

DATE :Apr . 10 . 2006

CUSTOMER: First International Computer, INC.

APPROVAL SHEET

MODEL	GE2
DESCRIPTION	PIFA For Bluetooth Antenna-Top 2.4~2.5GHz
SUPPLIER P/N	K05004001201
CUSTOMER P/N	21-92472-01
FILE P/N	

FAVORTRON			Customer	
Manager	Supervisor	Engineer		
Nick	James	Vincent		



惠貿電子股份有限公司
FAVORTRON CO., LTD

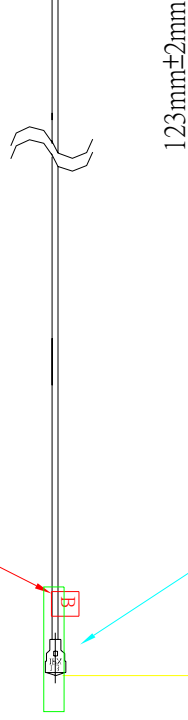
台北縣新店市民權路 108-1 號 4F TEL: (02) 2218-2189

4nd F, no. 108-1, Minchiuan Rd., FAX: (02) 2218-5420
Shindian City, Taipei Hsien, Taiwan R.O.C

1. DRAWING ASSEMBLY

Lable(main端須加lable)
請加單一字母「B」

K05004001201
TD-E-51060-01



123mm±2mm

入料時connector須加保護
將connector與lable(Main)包覆

備註		※未標註公差處，請參照下列標準。		 惠寶電子股份有限公司 FAVORTRON CO.,LTD.	
發行		RANGE	TOLERANCE	TITLE: 大眾GE2D-top-天線	
		Over 101	±1.5	PART NO.	K05004001201
		51-100	±1.0	DRAW NO.	TD-E-51060-01
		31-50	±0.3	Customer No.	21-92471-01
		30 Below	±0.2	Customer REV.	a1
Units	MM	Rev.	A0	APPROVAL	CHECKED
Size	A4	Scale	2:1		Nick
Sheet	5/6				DRAWED
					Kelly

BOM

BOM					
ITEM	COMPONENT	Q'TY	DESCRIPTION	FAVORTRON P/N	VENDER
1	PIFA ANTENNA	1	GE1" Bluetooth/0.4mm/馬口鐵	M02007014001	符合廠商
2	同軸線	1	OD1.13mm/單頭-PEX/黑色/148mm	M04007063001	FVC
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

SUB BOM (M04007009001)

ITEM	COMPONENT	Q'TY	DESCRIPTION	FVC P/N	VENDER
1	Connector	1	接頭MHF PLUG(I-PEX) OD= φ1.13	E07001064001	I-PEX
2	同軸線	1	同軸線 φ1.13*147mm(黑色)	G04005016001	日立信電



Title: 大眾 GE2D-top 天線

Part No.	K05004001201
Draw No.	TD-E-51058
CUS.Part No.	21-92472-01
CUS.Rev.	a1
Approval	Check
	Designed
	Nick
	Kelly

發行	備註

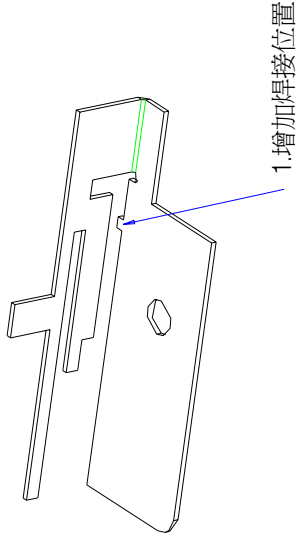
機密
廠內專用

Date	Sheet

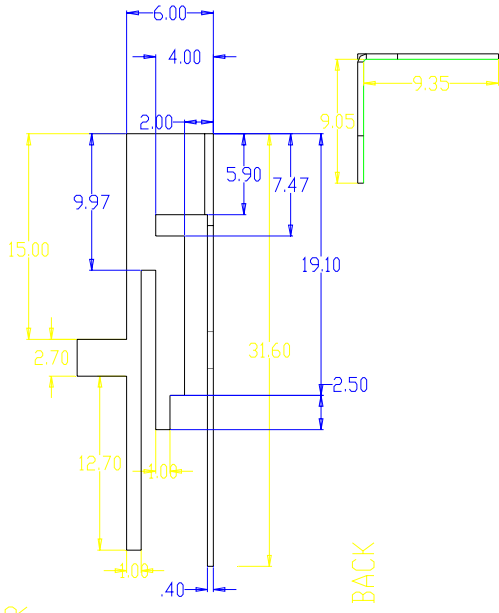
1 2 3 4 5 6

A B C D

CONN.: I-PEX 20278-111R
 CABLE: 田信電 1.13mm



1.增加焊接位置



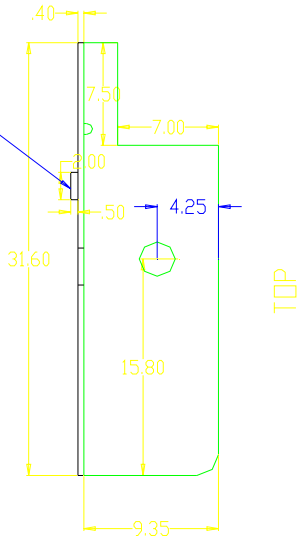
BACK

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。

RIGHT

1.增加焊接位置



TOP

備註
 ※未標註公差處，請參照下列標準。

發行

RANGE

TOLERANCE

Over 101

± 0.2

51-100

± 0.15

11-50

± 0.10

10 Below

± 0.05

Units mm

Rev. A1

Size A4

Scale 1:0.5

Sheet 1/1

Checked James

Drawn Kelly

INITIAL RELEASE	REVISIONIST
DATA	DESCRIPTION
REV. RECORD	

機密
 廠內專用



惠賢電子股份有限公司
 FAVORTRON CO.,LTD.
 TITLE: 大眾 GE2D
 TOP 大眾 GE2D Top 鐵件

PART NO. M02007014001

DRAW NO. TD-E-51058

Customer No. 21-92472-01

Customer REV. a1

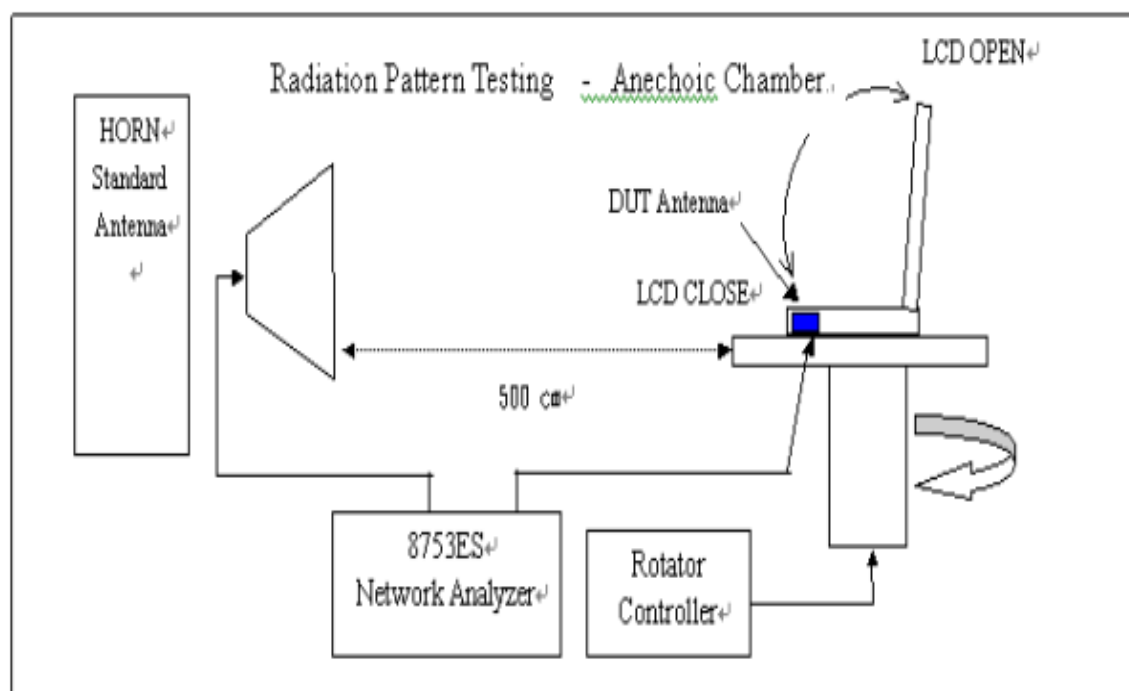
APPROVAL

CHECKED

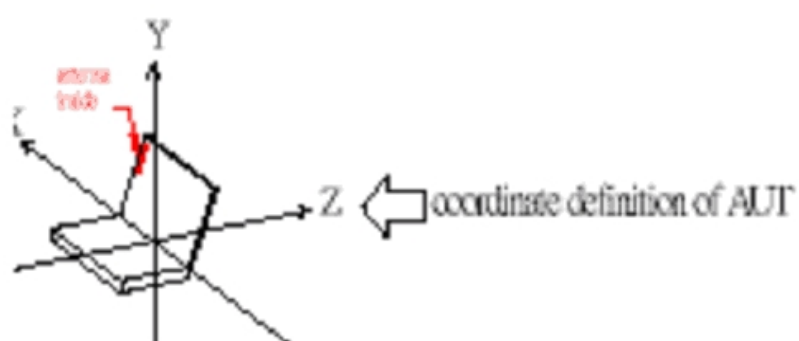
DRAWN

1 2 3 4 5 6

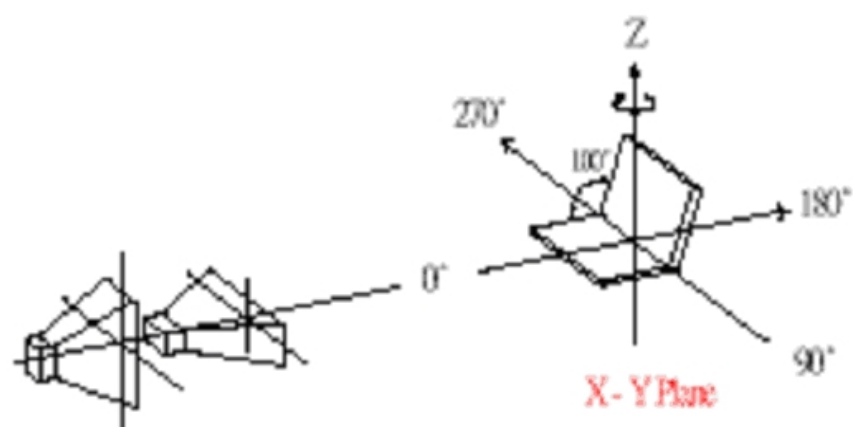
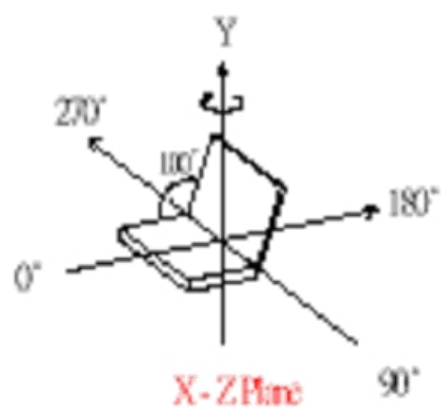
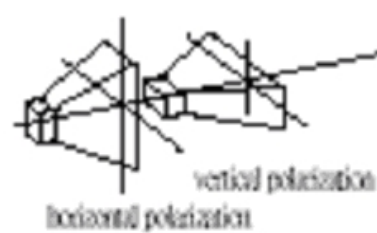
天線測試方法



Coordinate Definition



ORN ANTENNA



2. Antenna Spec. For Bluetooth

1. Bluetooth Spec.

- a. Frequency range : 2.4 ~ 2.5GHz (Nominal)
- b. Impedance : 50Ω
- c. LCD Panel : Open (100°) / Close (0°).
- d. System Plane : XY plane
- e. VSWR : ≤ 2
- f. Return Loss : ≤ -10dB
- g. Band Width : ≥ 130MHz (2450MHz±65MHz at least).
- h. Diversity Sum : ≥ -2.5dBi
- i. Any 30° angle range can't has null depth.
- j. Average gain & Peak gain

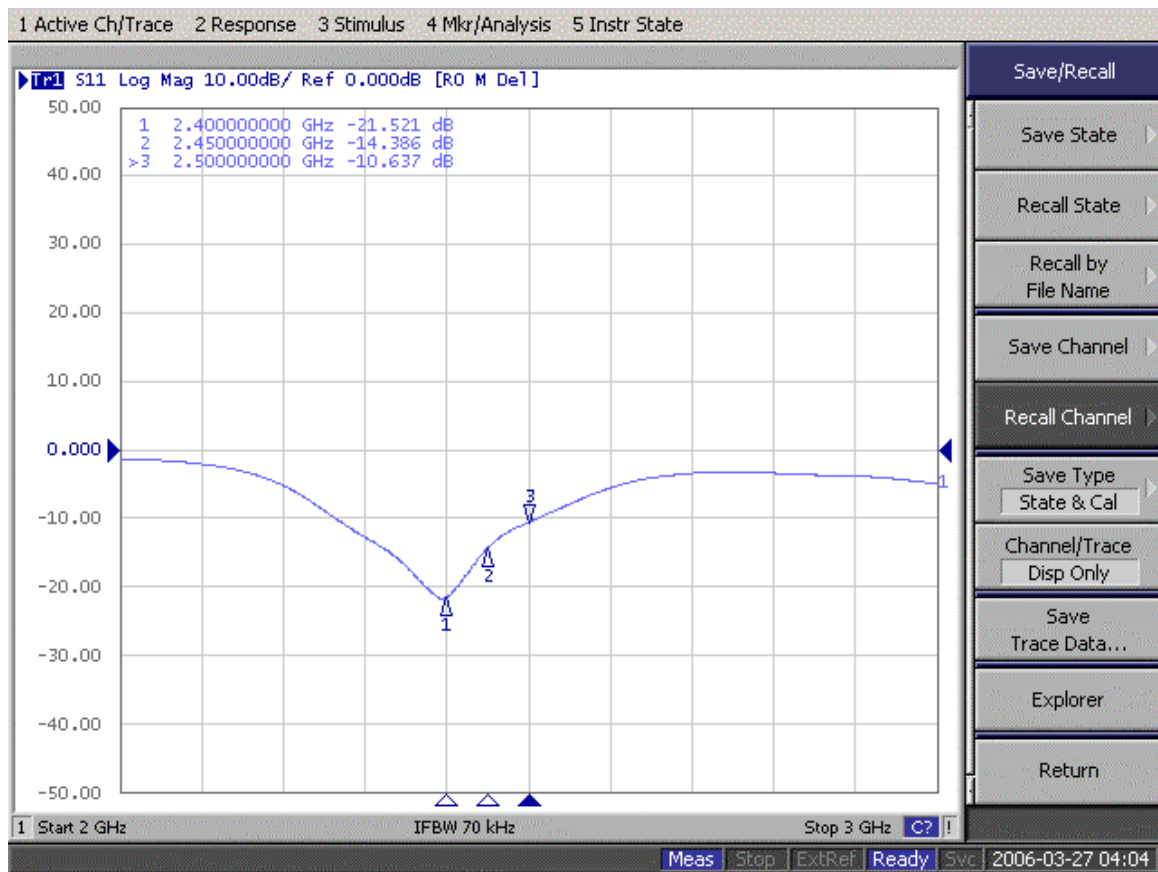
Antenna	Peak Gain (dBi)			Average Gain (dBi)		
	Frequency			Frequency		
	2.4GHz	2.45GHz	2.5GHz	2.4GHz	2.45GHz	2.5GHz
Main	≤ 3	≤ 3	≤ 3	≥ -4	≥ -4	≥ -4
Auxiliary	≤ 3	≤ 3	≤ 3	≥ -4.5	≥ -4.5	≥ -4.5

3. DESCRIPTION

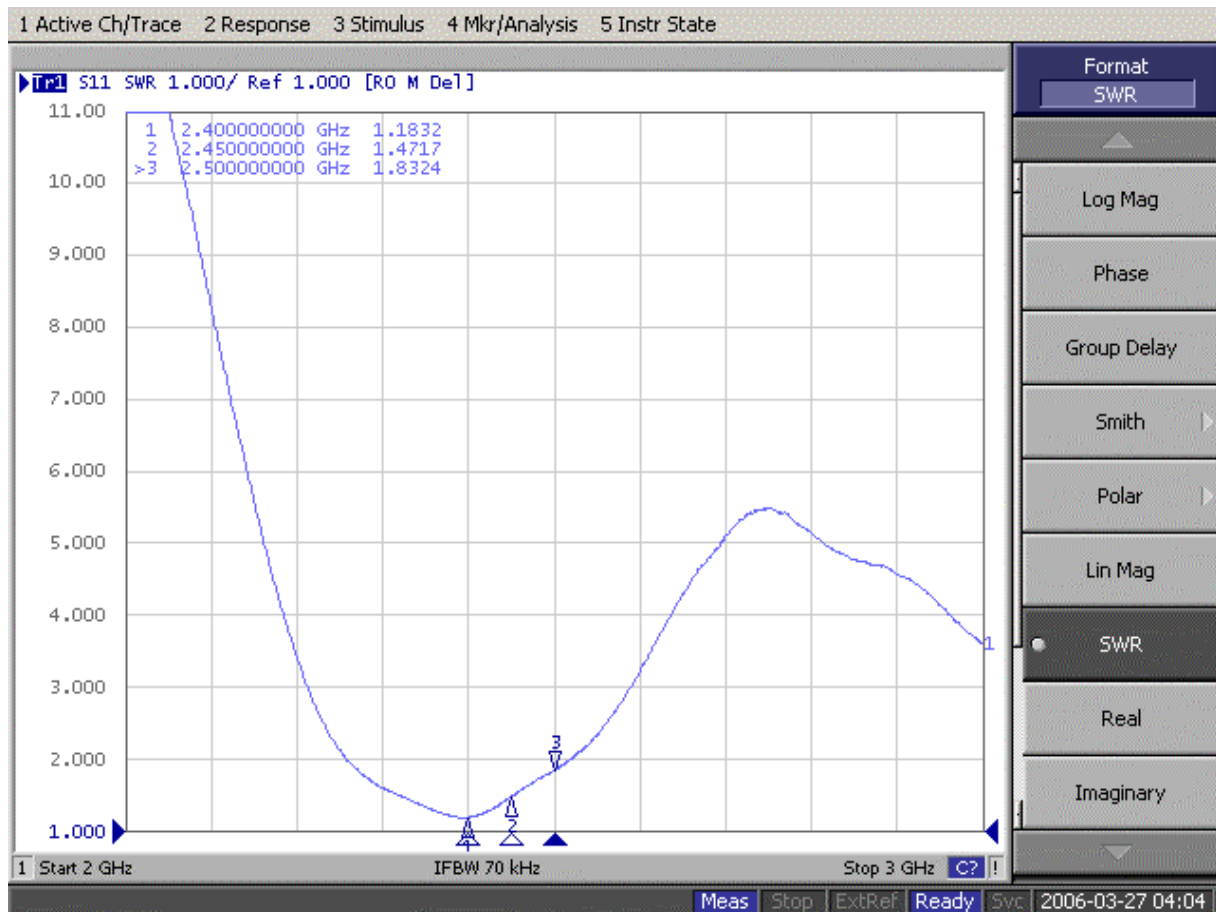
- a. **FIC Project Name & FIC P/N** **GE2**
- & Frequency** **2.4~2.5 GHz**
- b. **Vendor's antenna P/N** **K05004001201**
- c. **Antenna P/N & type & material** **M02007014001**
PIFA & Cupronickel
- d. **Coaxial cable length & diameter(Φ)** **148 mm(Black) & 1.13Φ**
- & Cable P/N & Vendor** **G04005016001(B)**
- e. **Connector model no. & vendor** **E07001064001**

3. Bluetooth Ant./Horizontal

2.4~2.5GHZ / Return Loss



2.4~2.5GHZ / VSWR



4. Gain & Pattern – Bluetooth Ant./Horizontal

a. 2.4GHz



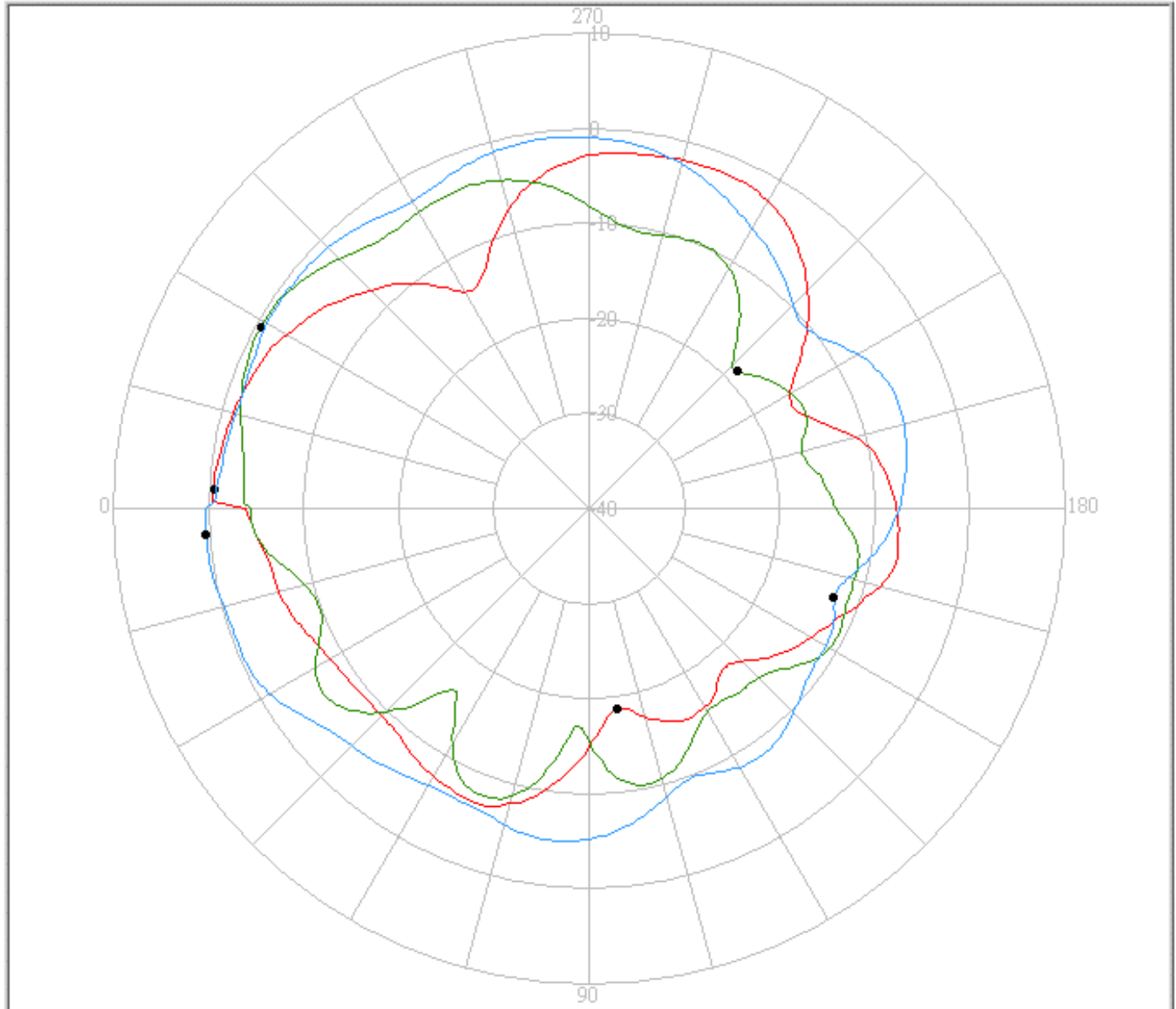
eService for Customer Satisfaction

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	GE2	TOP-H	2400.00	-0.48 / 357.00	-18.69 / 98.00	-6.42	Ver.	2006/3/22
2	GE2	TOP-H	2400.00	-0.58 / 331.00	-18.83 / 223.00	-7.20	Hor.	2006/3/22
3	GE2	TOP-H	2400.00	0.35 / 4.00	-12.65 / 160.00	-3.71	V+H	2006/3/22

b. 2.45GHz



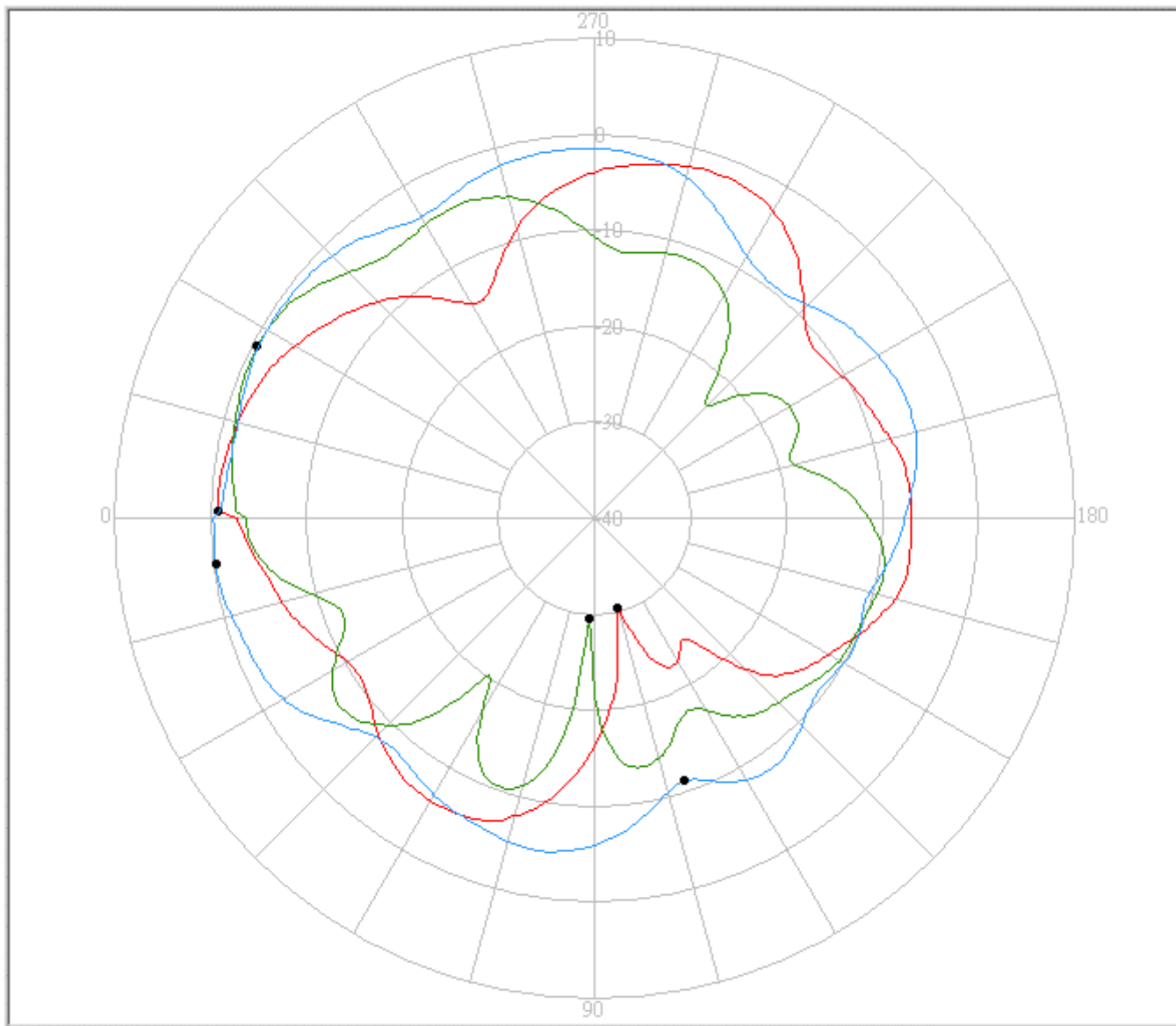
eService for Customer Satisfaction

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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	GE2	TOP-H	2450.00	-0.73 / 359.00	-30.37 / 104.00	-6.53	Ver.	2006/3/22
2	GE2	TOP-H	2450.00	-0.58 / 333.00	-29.50 / 87.00	-7.52	Hor.	2006/3/22
3	GE2	TOP-H	2450.00	-0.26 / 7.00	-11.12 / 109.00	-4.16	V+H	2006/3/22

c. 2.5GHz



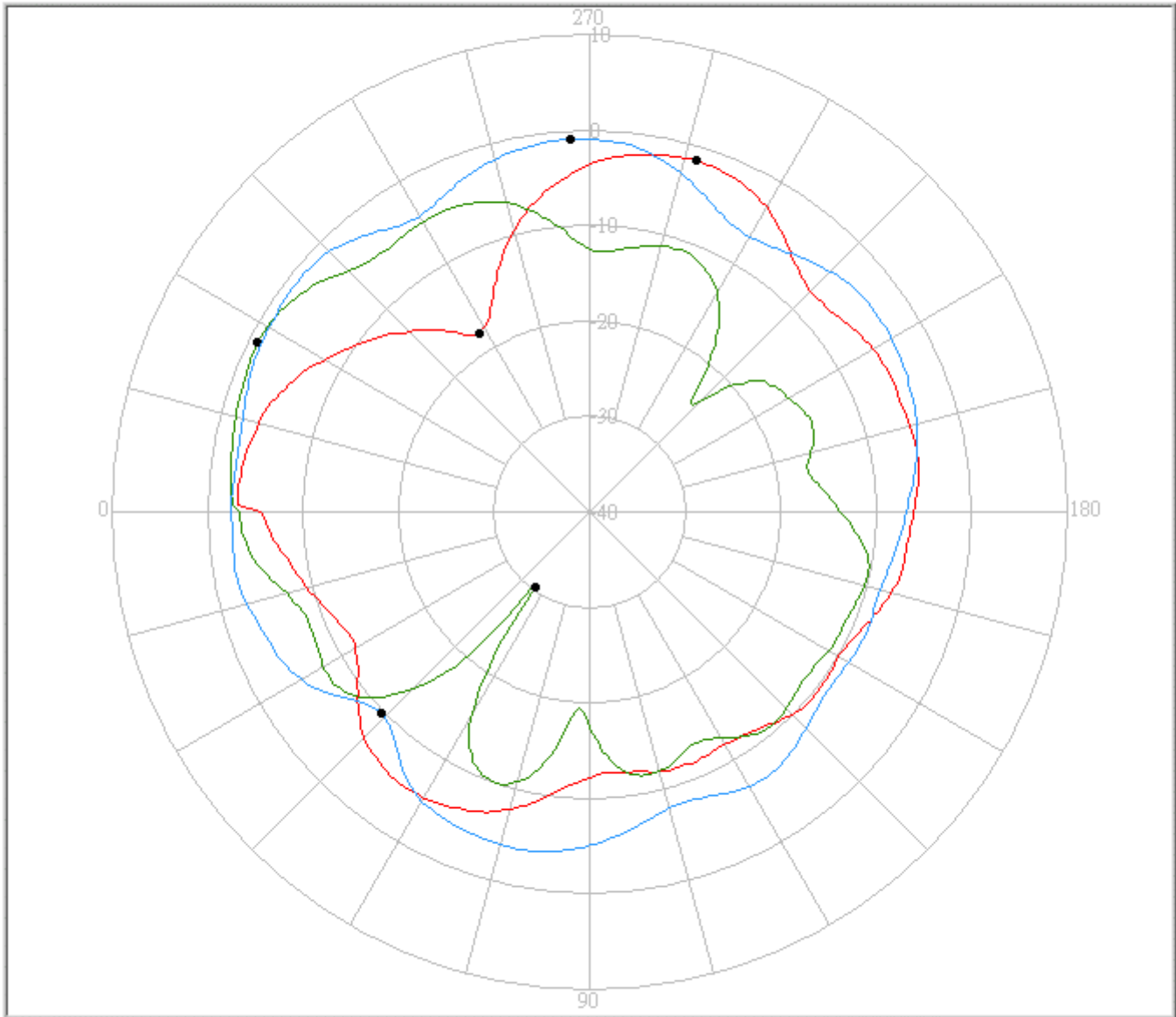
eService for Customer Satisfaction

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Antenna Pattern Measurement

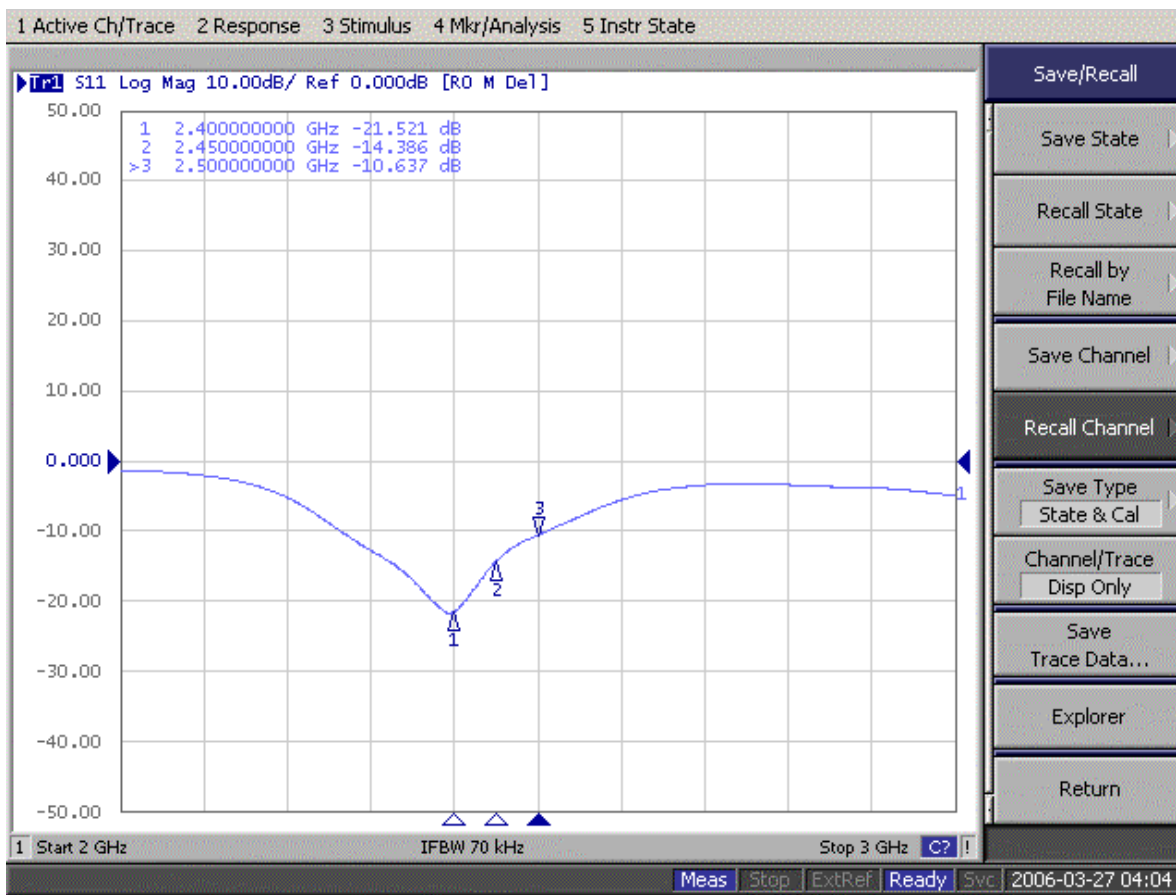
4F, No. 108-1, Min Chuan Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C. Tel:886-2-2218-2189,
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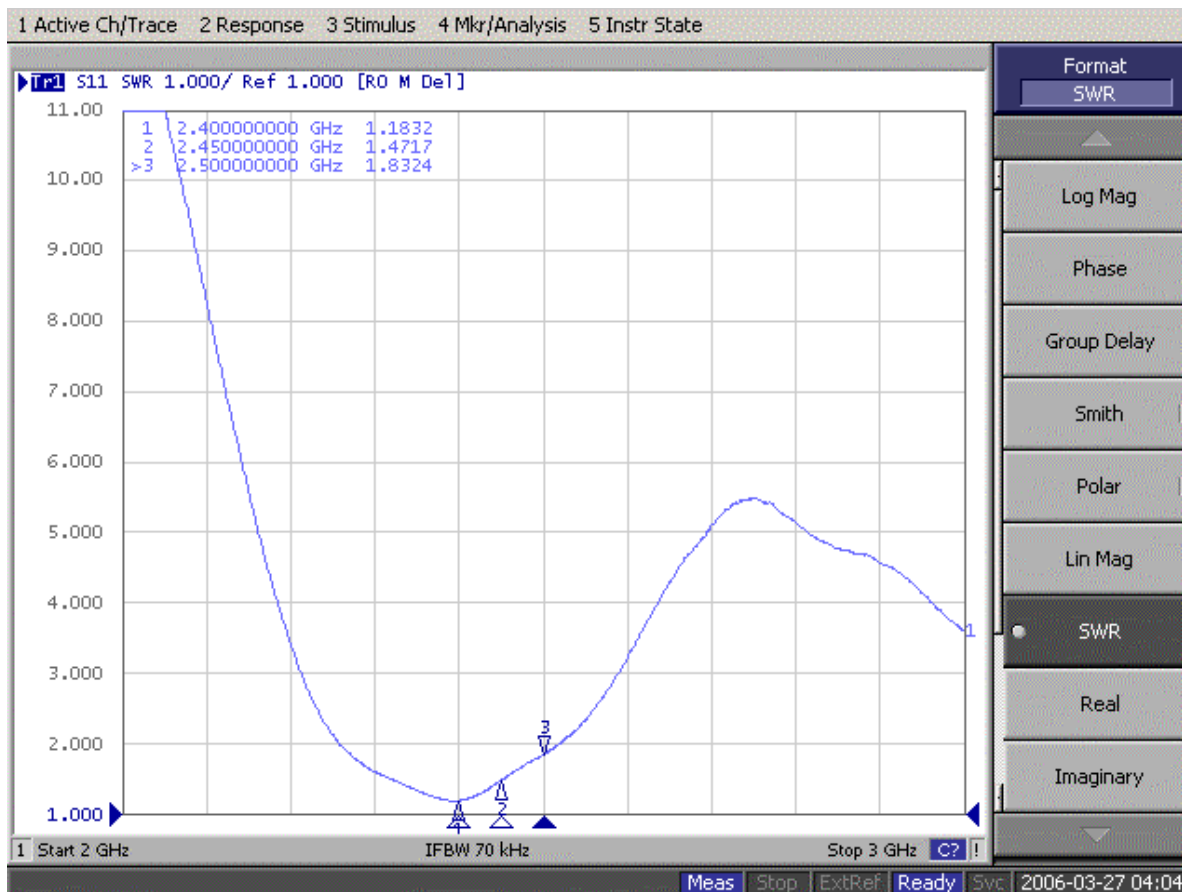
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	GE2	TOP-H	2500.00	-1.57 / 253.00	-18.07 / 302.00	-6.73	Ver.	2006/3/22
2	GE2	TOP-H	2500.00	-1.01 / 333.00	-30.25 / 54.00	-7.71	Hor.	2006/3/22
3	GE2	TOP-H	2500.00	-0.95 / 273.00	-9.72 / 44.00	-4.15	V+H	2006/3/22

5. Bluetooth Ant./Vertical

2.4~2.5GHZ / Return Loss



2.4~2.5GHZ / VSWR



6. Gain & Pattern –Bluetooth Ant./Vertical

a. 2.4GHz



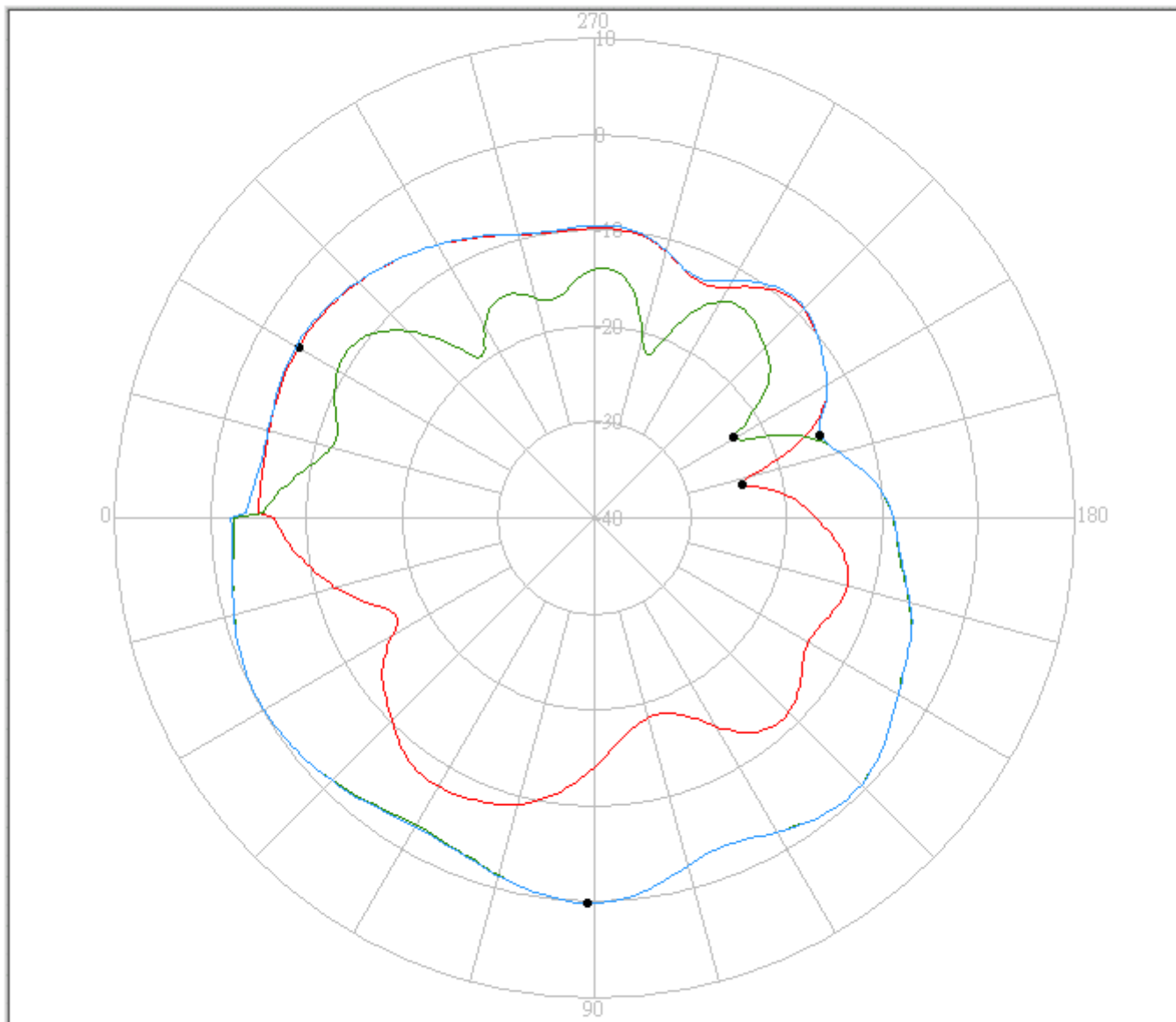
eService for Customer Satisfaction

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	GE2	TOP-V	2400.00	-4.43 / 330.00	-24.18 / 193.00	-9.47	Ver.	2006/3/22
2	GE2	TOP-V	2400.00	0.12 / 89.00	-23.19 / 210.00	-4.56	Hor.	2006/3/22
3	GE2	TOP-V	2400.00	0.13 / 89.00	-14.97 / 200.00	-3.85	V+H	2006/3/22

b. 2.45GHz



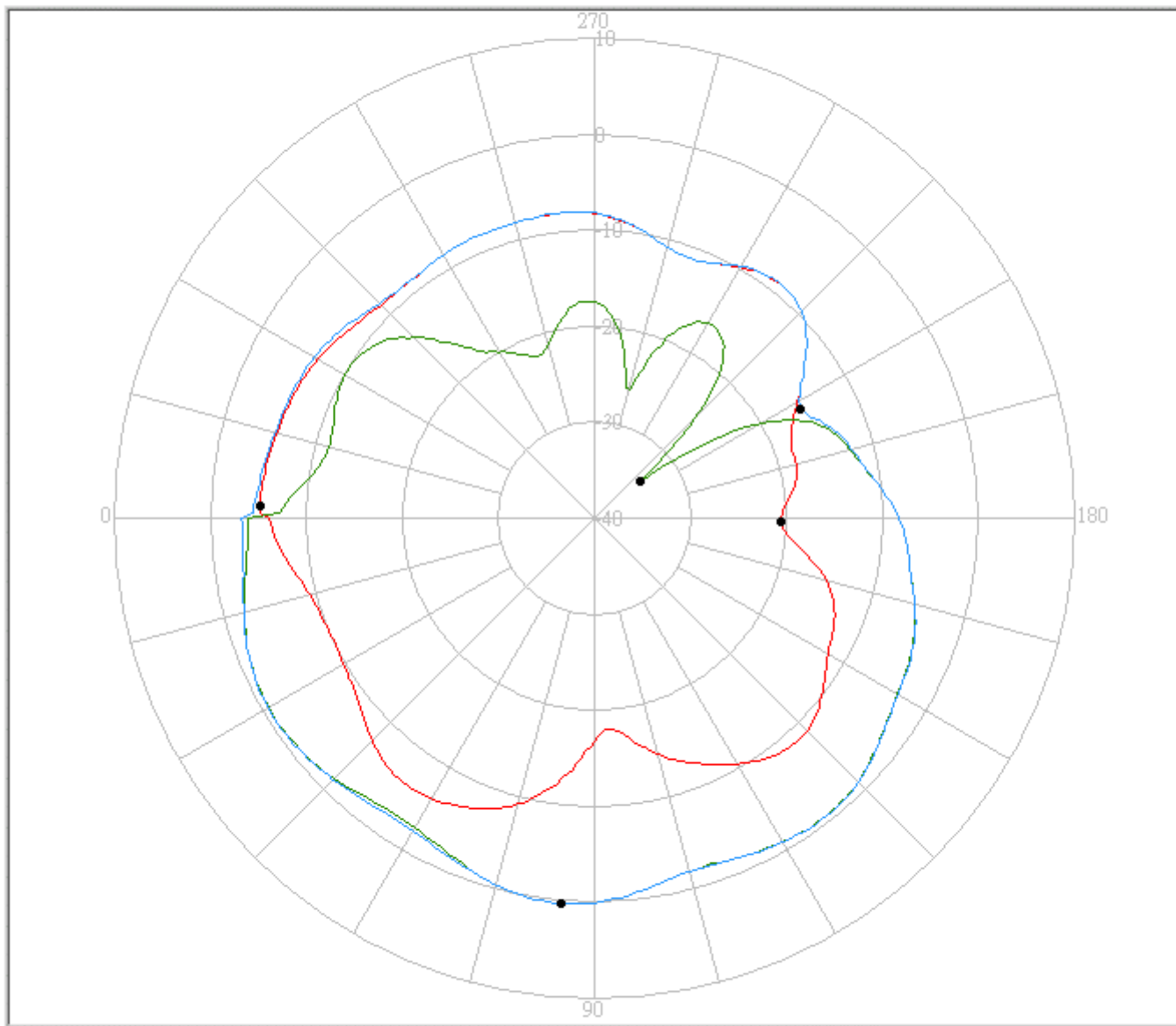
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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	GE2	TOP-Y	2450.00	-5.15 / 358.00	-20.50 / 179.00	-9.30	Ver.	2006/3/22
2	GE2	TOP-Y	2450.00	0.27 / 85.00	-33.87 / 219.00	-4.64	Hor.	2006/3/22
3	GE2	TOP-Y	2450.00	0.27 / 85.00	-15.71 / 208.00	-3.96	V+H	2006/3/22

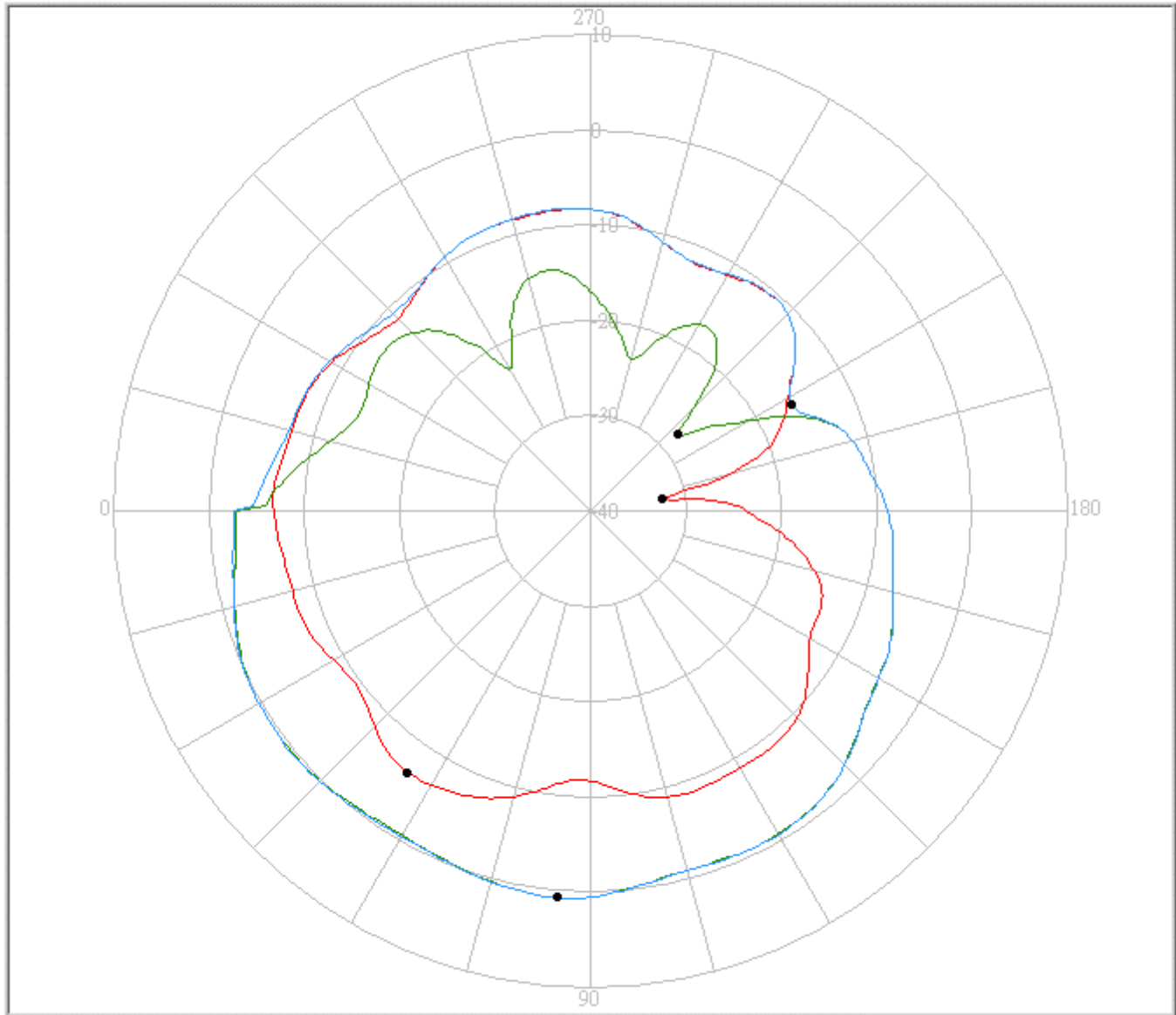
c. 2.5GHz



FAVORTRON Co. Ltd

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	GE2	TOP-Y	2500.00	-6.54 / 55.00	-32.29 / 190.00	-9.67	Ver.	2006/3/22
2	GE2	TOP-Y	2500.00	0.71 / 85.00	-27.75 / 221.00	-4.09	Hor.	2006/3/22
3	GE2	TOP-Y	2500.00	0.72 / 85.00	-16.20 / 208.00	-3.64	V+H	2006/3/22