

DATE : SEP.21.2006

CUSTOMER: Uniwill Computer, INC

APPROVAL SHEET

MODEL	L41-LEFT ANTENNA
DESCRIPTION	PIFA For Wireless LAN Antenna 2.4~2.5GHZ /4.9~5.875GHZ
SUPPLIER P/N	K05008004451
CUSTOMER P/N	22G600810-10
FILE P/N	

FAVORTRON			Customer	
Manager	Supervisor	Engineer		
Nick	Vincent	Kristy		

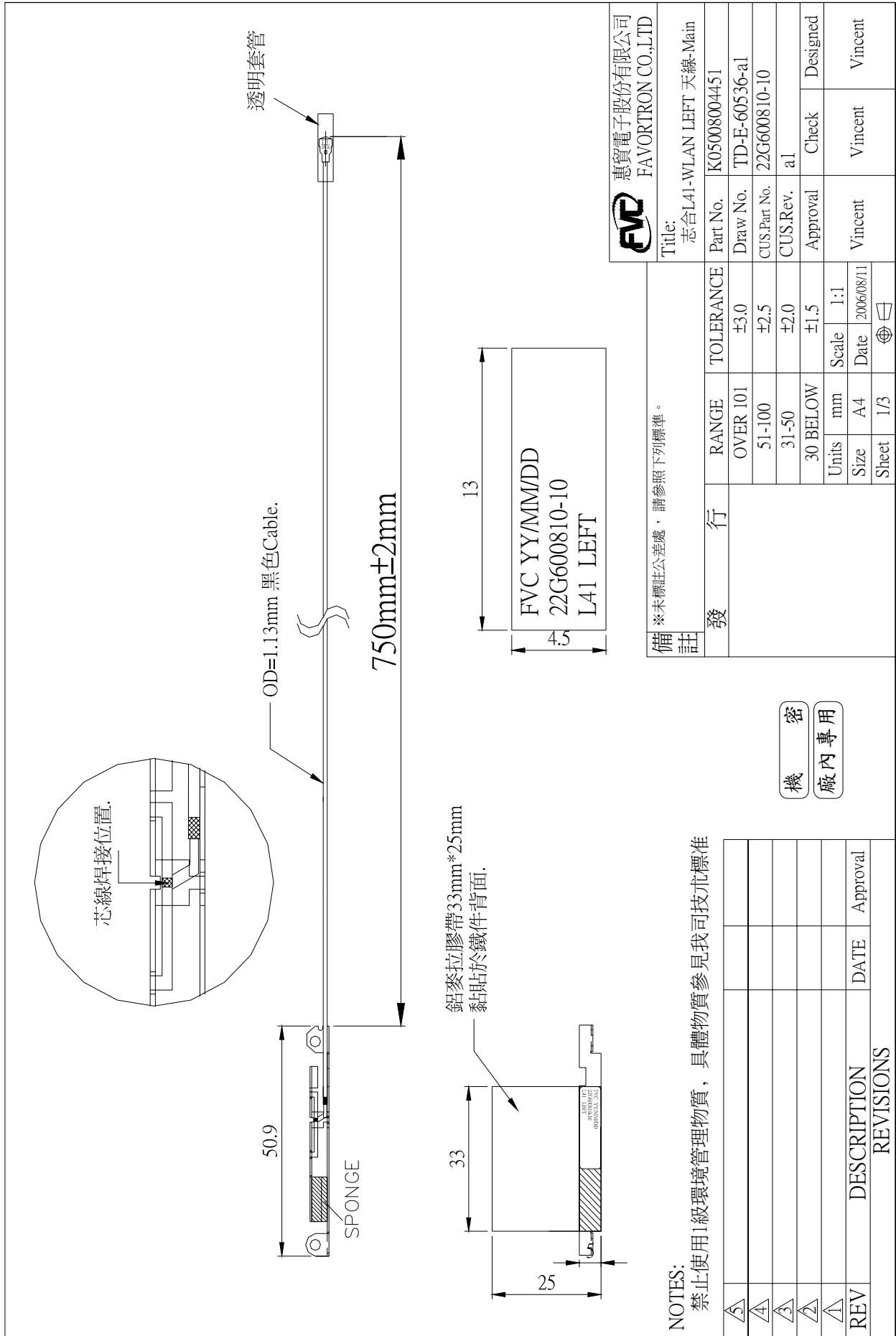


惠貿電子股份有限公司
FAVORTRON CO., LTD

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

CUSTOMER P/N		22G600810-10 (L41-LEFT)		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-LEFT 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&PATT			
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. 鋁箔麥拉 Specification		
		11. 鋁箔麥拉 UL	E86511	
		12. 鋁箔麥拉背膠 UL	MH15003	型號: TT219
		13. PIFA Specification	283383	
		14. 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 (黑色) OD = 1.13	導體	2070181/EC	
		絕緣層	SH6044950/CHEM	
		線材外被色母	2070608/EC NT06080073-7	
	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	
	鋁箔麥拉		CE/2004/92965	
	白色標籤		SH6013297/CHEM	型號: AW3209
	白色標籤 (碳帶)		CE/2005/B2096B	型號: RA6902

1. DRAWING ASSEMBLY



BOM

B O M

ITEM	COMPONENT	Q'TY	DESCRIPTION	FAVORTRON P/N	VENDER
1	PIFA ANTENNA	1	志合M50-LEFT-PIFA	M02007009001	品欣
2	同軸線	1	φ 1.13 黑色* 773mm單邊加I-PEX Connector	M04007147001	FVC
3	SPONGE	1	8mm*3mm*t=3.5mm	M01009001002	東鋒
4	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
5	鋁麥拉膠帶	1	33mm*25mm t=0.1(鋁箔面背電膠膠33mm*5mm)	M01005001002	隆揚
6	LABEL	1	4.5x13mm 白色	G01013007001	亞識
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

SUB BOM (M04007147001)

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 OD= φ 1.13*772mm整捲型(黑色)	M04005009001	日立信電



惠賢電子股份有限公司
FAVORTRON CO.,LTD

Title:

志合L41-WLAN LEFT 天線-Main

Part No. K05008004451

Draw No. TD-E-60536-a1

CUS.Part No. 22G600810-10

CUS.Rev. a1

Approval Check Designed

Vincent Vincent Vincent

發行 備註

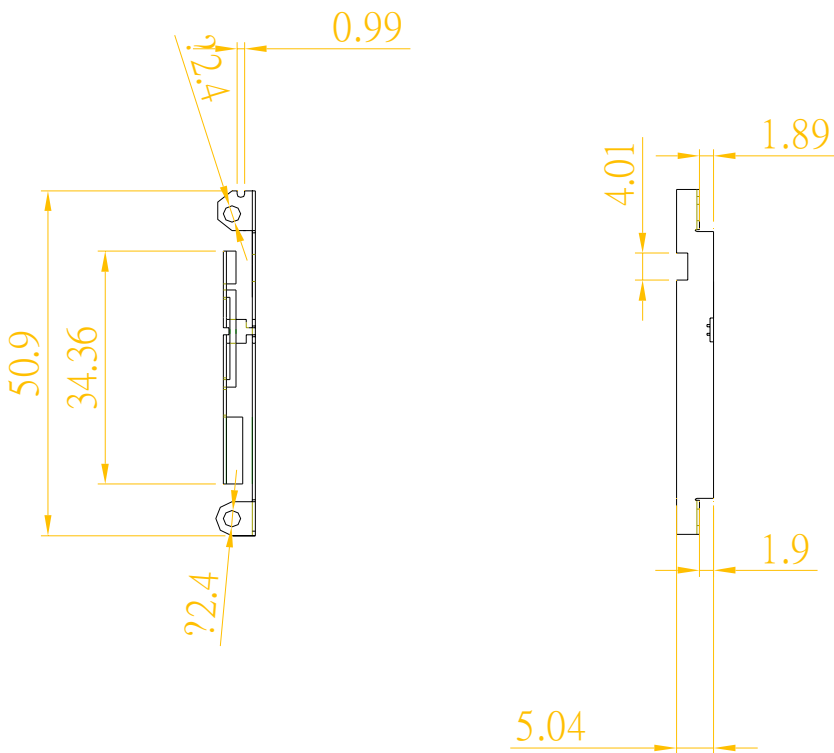
機密

廠內專用

NOTES:

禁止使用1級環境管理物質，具體物質參見我司技術標準

Date 2006/08/11 Sheet 2/3



Remark

1. MATERIAL:馬口鐵 H
2. L = 0.4mm± 0.05
3. 表面不得有毛邊
4. 外觀不得有壓傷油污卸傷手紋
5. 未標註公差範圍者請詳公差欄標示值。



惠寶電子股份有限公司
FAVORTRON CO., LTD.

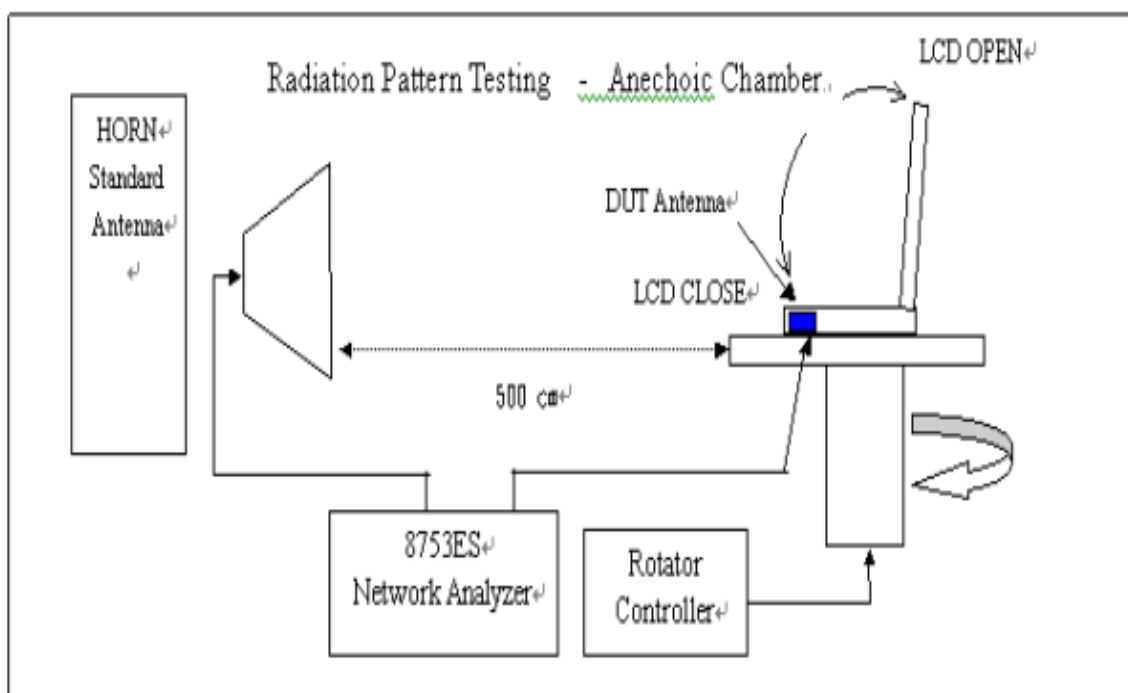
TITLE:

志合L50-LEFT 天線

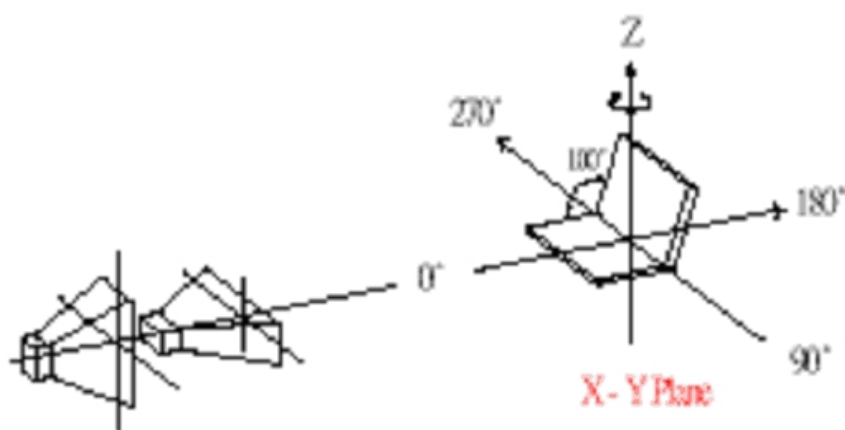
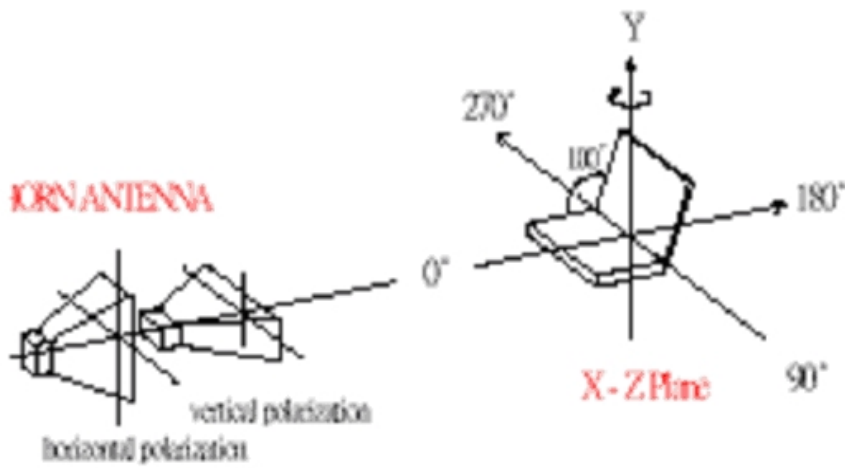
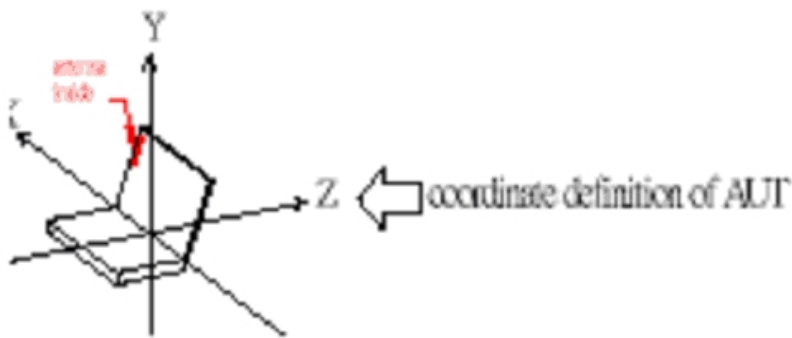
※未標註公差處，請參照下列標準。

發 行		RANGE	TOLERANCE	CHECKED		DRAWN	
Units	MM	Over 101	±1.5	Rev.	A0		Nick
Size	A4	51-100	±1.0	Scale	1:1		
Sheet	PAGE	31-50	±0.3	APPROVAL	A1		Nick
		30 Below	±0.2	CHECKED	DRAWN		
							Lun

天線測試方法

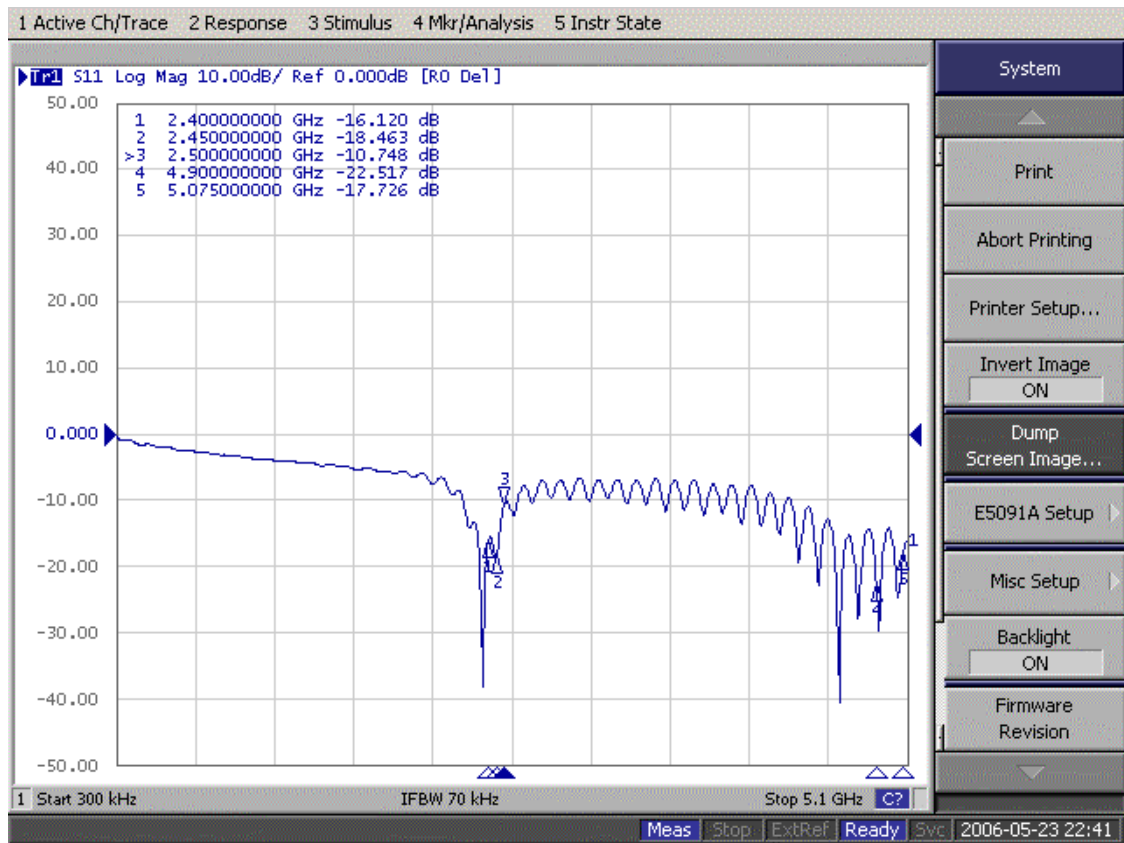


Coordinate Definition

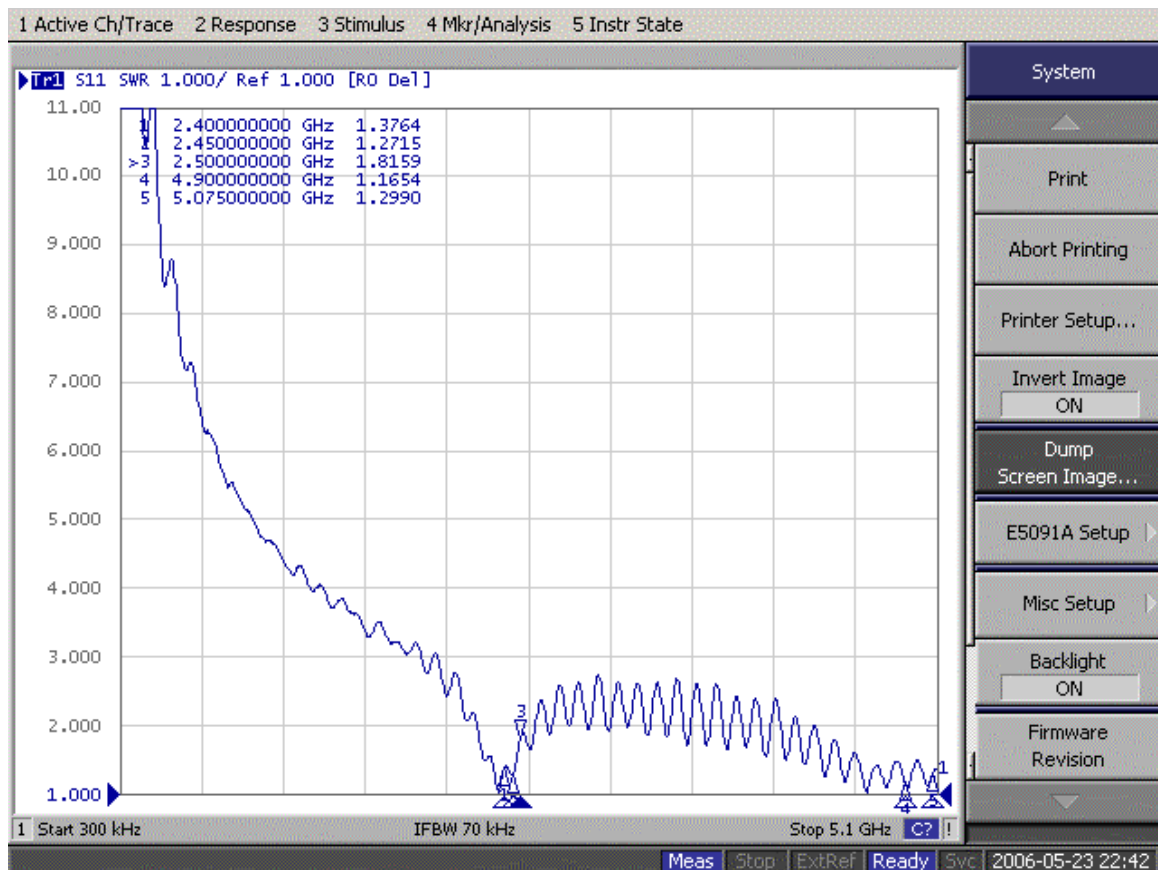


2. WLAN Ant./In Notebook (LCD-LEFT ANT.)

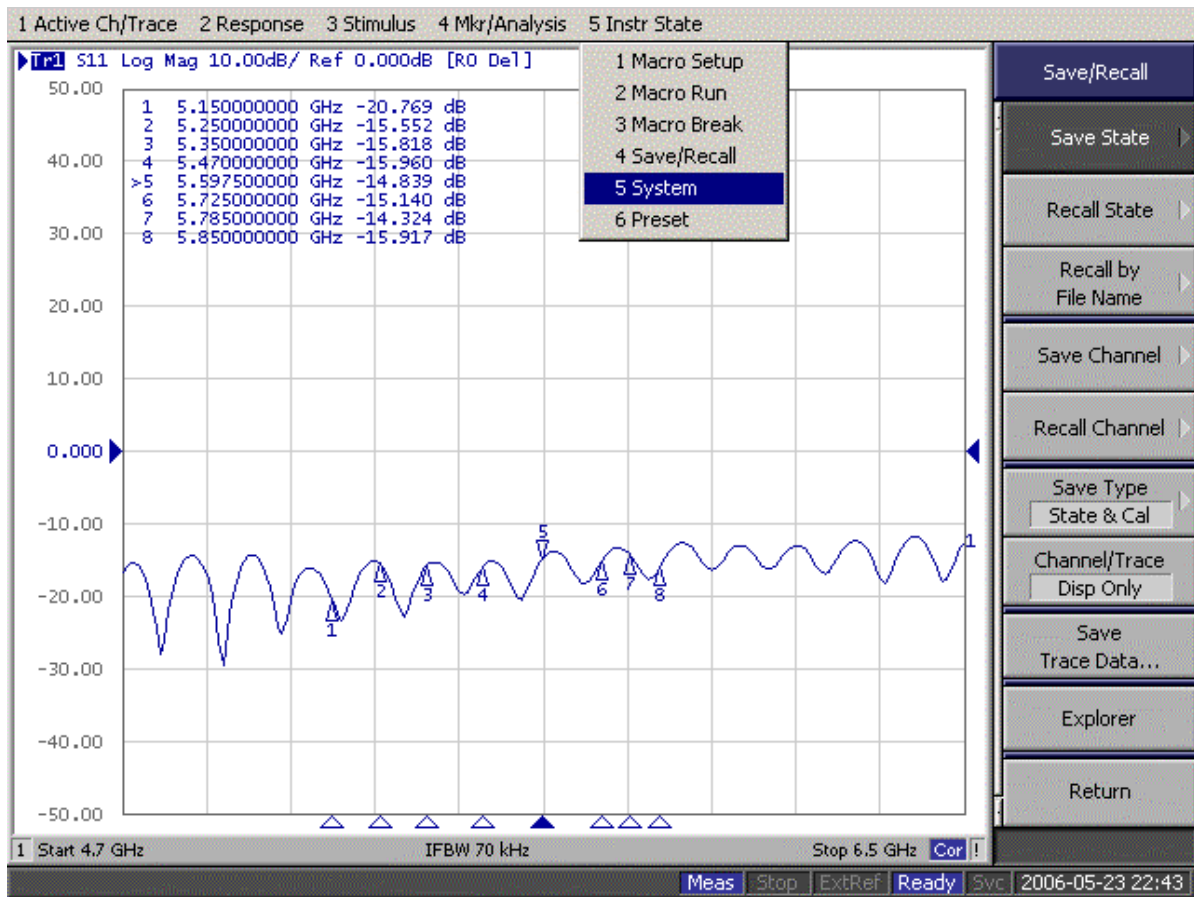
2.4~2.5GHZ / Return Loss



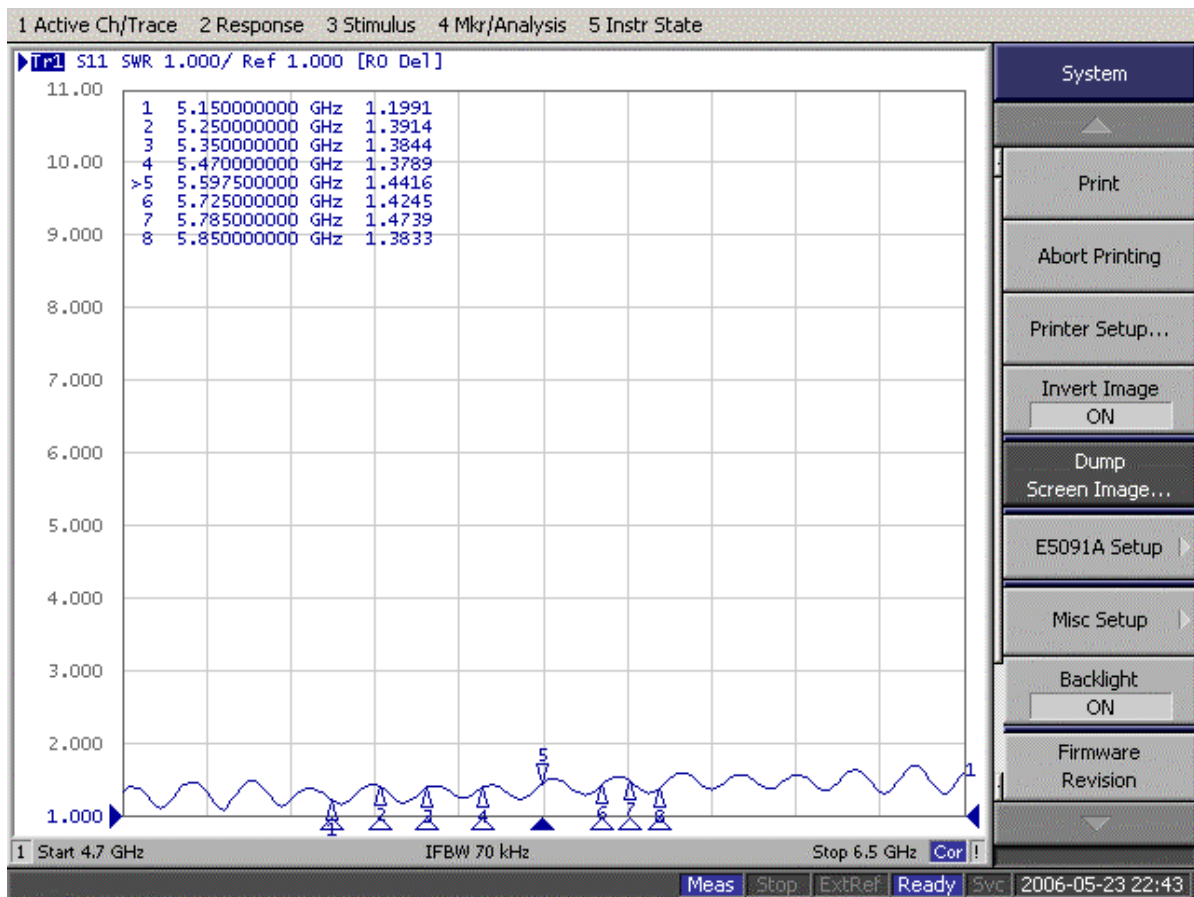
2.4~2.5GHZ / VSWR



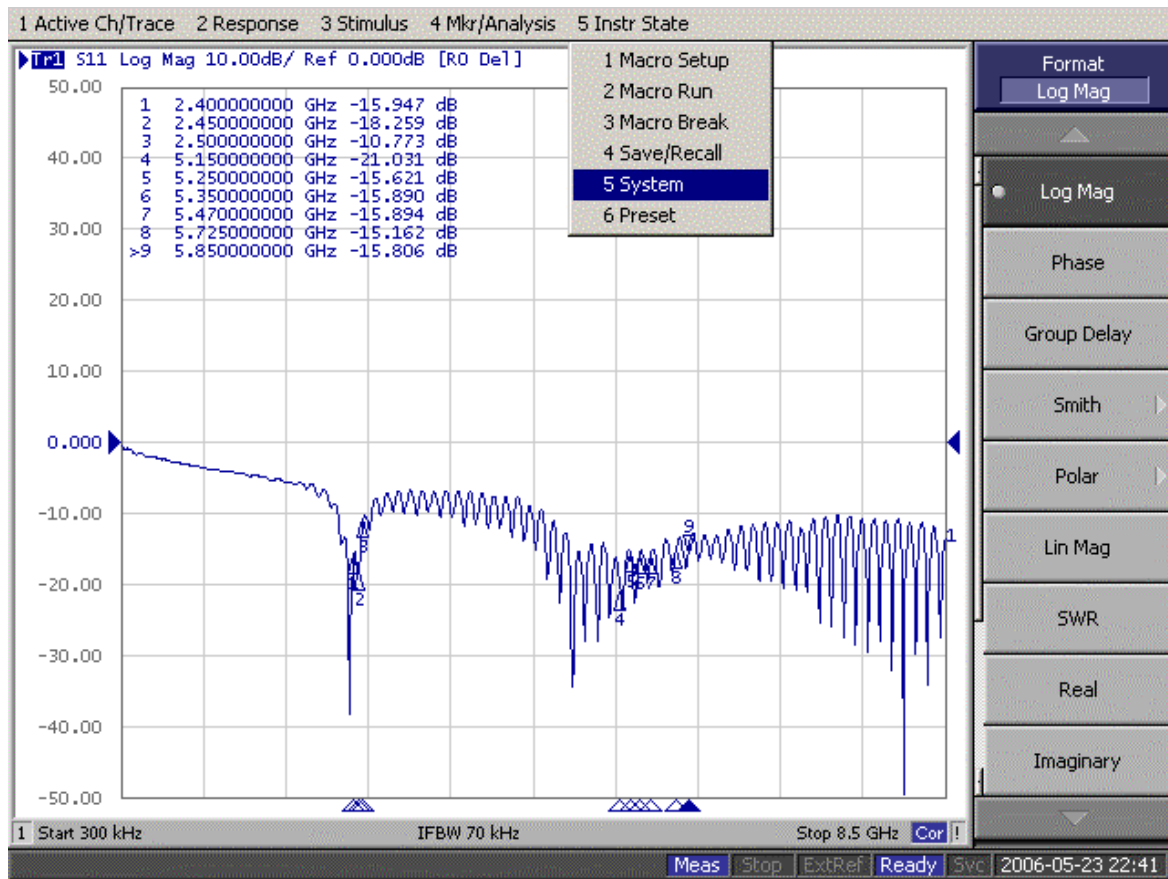
5.1~5.85GHZ/Return Loss



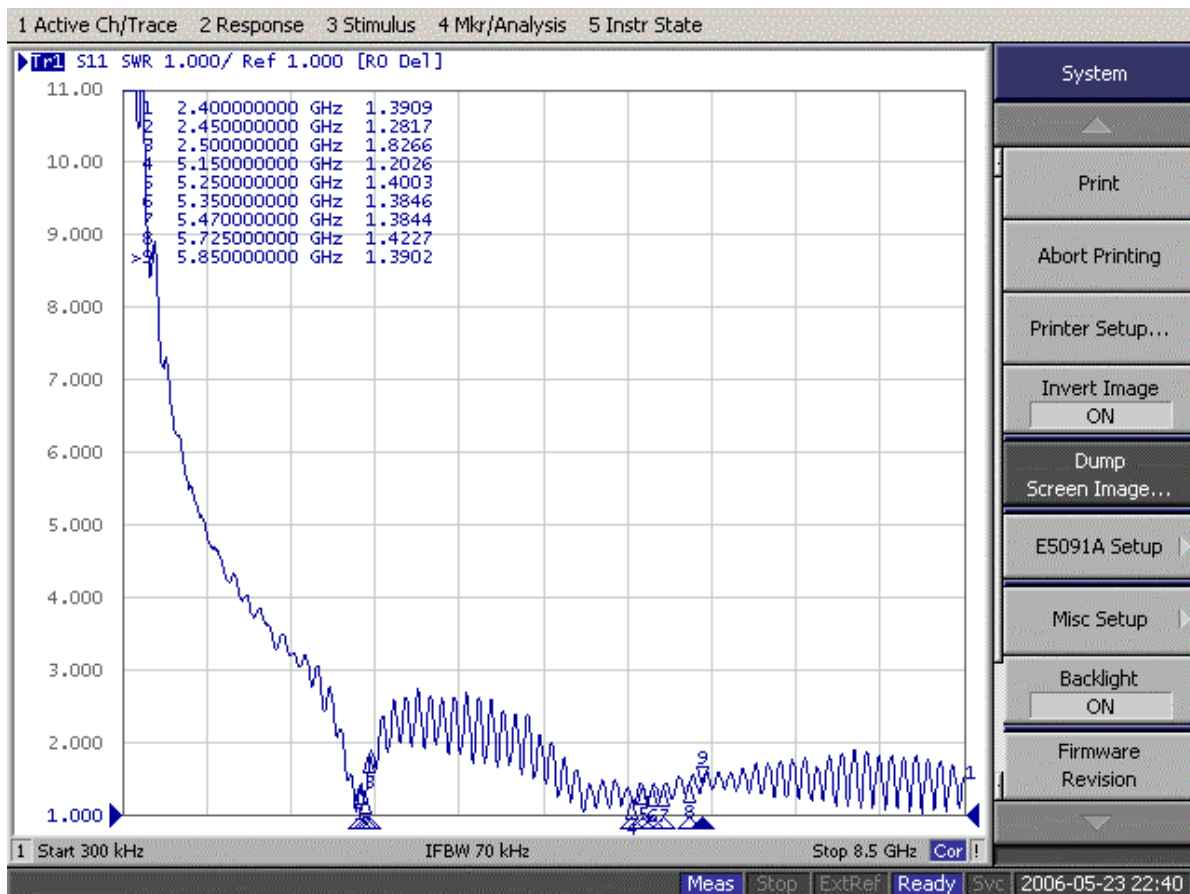
5.1~5.85GHZ/VSWR



2.4~2.5GHZ & 5.15~5.85GHZ / Return Loss



2.4~2.5GHZ & 5.15~5.85GHZ / VSWR



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

LCD- LEFT ANT.

a. 2.4GHz



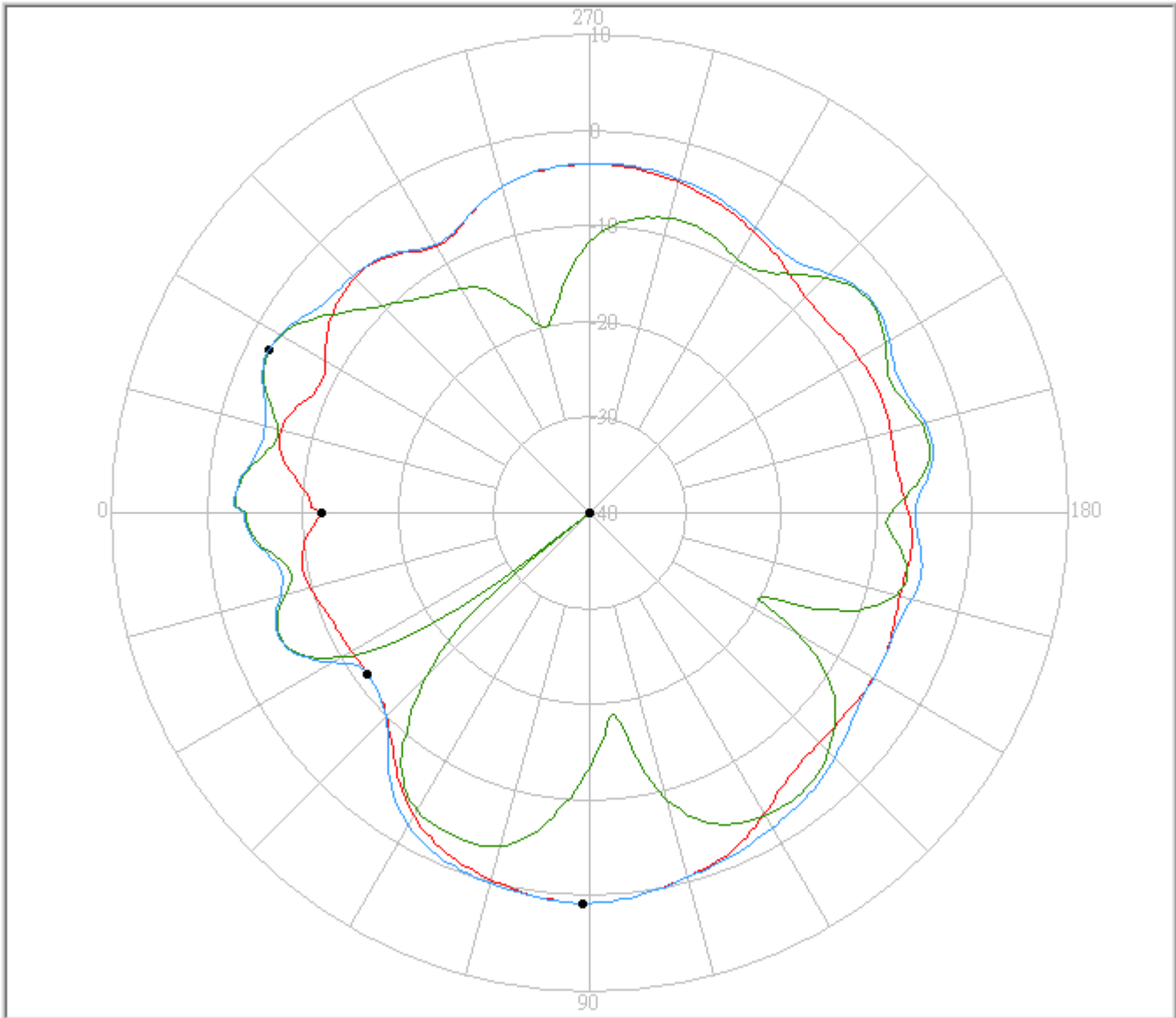
eService for Customer Satisfaction

FAVORTRON

FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	2400.00	0.79 / 89.00	-11.92 / 0.00	-4.78	Ver.	2006/5/23
2	L41	LEFT-Main	2400.00	-2.47 / 333.00	-43.43 / 38.00	-6.59	Hor.	2006/5/23
3	L41	LEFT-Main	2400.00	0.80 / 89.00	-11.34 / 36.00	-3.58	V+H	2006/5/23

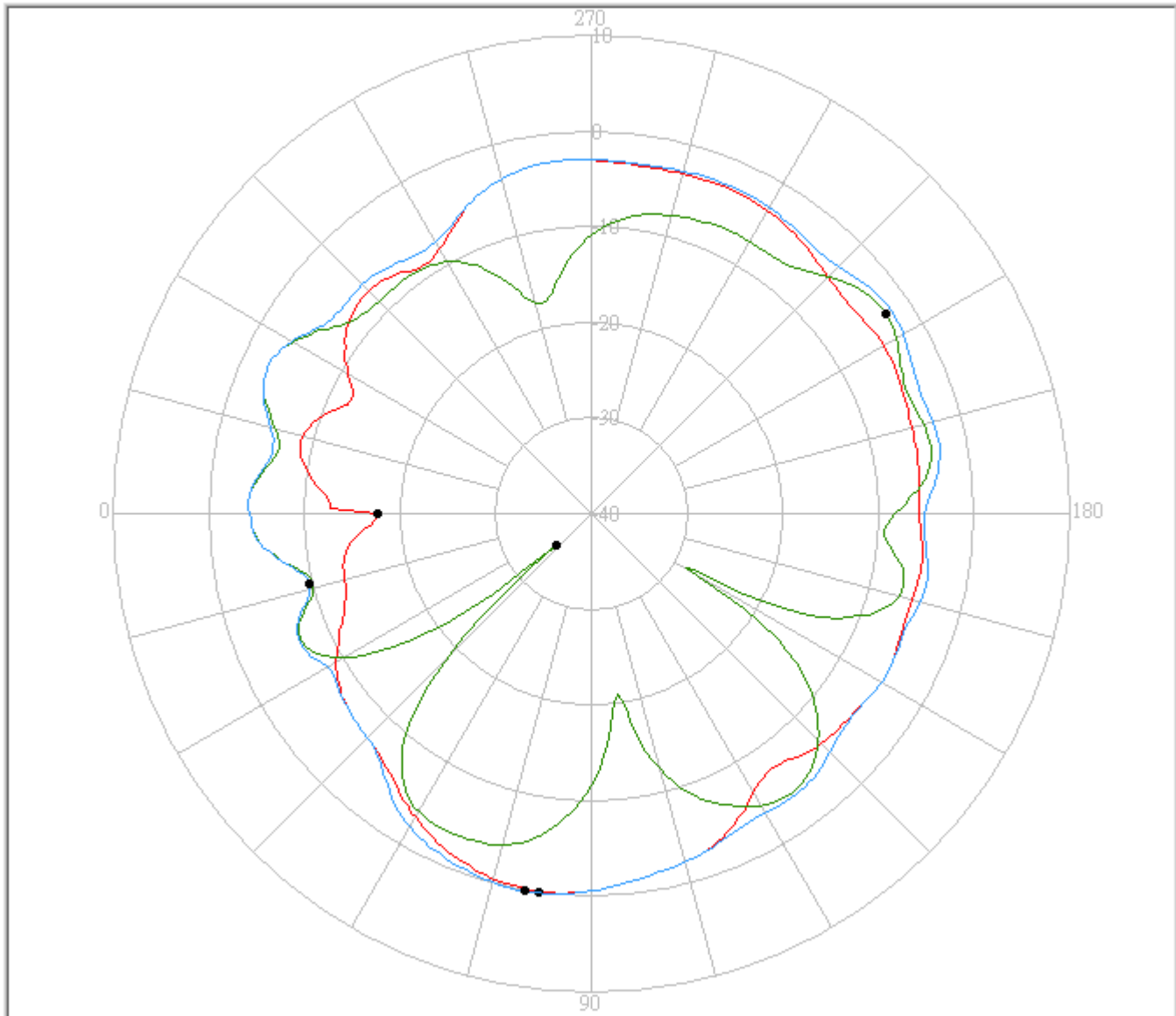
b. 2.45GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	2450.00	-0.11 / 82.00	-17.74 / 0.00	-4.79	Ver.	2006/5/23
2	L41	LEFT-Main	2450.00	-2.79 / 214.00	-35.07 / 41.00	-6.80	Hor.	2006/5/23
3	L41	LEFT-Main	2450.00	0.04 / 80.00	-9.64 / 14.00	-3.69	V+H	2006/5/23

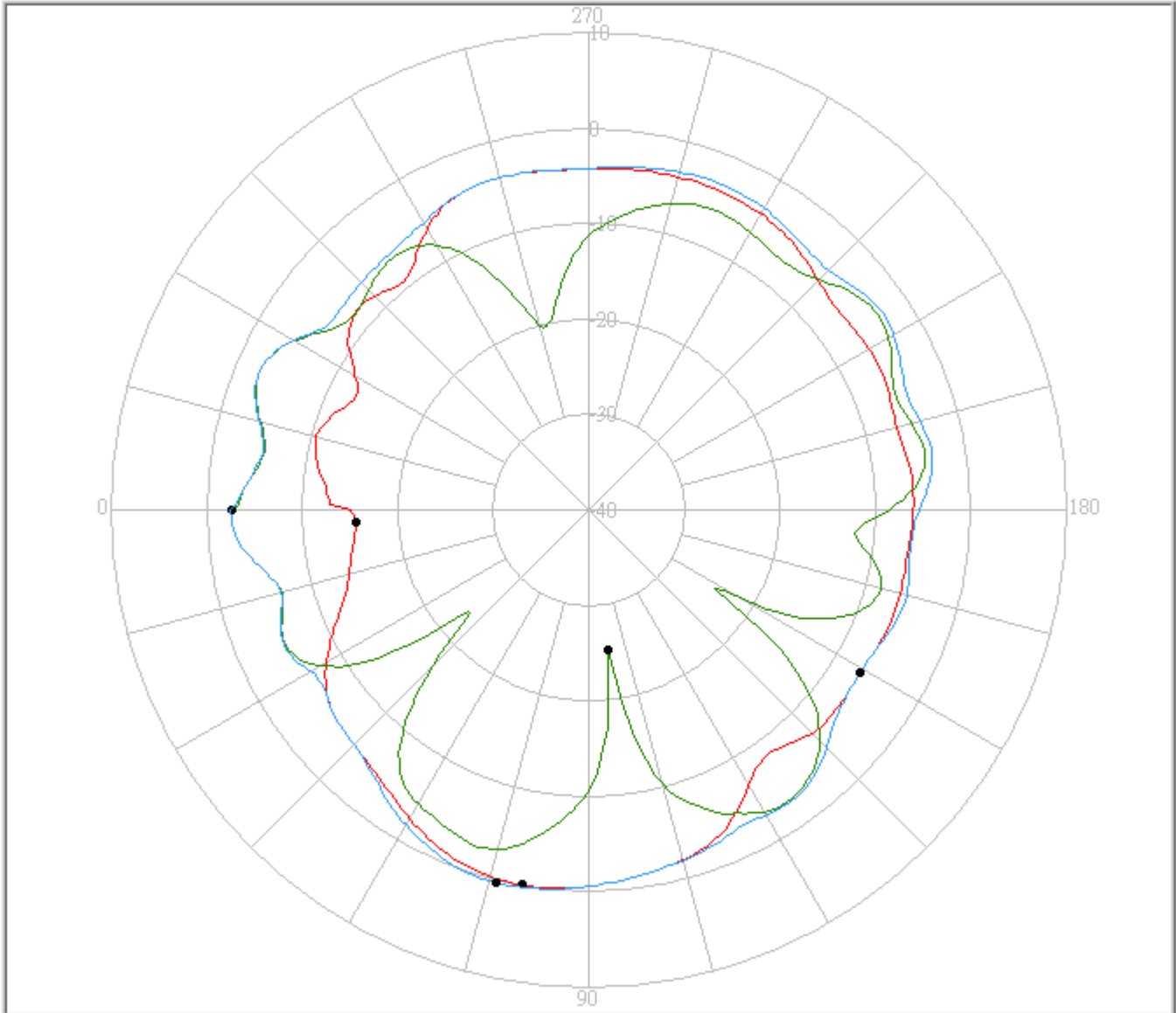
c. 2.5GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	2500.00	-0.11 / 80.00	-15.63 / 3.00	-5.08	Ver.	2006/5/23
2	L41	LEFT-Main	2500.00	-2.55 / 0.00	-25.28 / 98.00	-6.39	Hor.	2006/5/23
3	L41	LEFT-Main	2500.00	0.26 / 76.00	-6.88 / 149.00	-3.67	V+H	2006/5/23

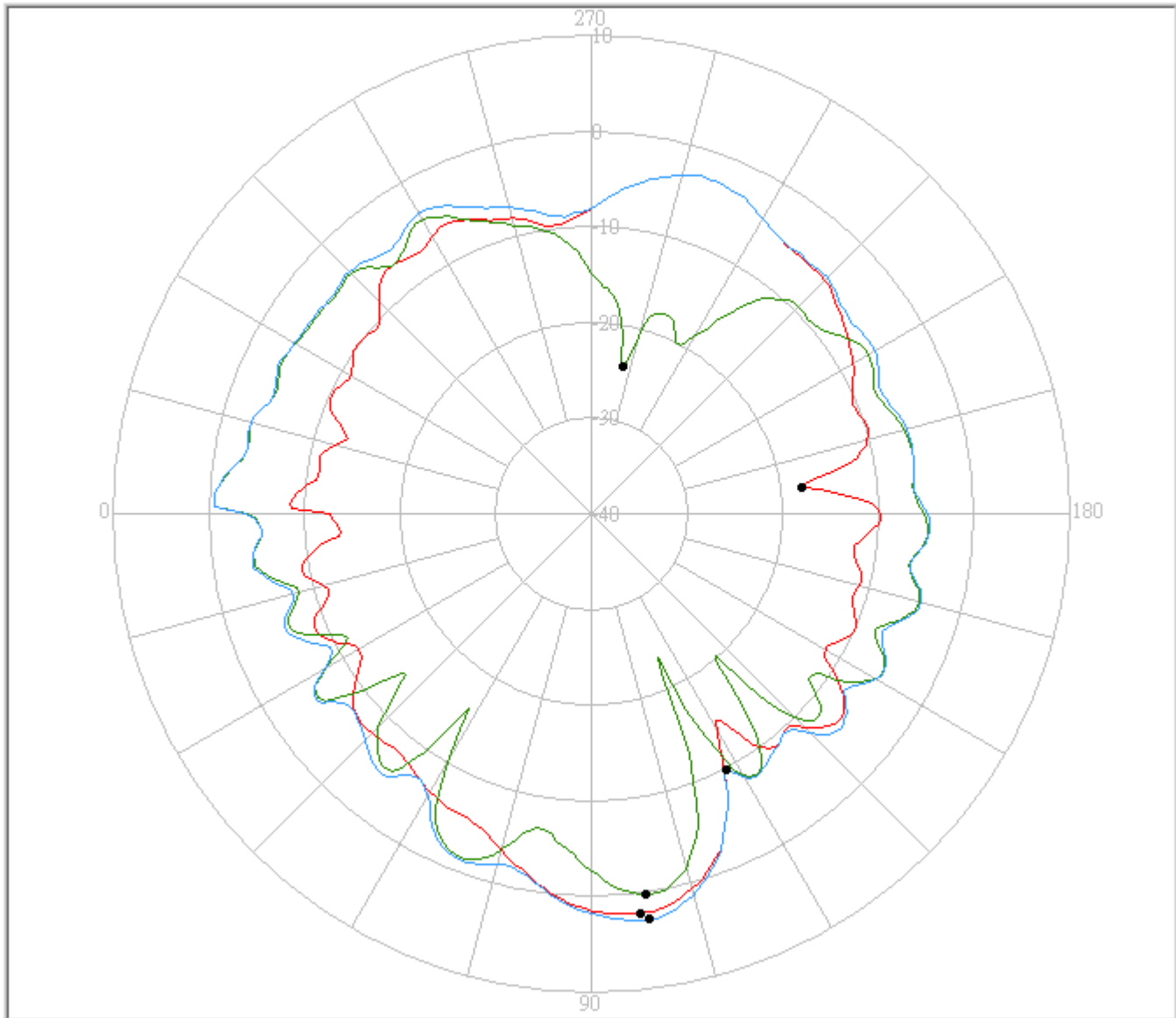
d. 4.9GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	4900.00	2.06 / 97.00	-17.77 / 187.00	-5.81	Ver.	2006/5/23
2	L41	LEFT-Main	4900.00	0.18 / 98.00	-24.19 / 258.00	-6.01	Hor.	2006/5/23
3	L41	LEFT-Main	4900.00	2.81 / 98.00	-9.78 / 118.00	-3.93	V+H	2006/5/23

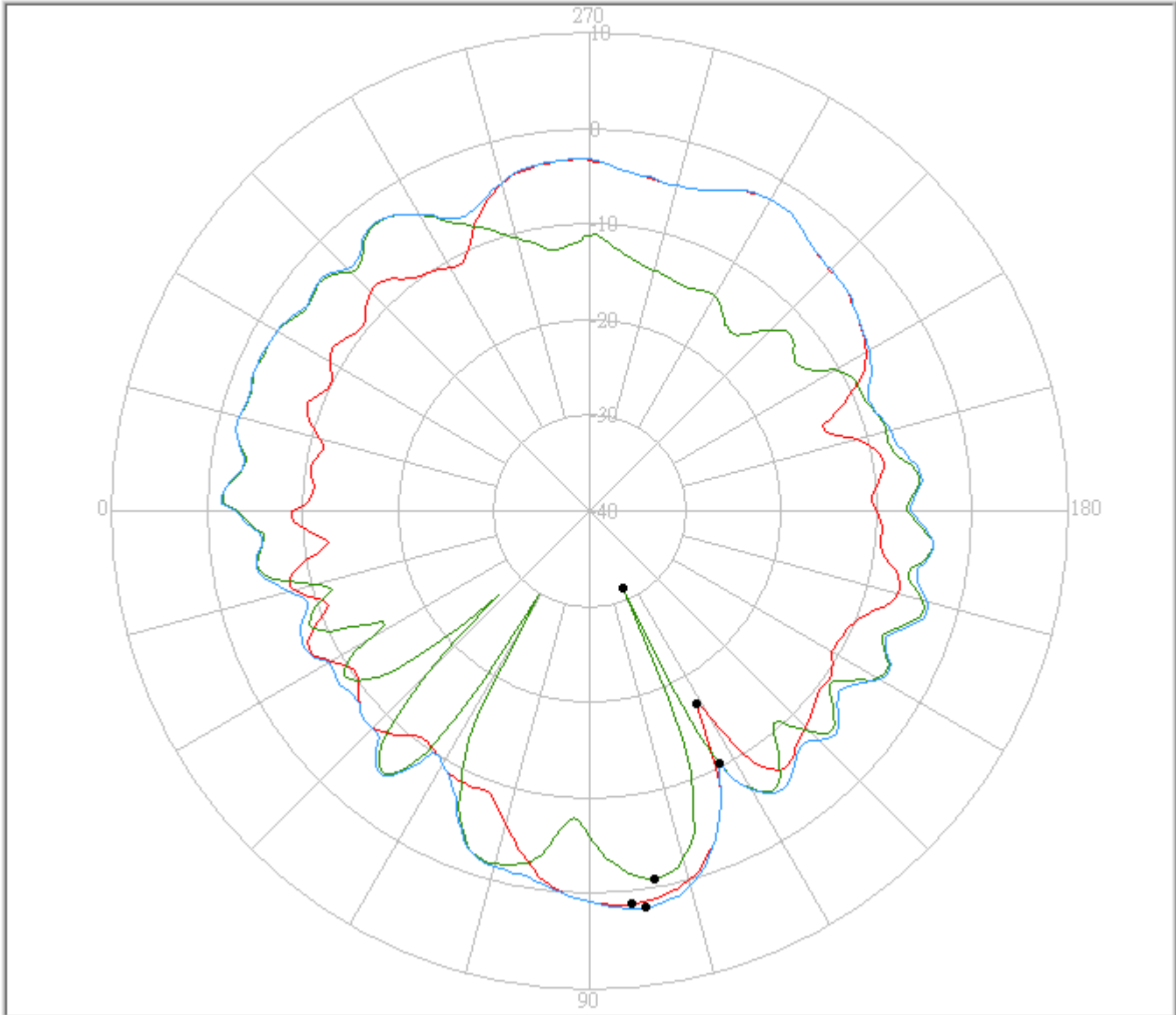
e. 5.075GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5075.00	1.32 / 96.00	-16.92 / 119.00	-5.71	Ver.	2006/5/23
2	L41	LEFT-Main	5075.00	-0.98 / 100.00	-31.27 / 114.00	-6.02	Hor.	2006/5/23
3	L41	LEFT-Main	5075.00	1.84 / 98.00	-10.32 / 117.00	-3.78	V+H	2006/5/23

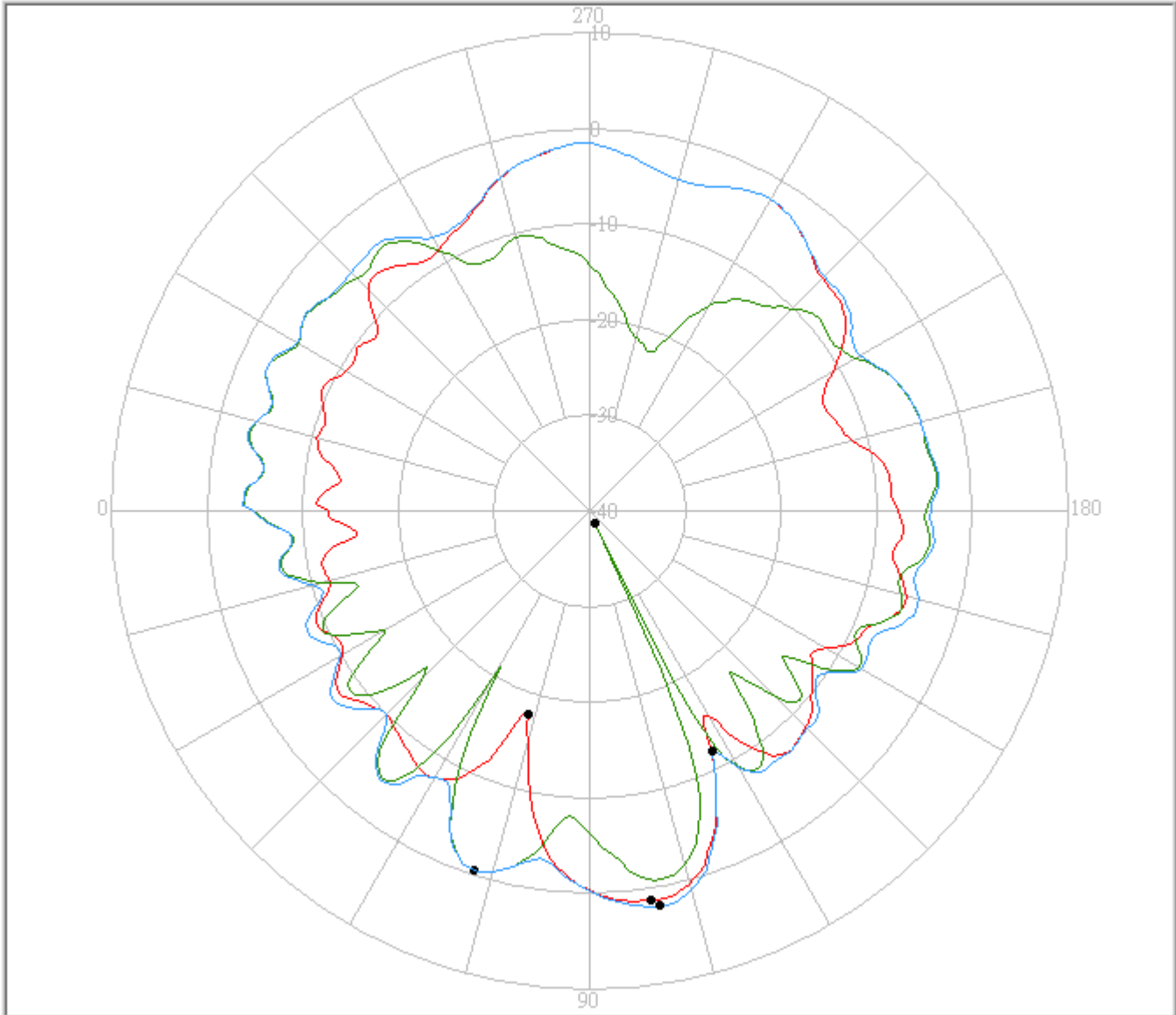
f. 5.15GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5150.00	1.20 / 99.00	-17.79 / 73.00	-5.92	Ver.	2006/5/23
2	L41	LEFT-Main	5150.00	-0.60 / 72.00	-38.53 / 115.00	-6.61	Hor.	2006/5/23
3	L41	LEFT-Main	5150.00	1.92 / 100.00	-11.83 / 117.00	-4.14	V+H	2006/5/23

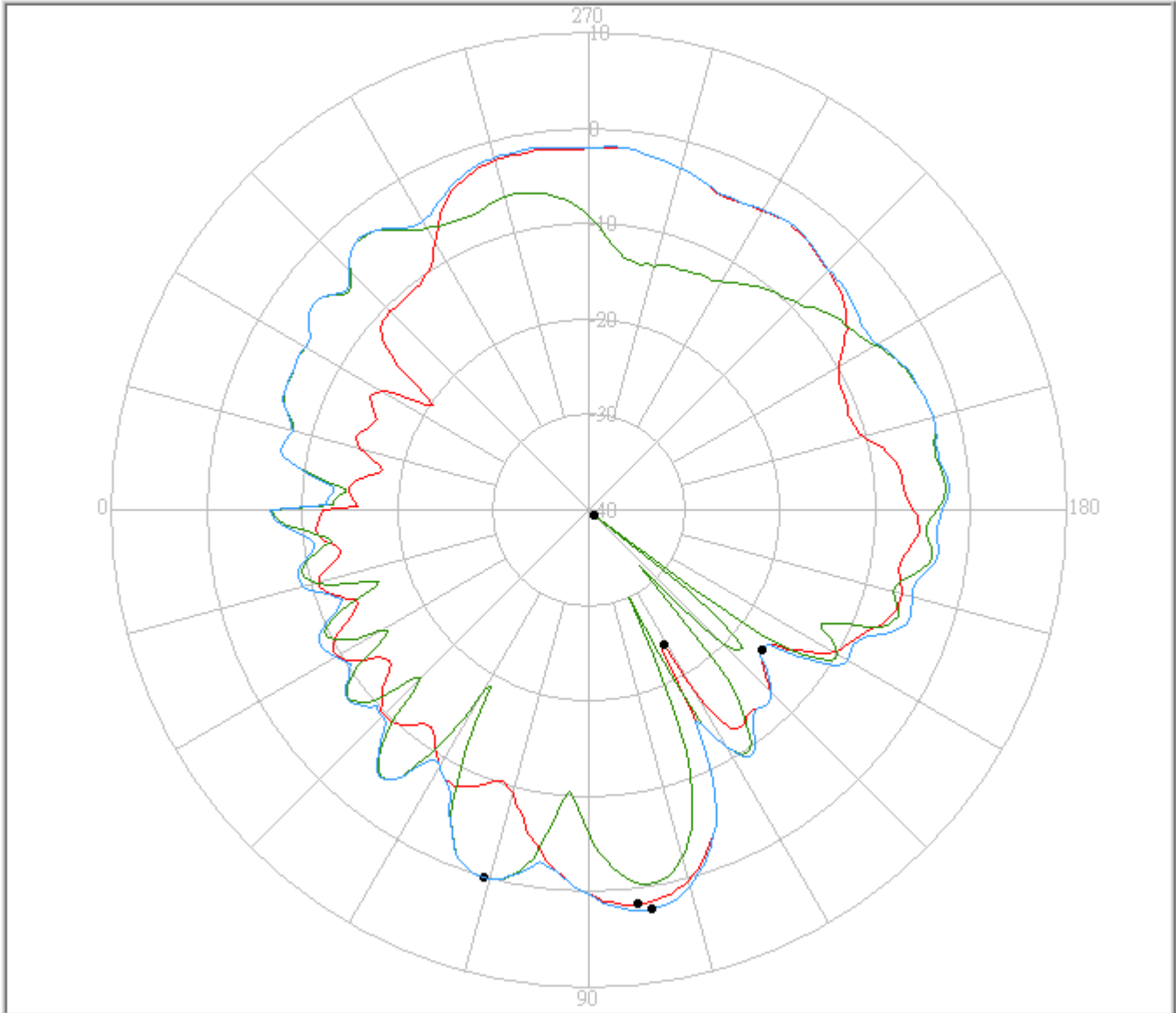
g. 5.25GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5250.00	1.57 / 97.00	-23.90 / 119.00	-5.81	Ver.	2006/5/23
2	L41	LEFT-Main	5250.00	0.07 / 74.00	-39.20 / 142.00	-6.27	Hor.	2006/5/23
3	L41	LEFT-Main	5250.00	2.31 / 99.00	-16.79 / 141.00	-3.98	V+H	2006/5/23

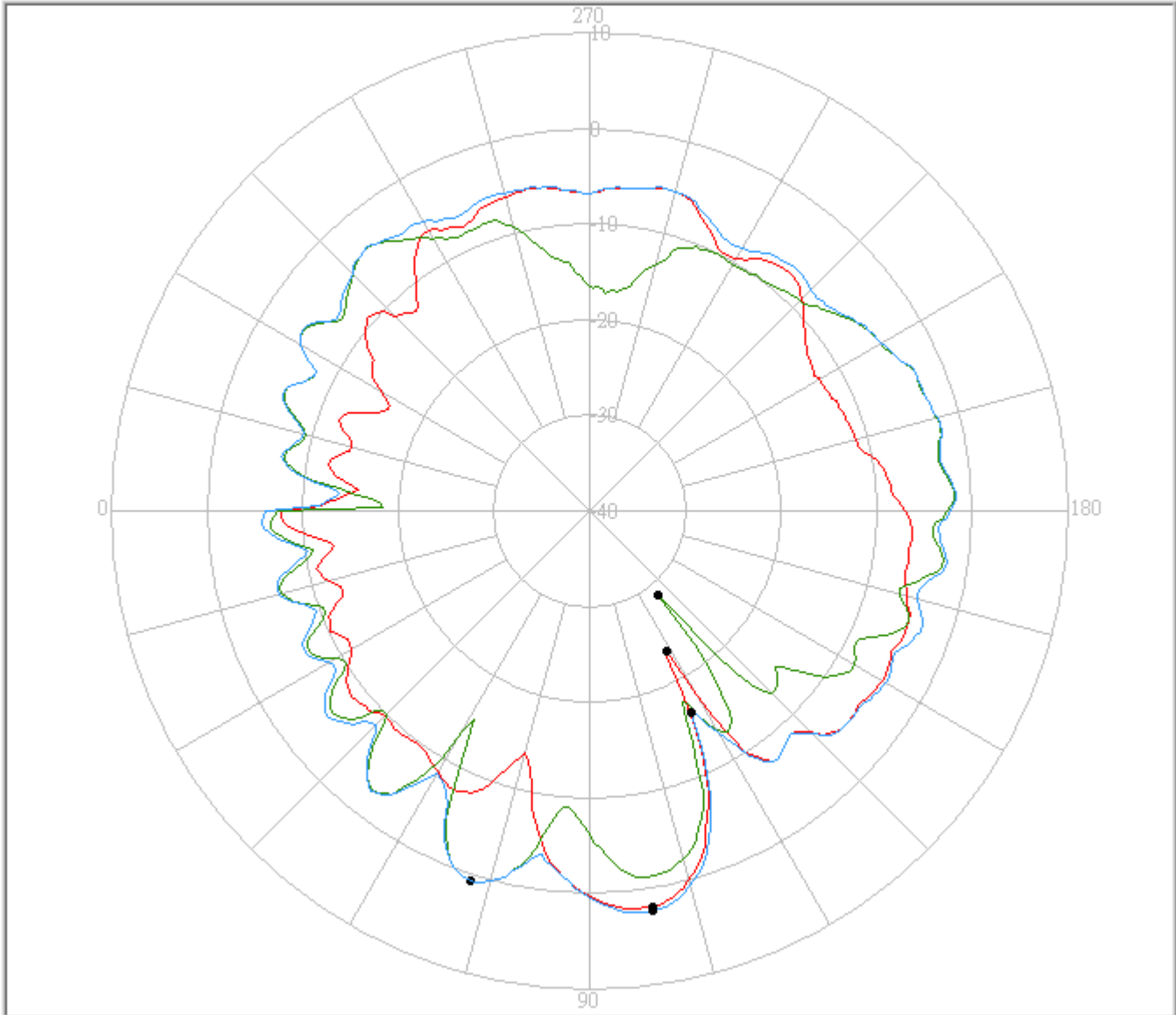
h. 5.35GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5350.00	1.88 / 99.00	-23.22 / 119.00	-6.61	Ver.	2006/5/23
2	L41	LEFT-Main	5350.00	0.58 / 72.00	-28.61 / 129.00	-6.08	Hor.	2006/5/23
3	L41	LEFT-Main	5350.00	2.35 / 99.00	-16.43 / 117.00	-4.32	V+H	2006/5/23

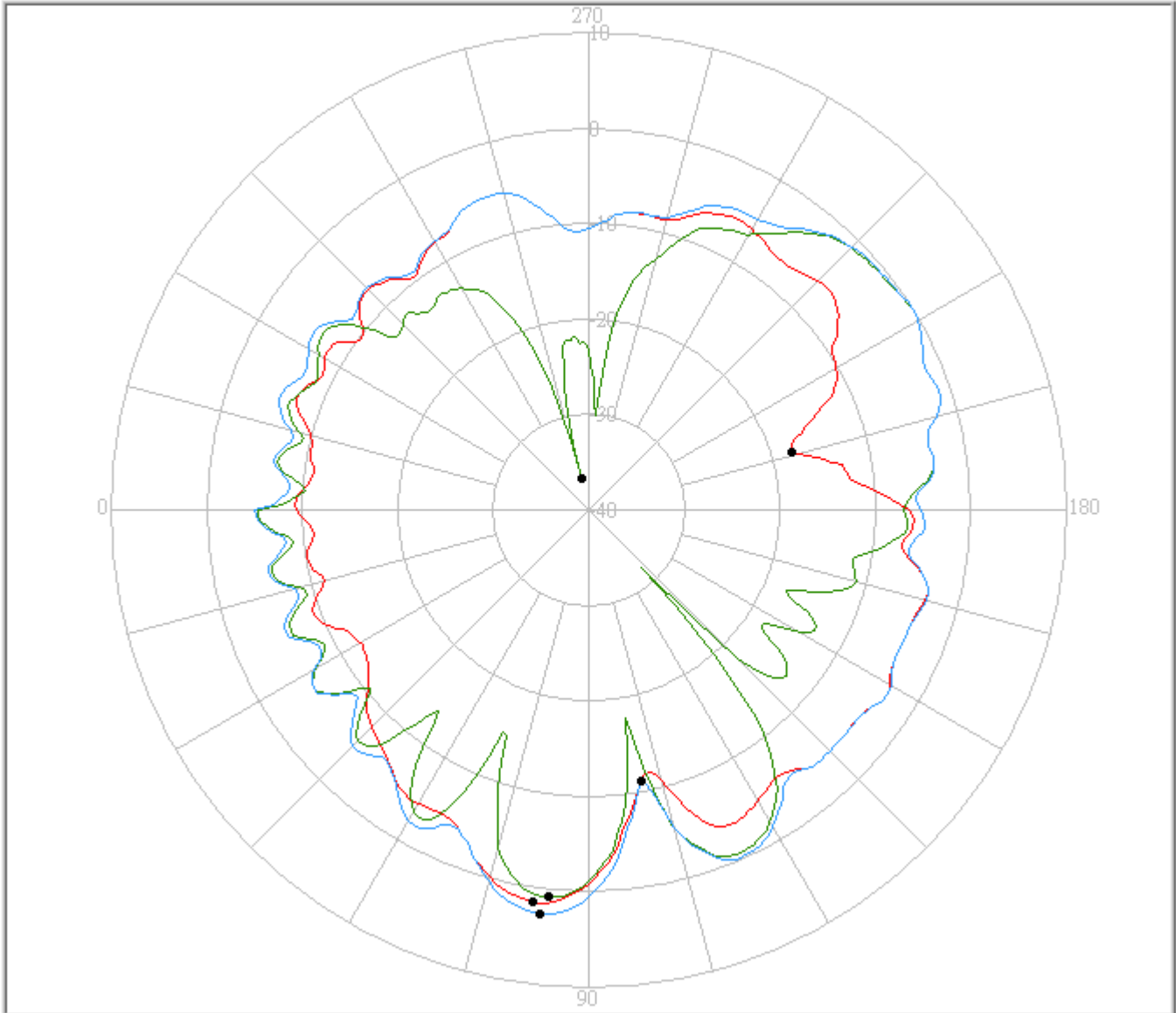
i. 5.47GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5470.00	1.50 / 82.00	-17.89 / 196.00	-6.00	Ver.	2006/5/23
2	L41	LEFT-Main	5470.00	0.77 / 84.00	-36.64 / 284.00	-5.72	Hor.	2006/5/23
3	L41	LEFT-Main	5470.00	2.63 / 83.00	-11.01 / 101.00	-3.86	V+H	2006/5/23

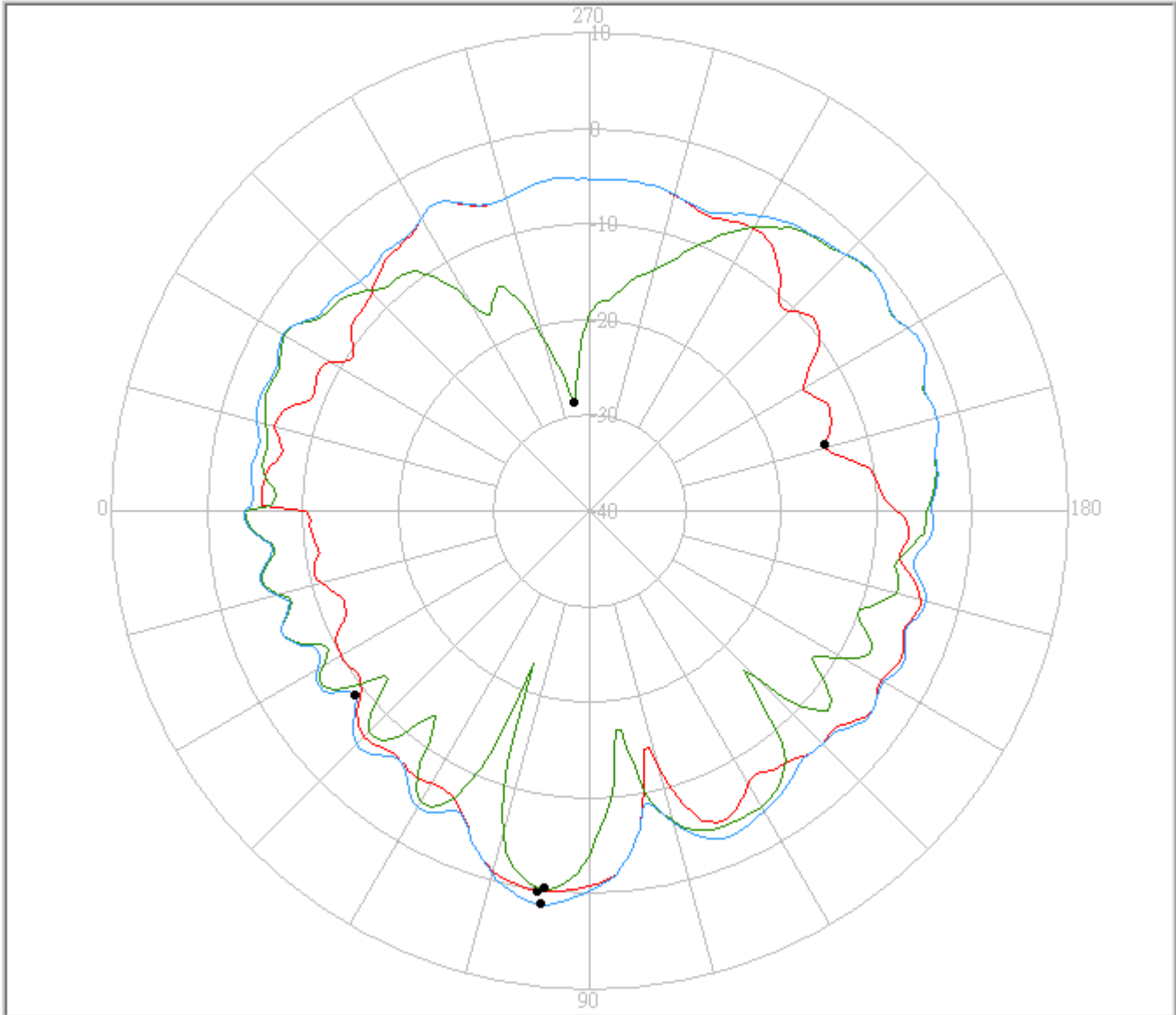
j. 5.597GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5597.50	0.10 / 82.00	-14.54 / 196.00	-6.11	Ver.	2006/5/23
2	L41	LEFT-Main	5597.50	-0.26 / 83.00	-28.59 / 278.00	-5.82	Hor.	2006/5/23
3	L41	LEFT-Main	5597.50	1.42 / 83.00	-8.86 / 38.00	-3.94	V+H	2006/5/23

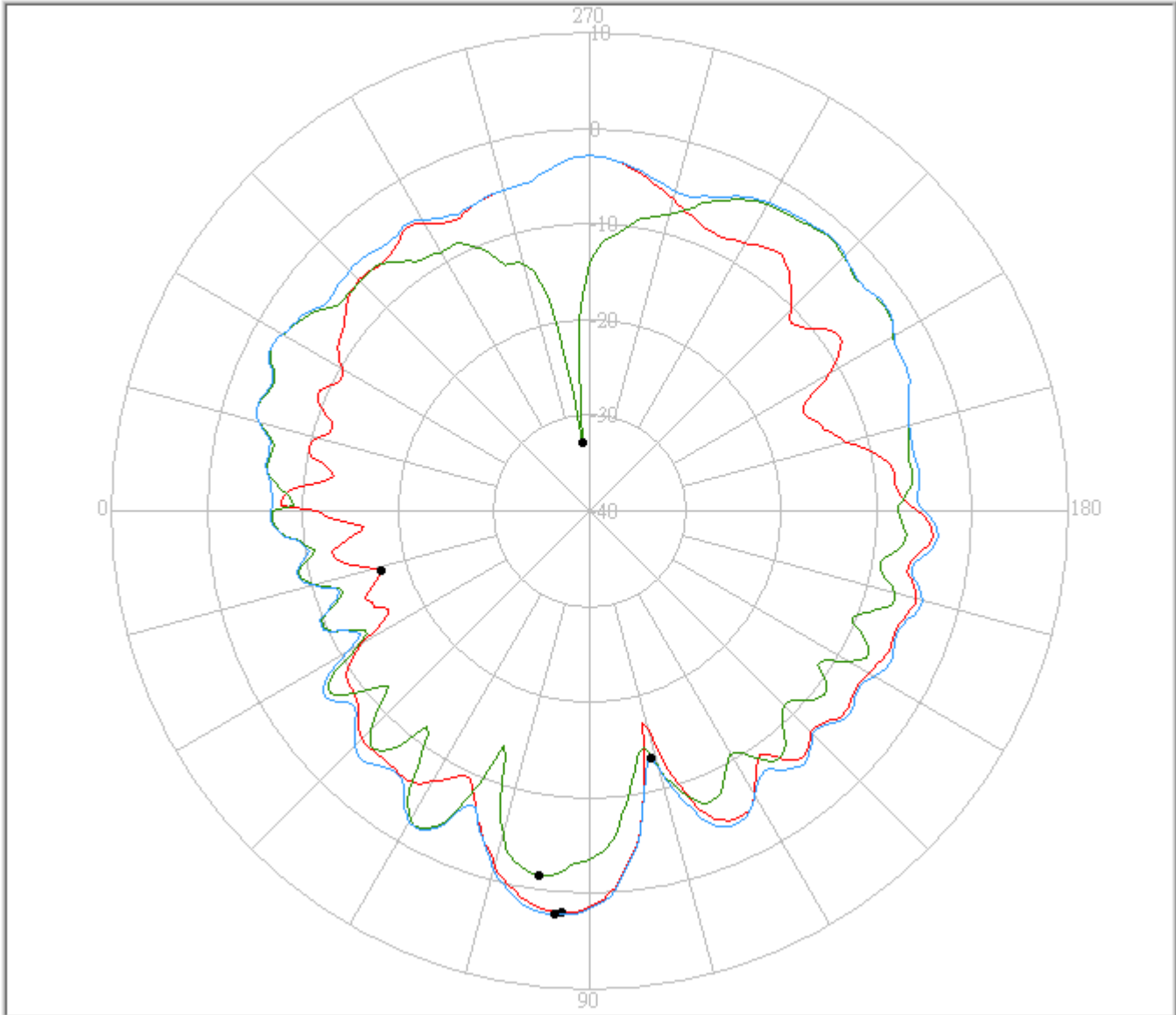
k. 5.725GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5725.00	2.05 / 86.00	-17.26 / 16.00	-5.93	Ver.	2006/5/23
2	L41	LEFT-Main	5725.00	-1.61 / 82.00	-32.82 / 276.00	-6.25	Hor.	2006/5/23
3	L41	LEFT-Main	5725.00	2.36 / 85.00	-13.43 / 104.00	-4.12	V+H	2006/5/23

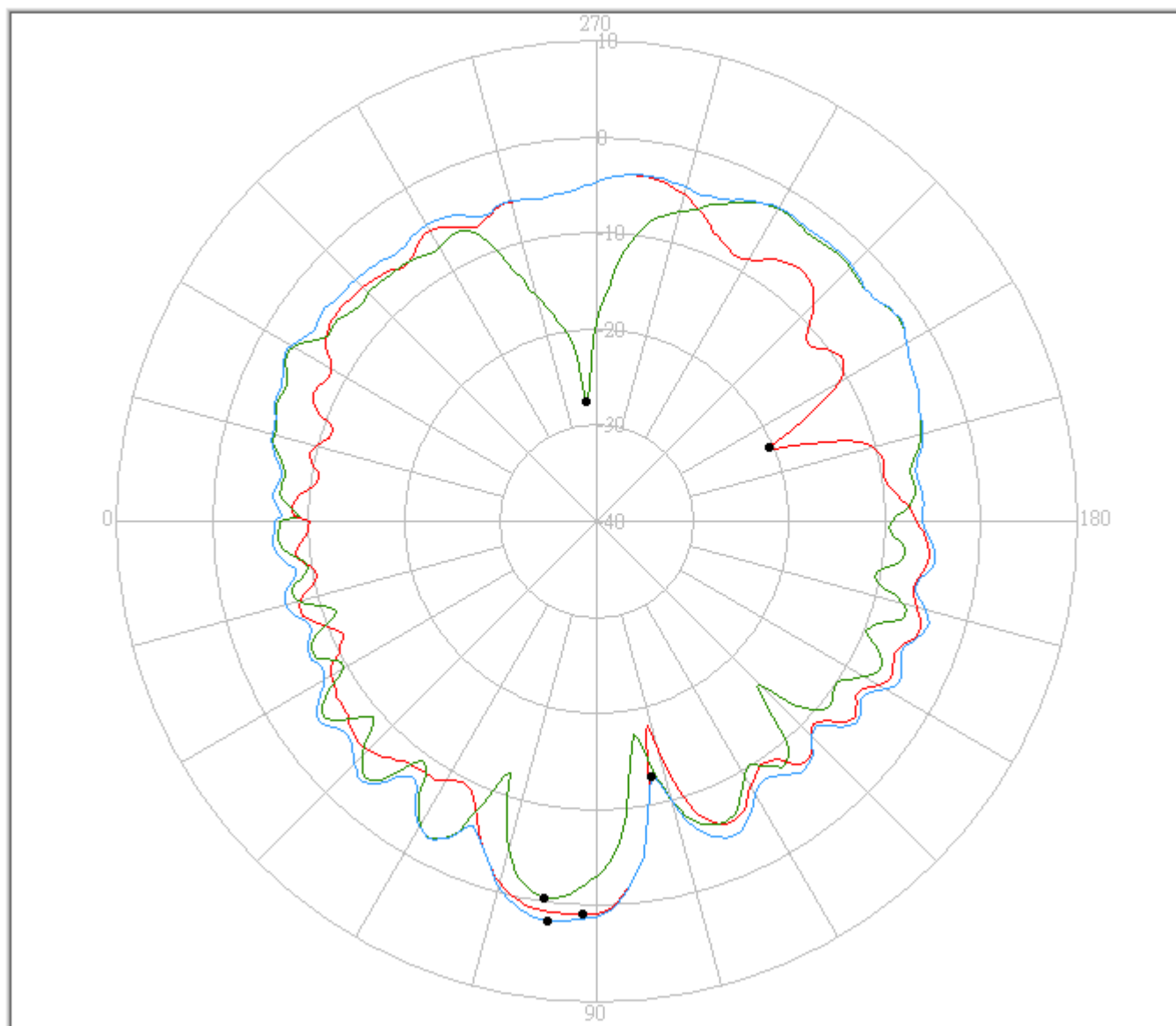
1. 5.785GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5785.00	0.95 / 88.00	-20.49 / 203.00	-6.07	Ver.	2006/5/23
2	L41	LEFT-Main	5785.00	-0.42 / 82.00	-27.50 / 275.00	-6.00	Hor.	2006/5/23
3	L41	LEFT-Main	5785.00	1.86 / 83.00	-12.91 / 102.00	-4.16	V+H	2006/5/23

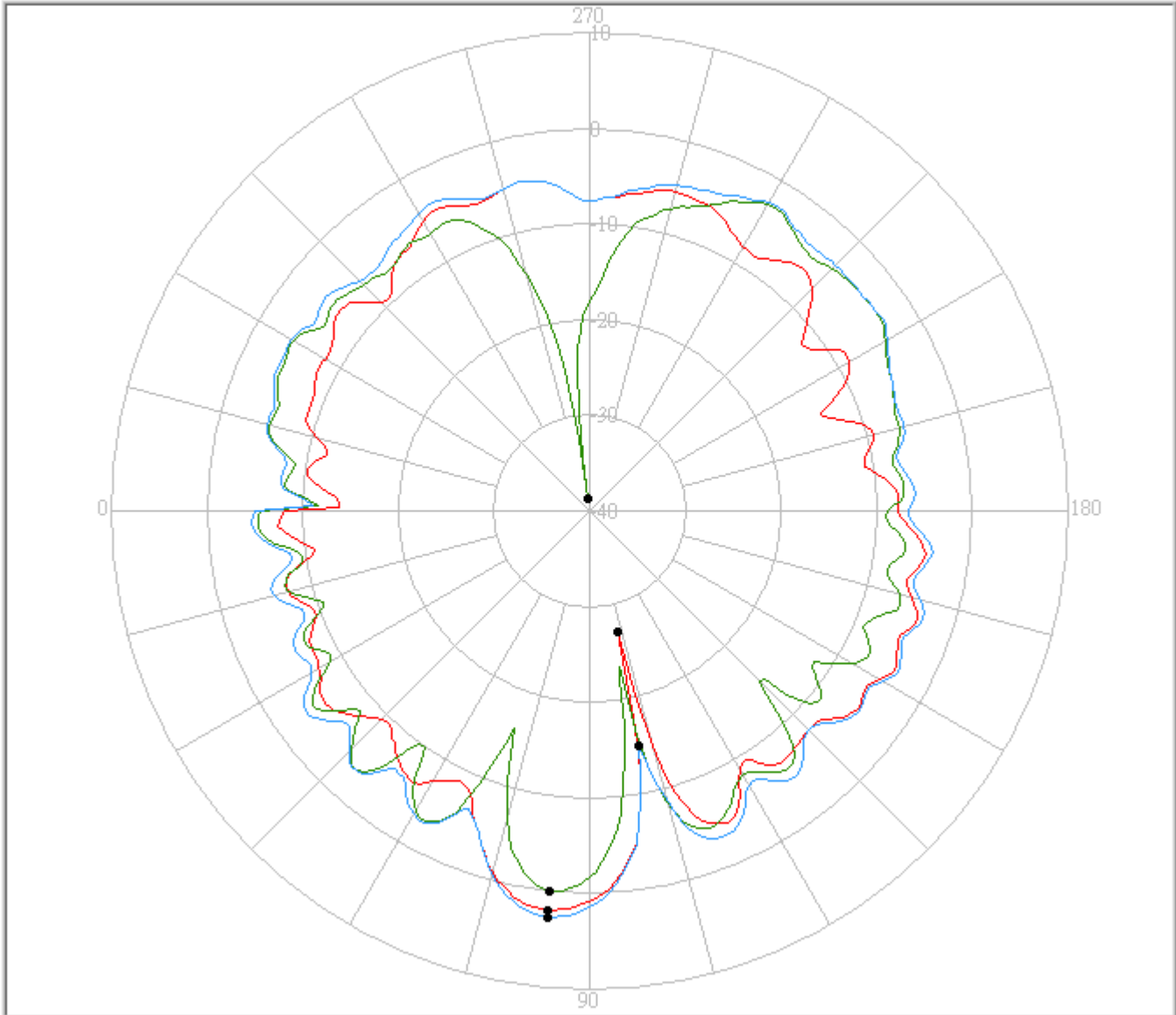
m. 5.85GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5850.00	1.91 / 84.00	-27.01 / 103.00	-5.90	Ver.	2006/5/23
2	L41	LEFT-Main	5850.00	-0.10 / 84.00	-38.73 / 278.00	-6.22	Hor.	2006/5/23
3	L41	LEFT-Main	5850.00	2.63 / 84.00	-14.90 / 102.00	-4.26	V+H	2006/5/23

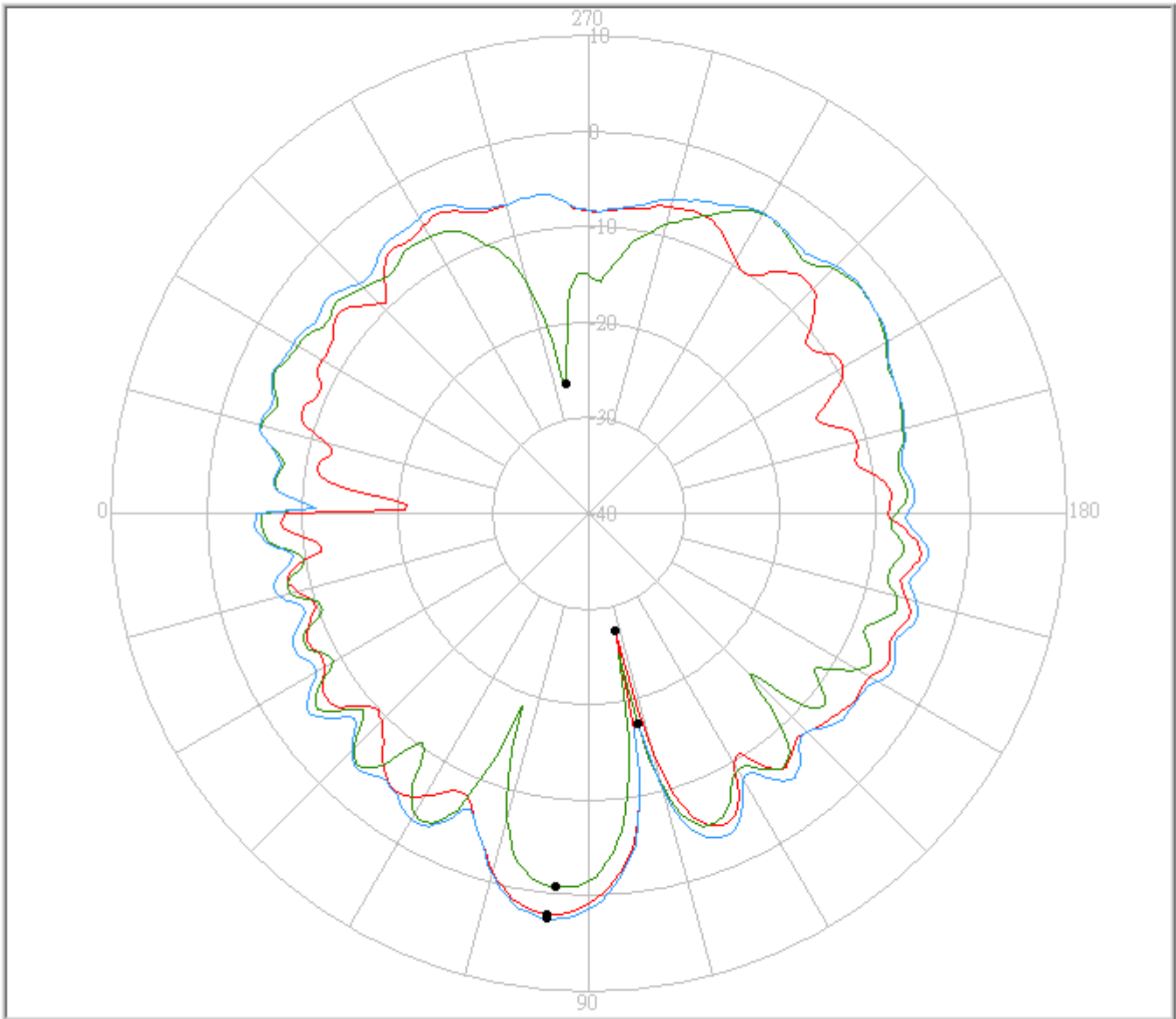
n. 5.875GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

4F, No. 108-1, Min 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	L41	LEFT-Main	5875.00	2.08 / 84.00	-27.40 / 103.00	-6.15	Ver.	2006/5/23
2	L41	LEFT-Main	5875.00	-0.79 / 85.00	-26.16 / 280.00	-6.35	Hor.	2006/5/23
3	L41	LEFT-Main	5875.00	2.59 / 84.00	-17.39 / 103.00	-4.45	V+H	2006/5/23

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 : $> -5\text{dB}$