

SPECIFICATION

承 認 書

客戶名稱 (CUSTOMER) 神基科技股份有限公司

客戶料號 (CUSTOMER P/N) 2.4G + 5G Pifa Ant / OD1.13mm 灰色

產品型號 (PRODUCT) 450mm / MHF Conn

料 號 (PART NO.) RFA-02-G01

日 期 (DATE) 2004 / 12 / 21

客戶承認 CUSTOMER APPROVED	業 務 SALES BY	核 准 APPROVED BY	審 核 CHECKED BY	檢 查 TESTED BY
	Simon	Nick	Chris	Wason



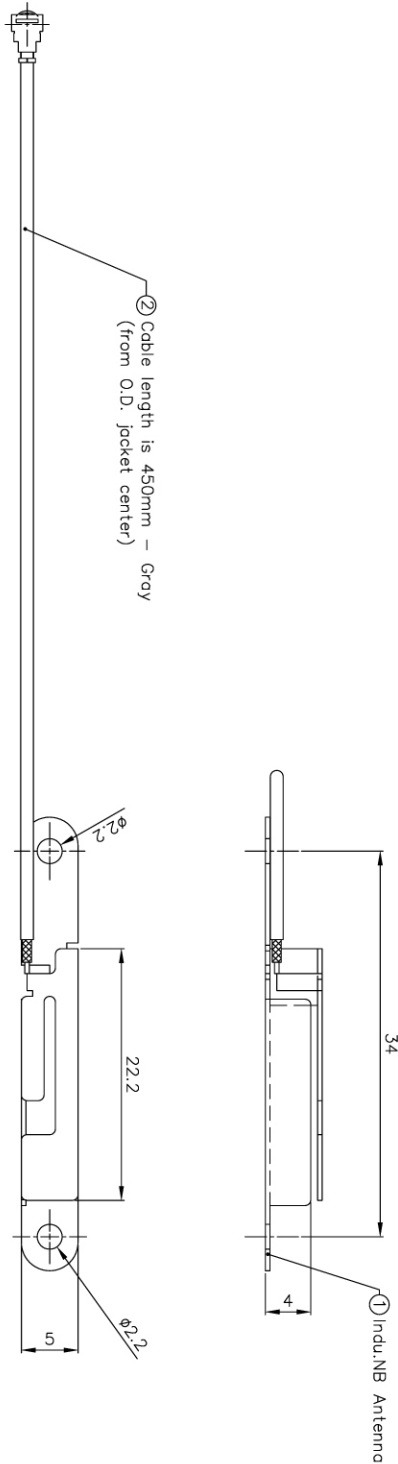
通耀電子股份有限公司
Tonyo Electronics Co., Ltd.

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REVISION			
NO.	DESCRIPTION	DATE	REV.



GENERAL TOLERANCE RANGE

☐ PCB(电路板)	±1MIL
☐ MACHINING(加工件)	X=±0.5 X.X=±0.2 X.XX=±0.1
☐ STAMP(冲製件)	X=±0.6 X.X=±0.3 X.XX=±0.1
☐ INJECTION(射出件)	X=±1 X.X=±0.5 X.XX=±0.15
☐ CASTING(壓鑄件)	X=±1 X.X=±0.5 X.XX=±0.15
☐ PACKING(包材)	X=±6 X.X=±3 X.XX=±1
☒ ASSEMBLY(組合件)	X=±4 X.X=±2 X.XX=±0.5

ANGLES: X=±2° X.X=±1° X.XX=±0.5° DCC:N

Tonyo Electronics

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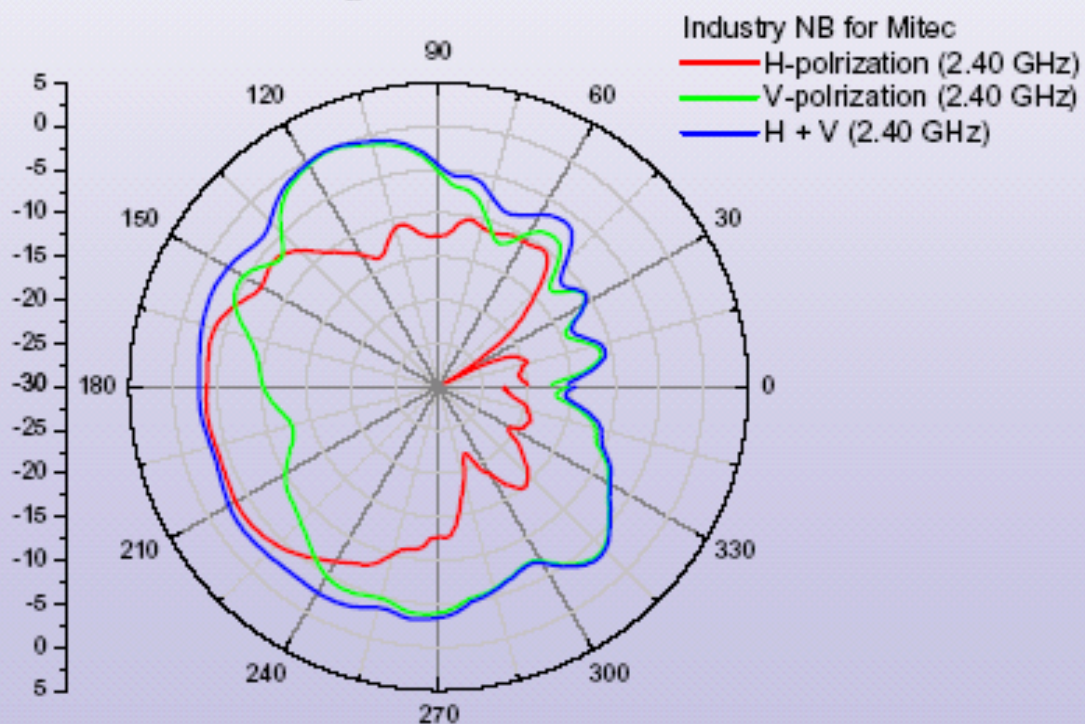
	UNIT: mm	TITLE: Indu. NB for Mitec ASSEMBLY	
DRAWN BY Wason	DATE 04/07/16		
CHECKED BY Chris	DATE 04/07/16	CUSTOMER	CUSTOMER P/N
APPROVED BY Nick	DATE 04/07/16	PART NO. RFA-02-GO2	SAMPLE NO.
SALE BY	DATE	FILE NO:	REV. A

Antenna radiation pattern

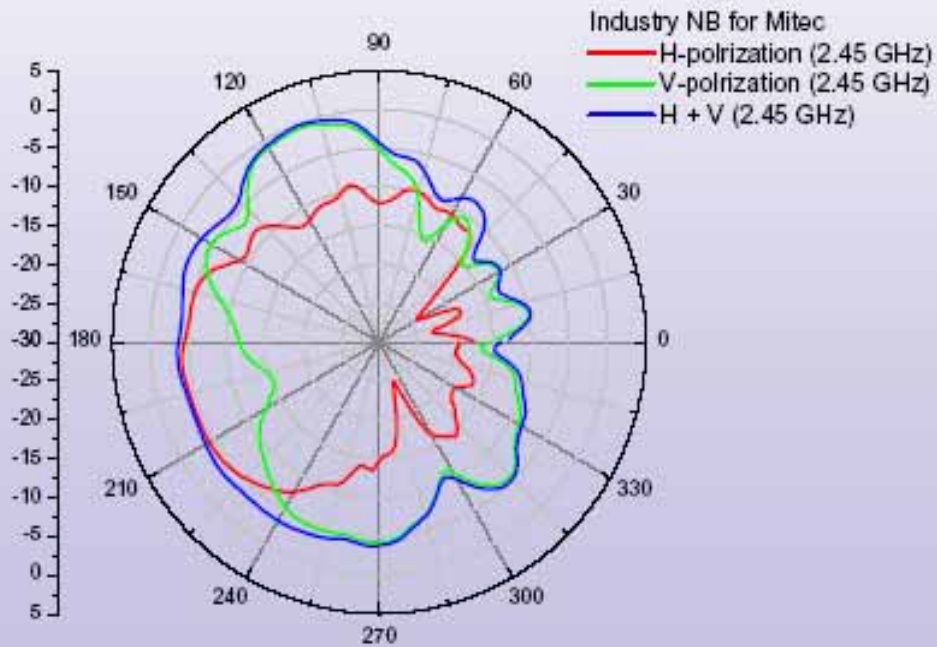
Gain Test: Right Antenna

Frequency (MHz)	Peak Gain (dBi)	Average Gain (dBi)
2400	0.06	-4.16
2450	-0.12	-4.82
2500	-1.01	-5.27

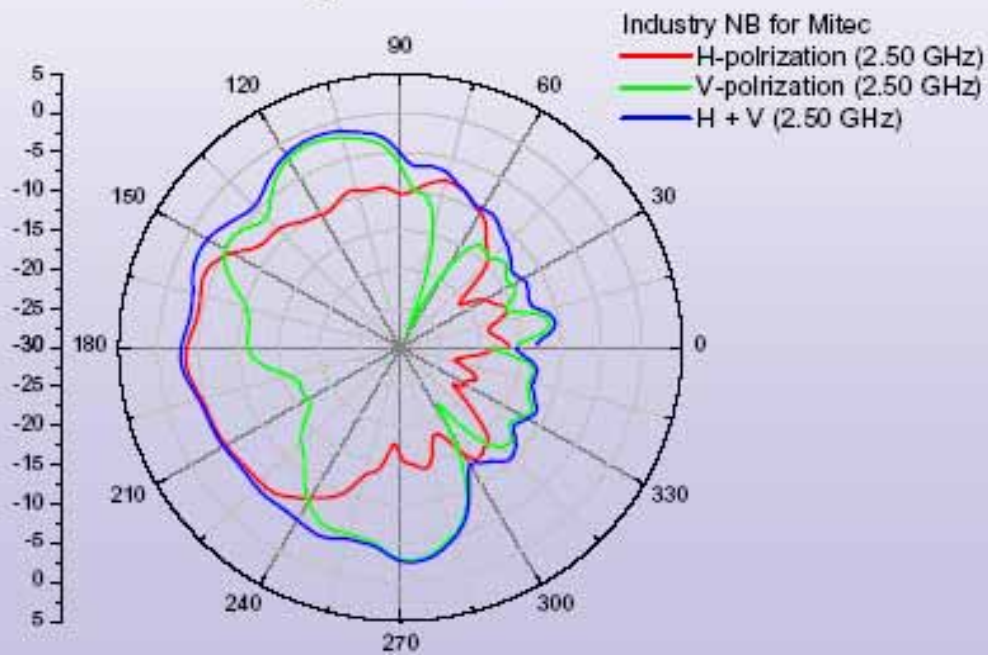
Right Antenna



Right Antenna



Right Antenna



KURABE INDUSTRIAL CO., LTD

SP3830M-X	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5022)	PAGE	1/4
PRODUCT STANDARD		ISSUED	17-9-2001
		REVISED	

1. SCOPE

This standard covers "FEP insulated High-Frequency coaxial cable".

2. CONSTRUCTION

Construction and dimensions of the cable are shown in Figure.1 and Table 1.

3. PERFORMANCE

Performance of the finished cable is shown in Table 2. The test methods are in accordance with applicable test methods described in JIS C 3005.

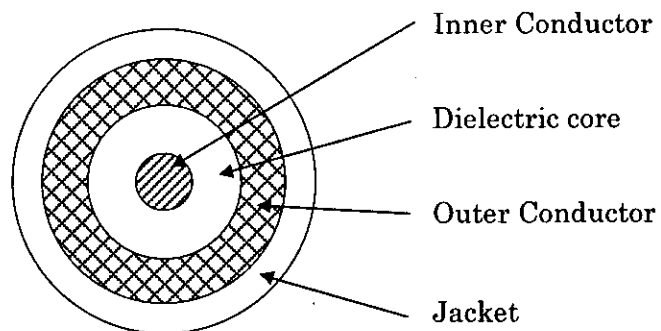


Figure 1.

NOTE :

MADE BY

M. Ohba

APPROVALS

T. Nagasawa

KURABE INDUSTRIAL CO., LTD

SP3830M-X	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5022)	PAGE	2/4
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		REVISED	

Table 1. Construction

Item		Unit	Specified Value
Inner Conductor	Material	—	Silver coated annealed copper wire
	Stranding	No./mm	7/0.08
	Dia.(approx.)		0.24
Dielectric Core	Material	—	FEP
	Thick.(nom.)	mm	0.22
	Dia.	mm	0.68±0.05
	Color	—	Natural
Outer Conductor	Material	—	Silver coated annealed copper wire
	Type	—	Braid (16/4/0.05)
	Dia.(approx)	mm	0.93
Jacket	Material	—	FEP
	Thick.(nom.)	mm	0.10
	Dia.	mm	1.13 +0.10/-0.06
	Color	—	Standard colors are white,black,blue,brown,and gray.

Table 2. Performance

Item	Unit	Specified Value	Note
Appearance	—	Faultless in visible	—
Inner conductor resistance	Ω/km	Max.597	at 20℃
Insulation resistance	MΩ·km	Min.1500	at 20℃
Dielectric strength	—	Dielectric core: No breakdown at AC1.5kV for 0.15sec.	Spark test
		Jacket: No breakdown at AC1.5kV for 0.15sec.	Spark test
		No breakdown at AC500V for 1min.	Outer conductor to inner conductor
Heat resistance for solder	—	Shrink or expansion of dielectric core are not more than 0.5mm	※
Capacitance	pF/m	nom. 98	at 1kHz
Characteristic impedance	Ω	50±2	TDR method
Attenuation (nom.)	dB/m	2.0	1.0GHz
		2.9	2.0GHZ
		3.6	3.0GHz
		4.2	4.0GHz
		4.7	5.0GHz
		5.2	6.0GHz

※ After immersion of dielectric core, 10mm into soldering pot which is 230℃ for 5 seconds, shrinkage or expansion of the dielectric core must not exceed 0.5mm.

NOTE :	MADE BY	<i>M. Ohba</i>
	APPROVALS	<i>J. Kawasumi</i>

KURABE INDUSTRIAL CO., LTD

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PRODUCT STANDARD		ISSUED	17-9-2001
		REVISED	

4. INSPECTION

An inspection is took place in accordance with applicable test methods. The cable has to pass the specifications described Table 1 and Table 2.

5. TEST METHOD

The test methods are in accordance with applicable test methods described in JIS C 3005 (Test methods for rubber or plastic insulated wires and cables).

6. TEMPERATURE RATING

150 °C

7. VOLATGE LATING

250 V

8. MARKING ON TAG

Each reel of finished cable is tagged to indicate following information:

- (1) Designation of the cable,
- (2) Conductor size,
- (3) Length,
- (4) Date of manufacture or LOT No.,
- (5) Specification No., and
- (6) Manufacture's name.

9. PACKAGE

The finished cables are cut into a shipping length of 200 meters, reeled to paper bobbin and packed securely to prevent injuries during transportation. Odd length of the finished wires should be accepted for shipping according to the condition of mutual agreement.

In the case no agreement is found, the condition stated in quotation shall prevail.

10. APPLICATION NOTES

10-1. For use other than the use mutually agreed, compatibility should be carefully confirmed in each practical use by user.

10-2. It is recommended to make a trial run for each practical application.

NOTE :	MADE BY	<i>M. Ohba</i>
	APPROVALS	<i>T. Kanaoka</i>

KURABE INDUSTRIAL CO., LTD

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		REVISED	

10-3. In case a design for use of cable is changed, please contact our sales department, if necessary. Do not use under extreme mechanical stress such as hard bending, tightening, and twisting. The use under extreme mechanical stress may cause not only shortening the life span of cable but also troubles such as decline of dielectric strength.

10-4. Handling precautions

① Do not hurt the insulation and sheath of the cable by making holes and scratches. And avoid any sharp edge when wiring so as not to injure cables.

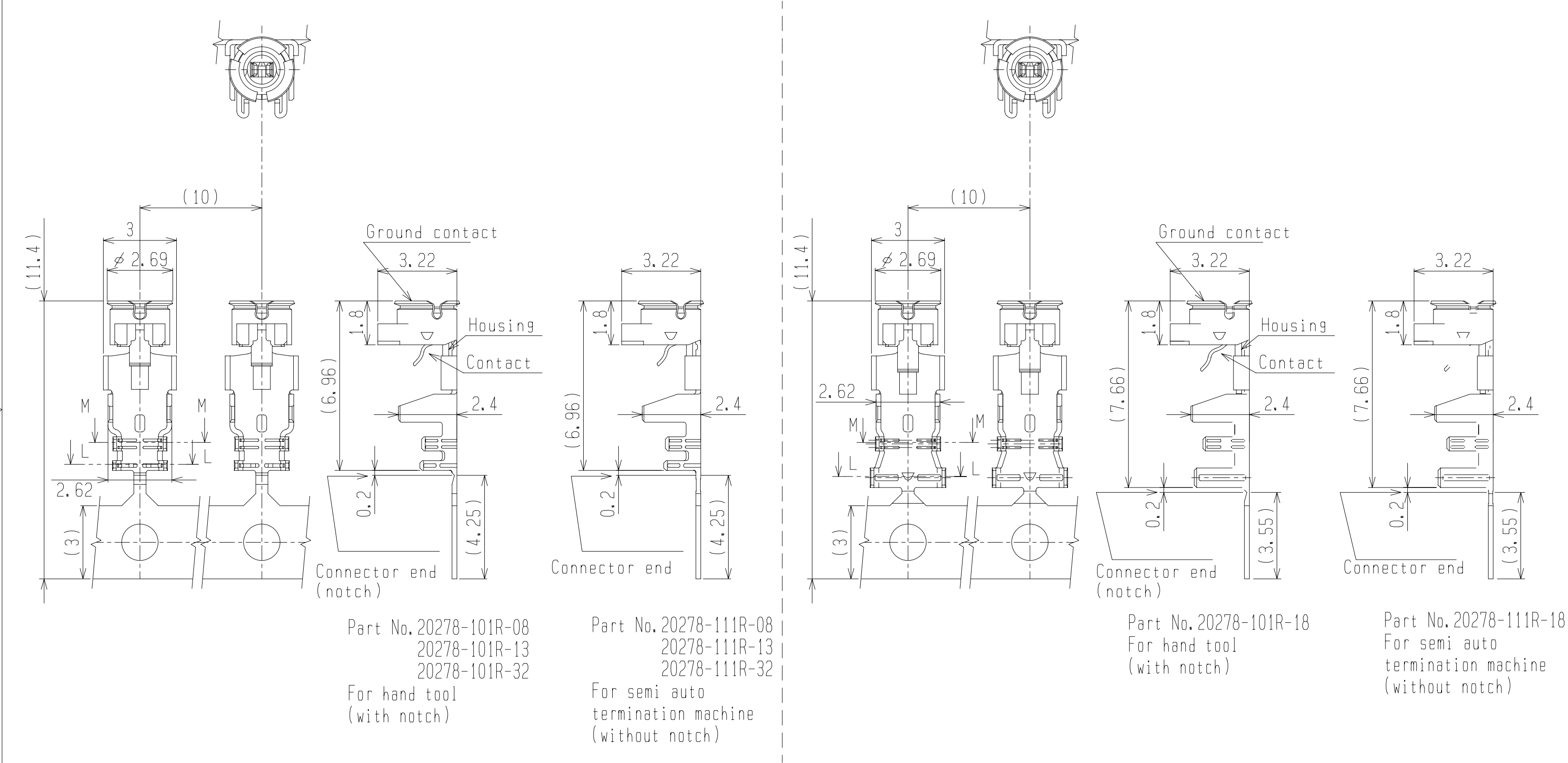
② Avoid unnecessary excessive force to cable, such as pulling, twisting, bending or tightening.

10-5. Storage precautions

Avoid continuous exposure to sunlight.

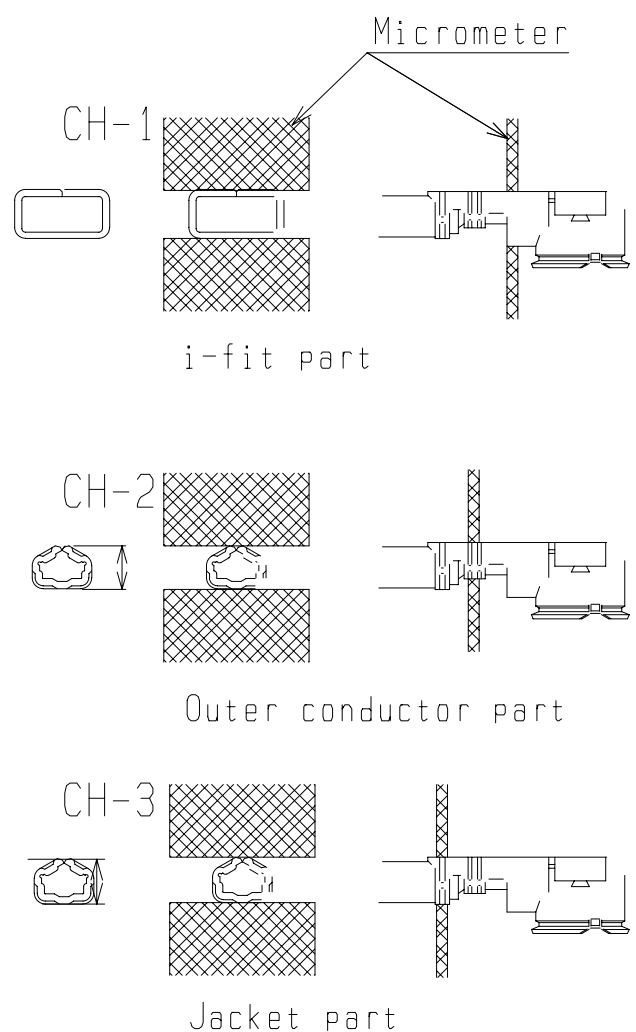
NOTE :	MADE BY	<i>M. Ohba</i>
	APPROVALS	<i>T. Kawasaki</i>

PART NO.
20278-**-1R-**-**



GENERAL TOLERANCE						11C	Z3041	K.O	Mar/24/03	K.K	4	Z2023	K.O	JAN/30/02	E.K	DESIGN'D BY	DATE	I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN									
						10C	Z3014	K.O	JAN/31/03	K.K	3	Z1256	K.O	NOV/14/01	K.K	K.Ohbayashi	JUN/13/01										
						9C	Z2239	K.O	NOV/15/02	E.K	2	Z1197	K.O	AUG/27/01	K.K	CHK'D BY	DATE										
						8C	Z2224	K.O	OCT/17/02	E.K	1	Z1118	K.O	JUN/26/01	K.K												
6 MAX.		±0.2				7B	Z2180	K.O	JUL/29/02	E.K	0	Z1109	K.O	JUN/13/01		APP'D BY	DATE	TITLE MHF series micro coaxial connector plug vertical (ground contact : gold plating)									
6 OVER MAX. 30		±0.3				13C	Z3074	A.H	May/22/'03	K.K	6B	Z2146	K.O	JUN/24/02	K.K	REV	ECN					BY	DATE	APP	K.Katabuchi	JUN/13/01	
30 OVER MAX. 120		±0.5				12C	Z3052	K.O	Apr/16/'03	K.K	5B	Z2117	A.H	MAY/17/02	K.K	REV. RECORD				CUSTOMER		PROJECTION	SCALE	UNIT	DWG. No.	SHEET	REV
ANGLE		±2°				REV	ECN	BY	DATE	APP	REV	ECN	BY	DATE	APP	SERIES No.		2814		COPY			6/1	mm	20278	1/3	13C

Part No.		20278-101R-08 20278-111R-08	20278-101R-13 20278-111R-13	20278-101R-32 20278-111R-32	20278-101R-18 20278-111R-18
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	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



Crimp Height

NOTE-1

中心導体，外部導体への半田コーティング⁴⁾は不可

Must not use solder coated

inner conductor and outer conductor.

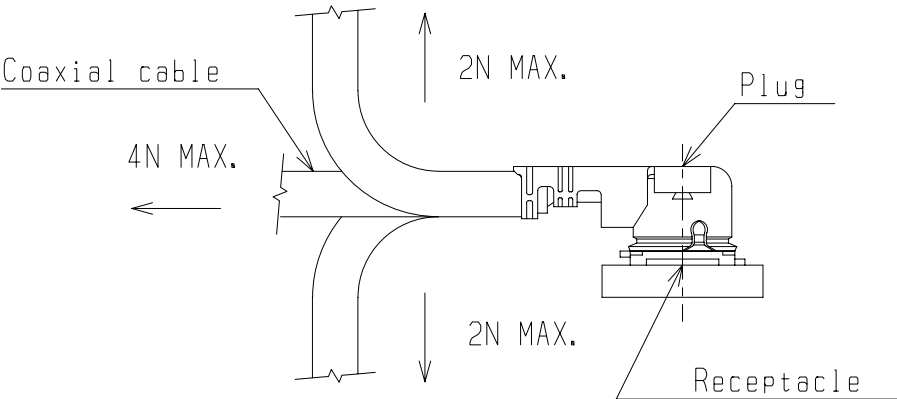
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

					DESIGN' D BY	DATE	I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN				
					CHK' D BY	DATE					
					APP' D BY	DATE					
REV	ECN	BY	DATE	APP	TITLE						
					MHF series micro coaxial connector plug vertical (ground contact : gold plating)						
REV. RECORD					CUSTOMER COPY	PROJECTION 	SCALE	UNIT	DWG. No.	SHEET	REV.
SERIES No.		2814					-/-	mm	20278	2/3	13C

Notes

1. Material
(1) Housing : PBT , UL94V-0 , black
(2) Contact
phosphor bronze
gold plating 0.1μm MIN.
over nickel 1.27μm MIN.
(3) Ground contact
phosphor bronze
gold plating 0.05μm MIN.
over nickel 1.27μm MIN.
2. Packing : reel
3. Mating partner part No.
: 20279-001E-01
4. Permissible load of cable at mating

1. 材 料
(1) ハウジング:PBT, UL94V-0, 黒色
(2) コンタクト
りん青銅
金メッキ0.1μm MIN.
下地 ニッケル1.27μm MIN.
(3) グランドコンタクト
りん青銅
金メッキ0.05μm MIN.
下地 ニッケル1.27μm MIN.
2. 梱包 : リール
3. かん合相手 part No.
: 20279-001E-01
4. コネクタかん合後のケーブルに対する荷重

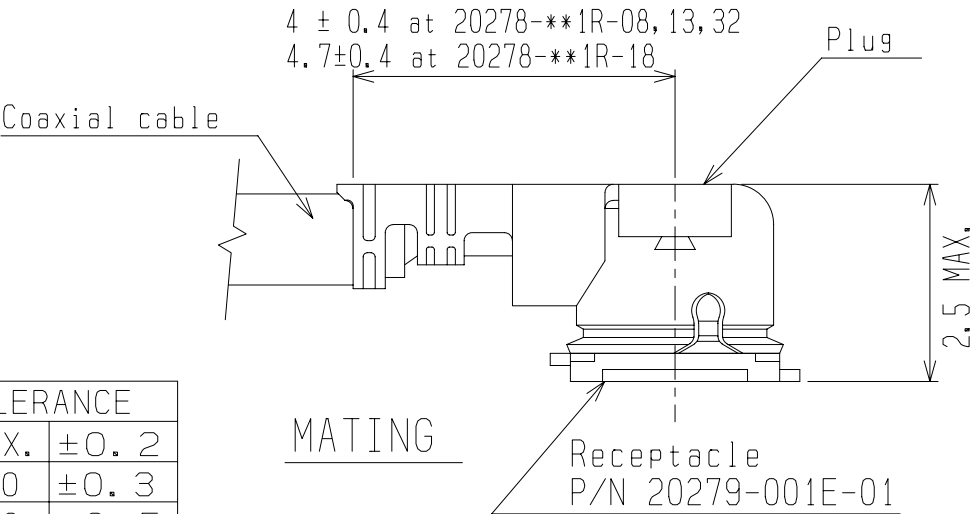


5. Suggestions for mating & unmating operation.

5. コネクタかん合時および抜去時の注意

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。



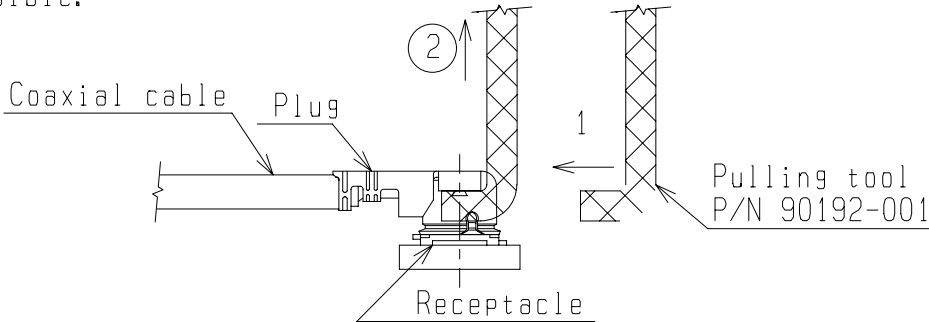
GENERAL TOLERANCE		
6 MAX.	±0.2	
6 OVER MAX. 30	±0.3	
30 OVER MAX. 120	±0.5	
ANGLE	±2°	

5-2 Unmating.

5-2 コネクタ抜去時

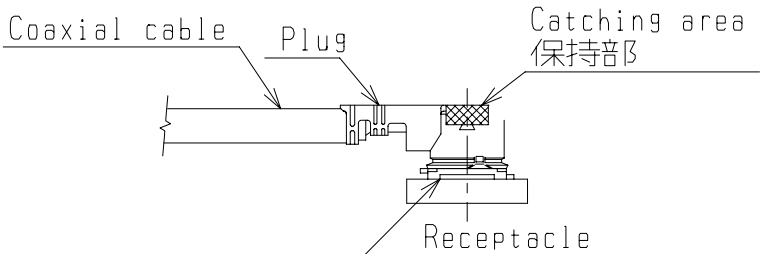
(1) In case of unmating by pulling tool.
Please use the pulling tool as the following drawing, and please pull plug to vertical direction as directly as possible.

(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) 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

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。

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

					DESIGN' D BY		DATE		I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN					
					CHK' D BY		DATE							
					APP' D BY		DATE							
REV	ECN	BY	DATE	APP	TITLE		MHF series micro coaxial connector plug vertical (ground contact : gold plating)							
REV. RECORD														
SERIES No.		2814			CUSTOMER COPY				SCALE	UNIT	DWG. No.		SHEET	REV.
									-/-	mm	20278		3/3	13C