

DATE : SEP.20.2006

CUSTOMER: Uniwill Computer, INC

APPROVAL SHEET

MODEL	L51-RIGHT ANTENNA
DESCRIPTION	PIFA For Wireless LAN Antenna 2.4~2.5GHZ /4.9~5.875GHZ
SUPPLIER P/N	K05008003751
CUSTOMER P/N	22G600570-00
FILE P/N	

FAVORTRON			Customer	
Manager	Supervisor	Engineer		
Nick	Lun	Kristy		



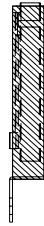
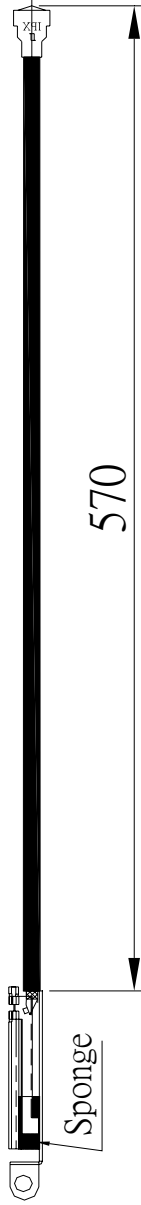
惠貿電子股份有限公司
FAVORTRON CO., LTD

台北縣新店市 231 民權路 108-1 號 4F TEL: (02) 2218-2189

CUSTOMER P/N	22G600570-00 (L51-RIGHT)			材料具體型號 or 系列型號
項次	類別	內容	UL / SGS	
1	DRAWING			
		ASSEMBLY		
		BOM		
		鐵件圖面&測試方法		
2	WLAN Ant./In Notebook (LCD-RIGHT ANT.)			
		2.4~2.5GHz / Return Loss & VSWR……		
		5.15~5.85 GHz / Return Loss & VSWR		
		2.4~2.5 & 5.15~5.85 GHz / Return Loss & VSWR		
3	Gain&PATTERN-WLAN ANT./In Notebook..			
4	SPECIFICATIONS			
		1. Electrical Properties		
		2. Coaxial Cable Specification	SPH-3-0805A	
		3. Coaxial Cable UL	E81015	UL 1354 RF 1.13
		4. I-PEX Connector		
		5. I-PEX Connector UL	E213445	
		6. I-PEX Connector 拉力測試報告		
		7. Sponge Specification	3G-1672	
		8. Sponge UL	E66114(S)	
		9. G9000-SY UL	MH15431	
		10. 導電鋁箔 UL	E233905	EC-1057
		11. PIFA Specification	283383	
		12. IN HOUSE TEST		
5	天線材料名稱內容	SGS REPORT NO		
	IPEX 端子 (接頭 MHF PLUG)	CONTACT	CE/2005/96053	1845-011
		HOUSING	CE/2005/96055	1844-011
	CABLE (灰色) OD = 1.13	導體	2070181/EC	
		絕緣層	SH6044950/CHEM	
		線材外被色母	2070606/EC	
			NT06080073-4	
	無鉛錫		SH546665-1/CHEM	
	鐵件		CE/2005/95879A	
	SPONGE		CE/2004/93871	
	G9000-SY		CE/2005/90196	
	透明套管 (TUBE)		GZ0602016707/CHEM	
	導電鋁箔	鋁箔	SH562578/CHEM	
		導電膠	SH6019816/CHEM	型號: 83
	白色標籤		SH6013297/CHEM	型號: AW3209
	白色標籤 (碳帶)		CE/2005/B2096B	型號: RA6902

1. DRAWING ASSEMBLY

1.13mm GRAY



導電鋁箔4*26mm

機密
廠內專用

備註	※未標註公差處，請參照下列標準。			
	發	行	TOLERANCE	
	RANGE	OVER 101	±3.0	Part No. K05008003751
		51-100	±2.5	Draw No. TD-E-60498-a1
		31-50	±2.0	CUS.Part No. 22G600570-00
	30 BELOW		±1.5	CUS.Rev. a1
	Units	mm	Scale	1:1
	Size	A4	Date	2006/06/12
	Sheet	2/4	Approval	Check
			Approval	Designed
			Nick	Nick
			Nick	Lun

FVC 惠賢電子股份有限公司
FAVORTRON CO.,LTD

Title: L51-WLAN-Right -Aux天線

ITEM	DISCRIPION
△	
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BOM

B O M

ITEM	COMPONENT	Q'TY	DESCRIPTION	FAVORTRON P/N	VENDER
1	PIFA ANTENNA	1	志合 L51-PIFA-Right (馬口鐵)	M02007027001	品欣
2	同軸線	1	φ 1.13 灰色* 575mm 單邊加PEX Connector	M04007125001	FVC
3	透明套管	1	OD2.5*20mm(透明)內徑3.1±0.2壁厚0.25±0.1	B02009714999	三聯
4	SPONGE	1	8mm*3mm*±=2.5mm	M01009019002	東鋒
5	鋁箔	1	4mm*26mm T=0.1(不含離型紙)雙面青膠離型紙多預留5mm	M01005028002	隆揚
6					
7					
8					
9					
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13					
14					
15					
16					

SUB BOM (M04007021001)

ITEM	COMPONENT	Q'TY	DESCRIPTION	FVC P/N	VENDER
1	Connector	1	接頭MHF PLUG(I-PEX) OD= φ 1.13	L07001001001	I-PEX
2	同軸線	1	同軸線 φ 1.13*574 鍍錫線 灰色/整卷	M04005008001	日立信電



惠質電子股份有限公司
FAVORTRON CO.,LTD

Title:

L51-WLAN-Right -Aux天線

Part No. K05008003751

Draw No. TD-E-60498-a1

CUS.Part No. 22G600570-00

CUS.Rev. a1

Approval Check Designed

Nick

Nick

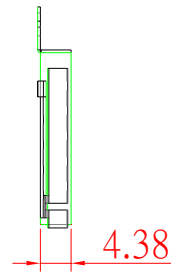
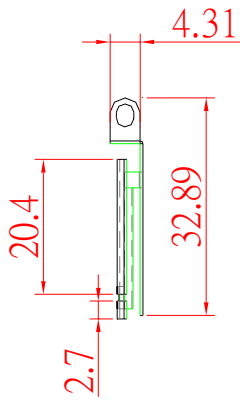
Lun

發行 備註

機密

廠內專用

Date 2006/06/12 Sheet 3/4



ITEM	DISCRIFION
△	
△	
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機密
廠內專用

備註
※未標註公差處，請參照下列標準。

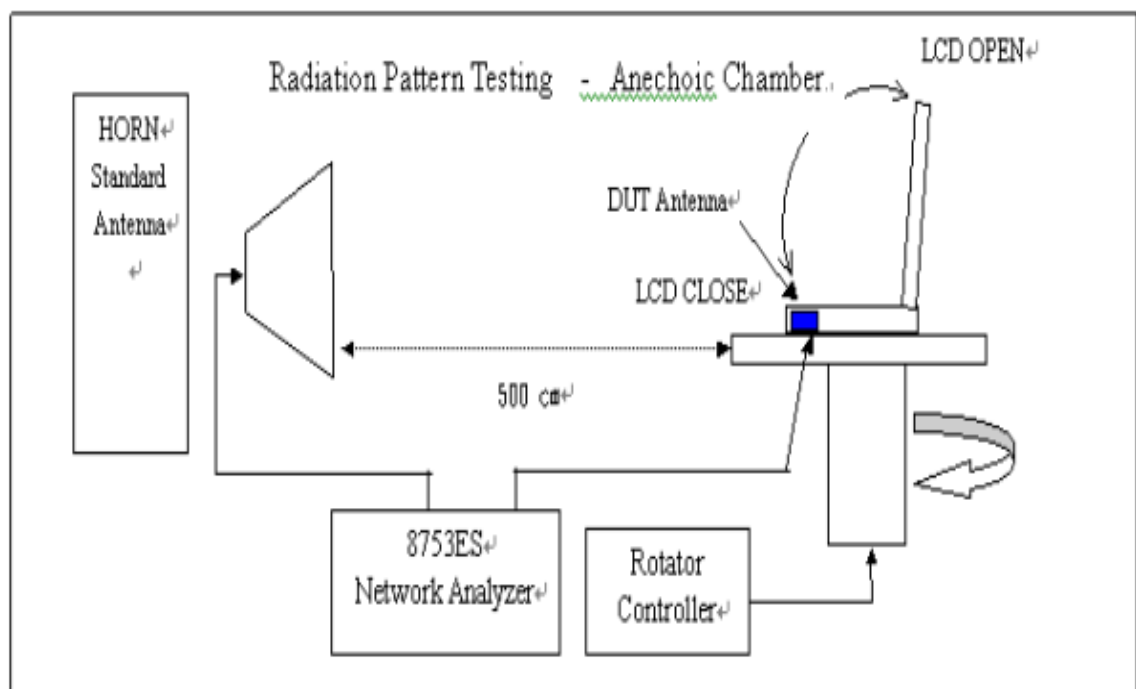
發行		RANGE	TOLERANCE
Units	mm	OVER 101	±3.0
Size	A4	51-100	±2.5
Sheet		31-50	±2.0
		30 BELOW	±1.5
Scale	1:1		
Date	----/---/---		
Sheet	-/-		

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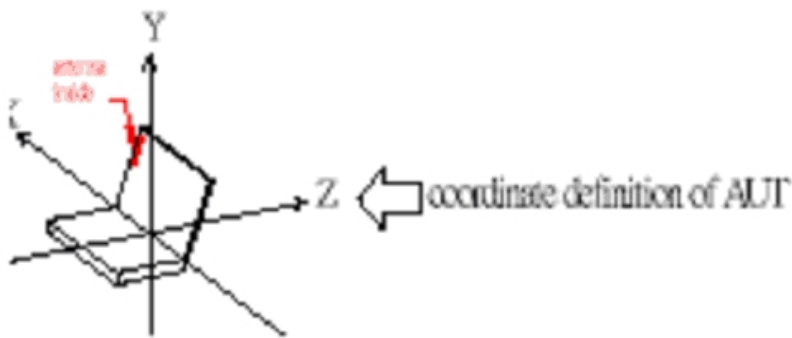
Title: L51-RIGHT

Part No.	M02007027001
Draw No.	TD-E-60622
CUS.Part No.	-----
CUS.Rev.	--
Approval	Check
Designed	Designed

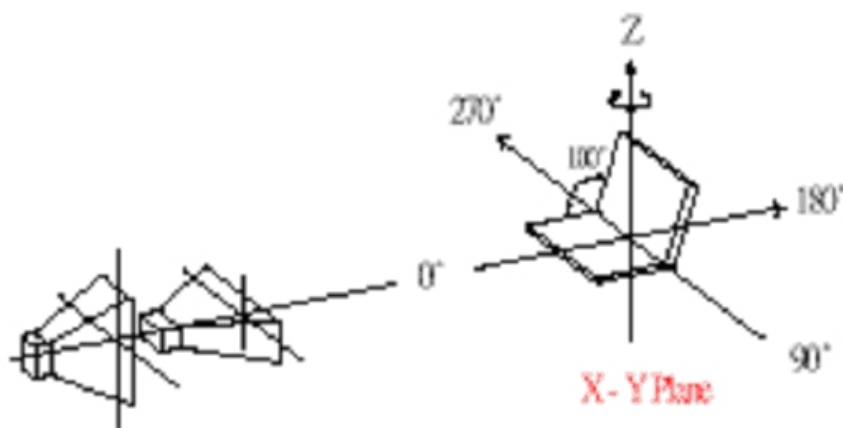
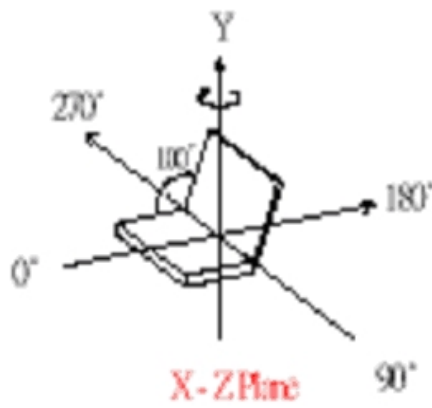
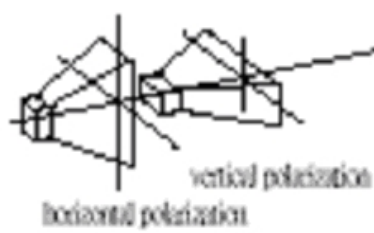
天線測試方法



Coordinate Definition

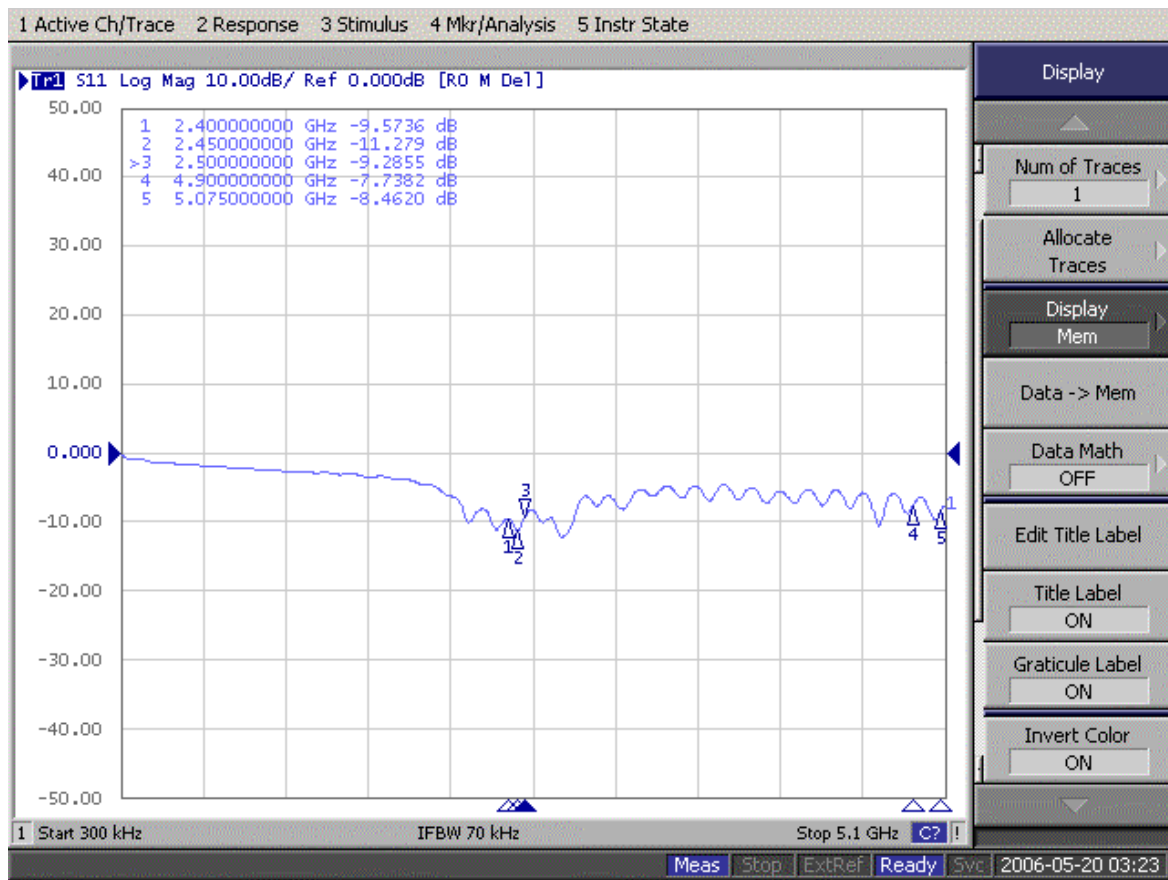


KORNANTENNA

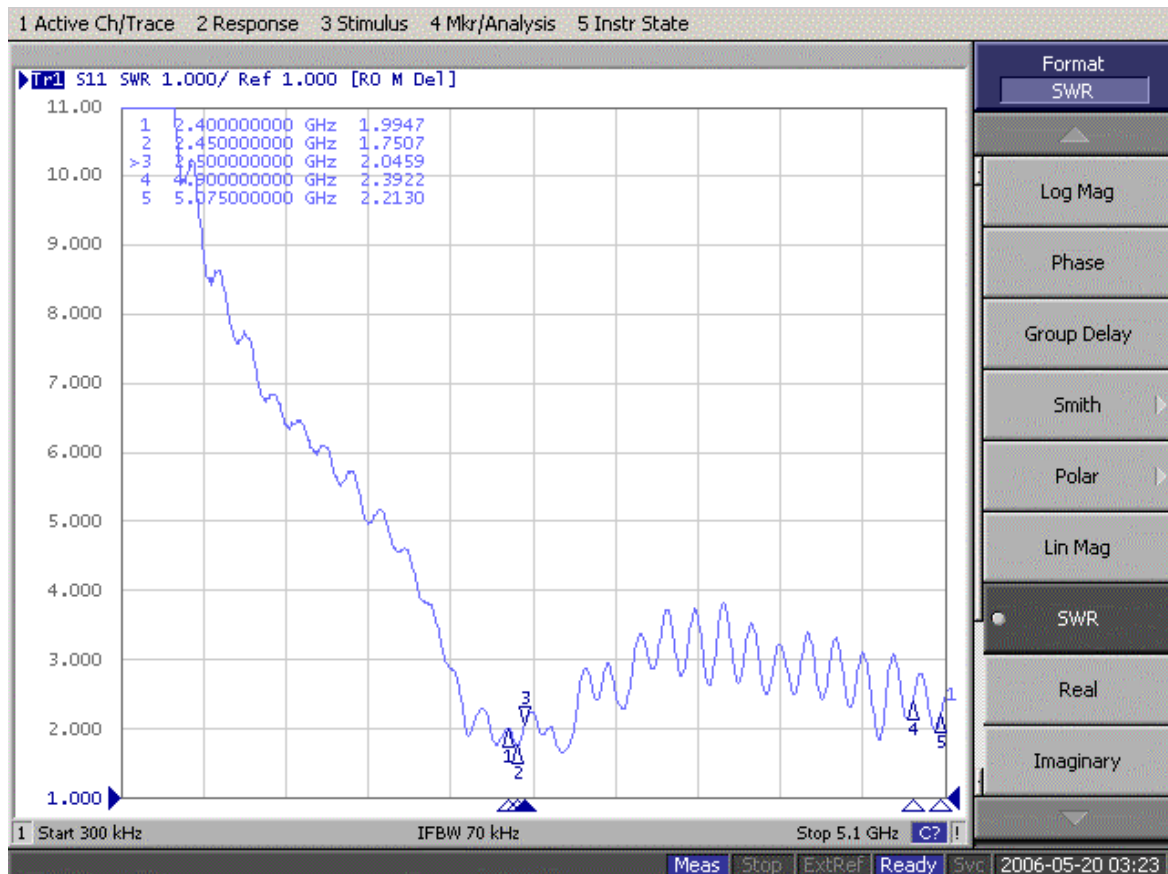


2. WLAN Ant./In Notebook (LCD-RIGHT ANT.)

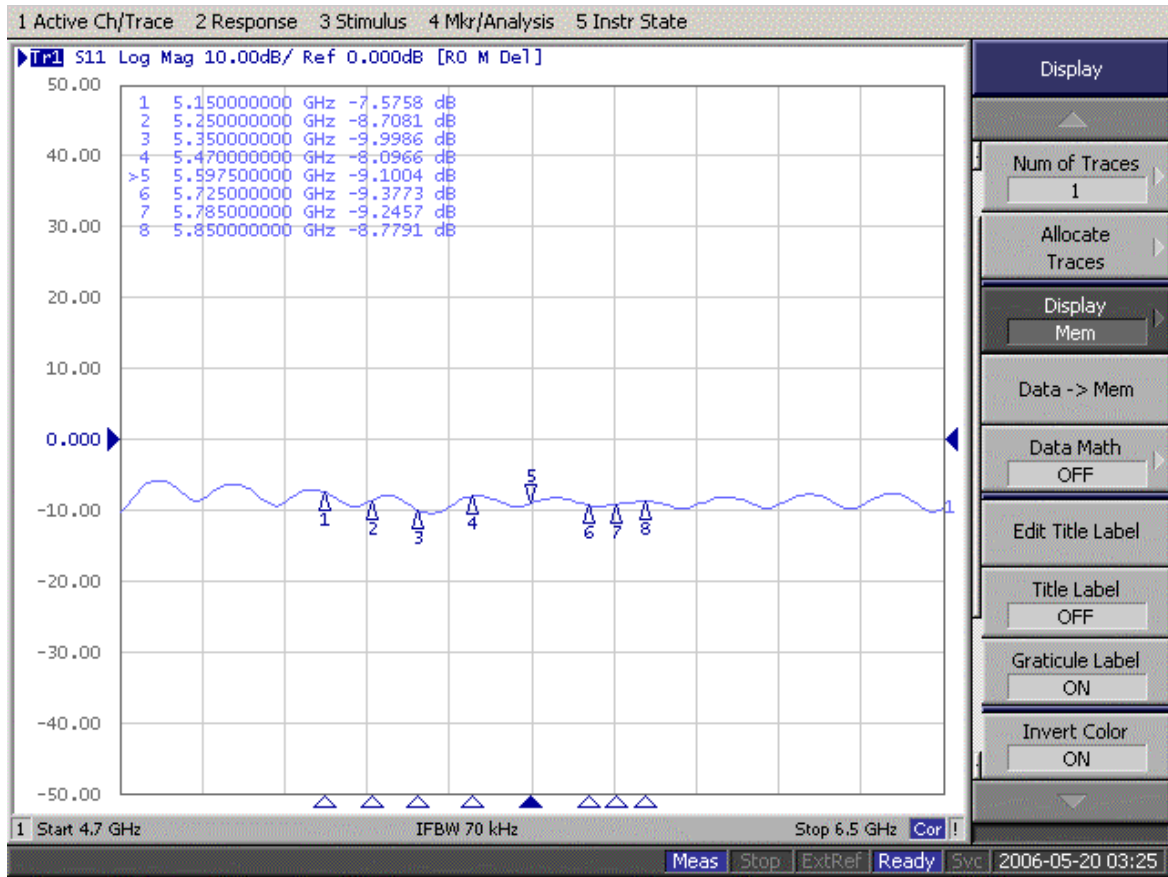
2.4~2.5GHz & 4.9~5.075GHz / Return Loss



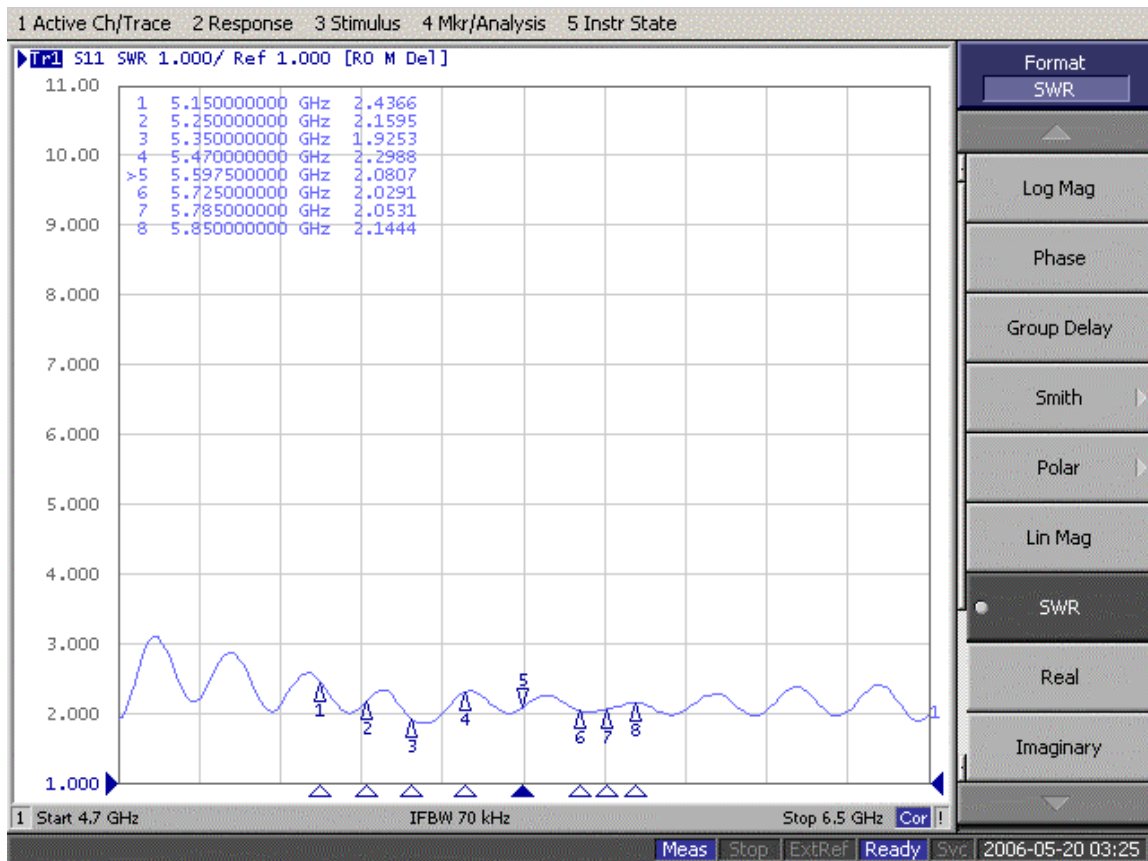
2.4~2.5GHz & 4.9~5.075GHz / Vswr



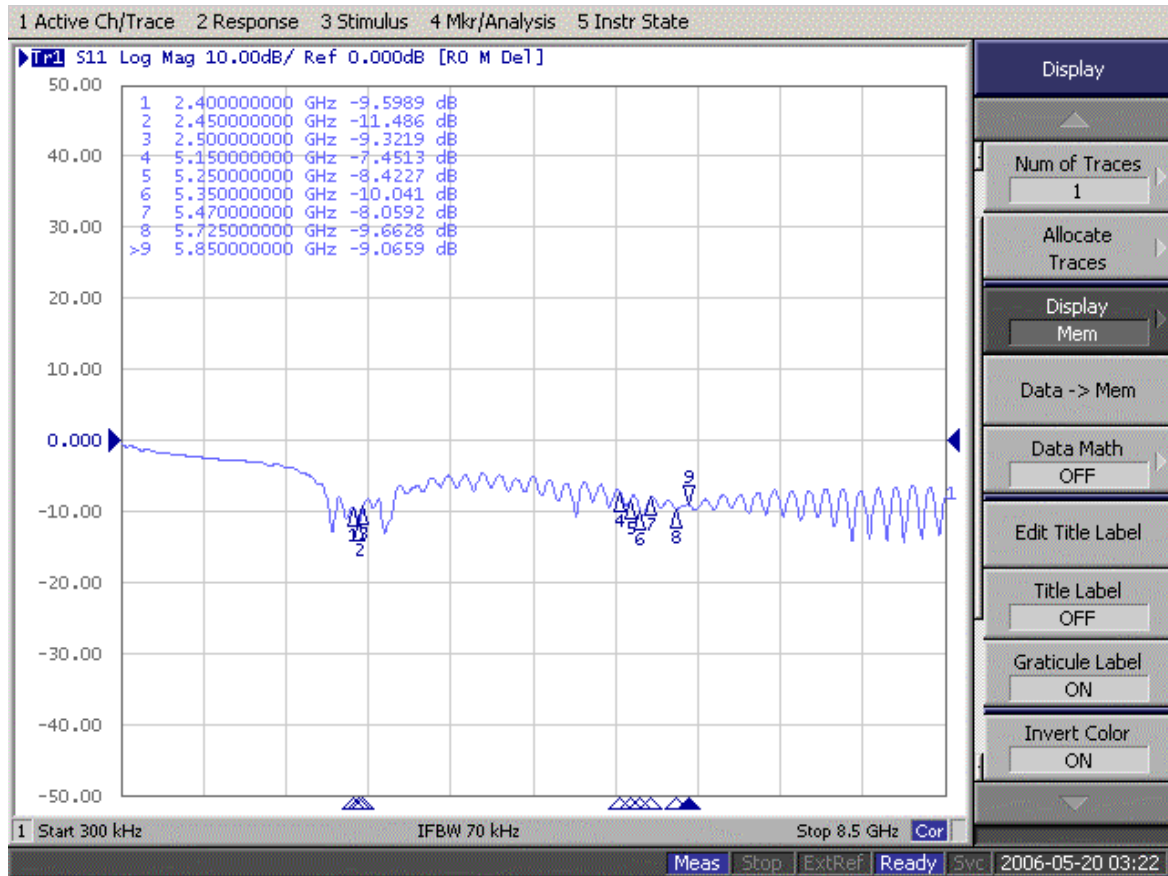
5.15~5.85 GHz / Return Loss



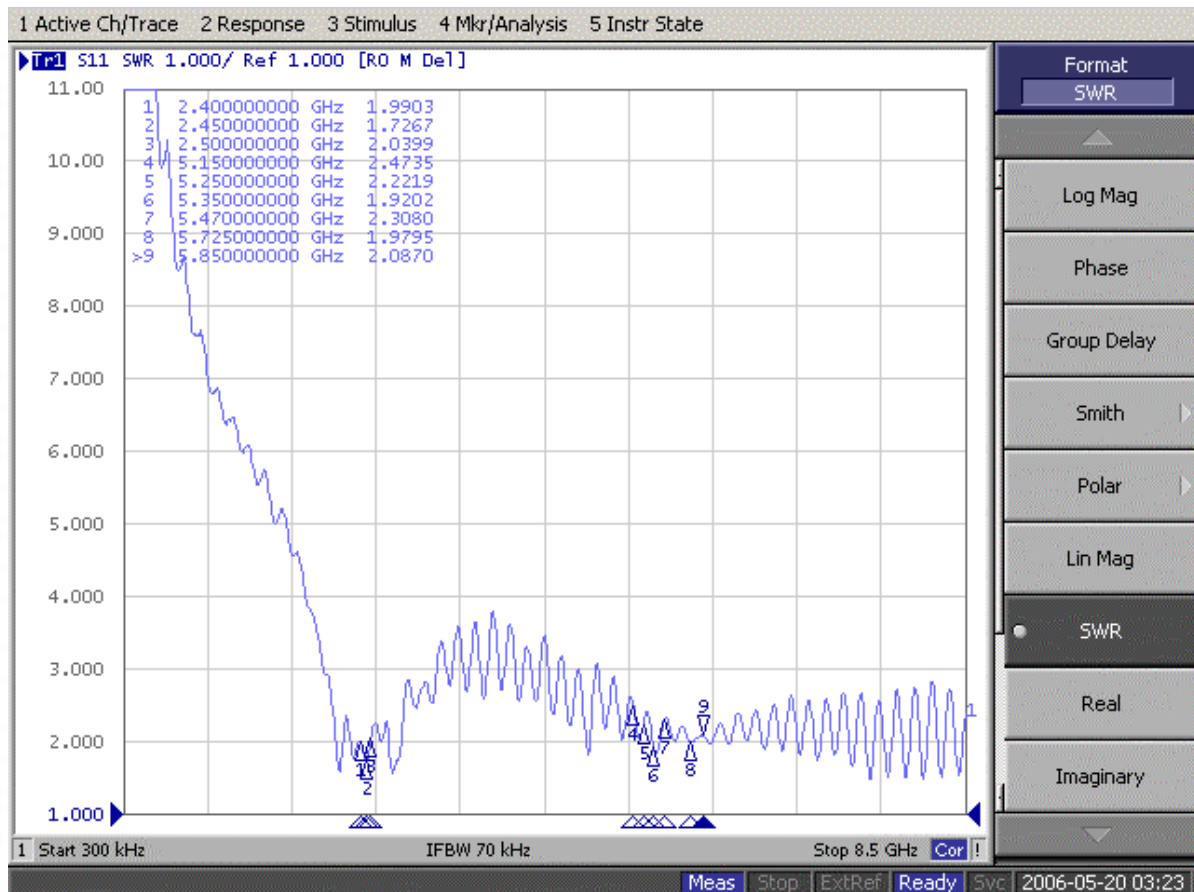
5.15~5.85 GHz / Vswr



2.4~2.5 & 5.15~5.85 GHz / Return Loss



2.4~2.5 & 5.15~5.85 GHz / Vswr



3. Gain&PATTERN-WLAN ANT./In Notebook

LCD- RIGHT ANT.

a. 2.4GHz



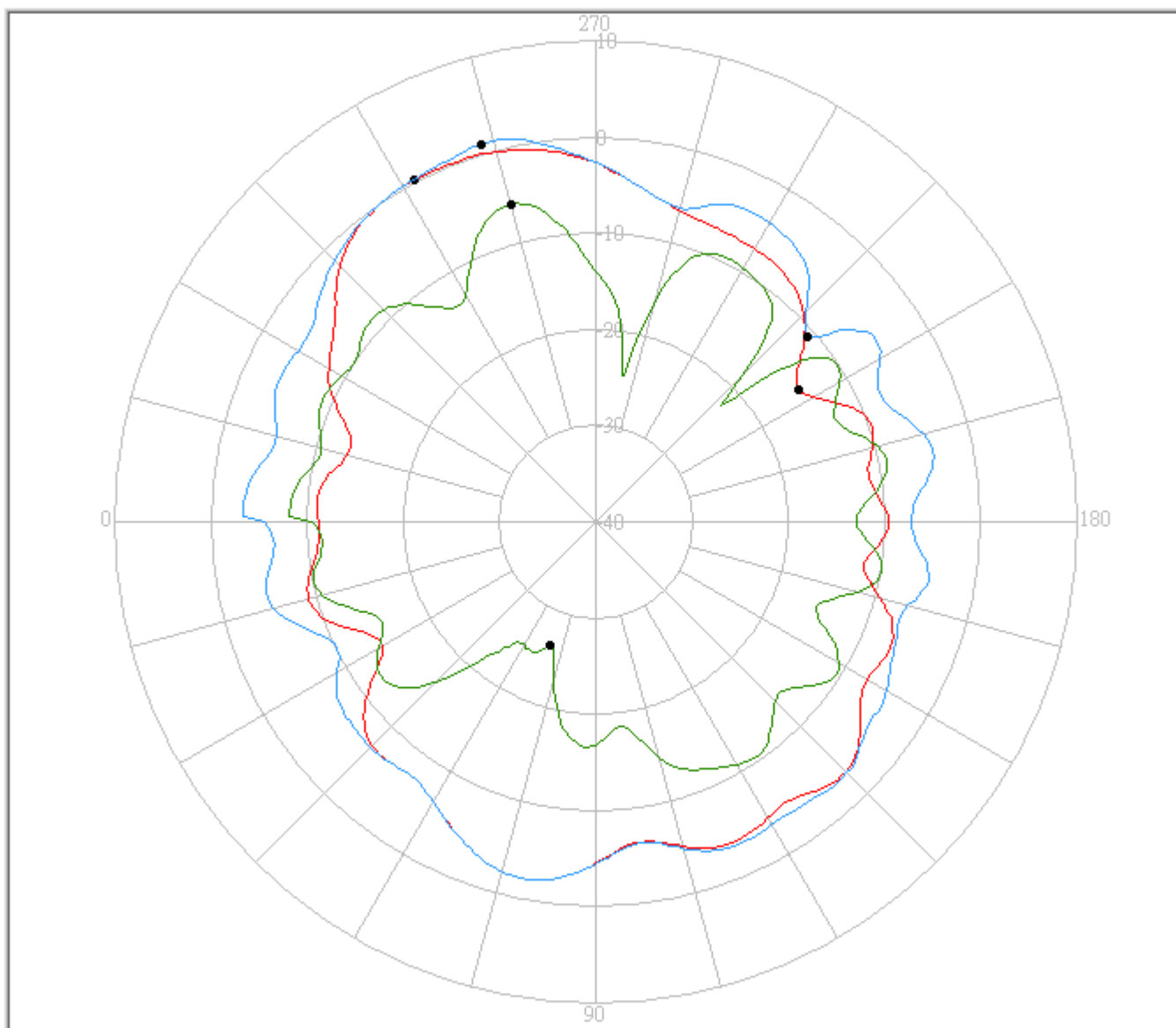
eService for Customer Satisfaction

FAVORTRON

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Antenna Pattern Measurement

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Fax:886-2-2218-5760



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	2400.00	0.18 / 298.00	-14.82 / 213.00	-5.31	Ver.	2006/5/19
2	L51	RIGHT	2400.00	-5.80 / 285.00	-26.29 / 70.00	-11.53	Hor.	2006/5/19
3	L51	RIGHT	2400.00	0.98 / 287.00	-10.83 / 221.00	-3.97	V+H	2006/5/19

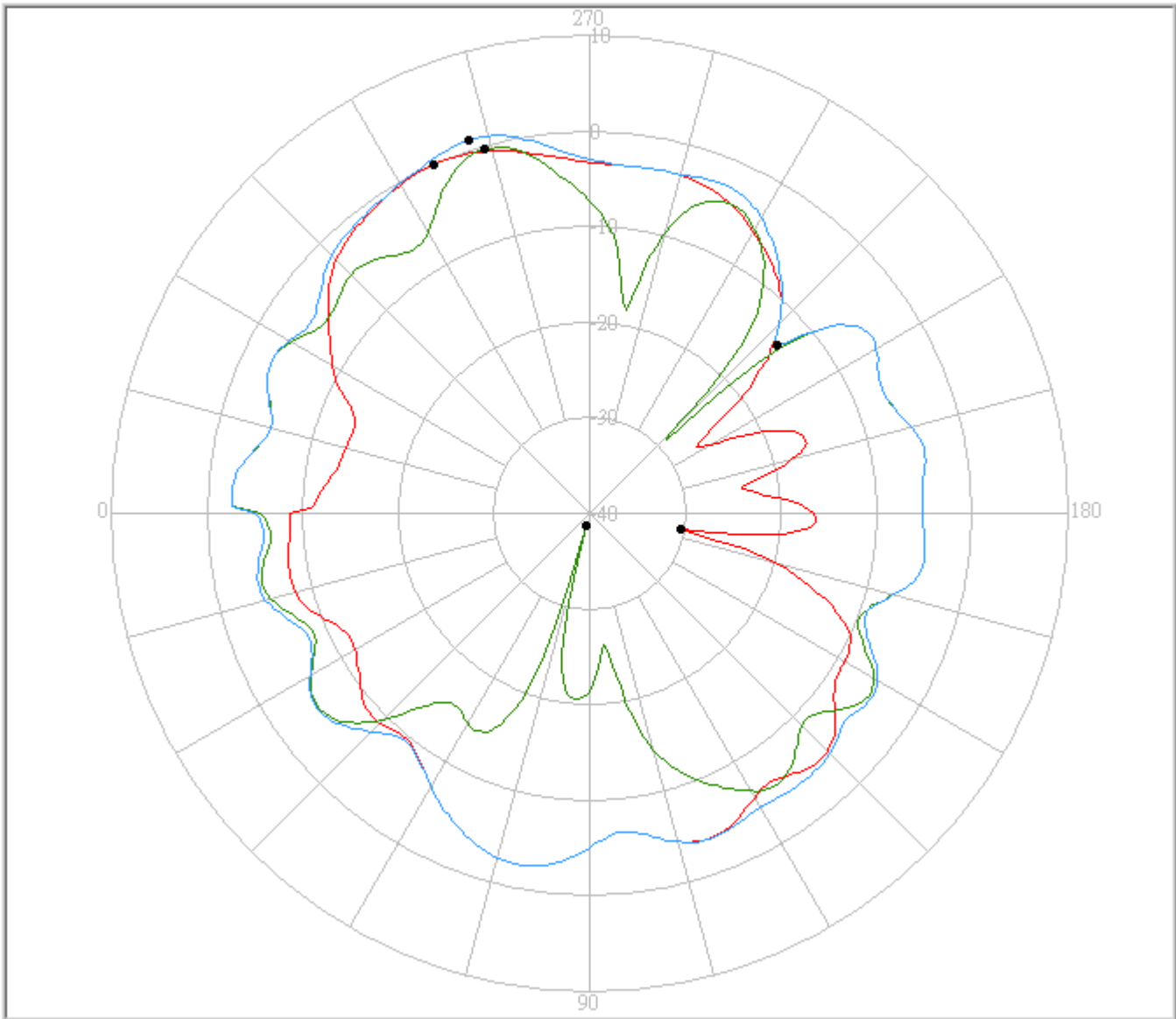
b. 2.45GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	2450.00	-0.06 / 294.00	-30.41 / 170.00	-5.81	Ver.	2006/5/19
2	L51	RIGHT	2450.00	-0.41 / 286.00	-38.71 / 75.00	-6.38	Hor.	2006/5/19
3	L51	RIGHT	2450.00	1.04 / 288.00	-13.74 / 222.00	-4.02	V+H	2006/5/19

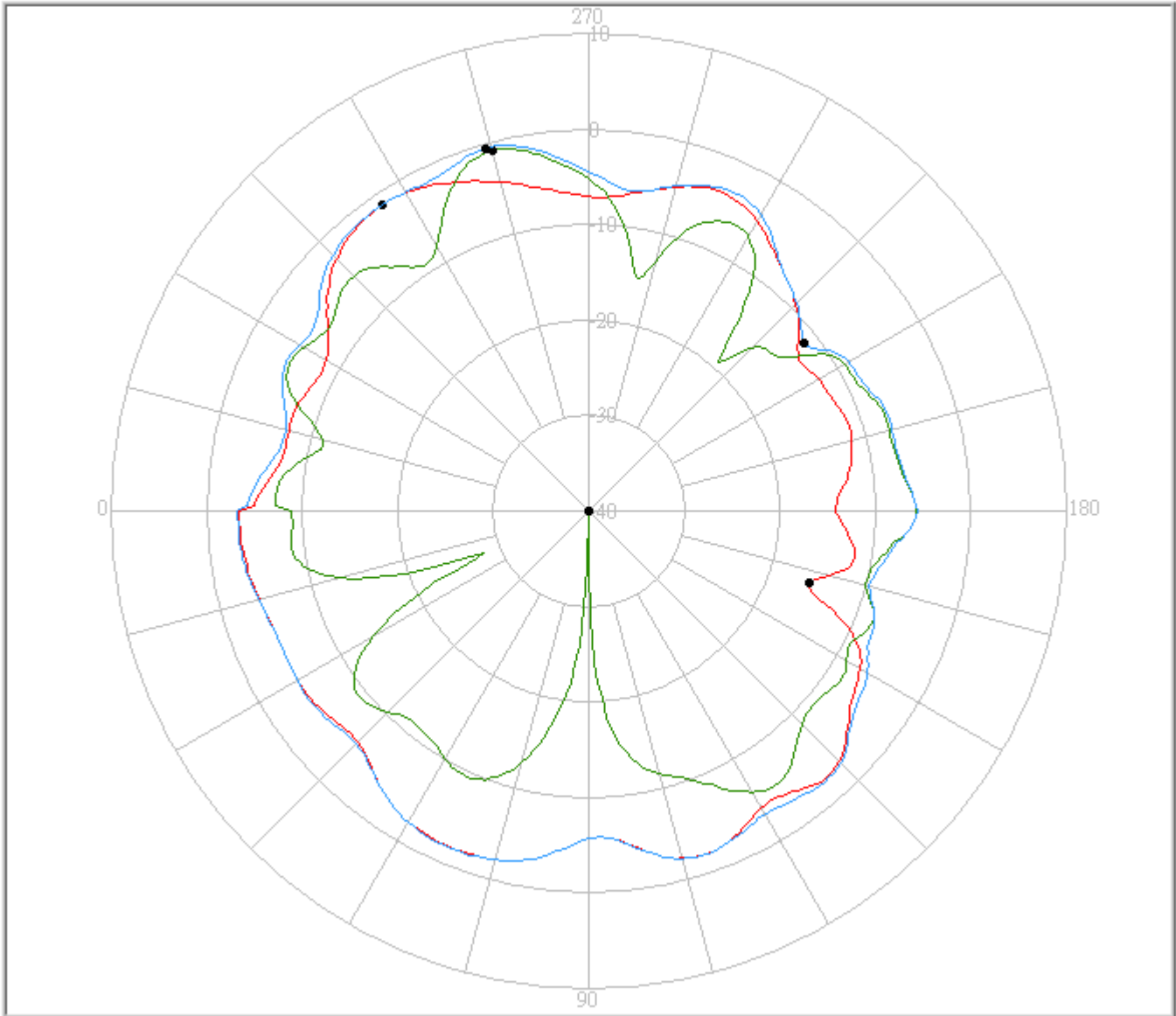
c. 2.5GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	2500.00	-1.38 / 304.00	-15.77 / 162.00	-5.03	Ver.	2006/5/19
2	L51	RIGHT	2500.00	-0.94 / 285.00	-42.78 / 89.00	-7.88	Hor.	2006/5/19
3	L51	RIGHT	2500.00	-0.52 / 286.00	-11.38 / 218.00	-4.18	V+H	2006/5/19

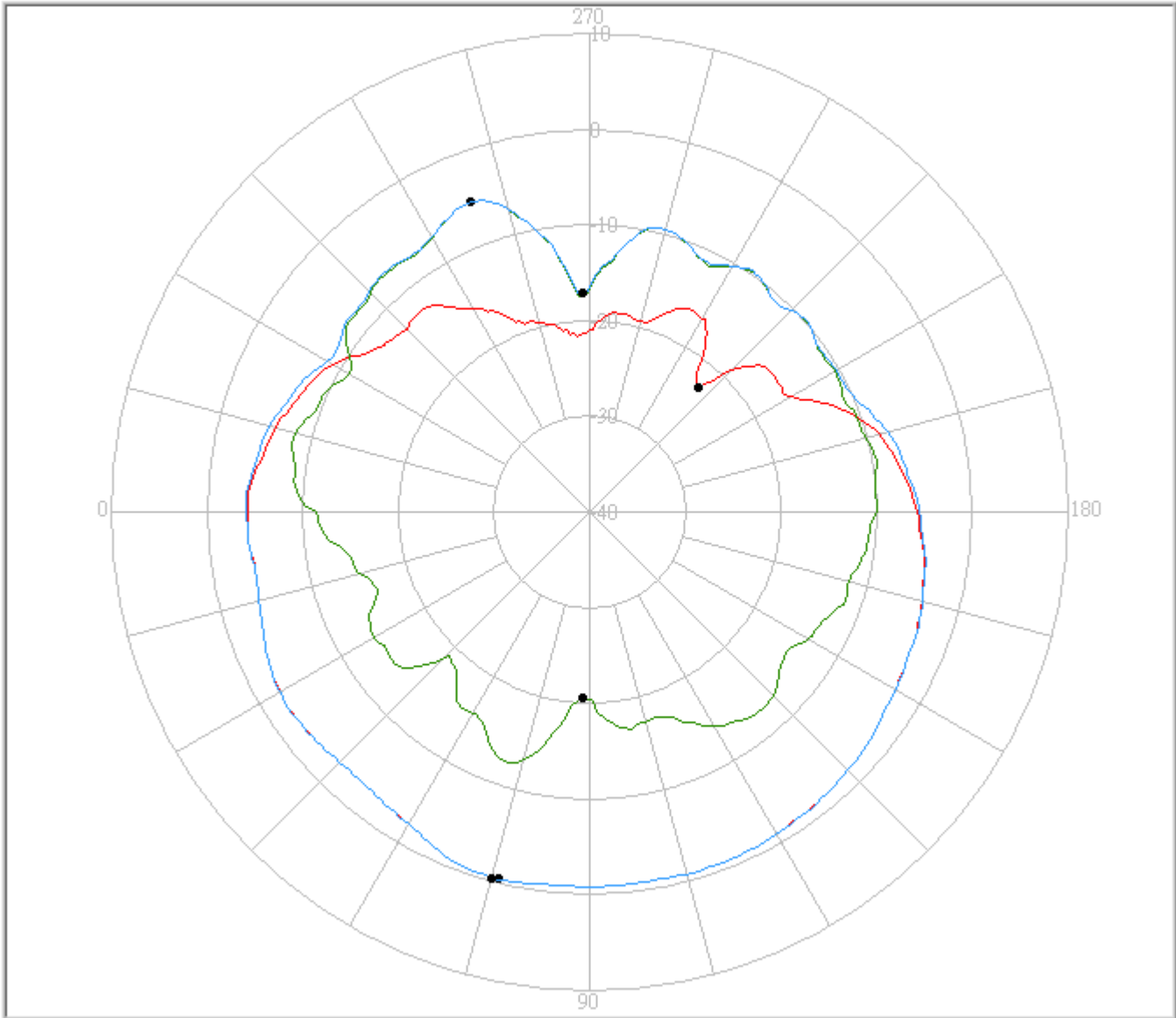
d. 4.9GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	4900.00	-0.46 / 76.00	-22.71 / 229.00	-4.67	Ver.	2006/5/19
2	L51	RIGHT	4900.00	-5.37 / 291.00	-20.66 / 88.00	-11.04	Hor.	2006/5/19
3	L51	RIGHT	4900.00	-0.45 / 75.00	-17.13 / 272.00	-4.18	V+H	2006/5/19

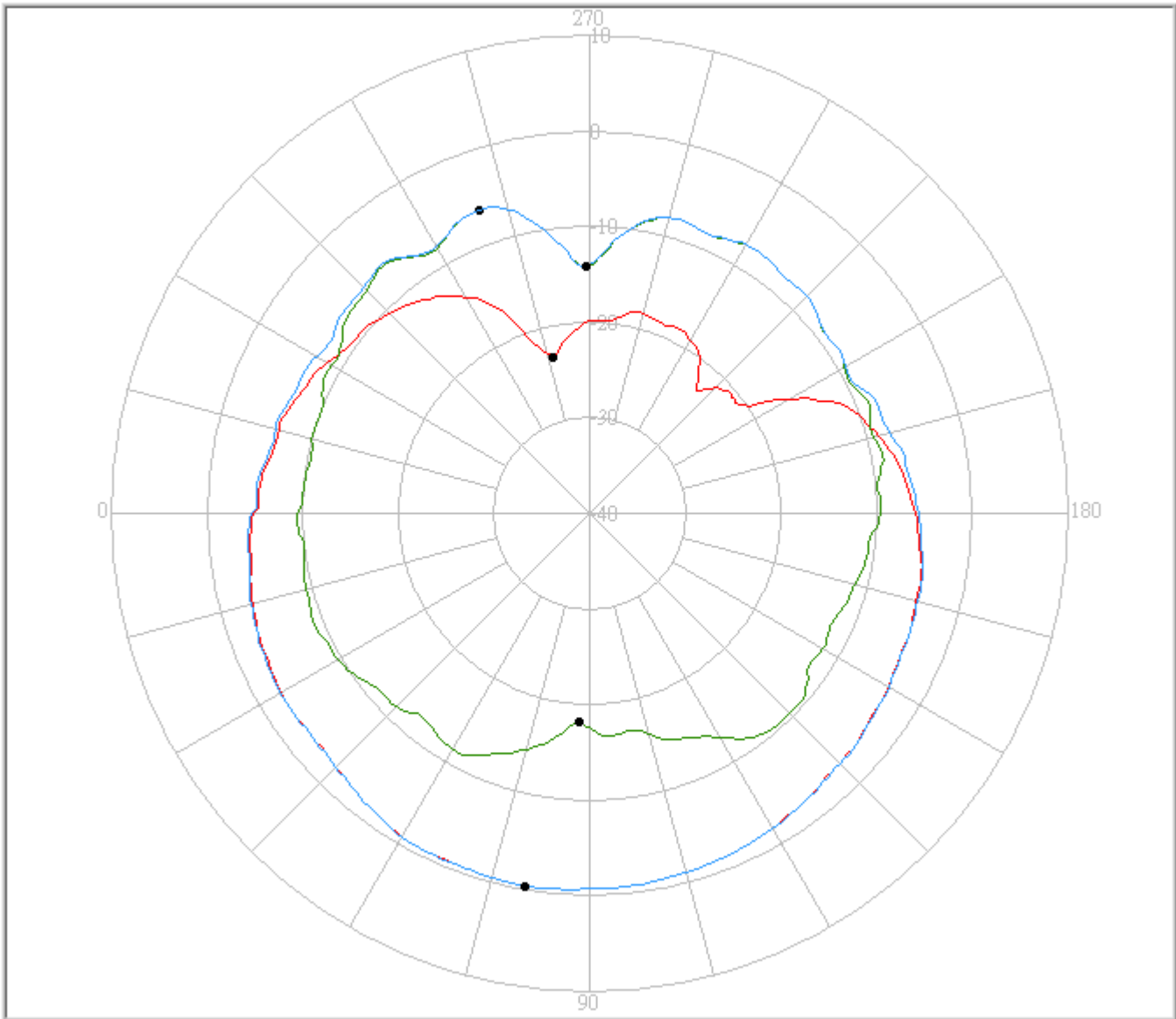
e. 5.075GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5075.00	-0.45 / 80.00	-23.30 / 283.00	-4.76	Ver.	2006/5/19
2	L51	RIGHT	5075.00	-6.26 / 290.00	-18.13 / 87.00	-9.83	Hor.	2006/5/19
3	L51	RIGHT	5075.00	-0.45 / 80.00	-14.18 / 271.00	-4.13	V+H	2006/5/19

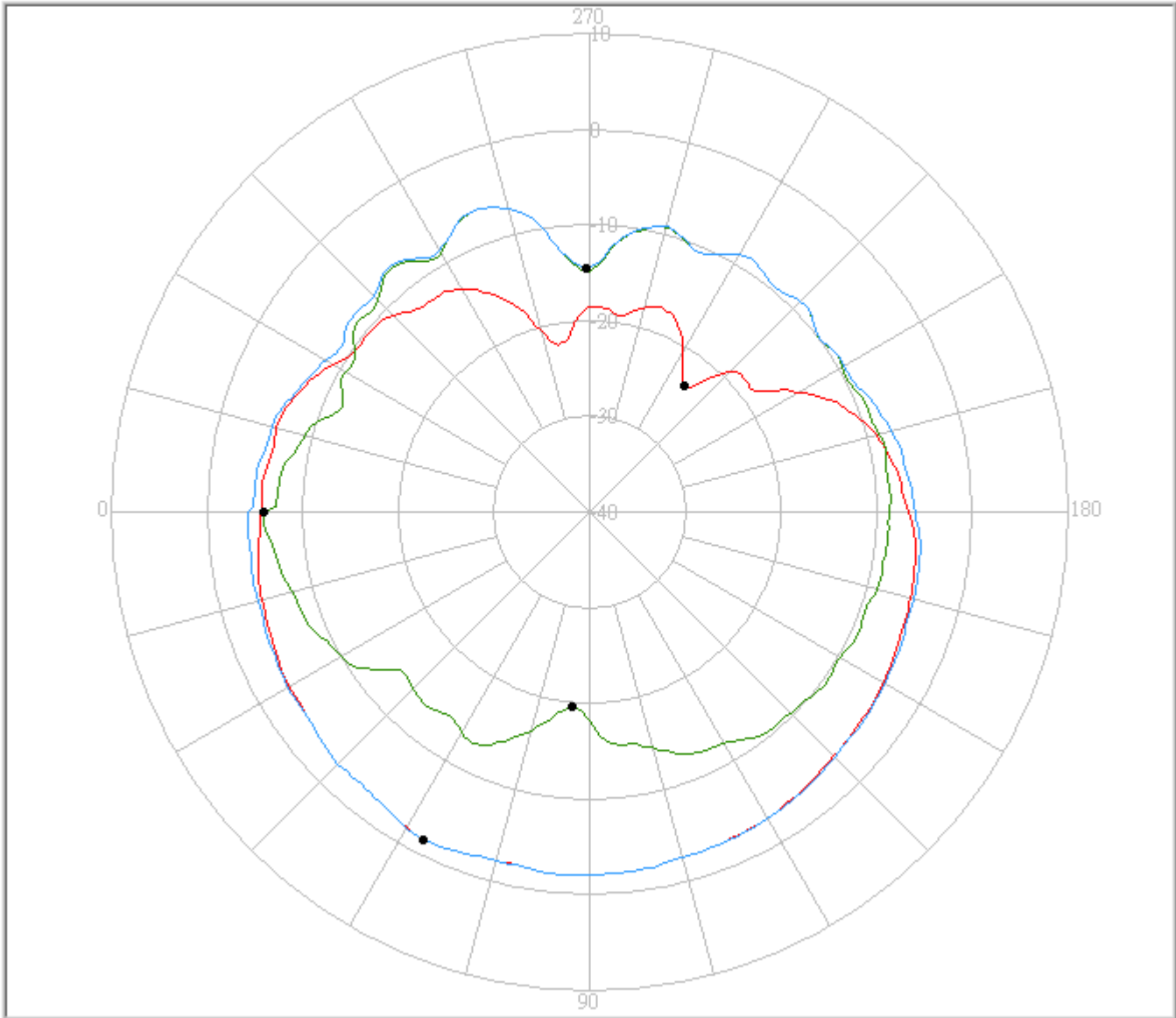
f. 5.15GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5150.00	-1.66 / 63.00	-23.56 / 233.00	-5.71	Ver.	2006/5/19
2	L51	RIGHT	5150.00	-5.88 / 0.00	-19.55 / 85.00	-9.80	Hor.	2006/5/19
3	L51	RIGHT	5150.00	-1.65 / 63.00	-14.55 / 271.00	-5.00	V+H	2006/5/19

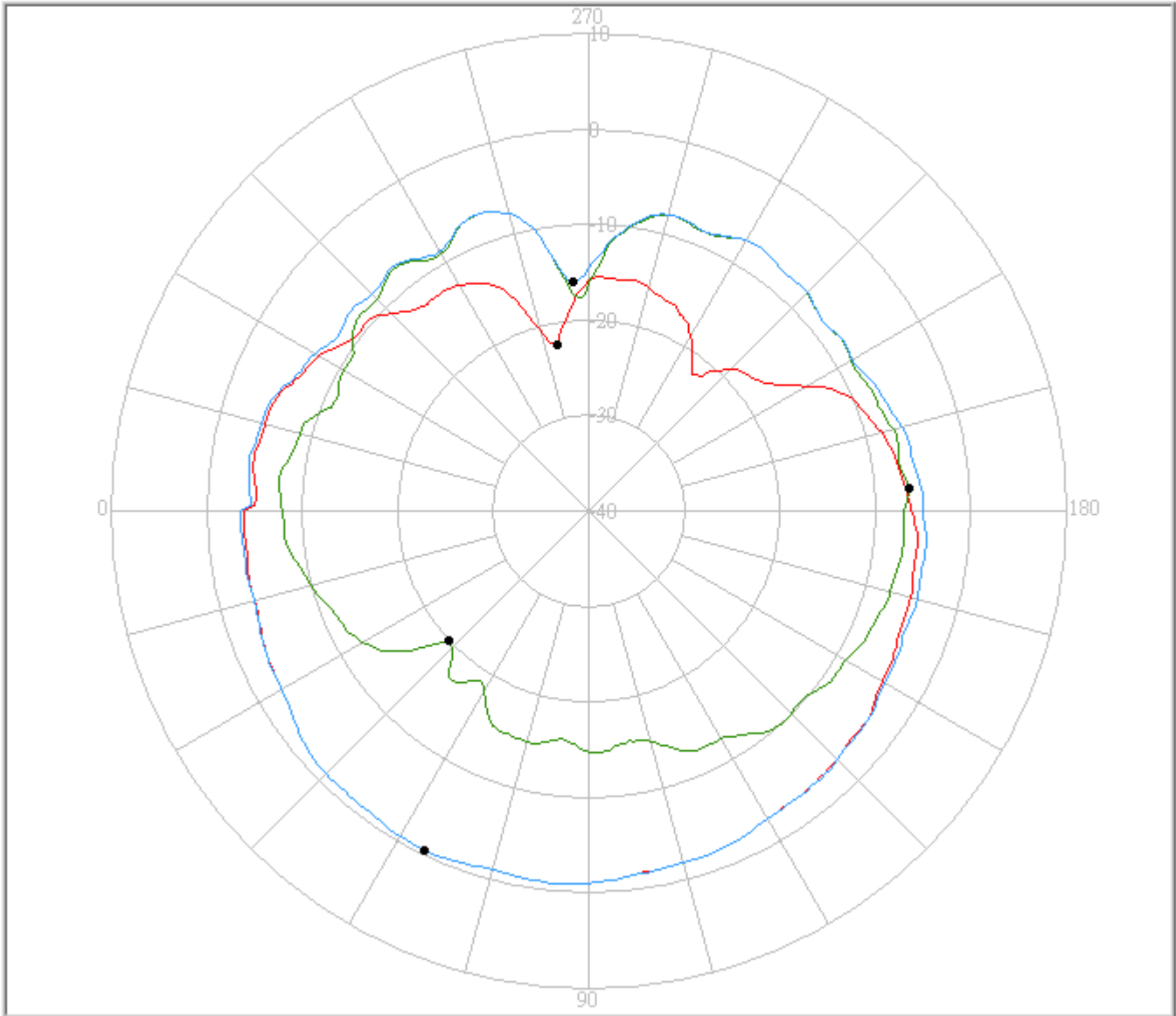
g. 5.25GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5250.00	-0.54 / 64.00	-22.26 / 281.00	-4.77	Ver.	2006/5/19
2	L51	RIGHT	5250.00	-6.49 / 184.00	-20.04 / 43.00	-9.53	Hor.	2006/5/19
3	L51	RIGHT	5250.00	-0.54 / 64.00	-16.02 / 274.00	-4.13	V+H	2006/5/19

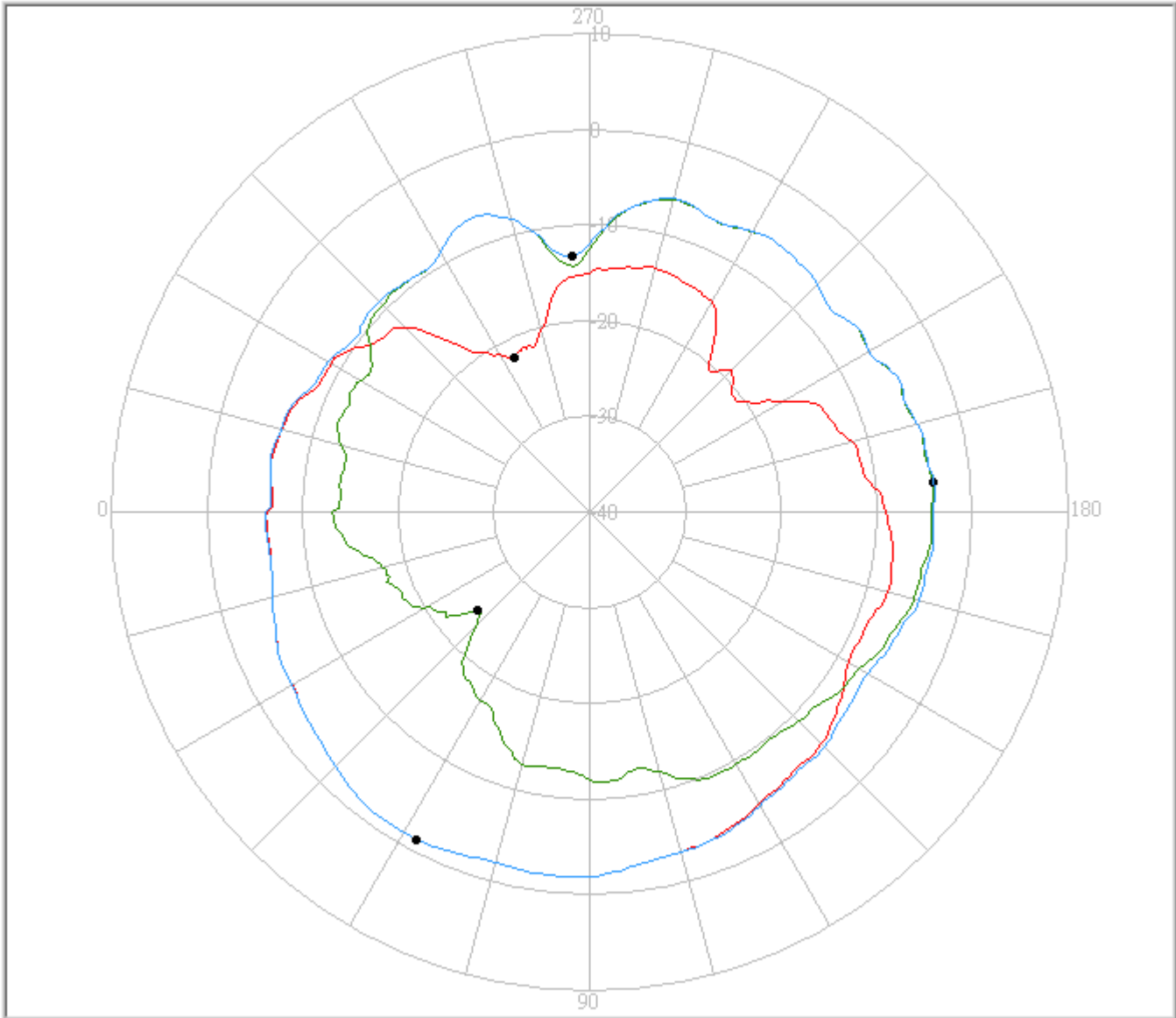
h. 5.35GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5350.00	-1.29 / 62.00	-22.05 / 296.00	-6.34	Ver.	2006/5/19
2	L51	RIGHT	5350.00	-4.01 / 185.00	-24.48 / 41.00	-8.68	Hor.	2006/5/19
3	L51	RIGHT	5350.00	-1.29 / 62.00	-13.27 / 274.00	-4.92	V+H	2006/5/19

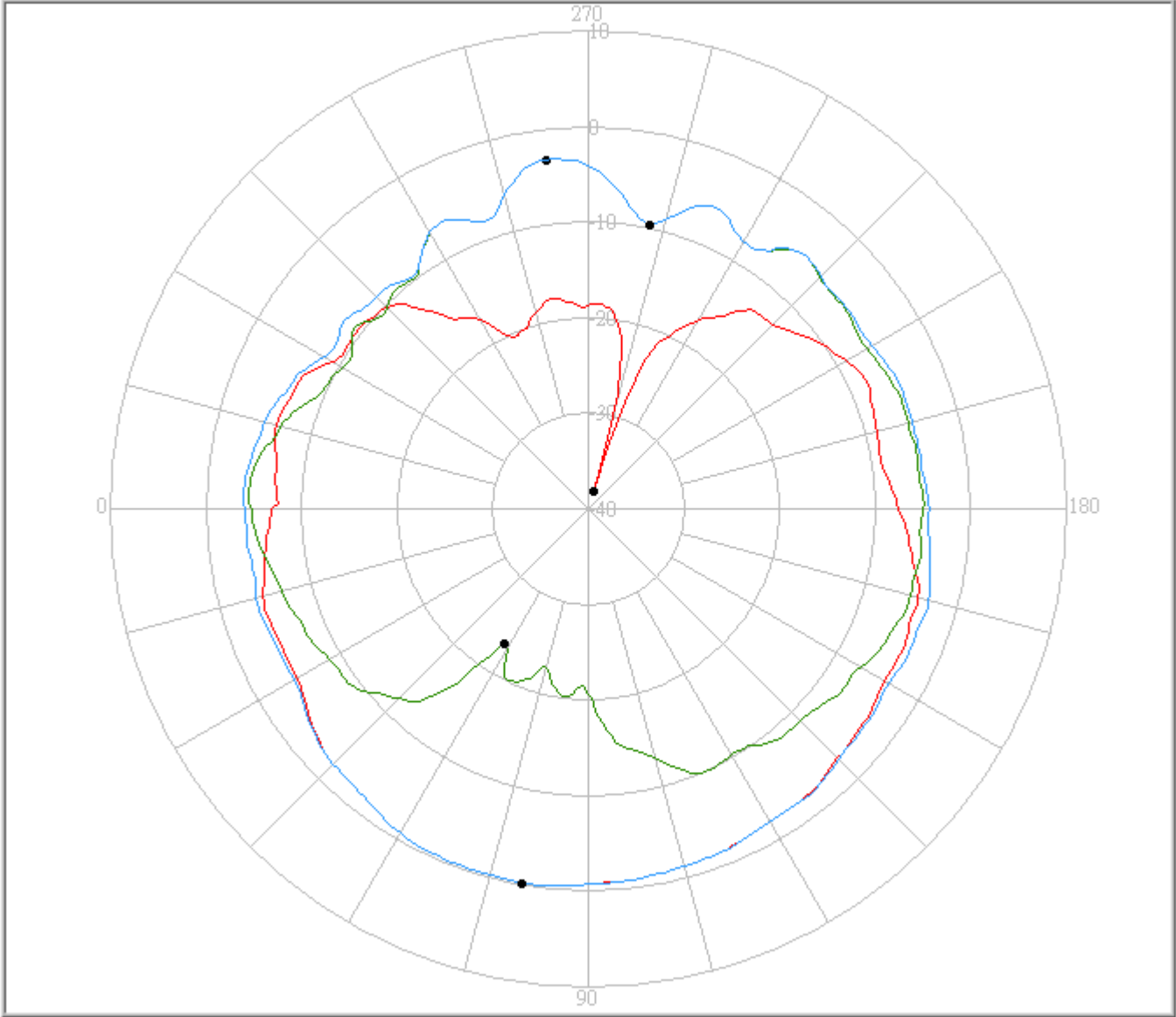
i. 5.47GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5470.00	-0.28 / 80.00	-38.02 / 253.00	-4.95	Ver.	2006/5/19
2	L51	RIGHT	5470.00	-3.21 / 277.00	-23.37 / 58.00	-7.45	Hor.	2006/5/19
3	L51	RIGHT	5470.00	-0.28 / 80.00	-9.58 / 258.00	-3.72	V+H	2006/5/19

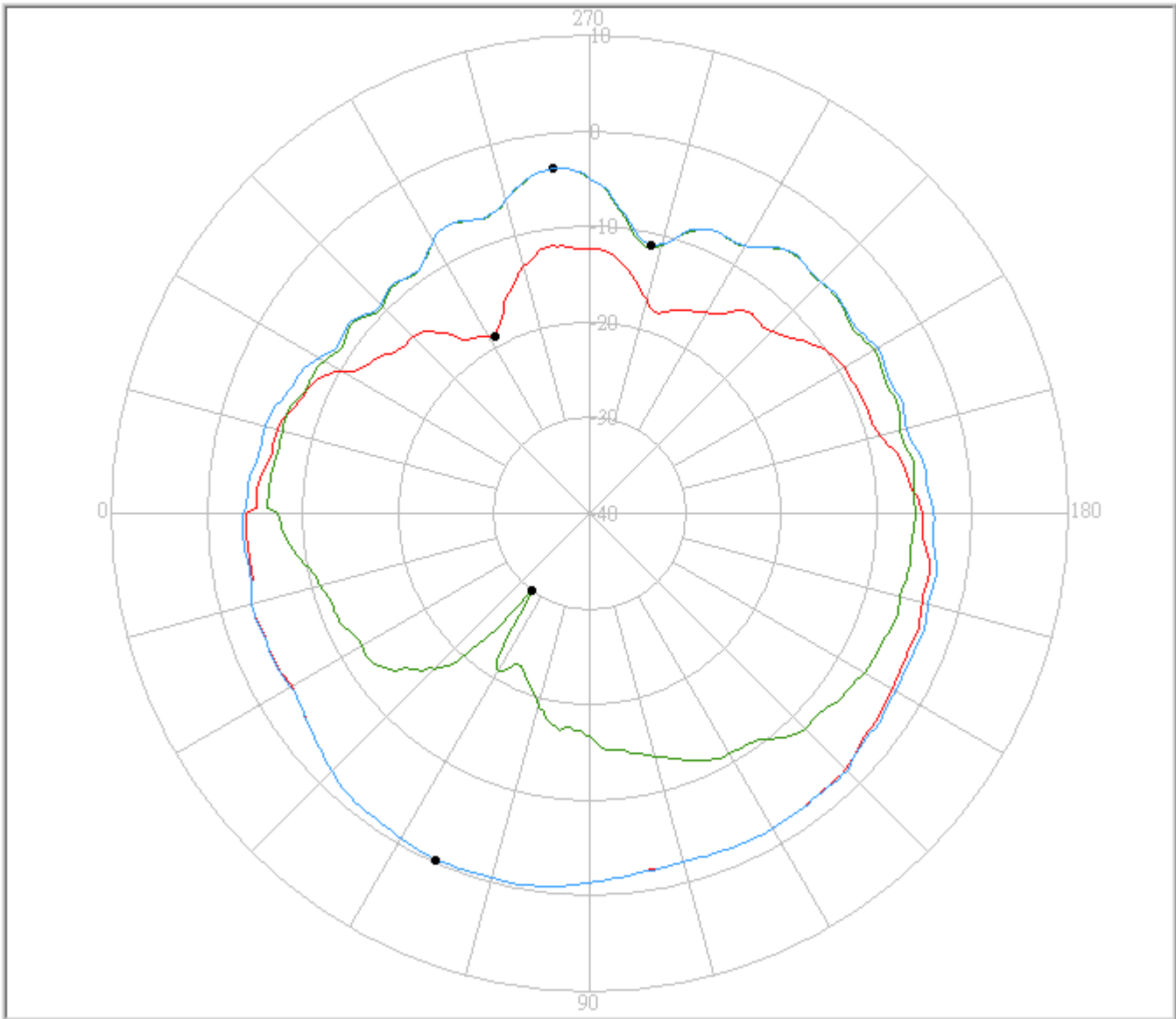
j. 5.597GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5597.50	-0.35 / 66.00	-18.98 / 298.00	-4.69	Ver.	2006/5/19
2	L51	RIGHT	5597.50	-3.75 / 276.00	-29.87 / 53.00	-8.16	Hor.	2006/5/19
3	L51	RIGHT	5597.50	-0.35 / 66.00	-11.24 / 257.00	-3.75	V+H	2006/5/19

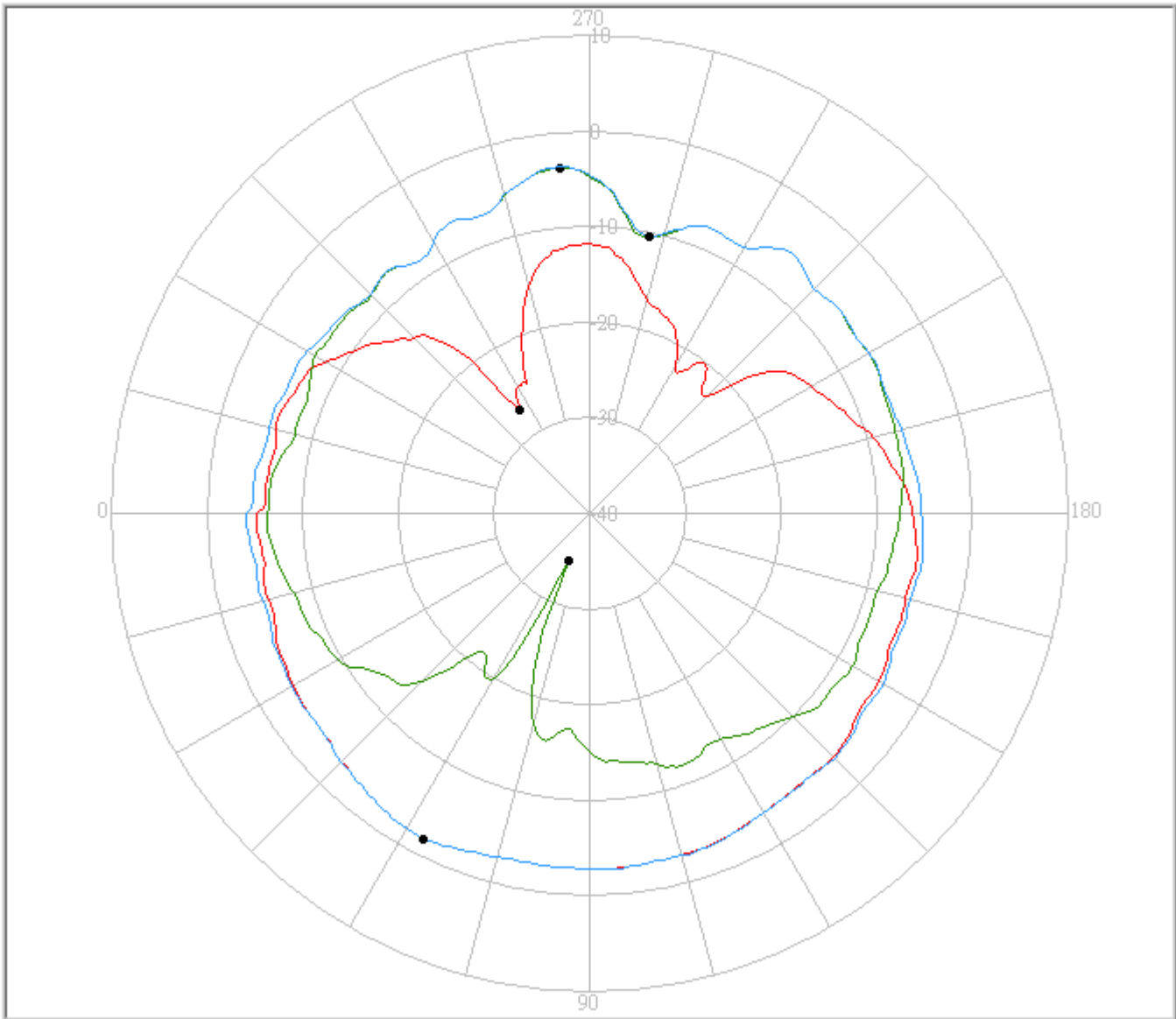
k. 5.725GHz



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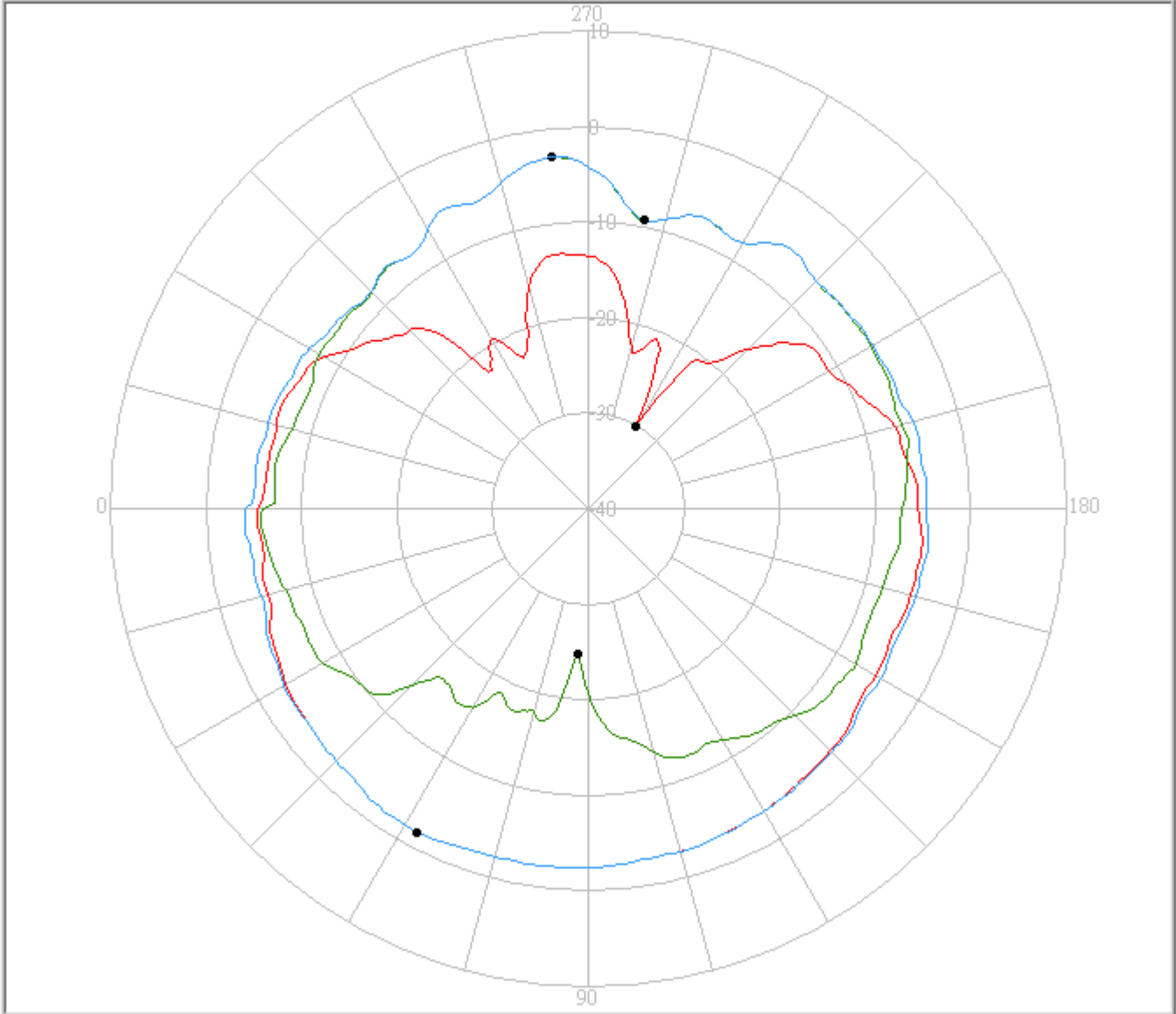
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1	L51	RIGHT	5725.00	-1.85 / 63.00	-26.91 / 304.00	-6.07	Ver.	2006/5/19
2	L51	RIGHT	5725.00	-3.70 / 275.00	-34.55 / 66.00	-8.30	Hor.	2006/5/19
3	L51	RIGHT	5725.00	-1.85 / 63.00	-10.37 / 258.00	-4.76	V+H	2006/5/19

1. 5.785GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5785.00	-1.72 / 62.00	-30.01 / 240.00	-5.74	Ver.	2006/5/19
2	L51	RIGHT	5785.00	-3.04 / 276.00	-24.68 / 86.00	-7.82	Hor.	2006/5/19
3	L51	RIGHT	5785.00	-1.72 / 62.00	-9.30 / 259.00	-4.38	V+H	2006/5/19

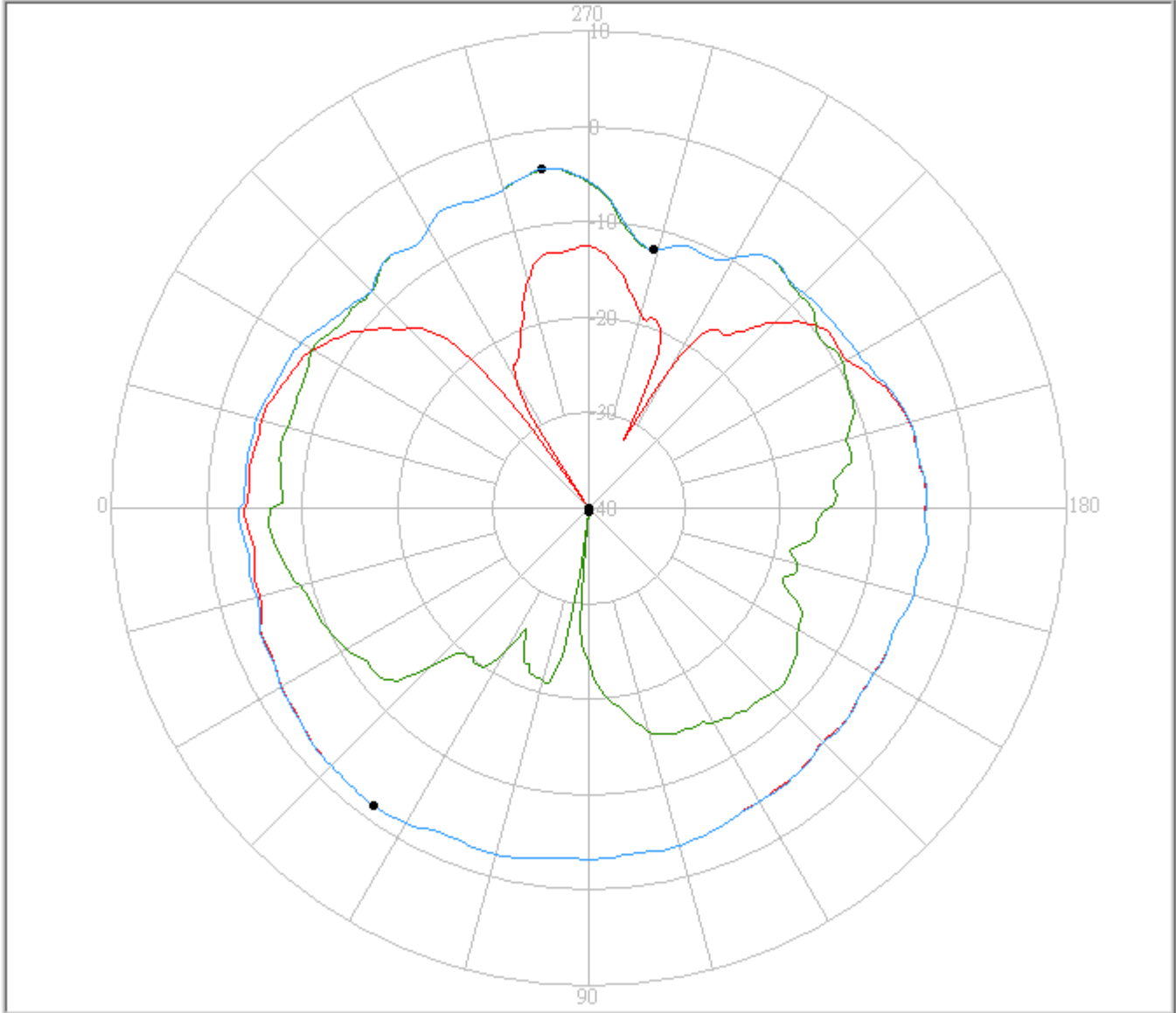
m. 5.85GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5850.00	-1.54 / 54.00	-44.90 / 304.00	-5.46	Ver.	2006/5/19
2	L51	RIGHT	5850.00	-4.21 / 278.00	-39.56 / 83.00	-9.74	Hor.	2006/5/19
3	L51	RIGHT	5850.00	-1.54 / 54.00	-12.13 / 256.00	-4.65	V+H	2006/5/19

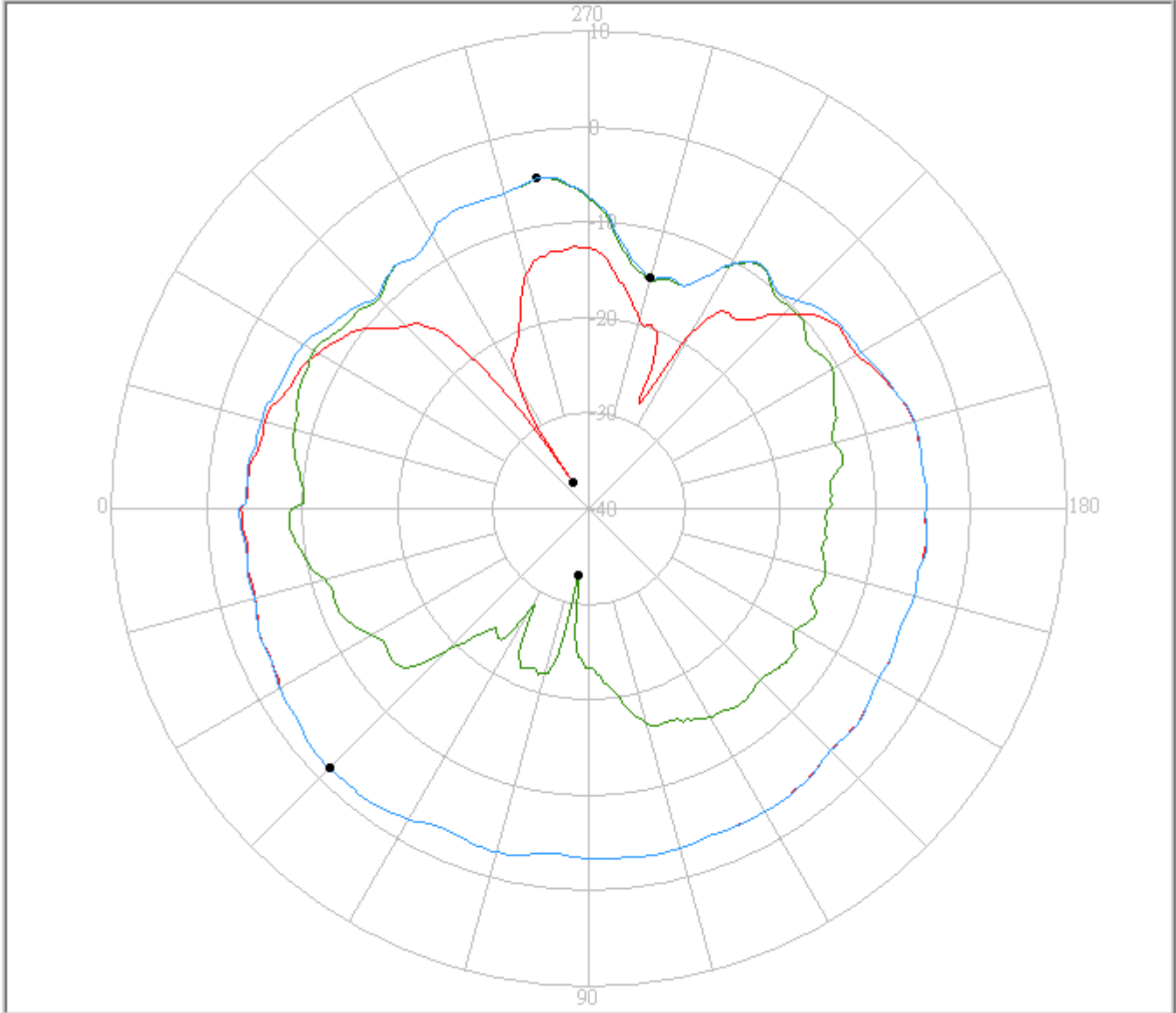
n. 5.875GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Mn Chuan Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C. Tel:886-2-2218-2189,
Fax:886-2-2218-5760



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	L51	RIGHT	5875.00	-1.62 / 45.00	-36.81 / 303.00	-5.26	Ver.	2006/5/19
2	L51	RIGHT	5875.00	-5.03 / 279.00	-32.93 / 81.00	-10.87	Hor.	2006/5/19
3	L51	RIGHT	5875.00	-1.62 / 45.00	-15.06 / 255.00	-4.69	V+H	2006/5/19

4. SPECIFICATIONS:

1. Electrical Properties

Frequency Range : 2.4~2.5GHz & 4.9~5.9GHz

Impedance : 50 ohm

VSWR(2.4~2.5GHZ) : ≤ 2.0

VSWR(5.15~5.85GHz) : < 2.5

Peak Gain : $\leq 3\text{dBi}$

Average Gain : $> -5\text{dB}$