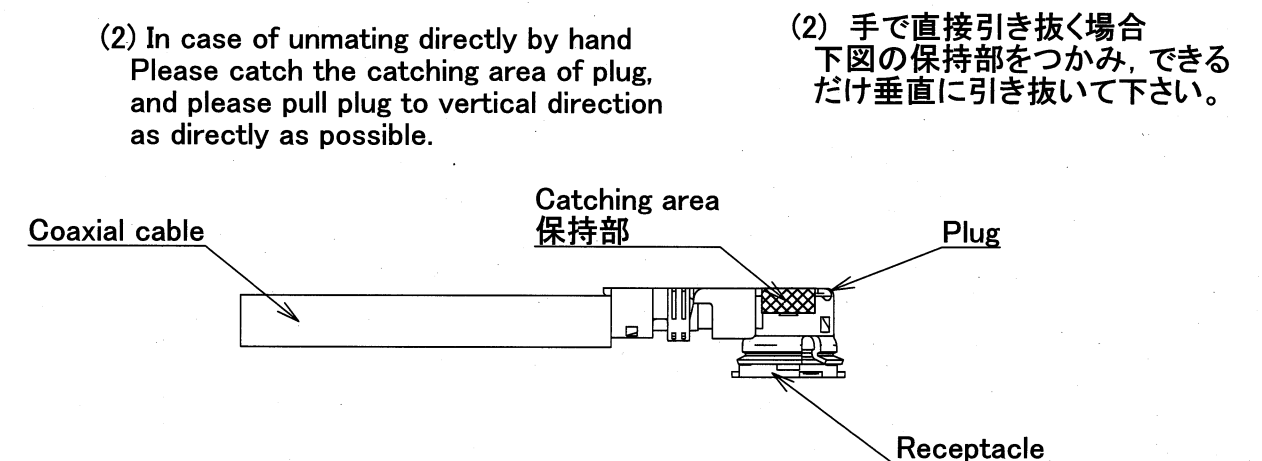
Confidential III C

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.



5-3 Crimp over standards of outer conductor 5-3 外部導体はみ出し量

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

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
(外部導体バレルの外にはみ出した量)

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.

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、導通不良の原因になりますので、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. This is "Pb-free" connector.

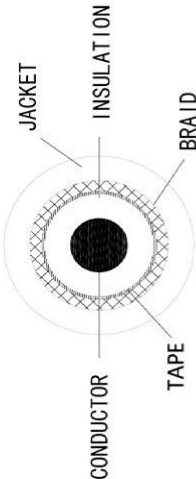
6. 本コネクタは"Pb-free"である

DESIGN'D BY	DATE	I-PEX DAI-ICHI SEIKO CO.,LTD. I-PEX Business Company				
CHK'D BY	DATE					
APP'D BY	DATE					
TITLE		MHF PLUG ASS'Y				
CUSTOMER COPY	PROJECTION	SCALE	UNIT	DWG. No.	SHEET	REV.
		1:1	mm	20670	6/6	0



線材規格

CABLE SPECIFICATION

SPECIFICATION: 1.13mm CABLE (Low Loss)			CONSTRUCTION D.W.G		
ITEM		SPECIFICATION			
CONDUCTOR	MATERIAL	Silver-coated Copper Wire			
	Composition(No./mm)	7/0.080			
	NOM. O.D(mm)	0.24±0.02			
INSULATION	Material	FEP(Natural)			
	Nom. Thick. (mm)	0.24			
	NOM. O.D(mm)	0.73±0.03			
TAPE	MATERIAL	Copper Mylar Tape			
	Composition(mm)	Vertical Wrapping the Copper Mylar Tape of 0.015			
BRAID	MATERIAL	Tinned annealed copper wire			
	Composition(mm)	Single Braid of 0.05			
JACKET	MATERIAL	FEP(*color)			
	Nom. Thick(mm)	0.1			
	Nom. O.D(mm)	1.18±0.05			
	Color	According to corresponding have approved by the suppliers and customers			
Electrical Properties(at 20℃)					
Item	Unit	Details	Attenuation dB/m	Characteristic Impedance Ω	50±2.0
Conductor Resistance	Ω/km	Max.581		1GHz	1.75
	MΩ.km	Min.500		2GHz	2.35
Dielectric Strength				V(AC)/min	500
	4GHz	3.45			
	5GHz	3.80			
Capacitance	pF/m	98(1kHz)	6GHz	4.35	
			Temperature range	℃	-55~200
REMARK			Standing wave(0-6GHz)	/	≅ 1.30
			Rating Voltage	V	30
MASTER WAVE TECHNOLOGY CO., LTD.					
CHECKED		Charlene	DATE	2013/5/22	
DRAWING			REV		00



4		3		2		1	
REV	ZONE	DESCRIPTION		ENG	APPROVED	DATE	

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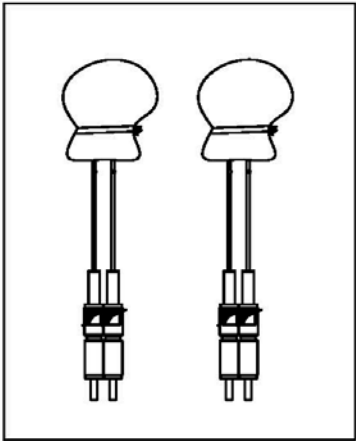
E

D

C

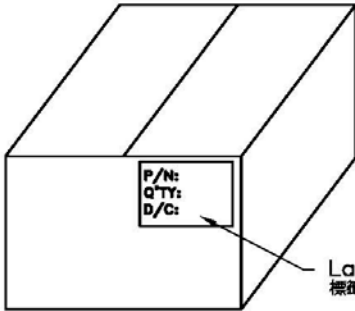
B

A



25PCS ANTENNA / 綁一束
50PCS ANTENNA / 1PE BAG

↓



Label
標籤Label貼於外箱側面

DATE:		MAT'L:		Master Wave Technology CO.,LTD	
UNIT: mm		FINISH:			
THIRD ANGLE PROJECTION		SCALE: -			
APPROVED BY:	CHECKED BY:	DESIGNED BY:	DRAWN BY:	MODEL NO. :	REV
				PART NO. :	00

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MASTER WAVE AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

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