



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

SPECIFICATION FOR APPROVAL

CUSTOMER: *Kiss Technology*

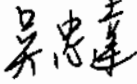
PART NAME: *RF Antenna Cable Assembly*

PART NO.:

REVISION:

W. Y. P/NO.: *C1046-510011-A(SSR-72583)*

REV.: *XI*

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :		
DATE :	<i>8/9-2007</i>	



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: Lakeside Industrial Park, Da Ling Shan Town, Dong Guan City, Guangdong, China

Tel: + 86-769-85655858 Fax: + 86-769-8565525

TAI HWA ELECTRONIC FACTORY

台樺電業製品廠

Address: Pak Ho District, Hou Street Town, Dong Guan City, Guangdong, China

Tel: + 86-769-85599375 · + 86-769-85912375 Fax: + 86-769-85599376

HUA HONG INTERNATIONAL LTD.

華弘國際有限公司

Address: Rm.1103A, President Commercial Centre, 608 Nathan Road, Mong Kok, Kowloon, Hong Kong

Tel: + 86-852-27712210 Fax: + 86-852-23843747

SHANGHAI HUA YU ELECTRONIC CO., LTD. (CHINA)

上海譚裕電子有限公司

Address: 3586, Wai Qing Song Road, Qing Pu County, Shanghai China

Tel: + 86-21-59741348 · + 86-21-59744101-4 Fax: + 86-21-59741347

SU ZHOU 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

Contents

<i>Item</i>	<i>Description</i>	<i>Page</i>
1.	天線規格表 1
2.	成品圖 2
3.	測試報告 3~13
4.	Cable 規格 14~16
5.	Connector 材質特性 17

C1046-510011-A SPECIFICATION

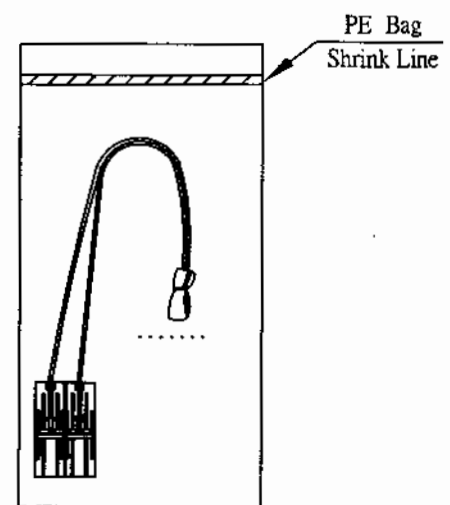
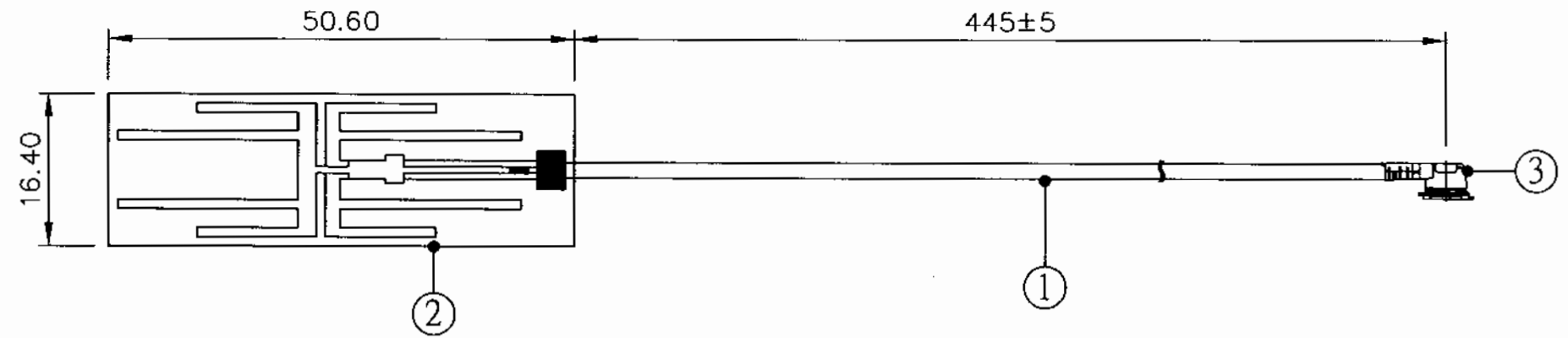
1. Electrical Specification

1.1	Frequency Range :	2.4 ~ 2.5GHz/4.9~5.85GHz
1.2	Gain:	1.8dBi typ. (excluding cable loss)
1.3	VSWR:	1.92 : 1 typ. (Antenna Stabd alone)
1.4	HPBW/H:	TBD
1.5	HPBW/E:	TBD
1.6	Impedance:	50Ω
1.7	Polarization:	Linear; Vertical
1.8	Power Handling:	1 W
1.9	Connector:	MHF Connector
2.0	Extended Cable:	φ 1.13 Coaxial Cable; L=45cm
2.1	Cable Loss:	1.3dB @2.4GHz 2dB @5GHz

2. Mechanical Specification

2.1	Operating Temperature:	-10°C ~+60°C
2.2	Storage Temperature:	-10°C ~+70°C
2.3	Humidity:	95% RH
2.4	PCB Material:	FR4
2.5	Dimension:	L50.6 x W16.4 x T0.6 (mm)
2.6	Weight:	2.45 gf

REV	DATE	DESCRIPTION
X1	8/3-2007	New Issue



Packing : 25 pcs/bag

NO	DESCRIPTION	QTY	REMARK
3	Connector MHF Connector	1	
2	PCB FR4 50.6*16.4mm	1	
1	Coaxial cable ϕ 1.13 Coaxial Cable	1	

CUSTOMER'S SINGATURE

XX	±5
X	±3.0
.X	±1.0
.XX	±0.5
.XXX	±0.1

APPROVED

 CHECKED

 DRAWING

CUSTOMER: KISS
 PART NO :
 PARTNAME: RF Antenna Cable Assembly
 W.Y P/NO : C1046-510011-A
 REV UNIT FILE : SSR-72583
 X1 m/m SHEET : 1/1

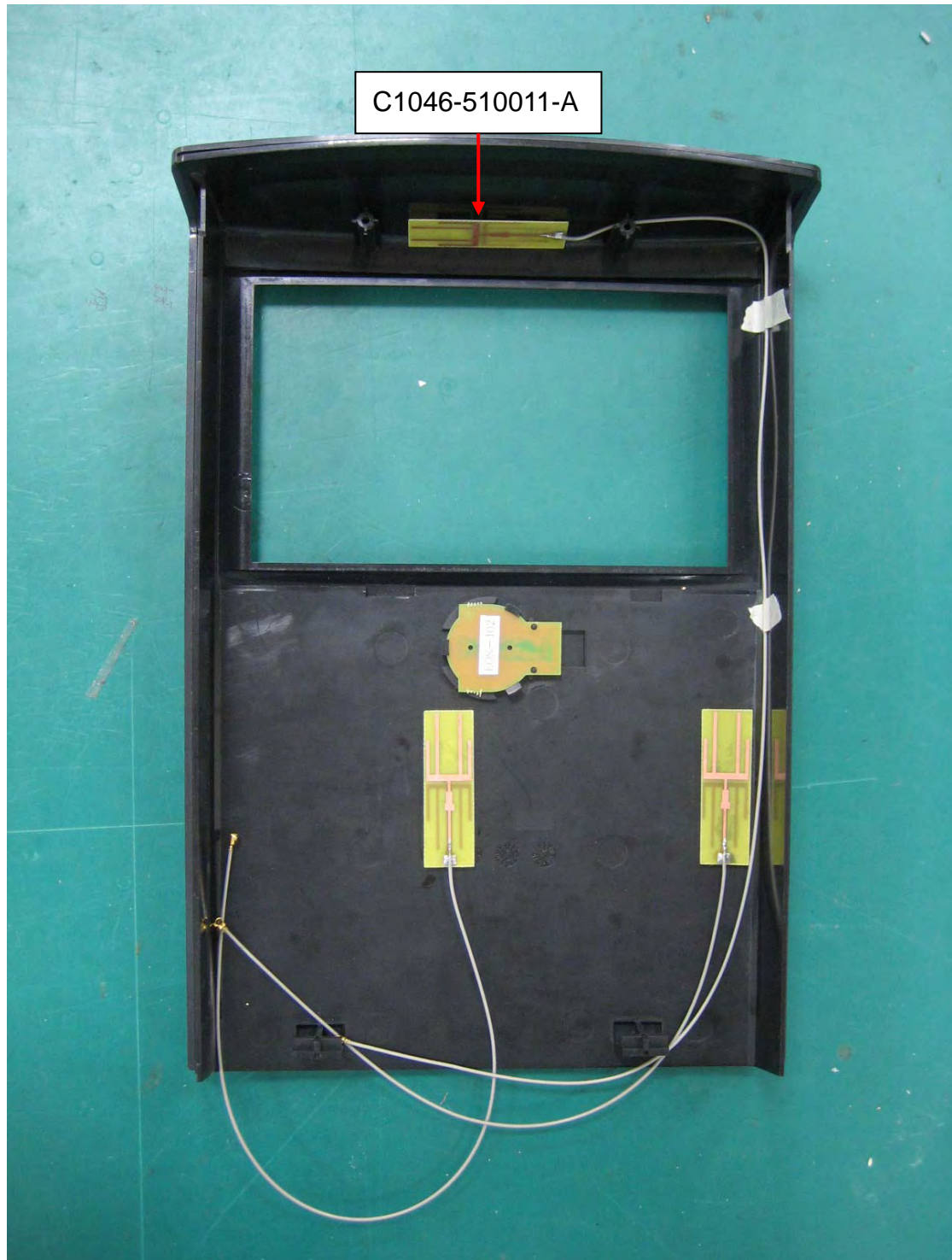
M.gear Wha Yu Group
 THIS DRAWING, AND ITS INHERANT DESIGN CONCEPTS, ARE THE PROPERTY OF WHA YU AND AS SUCH MAY NOT BE COPIED, REPRODUCED, OR GIVEN TO THIRD PARTIES WITHOUT THE WRITTEN CONSENT OF WHA YU.

RF Antenna Assembly

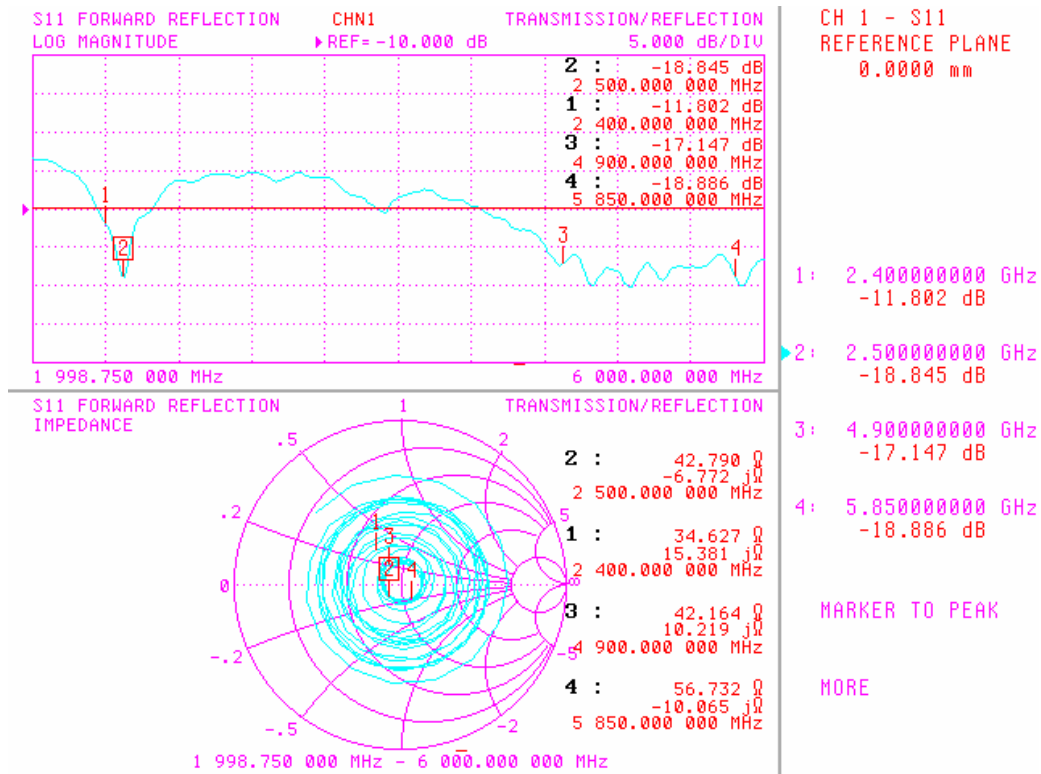
P/N: C1046-510011-A

Frequency: 2.4~2.5(GHz)/4.9~5.85(GHz)

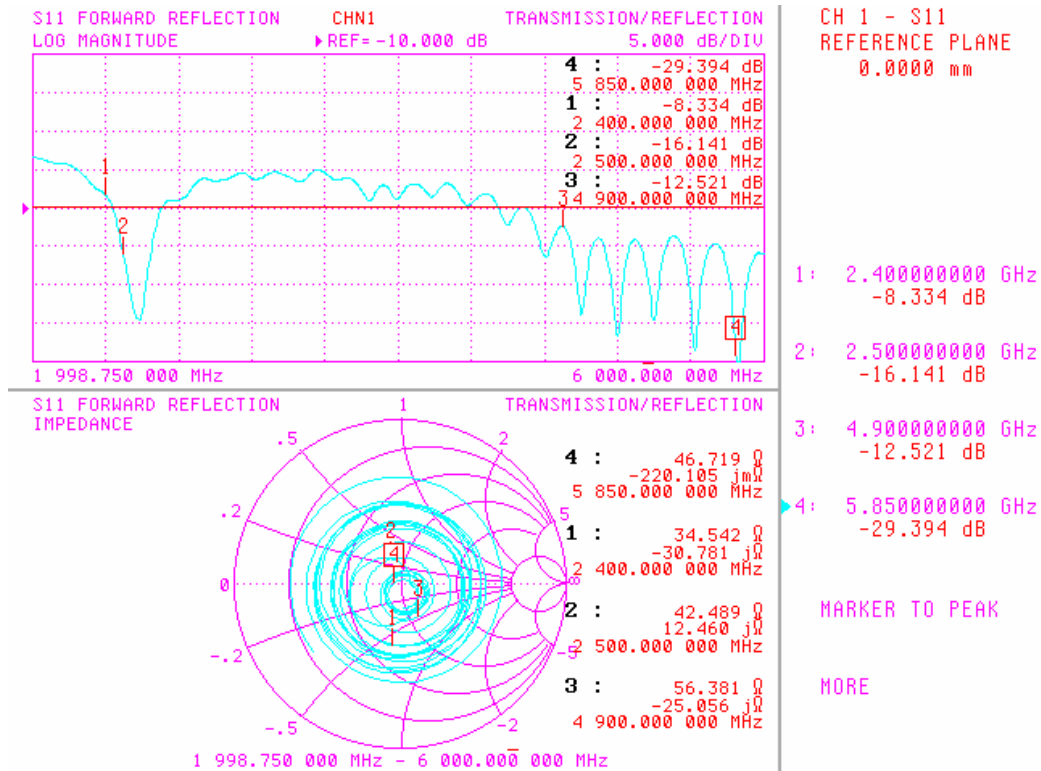
#Measurement



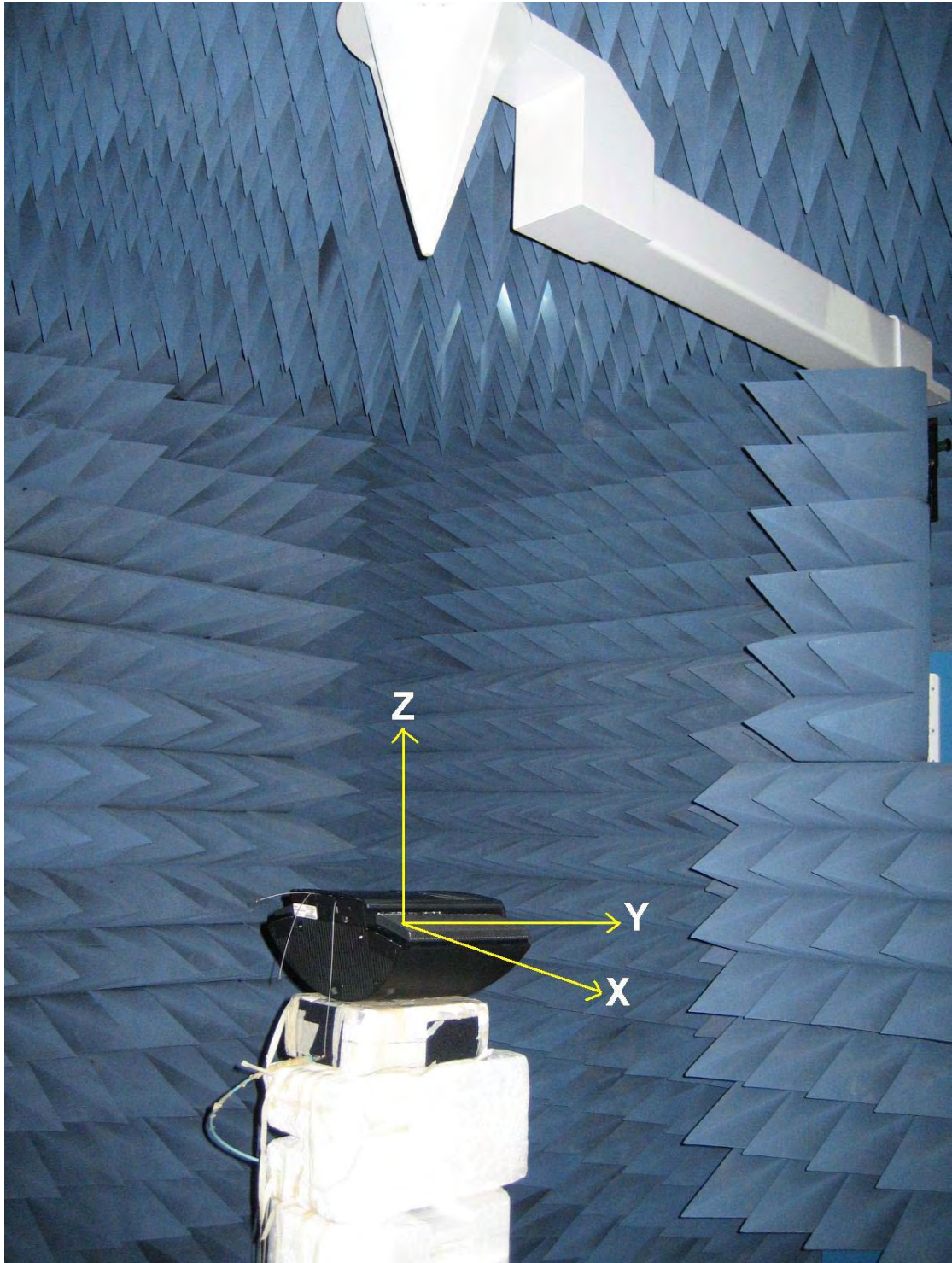
Return Loss(With Housing)



Return Loss(Antenna Stand alone)

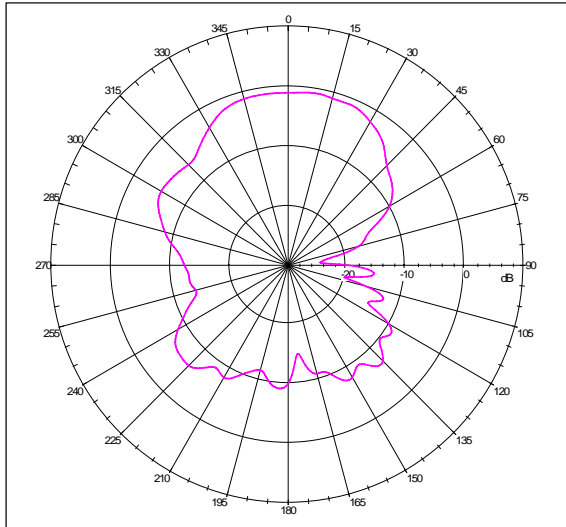


3D Chamber Test

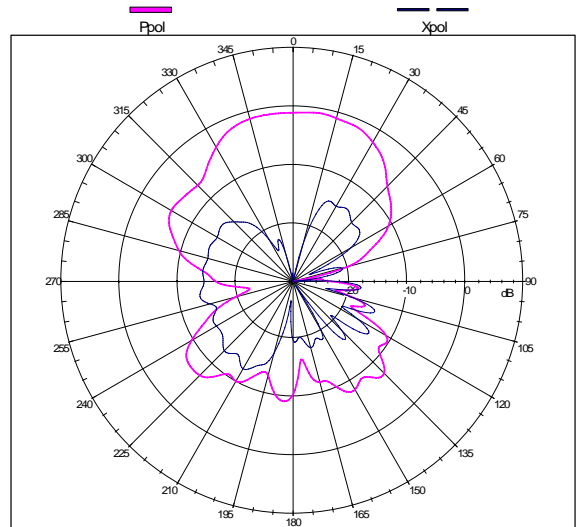


Pattern

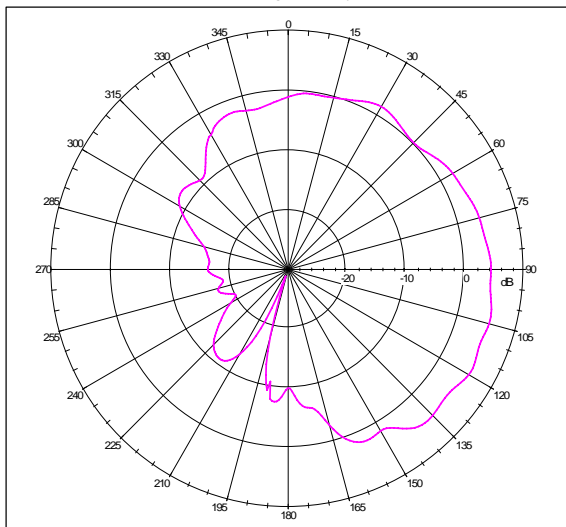
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=5.306 dBi; Total Radiating Efficiency: 56.324% @2.40000 GHz



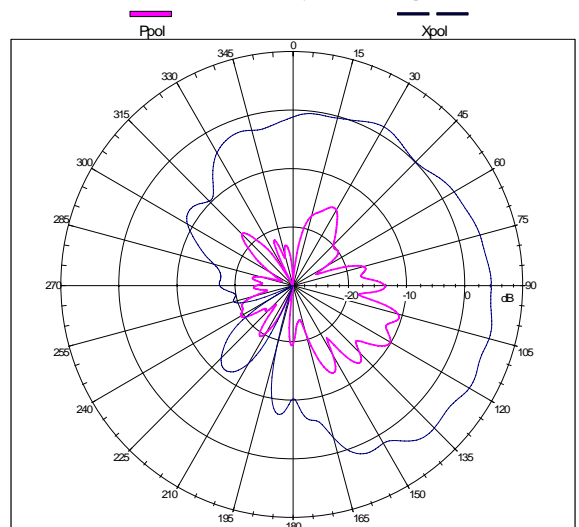
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=5.306 dBi; Co-Pol Efficiency: 55.358% @Freq: 2.40000 GHz



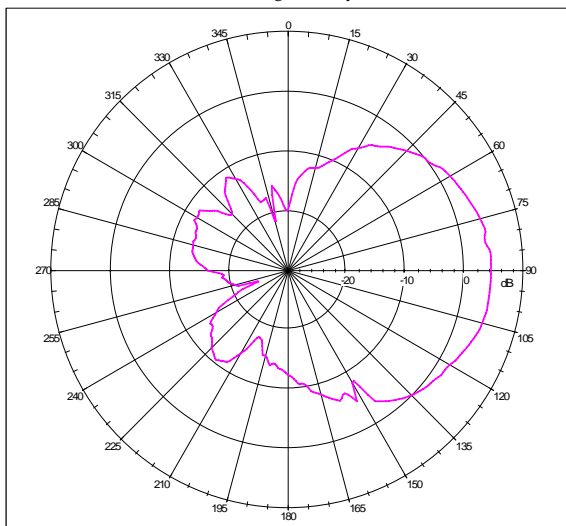
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=5.306 dBi; Total Radiating Efficiency: 56.324% @2.40000 GHz



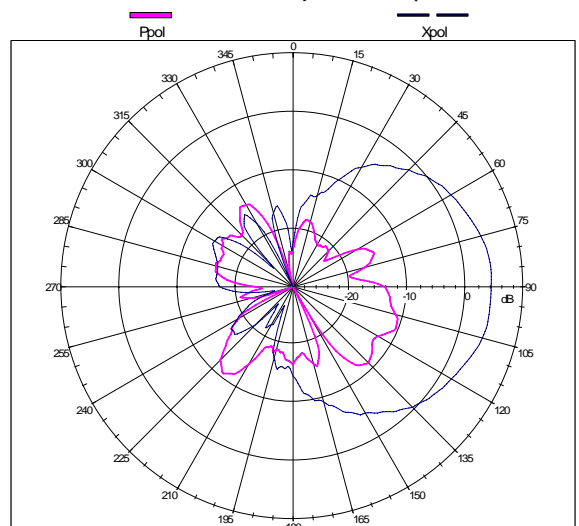
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=5.306 dBi; Co-Pol Efficiency: 55.358% @Freq: 2.40000 GHz



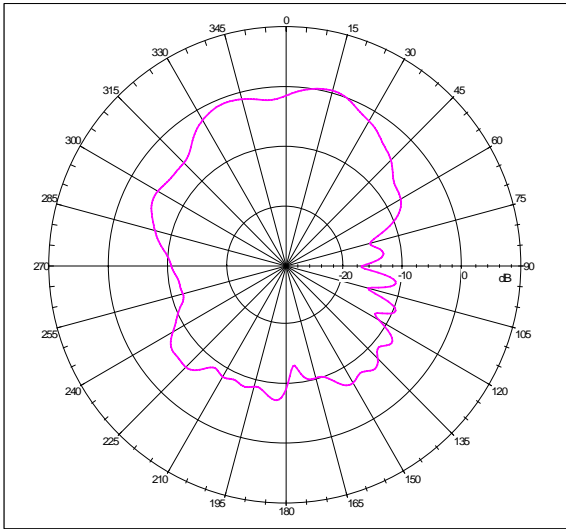
Far-field Power Distribution on X-Y Plane
Gain=5.306 dBi; Total Radiating Efficiency: 56.324% @2.40000 GHz



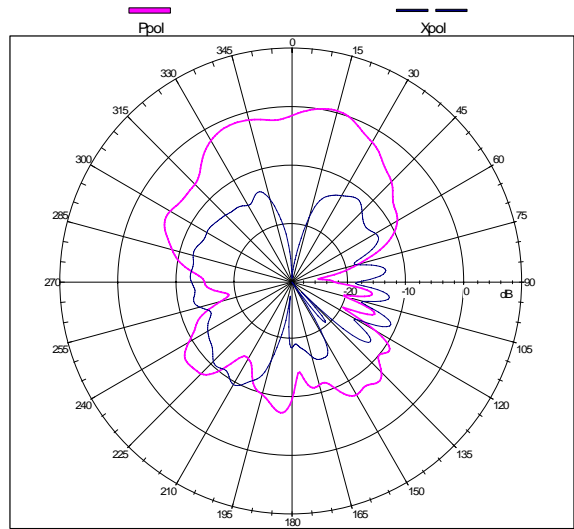
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=5.306 dBi; Co-Pol Efficiency: 55.358% @Freq: 2.40000 GHz



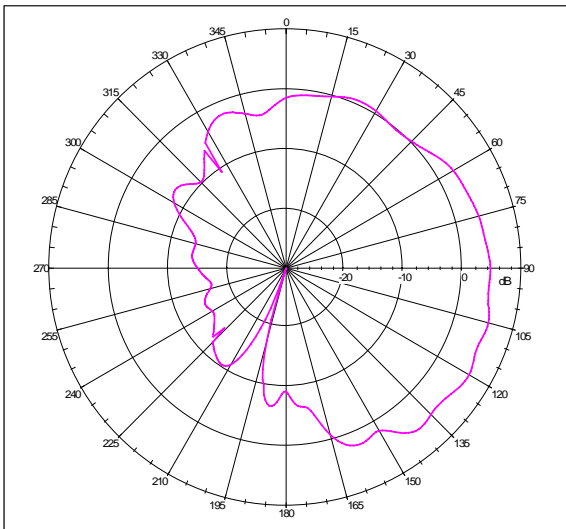
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=5.674 dBi; Total Radiating Efficiency: 59.186% @2.45000 GHz



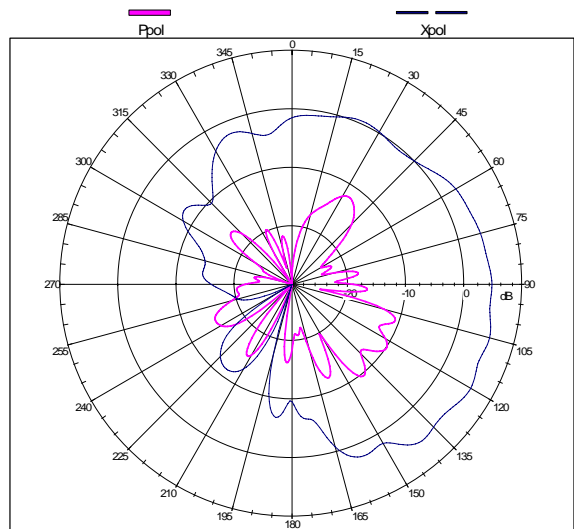
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=5.674 dBi; Co-Pol Efficiency: 58.180% @ Freq: 2.45000 GHz



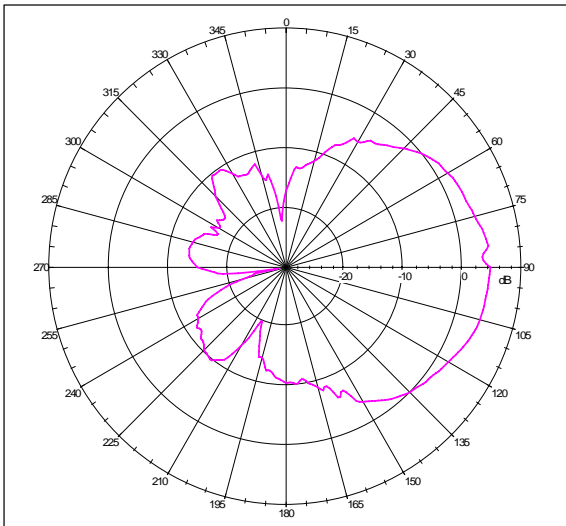
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=5.674 dBi; Total Radiating Efficiency: 59.186% @2.45000 GHz



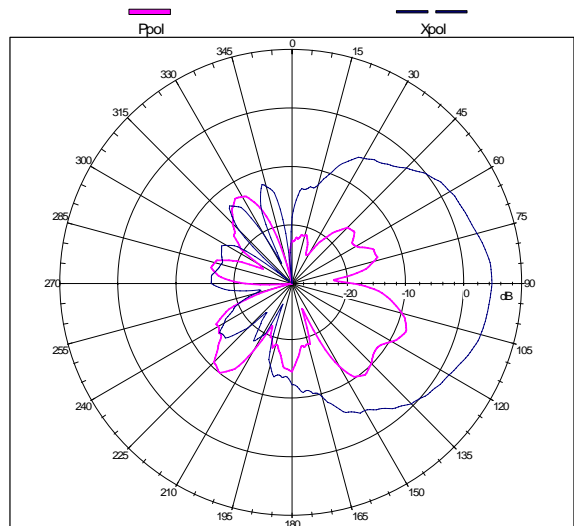
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=5.674 dBi; Co-Pol Efficiency: 58.180% @ Freq: 2.45000 GHz



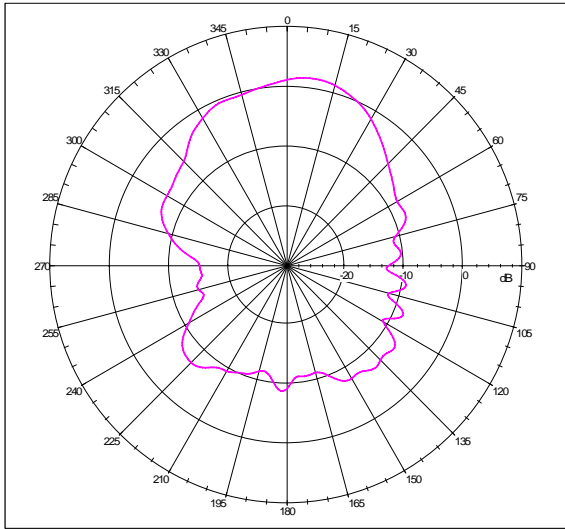
Far-field Power Distribution on X-Y Plane
Gain=5.674 dBi; Total Radiating Efficiency: 59.186% @2.45000 GHz



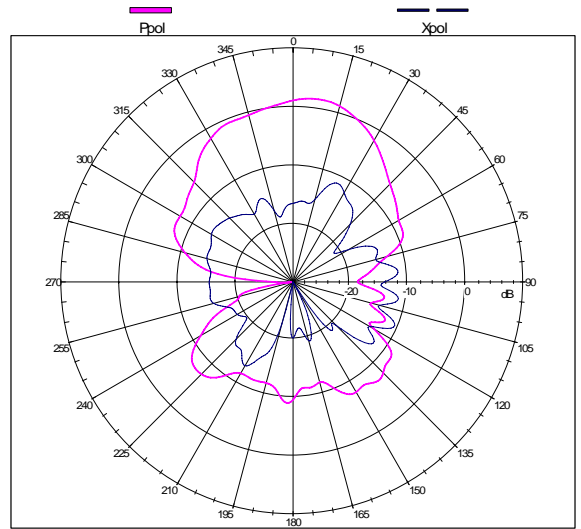
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=5.674 dBi; Co-Pol Efficiency: 58.180% @ Freq: 2.45000 GHz



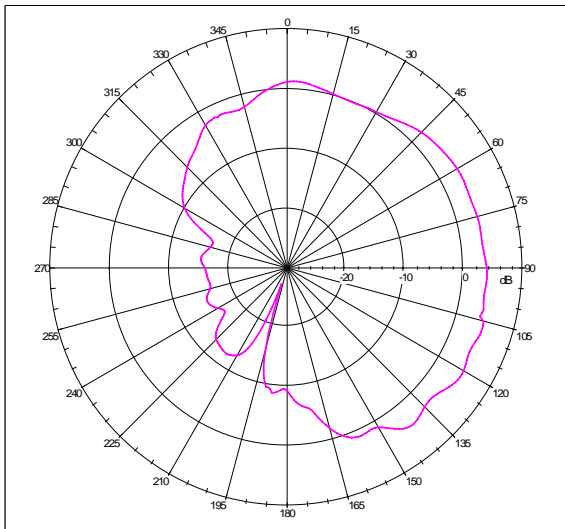
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=5.060 dBi; Total Radiating Efficiency: 61.757% @2.50000 GHz



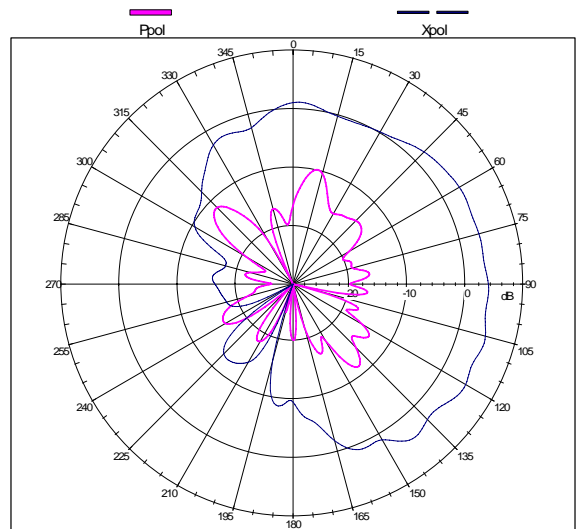
Far-field Pattern @ Phi=0 deg(E-Theta Plane-Cut)
Gain=5.060dBi; Co-Pol Efficiency: 61.650% @ Freq: 2.50000 GHz



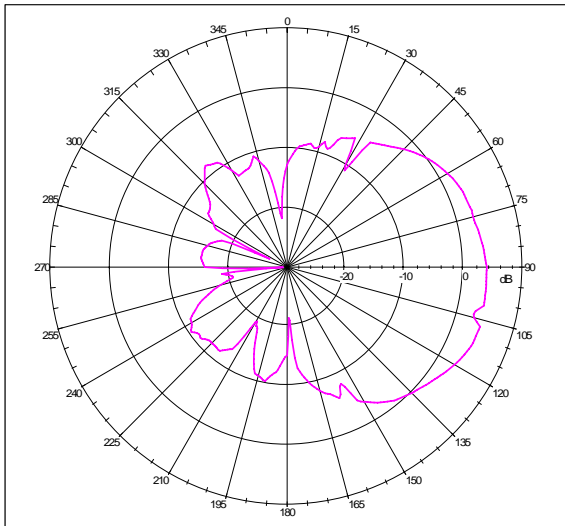
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=5.060 dBi; Total Radiating Efficiency: 61.757% @2.50000 GHz



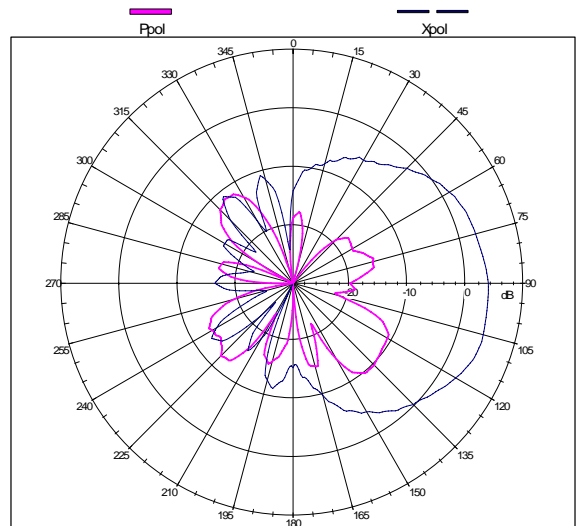
Far-field Pattern @ Phi=90 deg(E-Theta Plane-Cut)
Gain=5.060dBi; Co-Pol Efficiency: 61.650% @ Freq: 2.50000 GHz



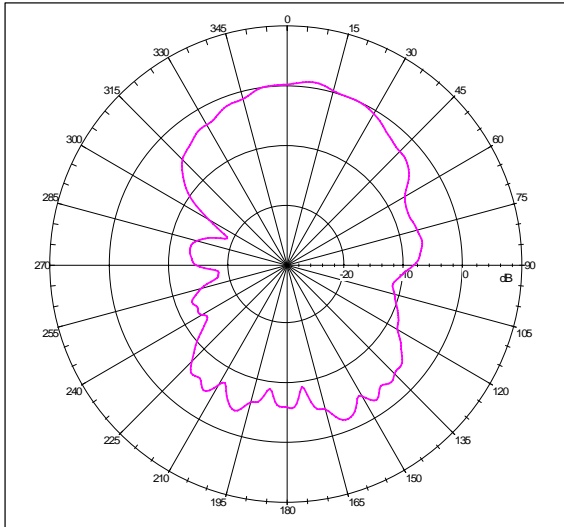
Far-field Power Distribution on X-Y Plane
Gain=5.060 dBi; Total Radiating Efficiency: 61.757% @2.50000 GHz



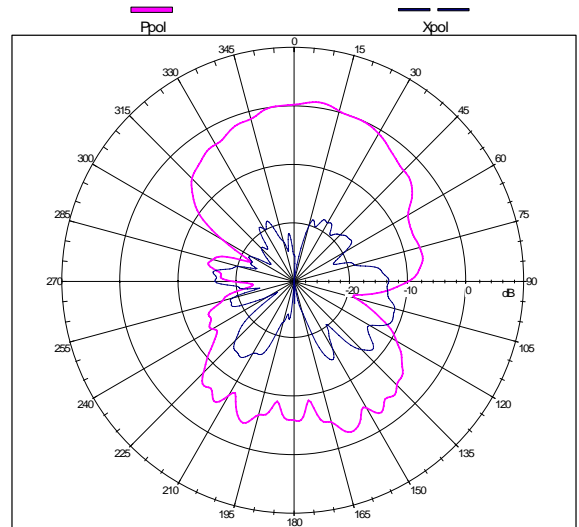
Far-field Pattern @ Theta=90 deg(E-Phi Plane-Cut)
Gain=5.060dBi; Co-Pol Efficiency: 61.650% @ Freq: 2.50000 GHz



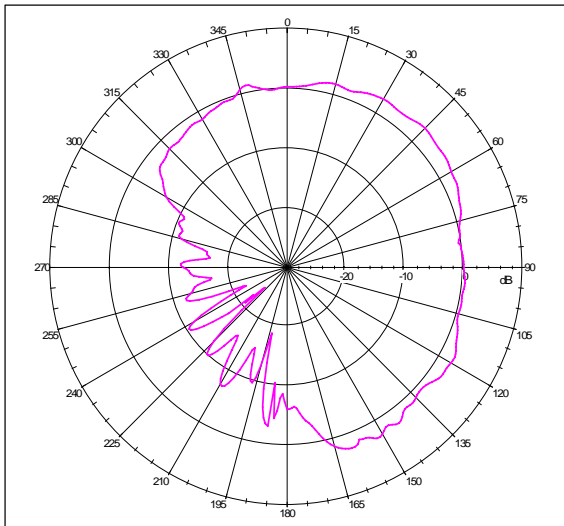
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=3.113 dBi; Total Radiating Efficiency: 51.739% @4.90000 GHz



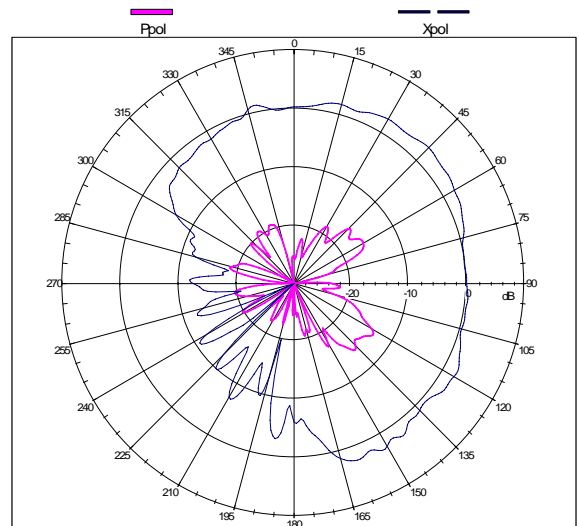
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=3.113 dBi; Co-Pol Efficiency: 50.850% @Freq: 4.90000 GHz



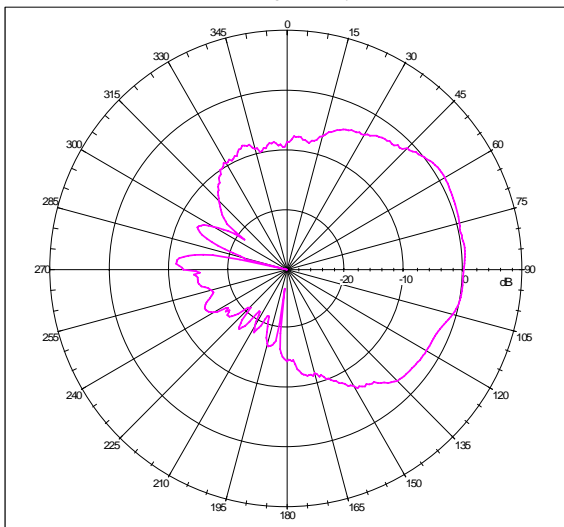
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=3.113 dBi; Total Radiating Efficiency: 51.739% @4.90000 GHz



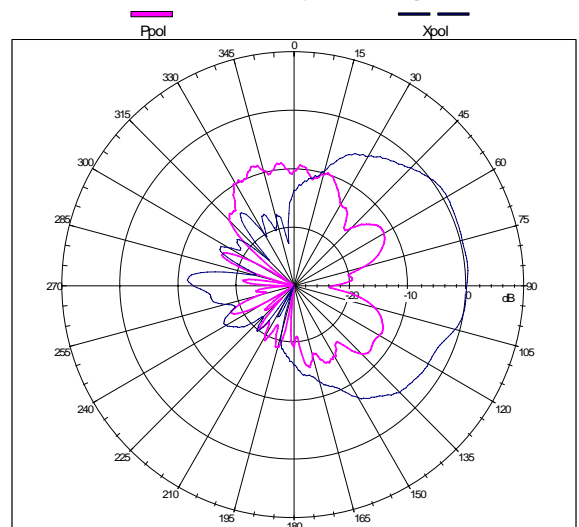
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=3.113 dBi; Co-Pol Efficiency: 50.850% @Freq: 4.90000 GHz



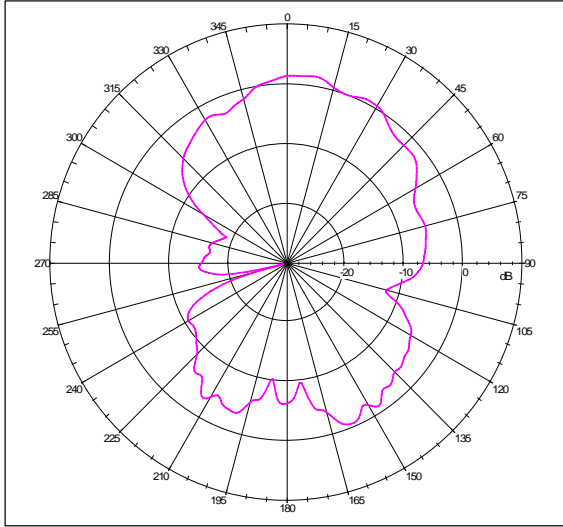
Far-field Power Distribution on X-Y Plane
Gain=3.113 dBi; Total Radiating Efficiency: 51.739% @4.90000 GHz



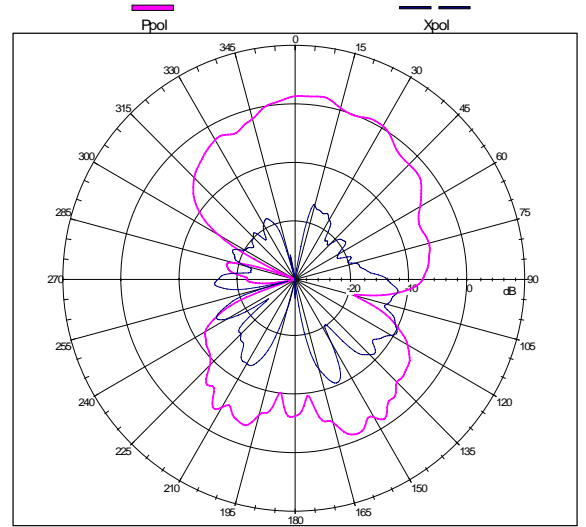
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=3.113 dBi; Co-Pol Efficiency: 50.850% @Freq: 4.90000 GHz



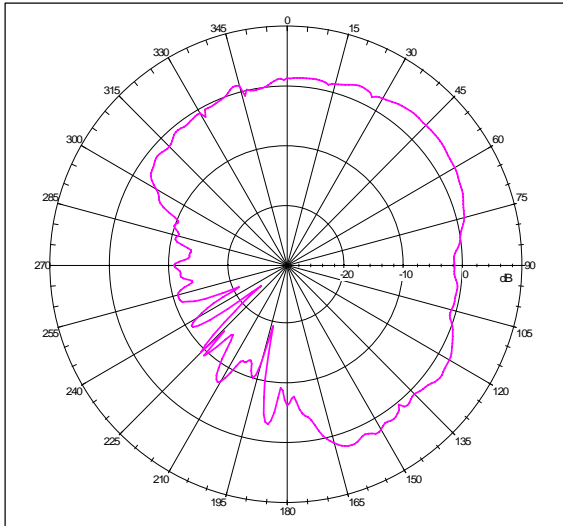
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=3.223 dBi; Total Radiating Efficiency: 50.777% @5.15000 GHz



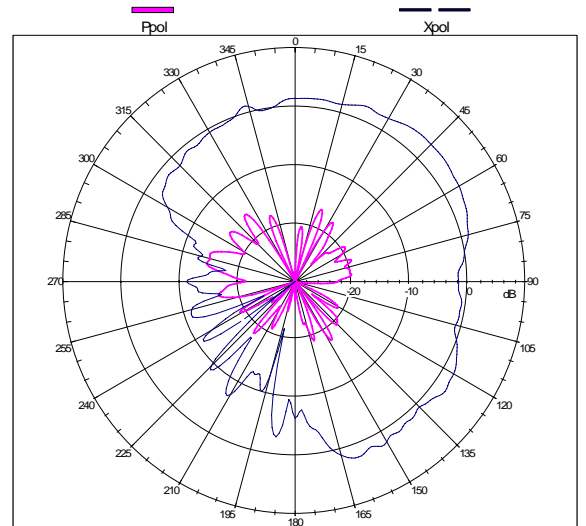
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=3.223 dBi; Co-Pol Efficiency: 50.712% @Freq: 5.15000 GHz



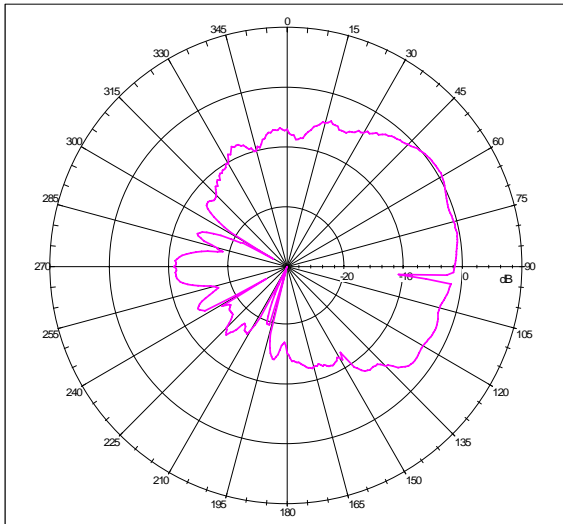
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=3.223 dBi; Total Radiating Efficiency: 50.777% @5.15000 GHz



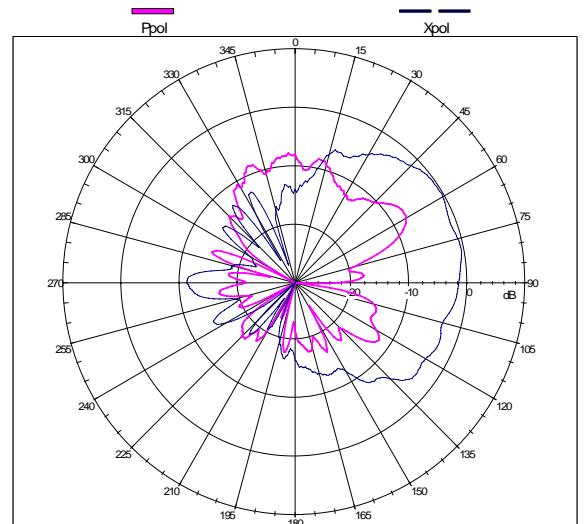
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=3.223 dBi; Co-Pol Efficiency: 50.712% @Freq: 5.15000 GHz



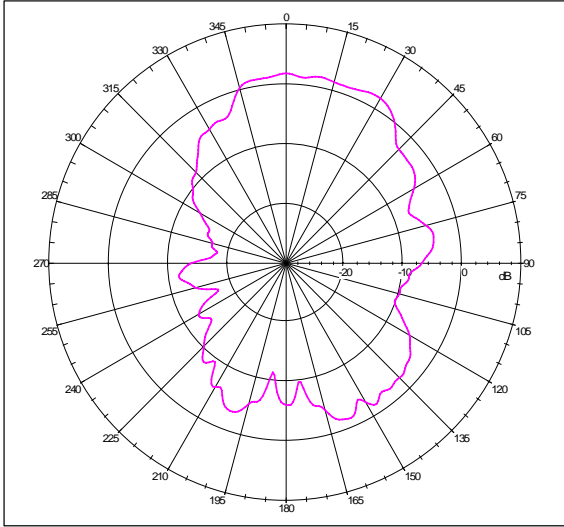
Far-field Power Distribution on X-Y Plane
Gain=3.223 dBi; Total Radiating Efficiency: 50.777% @5.15000 GHz



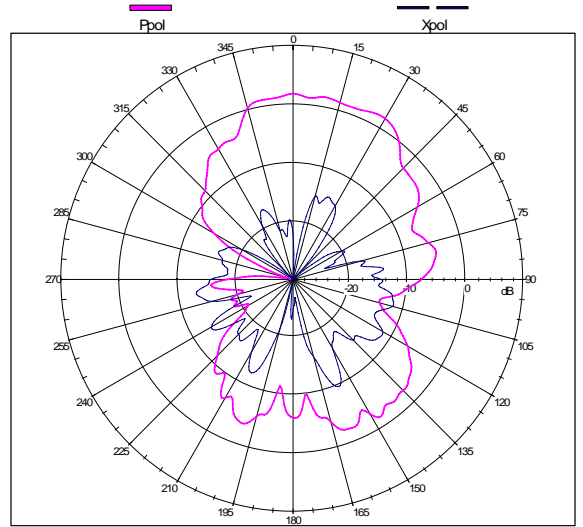
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=3.223 dBi; Co-Pol Efficiency: 50.712% @Freq: 5.15000 GHz



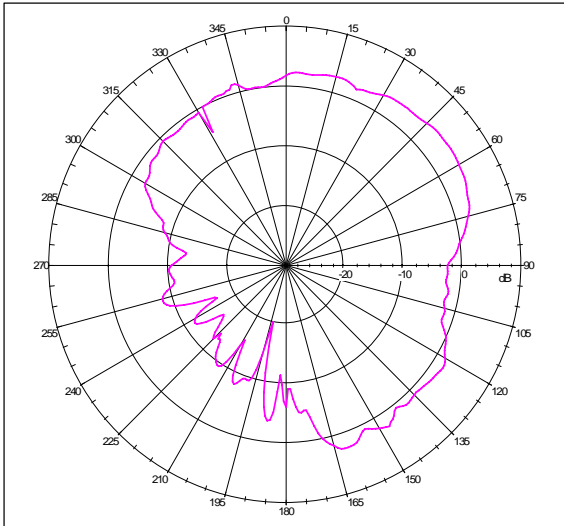
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=3.988 dBi; Total Radiating Efficiency: 55.289% @5.35000 GHz



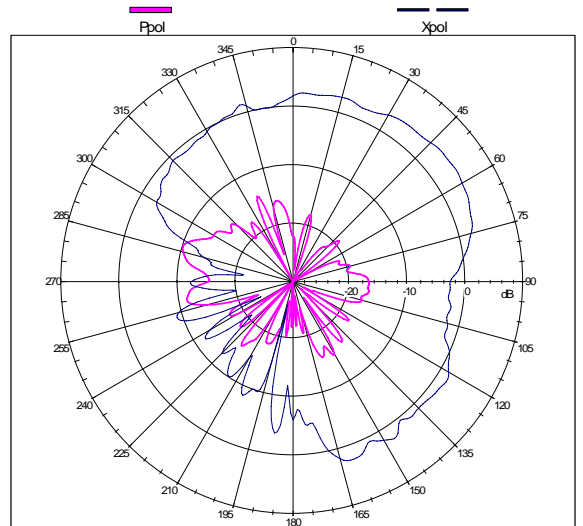
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=3.988 dBi; Co-Pol Efficiency: 55.219% @Freq: 5.35000 GHz



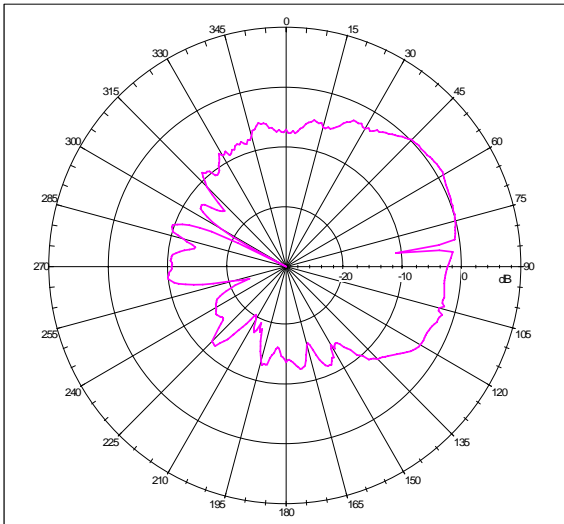
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=3.988 dBi; Total Radiating Efficiency: 55.289% @5.35000 GHz



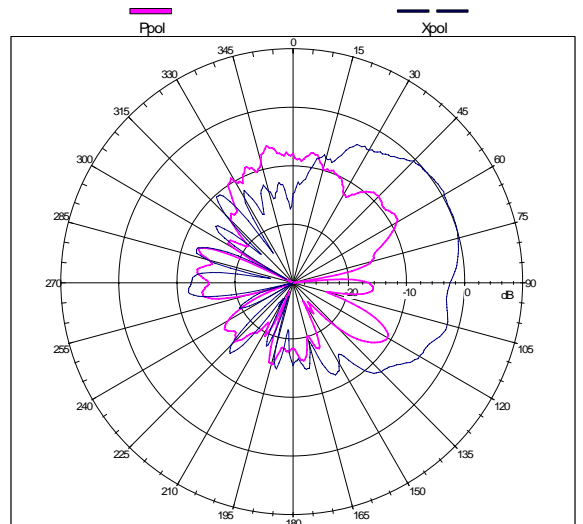
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=3.988 dBi; Co-Pol Efficiency: 55.219% @Freq: 5.35000 GHz



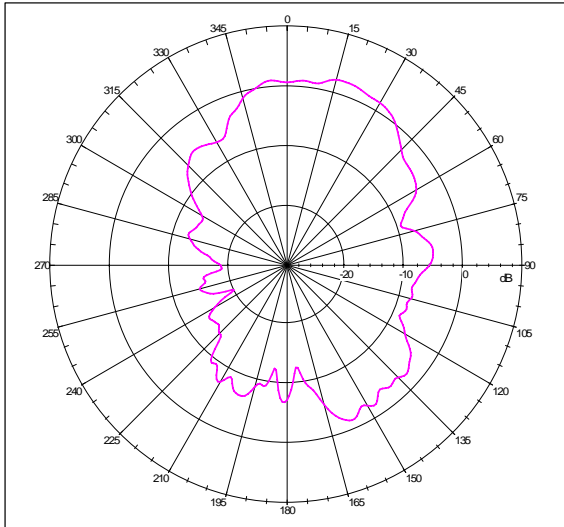
Far-field Power Distribution on X-Y Plane
Gain=3.988 dBi; Total Radiating Efficiency: 55.289% @5.35000 GHz



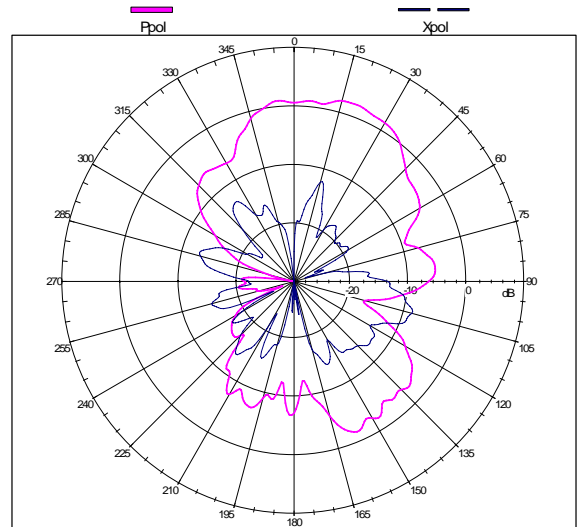
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=3.988 dBi; Co-Pol Efficiency: 55.219% @Freq: 5.35000 GHz



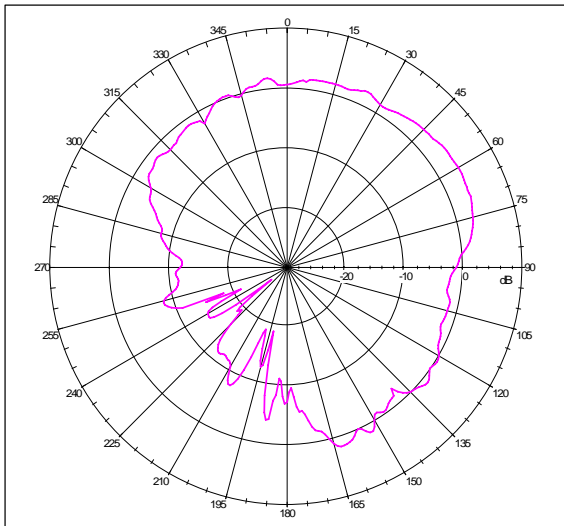
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=3.469 dBi; Total Radiating Efficiency: 51.383% @5.60000 GHz



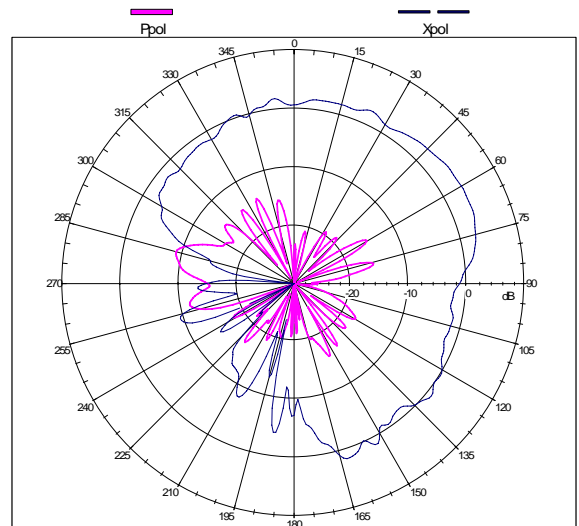
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=3.469 dBi; Co-Pol Efficiency: 47.597% @Freq: 5.60000 GHz



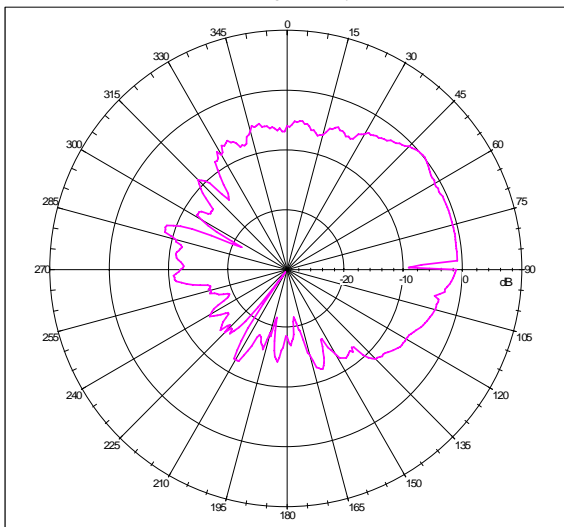
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=3.469 dBi; Total Radiating Efficiency: 51.383% @5.60000 GHz



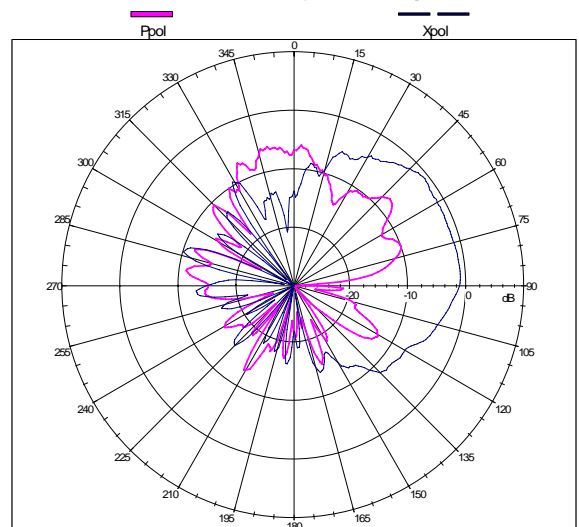
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=3.469 dBi; Co-Pol Efficiency: 47.597% @Freq: 5.60000 GHz



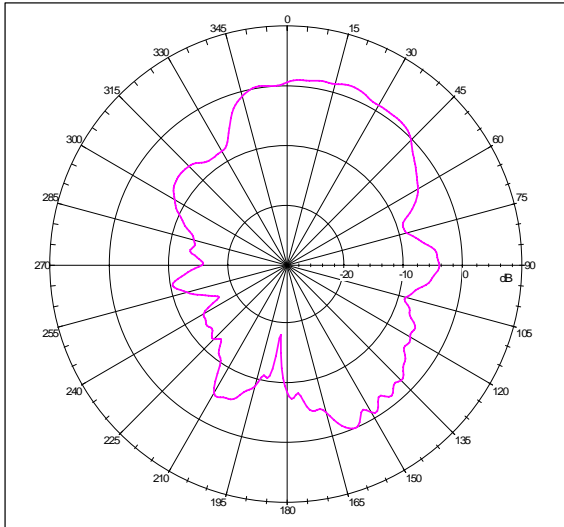
Far-field Power Distribution on X-Y Plane
Gain=3.469 dBi; Total Radiating Efficiency: 51.383% @5.60000 GHz



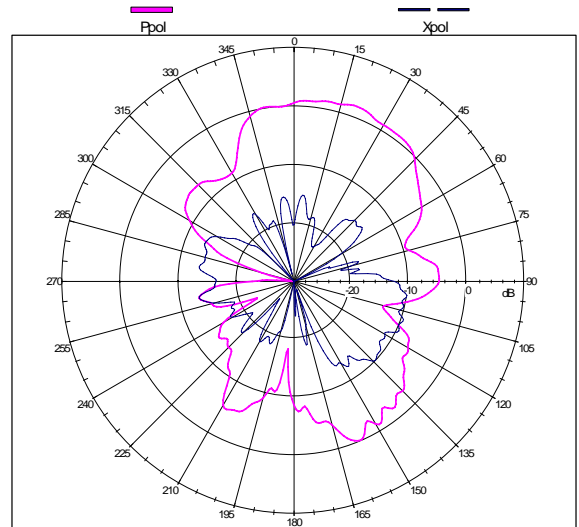
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=3.469 dBi; Co-Pol Efficiency: 47.597% @Freq: 5.60000 GHz



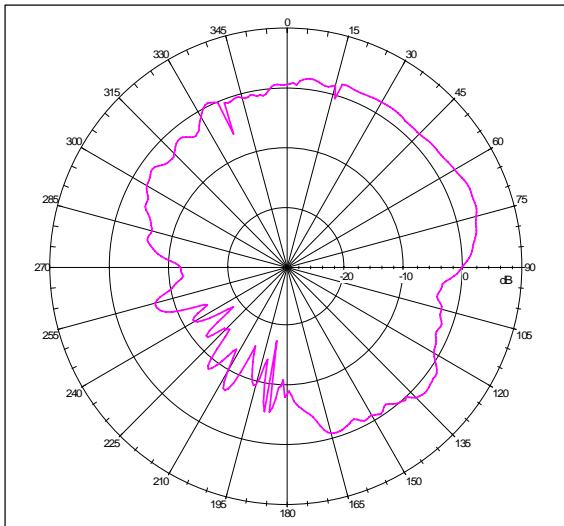
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=3.888 dBi; Total Radiating Efficiency: 49.211% @5.85000 GHz



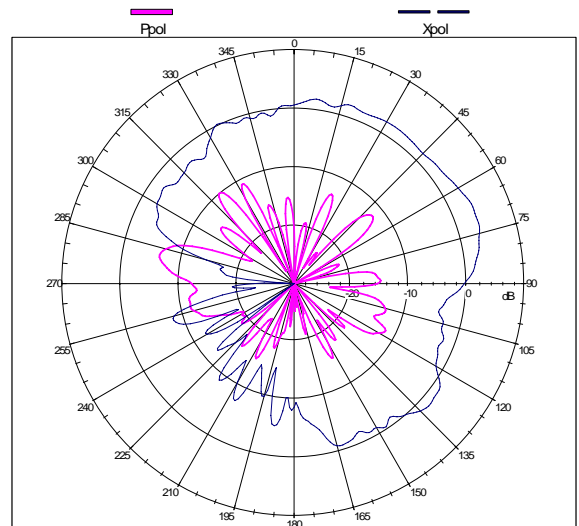
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=3.888 dBi; Co-Pol Efficiency: 46.018% @Freq: 5.85000 GHz



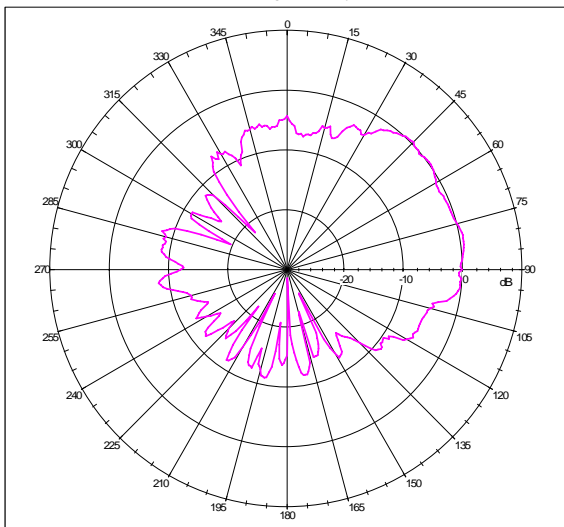
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=3.888 dBi; Total Radiating Efficiency: 49.211% @5.85000 GHz



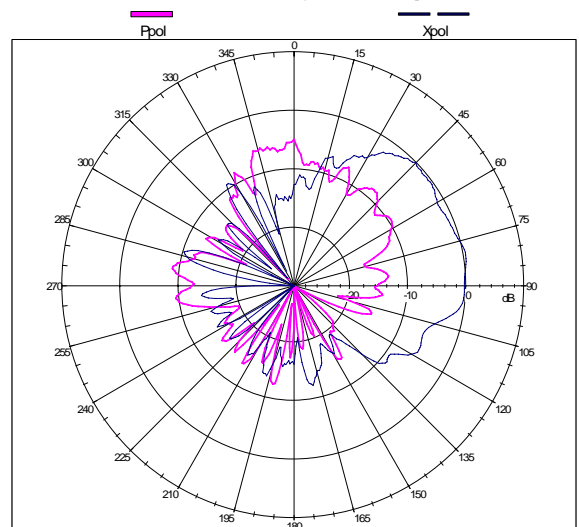
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=3.888 dBi; Co-Pol Efficiency: 46.018% @Freq: 5.85000 GHz



Far-field Power Distribution on X-Y Plane
Gain=3.888 dBi; Total Radiating Efficiency: 49.211% @5.85000 GHz



Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=3.888 dBi; Co-Pol Efficiency: 46.018% @Freq: 5.85000 GHz



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	M Ω 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 \pm 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°C \pm 5°C * 3 sec.

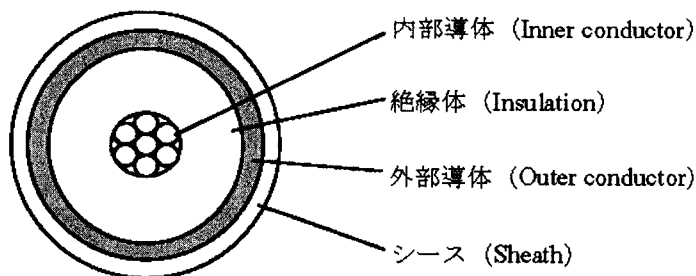


図 1 .ケーブル構造図

Fig.1. Cable Cross-Section



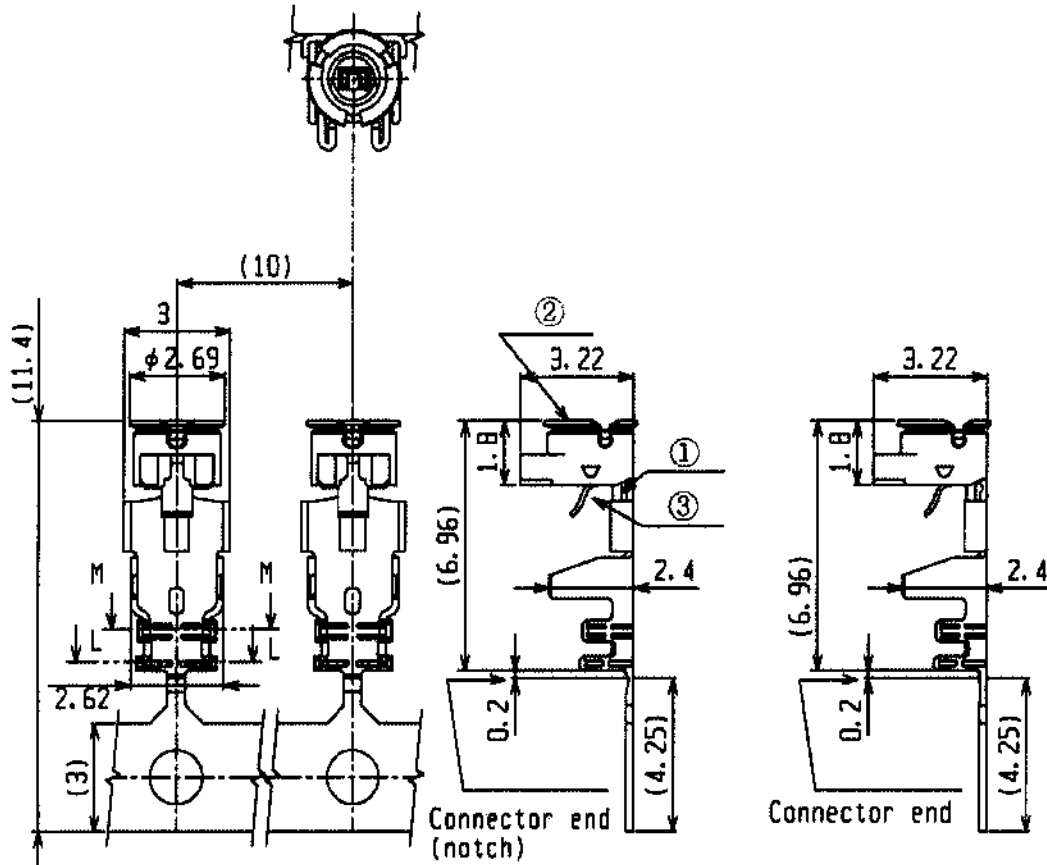
譚裕實業股份有限公司

WHA YU INDUSTRIAL CO., LTD

Connector 材質證明書

譚裕料號 Whayu P/N	Z101-02110002-A1	產品名稱 Product Name	MHF Plug for ϕ 1.13 Coaxial Cable
-------------------	------------------	----------------------	--

結構圖面



材質成份								表面處理
1	絕緣	PBT	Polybutylene Terephthalate(UL 94V-0)					Black
2	外殼	Phos. Bronze	Cu	Sn	P	Zn	Pb	鍍金 0.05 μ m
3	中心夾持	Phos. Bronze	Cu	Sn	P	Zn	Pb	鍍金 0.1 μ m

Remark : 插拔次數 30 次

