

承 認 書
SPECIFICATION FOR APPROVAL

客 戶
CUSTOMER

尚亞科技股份有限公司

日 期
DATE

92 年 8 月 28 日

品 名
DESCRIPTION

RG178 Cable Assembly (L=151)
With Bulkhead RS SMA

客 戶 料 號
CUSTOMER P/N



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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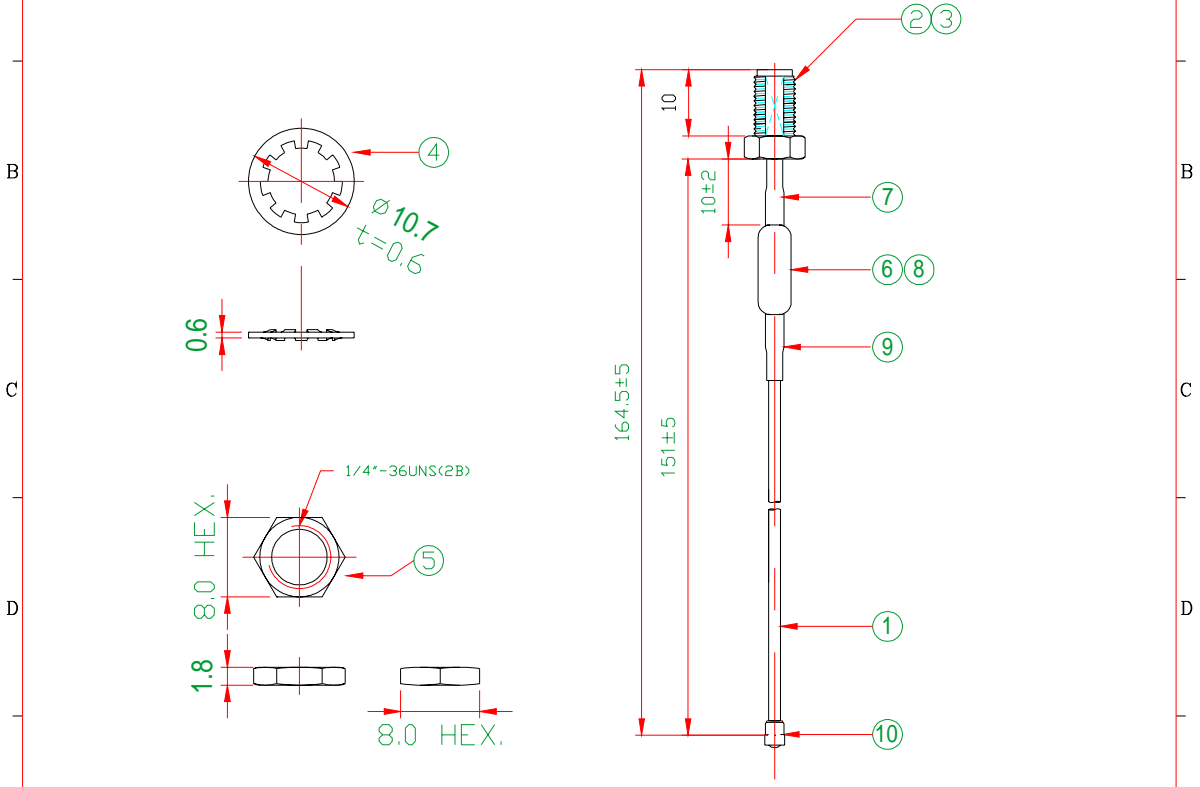
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SPECIFICATION

- | | |
|------------------------|--|
| 1. Description | : RG178 Cable Assembly
With Bulkhead RS SMA |
| 2. Customer | : 尚亞電子股份有限公司 |
| 3. Model No. | : SHW0210A1 |
| 4. Standard | : IEEE 802.11ba/g Wireless LAN |
| 5. Profile | : (see Drawing) |
| 6. Operating Frequency | : 1~6 Ghz |
| 7. Impedance | : 50 Ohm nominal |
| 8. V.S.W.R. | : 2.0:1 Max. |
| 9. Core | : K5B RH 4*10*2 |
| 10. Coaxial Length | : 151mm |
| 11. Connector | : Bulkhead RS SMA & MHF |

TOLERANCES:	
X	± 1.0
X.X	± 0.5
X.XX	± 0.2
ANGULAR	± 0.5°

版次	修訂日期	ECR NO.	作成	設計變更內容簡述



作業說明：

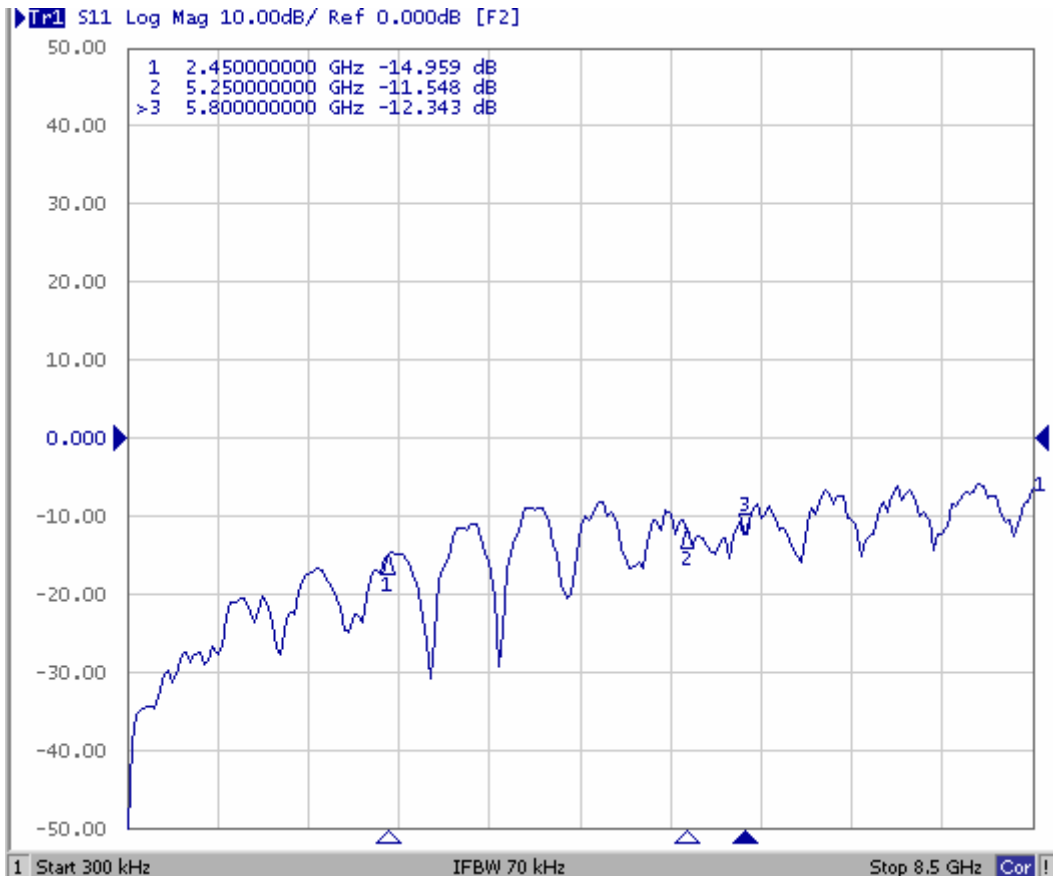
1. Cable Assembly組立，依照WSW0008A Cable Assembly 組立作業指導書規定製作。
依據AQ-0008A QC管理工程圖，執行品質管制。
2. 鐵粉芯組立組立，依照WSW0009 EMI Sleeve Core 組立作業指導書規定製作。
3. Nut 與Washer 每1000 pcs 各包一袋

10	MHF Connector	272027811R18JP	20278-111R-18 MHF CONN.PLUG(I-PEX)	金	1	或同級品		
9	熱縮套管	53A402501000BC	F34 2.5 黑 L10	黑	10	或同級品		
8	熱縮套管	53A404002000BC	F34 4.0 黑 L20	黑	20	或同級品		
7	熱縮套管	530102501060BC	F32 2.5 藍 L10	藍	10	或同級品		
6	EMI Sleeve Core	3104010002A0CA	K5B RH 4*10*2		1	或同級品		
5	螺帽	250007BD0000VD	0007B-D Nut Bulkhead Reverse SMA	金	1	或同級品		
4	止滑華司	250007BC0000VD	0007B-C Washer Bulkhead Reverse SMA	金	2	或同級品		
3	Bulkhead Reverse SMA PIN	250007BB0000VD	0007B-B Pin Bulkhead Reverse SMA(公PIN)	金	1	或同級品		
2	Bulkhead Reverse SMA本體	250007BA0000VD	0007B-A Body Bulkhead Reverse SMA	金	1	或同級品		
1	RG-178 Coaxial Cable RG-178 Coaxial Cable	B1RG17800030RC 19RG17800030AE	RG-178 CABLE 橙 RG-178 CABLE 105SV(萬泰)	橙 橙	158 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：03.08.28		承認圖號	EN178RG16500		
頁數：1/2	核准	審查	作成	品名	RG-178 Cable Assembly with MHF (L=151)		
第三角法			Arthur		成品編號	SHW0210	REV A
單位：mm							
比例：FREE							

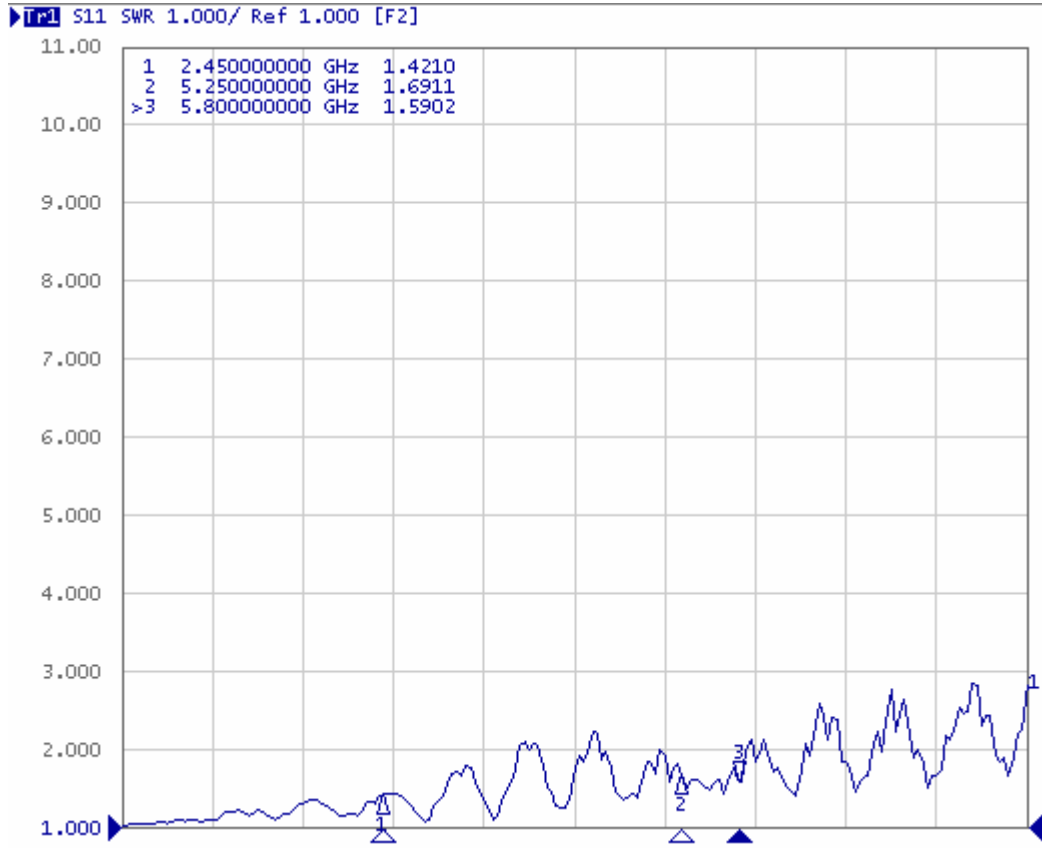
Electrical Characteristic

Return Loss



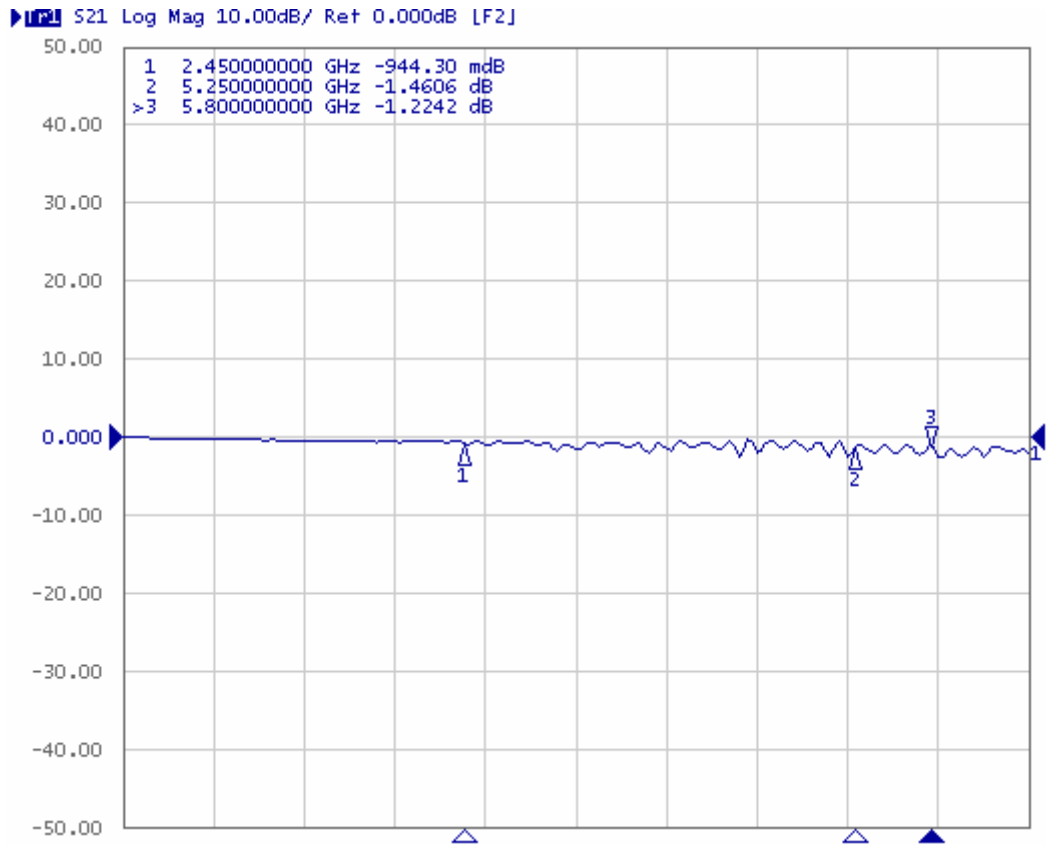
Electrical Characteristic

V.S.W.R



Electrical Characteristic

Attenuation



Material Data Sheet

RG-178 Coaxial Cable

SPECIFICATION FOR APPROVAL

DOCUMENT: A30178B001

STYLE : 200 30V
RG-178B/U

SIZE: 7/0.102 SCCS

RECOGNIZED:

WONDERFUL WIRE CABLE CO.,LTD

OFFICE : 72WU KONG 6TH ROAD,
WU KU IND. DISTRICT
TAIPEI HSIEN,TAIWAN

FACTORY : 17 PEI YUAN ROAD,
CHUNG-LI IND. PARK
TAIWAN, R.O.C.

TEL : (02)22988033

FAX : (02)22988031-2

TEL : (03)4527777

FAX : (03)4517214

WONDERFUL HI-TECH CABLE CO., LTD SPECIFICATION

STYLE	200 30V COAXIAL	DOCUMENT NO : A30178B001	
SIZE	RG-178B/U	ESTABLISHED DATE: 2003/02/13	
STANDARD: MIL-C-17			
Conductor	Size	AWG	30
	Material	----	Silver-Coated Copper Clad Steel
	Conductors No.	----	7
	Conductors Size	mm	0.102
	O.D.	mm	0.30
Insulation	Average Thickness	mm	0.28
	Diameter	mm	0.86
	Material	----	FEP
	Color	----	Clear
Braid	Material	----	Silver-Coated Copper
	Construction	mm	16 / 3 / 0.10
	Coverage	%	95
Jacket	Average Thickness	mm	0.25
	Diameter	mm	1.80 ±0.05
	Material	----	FEP
	Color	----	Brown
Marking			
Drawing			

AK001/210X297/1.0

EDITION : 1.0

MAKER : C.Y.CHEN

PAGE : 1

REVISED DATE :

CONFIRM : S.N.WONG

APPROVAL : W.J.WANG

WONDERFUL HI-TECH CO., LTD

SPECIFICATION

Electrical & Physical Properties						
Item		RG-178B/U				
Rating Temp Voltage		200 30V				
Conductor Resistance		335.0 OHM/KM/20 MAX.				
Insulation Resistance		3000 MEGA OHM/KM MIN.				
Dielectric Strength		AC 1.0 KV/Minute				
Spark Test		2.0 KV				
Insulation	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / m m ²)			
		Elongation	200% MIN.			
	Aged	Tensile Strength	UNAGED MIN.75%(168HRS×232)			
		Elongation	UNAGED MIN.75%(168HRS×232)			
Jacket	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / m m ²)			
		Elongation	200% MIN.			
	Aged	Tensile Strength	UNAGED MIN.75%(168HRS×232)			
		Elongation	UNAGED MIN.75%(168HRS×232)			
Nom. Impedance		50 Ohms				
Nom. Capacitance		95.8 pF/m				
Nom. Vel. of Prop.		69.5%				
VSWR (0-6GHz)		UNDER 1.3				
Attenuation (dB/100m)	100MHz	900MHz	1.8GHz	2.4GHz	5.2GHz	6GHz
	46	155	295	340	505	550

AK001/210X297/1.0

PAGE : 2

EDITION : 1.1

REVISED DATE :

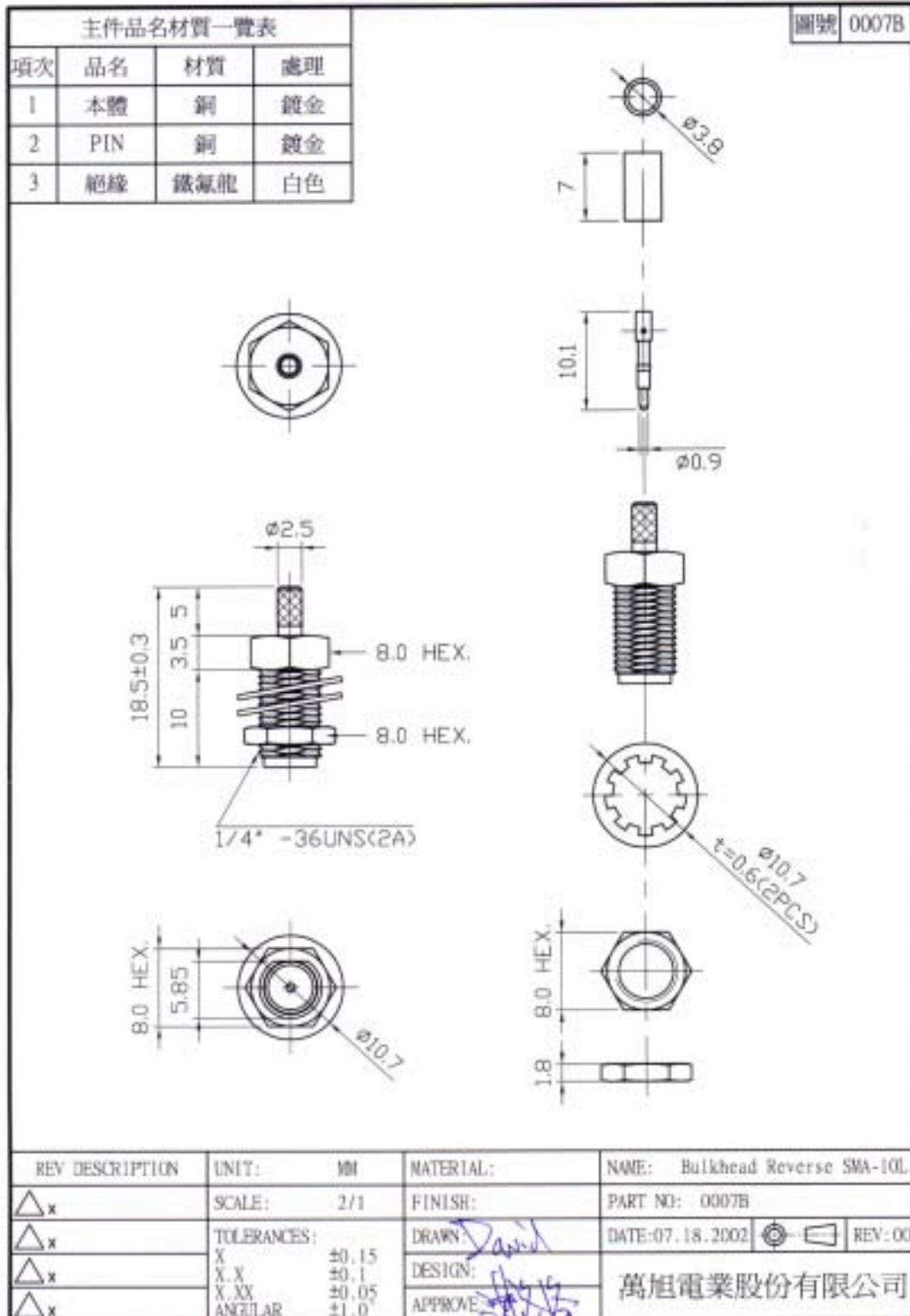
MAKER : C.Y.CHEN

CONFIRM : S.N.WONG

APPROVAL : W.J.WANG

Material Data Sheet

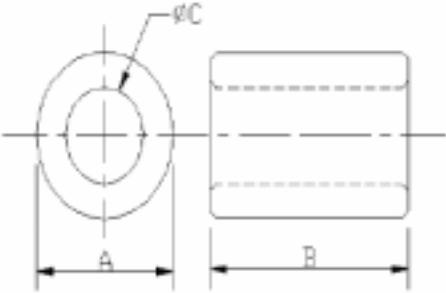
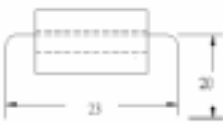
Bulkhead RS SMA



Material Data Sheet

EMI Sleeve Core

SPECIFICATION FOR APPROVAL

CUSTOMER:		CUST.P/N:	
ITEM:	K5B RH 4x10x2	K.C.P/N:	PS0404IA
(1) SHAPE :		A	4.0±0.2 m/m
		B	10.0±0.4 m/m
		C	2.0±0.15 m/m
		D	m/m
		E	m/m
		F	m/m
		G	m/m
(2) ELECTRICAL REQUIREMENTS:		(3) TEST CONDITIONS:	
$Z_1 = 37^{-0}$ OHM AT 25 MHz $Z_2 = 63^{-0}$ OHM AT 100 MHz		1 IMPEDANCE ANALYZER: HP4191A TEST FIXTURE: HP16092A 2. WIRE: $\phi 0.65$ T.C.W*63m/m/2Ts 3. DRAWING: 	
(4) PACKING		(5) APPEARANCE	
<input checked="" type="checkbox"/> IN BULK <input type="checkbox"/> VACUUM <input type="checkbox"/> INSERTION 2000 PCS/BAGS* 4 BAGINNER BOX* 4 BOXES/CARTON = 32000 PCS PCS/PLATE* PLATES/CARTON= PCS PCS/TRAY* TRAYS/CARTON= PCS		(1) AREA OF BREAK : <math>< 2 \text{ m}^2</math> (2) SUM OF BREAKING AREA : <math>< 3 \text{ m}^2</math> (3) DEPTH OF BREAK : <math>< 1 \text{ m/m}</math>	
(6) REMARK:		Approved by	黄国章
		Checked by	吴明环
		Drawn by	吴明环
		DWG.NO.	

Material Data Sheet

EMI Sleeve Core

TEST DATA FOR PREPRODUCTION SAMPLES

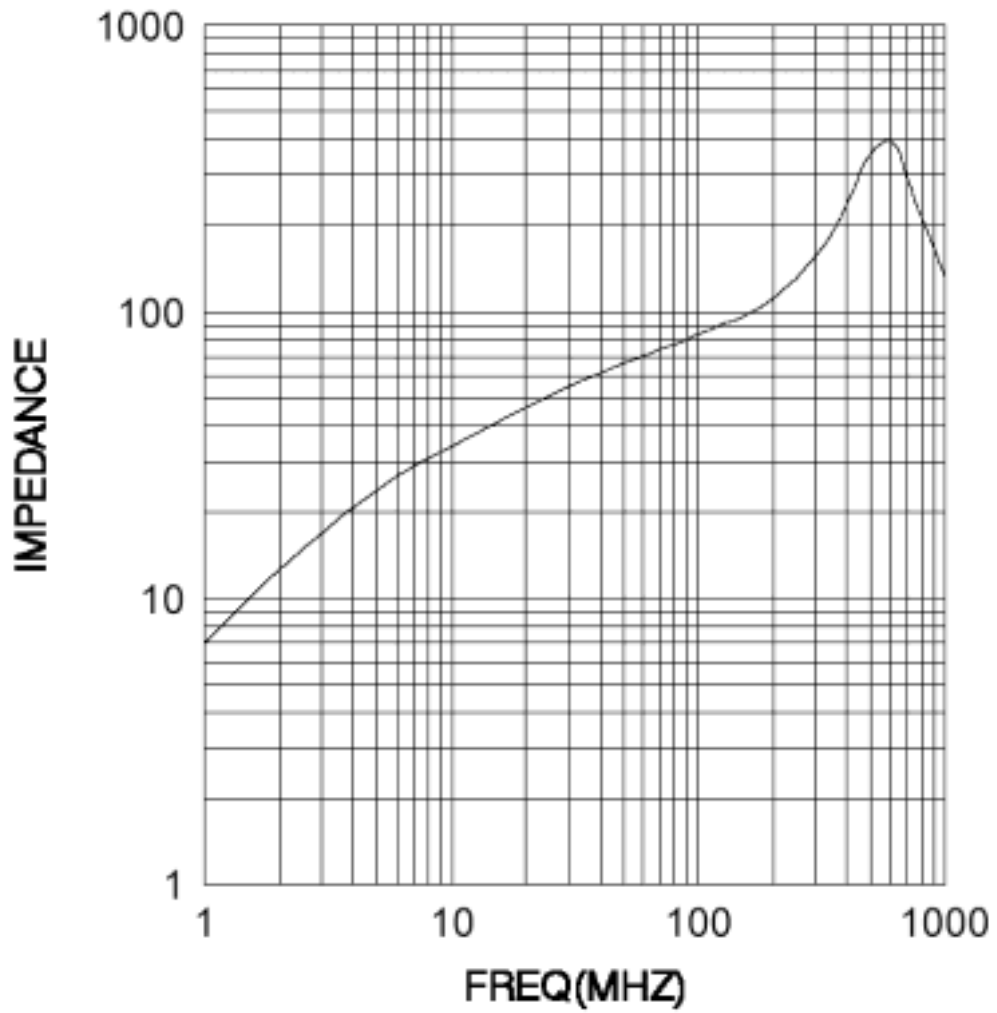
CUSTOMER					CUST. P/N	
ITEM	K5B RH 4x10x2				K.C. P/N	PS04041A
TEMP.	24 °C	RH	69 %	DWG.NO.		
WIRE	<i>0.65x6.3m/m</i> T.C.W	WINDING	1/2 Ts	Q'TY		
Test Instruments						
Meas. Item.	Z (OHM)	Z (OHM)	A m/m	B m/m	C m/m	
Spec./ Yours.						
Spec./Suggest.	37⁻⁰	63⁻⁰	4.0±0.2	10.0±0.4	2.0±0.15	
Test Freq.	25 MHZ	100 MHZ				
1	51	85	4.08	10.06	2.04	
2	50	84	4.06	10.12	2.02	
3	50	84	4.04	10.10	2.00	
4	50	84	4.04	10.10	2.00	
5	51	85	4.04	10.06	2.00	
6						
7						
8						
9						
10						
X	50	84	4.05	10.09	2.01	
R	1	1	0.04	0.06	0.04	
Your Sample.						
REMARK:				Approved by: 吴明珠		
				Checked by: 吴明珠		
				Drawn by: 吴明珠		

KING CORE ELECTRONICS INC.

Material Data Sheet

EMI Sleeve Core

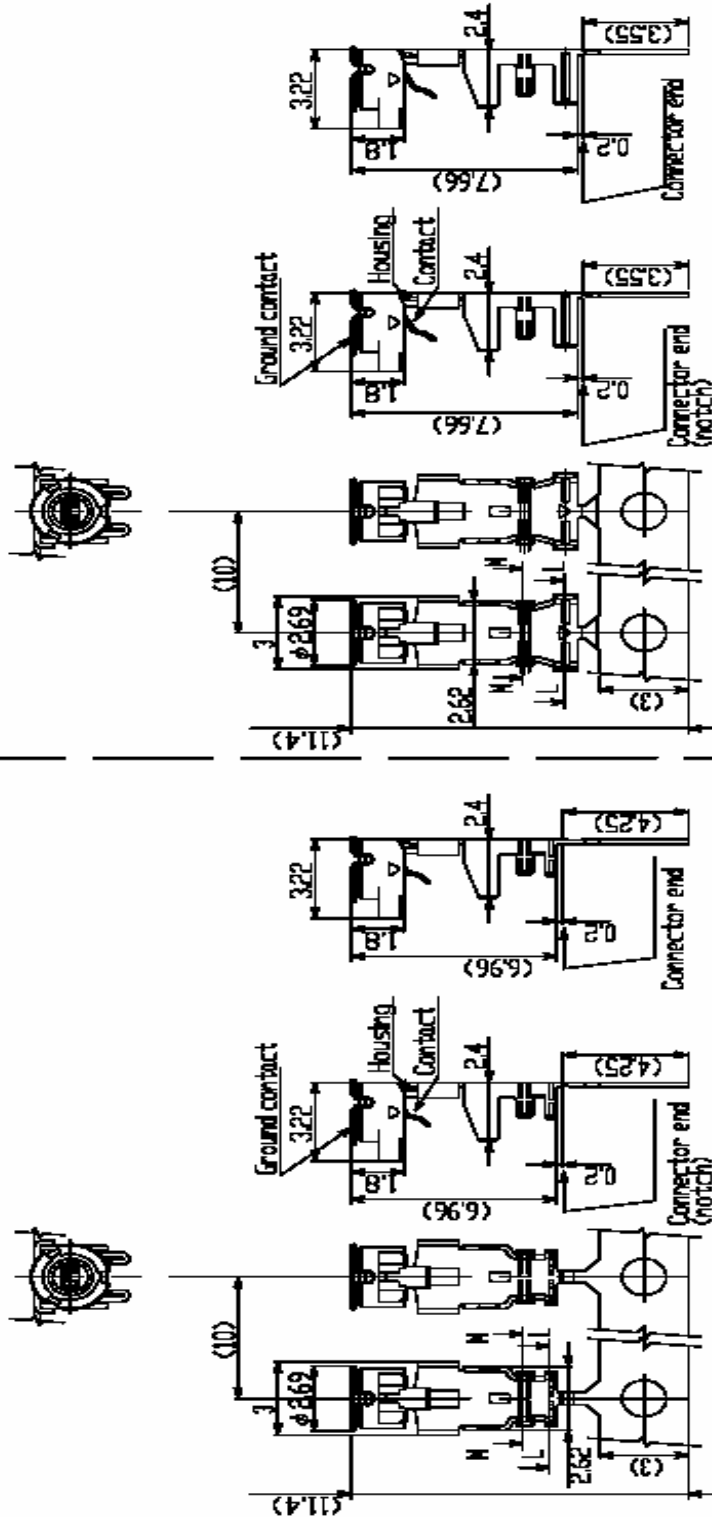
K5B RH 4x10x2



Material Data Sheet

I-PEX Connector

PART NO.
20278-11R-18



Part No. 20278-11R-18
For semi auto
termination machine
(without notch)

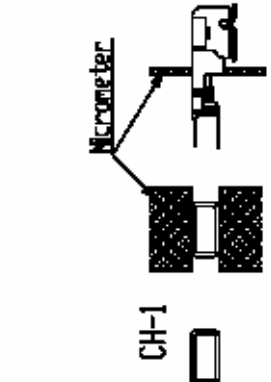
Part No. 20278-10R-18
For hand tool
(with notch)

Part No. 20278-11R-08
20278-11R-13
20278-11R-32
For semi auto
termination machine
(without notch)

Part No. 20278-10R-08
20278-10R-13
20278-10R-32
For hand tool
(with notch)

I-PEX Interconnect and Packaging Electronics		DESIGNED BY K. M. H. W. S.	DATE JUN 13/01
TITLE HF series micro coaxial connector (MA) vertical (ground contact, gold plating)		CHECKED BY K. M. H. W. S.	DATE JUN 13/01
SCALE 1/1		APPROVED BY K. M. H. W. S.	DATE JUN 13/01
SHEET NO. 1/3		CUSTOMER K. M. H. W. S.	PROJECT NO. 20278
DRAWN BY K. M. H. W. S.		COPY	REVISED BY K. M. H. W. S.
SERIES NO. 284		DATE APP SERIES NO. 284	
GENERAL TOLERANCE 6 MAX. ±0.2		FORM REV. A	
6 OVER MAX. 30 ±0.3			
30 OVER MAX. 120 ±0.5			
ANGLE 1/2°			

Part No.	20278-IUR-18 20278-IUR-18	20278-IUR-32 20278-IUR-32	20278-IUR-13 20278-IUR-13	20278-IUR-08 20278-IUR-08	20278-IUR-18 20278-IUR-18	20278-IUR-32 20278-IUR-32	20278-IUR-13 20278-IUR-13	20278-IUR-08 20278-IUR-08
Applicable cable nominal dimension	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1	2.02 ± 0.1 1.25 ± 0.1 1.16 ± 0.1
Jacket	$\phi 0.81$ Nominal	$\phi 1.32$ Nominal	$\phi 1.13$ Nominal	$\phi 0.81$ Nominal	$\phi 1.18$ Nominal	$\phi 1.32$ Nominal	$\phi 1.13$ Nominal	$\phi 0.81$ Nominal
Inner conductor	$\phi 0.4$ Nominal	$\phi 0.66$ Nominal	$\phi 0.68$ Nominal	$\phi 0.4$ Nominal	$\phi 0.84$ Nominal	$\phi 1.12$ Nominal	$\phi 0.68$ Nominal	$\phi 0.4$ Nominal
Inner conductor silver plating	AG135/AG135	AG135/AG135	AG135/AG135	AG135/AG135	AG135/AG135	AG135/AG135	AG135/AG135	AG135/AG135
Inner conductor	RG178 B/U	RG178 B/U	RG178 B/U	RG178 B/U	RG178 B/U	RG178 B/U	RG178 B/U	RG178 B/U
Inner conductor I-fit part	Single / 1個組	Double / 2個組	Single / 1個組	Single / 1個組	Single / 1個組	Double / 2個組	Single / 1個組	Single / 1個組
P/N of hand tool	90187-008C	90187-032C	90187-013C	90187-008C	90233-018	90187-032C	90187-013C	90187-008C
P/N of semi auto termination machine			90213-013C	90213-008C	90232-018	90213-032C	90213-013C	90213-008C
Crimp Height	CH-1							
	CH-2							
	CH-3							



Crimp Height

I-PEX Interconnect and Packaging Electronics (株)アイピーエックス		DESIGNED BY	DATE
TITLE HF series micro coaxial connector (HF) 垂直型マイクロ同軸コネクタ (HF)		DRAWN BY	DATE
SUBJECT Vertical Ground Contact Coaxial Connector		APPD BY	DATE
SCALE UNIT: MM No. 20278		CUSTOMER	COLLECTION
SHEET No. 2/3 (1/3)		COPY	FORM REV.4

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

FORM REV.4

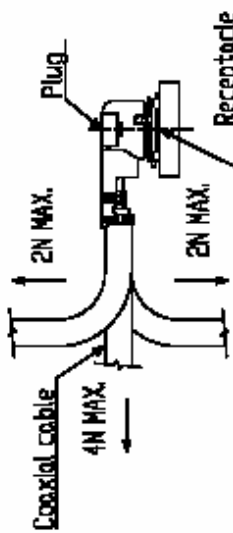
Notes

- Material
- Housing: PBT, UL94V-0, black
Contact: phosphor bronze, gold plating
- Ground contact: phosphor bronze, gold plating
Packing: reel
- Mating part No. : 20279-001E-01

- 材料
(1) ハウジング: PBT, UL94V-0, 黒色
コンタクト: 亜鉛めっき
: 金メッキ
- (2) グランドコンタクト: 亜鉛めっき
: 金メッキ
- (3) パッキング: リール
: リール
- 梱包: リール
- 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

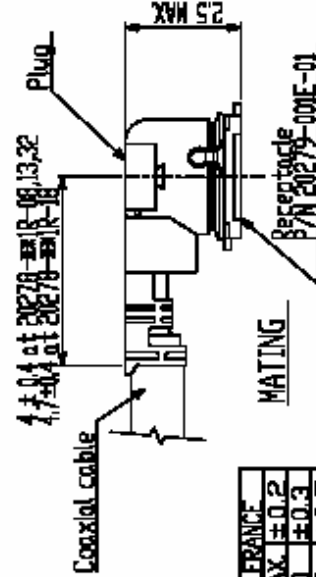


5. Suggestions for mating & unmating operation.

5. コネクタかん合時および抜き時の注意

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のかん合を合わせ、できる限り垂直に挿入して下さい。細か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。

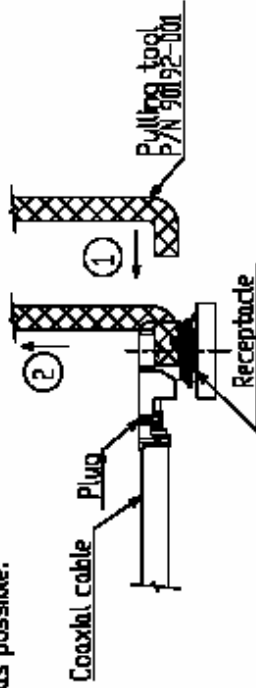


5-2 Unmating

(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.

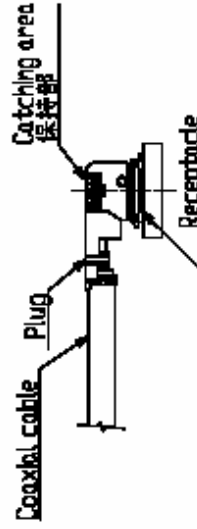
5-2 コネクタ抜き時

(1) 抜きプラグを用いる場合は、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は、下図の取手部分を掴み、できるだけ垂直に引き抜いて下さい。



DESIGNED BY		DATE	Interconnect and Packaging Electronics	
DRAWN BY		DATE	I-PEX	
APPROVED BY		DATE	TITLE: MF series micro coaxial connector plug	
REVIEW BY	DATE	APP	SCALE	UNIT
DESIGNER			1/10mm	mm
CUSTOMER			Fig. No.	20278
COPY			Sheet	REV
SERIES No.	2814			3/311C

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

FORM REV.4