



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.: *C1046-510009-A(SSR-72581)*

REV.: *XI*

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :	<i>吳忠華</i>	
DATE :	<i>8/9-2009</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.

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DONGGUAN AEON TECH CO.,LTD.(CHINA)

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TAI HWA ELECTRONIC FACTORY

台樺電業製品廠

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

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HUA HONG INTERNATIONAL LTD.

華弘國際有限公司

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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

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3.	測試報告 3~13
4.	Cable 規格 14~16
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C1046-510009-A SPECIFICATION

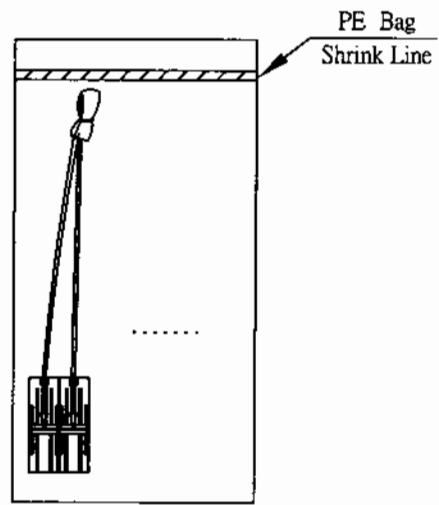
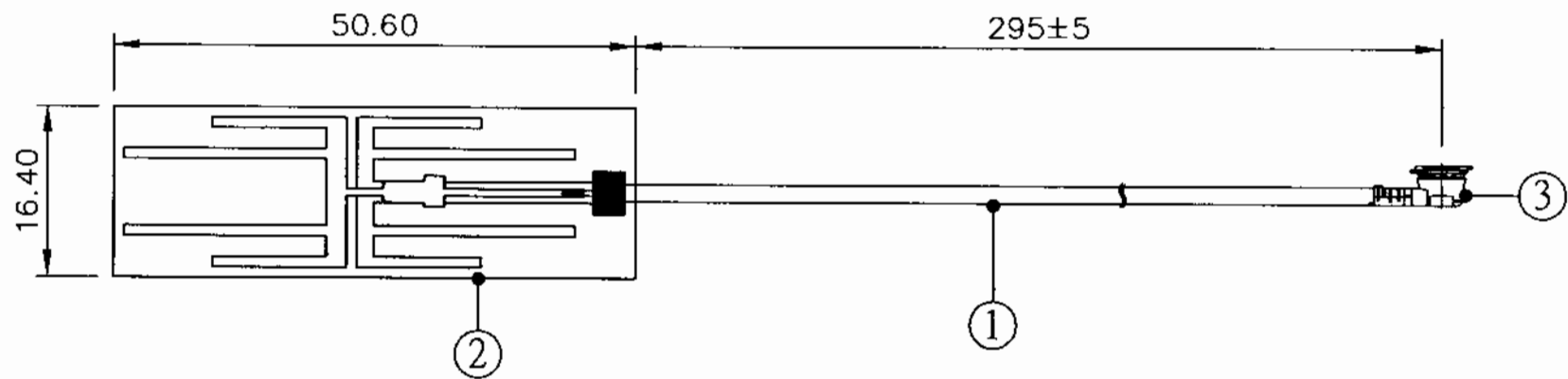
1. Electrical Specification

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 Stand 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=30cm
2.1	Cable Loss:	0.9dB @2.4GHz 1.3dB @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:	1.98 gf

REV	DATE	DESCRIPTION
X1	8/3-2007	New Issue



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	APPROVED	<i>Winston</i>
X	±3.0	CHECKED	<i>許文國</i>
.X	±1.0		
.XX	±0.5		
.XXX	±0.1	DRAWING	<i>程淑娟</i>

CUSTOMER: KISS		
PART NO :		
PARTNAME: RF Antenna Cable Assembly		
W.Y P/NO : C1046-510009-A		
REV	UNIT	FILE : SSR-72581
X1	m/m	SHEET : 1/1

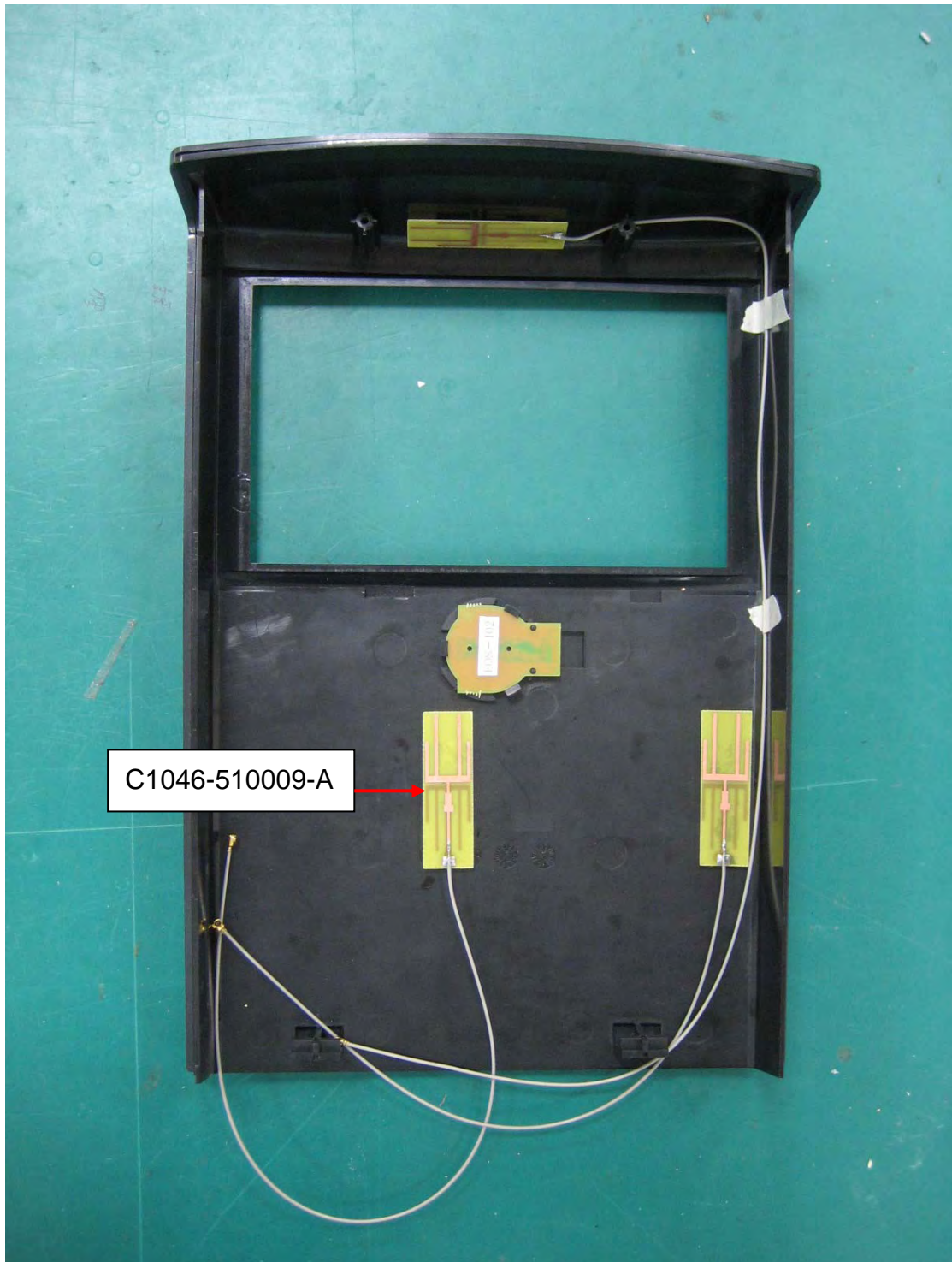
M.gear Wha Yu Group
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RF Antenna Assembly

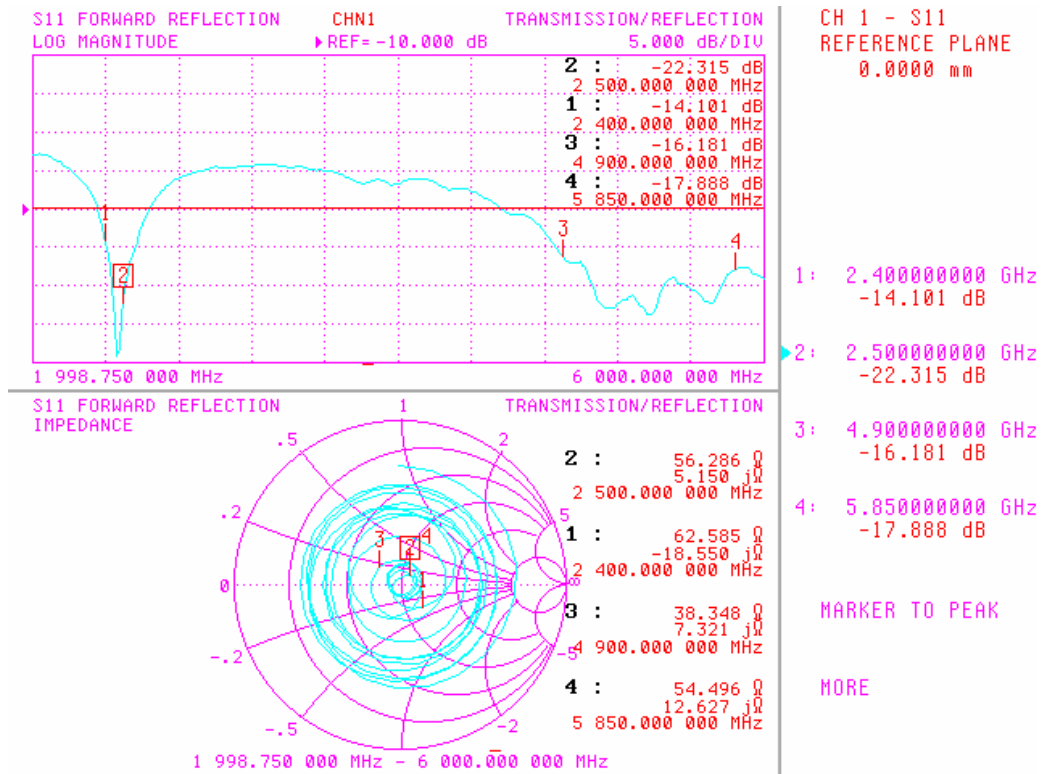
P/N: C1046-510009-A

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

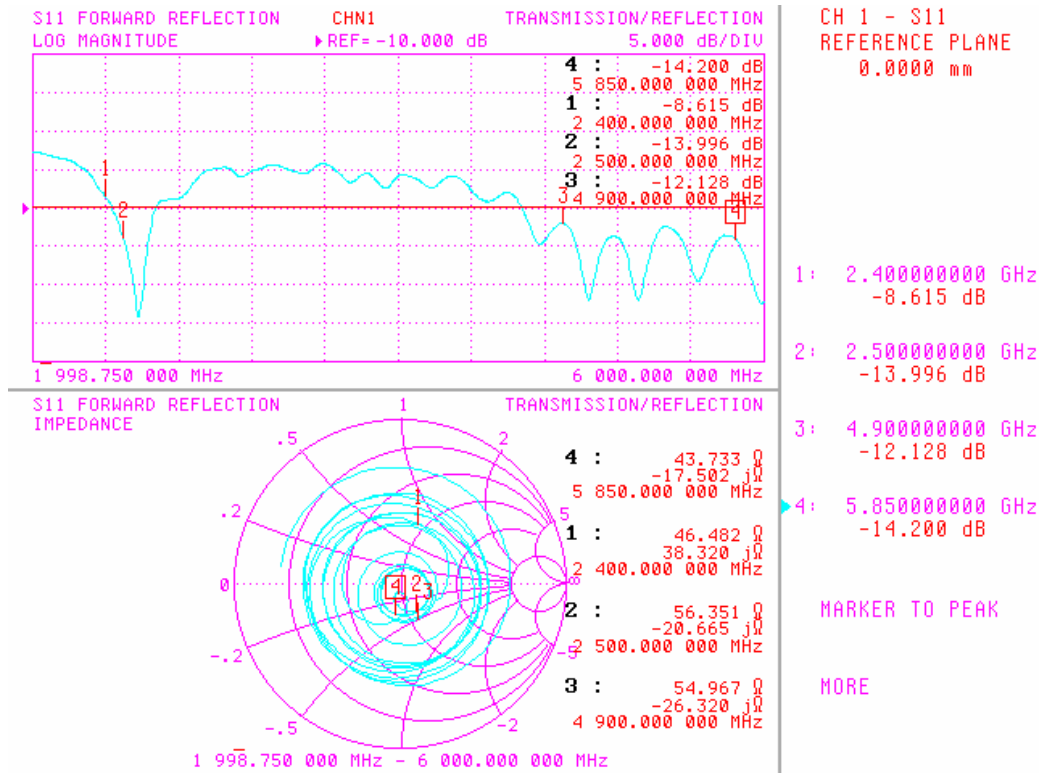
#Measurement



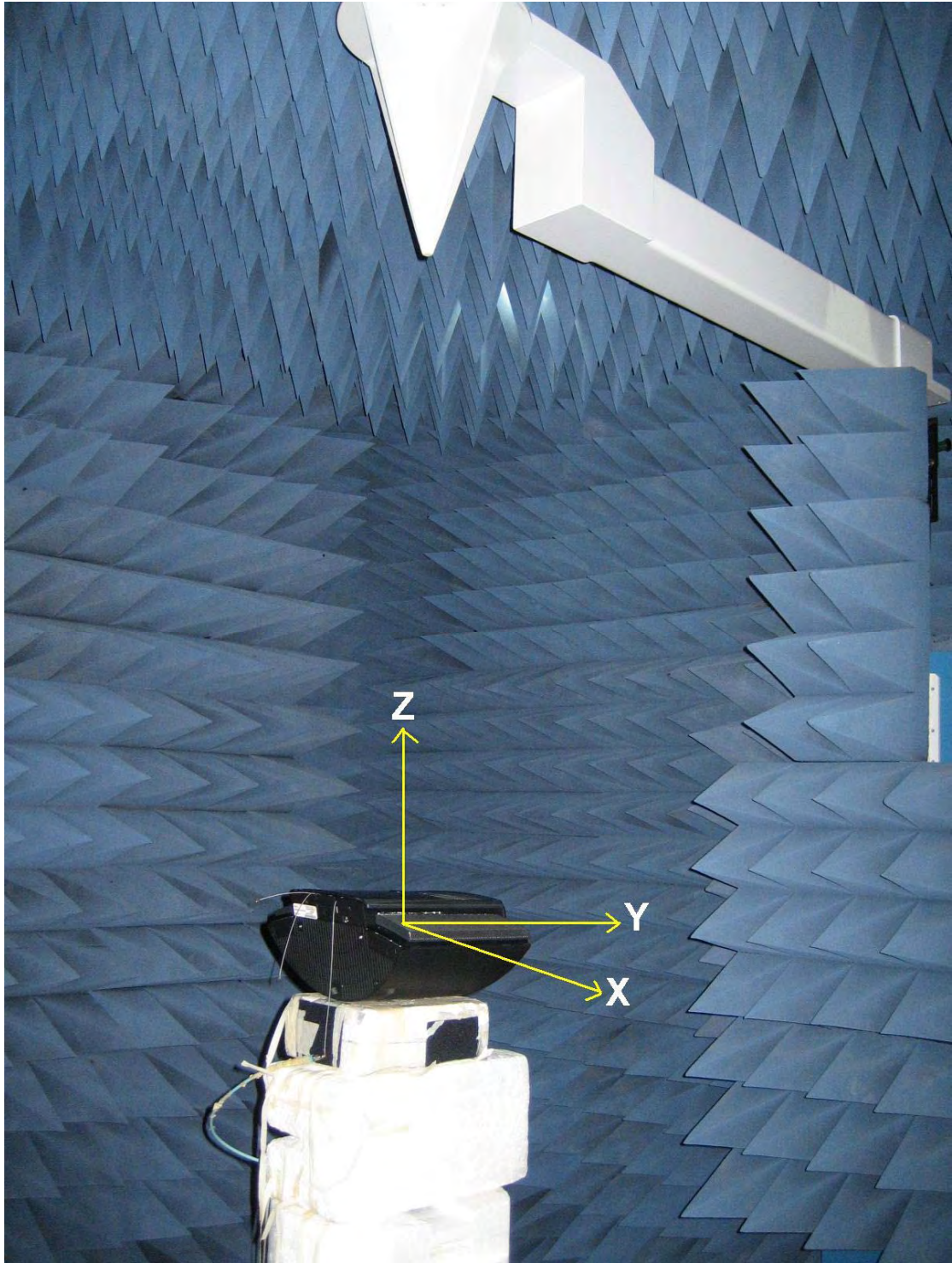
Return Loss(With Housing)



Return Loss(Antenna Stabd alone)

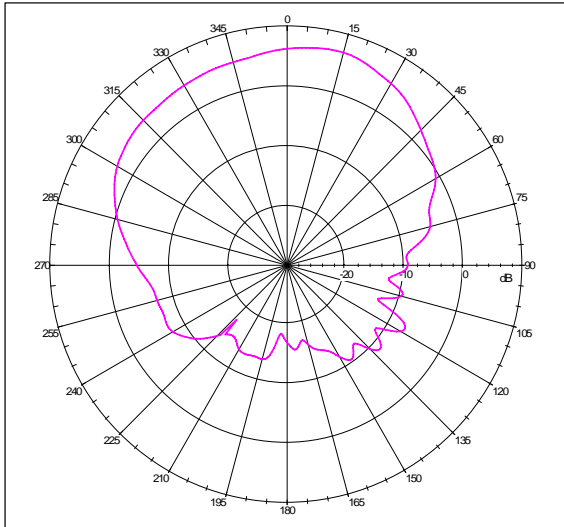


3D Chamber Test

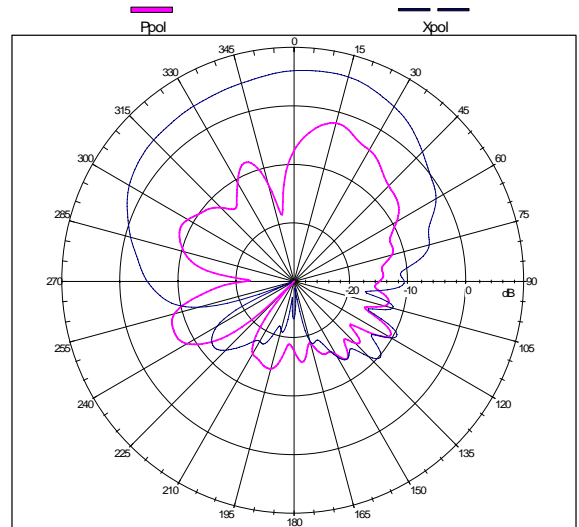


Pattern

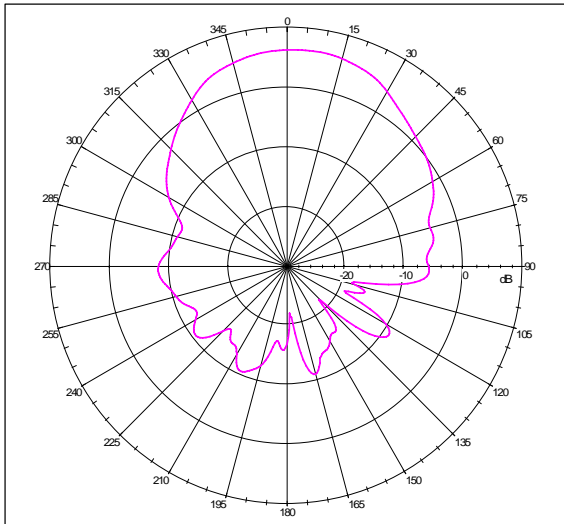
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=6.496 dBi; Total Radiating Efficiency: 68.340% @2.40000 GHz



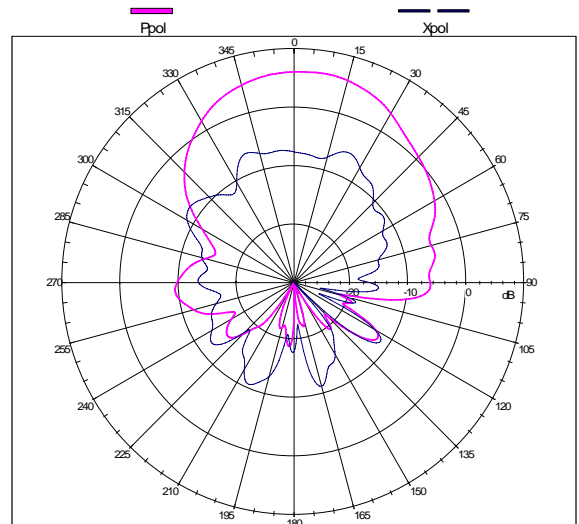
Far-field Pattern @ Phi=0 deg(E-Theta Plane-Cut)
Gain=6.496 dBi; Co-Pol Efficiency: 62.264% @Freq: 2.40000 GHz



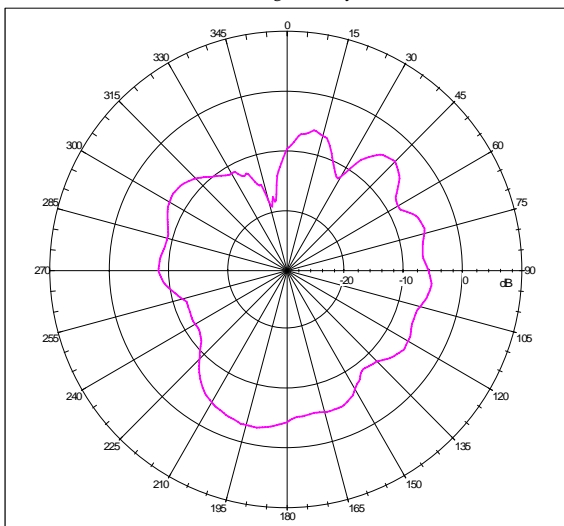
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=6.496 dBi; Total Radiating Efficiency: 68.340% @2.40000 GHz



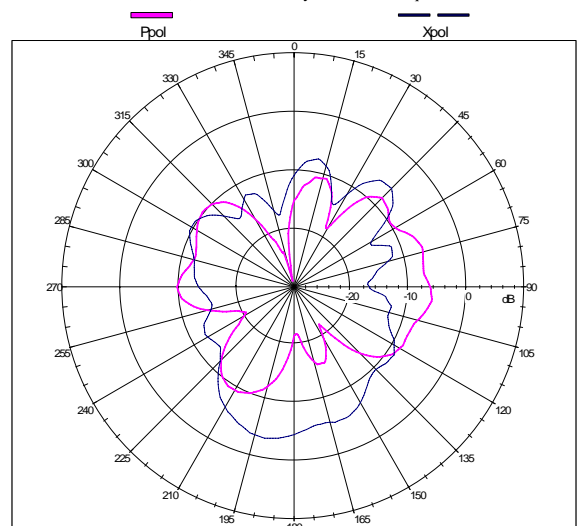
Far-field Pattern @ Phi=90 deg(E-Theta Plane-Cut)
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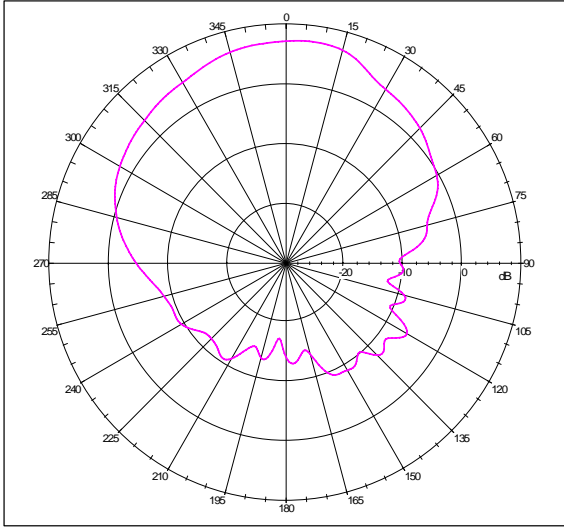
Far-field Power Distribution on X-Y Plane
Gain=6.496 dBi; Total Radiating Efficiency: 68.340% @2.40000 GHz



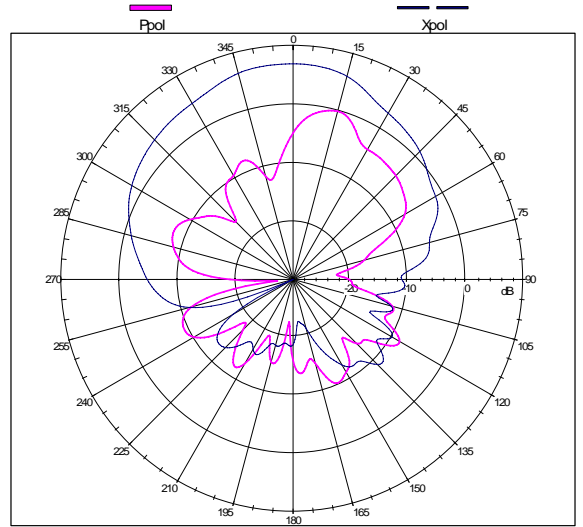
Far-field Pattern @ Theta=90 deg(E-Phi Plane-Cut)
Gain=6.496 dBi; Co-Pol Efficiency: 62.264% @Freq: 2.40000 GHz



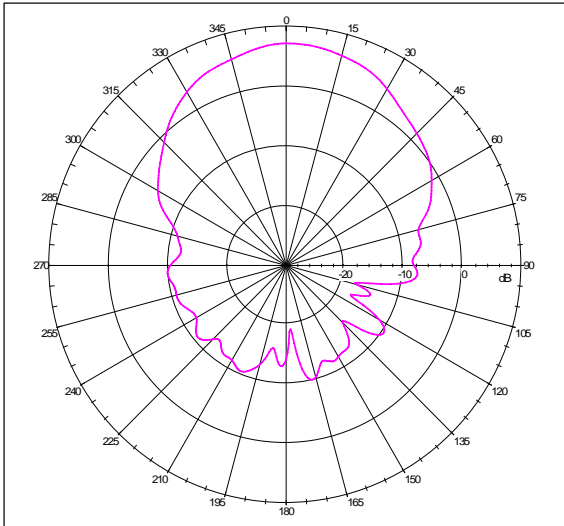
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=7.187 dBi; Total Radiating Efficiency: 66.936% @2.45000 GHz



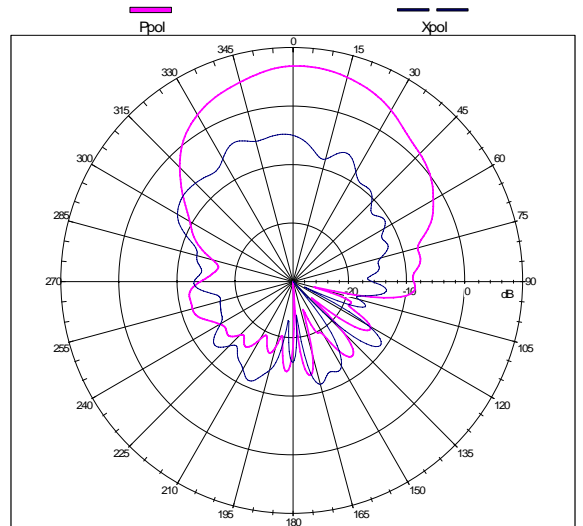
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=7.187 dBi; Co-Pol Efficiency: 64.933% @Freq: 2.45000 GHz



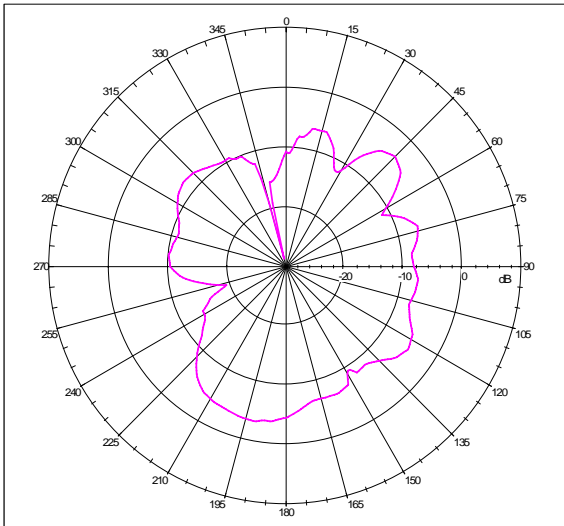
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=7.187 dBi; Total Radiating Efficiency: 66.936% @2.45000 GHz



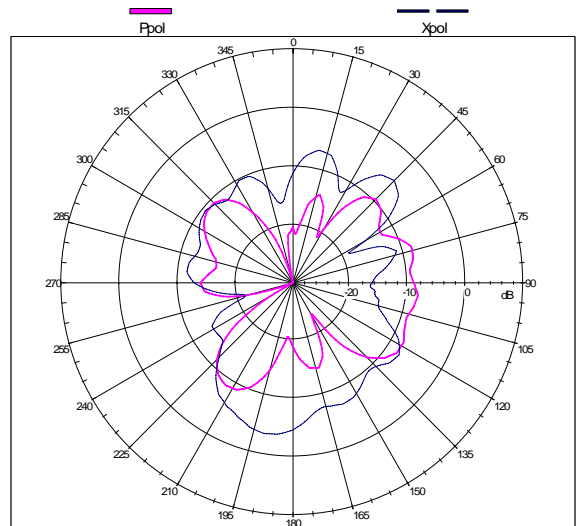
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=7.187 dBi; Co-Pol Efficiency: 64.933% @Freq: 2.45000 GHz



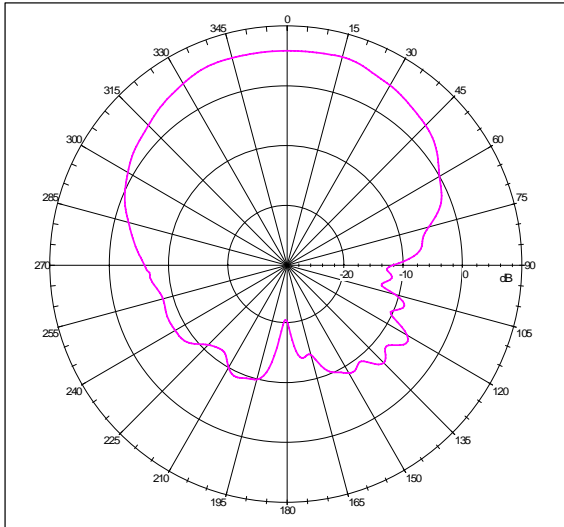
Far-field Power Distribution on X-Y Plane
Gain=7.187 dBi; Total Radiating Efficiency: 66.936% @2.45000 GHz



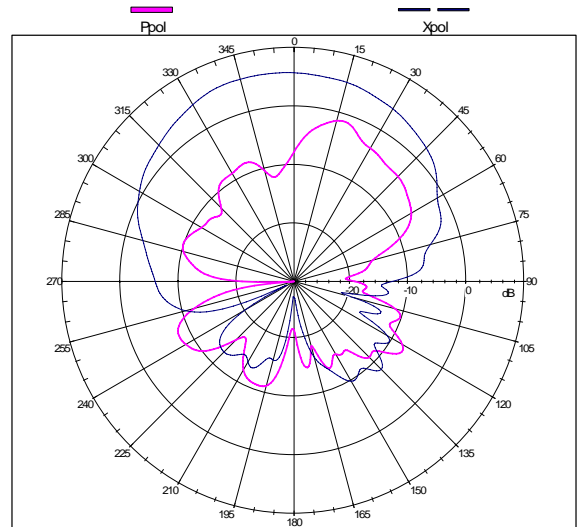
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=7.187 dBi; Co-Pol Efficiency: 64.933% @Freq: 2.45000 GHz



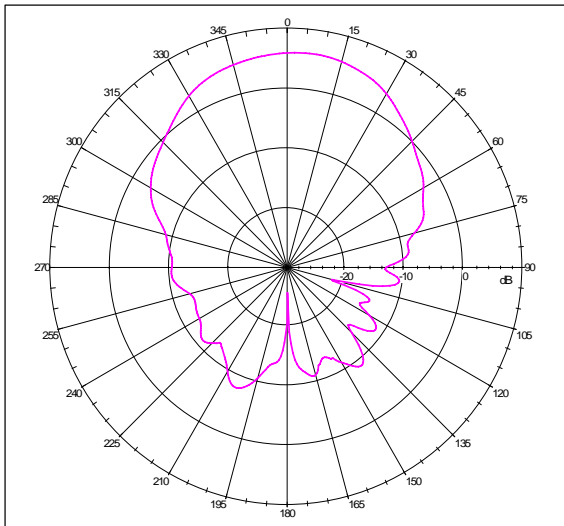
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=5.985 dBi; Total Radiating Efficiency: 69.908% @2.50000 GHz



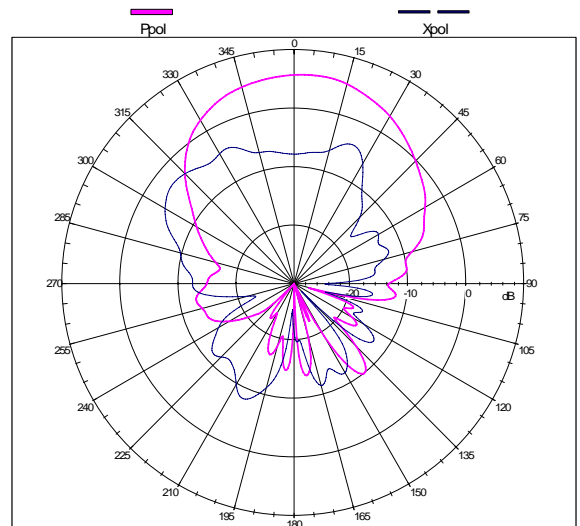
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=5.985 dBi; Co-Pol Efficiency: 63.399% @Freq: 2.50000 GHz



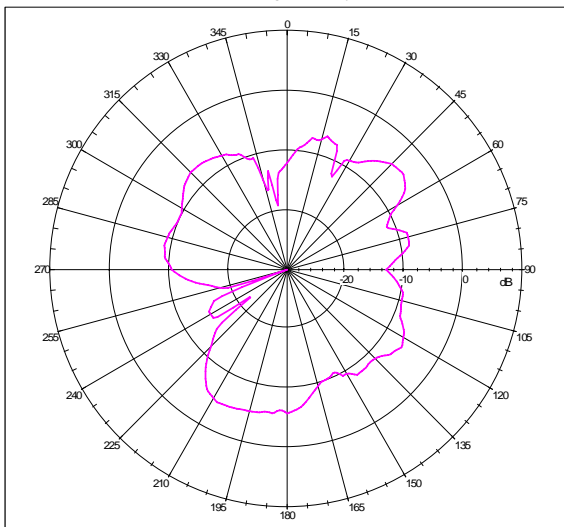
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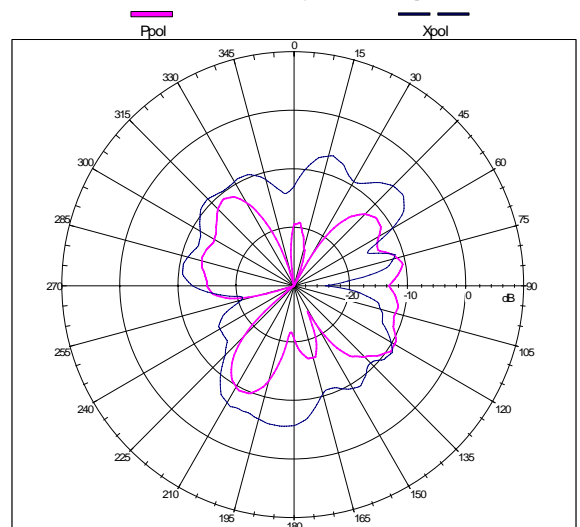
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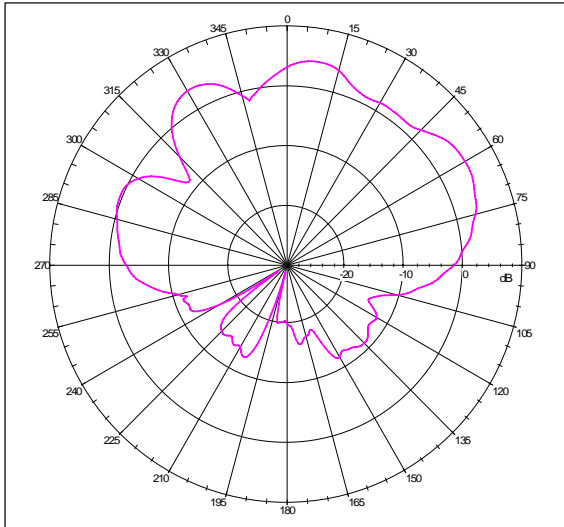
Far-field Power Distribution on X-Y Plane
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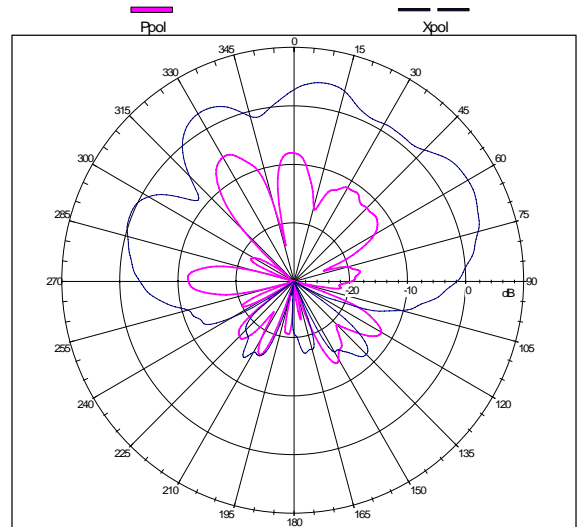
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=5.985 dBi; Co-Pol Efficiency: 63.399% @Freq: 2.50000 GHz



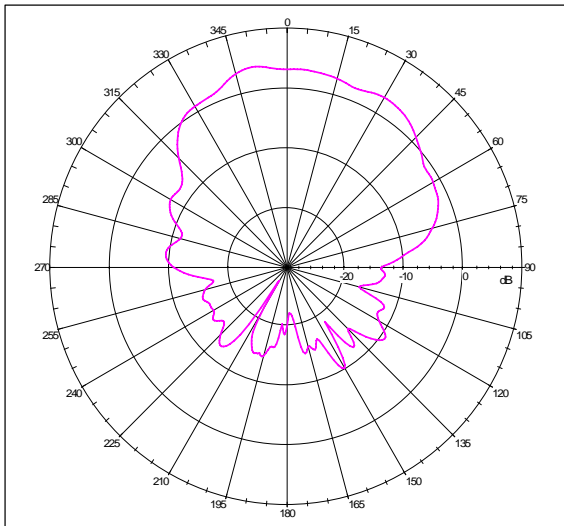
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=4.884 dBi; Total Radiating Efficiency: 58.933% @4.90000 GHz



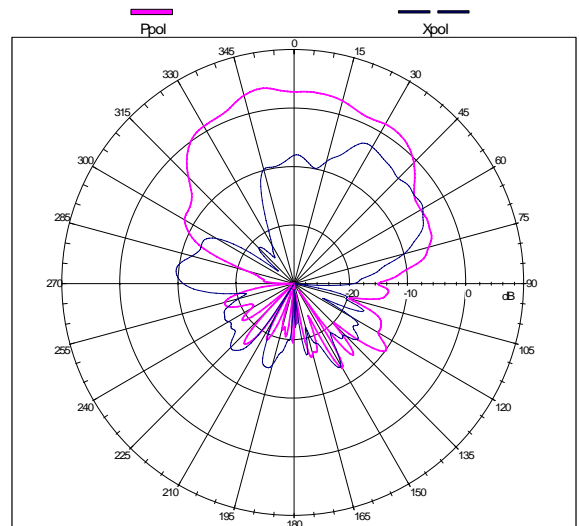
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=4.884 dBi; Co-Pol Efficiency: 51.597% @Freq: 4.90000 GHz



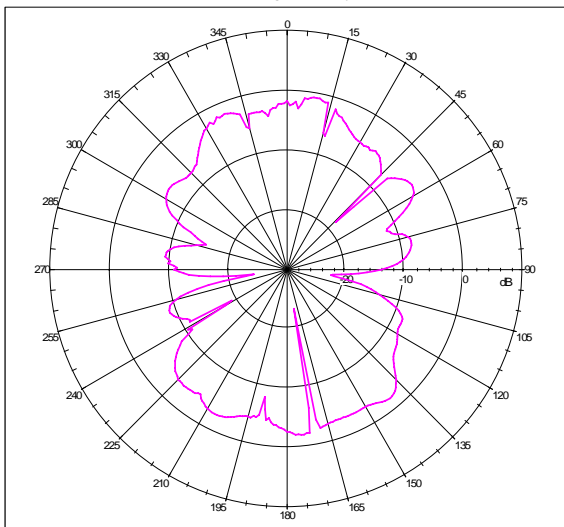
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=4.884 dBi; Total Radiating Efficiency: 58.933% @4.90000 GHz



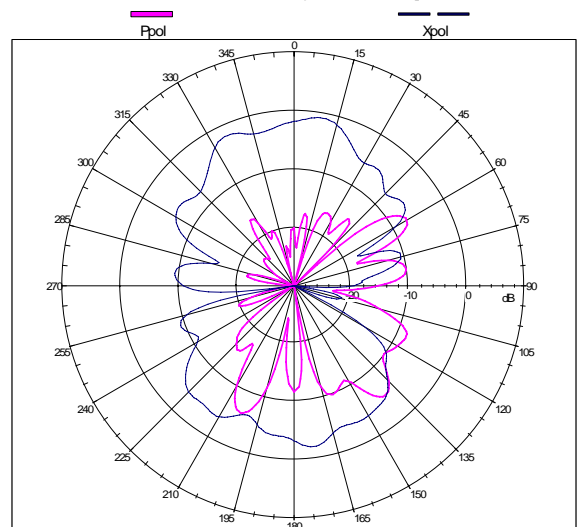
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=4.884 dBi; Co-Pol Efficiency: 51.597% @Freq: 4.90000 GHz



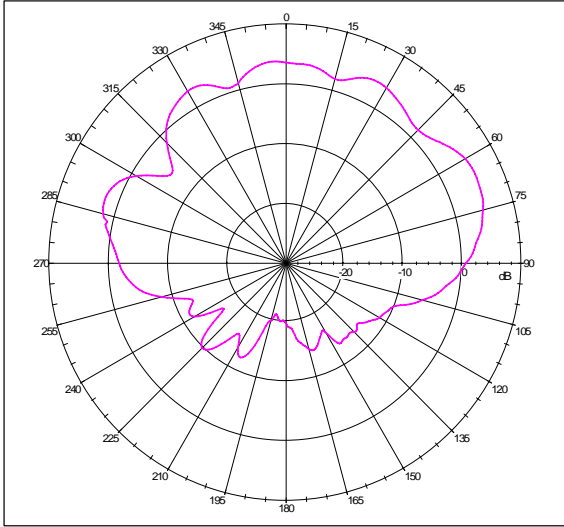
Far-field Power Distribution on X-Y Plane
Gain=4.884 dBi; Total Radiating Efficiency: 58.933% @4.90000 GHz



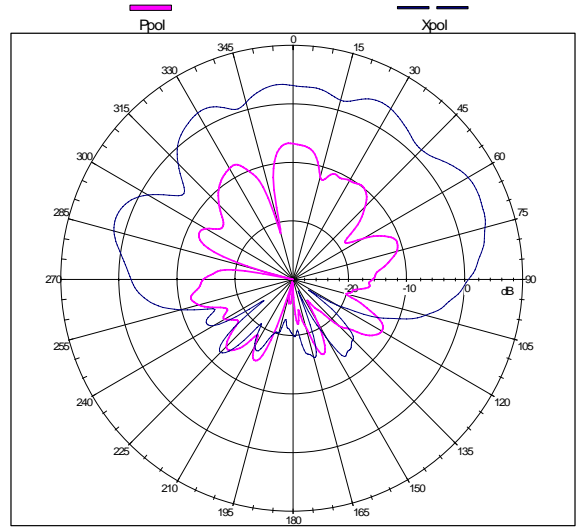
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=4.884 dBi; Co-Pol Efficiency: 51.597% @Freq: 4.90000 GHz



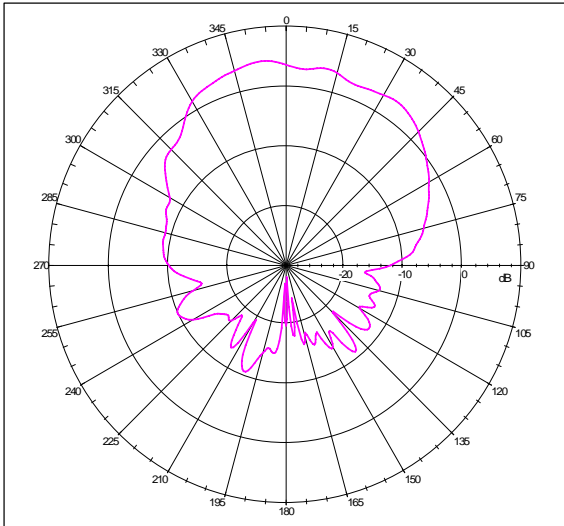
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=6.089 dBi; Total Radiating Efficiency: 57.855% @5.15000 GHz



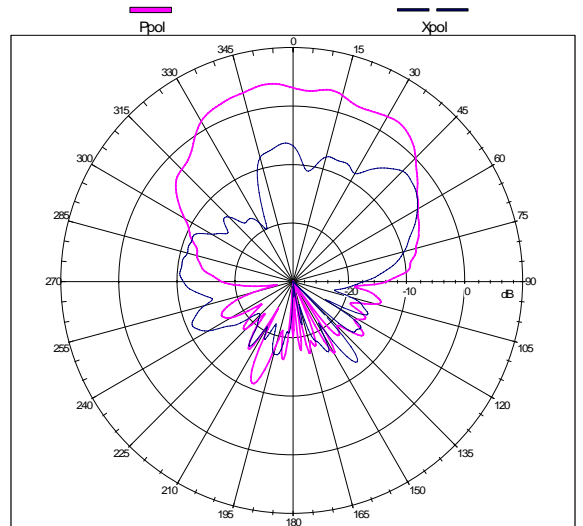
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=6.089 dBi; Co-Pol Efficiency: 57.287% @Freq: 5.15000 GHz



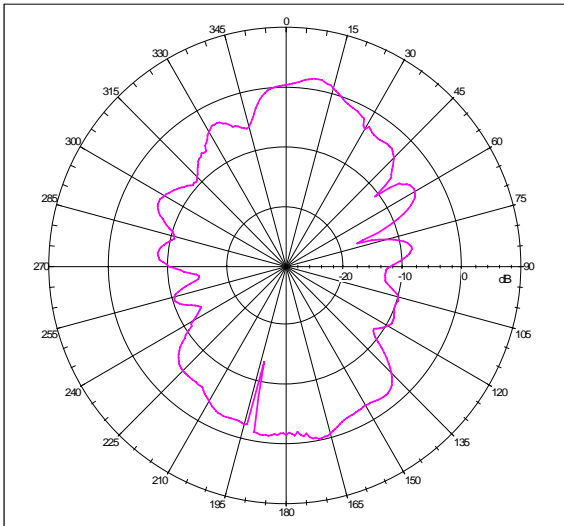
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=6.089 dBi; Total Radiating Efficiency: 57.855% @5.15000 GHz



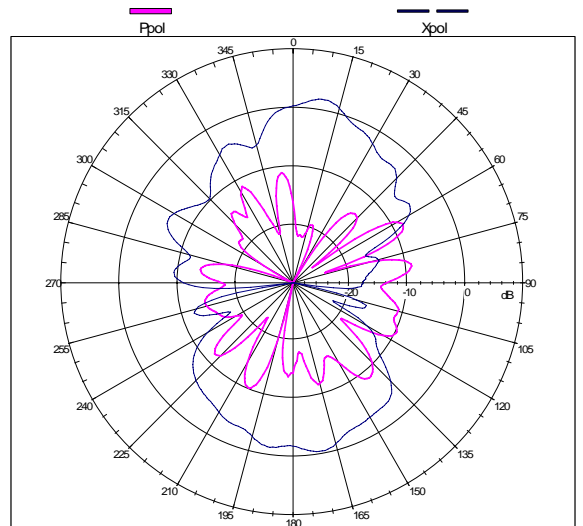
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=6.089 dBi; Co-Pol Efficiency: 57.287% @Freq: 5.15000 GHz



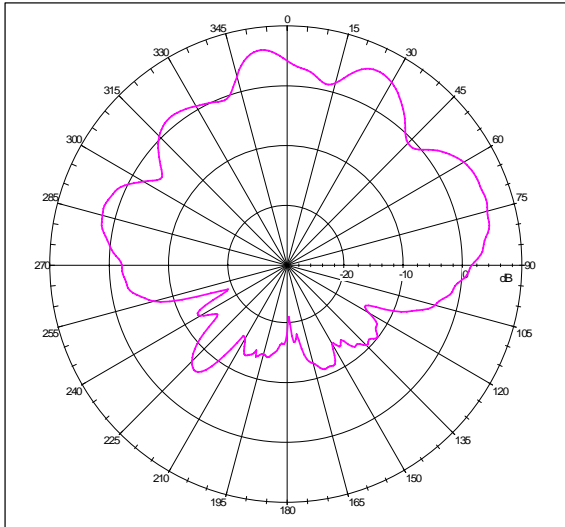
Far-field Power Distribution on X-Y Plane
Gain=6.089 dBi; Total Radiating Efficiency: 57.855% @5.15000 GHz



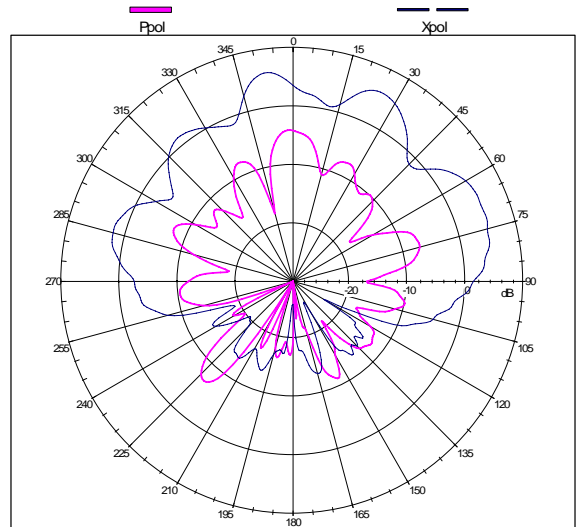
Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=6.089 dBi; Co-Pol Efficiency: 57.287% @Freq: 5.15000 GHz



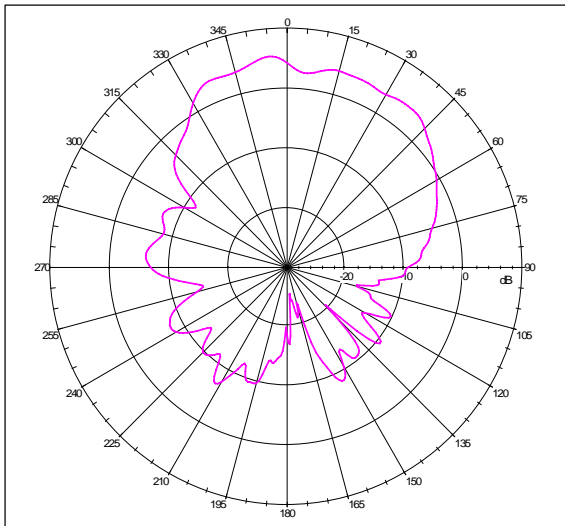
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=6.905 dBi; Total Radiating Efficiency: 62.675% @5.35000 GHz



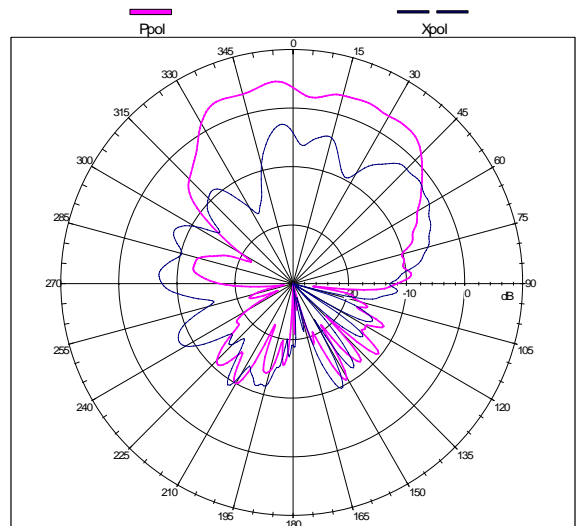
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=6.905 dBi; Co-Pol Efficiency: 61.928% @Freq: 5.35000 GHz



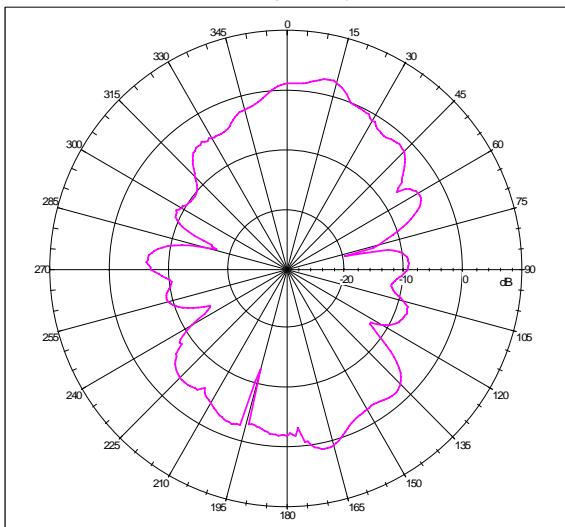
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=6.905 dBi; Total Radiating Efficiency: 62.675% @5.35000 GHz



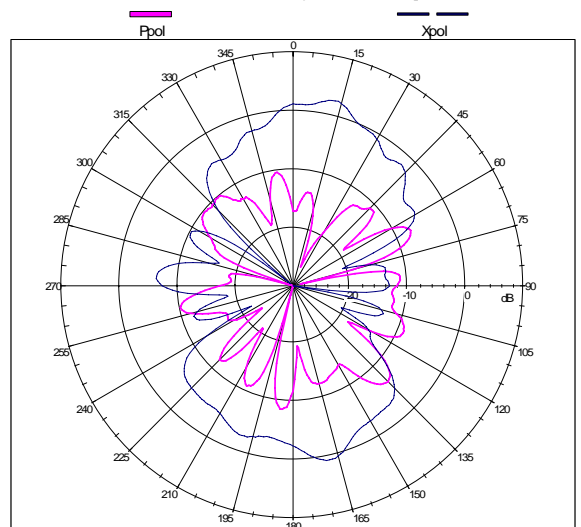
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=6.905 dBi; Co-Pol Efficiency: 61.928% @Freq: 5.35000 GHz



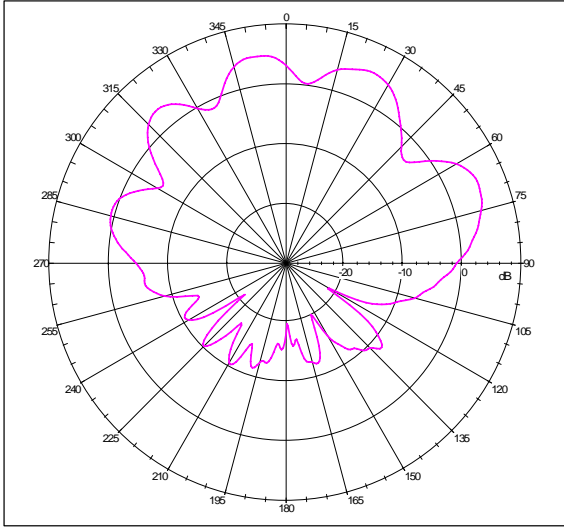
Far-field Power Distribution on X-Y Plane
Gain=6.905 dBi; Total Radiating Efficiency: 62.675% @5.35000 GHz



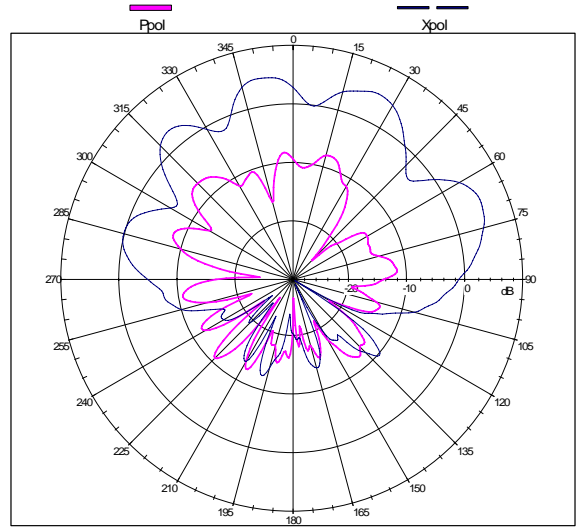
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Gain=6.905 dBi; Co-Pol Efficiency: 61.928% @Freq: 5.35000 GHz



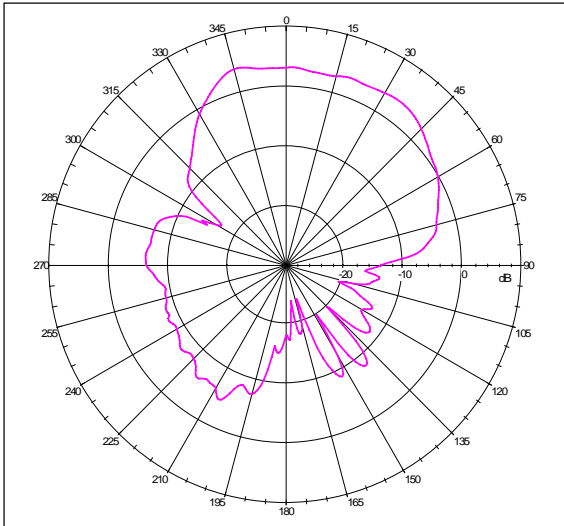
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=5.310dBi; Total Radiating Efficiency: 53.344% @5.60000 GHz



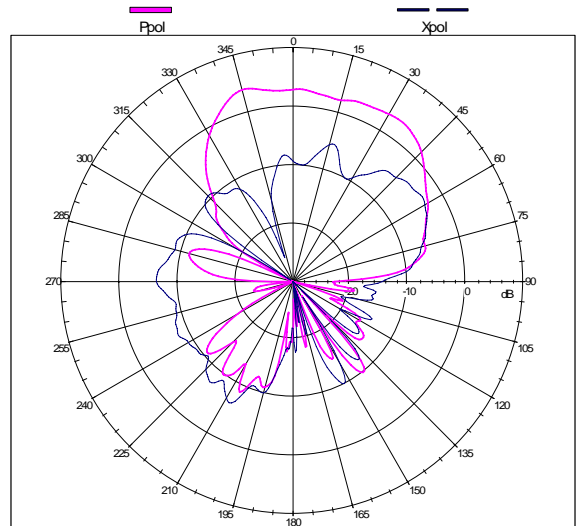
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=5.310dBi; Co-Pol Efficiency: 53.215% @Freq: 5.60000 GHz



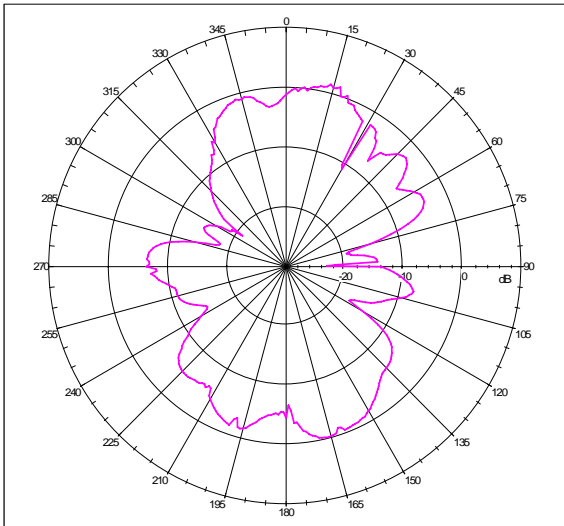
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=5.310dBi; Total Radiating Efficiency: 53.344% @5.60000 GHz



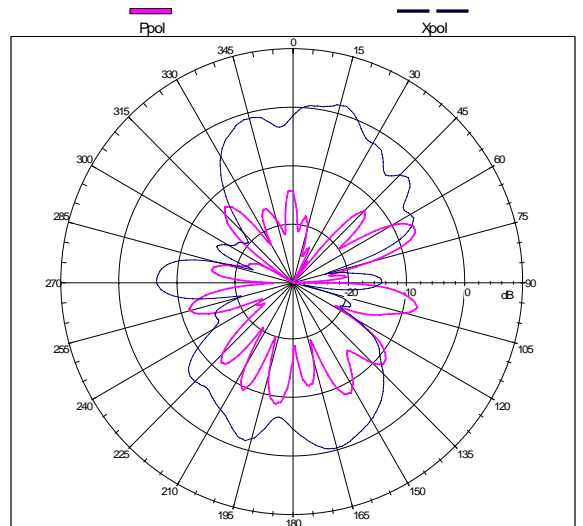
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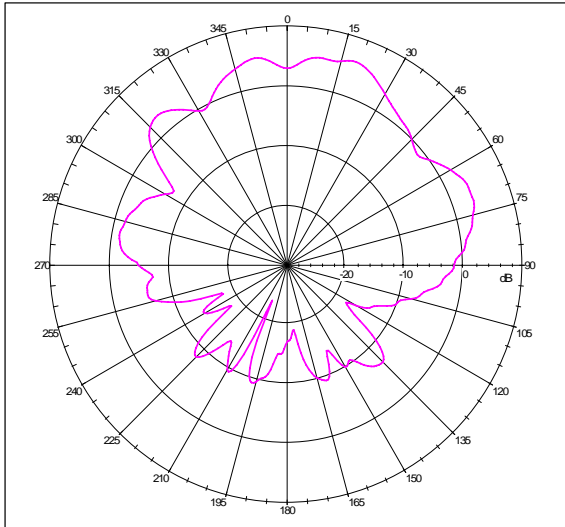
Far-field Power Distribution on X-Y Plane
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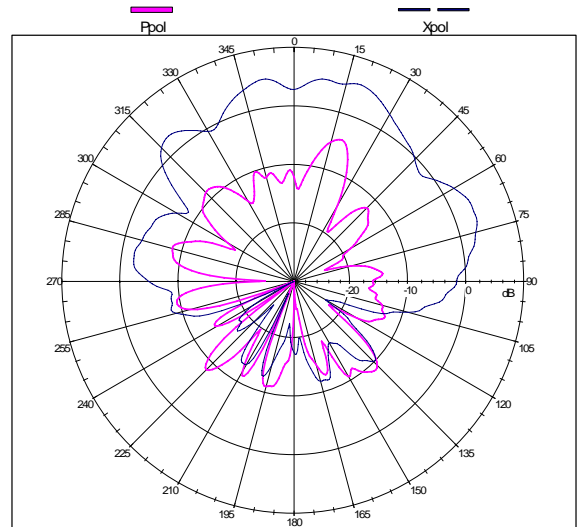
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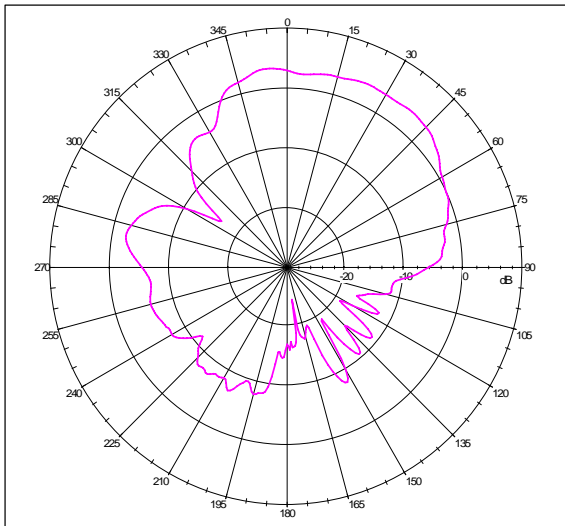
Far-field Power Distribution on X-Z Plane(E-Plane of L3 Pol Sense)
Gain=6.127 dBi; Total Radiating Efficiency: 56.756% @5.85000 GHz



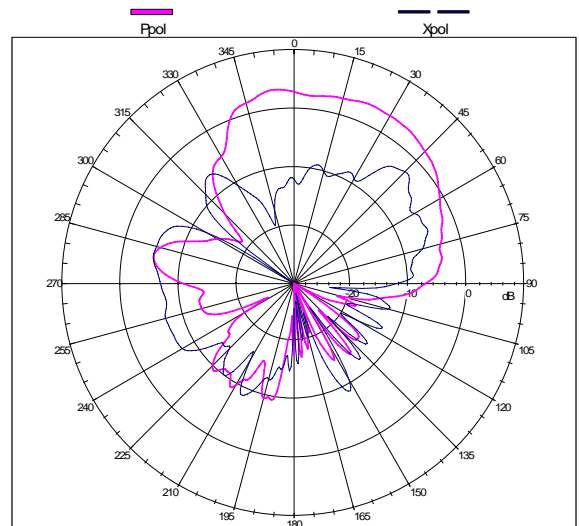
Far-field Pattern @Phi=0 deg(E-Theta Plane-Cut)
Gain=6.127 dBi; Co-Pol Efficiency: 56.519% @Freq: 5.85000 GHz



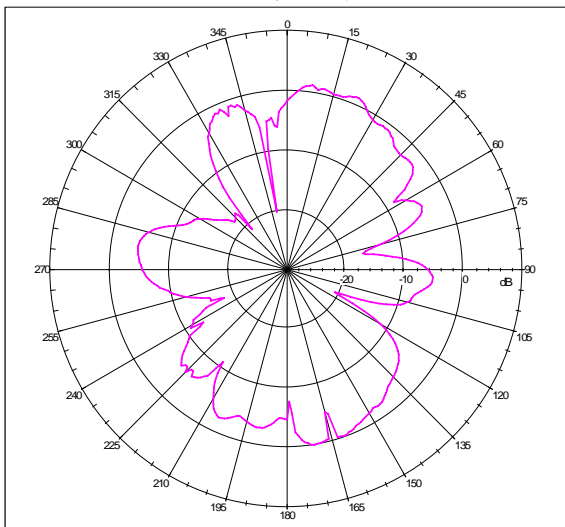
Far-field Power Distribution on Y-Z Plane(H-Plane of L3 Pol Sense)
Gain=6.127 dBi; Total Radiating Efficiency: 56.756% @5.85000 GHz



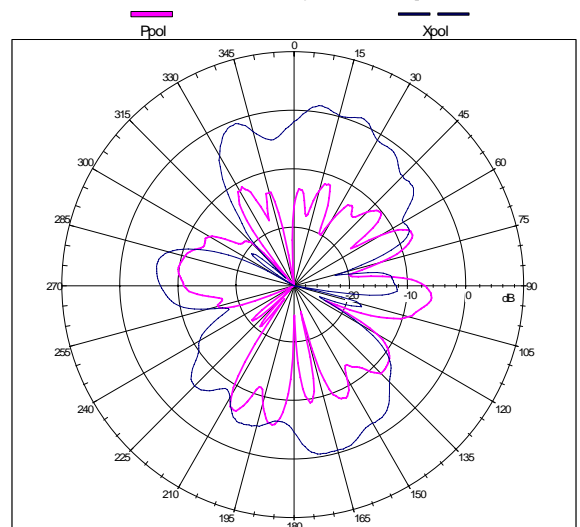
Far-field Pattern @Phi=90 deg(E-Theta Plane-Cut)
Gain=6.127 dBi; Co-Pol Efficiency: 56.519% @Freq: 5.85000 GHz



Far-field Power Distribution on X-Y Plane
Gain=6.127 dBi; Total Radiating Efficiency: 56.756% @5.85000 GHz



Far-field Pattern @Theta=90 deg(E-Phi Plane-Cut)
Gain=6.127 dBi; Co-Pol Efficiency: 56.519% @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	$\text{M}\Omega\text{km}$	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°C \pm 5°C * 3 sec.

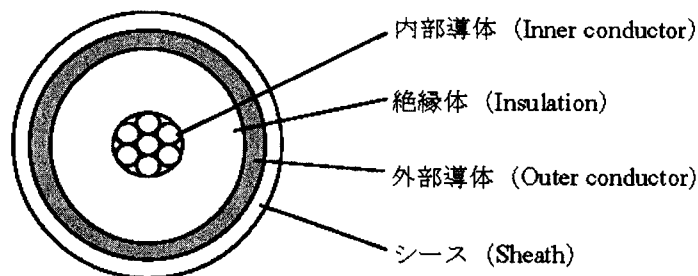


図 1. ケーブル構造図

Fig.1. Cable Cross-Section



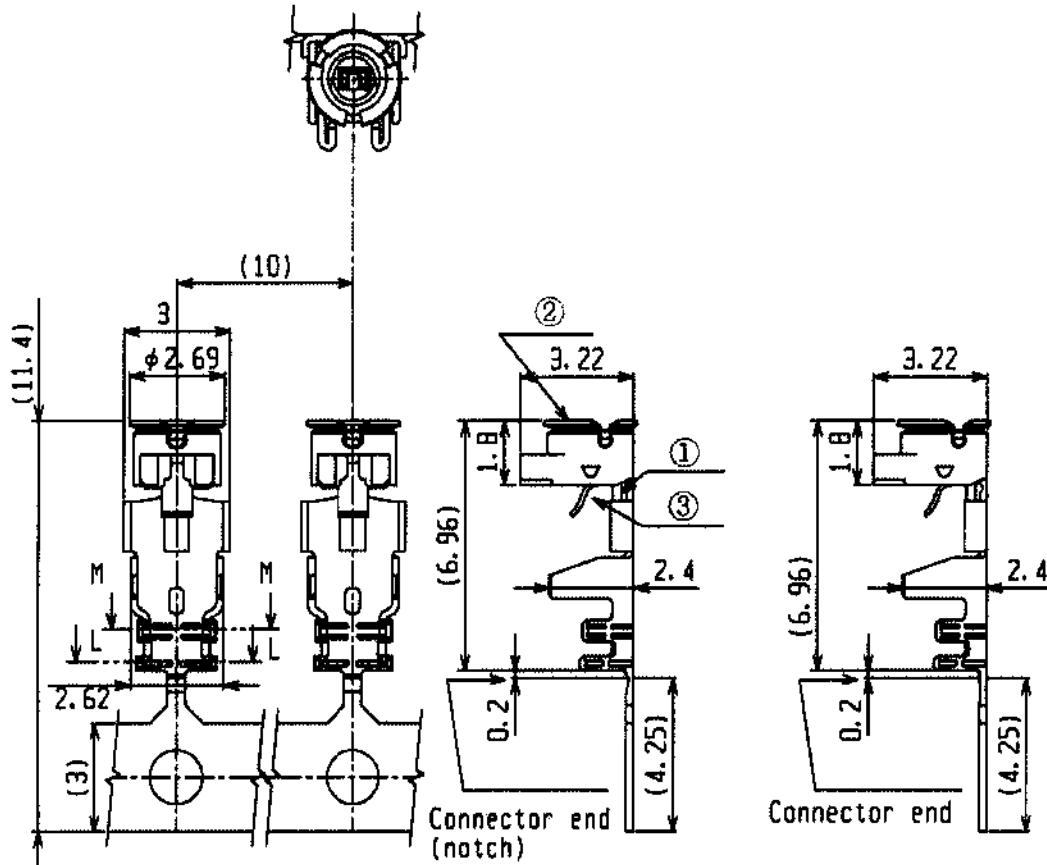
譚裕實業股份有限公司

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
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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

