

DATE : 2006/01/23

CUSTOMER : CLEVO CO.

APPROVAL SHEET

MODEL	M590K
DESCRIPTION	PIFA For Wireless LAN Antenna 2.4~2.5GHZ / 4.9~5.875GHZ
SUPPLIER P/N	K05007001401
CUSTOMER P/N	6-23-7M59K-011
FILE P/N	

FAVORTRON			CUSTOMER	
Manager	Supervisor	Engineer		
Nick	James	James		



惠貿電子股份有限公司
FAVORTRON CO., LTD

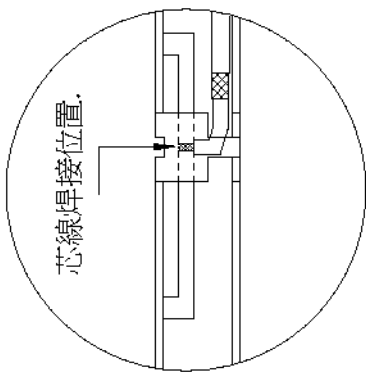
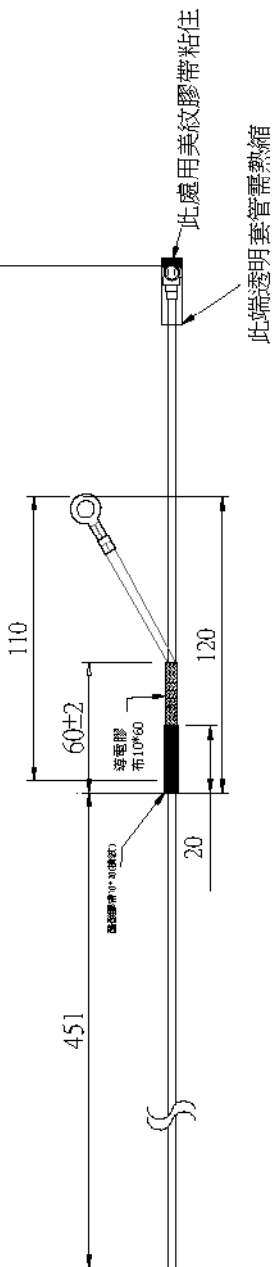
台北縣新店市民權路 108-1 號 4F
4F, No. 108-1, Minchziuan Rd., SHzindian City,
Taipei HZsien 231, Taiwan. R.O.C

TEL: (02) 2218-2189
FAX: (02) 2218-5420
[URL: www.fvc.com.tw](http://www.fvc.com.tw)

ASSEMBLY

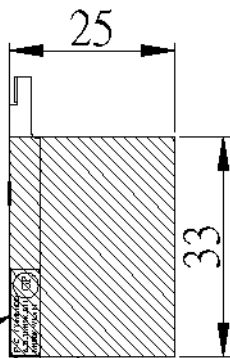
OD=1.13mm, Color: BLACK

896±3mm



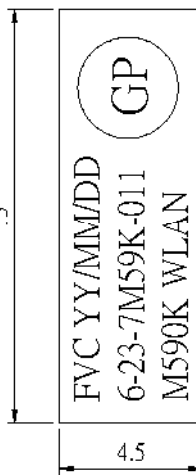
SPONGE

Label
DETAIL A



鋁麥拉膠帶33*25mm
黏貼於鐵件背面.

DETAIL A
3



備註
※未標註公差處，請參照下列標準。

發	行	RANGE	TOLERANCE
		OVER 101	±3.0
		51-100	±2.5
		31-50	±2.0
		30 BELOW	±1.5
	Units	mm	Scale
	Size	A4	1:1
		Date	20060123
		Sheet	1/1

FVC
惠質電子股份有限公司
FAVORTRON CO.,LTD

Title:

M590K WLAN ANT.成品圖
Part No. K05007001401
Draw No. TD-E-50853-A1
CUS.Part No. 6-23-7M59K-011
CUS.Rev. A1
Approval Check
Designed

ITEM	DESCRIPTION
△	
△	
△	
△	
△	

導電貼布 10*68mm					
ITEM	COMPONENT	QTY	DESCRIPTION	FAVORTRON P/N	VENDER
1	同軸線(含接頭)	1	∅1.13mm/單頭-PEX/915mm/黑色	M04007086001	FVC
2	SPONGE	1	8mm*3mm*t=3.5mm	M01009001002	東鋒
3	M540G-RIGHT-PIFA 鐵件	1	進口馬口鐵t=0.4mm/H	M02007002001	品欣
4	LABEL	1	4.5x13mm 白色	G01013007001	FVC
5	TUBE	1	2.5*0.2t*20mm(透明)	B02018002094	漢保
6	美紋膠帶	1	10寬*10長(mm)/整卷型	M01016001002	聯達
7	鋁麥拉膠帶	1	3mm*25mm t=0.1 (絕緣面寬導電膠33mm*5mm)	M01005001002	隆揚
8	圓形接地環	1	OD4.7ID2.6L9.3 26#VC電子線總長110(銅線長度20mm)	L05001006002	信盛
9	醋酸膠帶	1	10mm*20mm(橫紋)	G01002090002	鴻城
10	導電貼布	1	導電貼布 60*10mm	G01001027002	嘉得隆
11					

SUB BOM (L05001006002)

16	UL1571 AWG#32電子線	1	UL1571 AWG#32電子線 (黑色)101mm	M04002012001	樂庭
17	圓盤端子	1	圓盤端子 S1TM 12.5BS-2	E05001012001	信盛

SUB BOM (M04007074001)

ITEM	COMPONENT	QTY	DESCRIPTION	FAVORTRON P/N	VENDER
1	Connector	1	接頭 MHF PLUG(I-PEX)鍍金(20278-111R-13)	L07001001001	I-PEX
2	同軸線	1	同軸線 ∅ 1.13*9 14mm(黑色)	G04005016001	日立新電

ITEM	DISCRPTION
△1	
△2	
△3	
△4	
△5	

機密
廠內專用

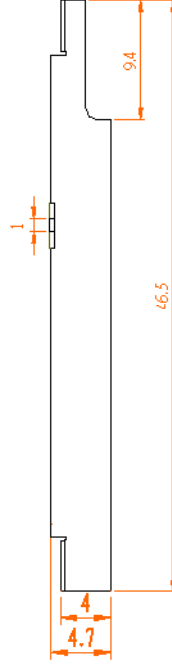
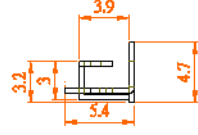
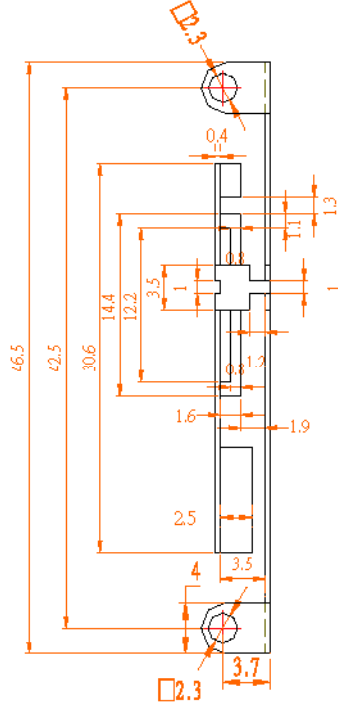
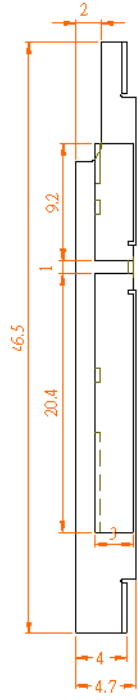
發行	備註
Date	2006/01/05 Sheet 1/1



Title: 藍天M590K WLAN BOM 表

Part No.	K05007001401
Draw No.	TD-B-50s 5s-A1
CUS.Part No.	6-23-7M59K-011
CUS.Rev.	A1
Approval	Check
	Designed

惠質電子股份有限公司
FAVORTRON CO.,LTD

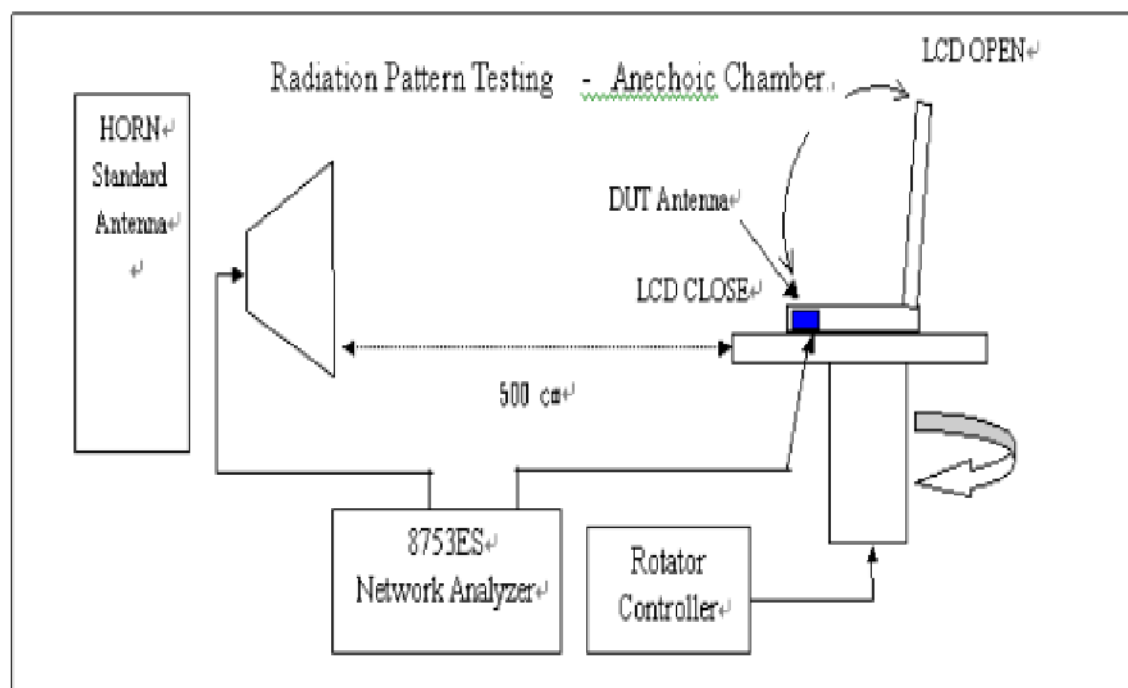


Remark:

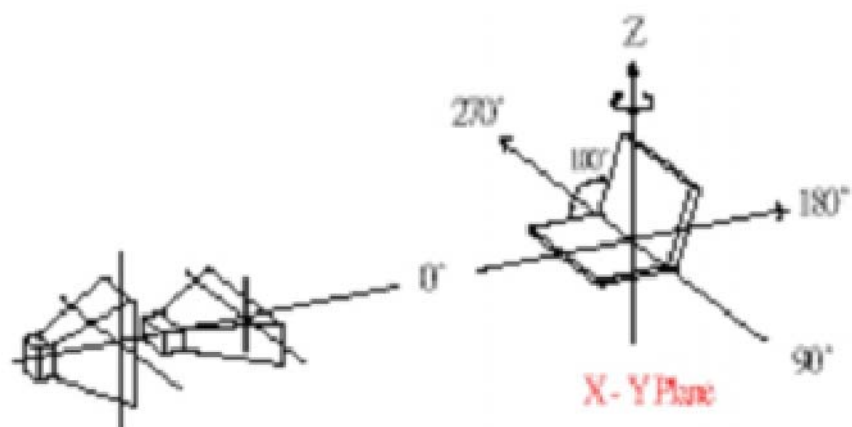
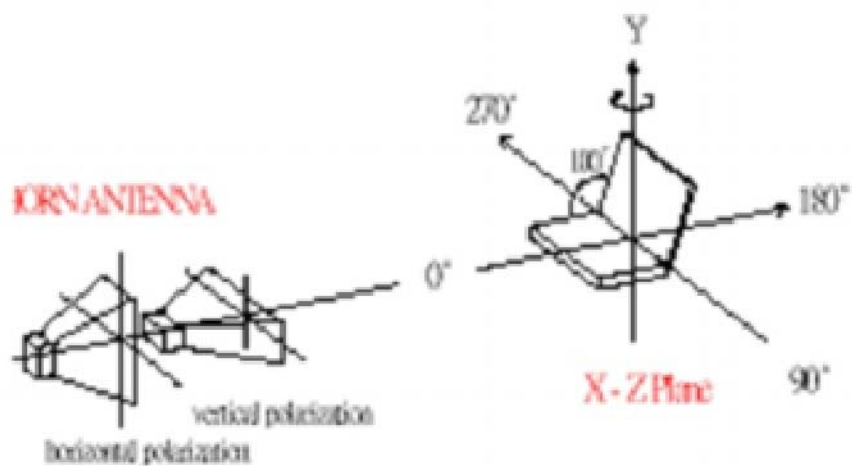
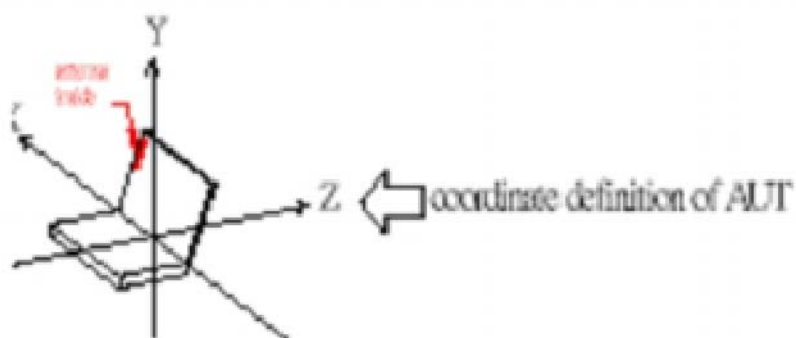
1. MATERIAL :馬口鐵
2. t = 0.4mm ±0.05
3. 表面不得有毛邊
4. 外觀不得有壓傷油污刮傷手紋
5. 未標示公差範圍者請詳公差欄標示值。

備註		※未標註公差處，請參照下列標準。			
發行	RANGE	TOLERANCE	PART NO.	惠質電子股份有限公司 FAVORTRON CO.,LTD.	
	Over 101	±1.5	M02007002001	TITLE: 藍天M540G-RIGHT-PIFA	
	51-100	±1.0	Customer No.	DRAW NO. TD-E-50656-A1	
	31-50	±0.3	Customer REV.	APPROVAL	
	30 Below	±0.2	Rev. A0	CHECKED	
Units	MM	Scale 1:1	Sheet	DRAWN	
Size	A4		Nick	James	
Sheet	PAGE			Kelly	

天線測試方法

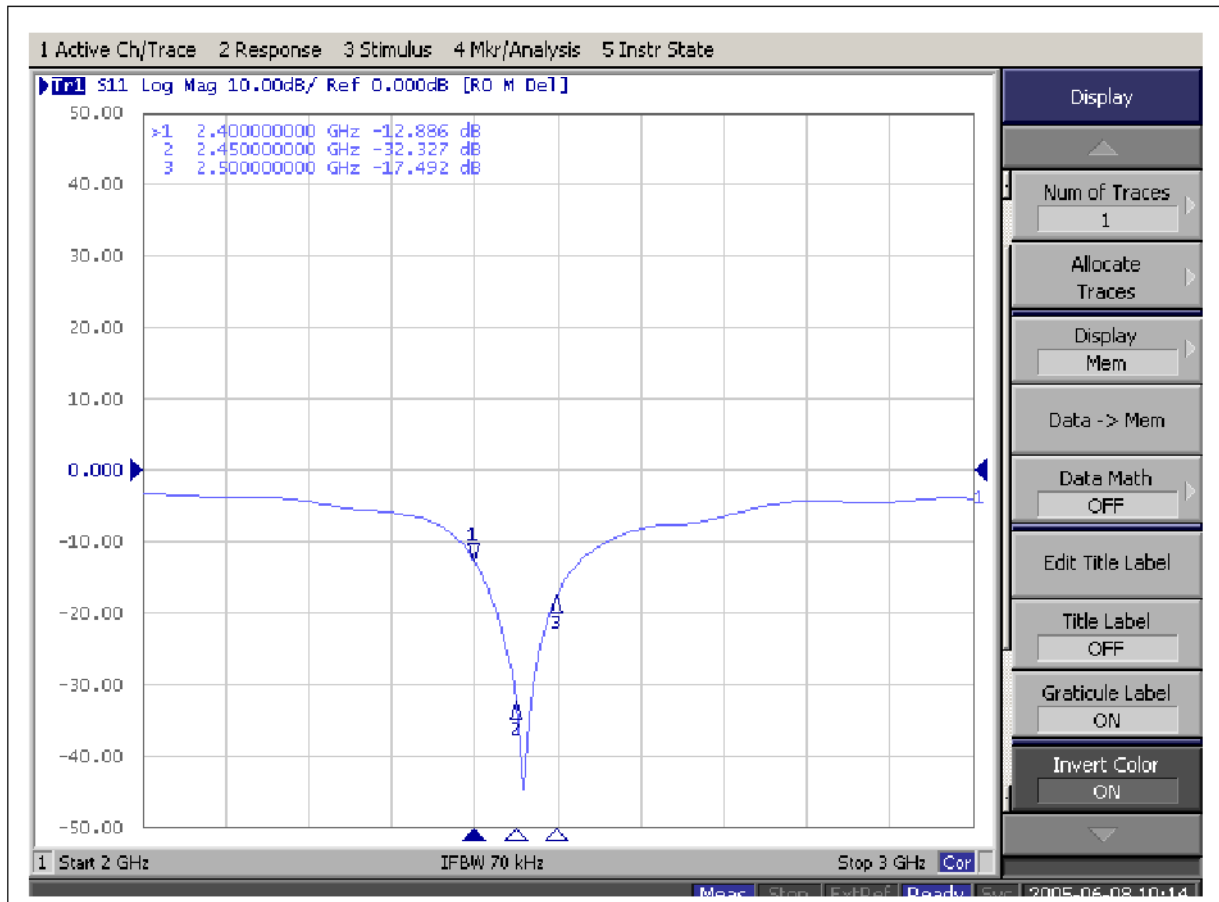


Coordinate Definition

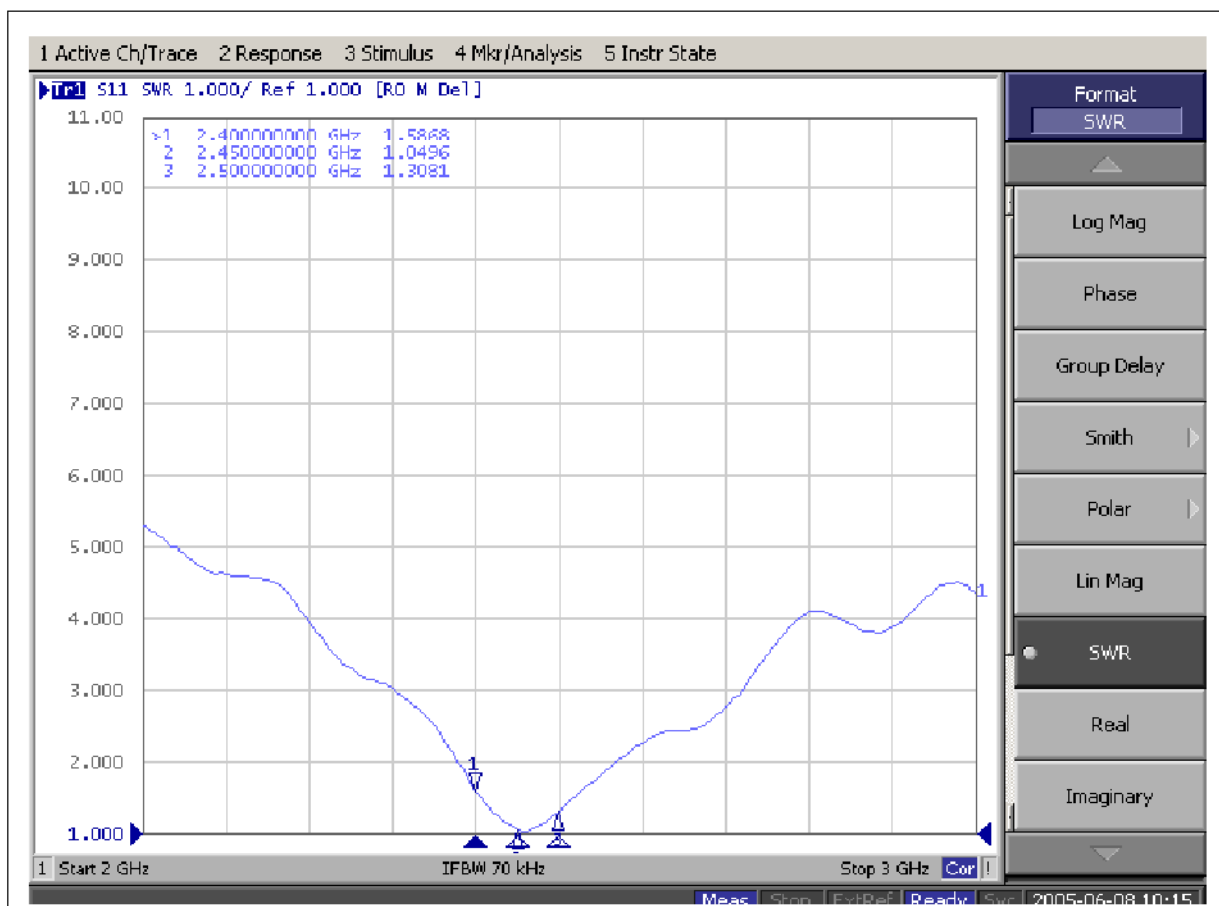


2. WLAN Ant./ (Right)

2.4~2.5GHz / Return Loss

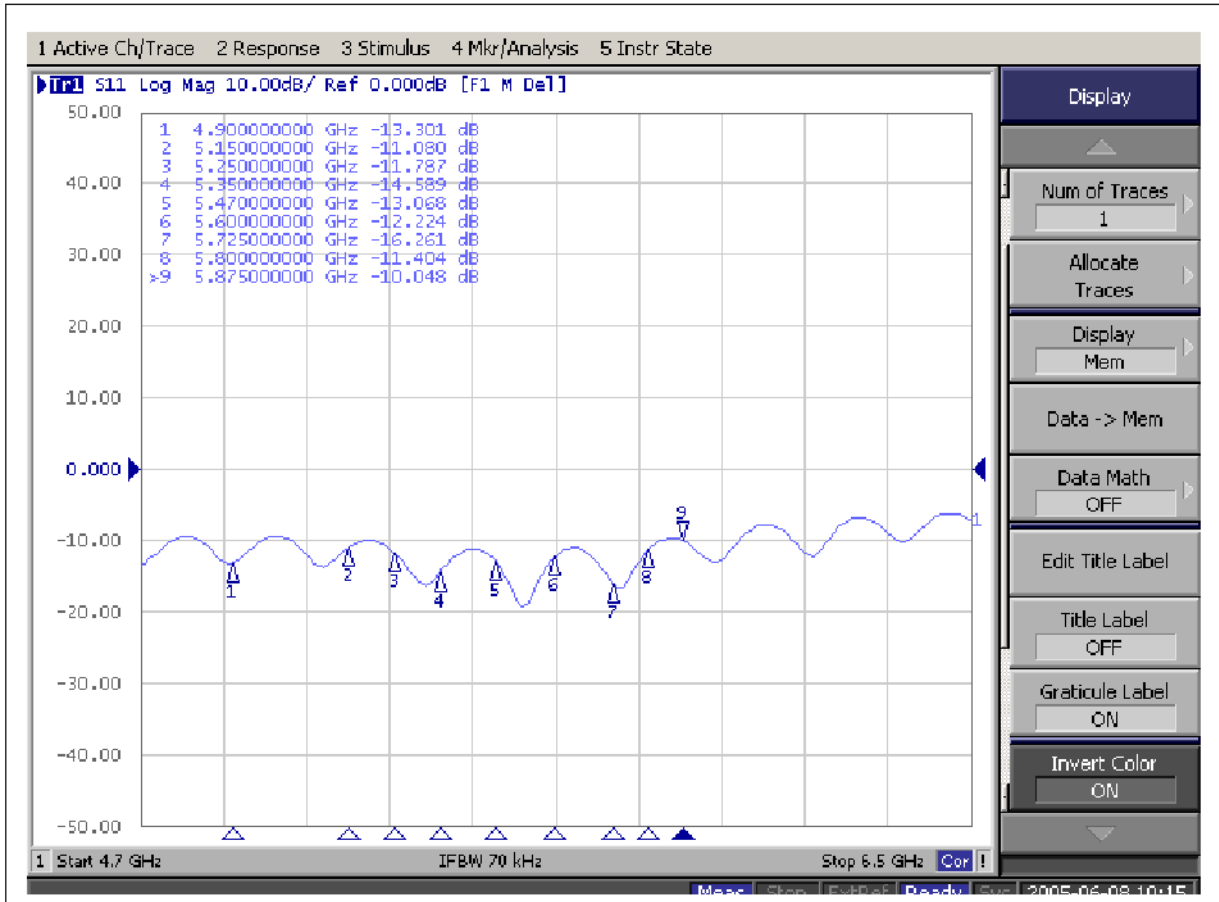


2.4~2.5GHz / VSWR

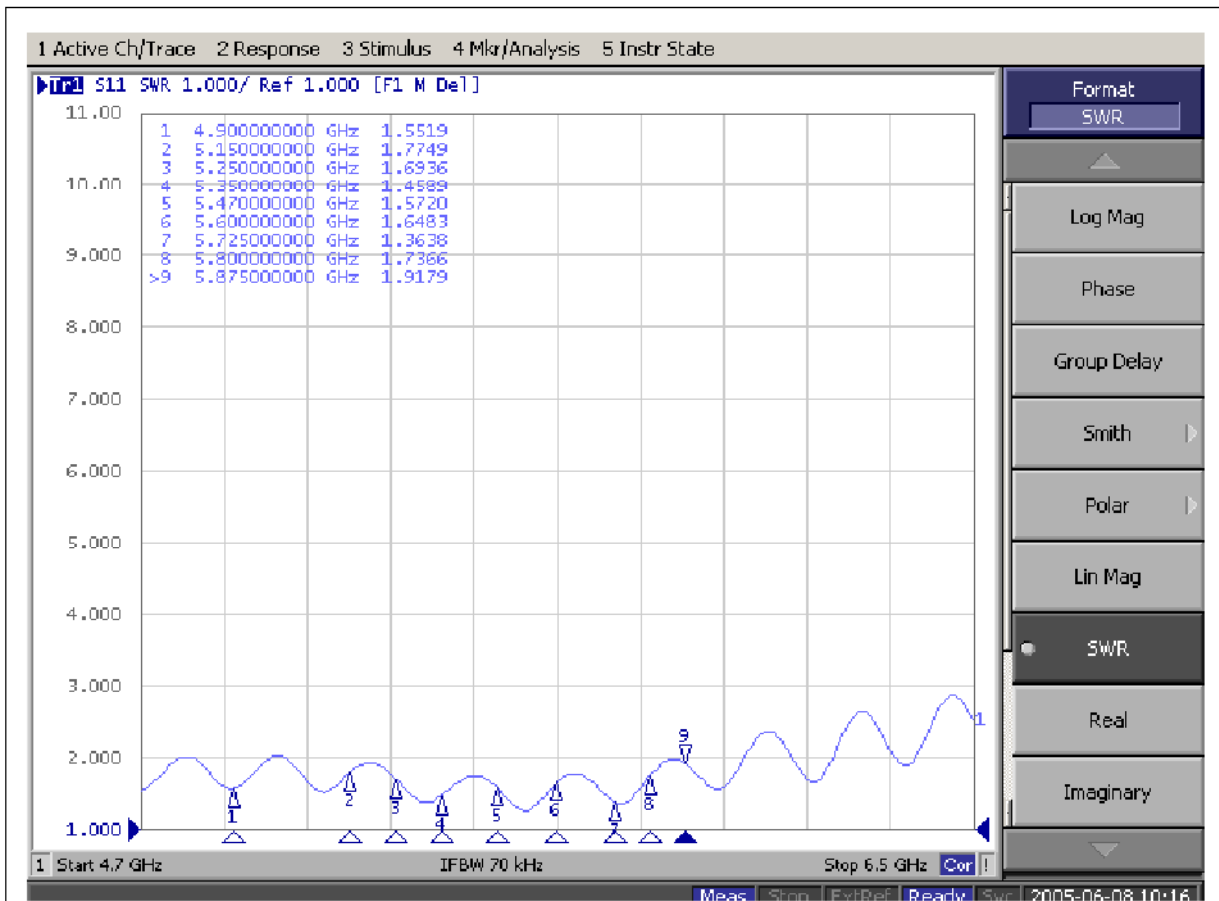


WLAN Ant./ (Right)

5.15~5.875GHZ/Return Loss

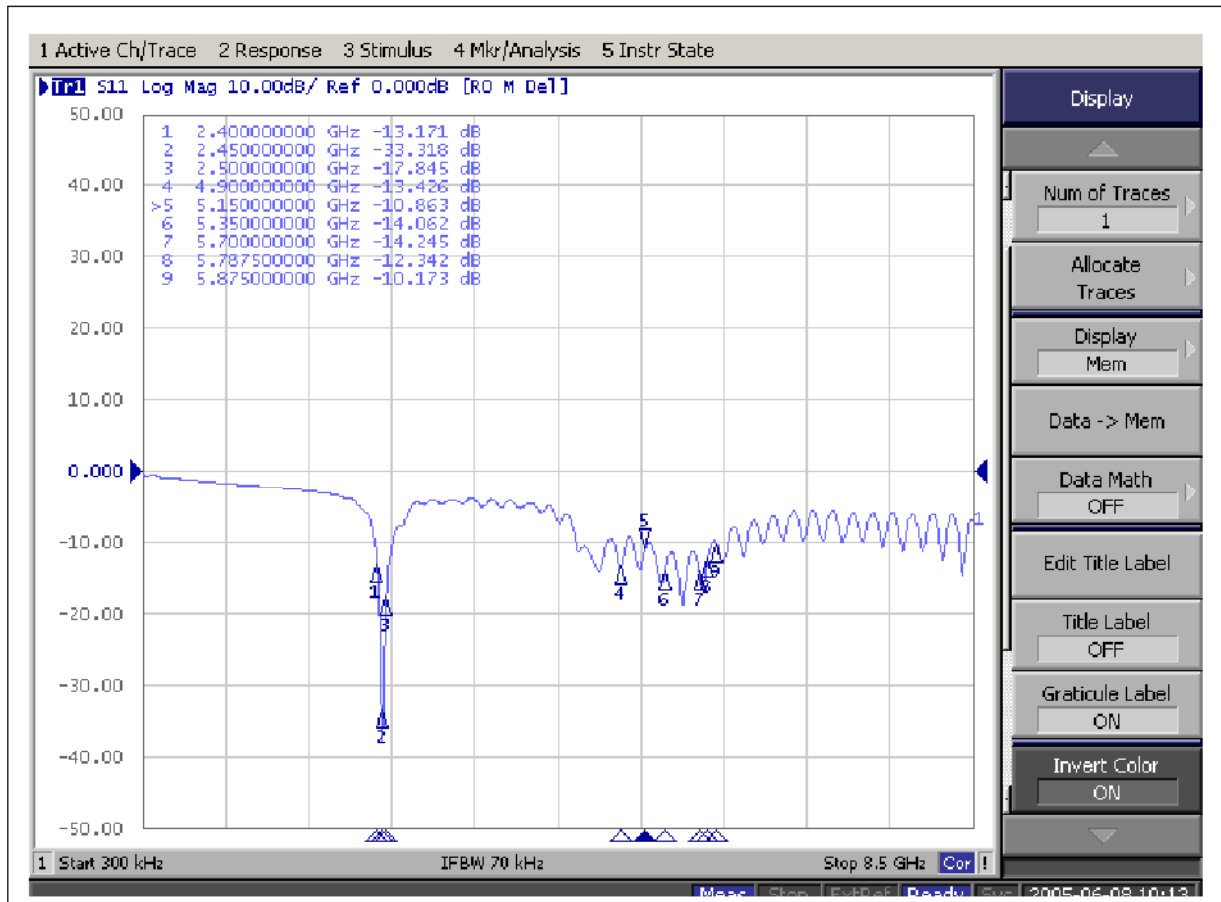


5.15~5.875GHZ/NSWR

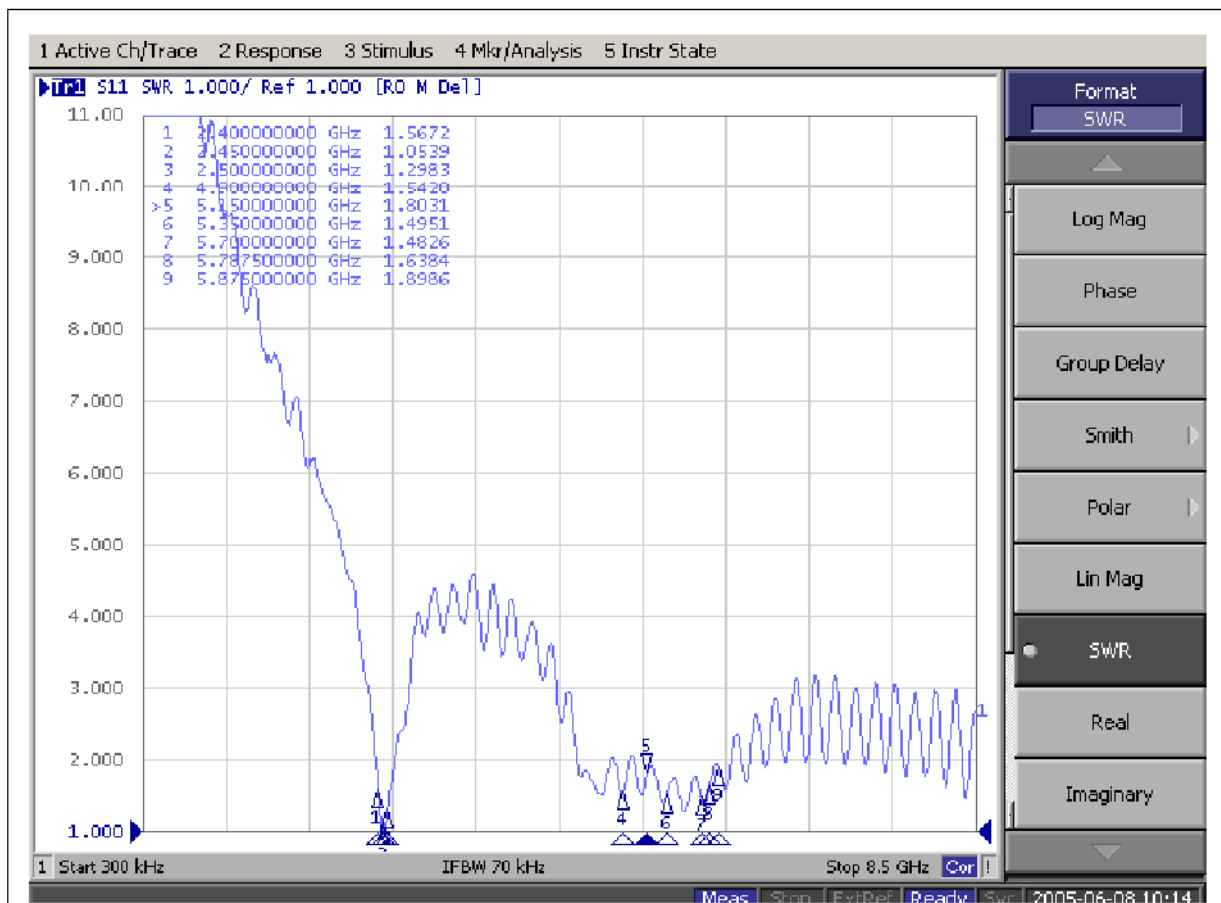


WLAN Ant./ (Right)

2.4~2.5GHZ & 5.15~5.875GHZ / Return Loss



2.4~2.5GHZ & 5.15~5.875GHZ/VSWR



3. Gain & Pattern – WLAN

a. 2.4GHz



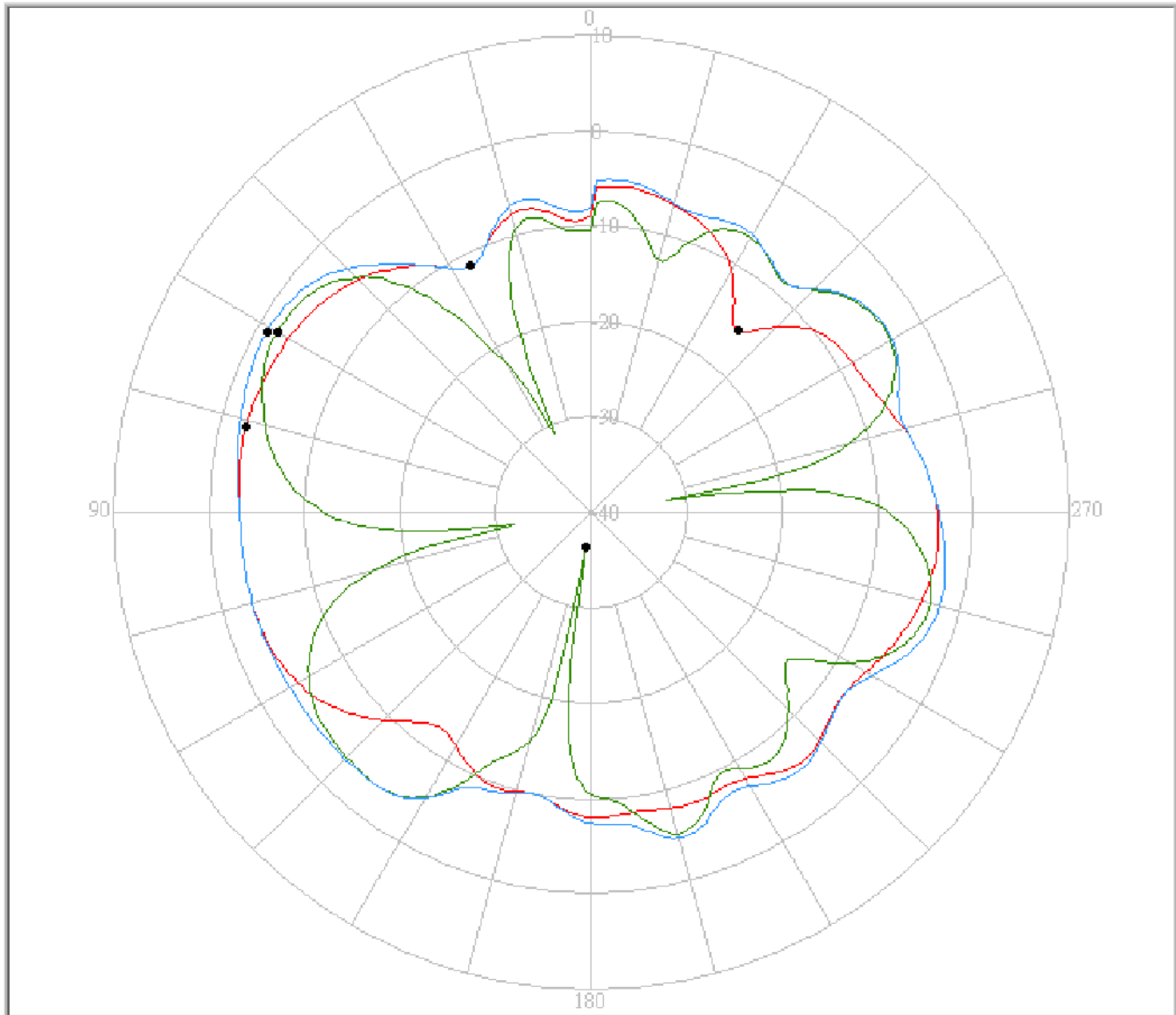
Service for Customer Satisfaction

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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	M590K	RIGHT	2400.00	-2.76 / 76.00	-15.59 / 321.00	-6.21	Ver.	2006/1/20
2	M590K	RIGHT	2400.00	-2.10 / 60.00	-36.30 / 171.00	-7.03	Hor.	2006/1/20
3	M590K	RIGHT	2400.00	-1.17 / 61.00	-11.36 / 26.00	-4.73	Y+H	2006/1/20

b. 2.45GHz



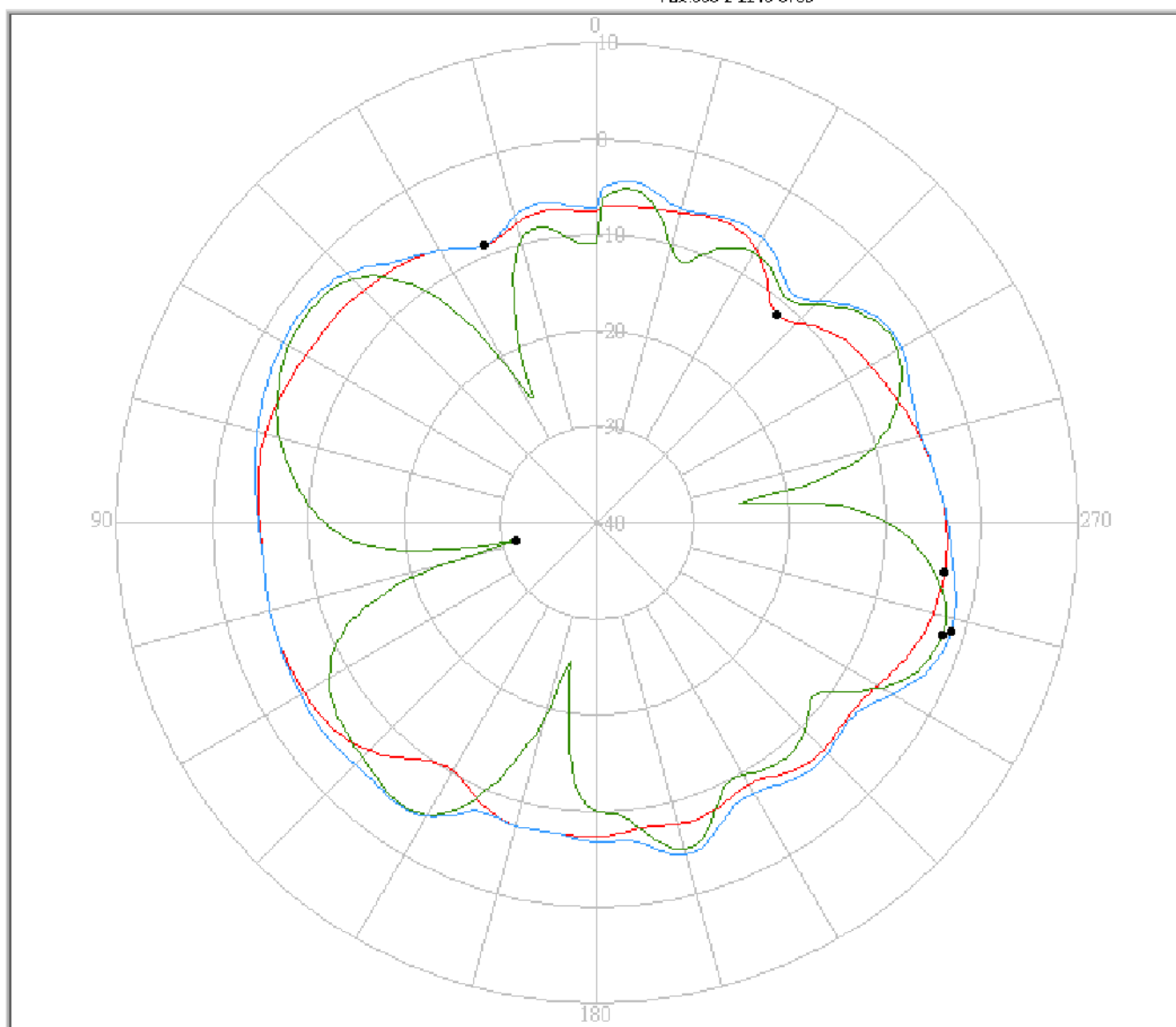
Service for Customer Satisfaction

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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	2450.00	-3.52 / 262.00	-11.42 / 319.00	-6.21	Ver.	2006/1/20
2	M590K	RIGHT	2450.00	-2.27 / 252.00	-31.37 / 102.00	-7.09	Hor.	2006/1/20
3	M590K	RIGHT	2450.00	-1.46 / 253.00	-8.82 / 22.00	-4.82	Y+H	2006/1/20

c. 2.5GHz



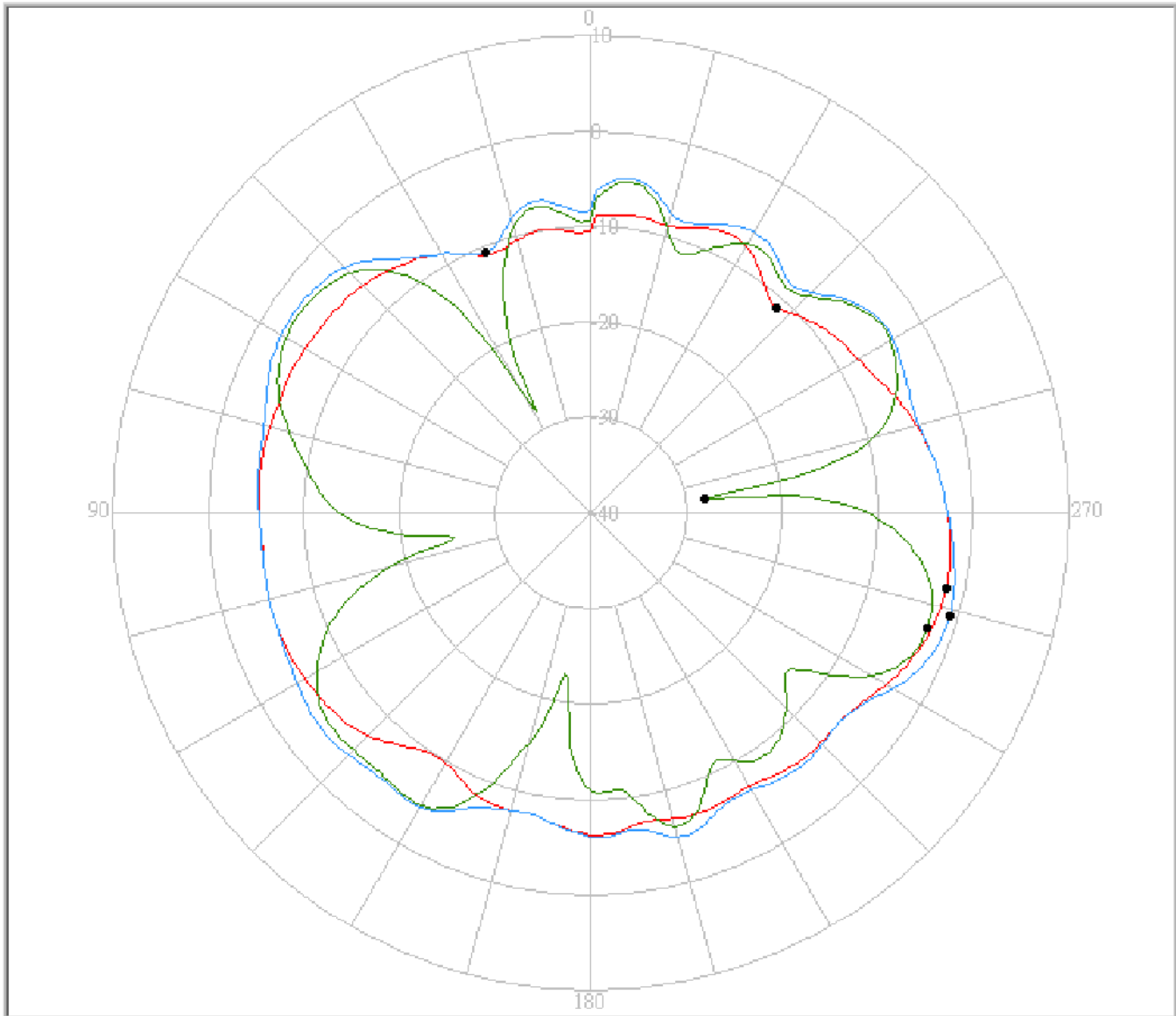
Service for Customer Satisfaction

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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	2500.00	-1.99 / 258.00	-11.06 / 318.00	-6.17	Ver.	2006/1/20
2	M590K	RIGHT	2500.00	-2.74 / 251.00	-28.07 / 277.00	-7.25	Hor.	2006/1/20
3	M590K	RIGHT	2500.00	-0.97 / 254.00	-10.59 / 22.00	-4.84	Y+H	2006/1/20

d. 4.9GHz



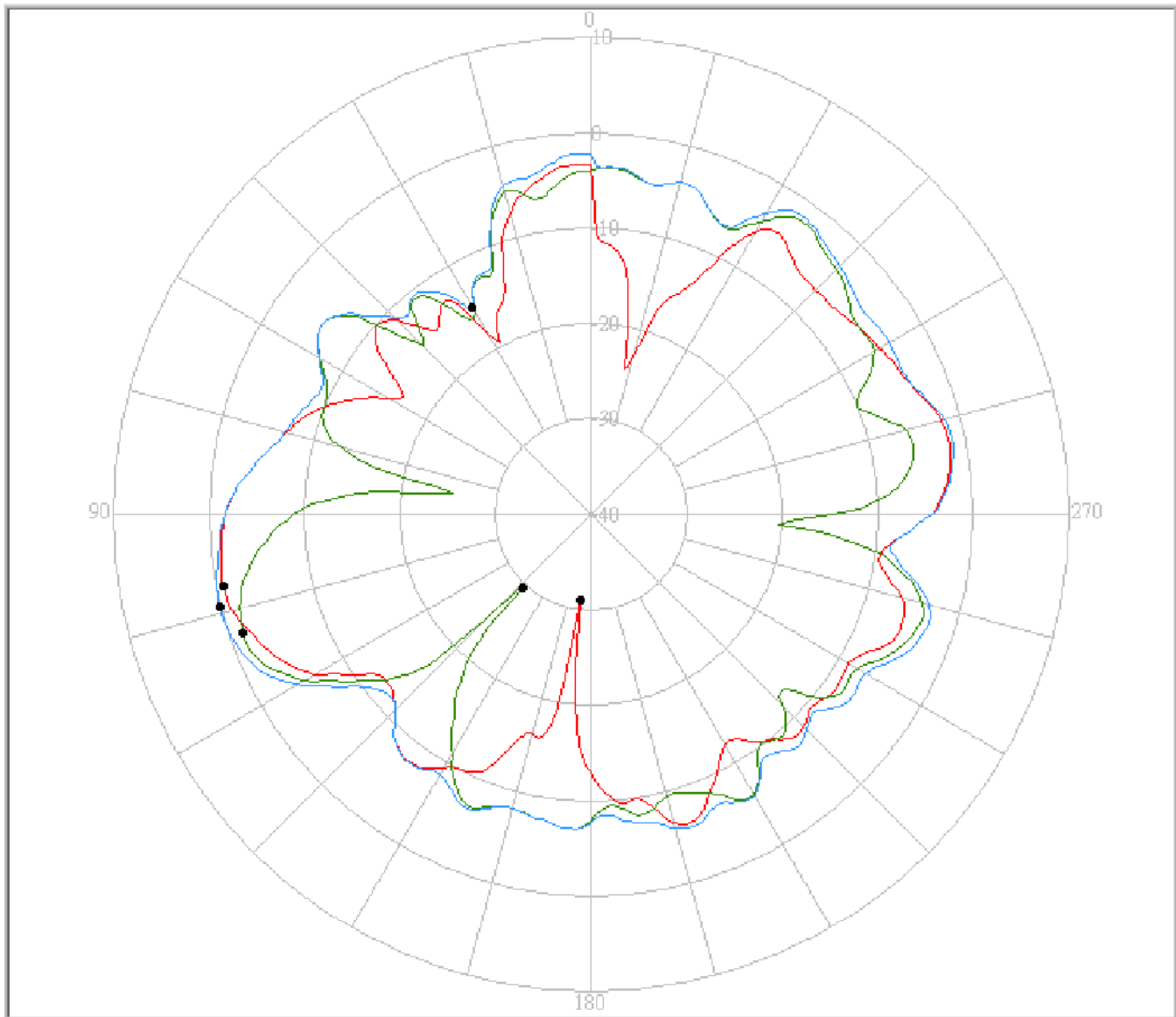
Service for Customer Satisfaction

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	M590K	RIGHT	4900.00	-0.82 / 101.00	-31.04 / 173.00	-6.68	Ver.	2006/1/20
2	M590K	RIGHT	4900.00	-1.47 / 109.00	-29.43 / 137.00	-6.74	Hor.	2006/1/20
3	M590K	RIGHT	4900.00	0.02 / 104.00	-15.02 / 30.00	-4.84	Y+H	2006/1/20

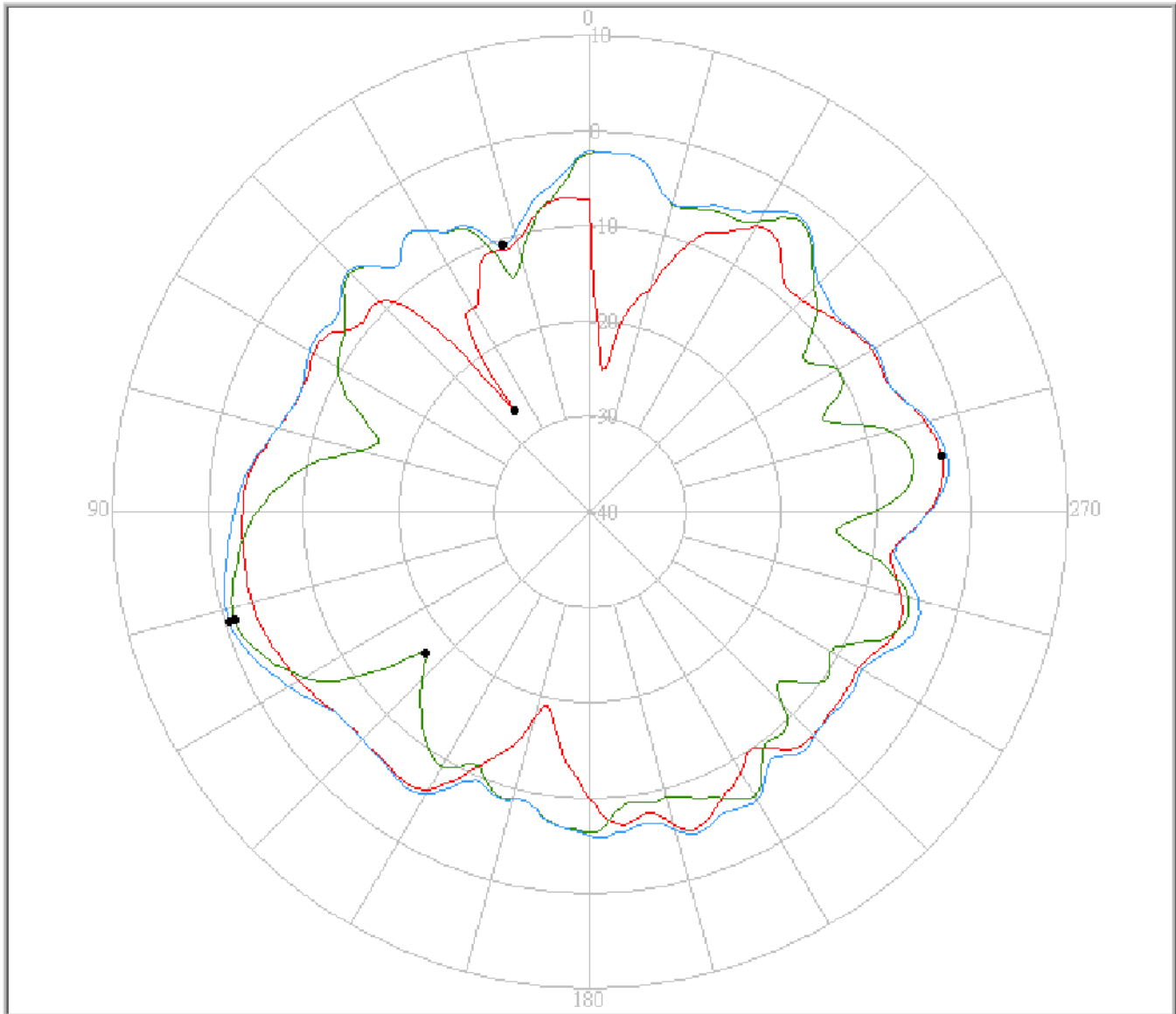
e. 5.075GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	5075.00	-2.64 / 279.00	-26.78 / 37.00	-6.79	Ver.	2006/1/20
2	M590K	RIGHT	5075.00	-1.14 / 107.00	-17.25 / 131.00	-6.77	Hor.	2006/1/20
3	M590K	RIGHT	5075.00	-0.48 / 107.00	-10.58 / 18.00	-4.91	Y+H	2006/1/20

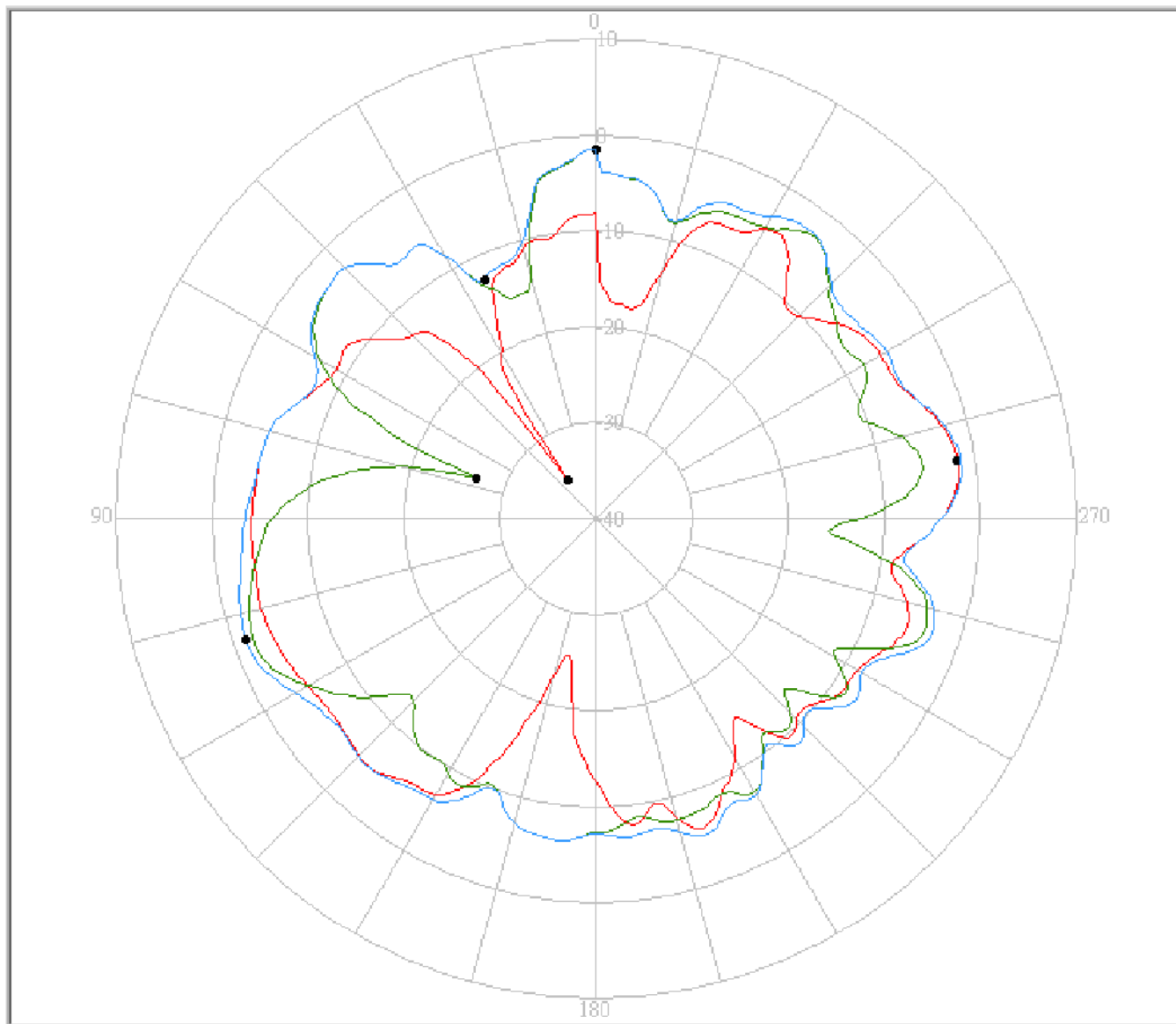
f. 5.15GHZ



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	5150.00	-1.90 / 279.00	-35.10 / 36.00	-7.12	Ver.	2006/1/20
2	M590K	RIGHT	5150.00	-1.59 / 0.00	-26.82 / 71.00	-6.65	Hor.	2006/1/20
3	M590K	RIGHT	5150.00	-1.42 / 109.00	-12.50 / 25.00	-4.95	Y+H	2006/1/20

g. 5.25GHz



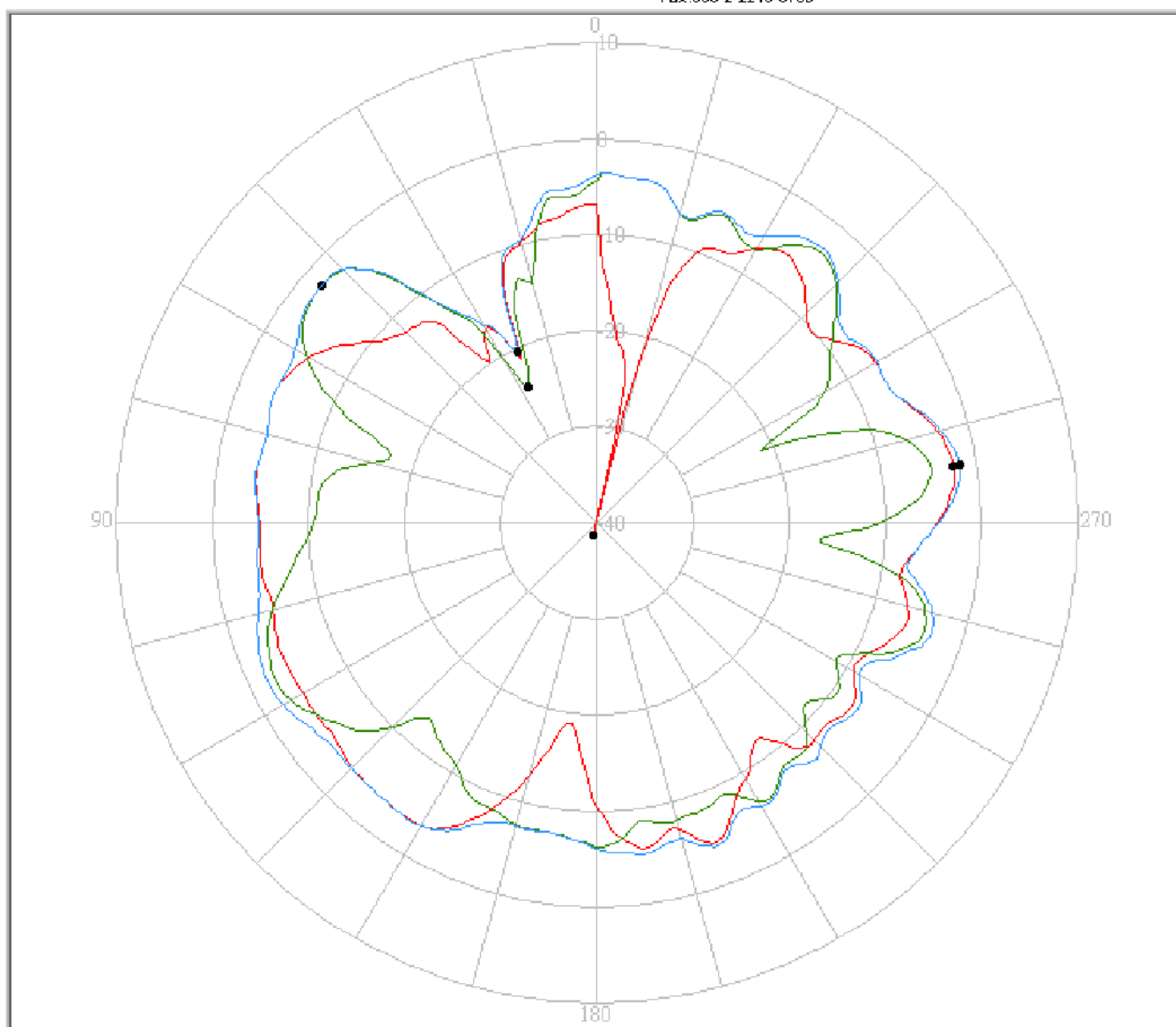
Service for Customer Satisfaction

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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	5250.00	-2.46 / 279.00	-41.39 / 347.00	-6.67	Ver.	2006/1/20
2	M590K	RIGHT	5250.00	-2.21 / 49.00	-24.24 / 27.00	-6.99	Hor.	2006/1/20
3	M590K	RIGHT	5250.00	-1.83 / 279.00	-20.43 / 25.00	-4.90	Y+H	2006/1/20

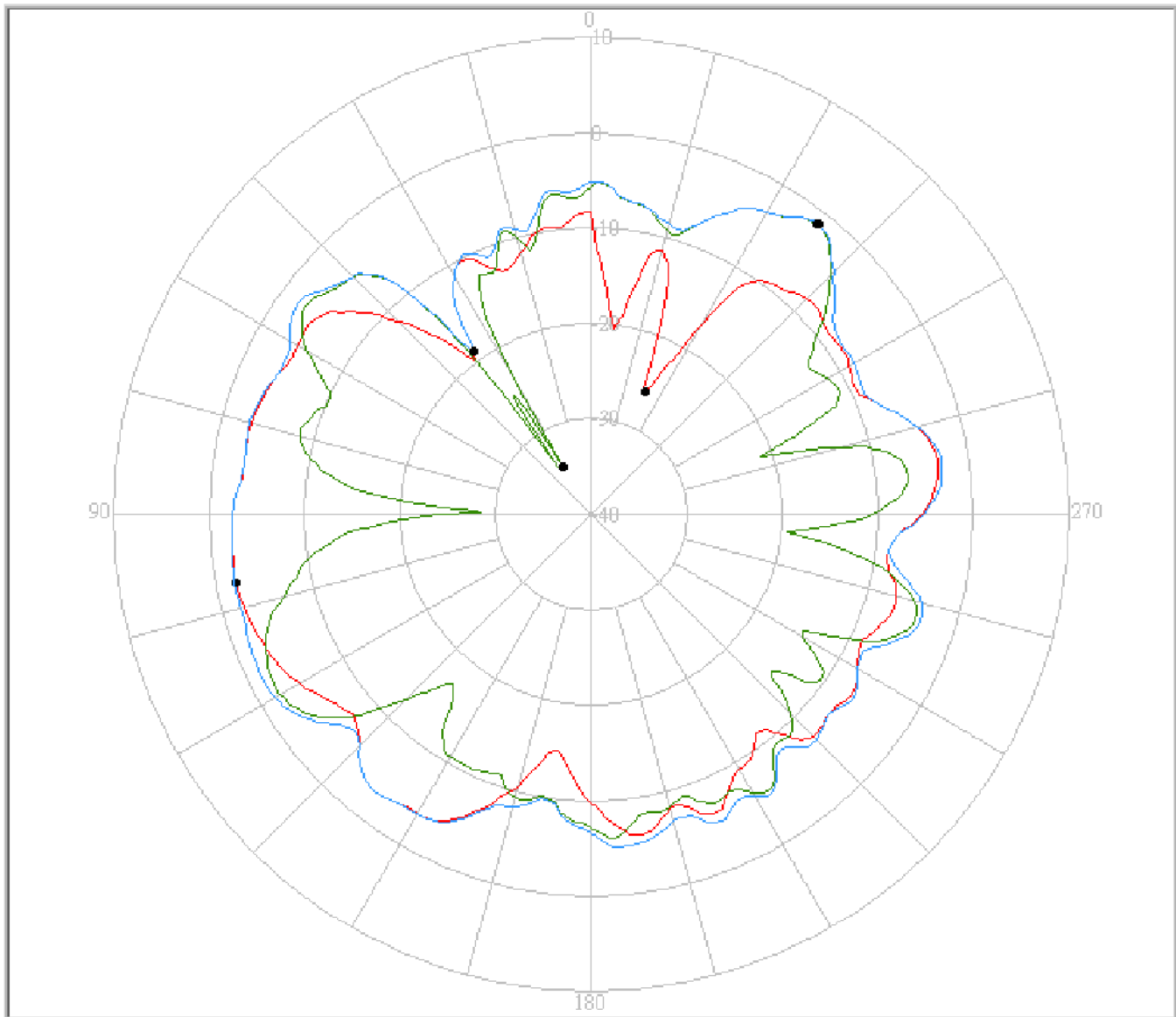
h. 5.35GHz



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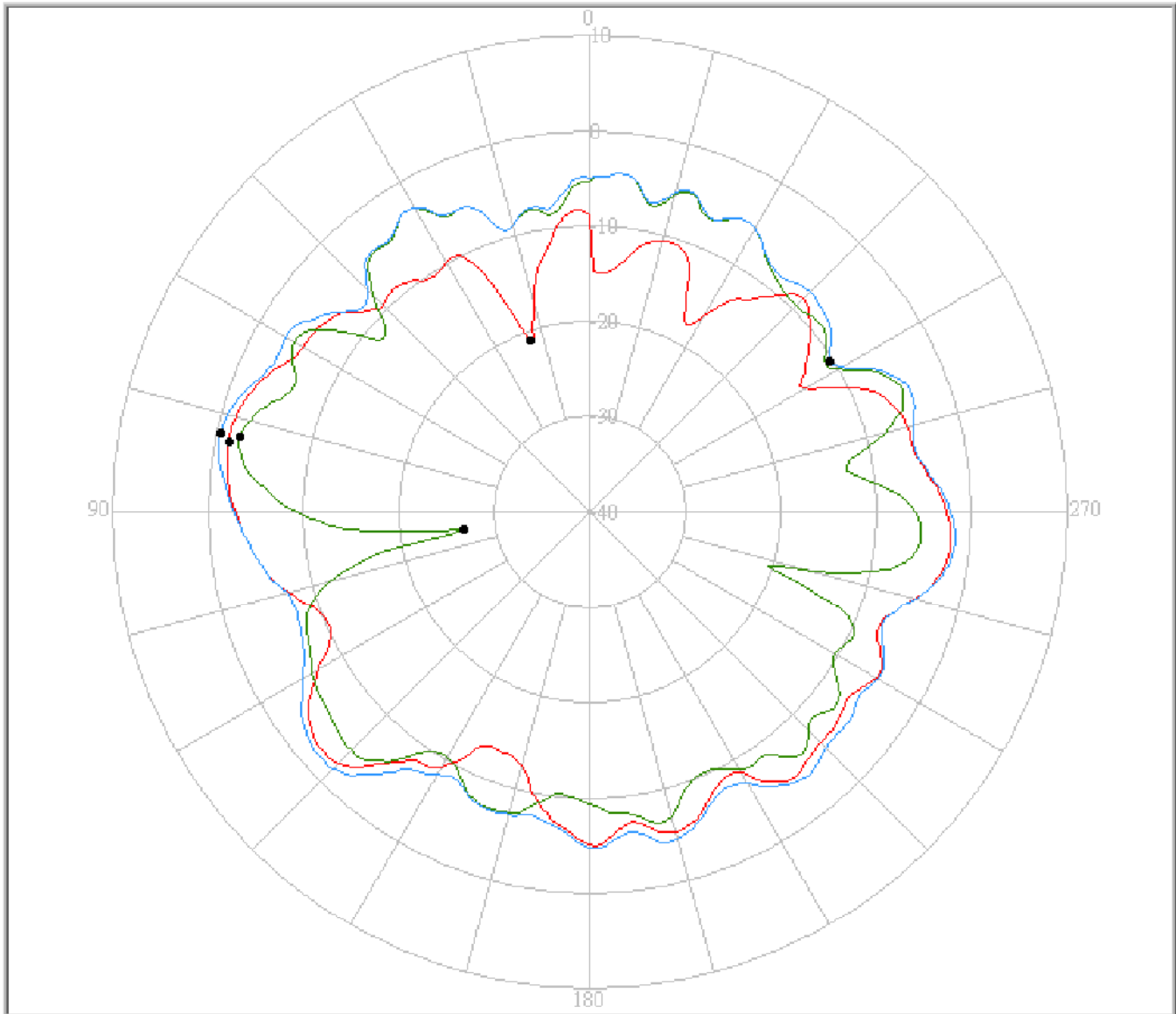
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	5350.00	-2.11 / 101.00	-25.93 / 336.00	-6.56	Ver.	2006/1/20
2	M590K	RIGHT	5350.00	-1.50 / 322.00	-34.18 / 31.00	-7.43	Hor.	2006/1/20
3	M590K	RIGHT	5350.00	-1.44 / 322.00	-19.01 / 36.00	-4.96	Y+H	2006/1/20

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	M590K	RIGHT	5470.00	-1.49 / 79.00	-21.03 / 19.00	-6.39	Ver.	2006/1/20
2	M590K	RIGHT	5470.00	-2.55 / 78.00	-26.73 / 98.00	-7.08	Hor.	2006/1/20
3	M590K	RIGHT	5470.00	-0.45 / 78.00	-10.45 / 302.00	-4.88	Y+H	2006/1/20

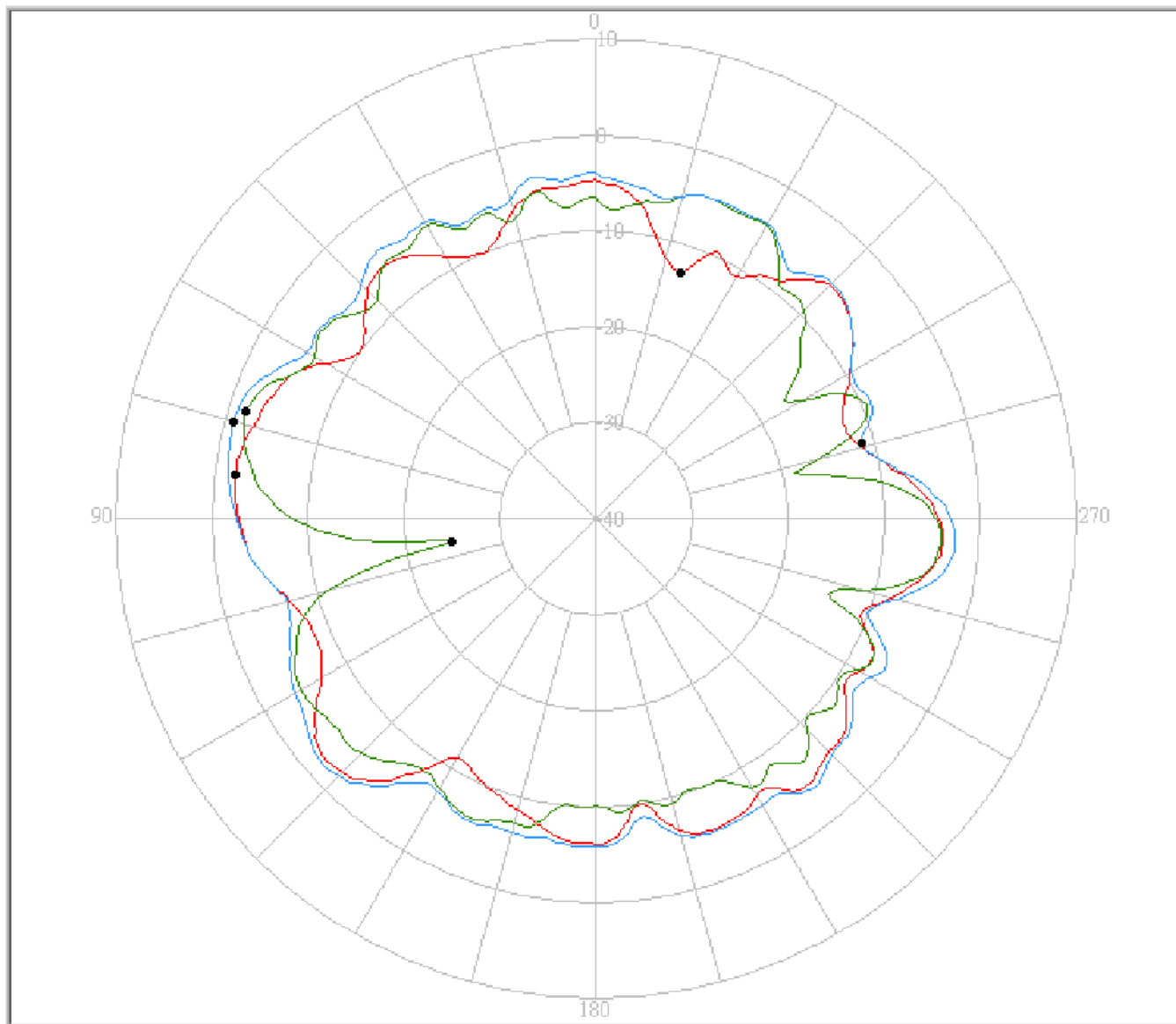
j. 5.597GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	5597.50	-2.14 / 83.00	-12.92 / 341.00	-6.33	Ver.	2006/1/20
2	M590K	RIGHT	5597.50	-1.96 / 73.00	-24.78 / 99.00	-6.96	Hor.	2006/1/20
3	M590K	RIGHT	5597.50	-0.95 / 75.00	-11.22 / 286.00	-4.91	Y+H	2006/1/20

k. 5.725GHz



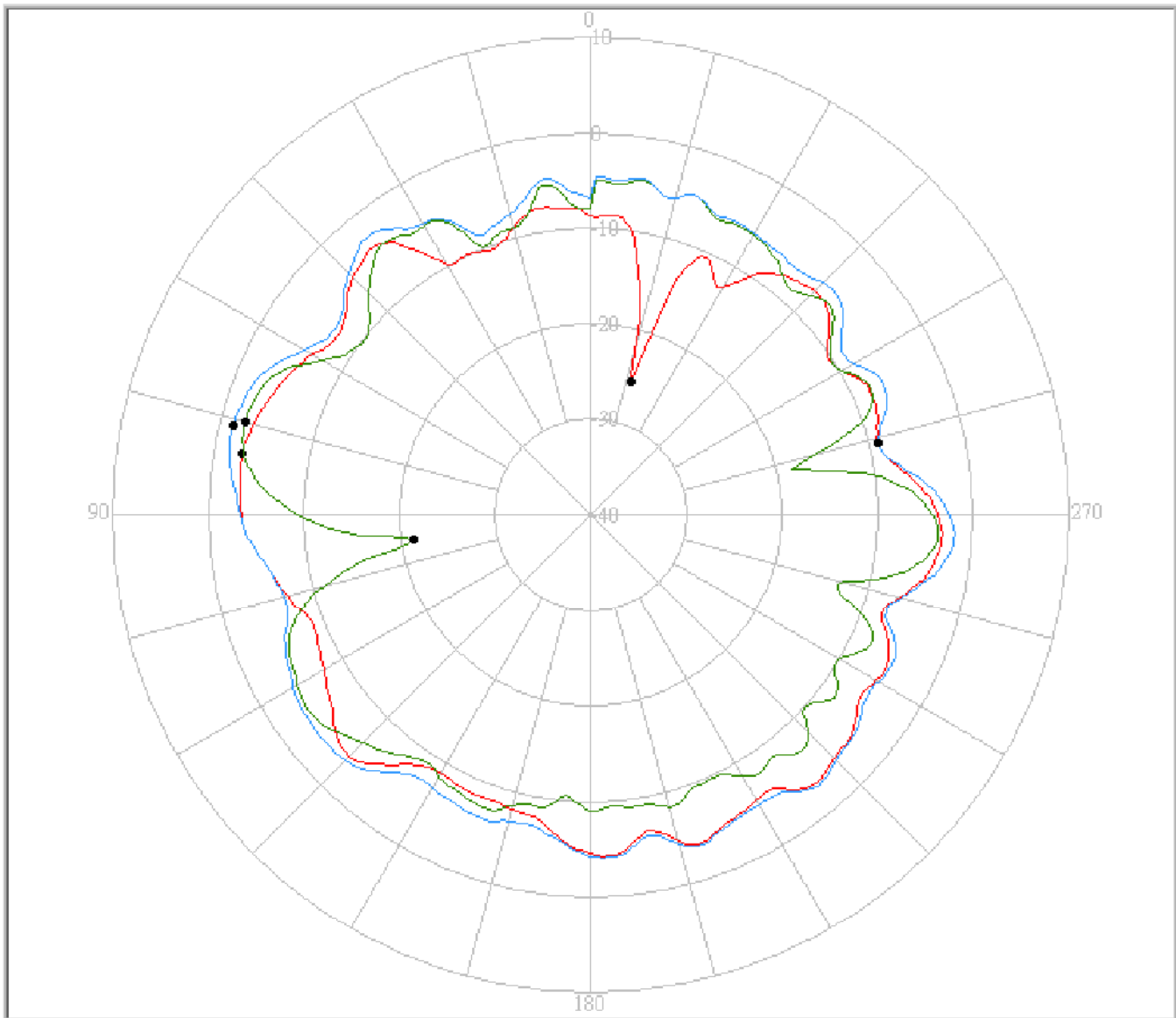
Service for Customer Satisfaction

FAVORTRON

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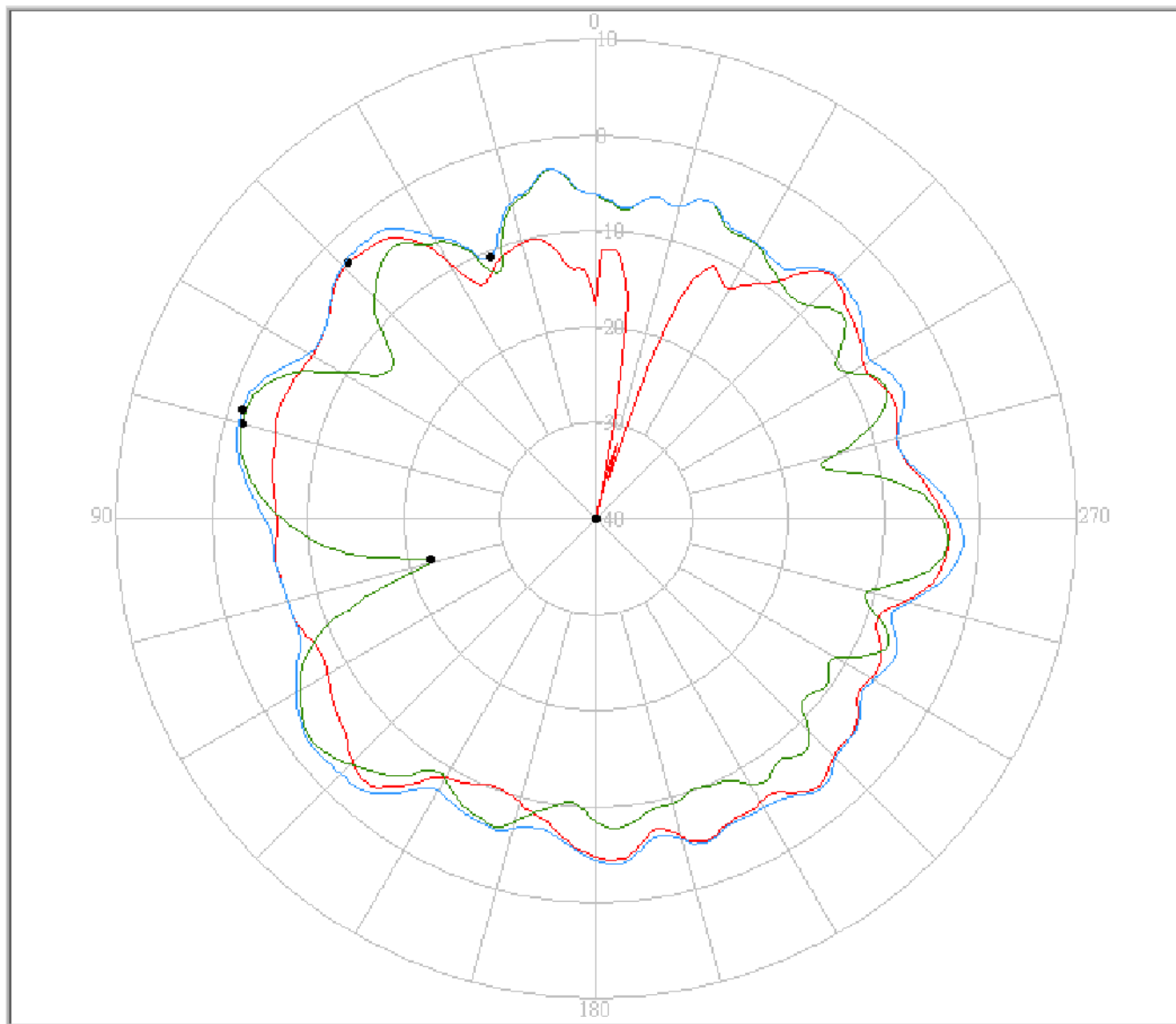
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	5725.00	-3.02 / 80.00	-25.37 / 343.00	-6.25	Ver.	2006/1/20
2	M590K	RIGHT	5725.00	-2.59 / 75.00	-21.34 / 98.00	-7.02	Hor.	2006/1/20
3	M590K	RIGHT	5725.00	-1.45 / 76.00	-9.08 / 284.00	-4.87	Y+H	2006/1/20

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	M590K	RIGHT	5785.00	-2.90 / 44.00	-44.50 / 347.00	-6.51	Ver.	2006/1/20
2	M590K	RIGHT	5785.00	-1.80 / 75.00	-22.32 / 104.00	-6.81	Hor.	2006/1/20
3	M590K	RIGHT	5785.00	-1.42 / 73.00	-10.61 / 22.00	-4.84	Y+H	2006/1/20

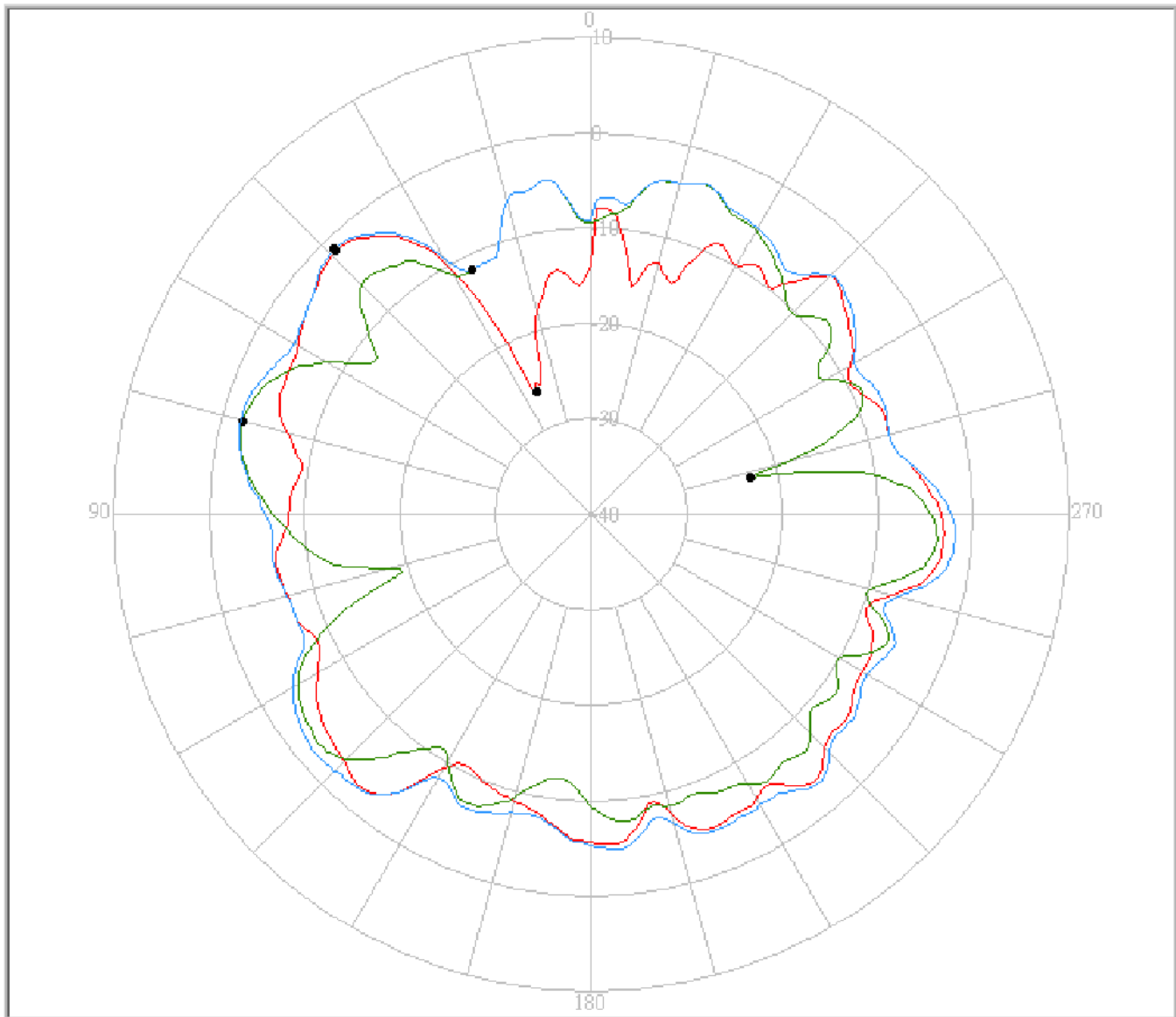
m. 5.85GHz



FAVORTRON Co. Ltd

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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	M590K	RIGHT	5850.00	-1.60 / 44.00	-25.99 / 24.00	-6.41	Ver.	2006/1/20
2	M590K	RIGHT	5850.00	-2.31 / 75.00	-22.85 / 283.00	-6.99	Hor.	2006/1/20
3	M590K	RIGHT	5850.00	-1.31 / 44.00	-11.50 / 26.00	-4.85	Y+H	2006/1/20

n. 5.875GHz



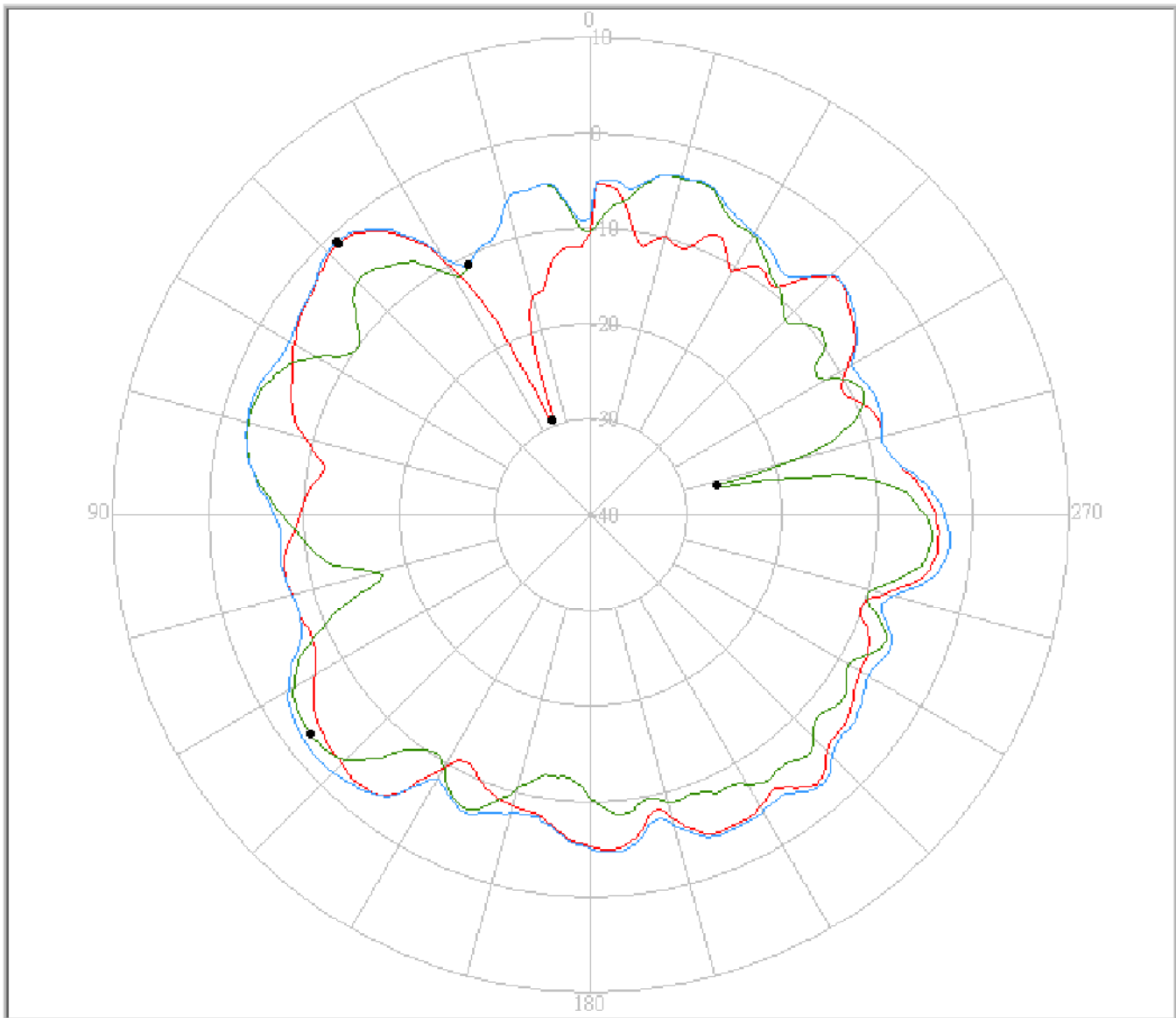
Service for Customer Satisfaction

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	M590K	RIGHT	5875.00	-1.28 / 43.00	-29.41 / 22.00	-6.32	Ver.	2006/1/20
2	M590K	RIGHT	5875.00	-2.87 / 128.00	-26.40 / 283.00	-7.04	Hor.	2006/1/20
3	M590K	RIGHT	5875.00	-0.98 / 43.00	-10.93 / 26.00	-4.83	Y+H	2006/1/20

4. SPECIFICATIONS:

Electrical Properties

Frequency Range : 2.4~2.5GHz & 4.9~5.875GHz

Impedance : 50 ohm

VSWR : ≤ 2.0

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

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