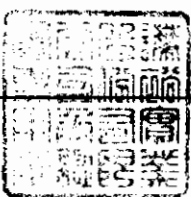





WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)
DONGGUAN AEON TECH CO.,LTD.(CHINA)
SUZHOU AEON TECH CO.,LTD.(CHINA)
AEON TECH (SHANGHAI) CO.,LTD(CHINA)
DONGGUAN PARNER TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: 明泰科技股份有限公司	產地: 大陸吳江市。東莞市
PART NAME: RF Antenna Assembly	產品單重:8900mg
PART NO.:	REVISION:
W. Y. P/NO.: C037-510960-A(SSR-90104)	REV.: X1

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :	Romeo 	
DATE :	4/20/09 	

WHA YU GROUP

WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)

譚裕實業股份有限公司

Address: No. 326,Sec. 2,Kung Tao 5 Road, Hsin Chu City, Taiwan, R.O.C.

Tel:+886-3-5714225(REP.) Fax:+ 886-3-5713853 · + 886-3-5723600

DONGGUAN AEON TECH CO.,LTD.(CHINA)

東莞台霖電子通訊有限公司

Address:Hupan Industrial District,Tai Ling Shan Town,Dong Guan City,Guangdong,China

Tel:+86-769-85655858 Fax:+86-769-85655258

SUZHOU AEON TECH CO.,LTD(CHINA)

蘇州華廣電通有限公司

Address:Limin North Road, LiLi Town,LiLi Industrial Park,LinHu Economic Zone

Wujiang City,Jiangsu Province,China

Tel:+86-512-63627980 Fax:+86-512-63627981

AEON TECH (SHANGHAI) CO.,LTD(CHINA)

普翔電子貿易(上海)有限公司

Address:Flat 501,5F,Build 27, NO.68,Guiqing Road, Huhui District, Shanghai,China

Tel:+86-21-64959151 Fax:+86-21-64959059

DONGGUAN PARNER TECH CO.,LTD.(CHINA)

東莞倍能電子有限公司

Address:Hupan Industrial District, Shida Road, Tai Ling Shan Town,

Dong Guan City, Guangdong, China

Tel:+86-769-81662366 Fax:+86-769-81602681

Contents

<i>Item</i>	<i>Description</i>	<i>Page</i>
1.	規格表 1
2.	成品圖 2
3.	BOM List 3
4.	測試報告 4~6
5.	Cable 規格/UL 7~12
6.	Connector規格/UL 13~14
7.	杆套及固定座材質特性/UL 15~23
8.	樣品檢驗記錄表 24
9.	樣品圖 25

RF Antenna Assembly

Specification

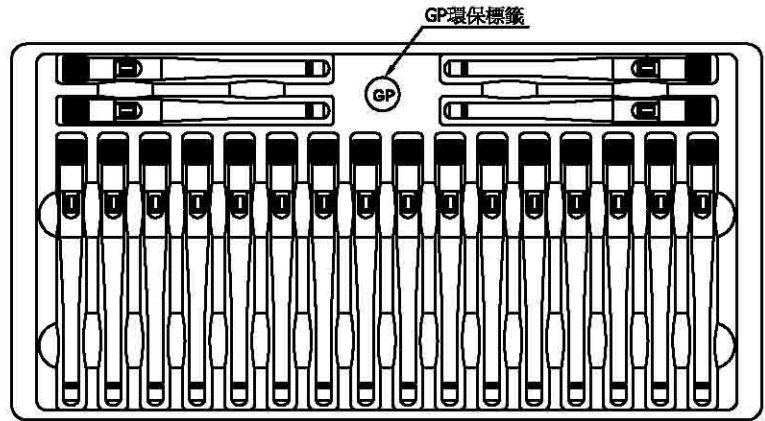
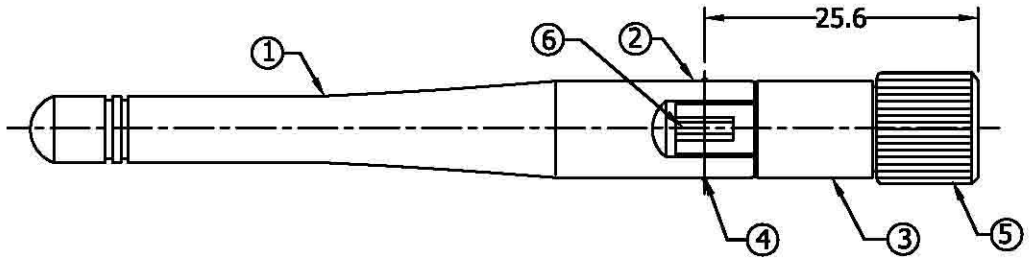
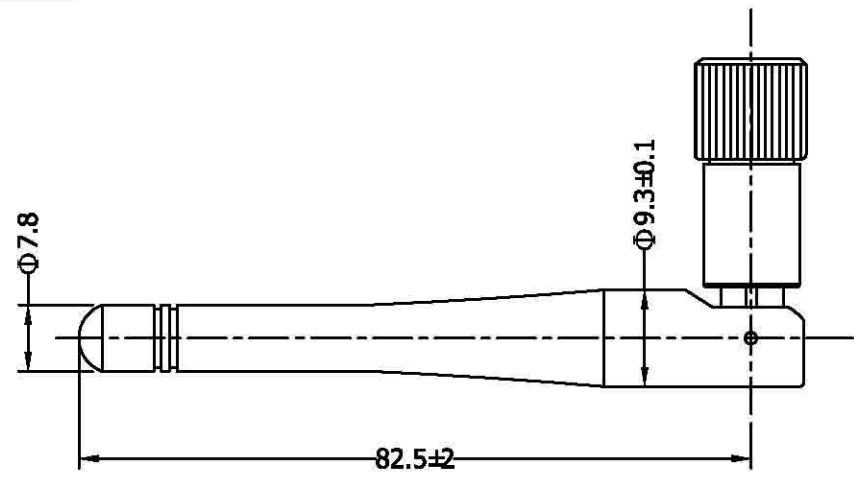
1. Electrical Properties :

- 1.1 Frequency Range..... 2.4GHz ~ 2.5GHz
- 1.2 Impedance 50Ω Nominal
- 1.3 VSWR 1.92 :1Max.
- 1.4 Return Loss..... -10 dB Max.
- 1.5 Radiation Omni-directional
- 1.6 Gain(peak)..... 2dBi
- 1.7 Polarization..... Linear; Vertical
- 1.8 Admitted Power..... 1W
- 1.9 Cable..... RG-178 Coaxial Cable
- 1.10 Connector..... SMA Staight Plug Reverse

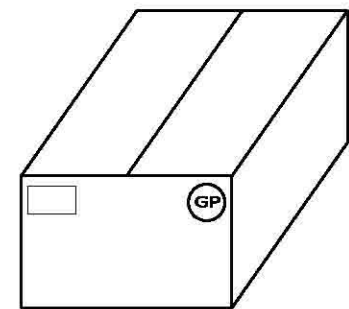
2. Physical Properties :

- 2.1 Antenna Body..... TPE
- 2.2 Antenna Base..... PC
- 2.3 Antenna Base..... PBT
- 2.4 Operating Temp. -10°C ~ +60°C
- 2.5 Storage Temp. -10°C ~ +70°C
- 2.6 Color White

REV	DATE	DESCRIPTION
X1	01/14-2009	New Issue



Packing: 每Tray盤裝20PCS成品



GP標籤貼於紙箱兩側右上角(共2PCS)
外箱貼1PCS標籤於左上角
成品淨重:8900mg

NO	DESCRIPTION	QTY	REMARK
6	Cable	1	RG-178Cable,Transparency Brown,50 Ω
5	Connector	1	SMA Straight Plug Reverse(POM)
4	Rivet	2	POM,Color:White
3	Antenna Base	1	CD-10 PBT;Color:White,Du Pont LS033(W.Y-024)
2	Antenna Base	1	CD-373 PC;Color:White,Du Pont LS033(W.Y-024)
1	Antenna Body	1	CD-379 TPE;Color:White,Du Pont LS033(W.Y-024)

CUSTOMER'S SINGATURE	XX.	±5.0	APPROVED	CUSTOMER: 明 泰			
	X.	±3.0	CHECKED	PART NO :			
	.X	±1.0		PART NAME: RF Antenna Assembly			
	.XX	±0.5		W.Y P/NO : C037-510960-A			
	.XXX	±0.1	DRAWING	REV	UNIT	FILE :	SSR-90104
				X1	mm	SHEET :	1/1

gear Wha Yu Group
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BILL OF MATERIAL

CUSTOMER P/N: 明泰科技股份有限公司

DATE: 2009.01.14

W.Y.P/N: C037-510960-A

PART NO: SSR-90104

PART NAME: RFAntenna Assembly

REV: X1

序號	零件名稱	供應商	規格描述	UL 防火等級
1	Cable	NIZING	RG-178 Cable,透明棕,50Ω.	150°C 30V
2	Antenna Body	YOSON	(CD-379)TPE;Color:White,Du Pont LS033(W.Y-024)	HB
3	Antenna Base	DYNACHEM	CD-373)PC;Color:White,Du Pont LS033(W.Y-024)	V-2
4	Antenna Base	RAYCONG	(CD-10)PBT;Color:White,Du Pont LS033(W.Y-024)	V-0
5	Rivet	DIXIN	POM,Color:White	—
6	Connector	SHIYANG	Reverse, Straight, Plug, RG-178, 6GHz	HB
7	Gorund Tube	SHIYANG	Φ4.5*23mm,for RG-178	—

變更履歷:

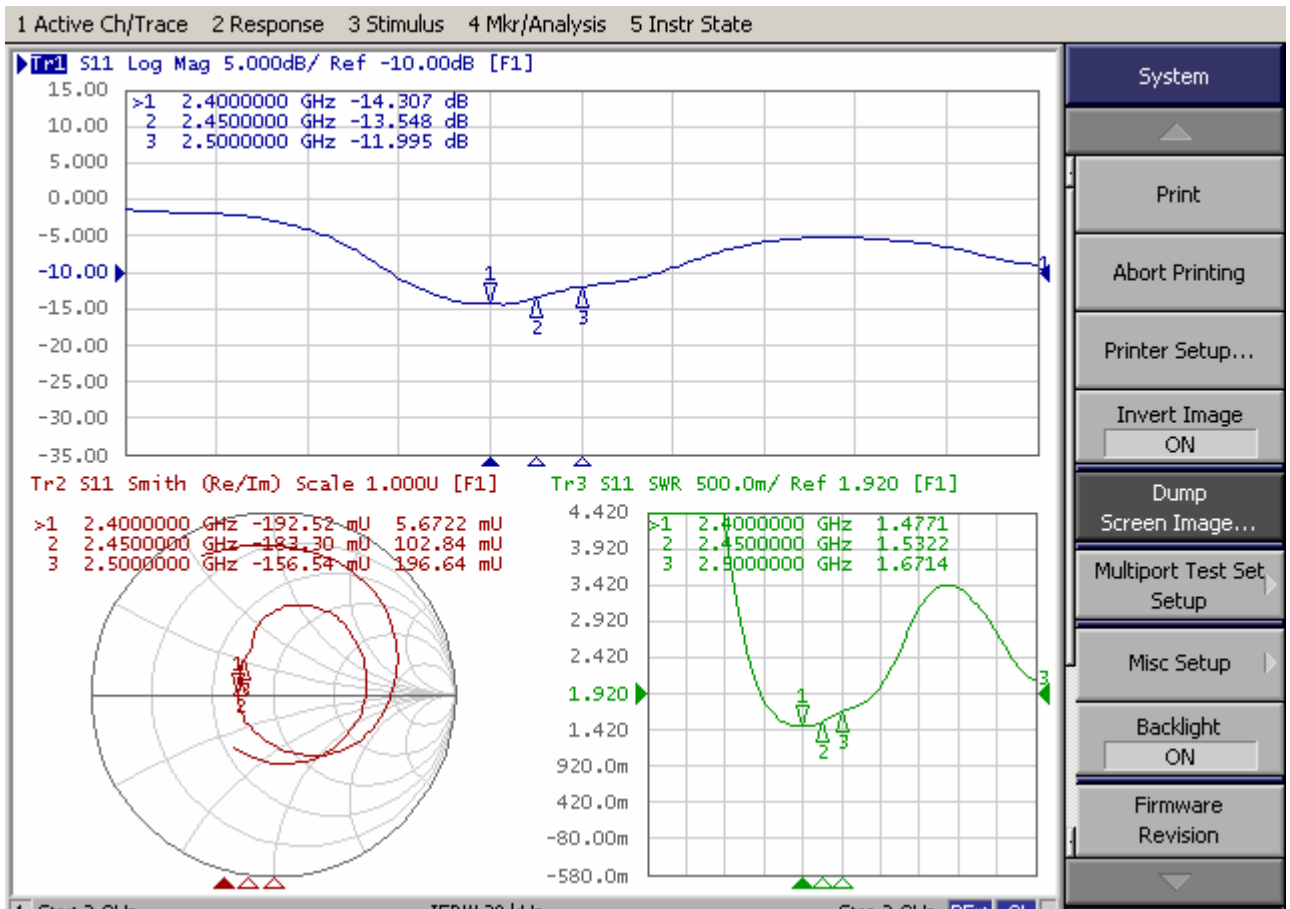
序號	變更依據	變更內容	變更日期	版本

核 準		審 核		制 作	
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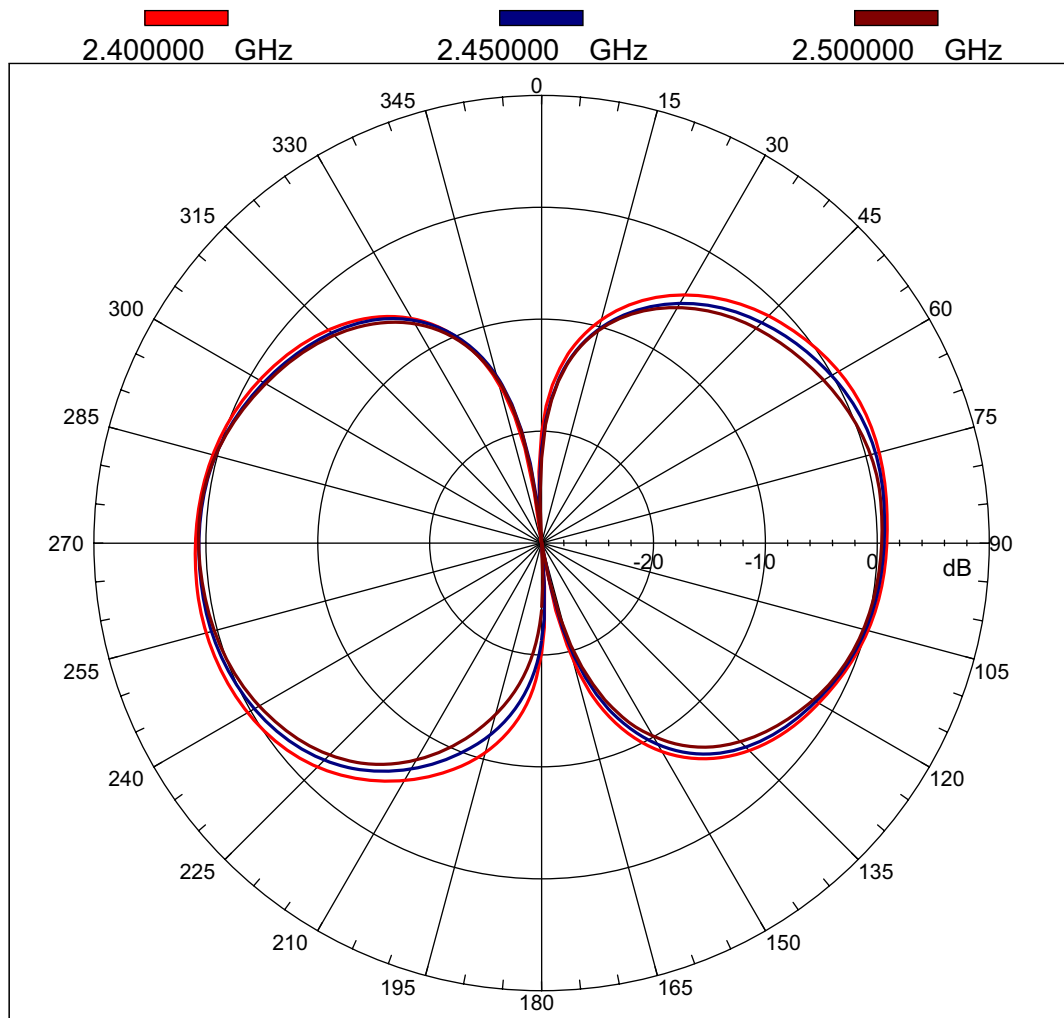
工程部"未經許可"不得複印"

RF Antenna Assembly

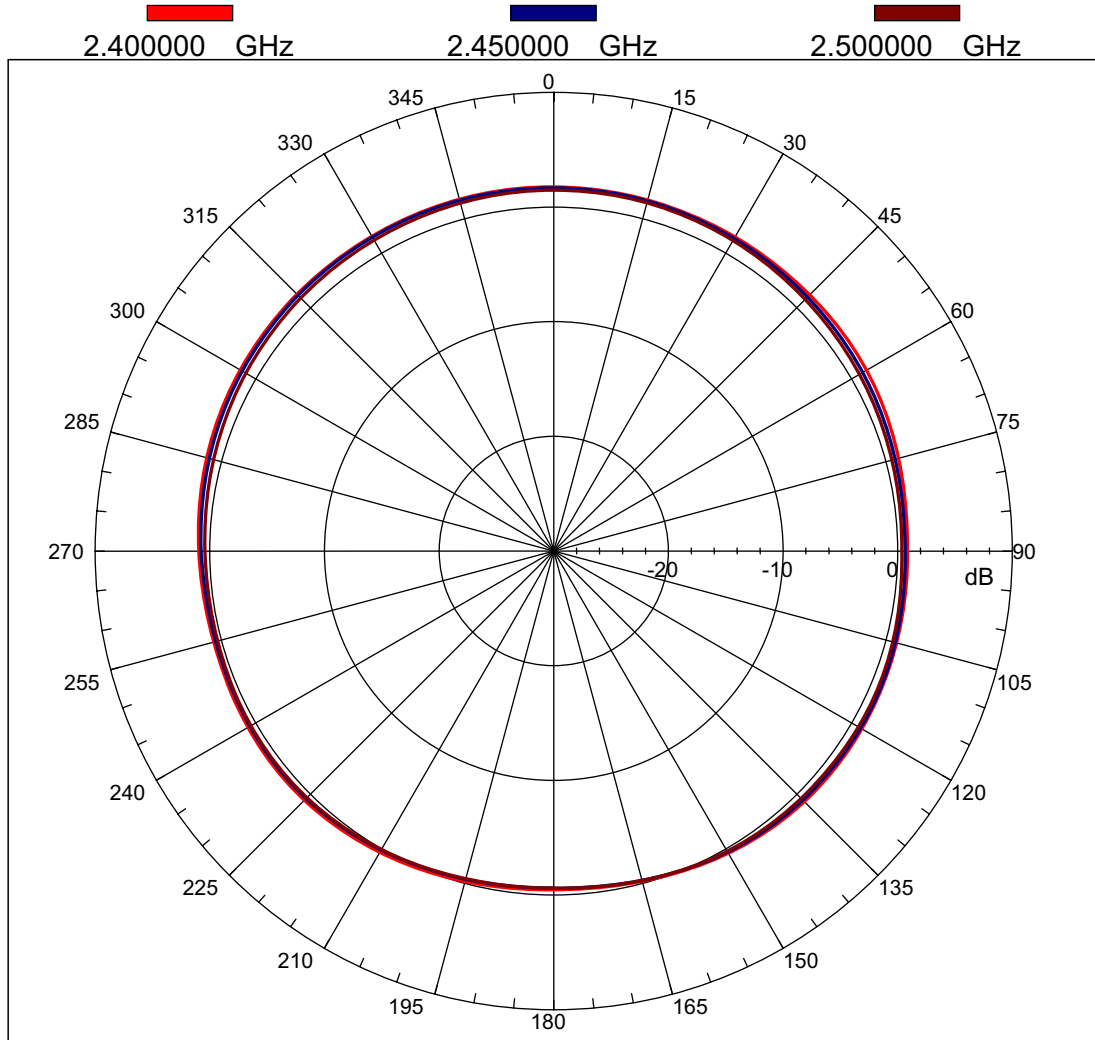
P/No. C037-510960-A SSR-90104 Spec:2.4~2.5GHz



Far-field amplitude of C037-510960-A SSR-90104 E-PLANE.nsi



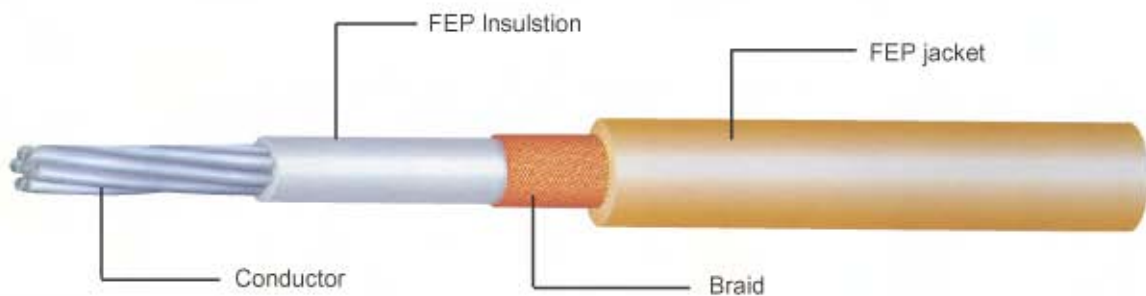
Far-field amplitude of C037-510960-A SSR-90104 H-PLANE.nsi



RG178B/U , RG179/U , RG316/U High Frequency Coaxial Cable

Applications

Application include mobile phone, PC and peripherals, home appliances, PDA, digital still camera, GPS, network access device, Video/audio equipment, security equipment, medical equipment, lighting equipment, Remote control, wrist watch, carphone, hands-free voice-controlled device, broadcast equipment, identification card, shopping mall information, etc.



SPECIFICATION

- Conductor : Silver coated copper clad steel
- Insulation : FEP Teflon
- Braid : Silver coated copper
- Jacket : FEP Teflon
- Jacket Thickness : 0.25 ~ 0.62mm
- Temperature Range : -70°C~200°C
- Voltage Rating : 30V

Feature

- Continuous working temperature range : -70°C~200°C
- Resistant to Solvents , chemicals , gasoline and radiation.
- High Dielectric Strength permits extremely fast transmission and
- Minimal signal distortion
- Tough flexible resistant to crush , abrasion.

Style	Conductor		Insulation	Braid	Jacket	Capacitance (pF/ft)	Impedance (ohms)	VSWR (max.)	
	AWG	No./AWG Strands	Diameter (mm)	Coverage (%)	Diameter (mm)			Frequency(Hz)	
						3G	6G		
RG-178B/U	30	7×38	0.86	95	1.8	29	50	1.2	1.3
RG-179/U	30	7×38	1.58	95	2.54	19.5	75	1.2	1.3
RG-316/U	26	7×34	1.53	95	2.52	29	50	1.2	1.3

505960018180G		
ANTENNA 6G THW1818A1 L=113MM		
	THW1818A1	
02-22988066#481		
CAS-731		
	<p style="text-align: center; color: red; font-size: 48px; transform: rotate(-30deg); opacity: 0.5;">REFERENCE ONLY</p> <p style="text-align: right; margin-top: 200px;">N/A</p> <p style="text-align: right; margin-top: 20px;">2007/01/19 15:26:22</p>	
		2007/01/19 21:18:14

承 認 書
SPECIFICATION FOR APPROVAL

客 戶
CUSTOMER

明泰科技股份有限公司

日 期
DATE

2007 / 01 / 09

品 名
DESCRIPTION

Mini 1.13 Cable Assembly (L=113)
With RP-SMA Bulkhead Jack & MHF

客 戶 料 號
CUSTOMER P/N

成 品 編 號
Part NO.

THW1818A1

(符合環保材)



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

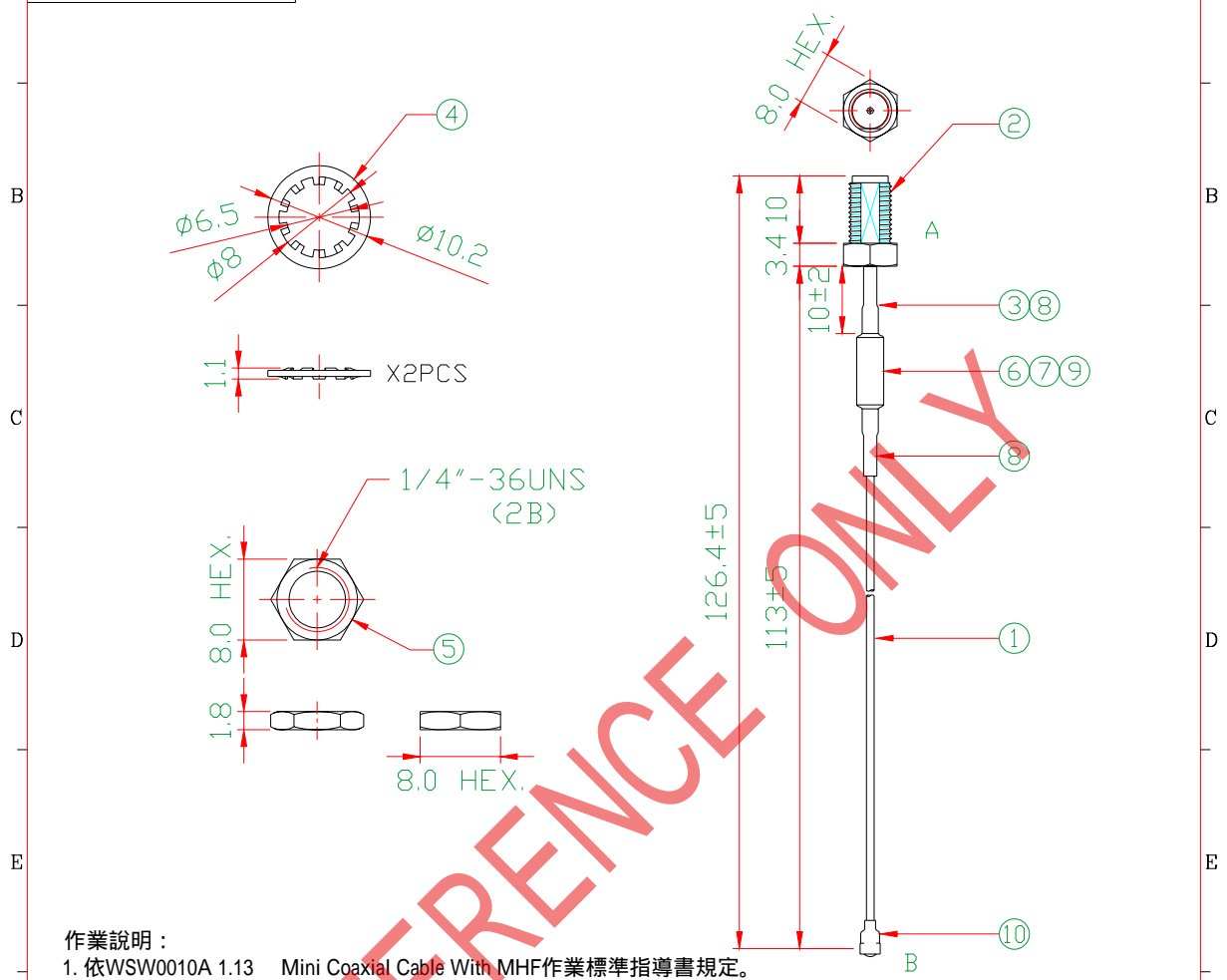
Table of Contents

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Drawing	3
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Return Loss	4
V.S.W.R	5
Attenuation	6
Material Sheet	
Mini 1.13 Coaxial Cable	7-9
RP-SMA Bulkhead Jack	10
MHF Connector	11-14
EMI Sleeve Core	15-17

SPECIFICATION

1. Description : Mini 1.13 Cable Assembly
With RP-SMA Bulkhead Jack & MHF
2. Customer : 明泰科技股份有限公司
3. Part No. : THW1818A1
4. Coaxial Length : 113mm (see Drawing)
5. Electrical Characteristics
 - Operating Frequency : 1~6 GHz
 - Impedance : 50 Ohm nominal
 - Attenuation. : -2.0dB Max.
6. Mechanical Characteristics
 - Connector : RP-SMA Bulkhead Jack
: MHF
7. Raw Material
 - Coaxial Cable : Mini 1.13
 - Core : K5A RH 4*10*2

TOLERANCES:		版次	修訂日期	ECR NO.	作成	設計變更內容簡述
X	±1.0					
X.X	±0.6					
X.XX	±0.2					
ANGULAR	±5.0°					



作業說明：

- 依WSW0010A 1.13 Mini Coaxial Cable With MHF作業標準指導書規定。
依據 AQ-0010A QC管理工程圖,執行品質管制。
- 依WSW0063A Bulkhead SMA組立作業標準指導書規定。
依據 AQ-0063A QC管理工程圖,執行品質管制。
- 鐵粉芯組立組立, 依照WSW0009 EMI Sleeve Core 組立作業指導書規定製作。

包裝方式：

- 成品每100pcs包一袋,內附螺帽1包(100pcs/包)及止滑華司2包(100pcs/包)。

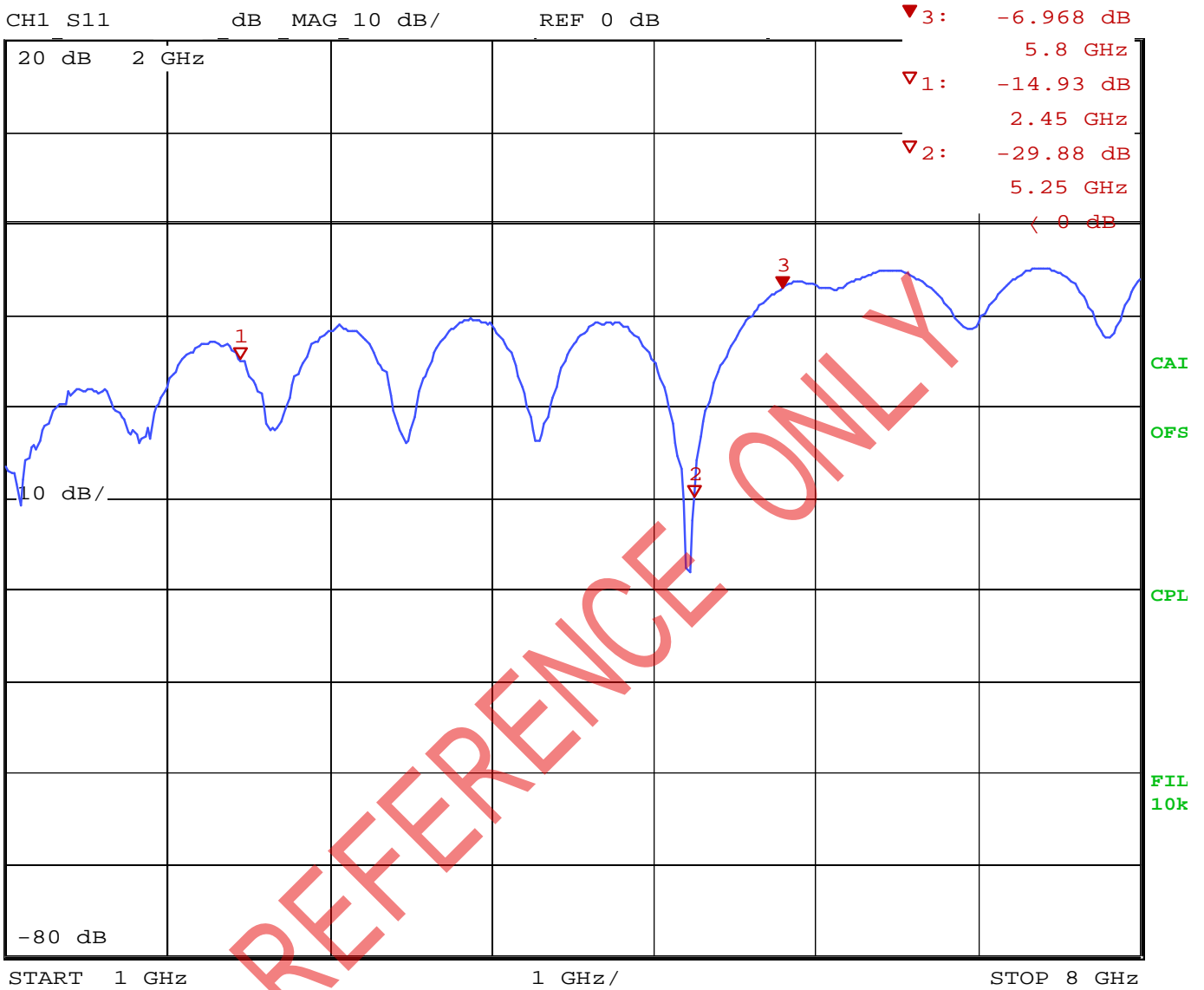
10	MHF Connector	272027811R13JP	@20278-111R-13 (I-PEX)	金		1	或同級品
9	熱縮套管	53A401002000BC	@F34 1.0 黑 L=20mm	黑		1	或同級品
8	熱縮套管	53A402501000BC	@F34 2.5 黑 L=10mm	黑		2	或同級品
7	熱縮套管	53A404002000BC	@F34 4.0 黑 L=20mm	黑		1	或同級品
6	EMI Sleeve Core	3040020100A0CG	@ K5A RH4*2*10	黑		1	或同級品
5	螺帽	B02892200502A5	@028922005 Nut Bulkhead Reverse SMA	金		1	或同級品
4	止滑華司	B02892200501A5	@028922005 Washer Bulkhead Reverse SMA	金		2	或同級品
3	SMA Bulkhead 連接軸	B0270B00000TVD	@0270B SMA Bulkhead For 1.13 連接軸	金		1	或同級品
2	RP SMA Bulkhead Jack 本體	B0376A00000VVD	@0376A RP-SMA Bulkhead Jack-10L For 1.13	金		1	或同級品
1	MINI 1.13 Coaxial Cable	B1MINI113A80AE	@MINI OD:1.13灰 GY-193 鍍錫編織(萬泰)	淺灰	118	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：2007/01/09		承認圖號	
頁數：1/1	核准	審查	作成	品名	
第三角法	Ryan	郭慧純	易姿岑	Mini 1.13 Cable Assembly with MHF (L=113)	
單位：mm				成品編號	
比例：FREE				THW1818	REV A

萬旭電業股份有限公司 50 文件編號：FMT-0513-D7

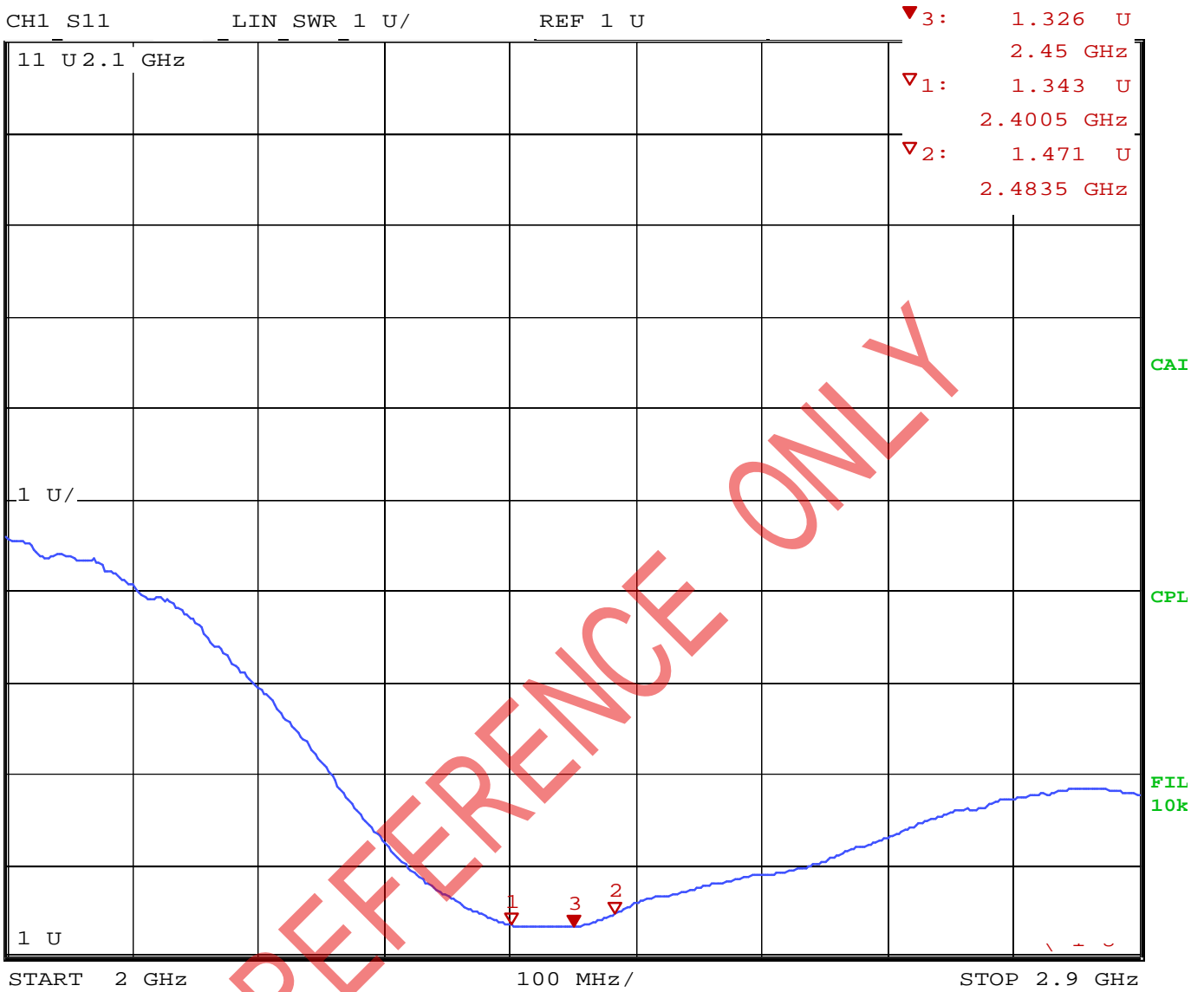
Electrical Characteristic

Return Loss



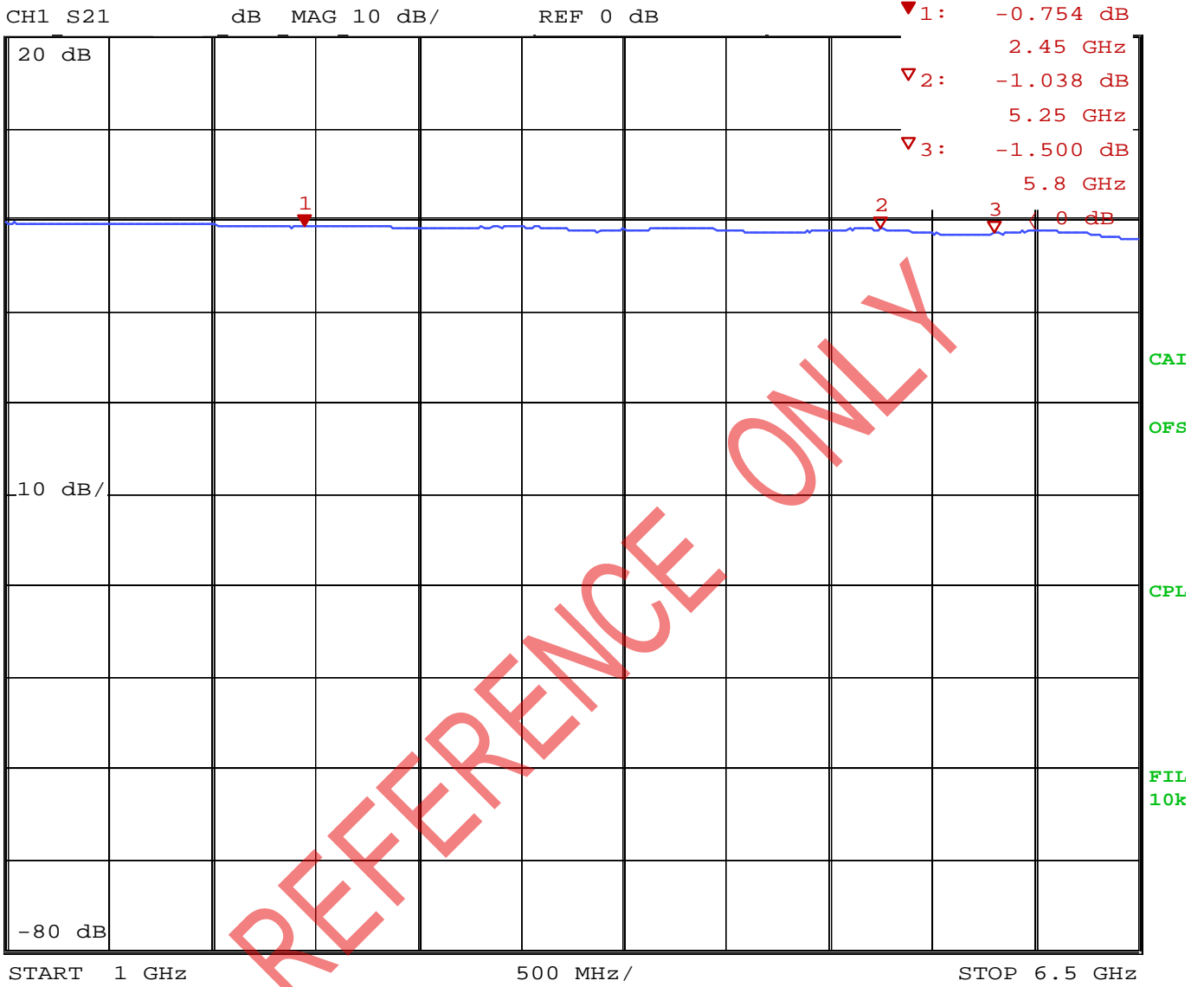
Electrical Characteristic

V.S.W.R



Electrical Characteristic

Attenuation



Material Data Sheet

Mini-1.13 Coaxial Cable

SPECIFICATION FOR APPROVAL

DOCUMENT: A3132TS001

STYLE : COAXIAL CABLE
105°C 30V

SIZE: 32AWG×1C
BRAID : TS

RECOGNIZED: UL 1979



WONDERFUL HI-TECH 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.

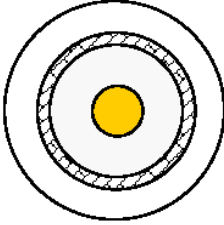
TEL : (02)22988033

TEL : (03)4527777

FAX : (02)22988031-2

FAX : (03)4517214

 **WONDERFUL HI-TECH CO., LTD.**
SPECIFICATION

STYLE	105°C 30V UL 1979	DOCUMENT NO : A3132TS001	
SIZE	32AWG	ESTABLISHED DATE: 2005/05/11	
STANDARD :			
Conductor	Size	AWG	32
	Material	----	Silver Cover Copper
	Conductors No.	----	7
	Conductors Size	mm	0.080
	O.D.	mm	0.240
Insulation	Average Thickness	mm	0.22
	Diameter	mm	0.68 ± 0.02
	Material	----	FEP
	Color	----	Clear
Braid	Material	----	Tinned Copper
	Construction	mm	16 / 4 / 0.050
	Coverage	%	90
Jacket	Average Thickness	mm	0.13
	Diameter	mm	1.13 ± 0.05
	Material	----	FEP
	Color	----	According to custom
Marking	Non		
Drawing			

AK001/210X297/1.0

PAGE : 1

EDITION : 1.1

MAKER : C.Y.CHEN

CONFIRM : S.N.WONG

APPROVAL : W.J.WANG

 **WONDERFUL HI-TECH CO., LTD.**
SPECIFICATION

Electrical & Physical Properties					
Item		32AWG			
Rating Temp Voltage		105°C 30V			
Conductor Resistance		545 OHM/KM/20°C MAX.			
Insulation Resistance		1000 MEGA OHM/KM MIN.			
Dielectric Strength		AC 500 V/Minute			
Spark Test		2.5 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°C)		
		Elongation	UNAGED MIN. 75%(168HRS×232°C)		
Jacket	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / m m ²)		
		Elongation	200% MIN.		
	Aged	Tensile Strength	UNAGED MIN.75%(168HRS×232°C)		
		Elongation	UNAGED MIN.75%(168HRS×232°C)		
Nom. Impedance		50 ± 3 Ohms			
Nom. Capacitance		96 ± 3 pF/m			
Nom. Vel. of Prop.		69%			
VSWR Test (0 – 6 GHZ)		Less 1.3			
Flame Test		VW-1 OK			
Attenuation (dB/1m)	2.0GHZ	2.4GHZ	2.5GHZ	5.0GHZ	6.0 GHZ
	2.80	3.10	3.15	4.85	5.20

AK001/210X297/1.0

PAGE : 2

EDITION : 1.1

MAKER : C.Y.CHEN

CONFIRM :S.N.WONG

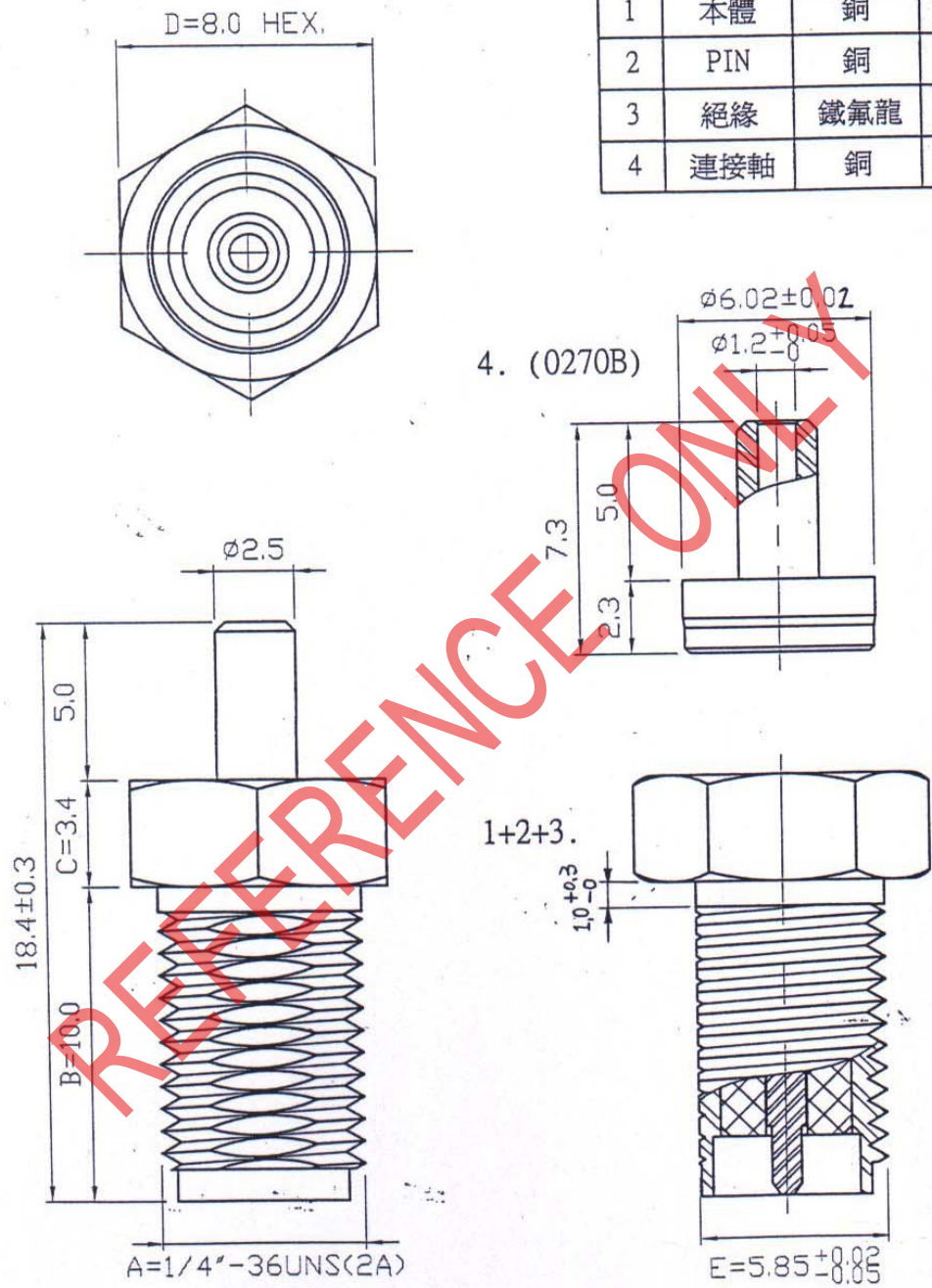
APPROVAL : W.J.WANG

Material Data Sheet

RP-SMA Bulkhead Jack

圖號 0376A

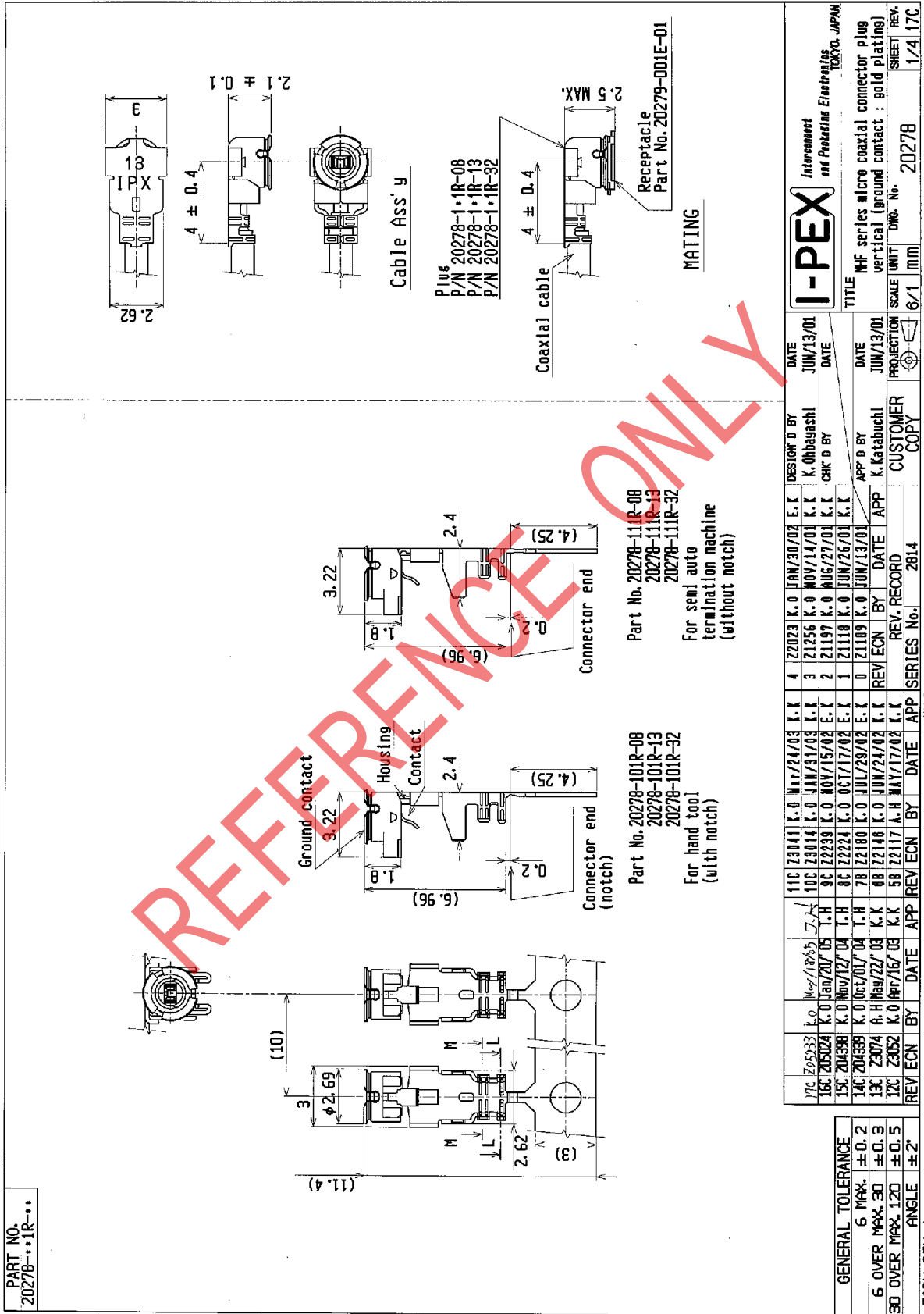
主件品名材質一覽表			
項次	品名	材質	處理
1	本體	銅	鍍金
2	PIN	銅	鍍金
3	絕緣	鐵氟龍	白色
4	連接軸	銅	鍍金



REV DESCRIPTION	UNIT: MM	MATERIAL:	NAME: RP-SMA Bulkhead Jack-10L For 1.13
△ x	SCALE: 5/1	FINISH:	PART NO: 0376A-承認書圖
△ x	TOLERANCES:	DRAWN:	DATE: 06.21.2004 REV: 01
△ x	X ±0.15	DESIGN:	
△ x	X.X ±0.1	APPROVE:	
△ x	X.XX ±0.05		
△ x	ANGULAR ±1.0°		

Material Data Sheet

MHF Connector

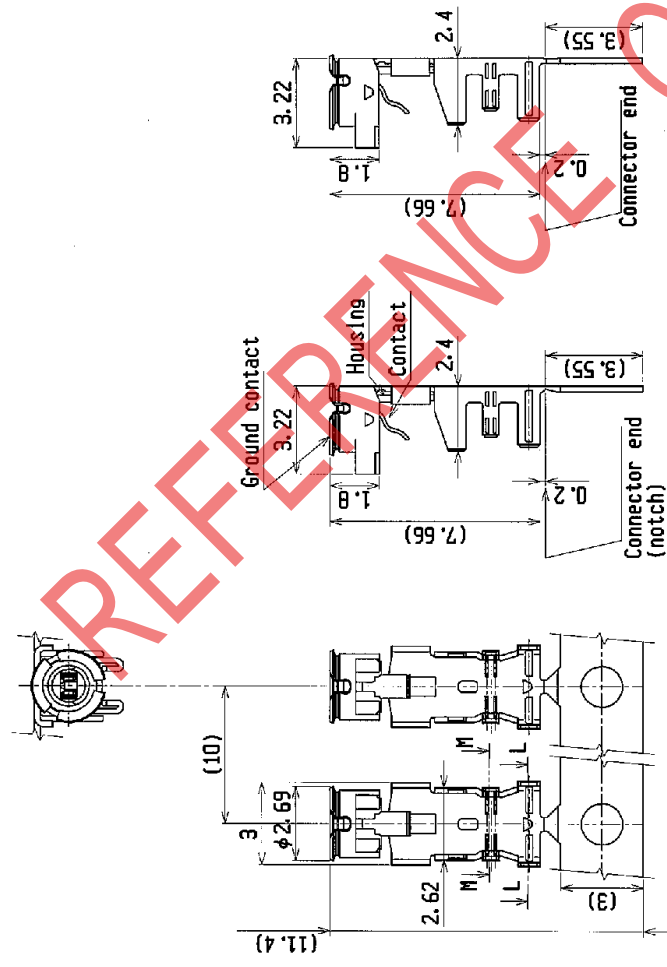
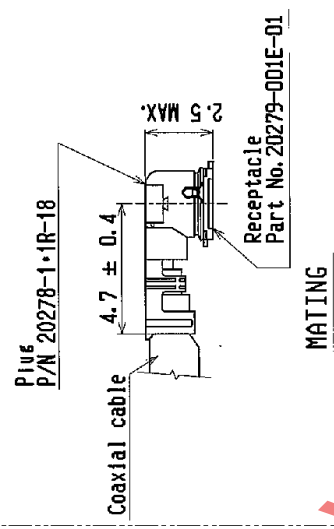
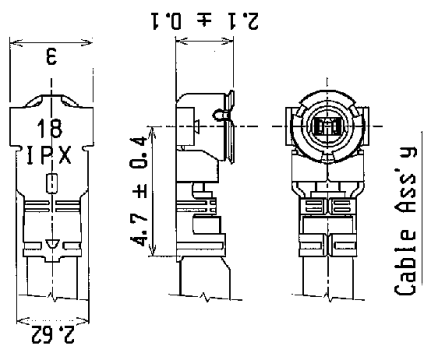


PART NO.
2027B-...1R-...

REV	ECN	BY	DATE	APP	RECORD	BY	DATE	APP	SERIES No.
17C	205033	K.O.	May/18/05						
16C	205024	K.O.	Jan/20/05	T.H.					
15C	204398	K.O.	Nov/12/04	T.H.					
14C	204399	K.O.	Oct/01/04	T.H.					
13C	23074	R.H.	Mar/22/03	K.K.					
12C	23052	K.O.	Apr/16/03	K.K.					

FORM REV. 4

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



Part No. 20278-141R-1B
For semi auto
termination machine
(without notch)

Part No. 20278-101R-1B
For hand tool
(with notch)

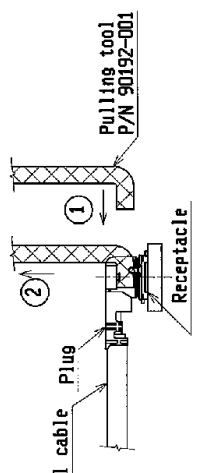
I-PEX		Interconnect and Photothe Electronics TOKYO, JAPAN	
TITLE		MF series micro coaxial connector plug vertical (ground contact : gold plating)	
DESIGN D BY	DATE	PROJECTION	SCALE UNIT
CHK D BY	DATE	6/1	mm
APP D BY	DATE	CUSTOMER	DWG. No. 20278
REV ECN	BY	DATE	APP
REV. RECORD		2814	
SERIES No.			
CUSTOMER COPY		SHEET REV. 2/4,17C	

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

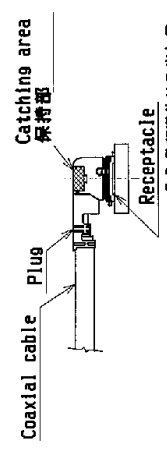
FORM REV. 4

5-2 コネクタ抜き挿し

(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.



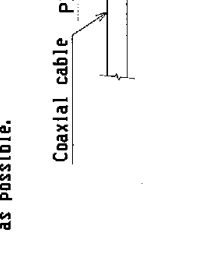
5-3 Crimp over standards of outer conductor
Standards: Less than 10% from total numbers of outer conductor (Numbers of outer conductor's crimp over from outer conductor's barrel)

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.

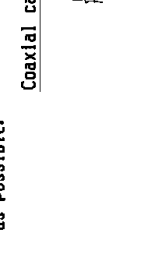
6. This is 'Pb-free' connector.

5-2 コネクタ抜き挿し

(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.



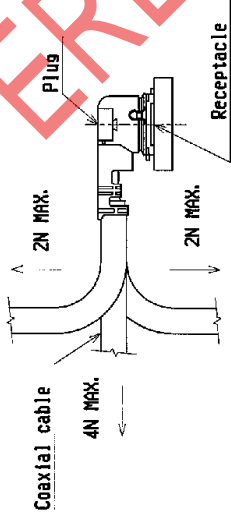
5-3 Crimp over standards of outer conductor
Standards: Less than 10% from total numbers of outer conductor (Numbers of outer conductor's crimp over from outer conductor's barrel)

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.

6. This is 'Pb-free' connector.

Notes

- Material
(1) Housing : PBT, UL94V-0
(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.
- Packing : reel
- Mating partner part No.
: 20279-001E-01
- Permissible load of cable at mating



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. コネクタの抜き挿し方法の注意

5-1. コネクタ挿入時
PlugとReceptacleの軸を合わせ、直線的に挿入して下さい。
コネクタの抜き挿し角度が大きすぎると、コネクタが壊れる原因となりますので、過度な斜め抜き挿しは行わないで下さい。

- 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.
- 梱包 : リール
- 組立相手 Part No.
: 20279-001E-01
- コネクタの抜き挿し時のケーブルに対する荷重

DESIGN D BY		DATE	I-PEX Interconnect and Passive Electronics TOKYO, JAPAN	
CHK'D BY		DATE	TITLE	
APP'D BY		DATE	MHF series micro coaxial connector plug vertical (ground contact : gold plating)	
REV. ECN	BY	DATE	APP	PROJECTION SCALE UNIT
REV. RECORD	2814			1/1 (mm)
SERIES No.	20278	DMG. No.	20278	SHEET REV.
				4/4, 17C

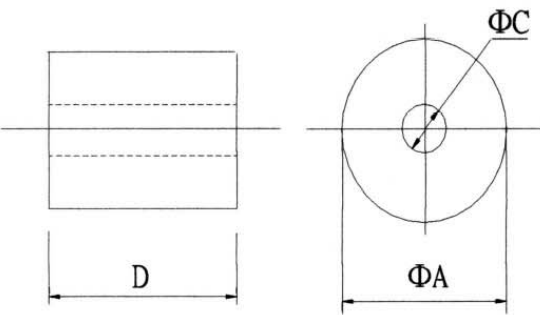
WAS T

FORM REV. 4

Material Data Sheet

EMI Sleeve Core

SPECIFICATION FOR APPROVAL

CUSTOMER: 萬旭電業股份有限公司		CUS' S P/N:		DATE: 2003/10/9	
ITEM: K5A RH 4X2X10		REF NO:10-13-040020100-0			
(1) DIMENSION (Unit:mm)		A	4.00	+ -	0.20 mm
				+ -	mm
		C	2.00	+ -	0.15 mm
		D	10.00	+ -	0.40 mm
				+ -	mm
				+ -	mm
				+ -	mm
				+ -	mm
				+ -	mm
				+ -	mm
(2) ELECTRICAL REQUIREMENTS:				+ -	mm
		TEST FREQ	REMARK:		
		TEST FREQ			
Z	35 - 0 Ω	TEST FREQ	25 MHz		
Z	60 - 0 Ω	TEST FREQ	100 MHz		
		TEST FREQ			
COIL DATA	Qo= Lo=	PF	TEST FREQ		
Winding 0.65 Φ X 63 mm T.C.W 1 TS					
(3) TEST INSTRUMENTS					
1. IMPEDANCE ANALYZER: HP4191A					
DRAWN	CHECKED	APPROVED	ISSUE NO.		
DATE	DATE	DATE	WC-RH-039		

佳真股份有限公司
CORE-TECH CORPORATION

TEL: 03-4861211
FAX: 03-4861210

INSPECTION DATA

ISSUE NO:WC-RH-039

CUSTOMER	萬旭電業股份有限公司			DATE	2003/10/9	Quantity	0	pcs					
PART NO.	10-13-040020100-0												
ITEM	K5A RH 4X2X10												
COIL SPEC	0.65 Φ X 63 mm T.C.W 1 TS												
COIL DATA	Q0=	CO=	(PF)										
TEST FREQ	F0=	Hz	Ft= 25,100 MHz										
TEMPERATURE	28 °C	Humidity	87 %										
ELECTRIC CHAREC.				DIMENSION(Unit:mm)									
	L	Q	Z(25)	Z(100)	A	B	C	D	E	F	G	H	I
SP			35.00	60.00	4.00		2.00	10.00					
+					0.20		0.15	0.40					
-			0	0	0.20		0.15	0.40					
1			45.00	82.00	3.96		2.02	9.95					
2			47.00	84.00	3.93		2.03	9.98					
3			46.00	82.00	3.92		2.09	9.96					
4			47.00	82.00	3.91		2.03	9.98					
5			45.00	81.00	3.95		2.08	9.96					
6			46.00	80.00	3.93		2.05	10.00					
7			46.00	81.00	3.95		2.03	10.02					
8			46.00	81.00	3.93		2.07	9.95					
9			46.00	80.00	3.92		2.09	9.93					
10			45.00	82.00	3.96		2.05	9.97					
X			45.90	81.50	3.94		2.05	9.97					
R			2.00	4.00	0.05		0.07	0.09					
TEST INSTRUMENTS				INSP No:									
1. IMPEDANCE ANALYZER: HP4191A													
REMARK:	Inspected		Checked		Approved								

CORE-TECH CORPORATION

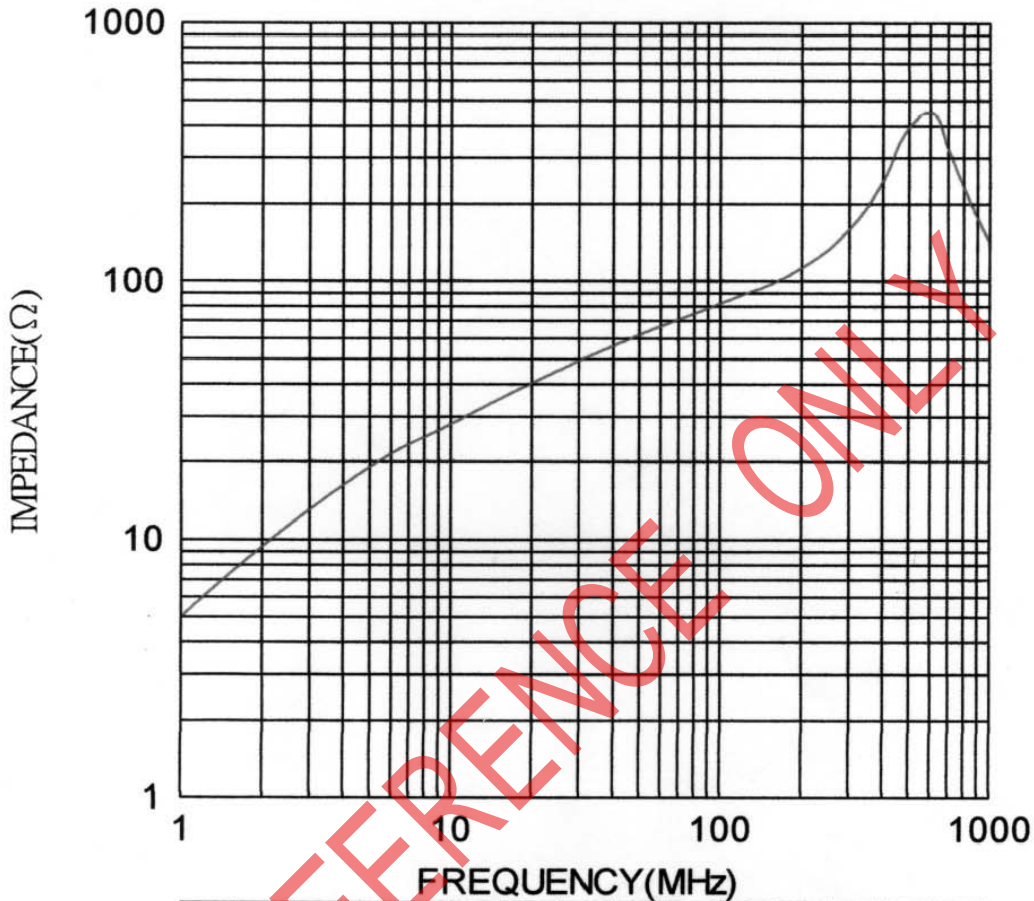
TEL:03-4861211
FAX:03-4861210

Z-F RESPONSE

K5A RH 4X2X10

1. TEST INSTRUMENT:HP4191A

2. WINDING:0.65ΦX63 mm T.C.W 1TS



	1	5	10	25	50	100	200	300	400	500	600	700	800	900	1000
Z—	5	19	28	45	62	82	113	160	244	392	452	322	229	176	141

(DATA BETWEEN 500MHz AND 1000MHz ARE FOR REFERENCE ONLY)

CORE-TECH CORPORATION

<http://www.coretechweb.com.tw>

E-mail:coretech@tpts1.seed.net.tw

TEL:03-4861211 FAX:03-4861210

505960018180G		
ANTENNA 6G THW1818A1 L=113MM		
	THW1818A1	
02-22988066#481		
CAS-731		
	<p style="text-align: center; color: red; font-size: 48px; transform: rotate(-30deg); opacity: 0.5;">REFERENCE ONLY</p> <p style="text-align: right; margin-top: 200px;">N/A</p> <p style="text-align: right; margin-top: 20px;">2007/01/19 15:26:22</p>	

承 認 書
SPECIFICATION FOR APPROVAL

客 戶
CUSTOMER

明泰科技股份有限公司

日 期
DATE

2007 / 01 / 09

品 名
DESCRIPTION

Mini 1.13 Cable Assembly (L=113)
With RP-SMA Bulkhead Jack & MHF

客 戶 料 號
CUSTOMER P/N

成 品 編 號
Part NO.

THW1818A1

(符合環保材)



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

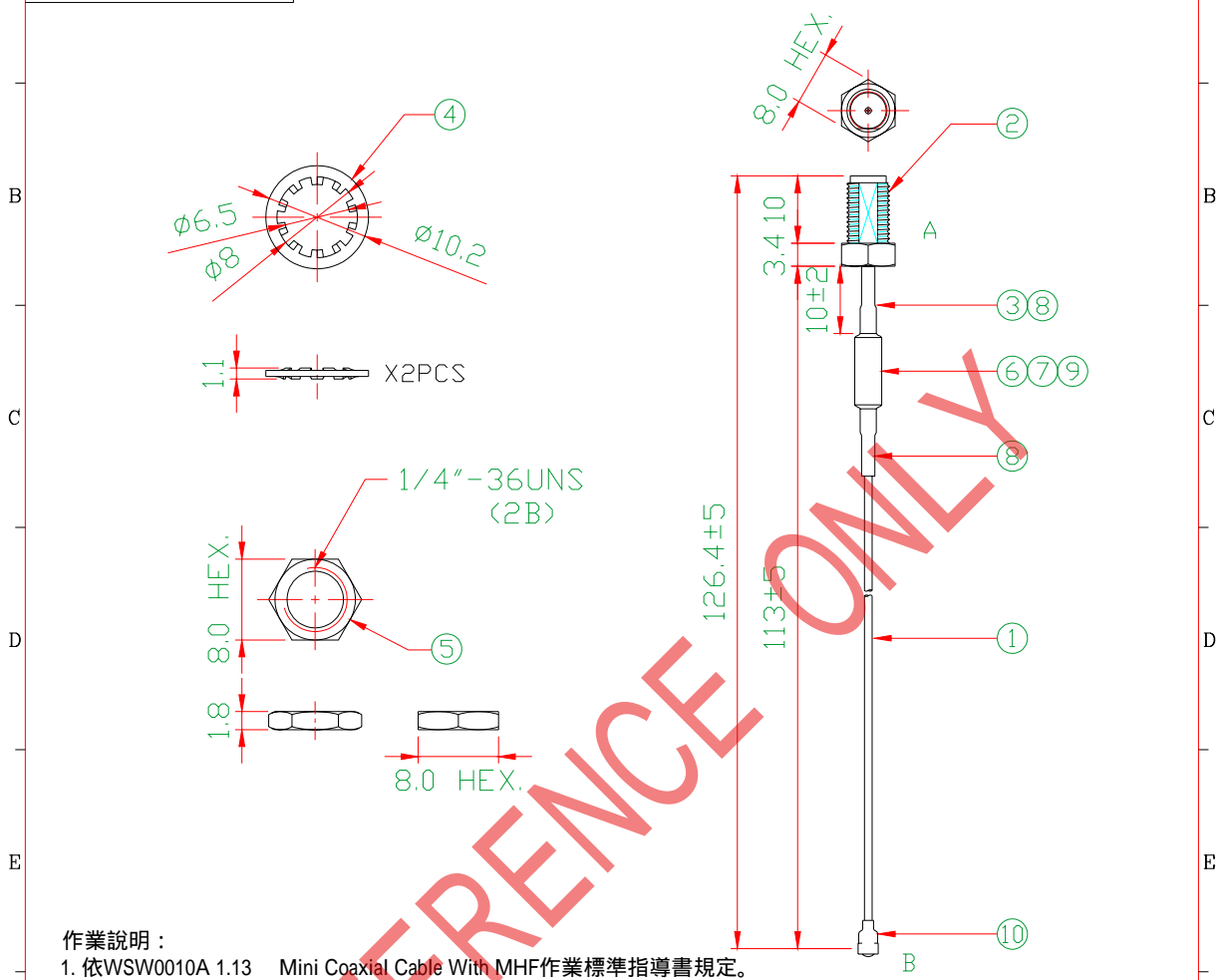
Table of Contents

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Drawing	3
Cable Assembly Electrical Characteristic	
Return Loss	4
V.S.W.R	5
Attenuation	6
Material Sheet	
Mini 1.13 Coaxial Cable	7-9
RP-SMA Bulkhead Jack	10
MHF Connector	11-14
EMI Sleeve Core	15-17

SPECIFICATION

1. Description : Mini 1.13 Cable Assembly
With RP-SMA Bulkhead Jack & MHF
2. Customer : 明泰科技股份有限公司
3. Part No. : THW1818A1
4. Coaxial Length : 113mm (see Drawing)
5. Electrical Characteristics
 - Operating Frequency : 1~6 GHz
 - Impedance : 50 Ohm nominal
 - Attenuation. : -2.0dB Max.
6. Mechanical Characteristics
 - Connector : RP-SMA Bulkhead Jack
: MHF
7. Raw Material
 - Coaxial Cable : Mini 1.13
 - Core : K5A RH 4*10*2

TOLERANCES:		版次	修訂日期	ECR NO.	作成	設計變更內容簡述
X	±1.0					
X.X	±0.6					
X.XX	±0.2					
ANGULAR	±5.0°					



作業說明：

- 依WSW0010A 1.13 Mini Coaxial Cable With MHF作業標準指導書規定。
依據 AQ-0010A QC管理工程圖,執行品質管制。
- 依WSW0063A Bulkhead SMA組立作業標準指導書規定。
依據 AQ-0063A QC管理工程圖,執行品質管制。
- 鐵粉芯組立組立,依照WSW0009 EMI Sleeve Core 組立作業指導書規定製作。

包裝方式：

- 成品每100pcs包一袋,內附螺帽1包(100pcs/包)及止滑華司2包(100pcs/包)。

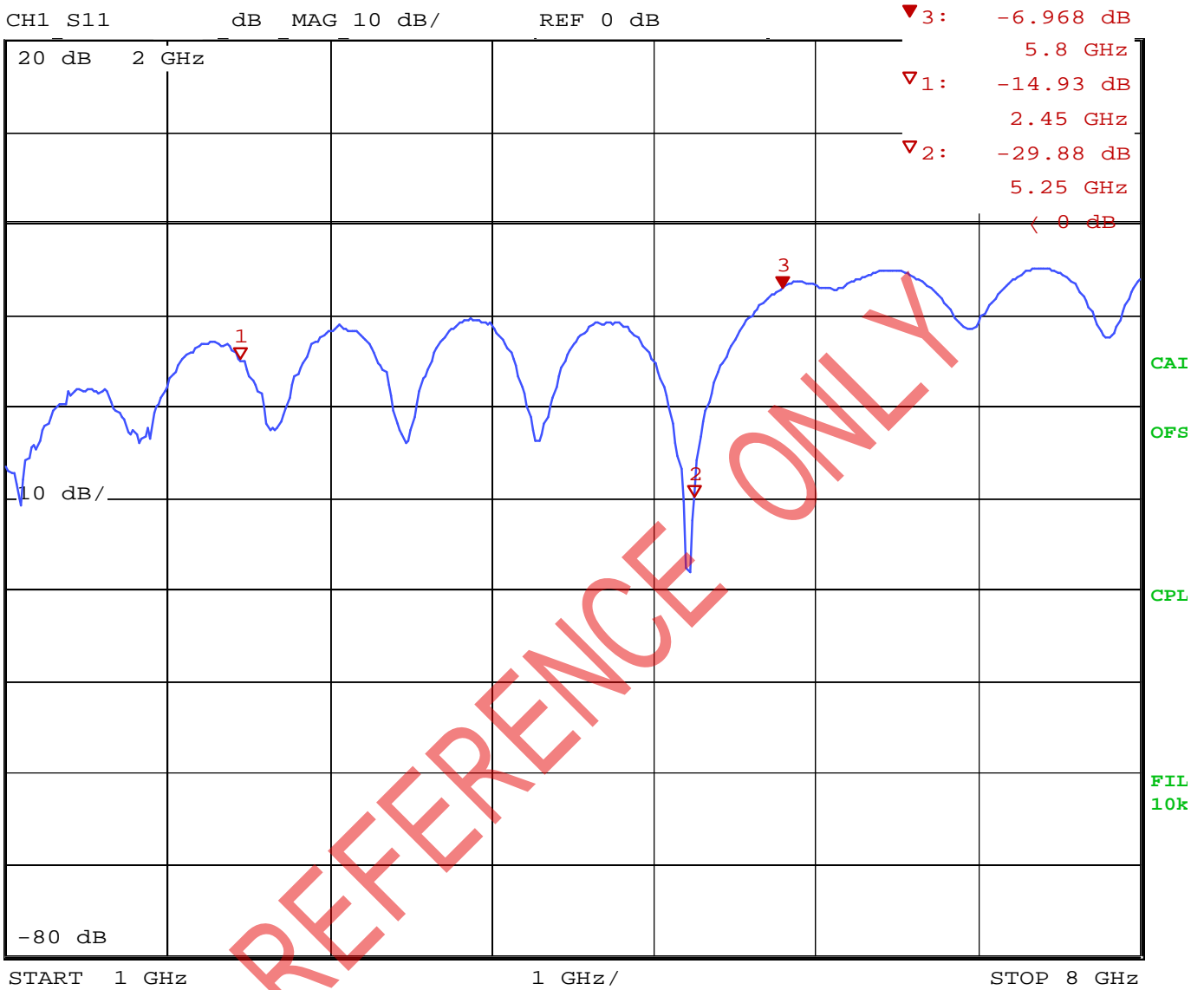
10	MHF Connector	272027811R13JP	@20278-111R-13 (I-PEX)	金		1	或同級品	
9	熱縮套管	53A401002000BC	@F34 1.0 黑 L=20mm	黑		1	或同級品	
8	熱縮套管	53A402501000BC	@F34 2.5 黑 L=10mm	黑		2	或同級品	
7	熱縮套管	53A404002000BC	@F34 4.0 黑 L=20mm	黑		1	或同級品	
6	EMI Sleeve Core	3040020100A0CG	@ K5A RH4*2*10	黑		1	或同級品	
5	螺帽	B02892200502A5	@028922005 Nut Bulkhead Reverse SMA	金		1	或同級品	
4	止滑華司	B02892200501A5	@028922005 Washer Bulkhead Reverse SMA	金		2	或同級品	
3	SMA Bulkhead 連接軸	B0270B00000TVD	@0270B SMA Bulkhead For 1.13 連接軸	金		1	或同級品	
2	RP SMA Bulkhead Jack 本體	B0376A00000VVD	@0376A RP-SMA Bulkhead Jack-10L For 1.13	金		1	或同級品	
1	MINI 1.13 Coaxial Cable	B1MINI113A80AE	@MINI OD:1.13灰 GY-193 鍍錫編織(萬泰)	淺灰	118	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：2007/01/09		承認圖號		
頁數：1/1		核准	審查	品名		
第三角法		Ryan	郭慧純	Mini 1.13 Cable Assembly with MHF (L=113)		
單位：mm				易姿岑	成品編號	
比例：FREE					THW1818	REV
				A	1	

萬旭電業股份有限公司 50 文件編號：FMT-0513-D7

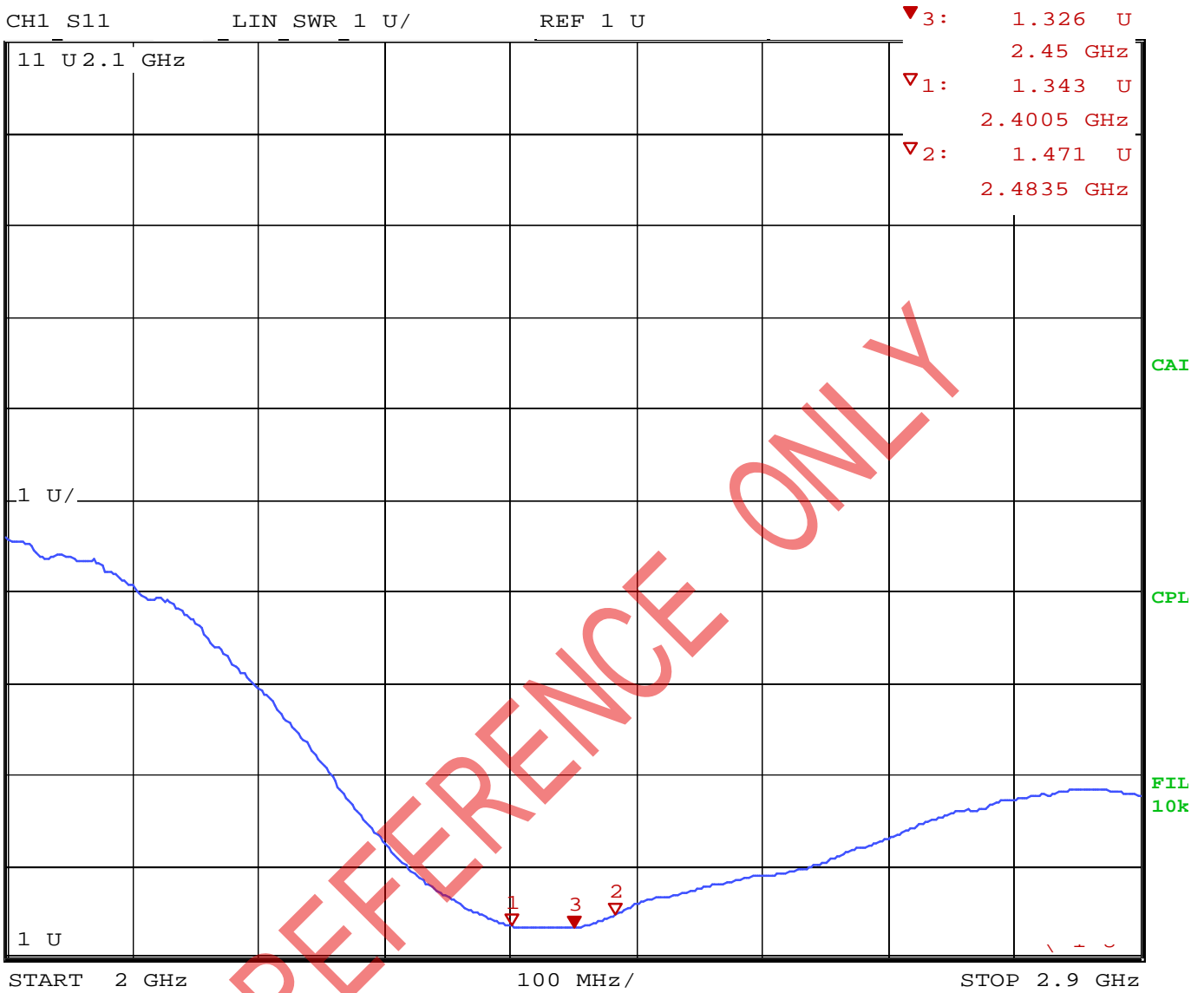
Electrical Characteristic

Return Loss



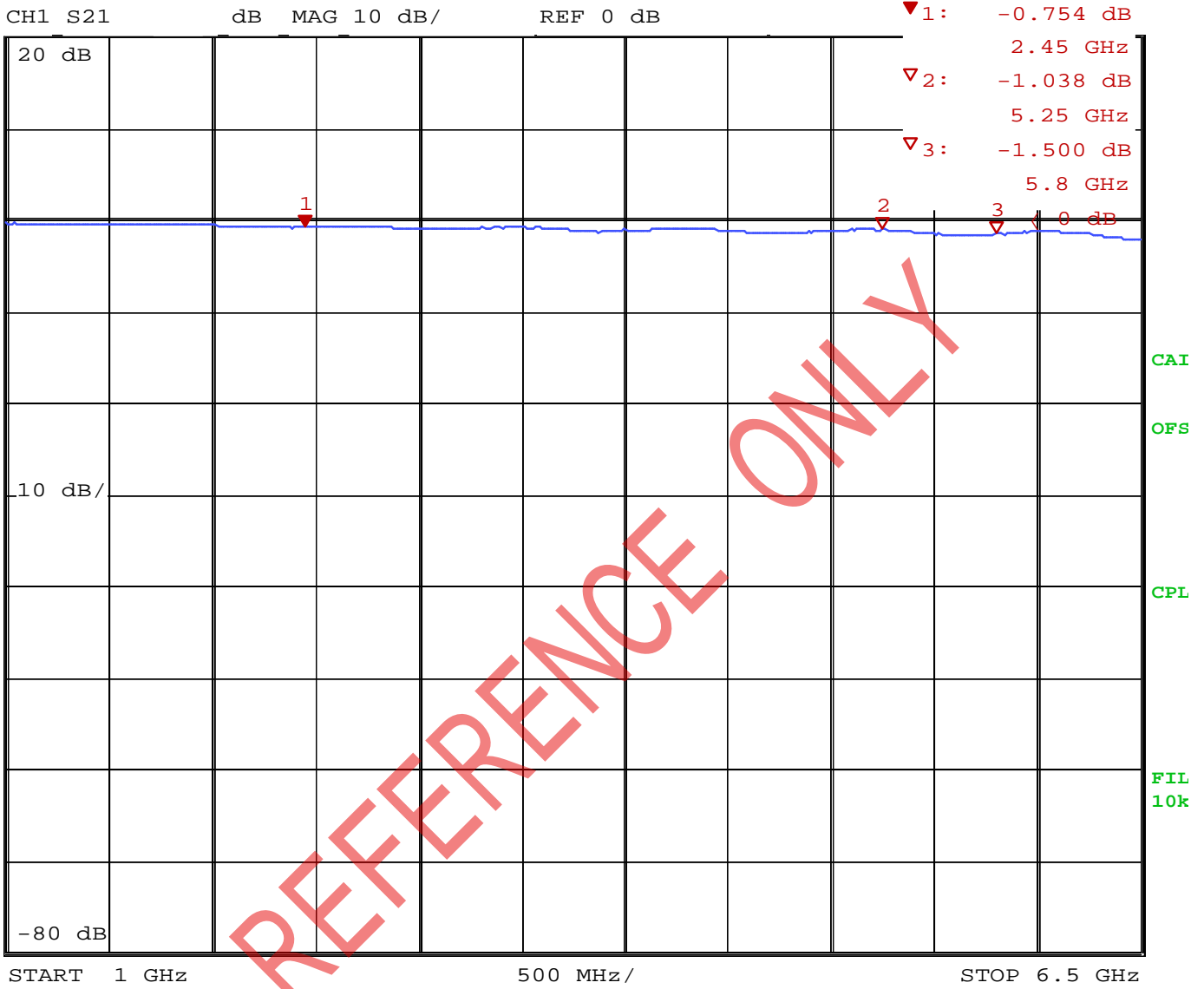
Electrical Characteristic

V.S.W.R



Electrical Characteristic

Attenuation



Material Data Sheet

Mini-1.13 Coaxial Cable

SPECIFICATION FOR APPROVAL

DOCUMENT: A3132TS001

STYLE : COAXIAL CABLE
105°C 30V

SIZE: 32AWG×1C
BRAID : TS

RECOGNIZED: UL 1979



WONDERFUL HI-TECH CO.,LTD.

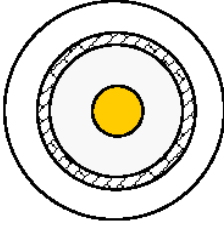
OFFICE : 72WU KONG 6TH ROAD,
WU KU IND. DISTRICT
TAIPEI HSIEN,TAIWAN

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 CO., LTD.**
SPECIFICATION

STYLE	105°C 30V UL 1979	DOCUMENT NO : A3132TS001	
SIZE	32AWG	ESTABLISHED DATE: 2005/05/11	
STANDARD :			
Conductor	Size	AWG	32
	Material	----	Silver Cover Copper
	Conductors No.	----	7
	Conductors Size	mm	0.080
	O.D.	mm	0.240
Insulation	Average Thickness	mm	0.22
	Diameter	mm	0.68 ± 0.02
	Material	----	FEP
	Color	----	Clear
Braid	Material	----	Tinned Copper
	Construction	mm	16 / 4 / 0.050
	Coverage	%	90
Jacket	Average Thickness	mm	0.13
	Diameter	mm	1.13 ± 0.05
	Material	----	FEP
	Color	----	According to custom
Marking	Non		
Drawing			

AK001/210X297/1.0

PAGE : 1

EDITION : 1.1

MAKER : C.Y.CHEN

CONFIRM : S.N.WONG

APPROVAL : W.J.WANG

 **WONDERFUL HI-TECH CO., LTD.**
SPECIFICATION

Electrical & Physical Properties					
Item		32AWG			
Rating Temp Voltage		105°C 30V			
Conductor Resistance		545 OHM/KM/20°C MAX.			
Insulation Resistance		1000 MEGA OHM/KM MIN.			
Dielectric Strength		AC 500 V/Minute			
Spark Test		2.5 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°C)		
		Elongation	UNAGED MIN. 75%(168HRS×232°C)		
Jacket	Unaged	Tensile Strength	2500 PSI MIN.(1.76 Kg / m m ²)		
		Elongation	200% MIN.		
	Aged	Tensile Strength	UNAGED MIN.75%(168HRS×232°C)		
		Elongation	UNAGED MIN.75%(168HRS×232°C)		
Nom. Impedance		50 ± 3 Ohms			
Nom. Capacitance		96 ± 3 pF/m			
Nom. Vel. of Prop.		69%			
VSWR Test (0 – 6 GHZ)		Less 1.3			
Flame Test		VW-1 OK			
Attenuation (dB/1m)	2.0GHZ	2.4GHZ	2.5GHZ	5.0GHZ	6.0 GHZ
	2.80	3.10	3.15	4.85	5.20

AK001/210X297/1.0

PAGE : 2

EDITION : 1.1

MAKER : C.Y.CHEN

CONFIRM :S.N.WONG

APPROVAL : W.J.WANG

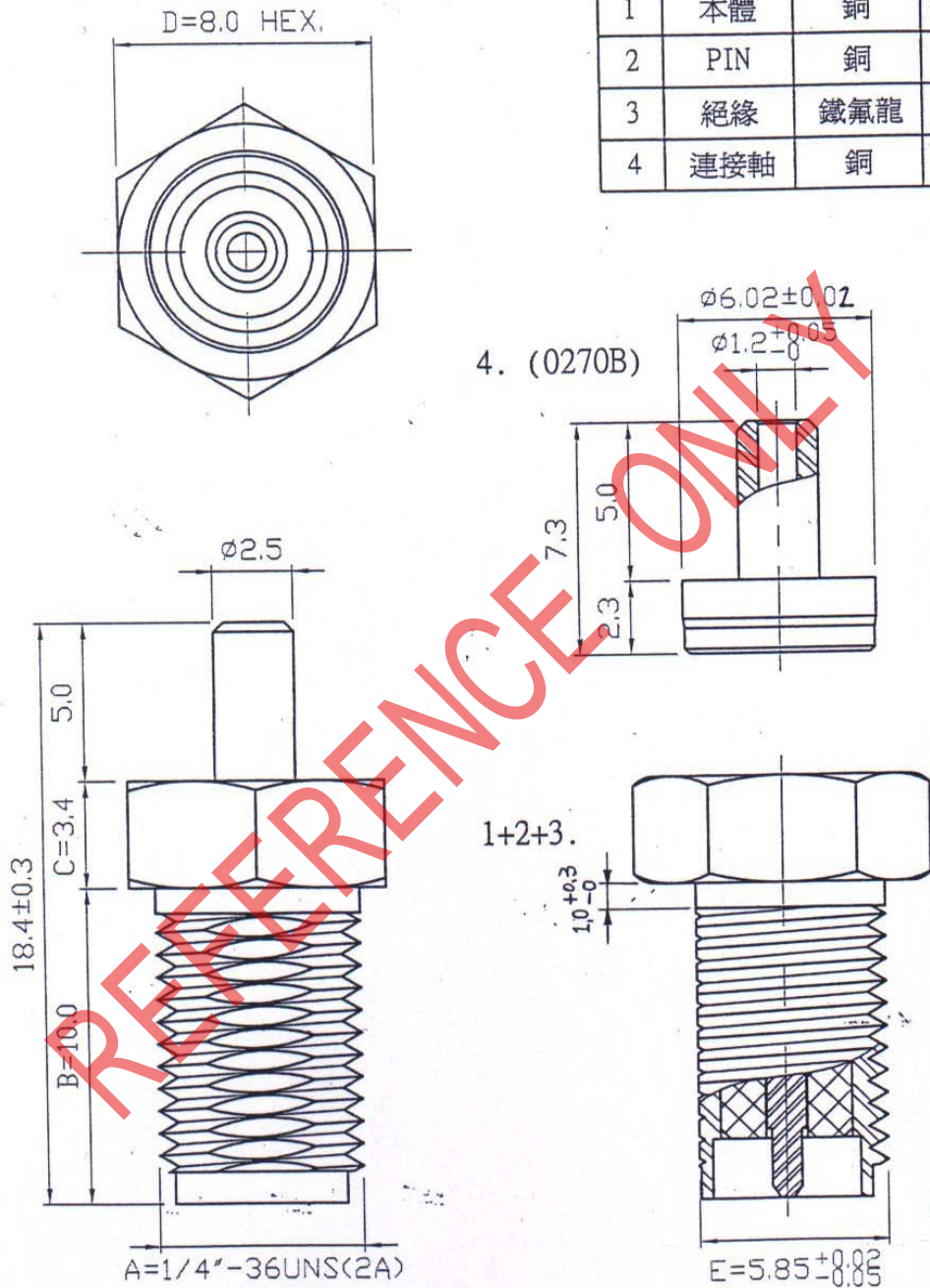
Material Data Sheet

RP-SMA Bulkhead Jack

圖號 0376A

主件品名材質一覽表

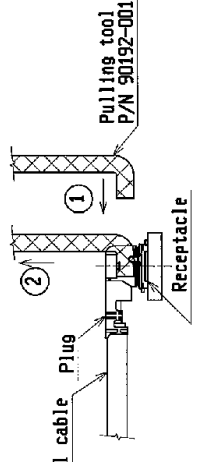
項次	品名	材質	處理
1	本體	銅	鍍金
2	PIN	銅	鍍金
3	絕緣	鐵氟龍	白色
4	連接軸	銅	鍍金



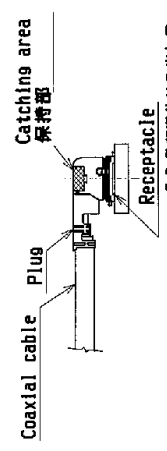
REV DESCRIPTION	UNIT: MM	MATERIAL:	NAME: RP-SMA Bulkhead Jack-10L For 1.13
△ x	SCALE: 5/1	FINISH:	PART NO: 0376A-承認書圖
△ x	TOLERANCES: X ±0.15 X.X ±0.1 X.XX ±0.05 ANGULAR ±1.0°	DRAWN:	DATE: 06.21.2004 REV: 01
△ x		DESIGN:	
△ x		APPROVE:	

5-2 コネクタ抜き挿し

(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.



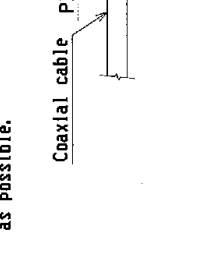
5-3 Crimp over standards of outer conductor
Standards: Less than 10% from total numbers of outer conductor (Numbers of outer conductor's crimp over from outer conductor's barrel)

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.

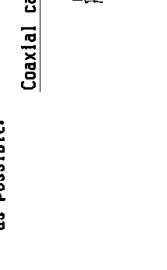
6. This is 'Pb-free' connector.

5-2 コネクタ抜き挿し

(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.



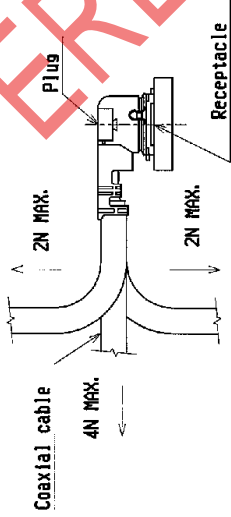
5-3 Crimp over standards of outer conductor
Standards: Less than 10% from total numbers of outer conductor (Numbers of outer conductor's crimp over from outer conductor's barrel)

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.

6. This is 'Pb-free' connector.

Notes

- Material
(1) Housing : PBT, UL94V-0
(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.
- Packing : reel
- Mating partner part No.
: 20279-001E-01
- Permissible load of cable at mating



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. コネクタの合着および抜き挿しの注意

5-1 コネクタ挿入時
PlugとReceptacleの合着を合わせ、直線的に挿入して下さい。
コネクタの合着に斜角を付けると、コネクタの破損の原因となりますので、過度な斜角は行わないで下さい。

- 材料
(1) ハウジング : PBT, UL94V-0
(2) コンタクト
リハブ
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
リハブ
金メッキ0.05μm MIN.
下地 ニッケル1.27μm MIN.
- 梱包 : リール
- 合着相手 Part No.
: 20279-001E-01
- コネクタの合着時のケーブルに対する荷重

DESIGN D BY		DATE	I-PEX Interconnect and Passive Electrodes TOKYO, JAPAN	
CHK'D BY		DATE	TITLE	
APP'D BY		DATE	MHF series micro coaxial connector plug vertical (ground contact : gold plating)	
REV ECN	BY	DATE	APP	PROJECTION SCALE UNIT
REV	RECORD	2814	COPY	MM
SERIES No.			CUSTOMER	DMG. No.
			20278	20278
				SHEET REV.
				4/4, 17C

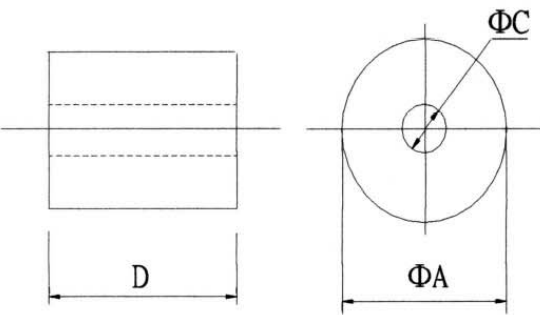
WAS T

FORM REV. 4

Material Data Sheet

EMI Sleeve Core

SPECIFICATION FOR APPROVAL

CUSTOMER: 萬旭電業股份有限公司		CUS' S P/N:		DATE: 2003/10/9	
ITEM: K5A RH 4X2X10		REF NO:10-13-040020100-0			
(1) DIMENSION (Unit:mm)		A	4.00	+ -	0.20 mm
				+ -	mm
		C	2.00	+ -	0.15 mm
		D	10.00	+ -	0.40 mm
				+ -	mm
				+ -	mm
				+ -	mm
				+ -	mm
				+ -	mm
				+ -	mm
(2) ELECTRICAL REQUIREMENTS:				+ -	mm
		TEST FREQ	REMARK:		
		TEST FREQ			
Z	35 - 0 Ω	TEST FREQ	25 MHz		
Z	60 - 0 Ω	TEST FREQ	100 MHz		
		TEST FREQ			
COIL DATA	Qo= Lo=	PF	TEST FREQ		
Winding 0.65 Φ X 63 mm T.C.W 1 TS					
(3) TEST INSTRUMENTS					
1. IMPEDANCE ANALYZER: HP4191A					
DRAWN	CHECKED	APPROVED	ISSUE NO.		
DATE	DATE	DATE	WC-RH-039		

佳真股份有限公司
CORE-TECH CORPORATION

TEL: 03-4861211
FAX: 03-4861210

INSPECTION DATA

ISSUE NO:WC-RH-039

CUSTOMER	萬旭電業股份有限公司			DATE	2003/10/9		Quantity	0 pcs					
PART NO.	10-13-040020100-0												
ITEM	K5A RH 4X2X10												
COIL SPEC	0.65 Φ X 63 mm T.C.W 1 TS												
COIL DATA	Q0=	CO=	(PF)										
TEST FREQ	F0=	Hz	Ft= 25,100 MHz										
TEMPERATURE	28 °C	Humidity	87 %										
ELECTRIC CHAREC.				DIMENSION(Unit:mm)									
	L	Q	Z(25)	Z(100)	A	B	C	D	E	F	G	H	I
SP			35.00	60.00	4.00		2.00	10.00					
+					0.20		0.15	0.40					
-			0	0	0.20		0.15	0.40					
1			45.00	82.00	3.96		2.02	9.95					
2			47.00	84.00	3.93		2.03	9.98					
3			46.00	82.00	3.92		2.09	9.96					
4			47.00	82.00	3.91		2.03	9.98					
5			45.00	81.00	3.95		2.08	9.96					
6			46.00	80.00	3.93		2.05	10.00					
7			46.00	81.00	3.95		2.03	10.02					
8			46.00	81.00	3.93		2.07	9.95					
9			46.00	80.00	3.92		2.09	9.93					
10			45.00	82.00	3.96		2.05	9.97					
X			45.90	81.50	3.94		2.05	9.97					
R			2.00	4.00	0.05		0.07	0.09					
TEST INSTRUMENTS				INSP No:									
1. IMPEDANCE ANALYZER: HP4191A													
REMARK:	Inspected		Checked		Approved								

CORE-TECH CORPORATION

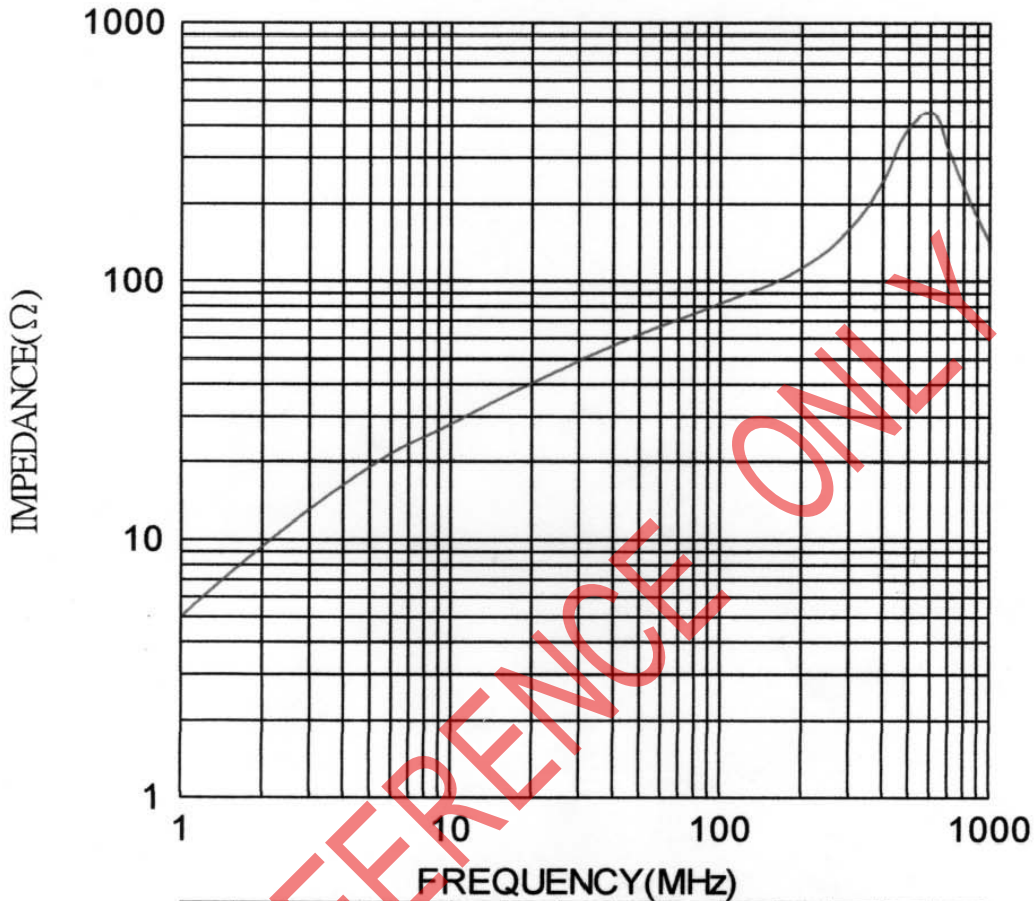
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Z-F RESPONSE

K5A RH 4X2X10

1. TEST INSTRUMENT:HP4191A

2. WINDING:0.65ΦX63 mm T.C.W 1TS



	1	5	10	25	50	100	200	300	400	500	600	700	800	900	1000
Z—	5	19	28	45	62	82	113	160	244	392	452	322	229	176	141

(DATA BETWEEN 500MHz AND 1000MHz ARE FOR REFERENCE ONLY)

CORE-TECH CORPORATION

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