

WHA YU INDUSTRIAL CO., LTD. (HEAD OFFICE)
TAI HWA ELECTRONIC CO., LTD.(CHINA)
SHANGHAI HUA YU ELECTRONIC CO., LTD.(CHINA)
AEON TECH CO., LTD. (CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: 中磊科技股份有限公司

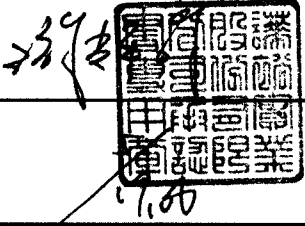
PART NAME: SMB Antenna

PART NO.: 61720063WY

REVISION:

W. Y. P/NO.: C147-510263-A

REV.: X2

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :		
DATE :		

WHA YU GROUP

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Contents

Item	Description	Page
1.	天線規格表	 1
2.	成品圖	 2
3.	測試報告	 3~8
4.	Cable 規格	 9~11
5.	Connector材質特性	 12
6.	SGS測試	 13~63

RF Antenna Cable Assembly

Specification

1. Electrical Properties :

- 1.1 Frequency Range.....2.4GHz ~ 2.5GHz
- 1.2 Impedance 50 Ω Nominal
- 1.3 VSWR 1.92 Max.
- 1.4 Return Loss..... -10 dB Maximum
- 1.5 Radiation Omni-directional
- 1.6 Antenna Gain(peak)..... 1.8dBi (excluding cable loss)
- 1.7 Antenna Cable Loss..... 0.9 dB
- 1.8 Polarization..... Linear Vertical
- 1.9 Admitted Power..... 1W

2. Physical Properties :

- 2.1 Cable..... ϕ 1.13 Coaxial Cable
- 2.2 Operating Temp. -20°C ~ +65°C
- 2.3 Storage Temp. -30°C ~ +75°C
- 2.4 Antenna Cap TPE
- 2.5 Antenna Body..... PC
- 2.6 Antenna Body..... POM
- 2.7 Connector..... HRS Connector

A		B		C		D		E		F		G																																																			
										<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>X1</td> <td>3/3-2006</td> <td>New Issue</td> </tr> <tr> <td>X2</td> <td>4/6-2006</td> <td>Modify color & length</td> </tr> <tr> <td>X3</td> <td>4/17-2006</td> <td>Modify base material</td> </tr> <tr> <td>X4</td> <td>5/18-2006</td> <td>Modify length ; add tube</td> </tr> </tbody> </table>		REV	DATE	DESCRIPTION	X1	3/3-2006	New Issue	X2	4/6-2006	Modify color & length	X3	4/17-2006	Modify base material	X4	5/18-2006	Modify length ; add tube																																					
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譚裕實業股份有限公司

WHA YU INDUSTRIAL CO., LTD

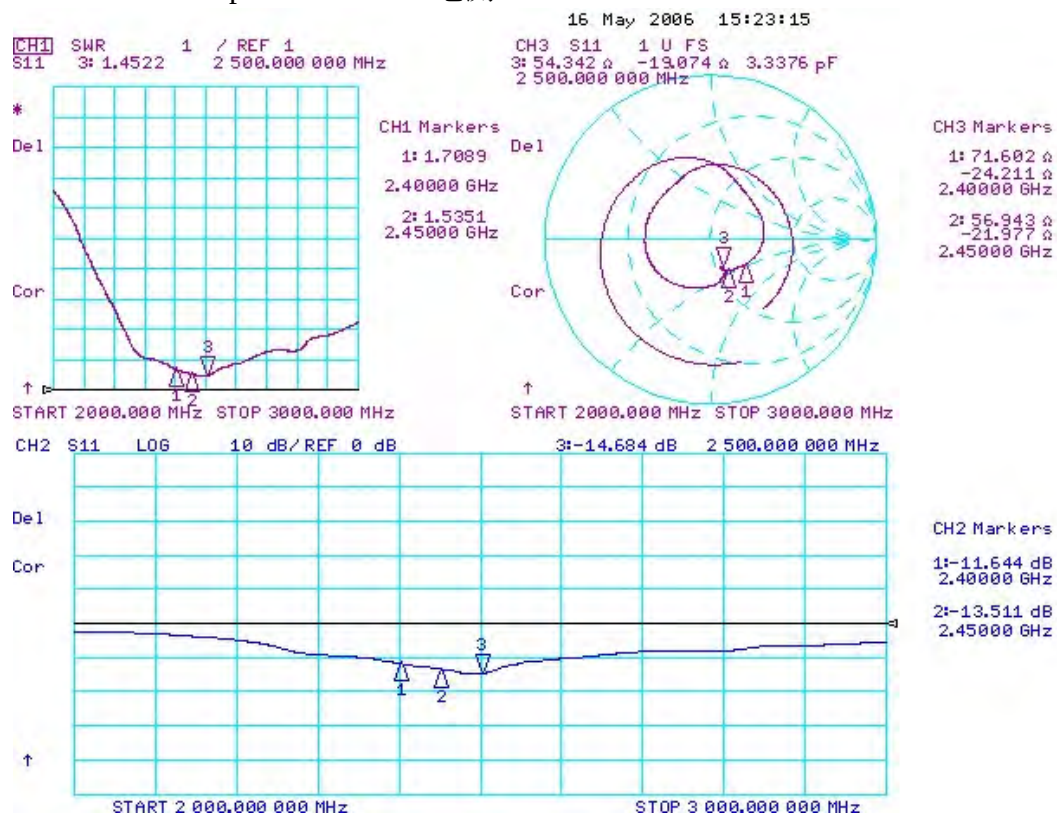
RF Antenna Assembly

P/NO : C147-510263-A SPEC : 2.4GHz

一、Antenna 外觀

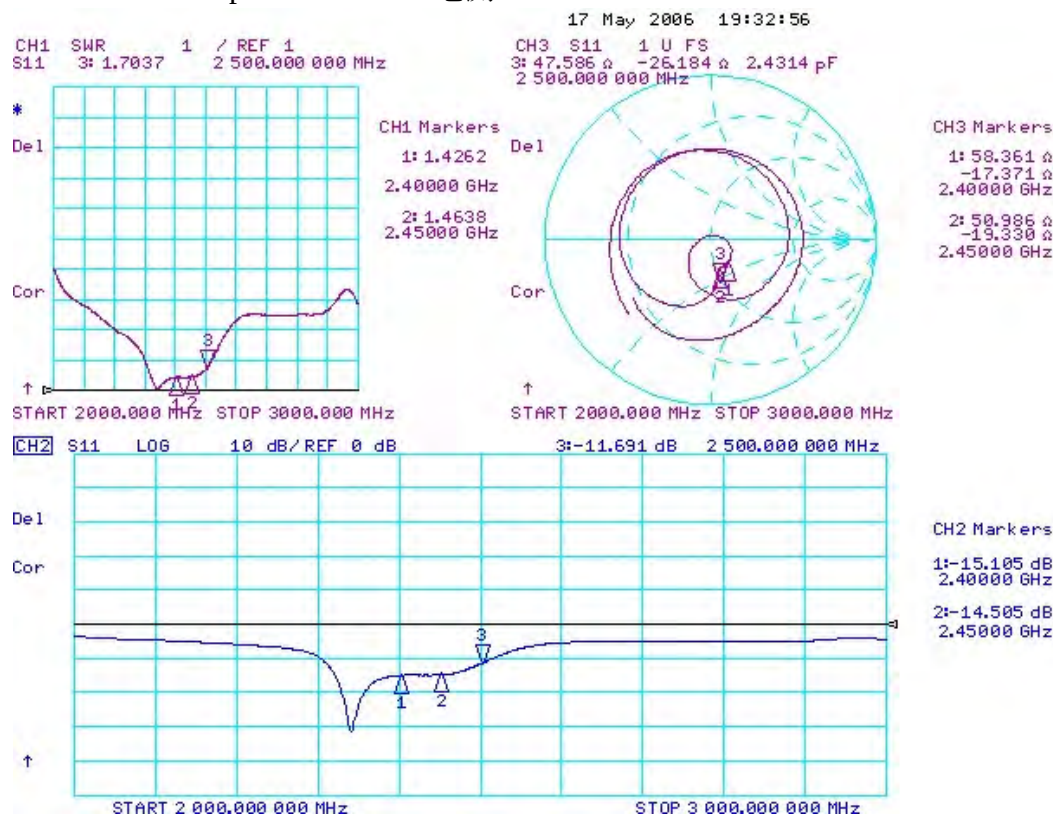


二、Dipole 1 Antenna 電測

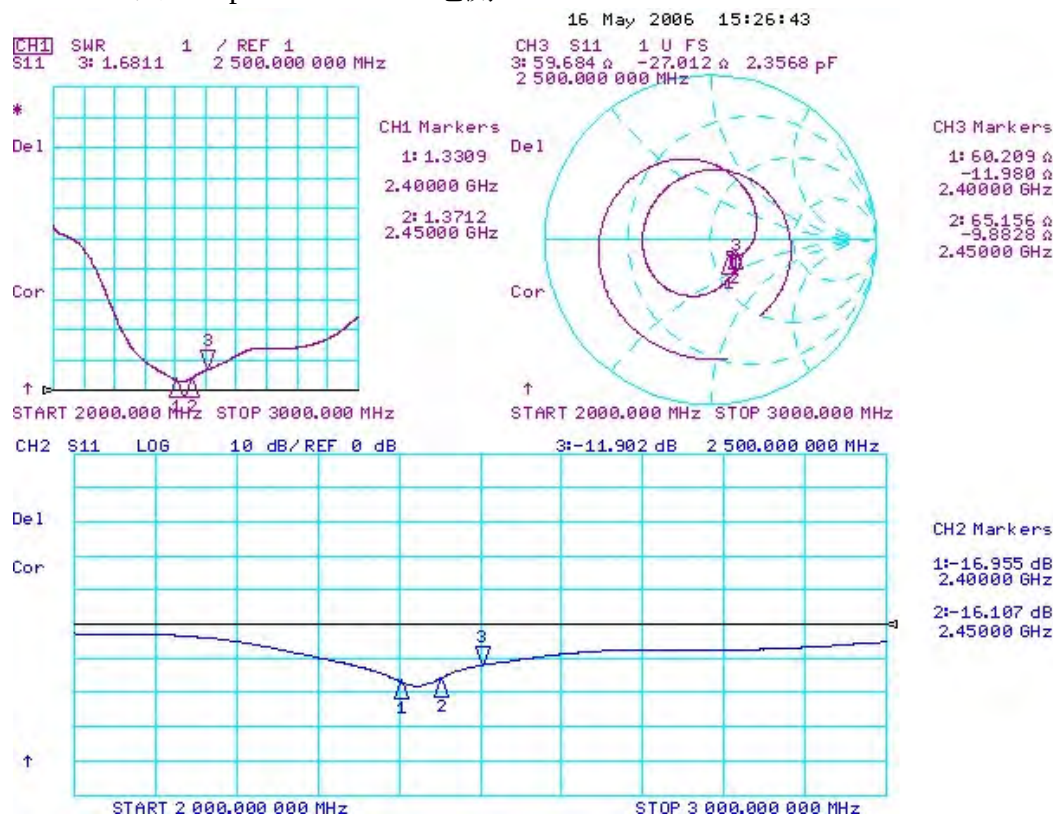




三、Dipole 2 Antenna 電測

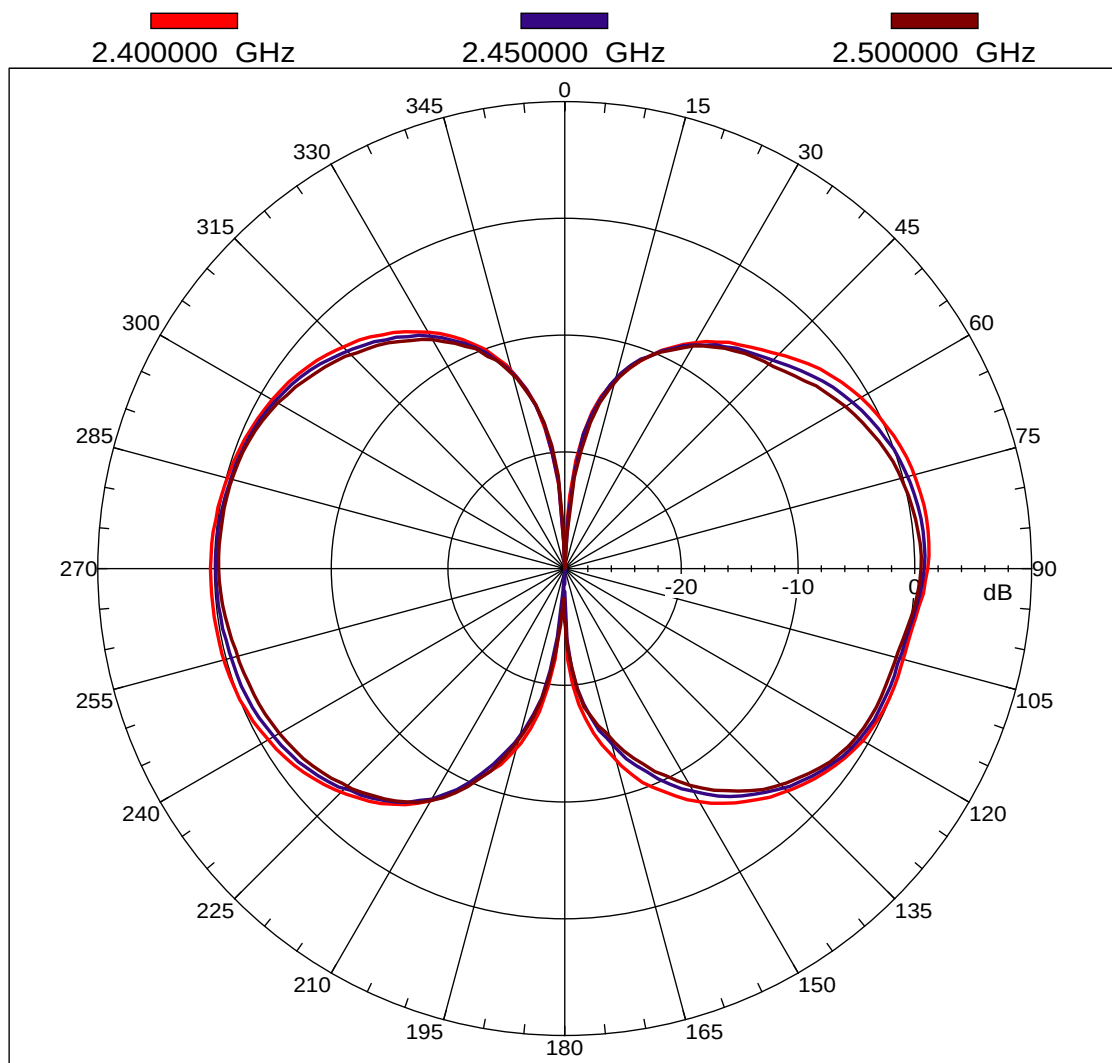


四、Dipole 3 Antenna 電測

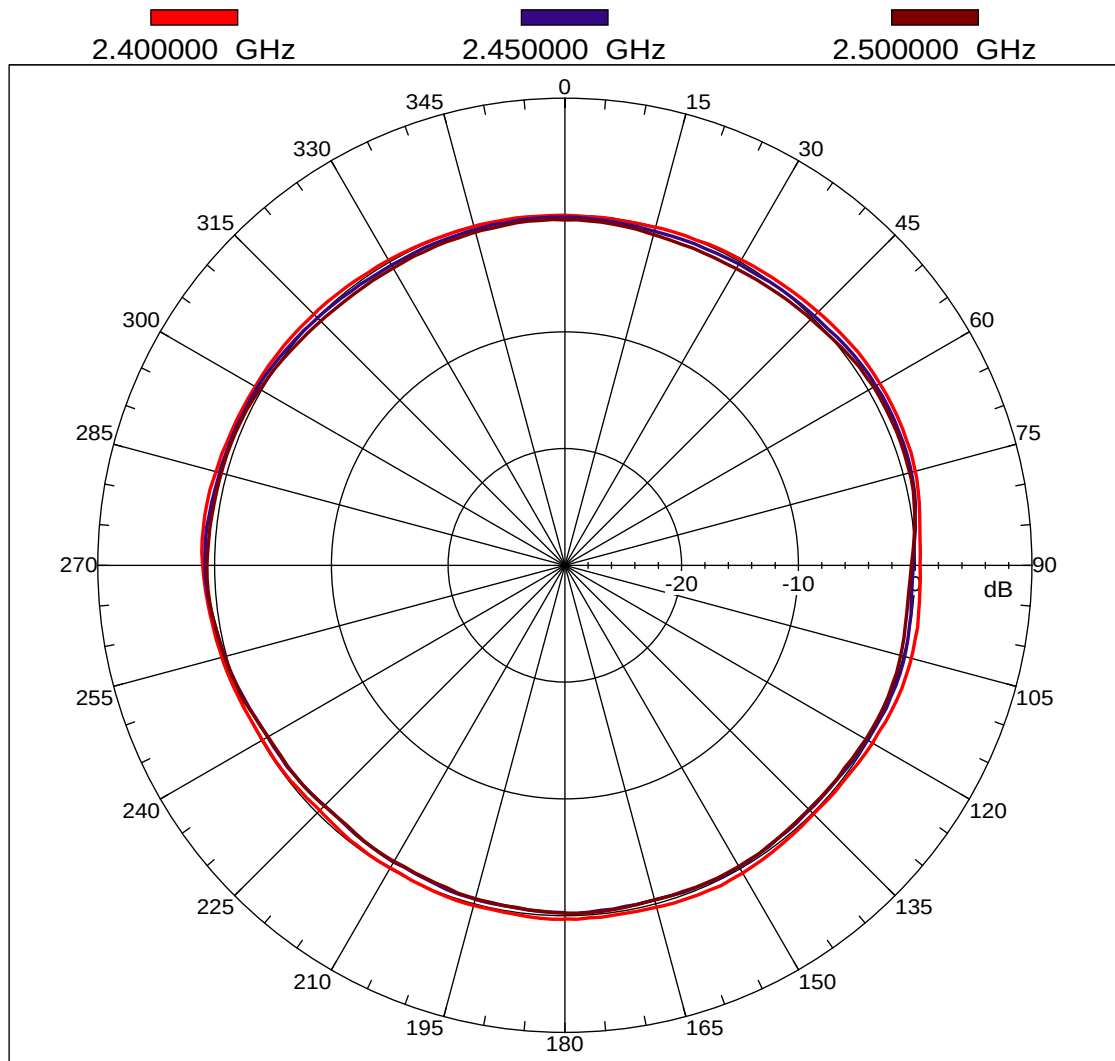


五、Dipole Antenna 場型

Far-field amplitude of C147-510263-single.nsi



Far-field amplitude of C147-510263-single-V.nsi



六、加 Power divide 場型

Plane position

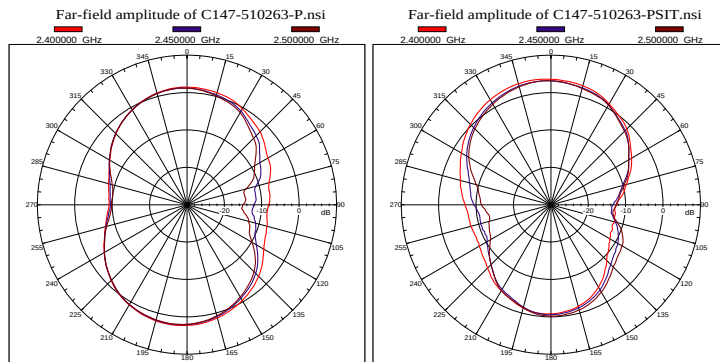


stand position

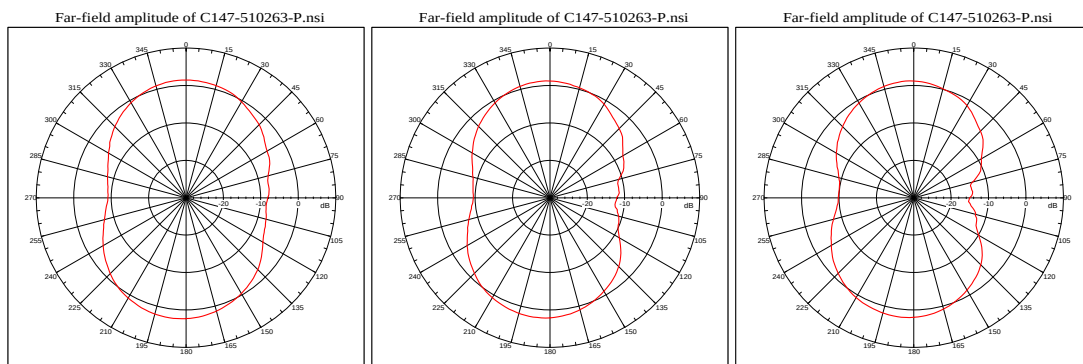


Plane position

stand position



Plane position



2.4GHz

Gain = 2.39503 dBi

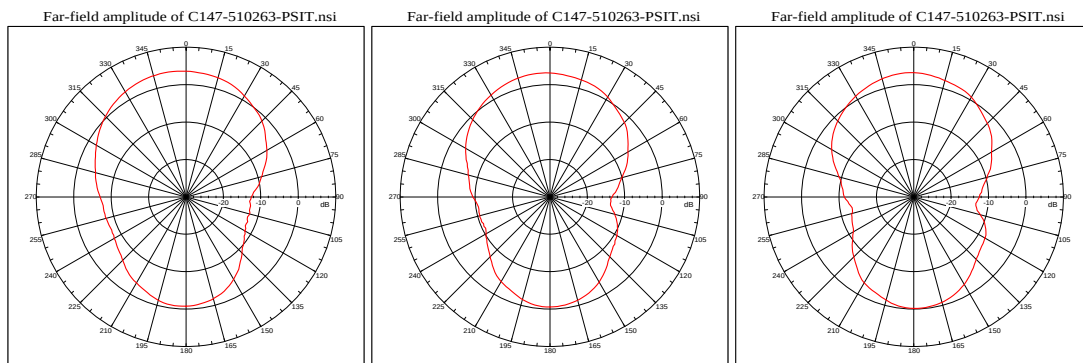
2.45GHz

Gain = 2.17863 dBi

2.5GHz

Gain = 2.07798 dBi

stand position



2.4GHz

Gain = 3.67883 dBi

2.45GHz

Gain = 3.17964 dBi

2.5GHz

Gain = 3.21834 dBi

Date : 2005/02/02

Our Spec. No. WS05-M016

MESSRS.

SPECIFICATION
FOR
HIGH FREQUENCY COAXIAL CABLE
" KHCX - 32AWG - SB - TA " GRAY

SHOWA ELECTRIC WIRE & CABLE CO., LTD.

TORANOMON

TOKYO JAPAN

T. Mori

T. Mori
Manager, Engineering Section
Engineering Dept.
Electronic Wire Business Unit

1. 適用(SCOPE)

本仕様書は電子機器などの内部配線に使用される細径同軸“KHCX-32AWG-SB-TA”の構造と特性について定める。

This specification covers the construction and characteristics of coaxial cable “KHCX-32AWG-SB-TA” for internal wiring of electronic equipment.

2. ケーブル型名の説明 (EXPLANATION OF CABLE TYPE)

KHCX-32AWG-SB-TA

(1) (2) (3) (4)

(1) ケーブル略称 (Cable Abbreviation)

(2) 導体サイズ (Conductor Size)

(3) Inner Conductor Type (4) Outer Conductor Type.

3. 構造(CONSTRUCTION)

項目 Item		要求特性 Requirement
内部導体 Inner conductor	材質 Material	銀めっき軟銅線 Silver coated annealed copper wire
	構成 Stranding	7/0.08mm
	外径 Diameter	標準 0.24mm Nom. 0.24mm
絶縁体 Insulation	材質 Material	FEP
	色別 Color	自然色 Natural
	厚さ Thickness	標準 0.22mm Nom. 0.22mm
	外径 Diameter	0.68 +0.04/ -0.02mm
外部導体 Outer conductor	材質 Material	錫めっき銅合金線編組 Tinned copper alloy wire braid shield
	構成 Stranding	16/4/0.05 mm
	編組密度 Coverage	Approx. 90%
シース Sheath	材質 Material	FEP
	色別 Color	灰・白・黒 Gray・White・Black
	厚さ Thickness	標準 0.10mm Nom. 0.10mm
仕上外径 Overall diameter		1.13mm +0.08/ -0.05mm
概算質量 Approximate mass		3 kg/km

4. 特性 (CHARACTERISTICS)

項目 Item	単位 Unit	要求特性 Requirements
導体抵抗 Conductor Resistance	Ω/km	597 以下 (20°C) Max. 520 (at 20°C)
絶縁抵抗 Insulation Resistance	$\text{M}\Omega/\text{km}$	1,500 以上 (DC 500V 1 分間充電後, 20°C) Min. 1,500 (After charge DC 500V for 1 min. at 20°C)
耐電圧 Dielectric Strength	-	絶縁体 : AC.1.5kV/0.15 秒間 (スパークテスト) Dielectric core : No breakdown at AC.1.5kV for 0.15sec by spark test.
		シース : AC.1.5kV/0.15 秒間 (スパークテスト) Jacket : No breakdown at AC.1.5kV for 0.15sec by spark test.
		内部導体-外部導体間 : AC.500V/1 分間 No breakdown at AC.500V for 1 min between outer conductor and inner conductor.
静電容量 Capacitance	pF/m	標準 98 (at 1kHz) Nom. 98 (at 1kHz)
特性インピーダンス Characteristic Impedance	Ω	50 ± 2 (at TDR)
減衰量 Attenuation	dB/m	2.0GHz : 2.9 以下 Max.2.9
		2.4GHz : 3.2 以下 Max.3.2
		3.0GHz : 3.7 以下 Max.3.7
		4.0GHz : 4.3 以下 Max.4.3
		5.0GHz : 4.8 以下 Max.4.8
		6.0GHz : 5.3 以下 Max.5.3
VSWR	--	2.4~2.5GHz : 1.20 以下 Max.1.20 4.8~6.0GHz : 1.40 以下 Max.1.40
耐はんだ性 Heat resistance for solder	--	絶縁体およびシースの寸法変化は 0.2mm 以下のこと。 Shrink and expansion of dielectric core or jacket should not be more than 0.2mm. 試験条件(test condition) : $255^\circ\text{C} \pm 5^\circ\text{C} * 3 \text{ sec.}$

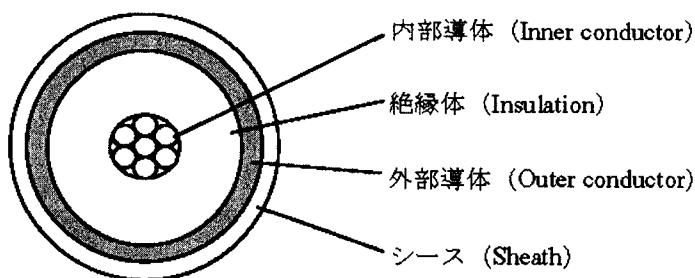


図 1 .ケーブル構造図

Fig.1. Cable Cross-Section



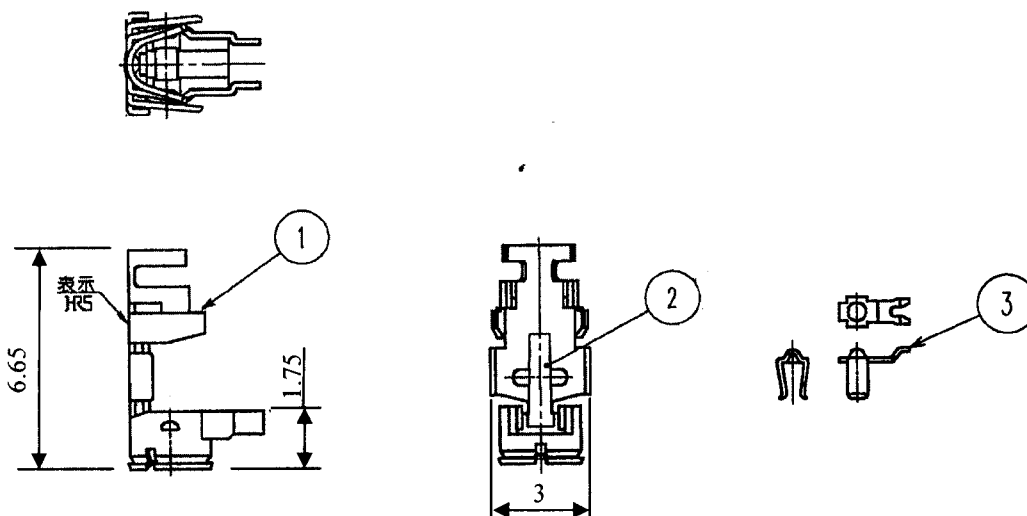
譚裕實業股份有限公司

WHA YU INDUSTRIAL CO., LTD

HRS Connector Material Data Sheet

譚裕料號 Whayu P/N	100-5080003-AZ 100-5080004-AZ	產品名稱 Product Name	1.13mm cable Plug [U.FL-LP-066(02)] 1.13mm cable conductor [U.FL-CONTACT(02)]
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U.FL Connector Strudture Drawing



Material Parts

Surface Plating

1	Shell	Phos. Bronze	Cu	Sn	P	Zn	Pb		Sliver Plating(2 μ m)
2	Isolation	PBT	Polybutylene Terephthalte(UL 94V-0)						NA / (Color:Black)
3	Crimp Pin	Phos. Bronze	Cu	Sn	P	Zn	Pb		Gold Plating (0.3 μ m)

Remark : durability 30 matings
Vendor : HIROSE Company

