



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. 907X00747X22

Product Description: 2+5G銅管天線

Issue Date: 2022/01/21

REV.: 00

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

MASTER WAVE TECHNOLOGY CO., LTD.

權億科技股份有限公司

Address: No.81-8, Longshou St., Taoyuan City, Taoyuan County 330, Taiwan (R.O.C.)

Tel: +886-3-3600306 Fax: +886-3-3600979

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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-Antenna Efficiency (2G)
-Pattern test
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-Pattern test

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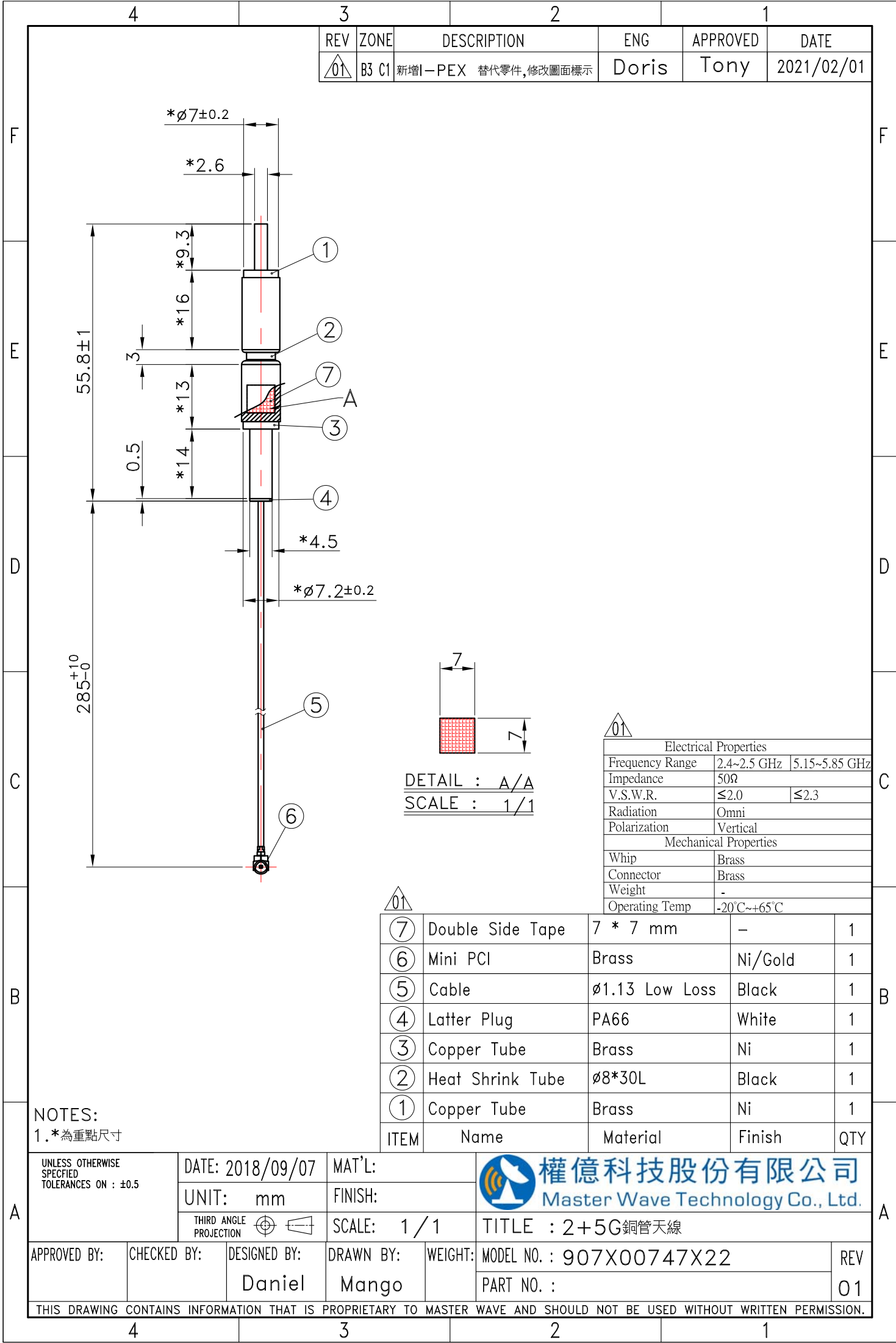
-Connector
-Cable

4. Packing

-PE Bag
-Carton

Modification History:

REV.	Date	Content
00	2018/9/7	

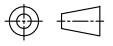


REV	ZONE	DESCRIPTION	ENG	APPROVED	DATE
01	B3 C1	新增I-PEX 替代零件,修改圖面標示	Doris	Tony	2021/02/01

①		
Electrical Properties		
Frequency Range	2.4~2.5 GHz	5.15~5.85 GHz
Impedance	50Ω	
V.S.W.R.	≤2.0	≤2.3
Radiation	Omni	
Polarization	Vertical	
Mechanical Properties		
Whip	Brass	
Connector	Brass	
Weight	-	
Operating Temp	-20°C~+65°C	

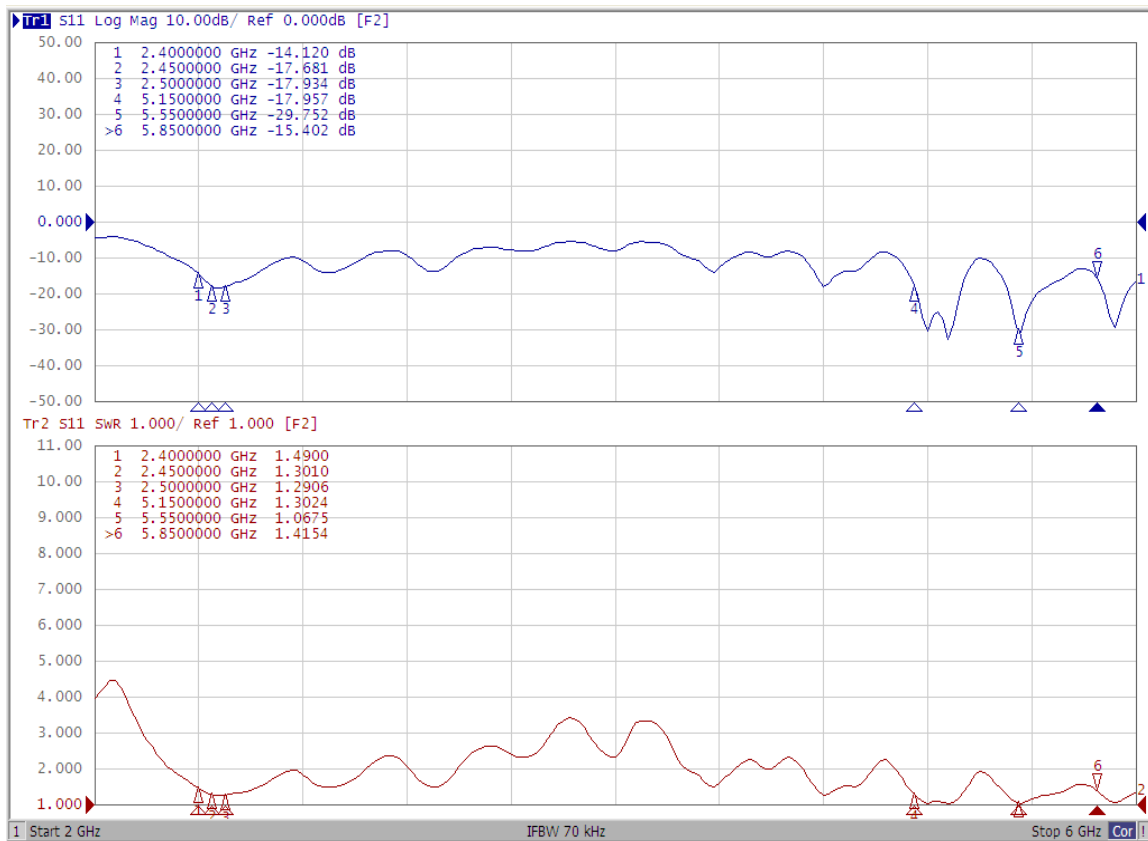
ITEM	Name	Material	Finish	QTY
7	Double Side Tape	7 * 7 mm	-	1
6	Mini PCI	Brass	Ni/Gold	1
5	Cable	ø1.13 Low Loss	Black	1
4	Latter Plug	PA66	White	1
3	Copper Tube	Brass	Ni	1
2	Heat Shrink Tube	ø8*30L	Black	1
1	Copper Tube	Brass	Ni	1

NOTES:
1.*為重點尺寸

UNLESS OTHERWISE SPECIFIED TOLERANCES ON : ±0.5		DATE: 2018/09/07	MAT'L:	 權億科技股份有限公司 Master Wave Technology Co., Ltd.	
		UNIT: mm	FINISH:		
		THIRD ANGLE PROJECTION 	SCALE: 1/1		
APPROVED BY:	CHECKED BY:	DESIGNED BY: Daniel	DRAWN BY: Mango	WEIGHT:	TITLE : 2+5G銅管天線
				MODEL NO. : 907X00747X22	REV
				PART NO. :	01
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MASTER WAVE AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.					



Electrical Test (裸測)



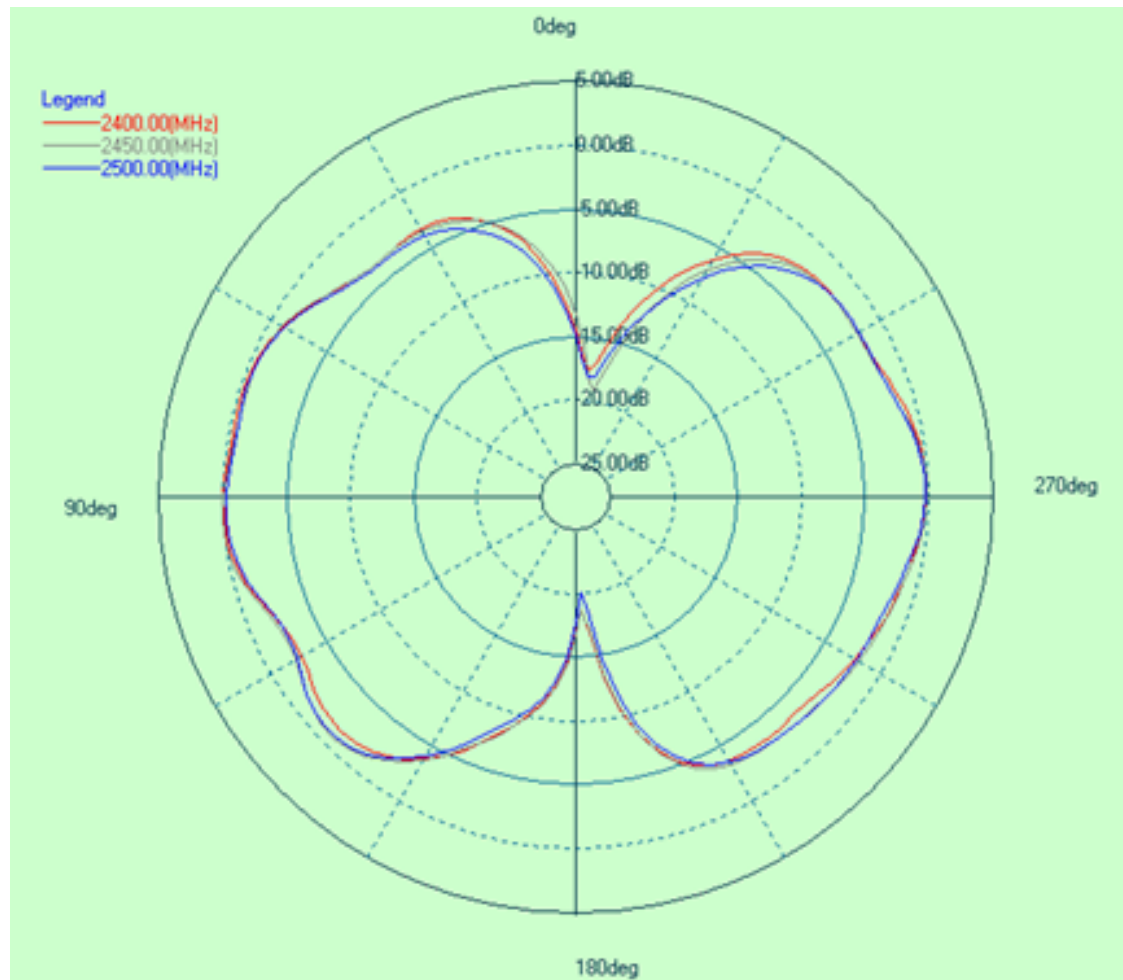


Antenna Efficiency

Frequency(MHz)	2400	2450	2500
Efficiency (%)	69%	67%	66%
Peak Gain (dBi)	0.85	1.03	0.90

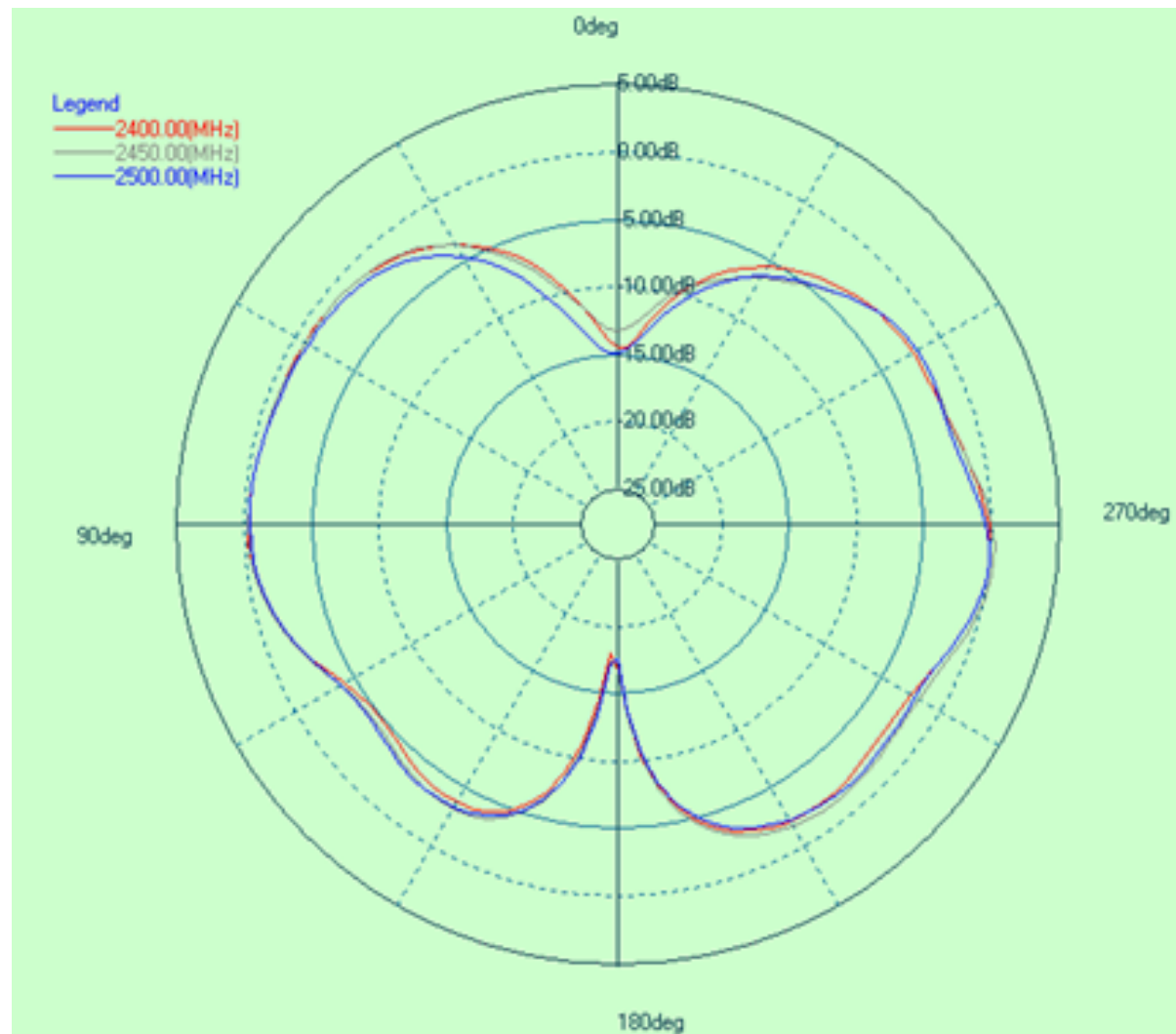


2D Radiation Pattern-2.4G XZ Plane



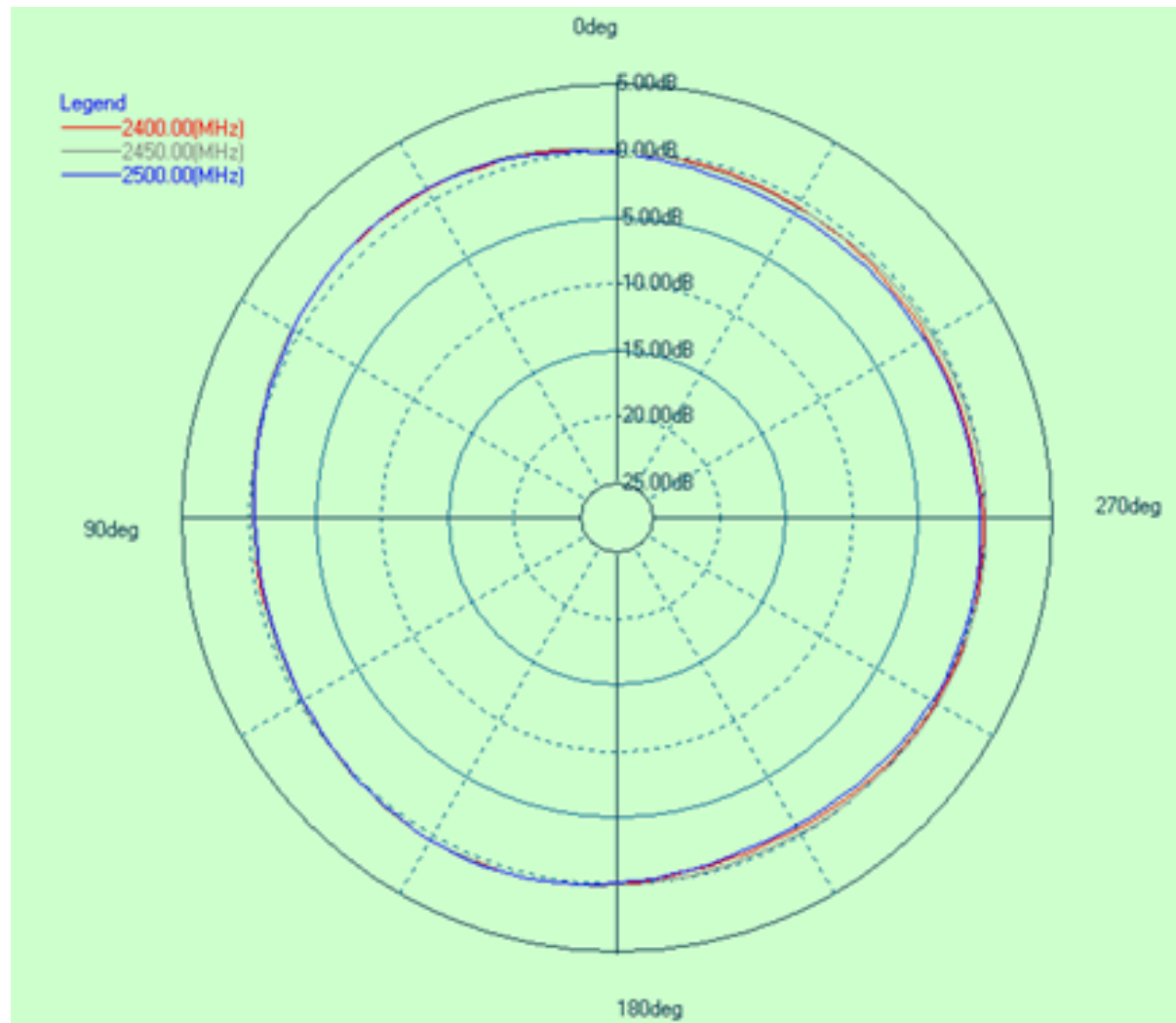


2D Radiation Pattern-2.4G YZ Plane





2D Radiation Pattern-2.4G XY Plane



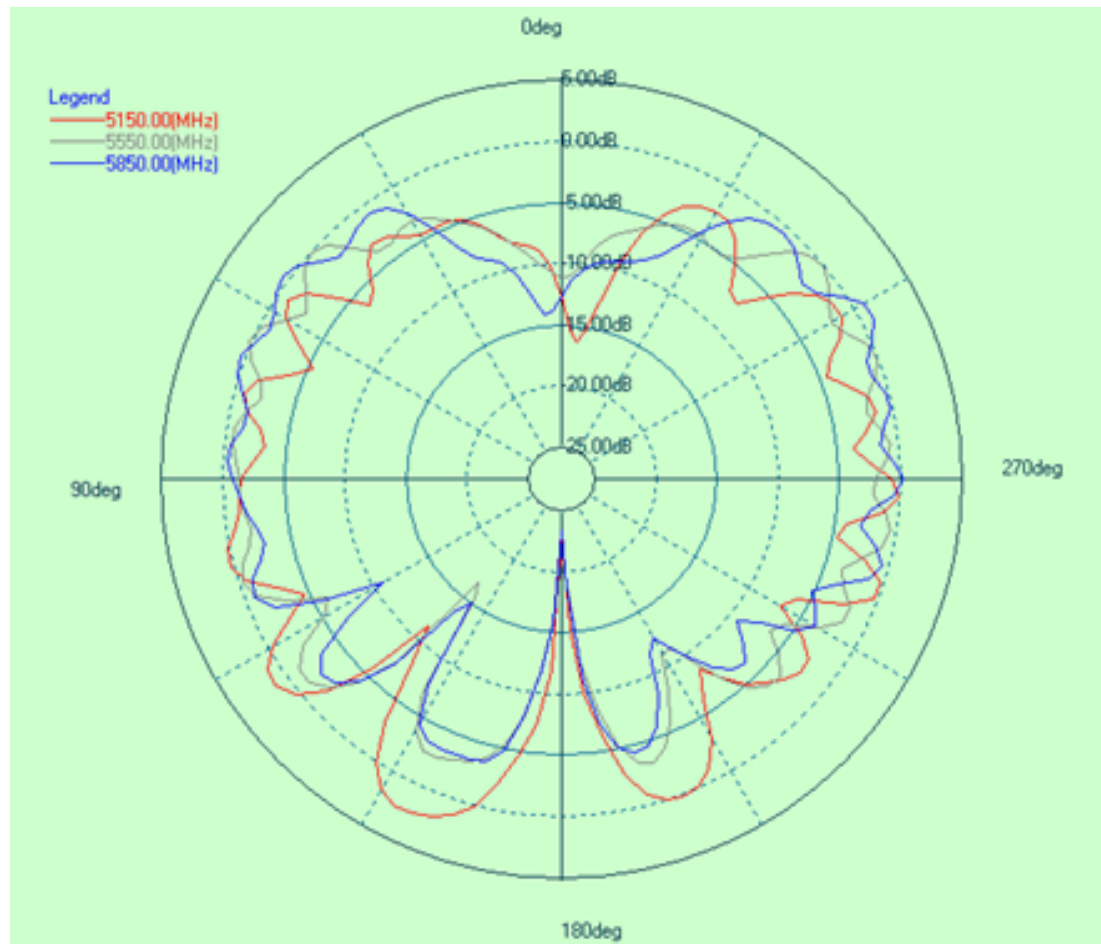


Antenna Efficiency

Frequency(MHz)	5150	5550	5850
Efficiency (%)	62%	63%	63%
Peak Gain (dBi)	1.36	1.60	1.78

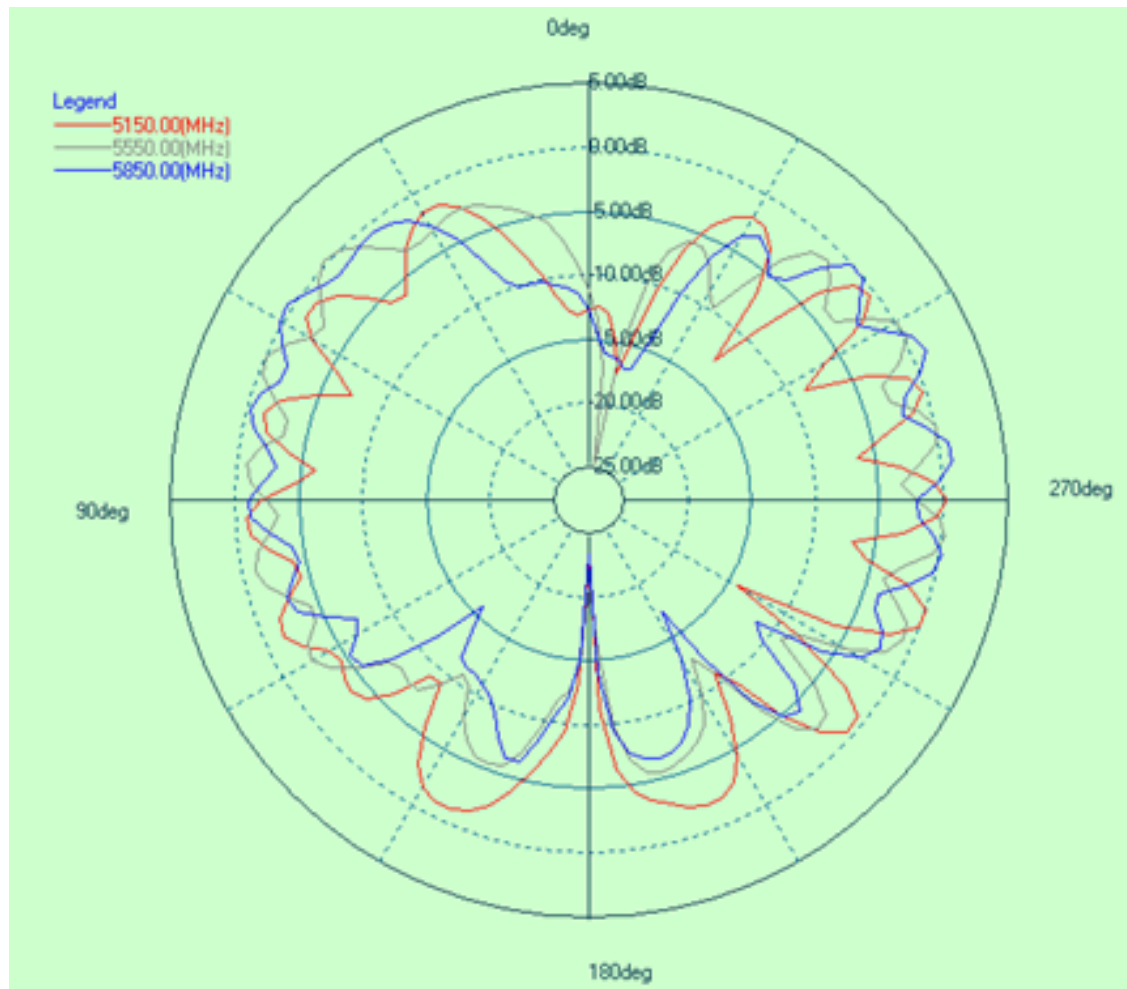


2D Radiation Pattern-5G XZ Plane



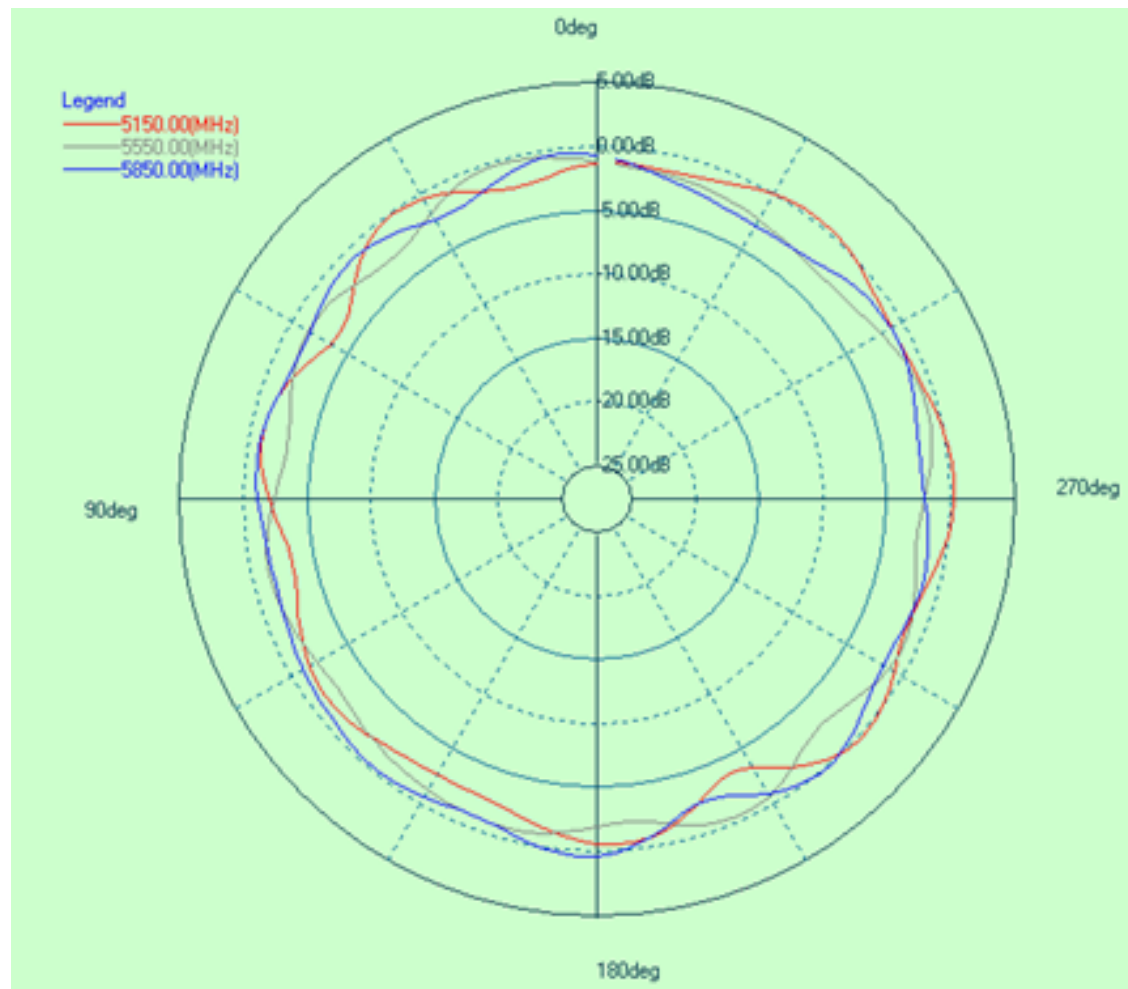


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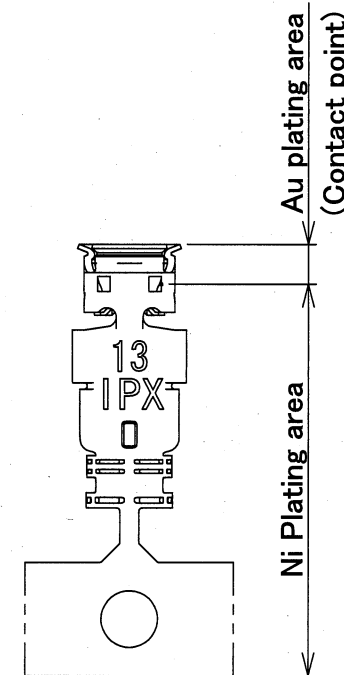
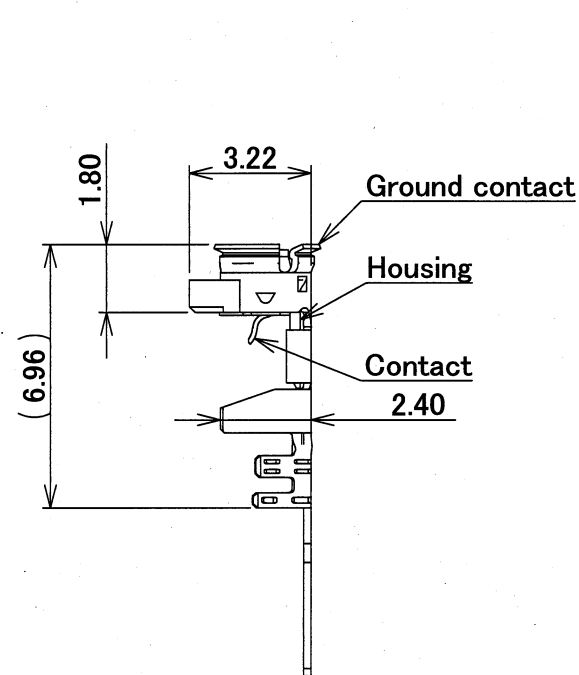
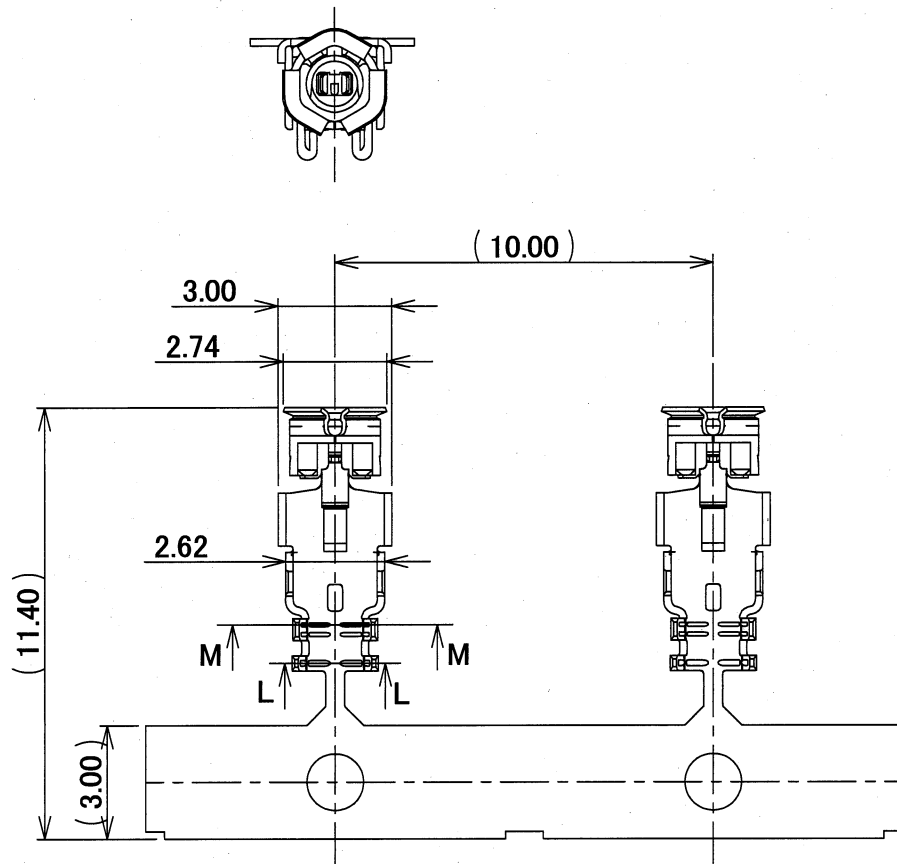




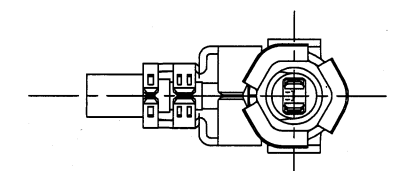
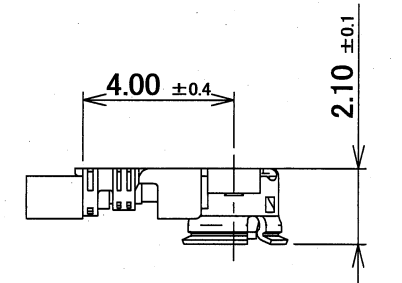
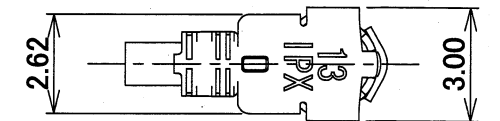
2D Radiation Pattern-5G XY Plane



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	PROJECTION 
SERIES No.		R0				

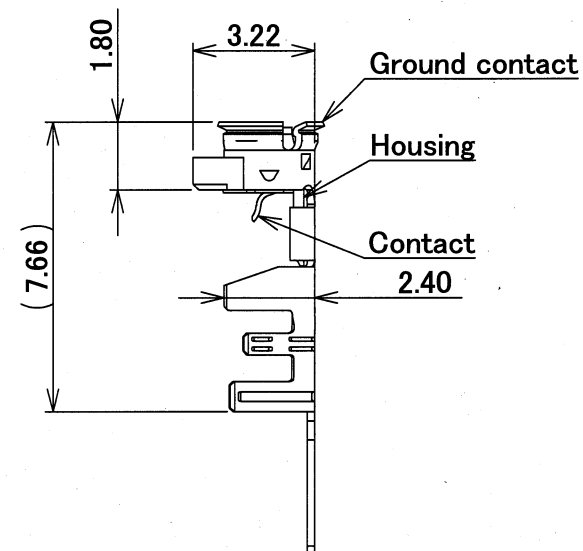
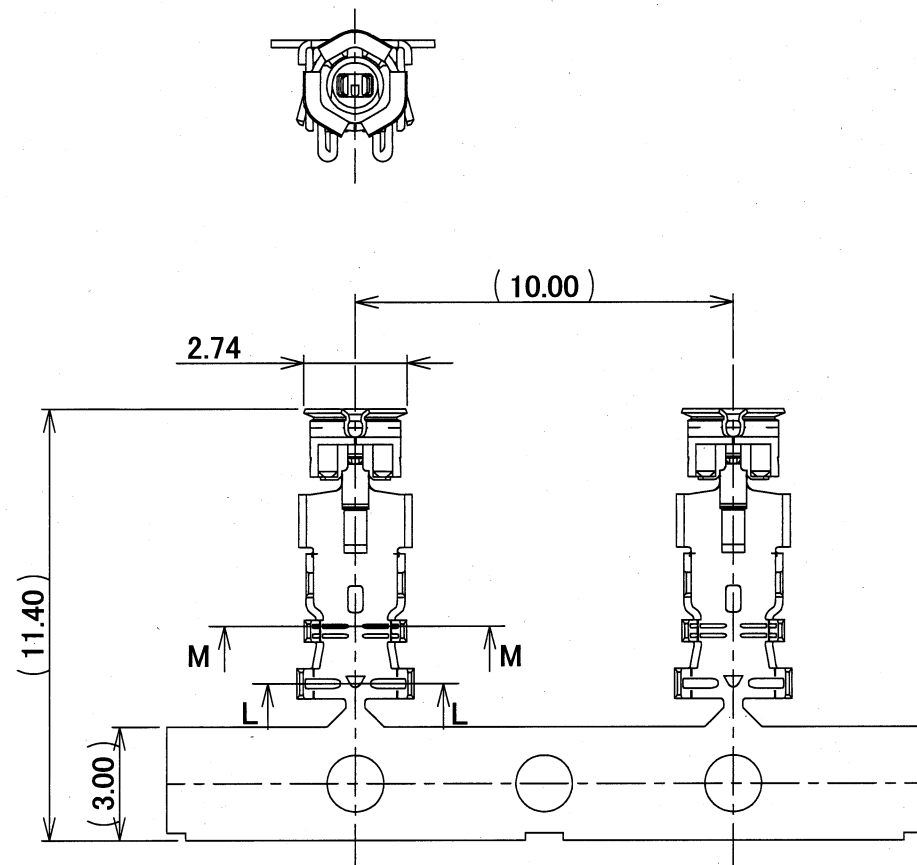
 DAI-ICHI SEIKO CO.,LTD. I-PEX Business Company			
TITLE			
MHF PLUG ASS'Y			
SCALE	UNIT	DWG. No.	SHEET
5:1	mm	20670	1/6
			REV.
			0

Recommended P/N

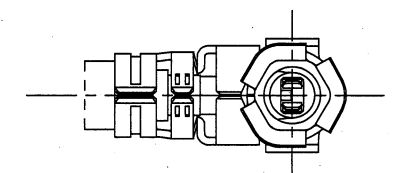
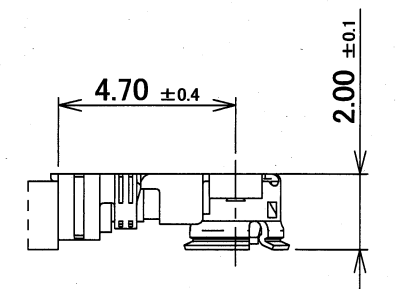
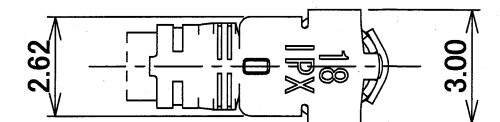
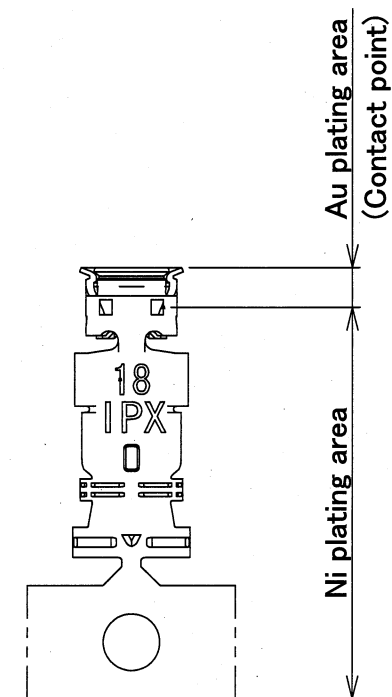
20670-001R-**-

PART No.

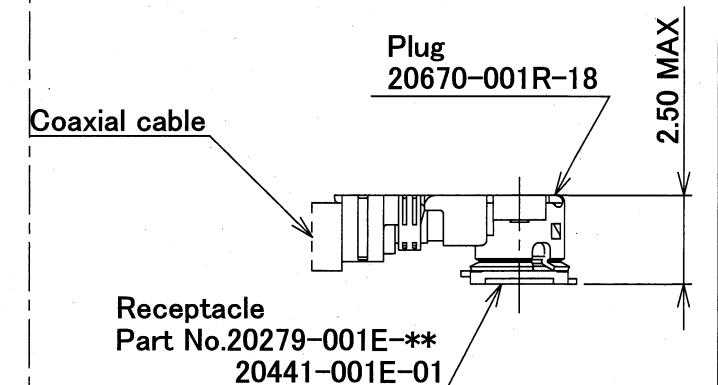
20670-001R-18



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



Cable Ass'y



MATING

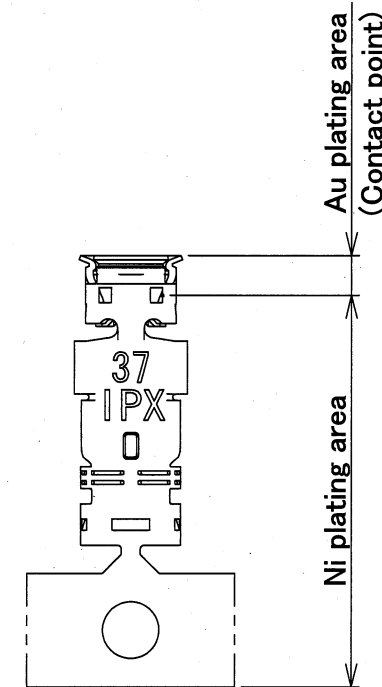
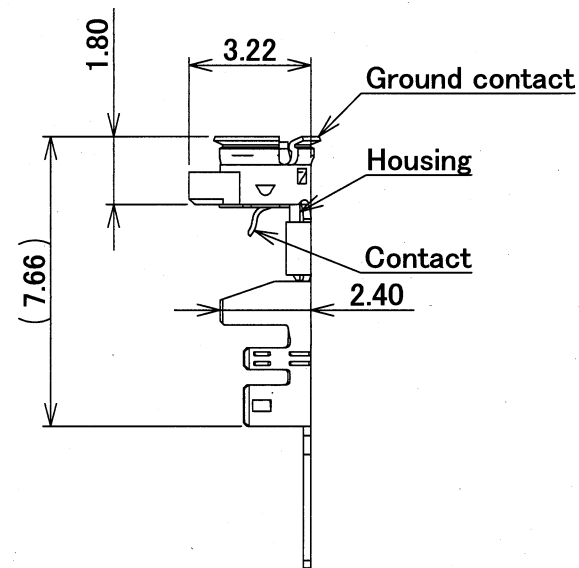
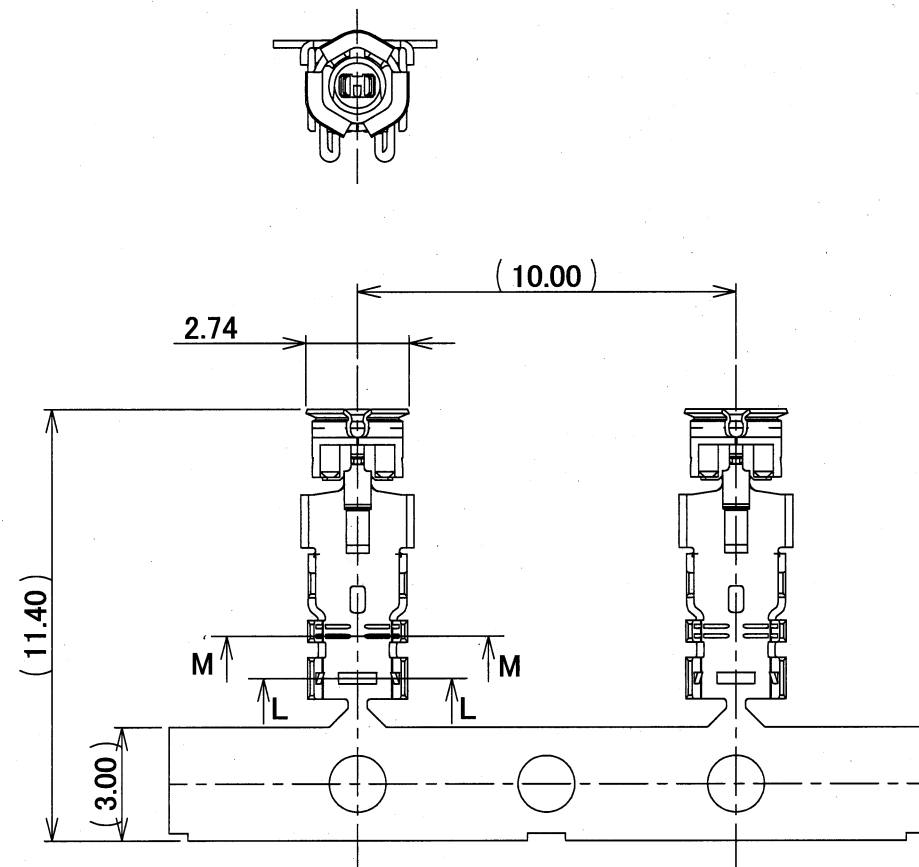
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

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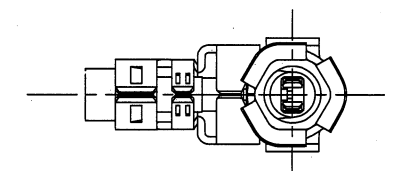
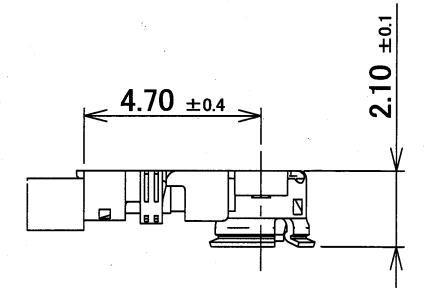
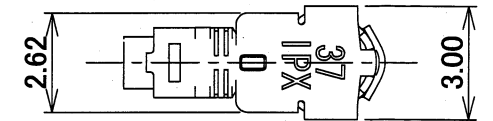
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CHK'D BY		DATE						
APP'D BY		DATE						
				TITLE				
				MHF PLUG ASS'Y				
CUSTOMER COPY		PROJECTION		SCALE	UNIT	DWG. No.	SHEET	REV.
				5:1	mm	20670	2/6	0

QKE-DFFDE06-02 REV.7

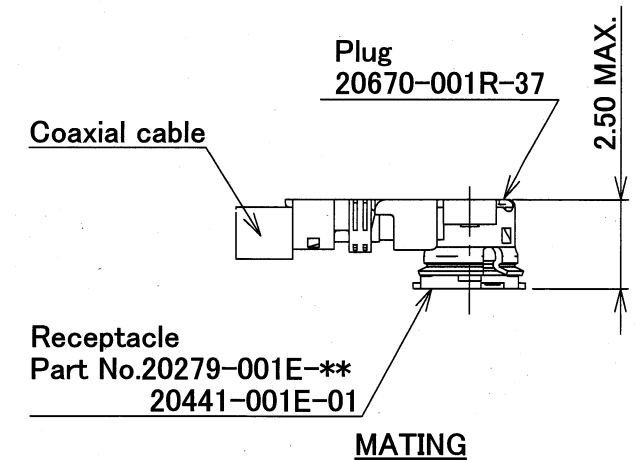
PART No.
20670-001R-37



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



Cable Ass'y



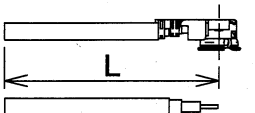
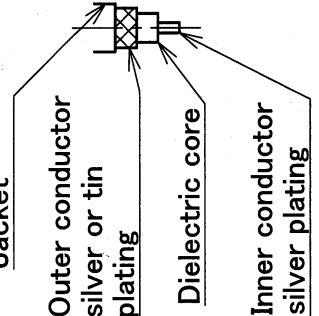
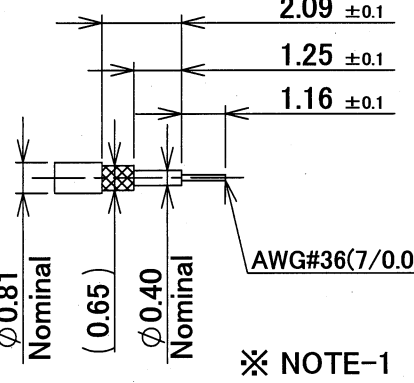
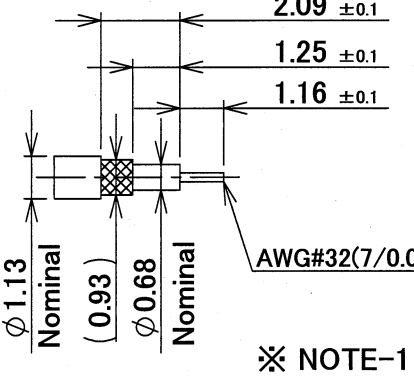
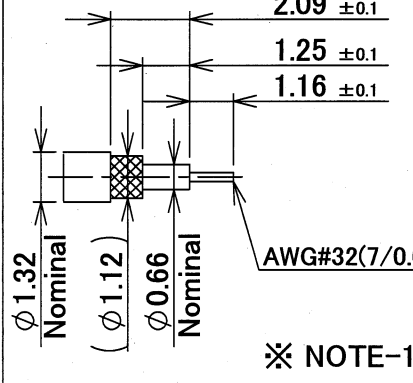
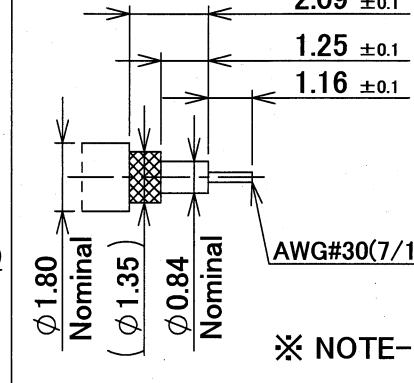
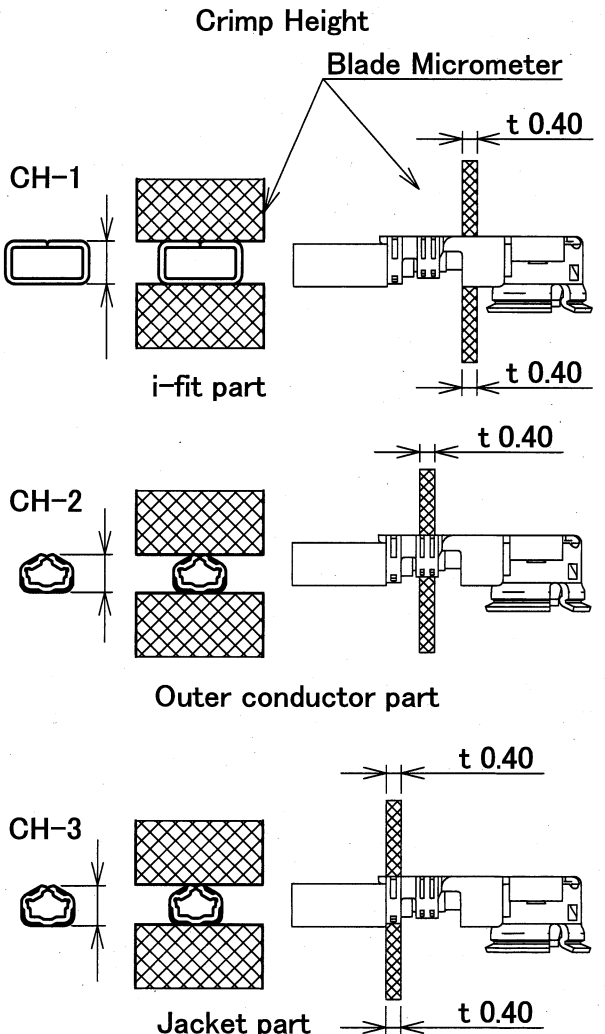
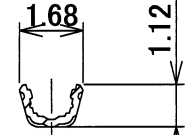
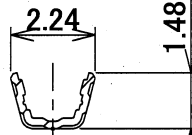
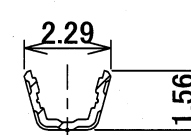
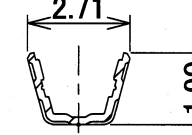
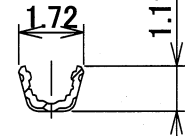
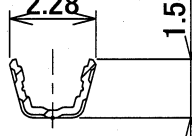
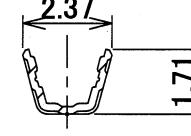
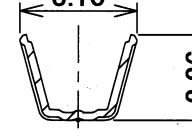
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

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

I-PEX DAI-ICHI SEIKO CO.,LTD.
I-PEX Business Company

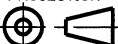
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MHF PLUG ASS'Y		5:1	mm	20670	3/6	0

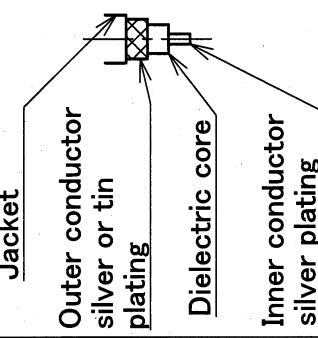
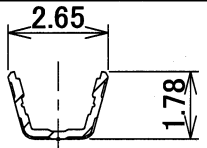
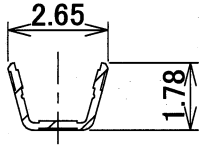
Part No.		20670-001R-08	20670-001R-13	20670-001R-32	20670-001R-18	Cable cut length 
Housing color		Black	Black	Black	Black	
Applicable cable nominal dimension 		 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 AWG#36(7/0.05) ※ NOTE-1	 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 AWG#32(7/0.08) ※ NOTE-1	 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 AWG#32(7/0.08) ※ NOTE-1	 2.09 ±0.1 1.25 ±0.1 1.16 ±0.1 AWG#30(7/1.02) ※ 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 semi auto termination machine		90213-008C	90213-013C	90213-032C	90232-018	
Sect. M-M		 1.68 1.12	 2.24 1.48	 2.29 1.56	 2.71 1.90	
Sect. L-L		 1.72 1.19	 2.28 1.55	 2.37 1.71	 3.10 2.26	
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.

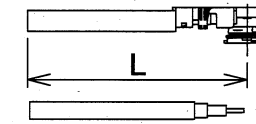
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

Confidential III C

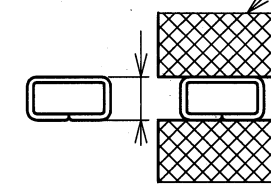
DESIGN'D BY		DATE		DAI-ICHI SEIKO CO.,LTD. I-PEX Business Company				
CHK'D BY		DATE						
APP'D BY		DATE						
				TITLE				
				MHF PLUG ASS'Y				
CUSTOMER COPY		PROJECTION 		SCALE -- mm	UNIT mm	DWG. No. 20670	SHEET 4/6	REV. 0

Part No.		20670-001R-37
Housing color		Black
Applicable cable nominal dimension		 ※ 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

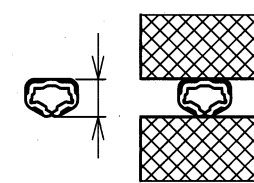
Crimp Height
Blade Micrometer

CH-1



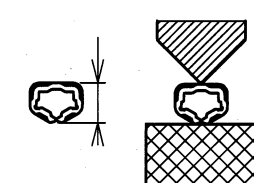
i-fit part

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°

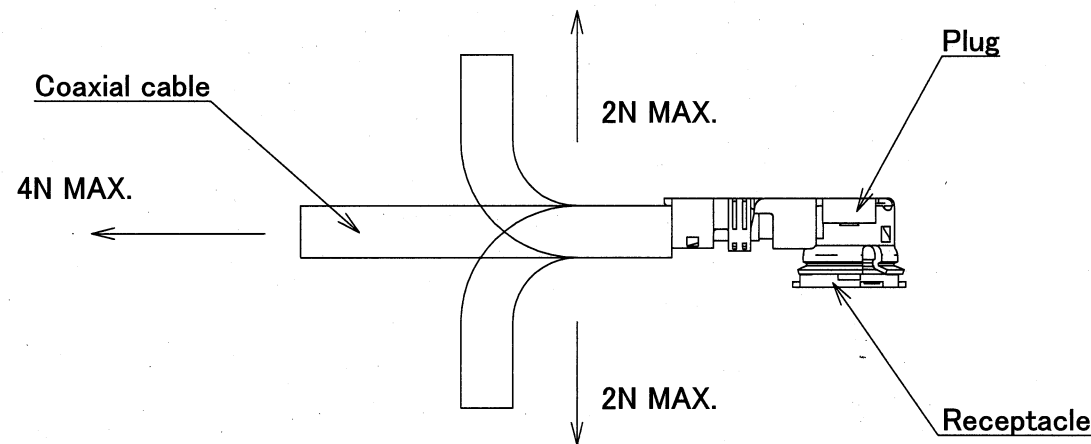
Confidential III C

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.

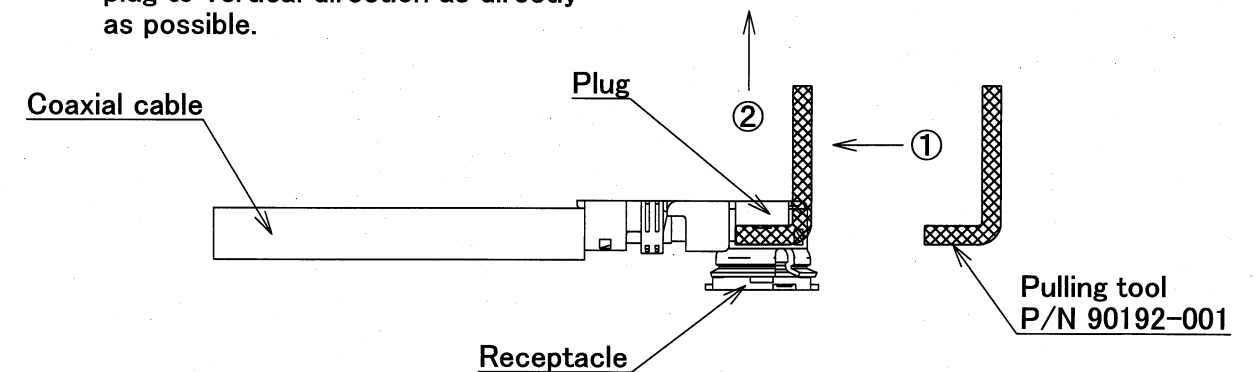
5. コネクタかん合時および抜去時の注意

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°

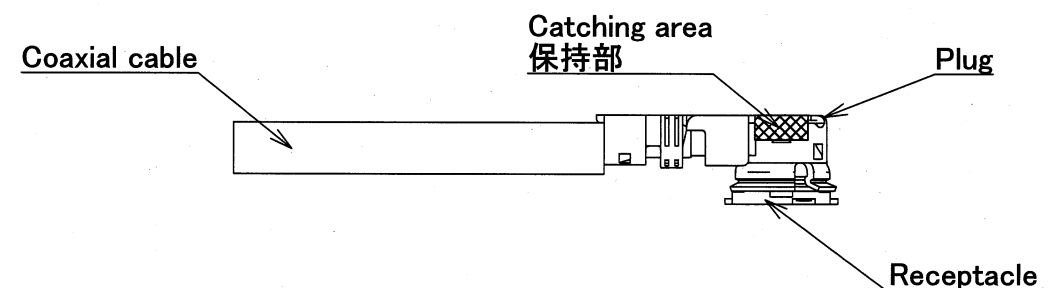
5-2 Unmating.

- (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.

- (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 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.

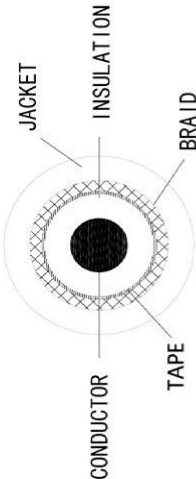
6. 本コネクタは"Pb-free"である

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

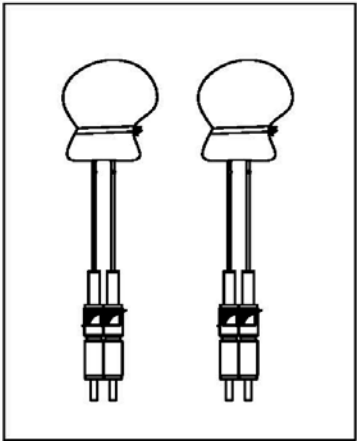
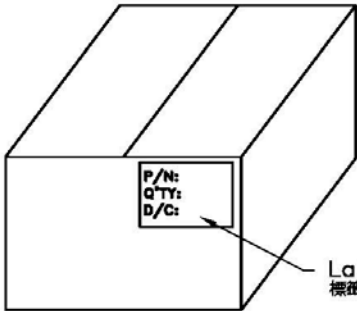


線材規格

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				
BRAID	Composition(mm)	Vertical Wrapping the Copper Mylar Tape of 0.015				
	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	Characteristic Impedance	Ω	50±2.0	
Conductor Resistance	Ω/km	Max.581	Attenuation	dB/m	1GHz	1.75
					2GHz	2.35
Insulation Resistance	MΩ.km	Min.500			3GHz	2.90
					4GHz	3.45
Dielectric Strength	V(AC)/min	500			5GHz	3.80
					6GHz	4.35
Capacitance	pF/m	98(1kHz)	Temperature range	℃	-55~200	
			Standing wave(0-6GHz)	/	≦ 1.30	
			Rating Voltage	V	30	
REMARK						
MASTER WAVE TECHNOLOGY CO., LTD.						
CHECKED	Charlene	DATE	2013/5/22			
DRAWING	REV	00				



4		3		2		1	
REV	ZONE	DESCRIPTION		ENG	APPROVED	DATE	
 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:		TITLE : 2+5G銅管天線 Packing			
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.							