DATE :May.23.2006

CUSTOMER: **First International Computer, INC.**

APPROVAL SHEET

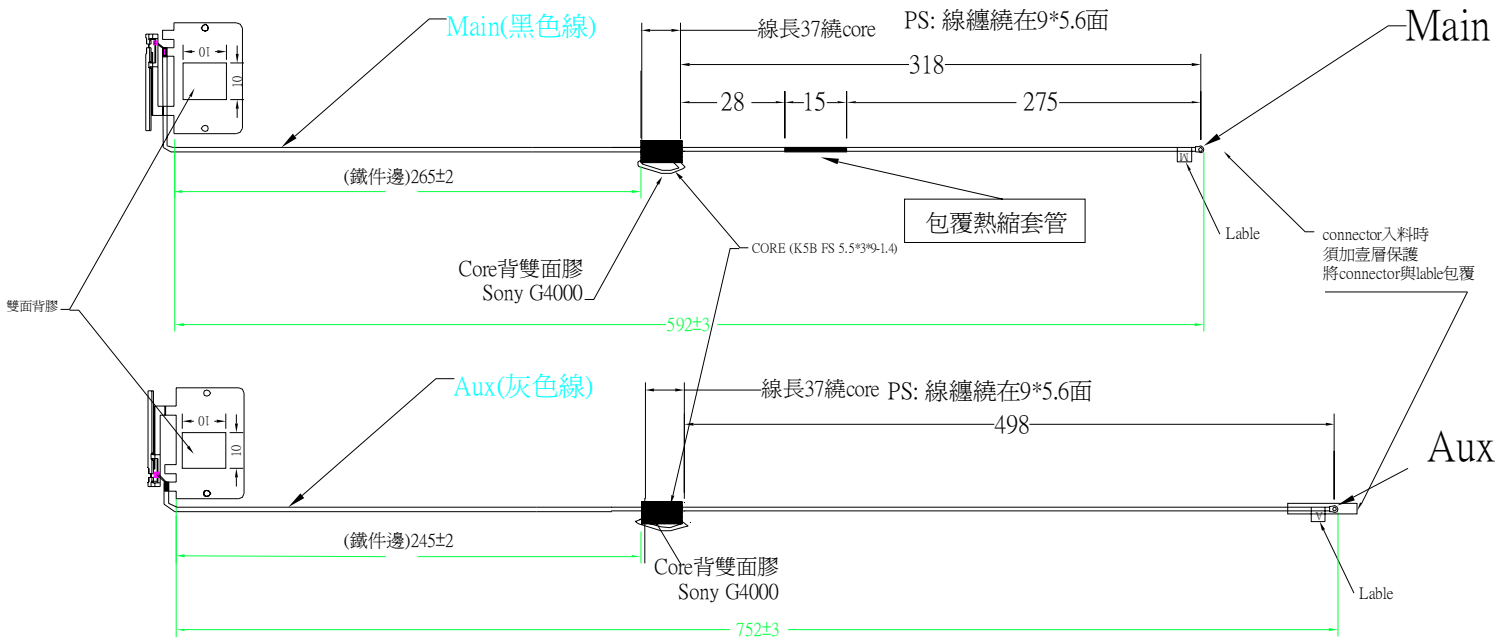
MODEL	**GT1W**
DESCRIPTION	**PIFA For Wireless LAN Antenna** **2.4~2.5GHz/5.15~5.875 GHz**
SUPPLIER P/N	**K05004000201**
CUSTOMER P/N	**21-92493-01**
FILE P/N	

FAVORTRON			Customer	
Manager	**Supervisor**	Engineer		
Jesse	**Jesse**	**James**		

惠賢電子股份有限公司
FAVORTRON CO., LTD

台北縣中和市中正路 866 號 17F TEL: (02) 8227-5669

17nd F, no. 866, Zhong Zheng Rd., FAX: (02) 8227-5667
Zhong He City, Taipei Hsien, Taiwan R.O.C



Main length = 592 mm
鐵件邊
Aux length = 752 mm
鐵件邊

備註	※未標註公差處，請參照下列標準。

發行	RANGE	TOLERANCE
	Over 101	± 1.5
	51-100	± 1.0
	11-50	± 0.3
	10 Below	± 0.2
	Units mm	Rev. A2
	Size A4	Scale 1:0.5
	Sheet 1/1	

惠貿電子股份有限公司
FAVORTRON CO.,LTD.

TITLE: 大眾 GT1W &GT2W共用天線

PART NO.	K05004000201	
DRAW NO.	TD-E-50628-A1	
Customer No.	21-92493-01	
Custormer REV.	A2	
APPROVAL	CHECKED	DRAWED

REV	DATA	DESCRIPTION	REVISIONIST
A		INITIAL RELEASE	

REV. RECORD

機密
廠內專用

1 2 3 4 5 6

BOM

B O M

ITEM	COMPONENT	Q'TY	DESCRIPTION	FAVORTRON P/N	VENDER
1	PIFA ANTENNA	1	GT1W" Right/0.4mm/馬口鐵	M02007024001	符合廠商
2	PIFA ANTENNA	1	GT1W" Left/0.4mm/馬口鐵	M02007025001	符合廠商
3	同軸線	1	OD1.13mm/單頭I-PEX/黑色/642mm	M04007054001	FVC
4	同軸線	1	OD1.13mm/單頭I-PEX/灰色/783mm	M04007055001	FVC
5	CORE	2	K5B FS 5.5*3*9-1.4	M05001003001	符合廠商
6	雙面背膠	2	10mmx10mmx0.10t(SONY G4000)	M01017023002	嘉得隆
7	雙面背膠	2	9X5.5(SONY G4000)	M01017028002	嘉得隆
8	熱縮套管	1	15mm X ∅1.5mm	B02001076999	漢寶
9					
10					
11					
12					

SUB BOM (M04007054001)

ITEM	COMPONENT	Q'TY	DESCRIPTION	FVC P/N	VENDER
1	Connector	1	接頭MHF PLUG(I-PEX) OD= ∅1.13	L07001001001	I-PEX
2	同軸線	1	同軸線 ∅1.13*674mm(黑色)	G04005016001	日立信電

SUB BOM (M04007055001)

ITEM	COMPONENT	Q'TY	DESCRIPTION	FVC P/N	VENDER
1	Connector	1	接頭MHF PLUG(I-PEX) OD= ∅1.13	L07001001001	I-PEX
2	同軸線	1	同軸線 ∅1.13*813mm(灰色)	G04005033001	日立信電

機　　密

廠內專用

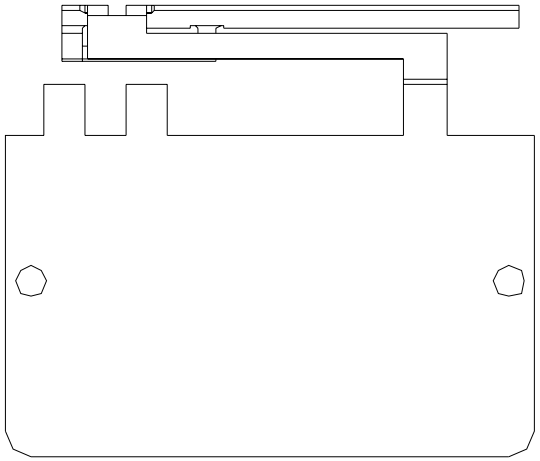
發　行	備　註

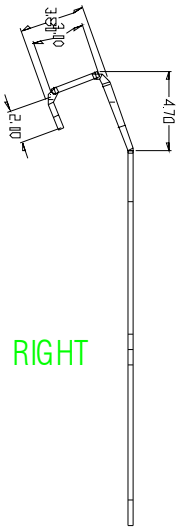
惠貿電子股份有限公司
FAVORTRON CO.,LTD

Title:
大眾 GT1W &GT2W共用天線

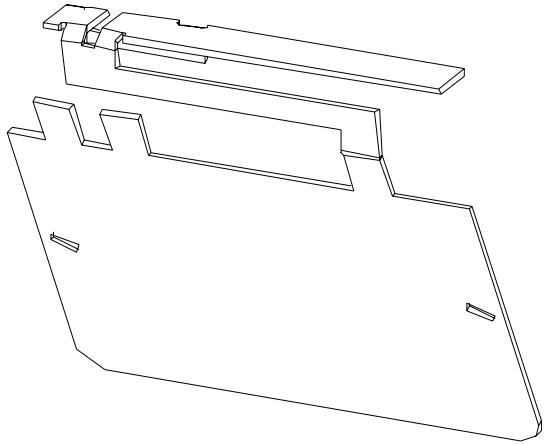
Part No.	K05004000201	
Draw No.	TD-E-50628-A1	
CUS.Part No.	21-92493-01	
CUS.Rev.	A2	
Approval	Check	Designed

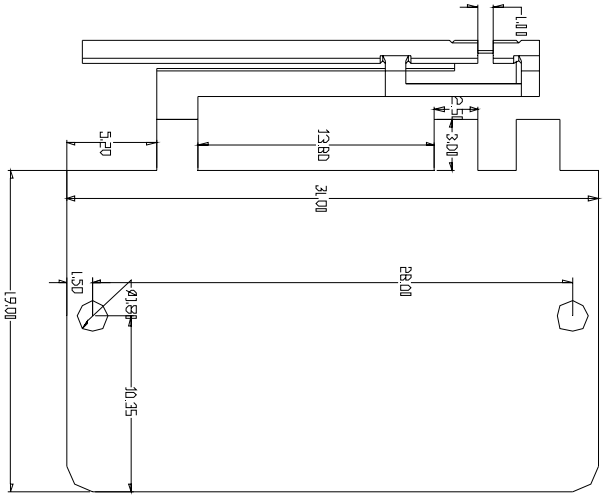
Date 05/12/03 Sheet 6/6

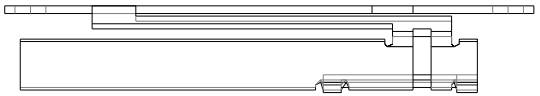




RIGHT







TOP

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。

REV	DATA	DESCRIPTION	REVISION
A1			
REV. RECORD			

機密

廠內專用

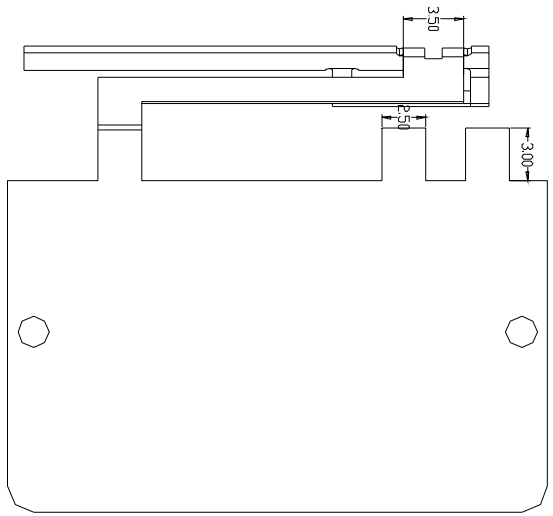
備註	※未標註公差者，請參照下列標準：

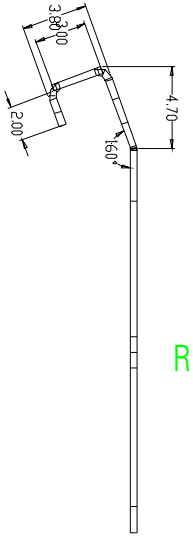
發行	RANGE	TOLERANCE
	Over 101	±0.2
	51-100	±0.15
	11-50	±0.10
	10 Below	±0.05
	Units mm	Rev. A1
	Size A4	Scale 2:1
	Sheet 1/1	

FAVORITRON CO.,LTD.

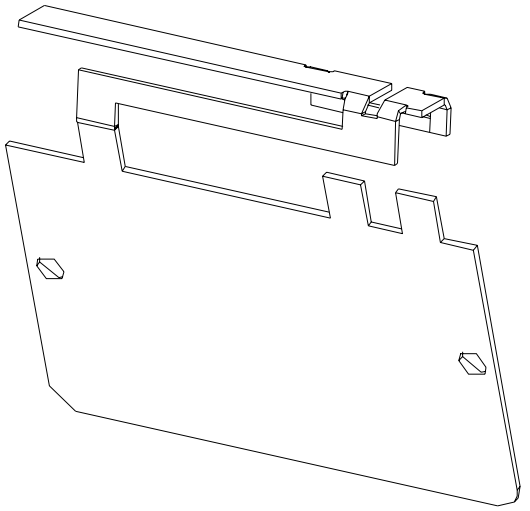
品名 大眾
GT1W-RIGHT

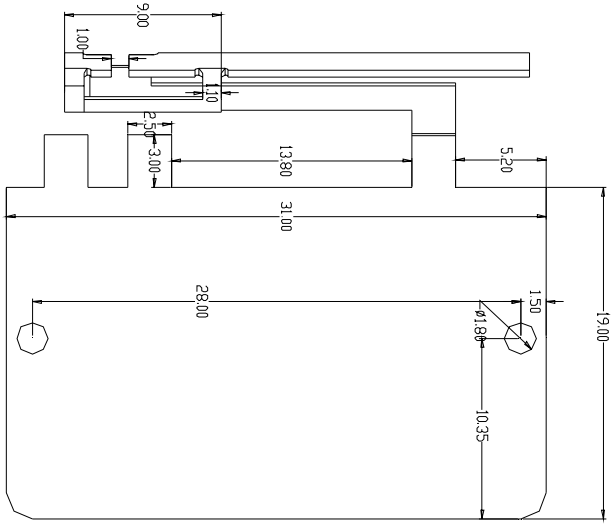
PART NO.	M02007024001	
DRAW NO.	TD-E-60555	
Customer No.		
Customer REV.	A2	
APPROVAL	CHECKED	DRAWED
		kelly

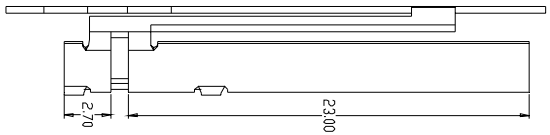




RIGHT







TOP

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。

REV	DATA	DESCRIPTION	REVISIONIST
△			
A1			

REV. RECORD

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
Over 101	± 0.2
51-100	± 0.15
11-50	± 0.10
10 Below	± 0.05

Units	mm	Rev.	A1
Size	A4	Scale	2:1
Sheet	1/1		

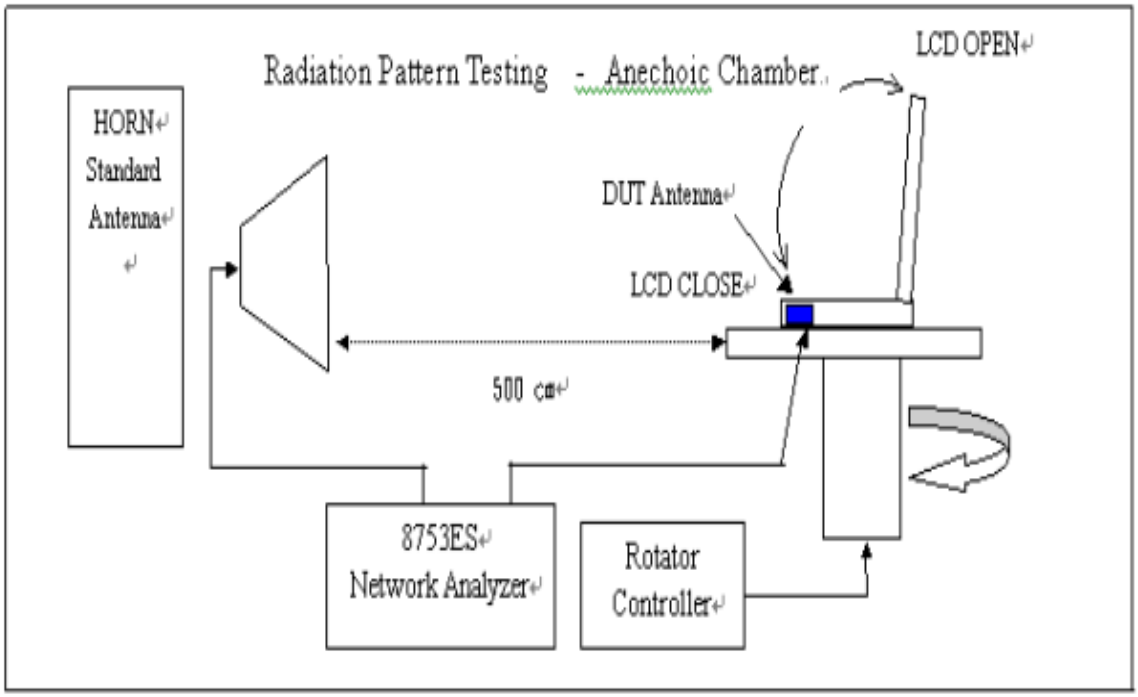
惠貿電子股份有限公司
FAVORTRON CO.,LTD.

TITLE: 大眾
GT1W-left

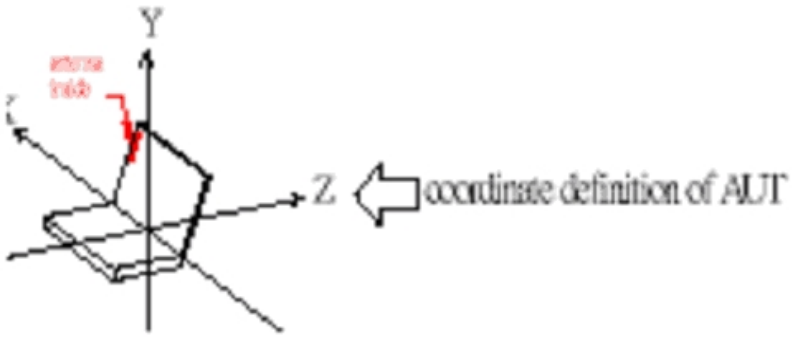
PART NO.	M02007025001
DRAW NO.	TD-E-60556
Customer No.	
Customer REV.	A2

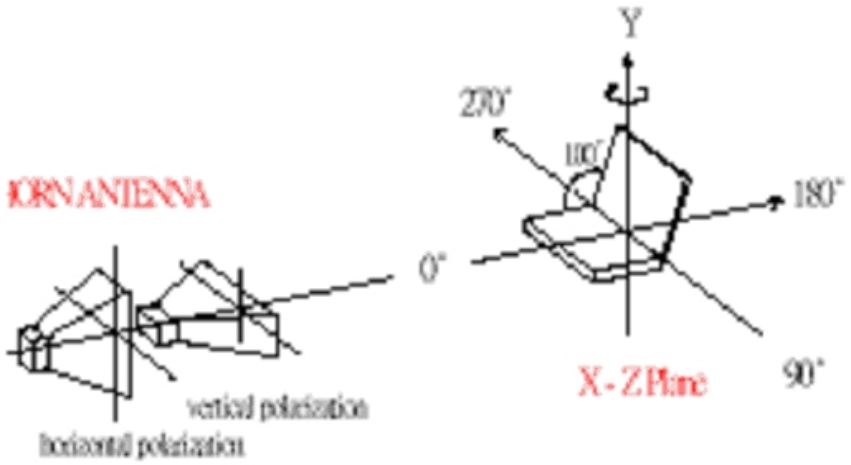
APPROVAL	CHECKED	DRAWED
		kelly

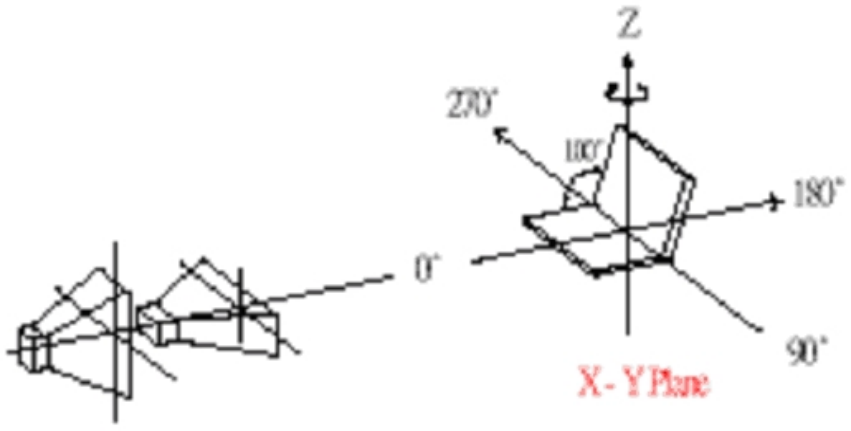
天線測試方法


Radiation Pattern Testing - Anechoic Chamber
LCD OPEN
HORN
Standard
Antenna
DUT Antenna
LCD CLOSE
500 cm
8753ES
Network Analyzer
Rotator
Controller

Coordinate Definition







2. Antenna Spec. For WLAN

1. 802.11b 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 (Main & Aux. Antenna)
f. Return Loss : ≤ -10dB (Main & Aux. Antenna)
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

	Peak Gain (dBi)			**Average Gain (dBi)**		
	Frequency			**Frequency**		
Antenna	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

2. 802.11a Spec.

a. Frequency range : 5.15 ~ 5.35GHz (Nominal)
b. Impedance : 50Ω
c. LCD Panel : Open (100°) / Close (0°).
d. System Plane : XY plane
e. VSWR : ≤ 2 (Main & Aux. Antenna)
f. Return Loss : ≤ -10dB (Main & Aux. Antenna)
g. Band Width : ≥ 250MHz (5250MHz±125MHz at least).
h. Diversity Sum : ≥ -3.5dBi
i. Any 30° angle range can't has null depth.
j. Average gain & Peak gain

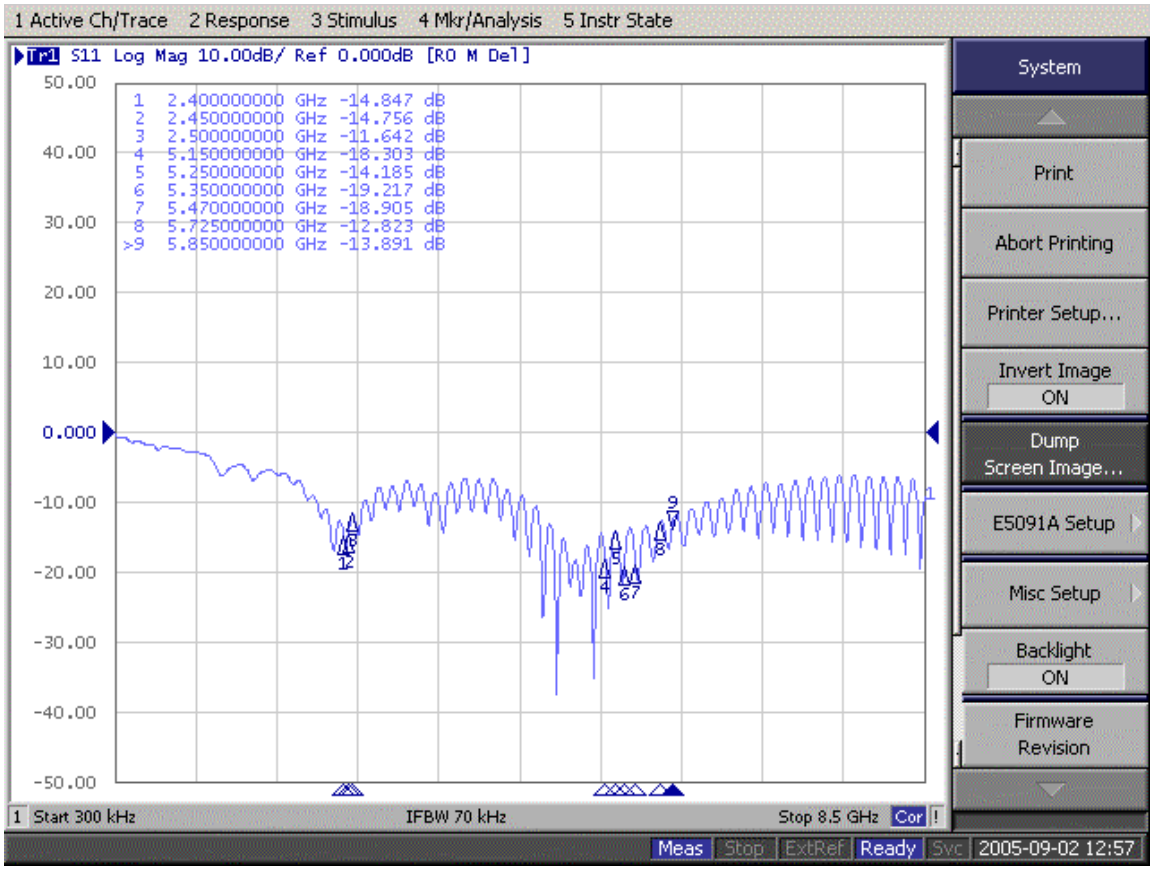
	Peak Gain (dBi)			**Average Gain (dBi)**		
	Frequency			**Frequency**		
Antenna	5.15GHz	5.25GHz	5.35GHz	5.15GHz	5.25GHz	5.35GHz
Main	≤ 6	≤ 6	≤ 6	≥ -4.8	≥ -4.8	≥ -4.8
Auxiliary	≤ 6	≤ 6	≤ 6	≥ -4.8	≥ -4.8	≥ -4.8

3. DESCRIPTION

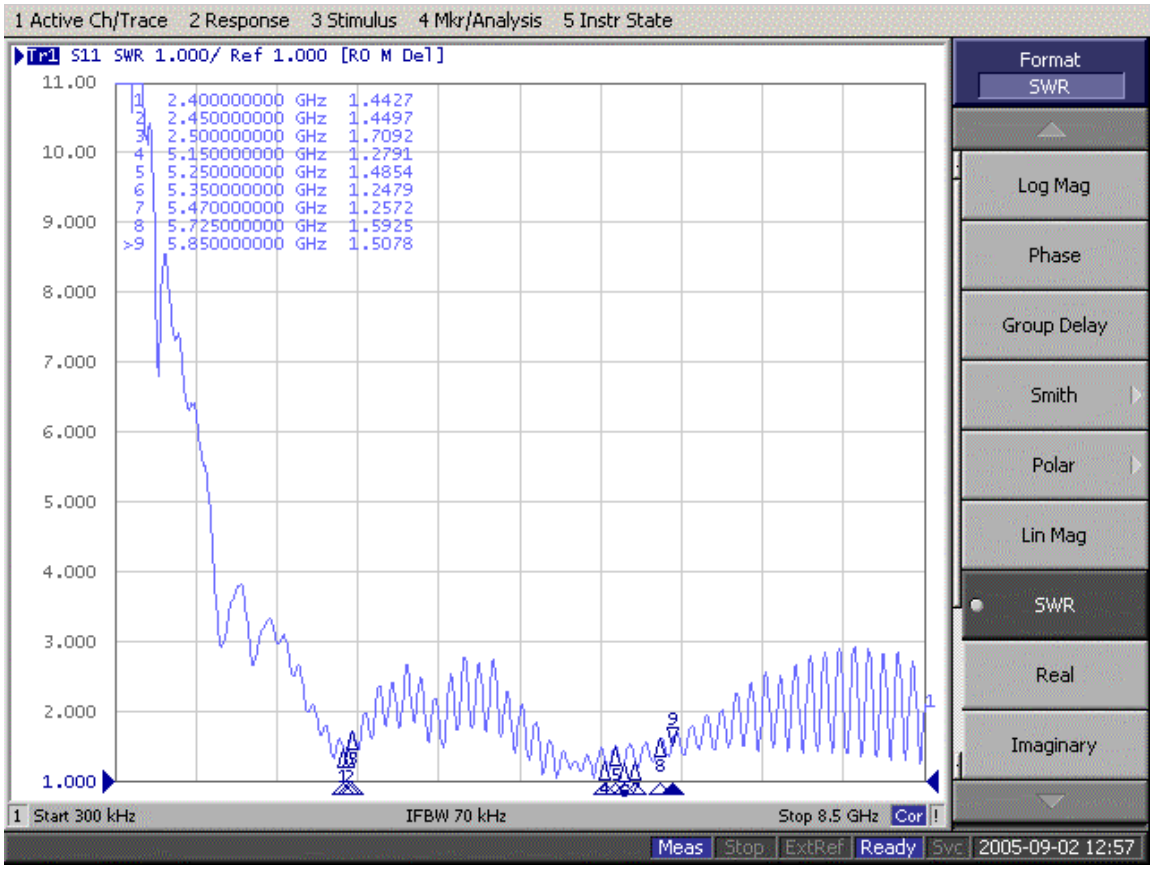
a.	**FIC Project Name & FIC P/N**	**GT1W**
	& Frequency	**Daul Band 2.4~2.5 & 5.15~5.875 GHz**
b.	**Vendor's antenna P/N**	K05004000201
c.	**Antenna P/N & type & material**	**M02007024001(R) ,M02007025001(L) PIFA & Iron**
d.	**Coaxial cable length & diameter(Φ)**	**783mm(Left, Gray) 、642 mm(Right, Black) & 1.13Φ**
	& Cable P/N & Vendor	**G04005033001(G) G04005016001(B)**
e.	**Connector model no. & vendor**	**L07001001001**

3. WLAN Main /Ant.(Right)

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



2.4~2.5GHZ & 5.15~5.875GHZ / VSWR



4. Gain & Pattern – W/L / Main Ant. (Right)

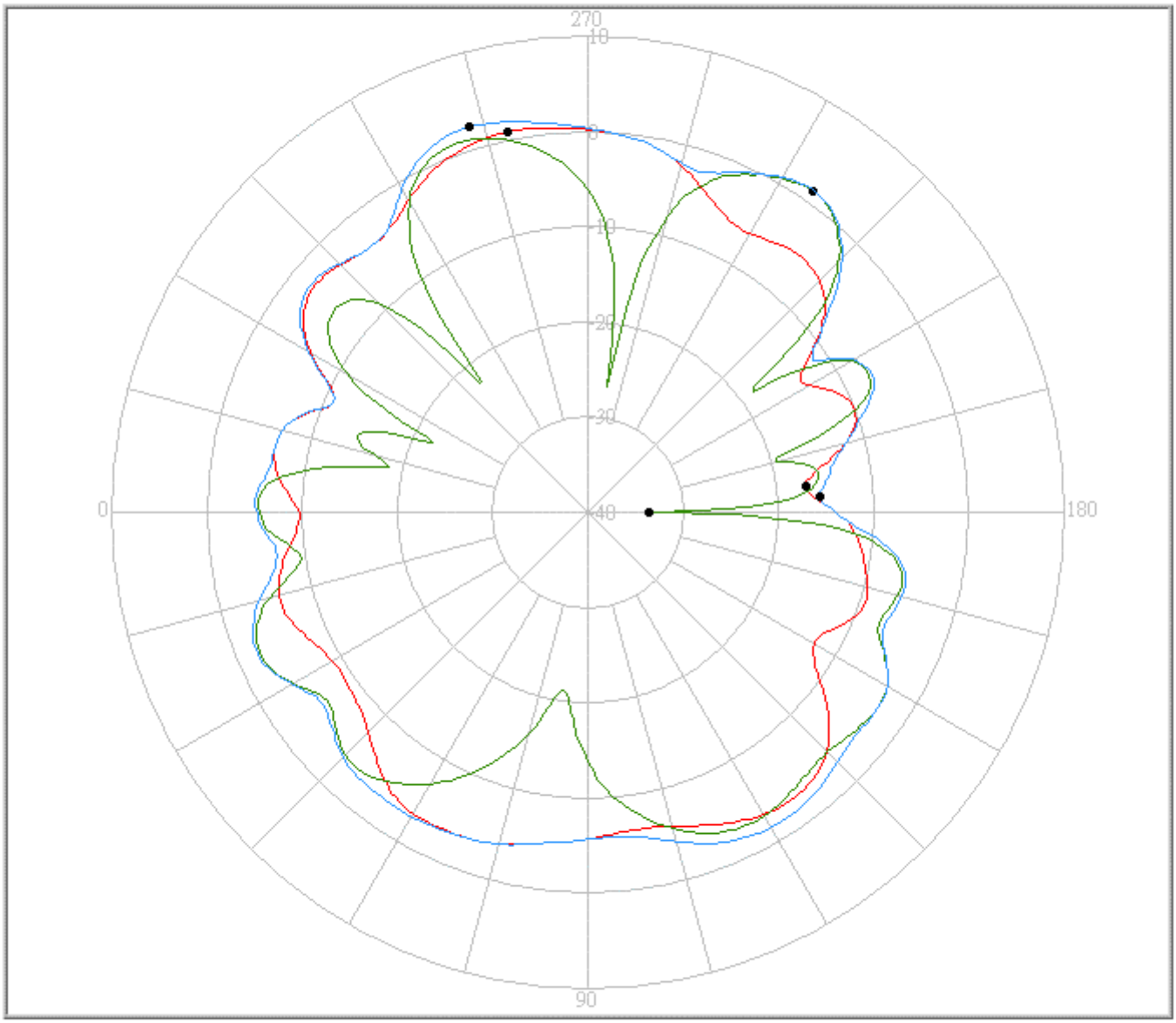
a. 2.4GHz

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	GT1W	Right	2400.00	0.78 / 282.00	-16.98 / 187.00	-4.78	Ver.	2005/9/2
2	GT1W	Right	2400.00	1.17 / 235.00	-33.52 / 180.00	-5.02	Hor.	2005/9/2
3	GT1W	Right	2400.00	2.29 / 287.00	-15.60 / 184.00	-3.01	V+H	2005/9/2

b. 2.45GHz

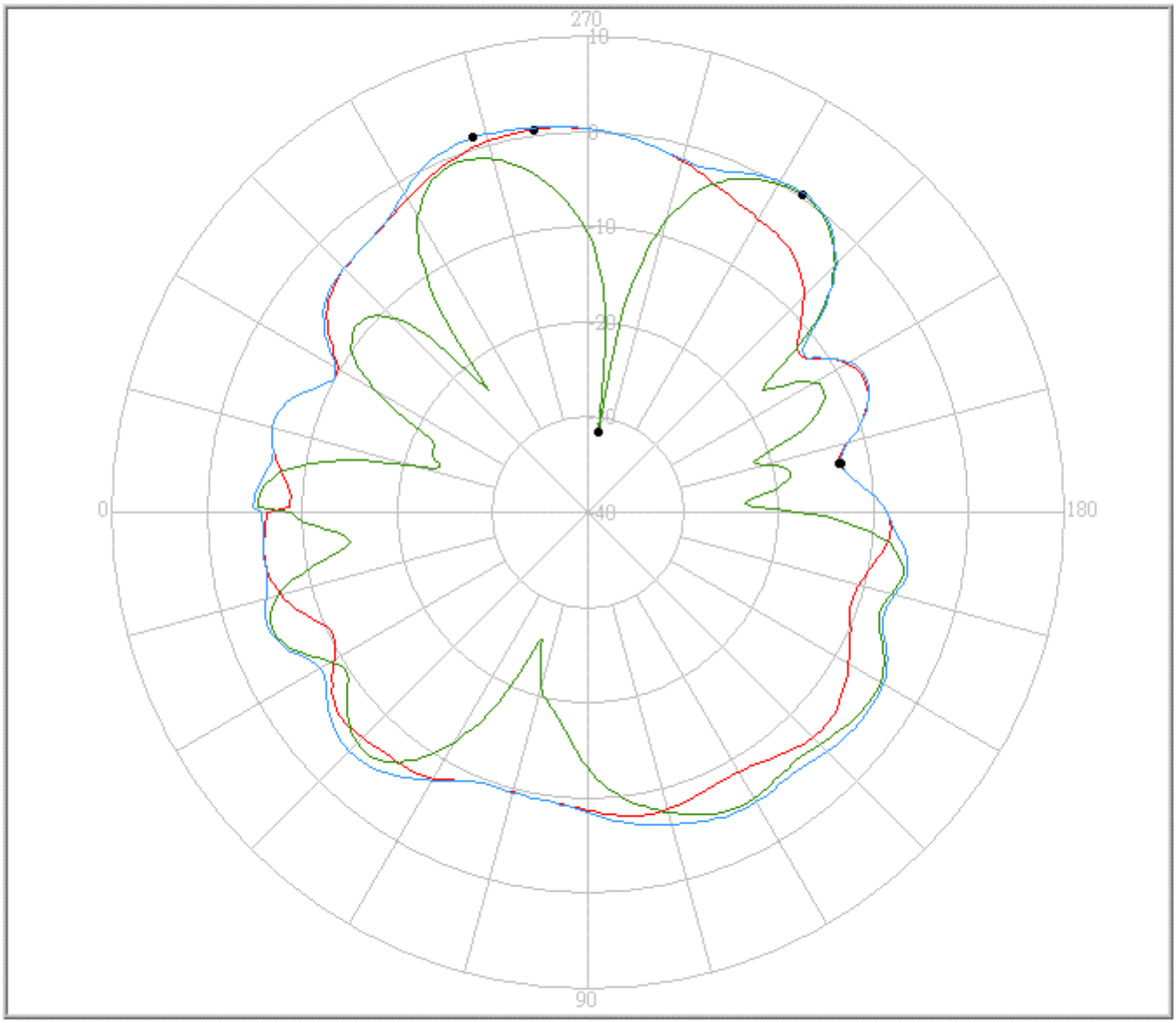
eService for Customer Satisfaction

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	GT1W	Right	2450.00	0.59 / 278.00	-13.09 / 191.00	-5.36	Ver.	2005/9/2
2	GT1W	Right	2450.00	0.20 / 236.00	-31.47 / 262.00	-6.65	Hor.	2005/9/2
3	GT1W	Right	2450.00	1.08 / 287.00	-12.91 / 191.00	-4.00	V+H	2005/9/2

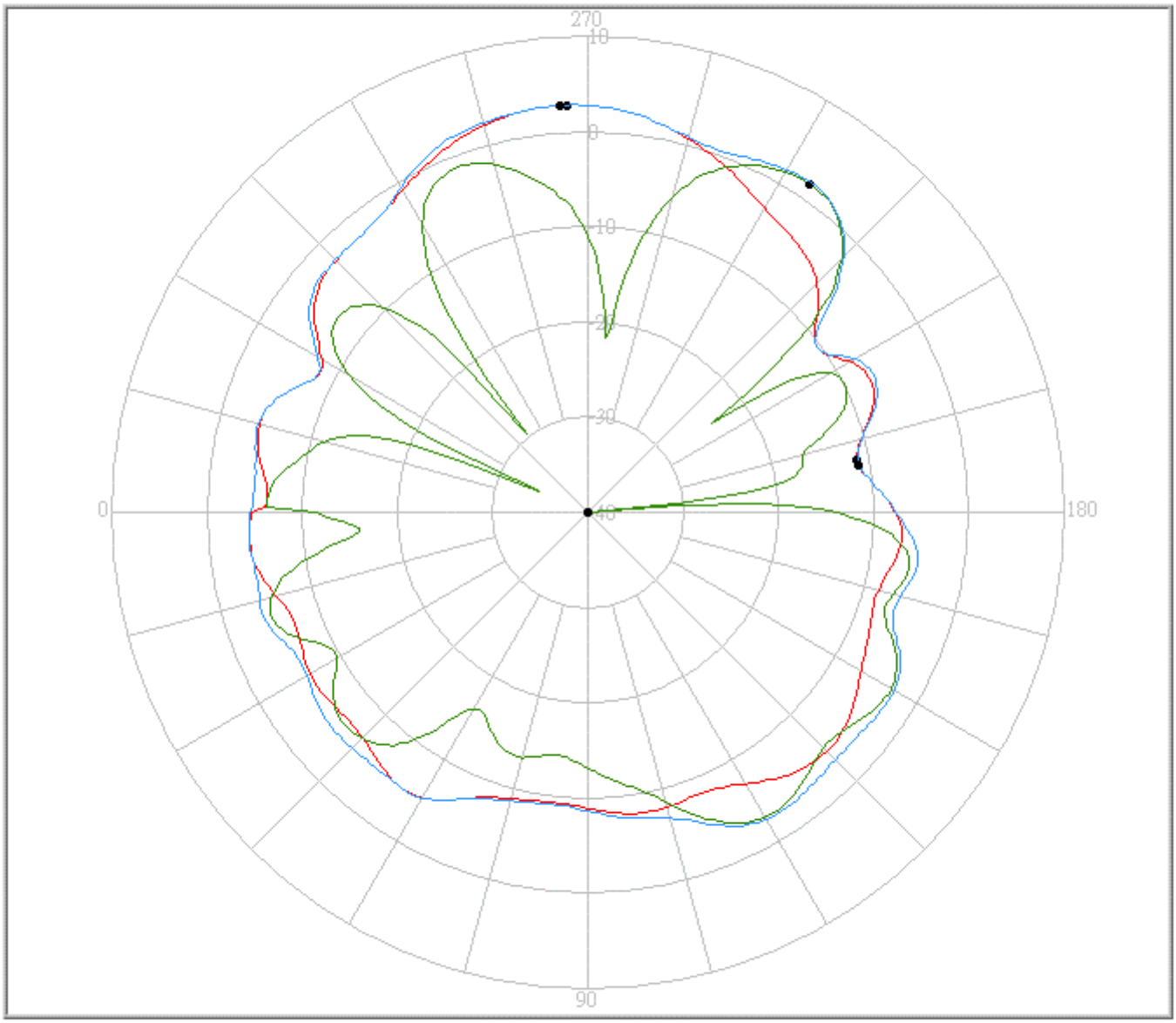
c. 2.5GHz

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	GT1W	Right	2500.00	2.80 / 273.00	-11.23 / 191.00	-3.69	Ver.	2005/9/2
2	GT1W	Right	2500.00	1.58 / 236.00	-44.60 / 185.00	-5.94	Hor.	2005/9/2
3	GT1W	Right	2500.00	2.82 / 274.00	-11.12 / 190.00	-2.62	V+H	2005/9/2

d. 5.15GHz

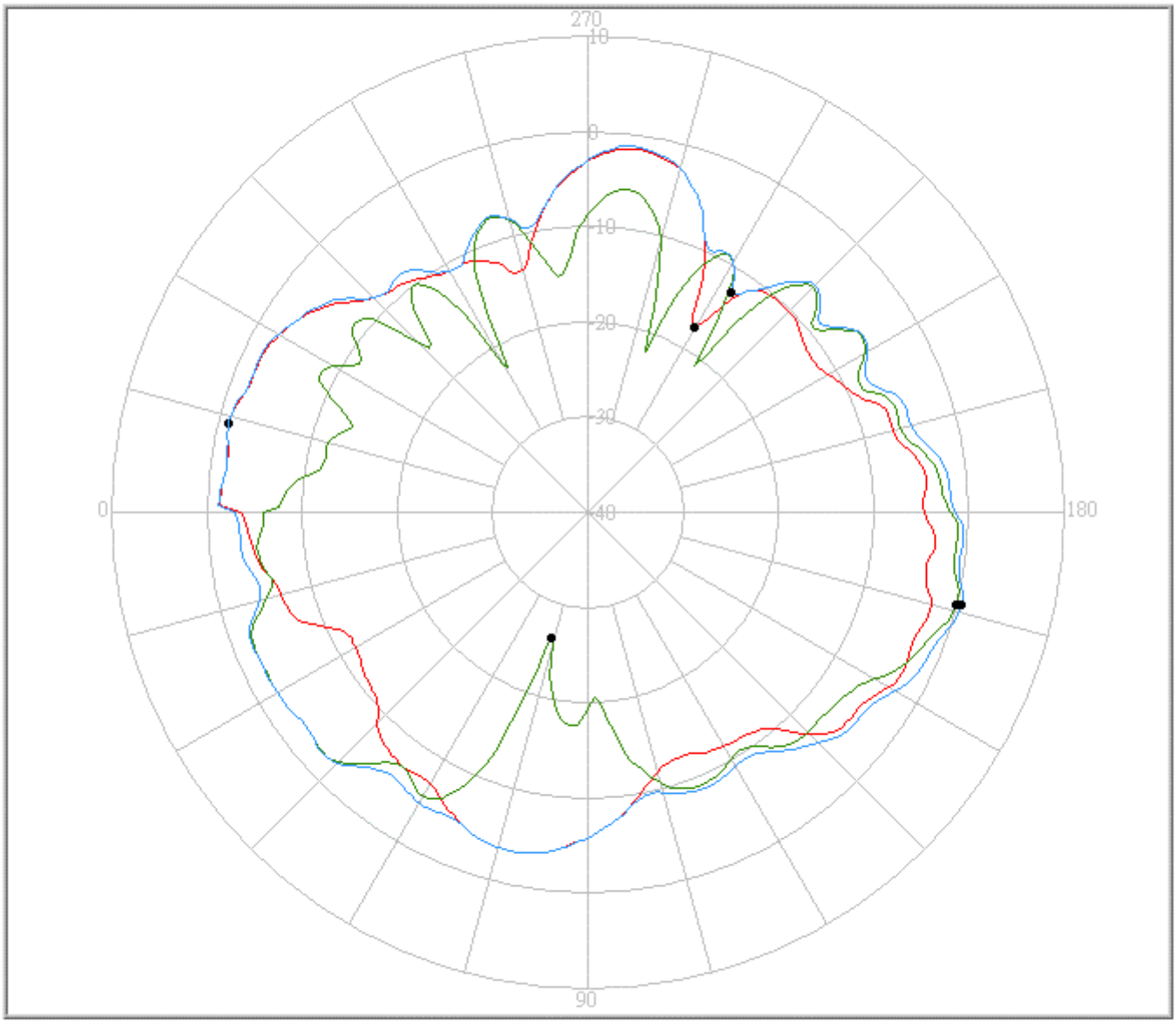
eService for Customer Satisfaction

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	GT1W	Right	5150.00	-1.14 / 346.00	-17.49 / 240.00	-5.68	Ver.	2005/9/2
2	GT1W	Right	5150.00	-0.08 / 166.00	-26.30 / 74.00	-6.49	Hor.	2005/9/2
3	GT1W	Right	5150.00	0.44 / 166.00	-12.57 / 237.00	-4.07	V+H	2005/9/2

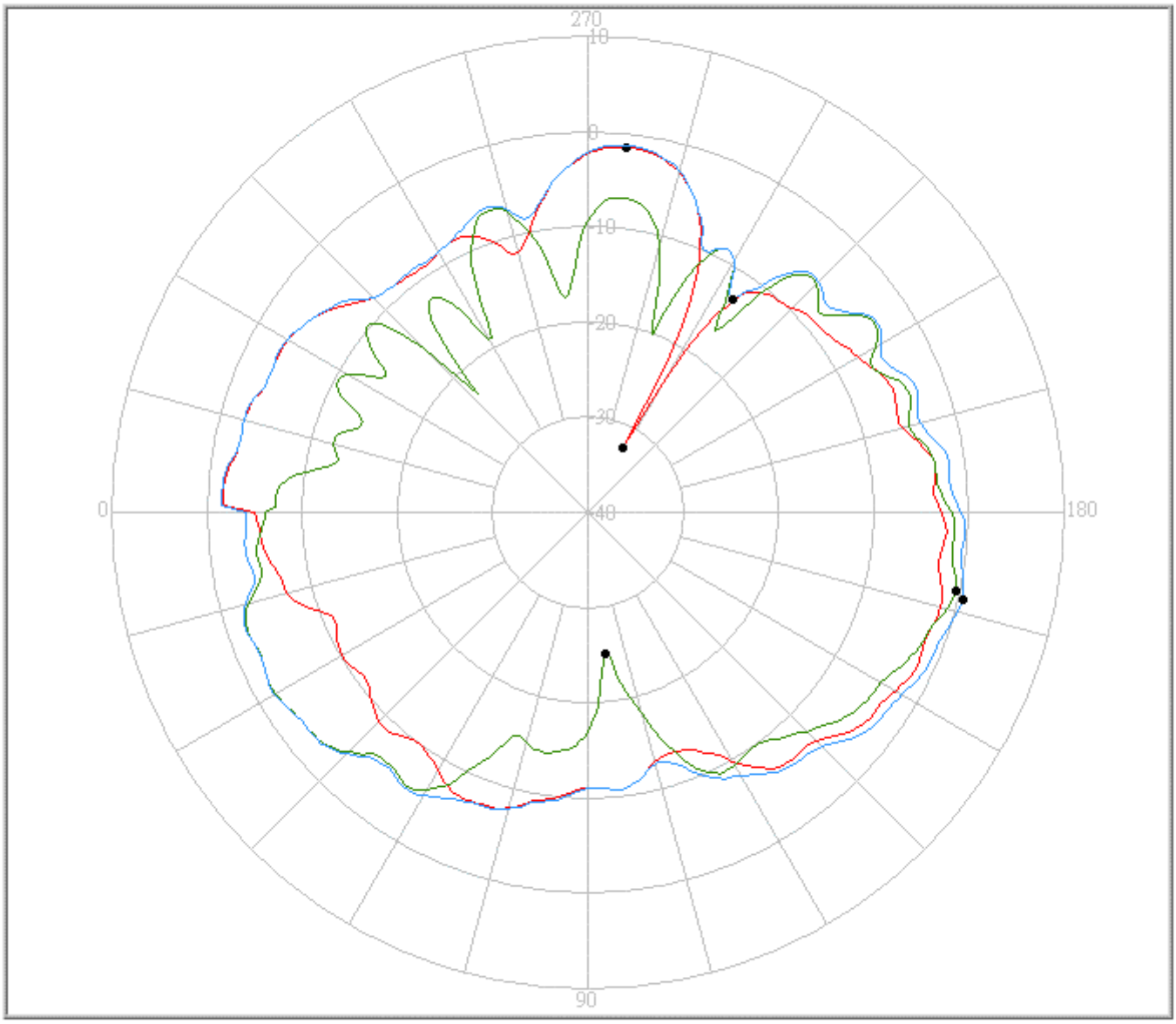
e. 5.25GHz

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	GT1W	Right	5250.00	-1.44 / 264.00	-32.35 / 241.00	-5.75	Ver.	2005/9/2
2	GT1W	Right	5250.00	-0.52 / 168.00	-25.14 / 97.00	-6.40	Hor.	2005/9/2
3	GT1W	Right	5250.00	0.38 / 167.00	-12.95 / 236.00	-4.16	V+H	2005/9/2

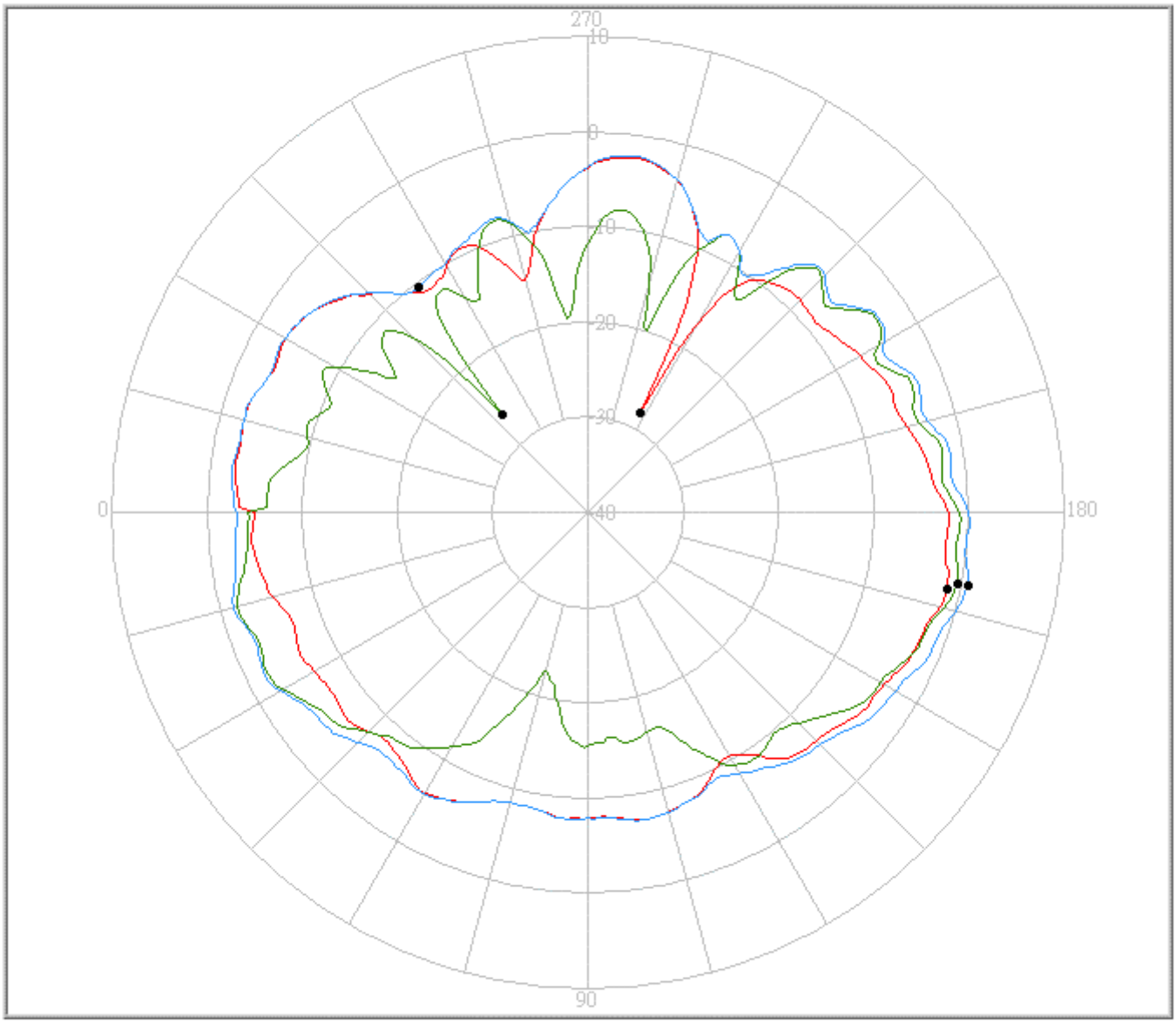
f. Hz. 5.35GHz

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	GT1W	Right	5350.00	-1.46 / 168.00	-28.12 / 242.00	-5.65	Ver.	2005/9/2
2	GT1W	Right	5350.00	-0.46 / 169.00	-26.35 / 311.00	-6.42	Hor.	2005/9/2
3	GT1W	Right	5350.00	0.59 / 169.00	-10.53 / 307.00	-4.19	V+H	2005/9/2

g. 5.47GHz

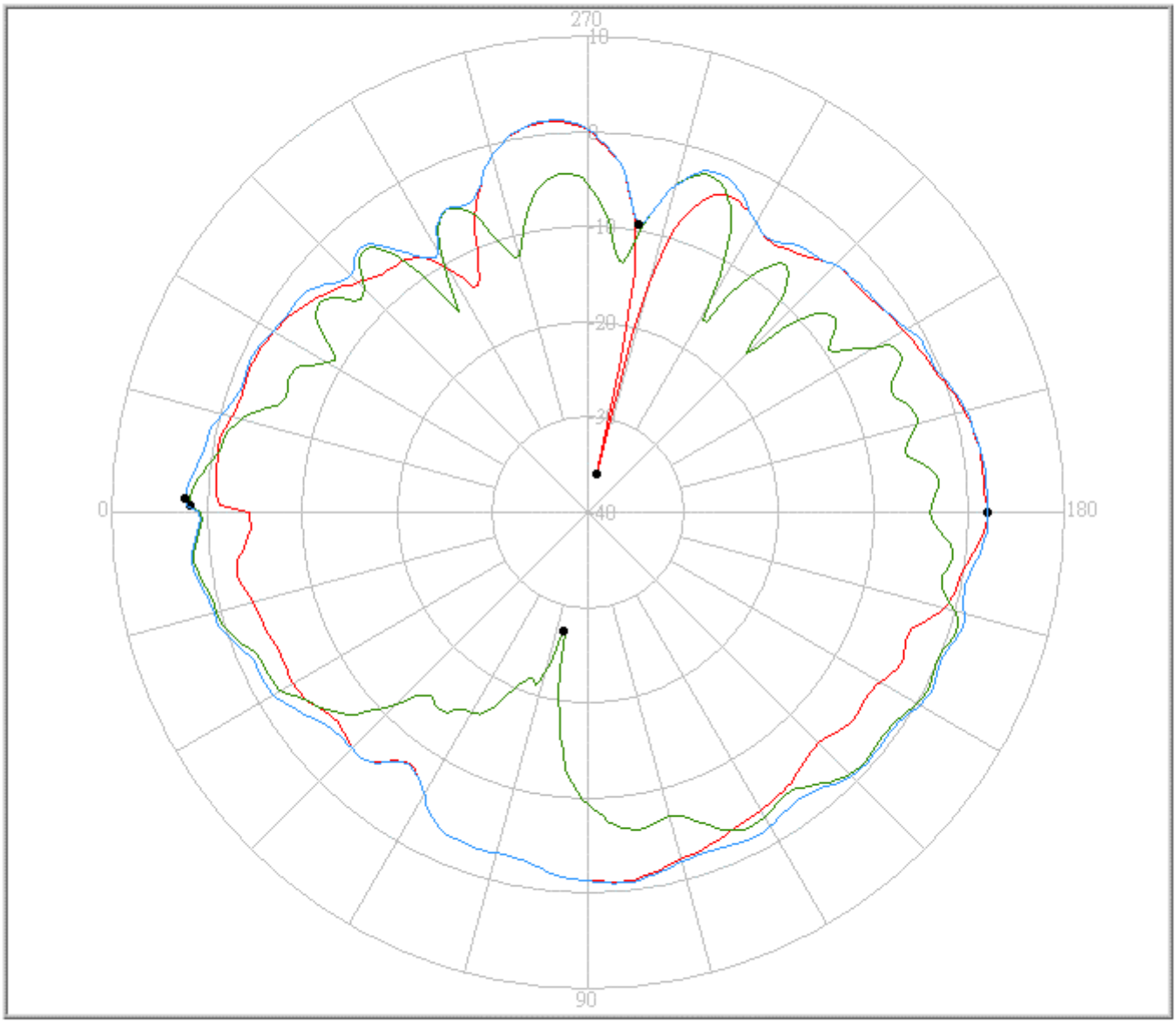
eService for Customer Satisfaction

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	GT1W	Right	5470.00	1.89 / 180.00	-35.88 / 257.00	-2.57	Ver.	2005/9/2
2	GT1W	Right	5470.00	1.77 / 359.00	-27.28 / 78.00	-3.91	Hor.	2005/9/2
3	GT1W	Right	5470.00	2.26 / 358.00	-9.36 / 260.00	-1.24	V+H	2005/9/2

h. 5.597GHz

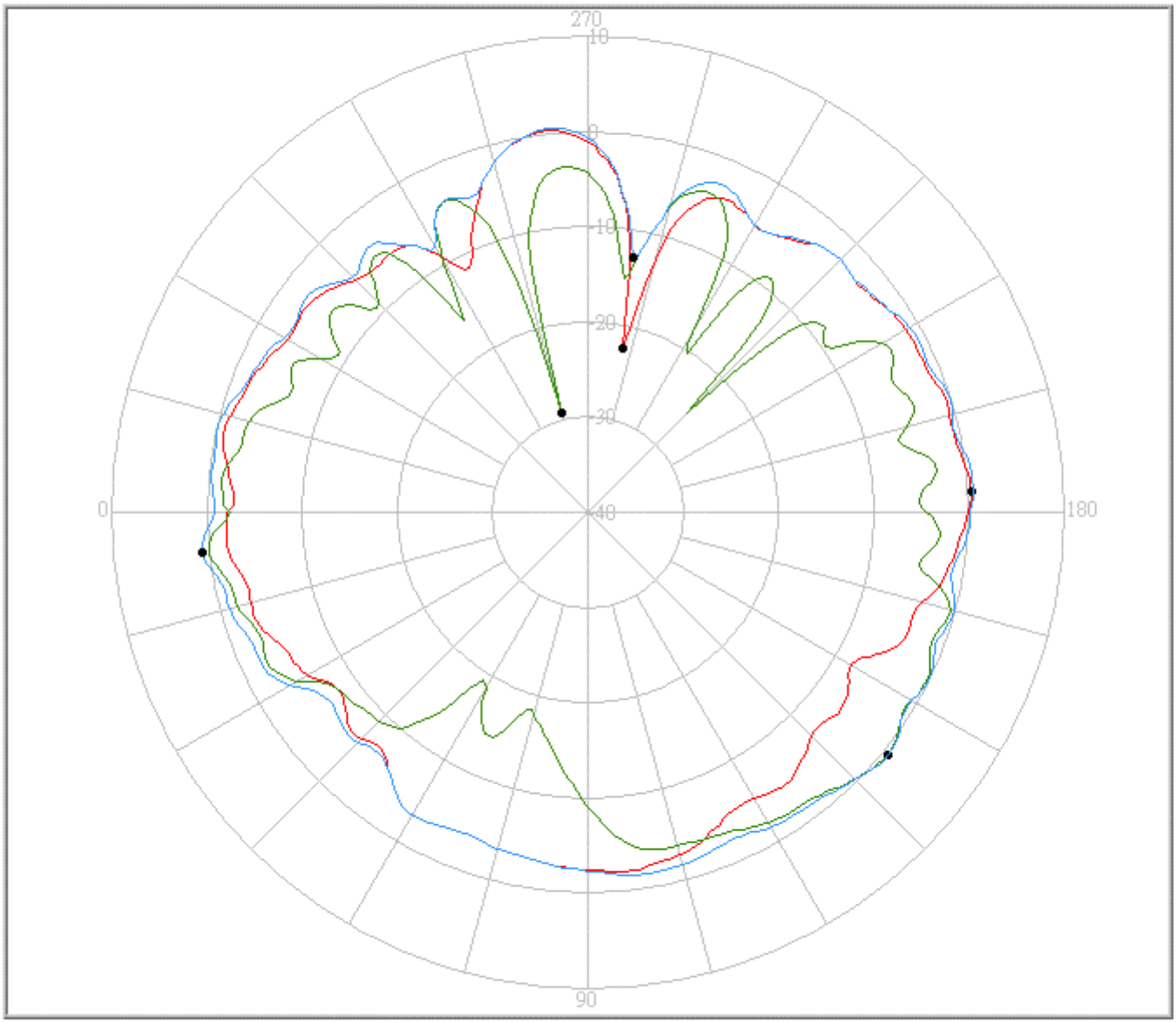
eService for Customer Satisfaction

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	GT1W	Right	5597.50	0.30 / 183.00	-22.37 / 258.00	-3.32	Ver.	2005/9/2
2	GT1W	Right	5597.50	0.48 / 141.00	-29.17 / 285.00	-4.54	Hor.	2005/9/2
3	GT1W	Right	5597.50	0.69 / 6.00	-12.79 / 260.00	-1.98	V+H	2005/9/2

i. 5.725GHz

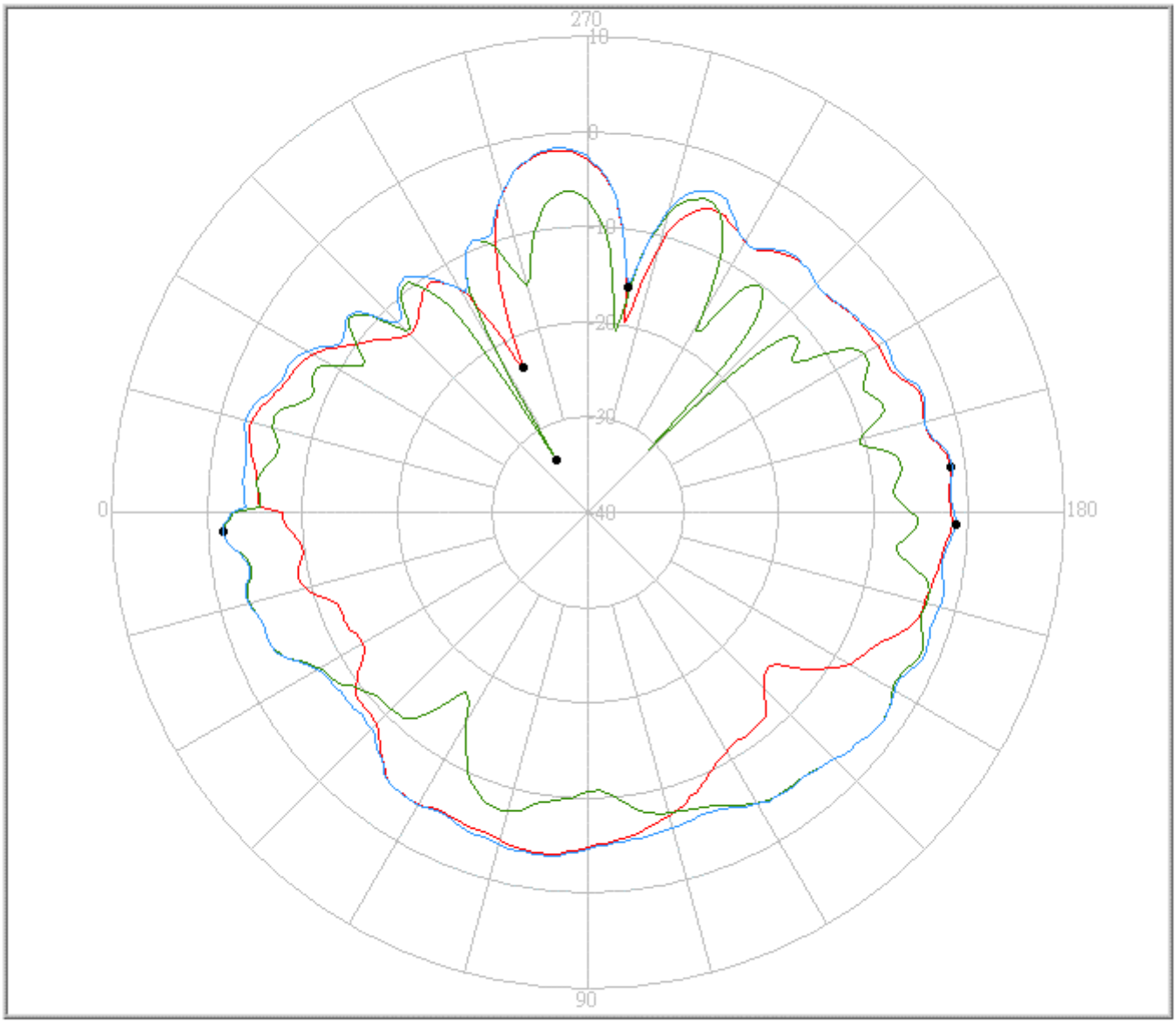
eService for Customer Satisfaction

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	GT1W	Right	5725.00	-1.56 / 187.00	-23.42 / 294.00	-6.00	Ver.	2005/9/2
2	GT1W	Right	5725.00	-1.75 / 3.00	-33.53 / 301.00	-6.77	Hor.	2005/9/2
3	GT1W	Right	5725.00	-1.38 / 178.00	-16.01 / 260.00	-4.37	V+H	2005/9/2

j. 5.785GHz

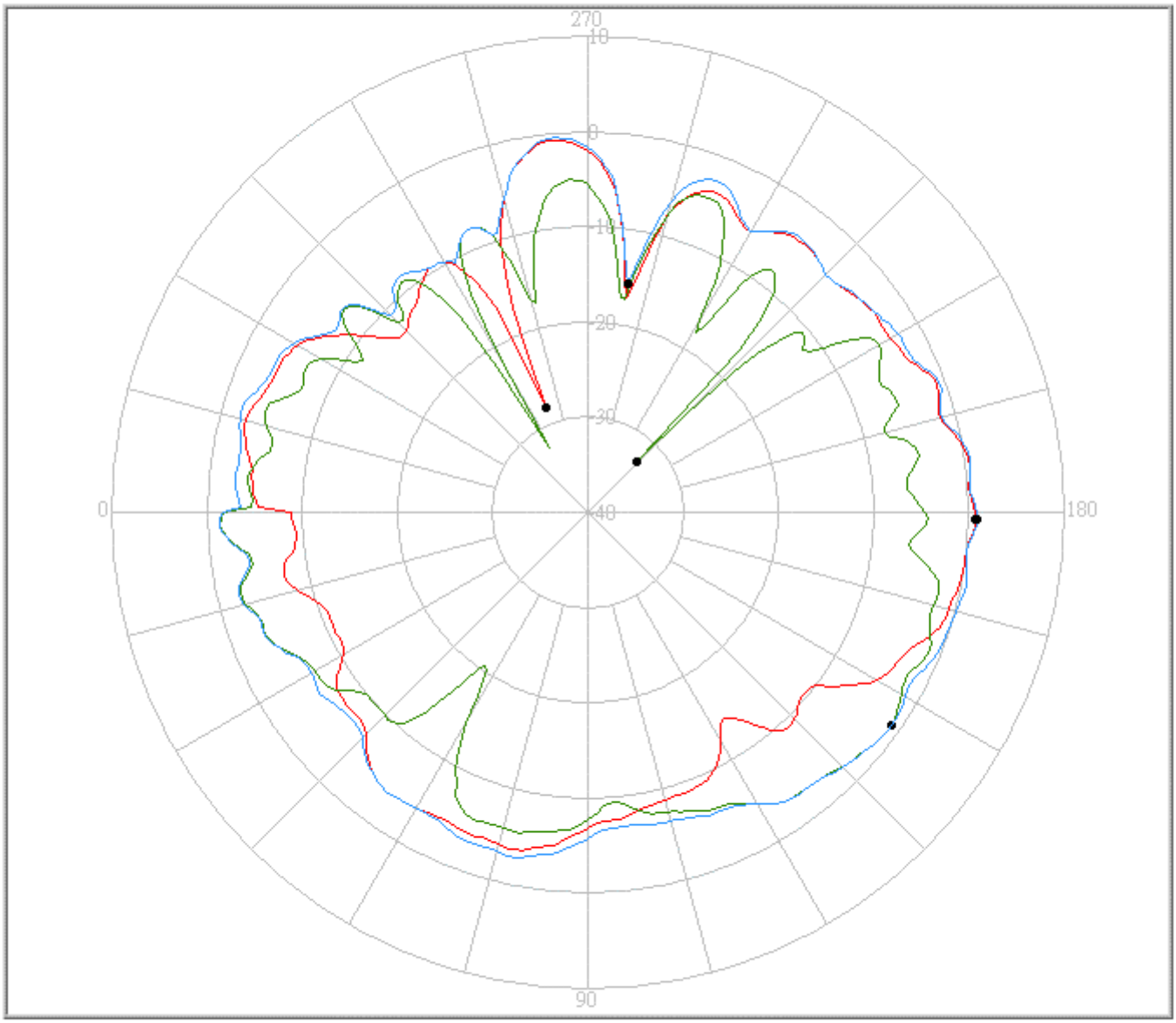
eService for Customer Satisfaction

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	GT1W	Right	5785.00	0.70 / 179.00	-28.05 / 292.00	-4.66	Ver.	2005/9/2
2	GT1W	Right	5785.00	-1.10 / 145.00	-32.69 / 226.00	-5.83	Hor.	2005/9/2
3	GT1W	Right	5785.00	0.90 / 179.00	-15.68 / 260.00	-3.26	V+H	2005/9/2

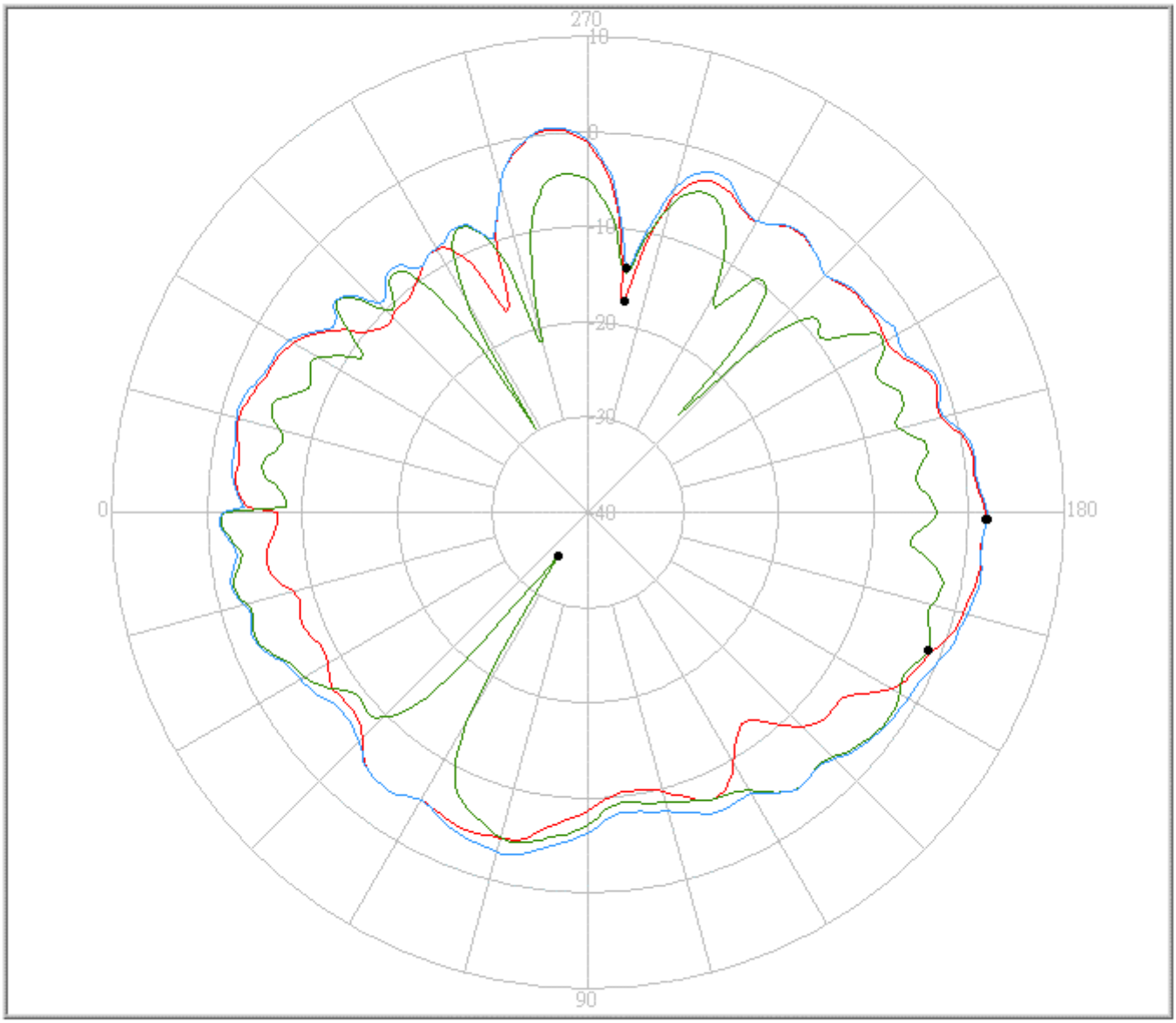
k. 5.85GHz

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	GT1W	Right	5850.00	1.80 / 179.00	-17.43 / 260.00	-3.92	Ver.	2005/9/2
2	GT1W	Right	5850.00	-1.52 / 158.00	-34.58 / 56.00	-5.78	Hor.	2005/9/2
3	GT1W	Right	5850.00	1.98 / 179.00	-13.99 / 261.00	-2.83	V+H	2005/9/2

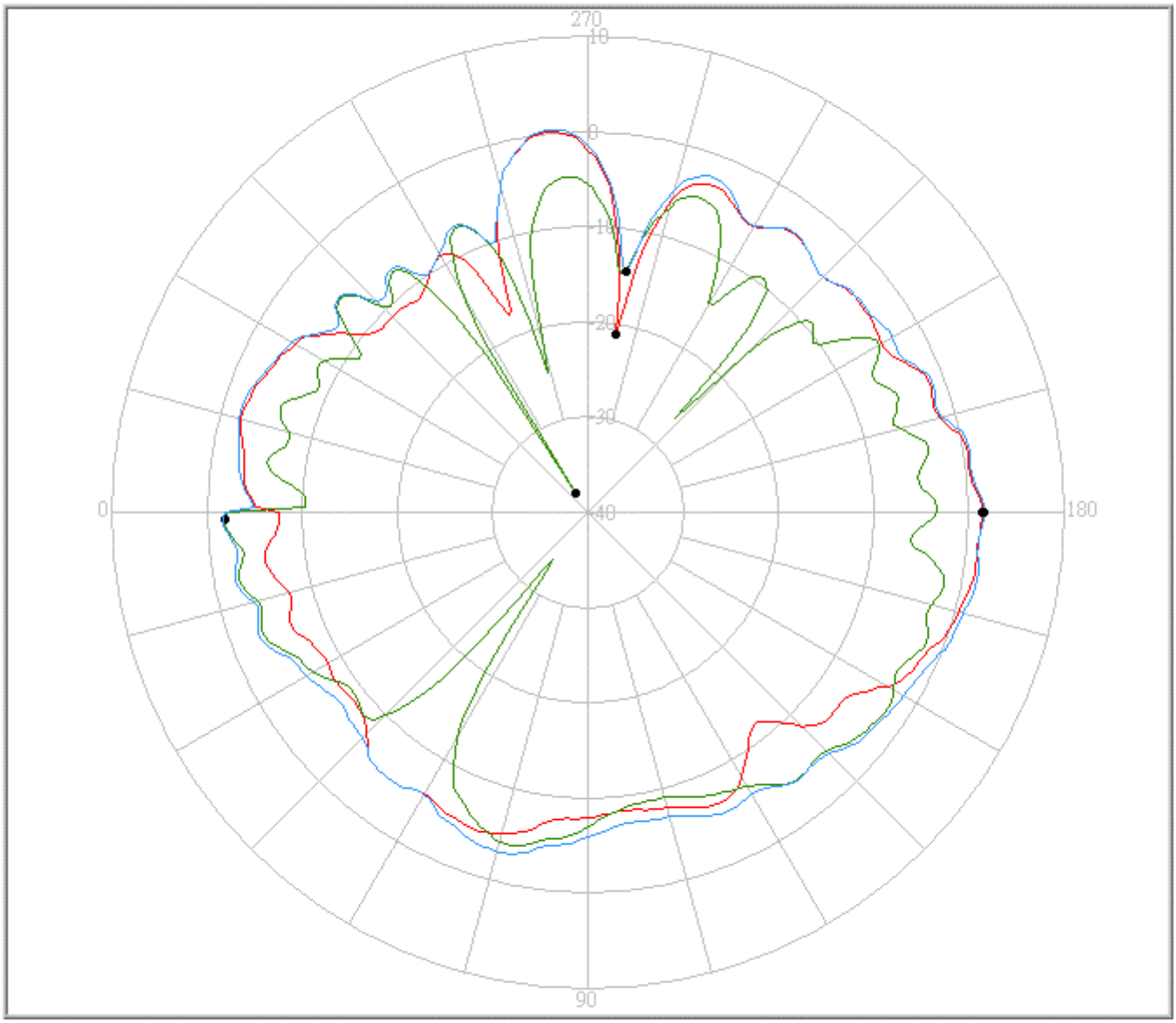
l. 5.875GHz

eService for Customer Satisfaction
FAVORTRON

FAVORTRON Co. Ltd

Antenna Pattern Measurement

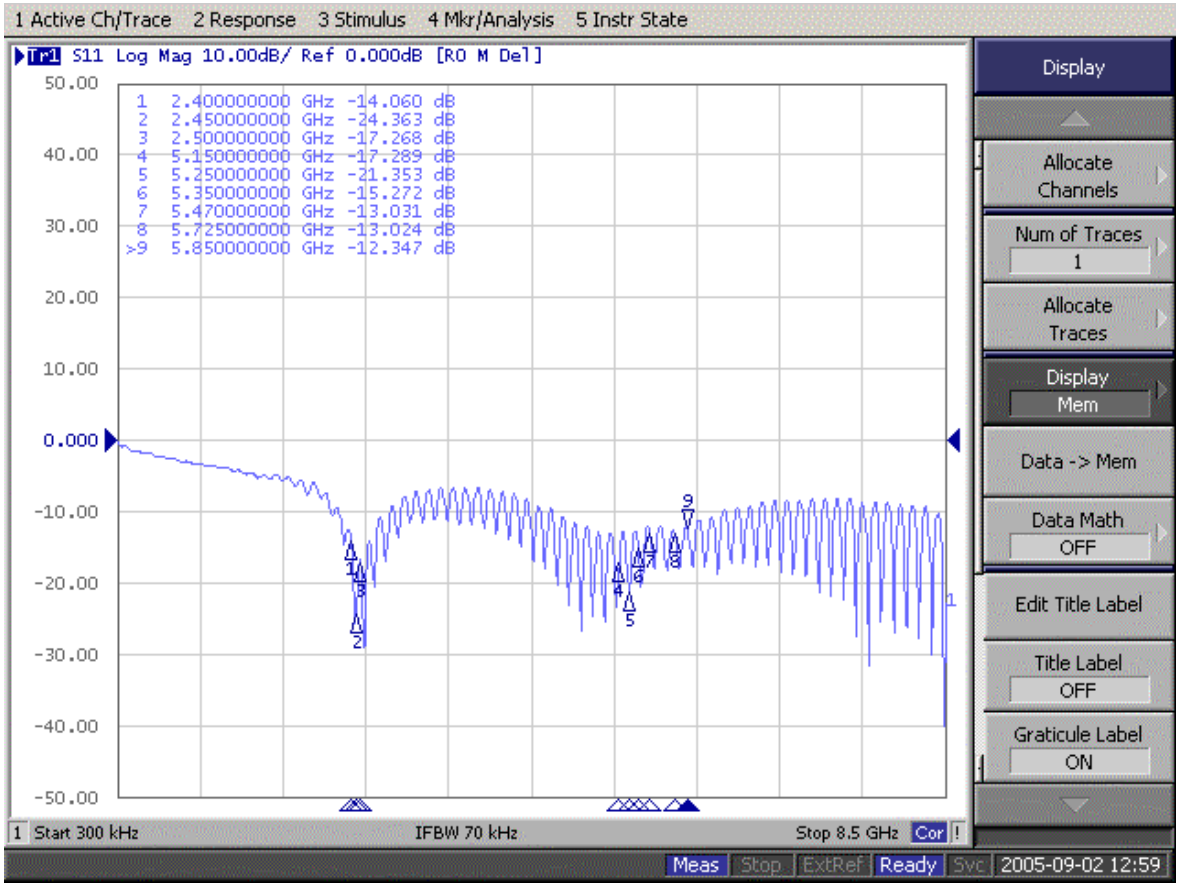
4F, No. 108-1, Min Chuan Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C. Tel:886-2-2218-2189,
Fax:886-2-2218-5760



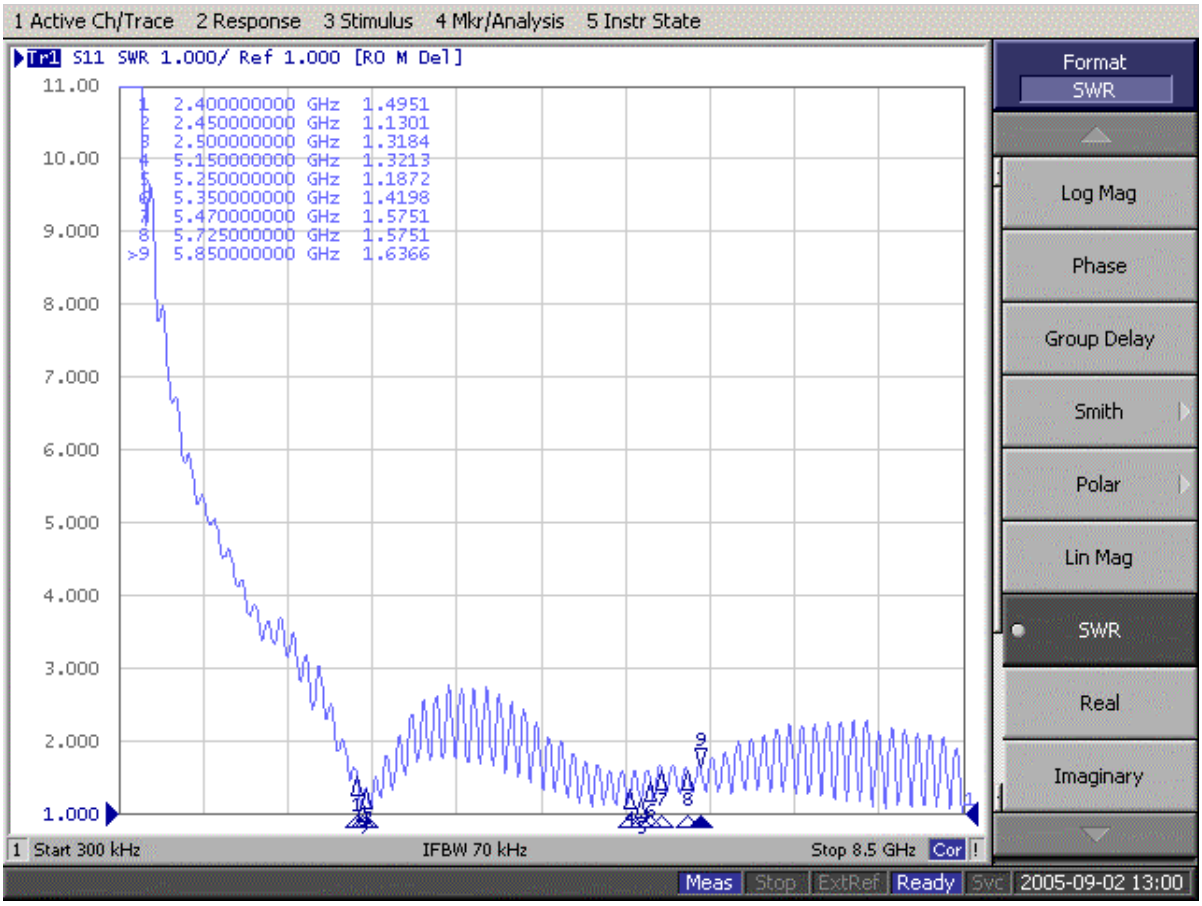
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	GT1W	Right	5875.00	1.43 / 180.00	-21.16 / 261.00	-4.22	Ver.	2005/9/2
2	GT1W	Right	5875.00	-1.83 / 1.00	-37.65 / 302.00	-6.17	Hor.	2005/9/2
3	GT1W	Right	5875.00	1.65 / 180.00	-14.34 / 261.00	-3.21	V+H	2005/9/2

5. WLAN Aux /Ant.(Left)

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



2.4~2.5GHZ & 5.15~5.875GHZ / VSWR



6. Gain & Pattern – W/L / Aux Ant. (Left)

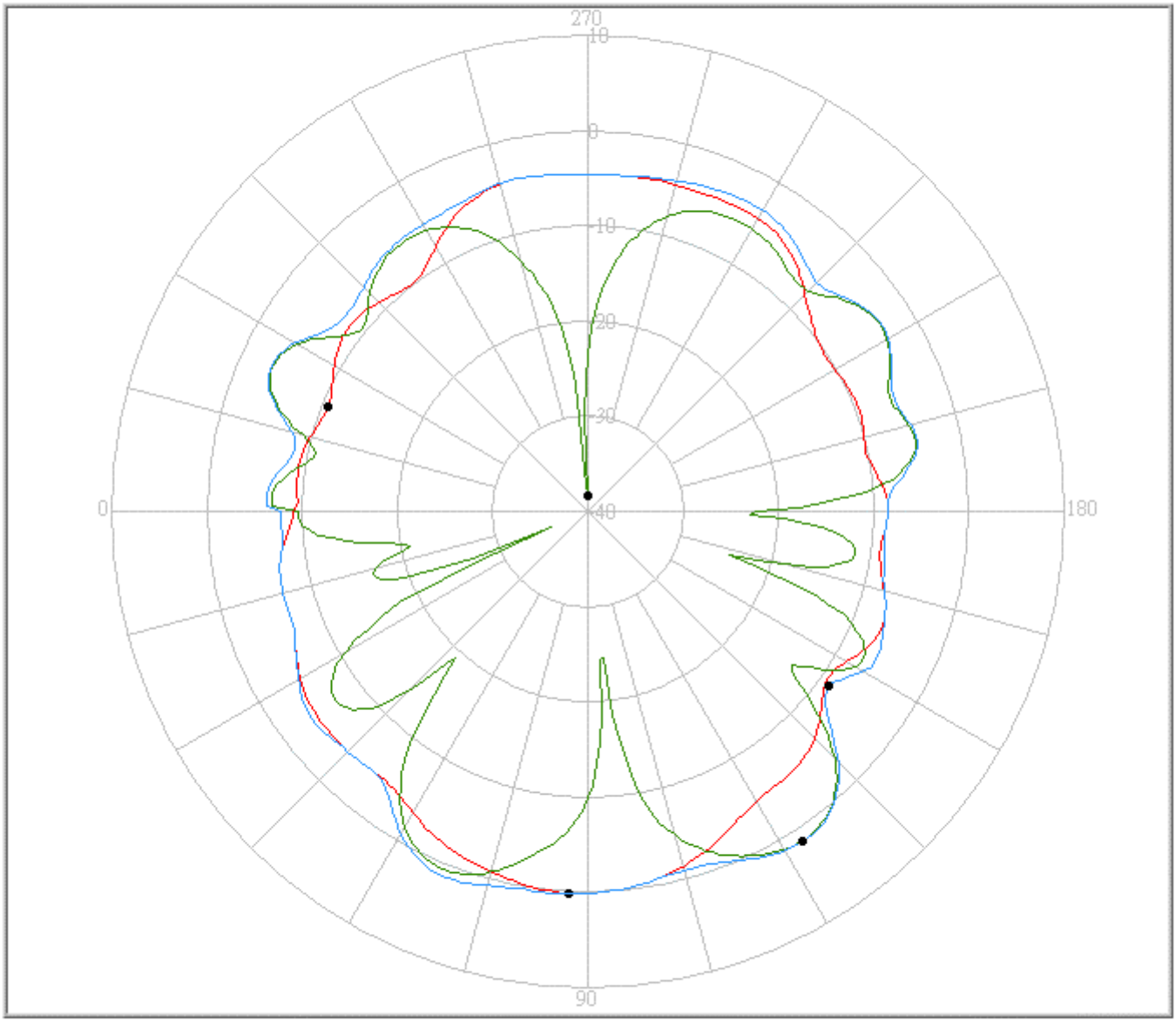
a. 2.4GHz

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	GT1W	Left	2400.00	0.14 / 87.00	-10.61 / 338.00	-5.15	Ver.	2005/9/2
2	GT1W	Left	2400.00	1.26 / 123.00	-38.39 / 273.00	-5.67	Hor.	2005/9/2
3	GT1W	Left	2400.00	1.37 / 123.00	-8.77 / 144.00	-3.43	V+H	2005/9/2

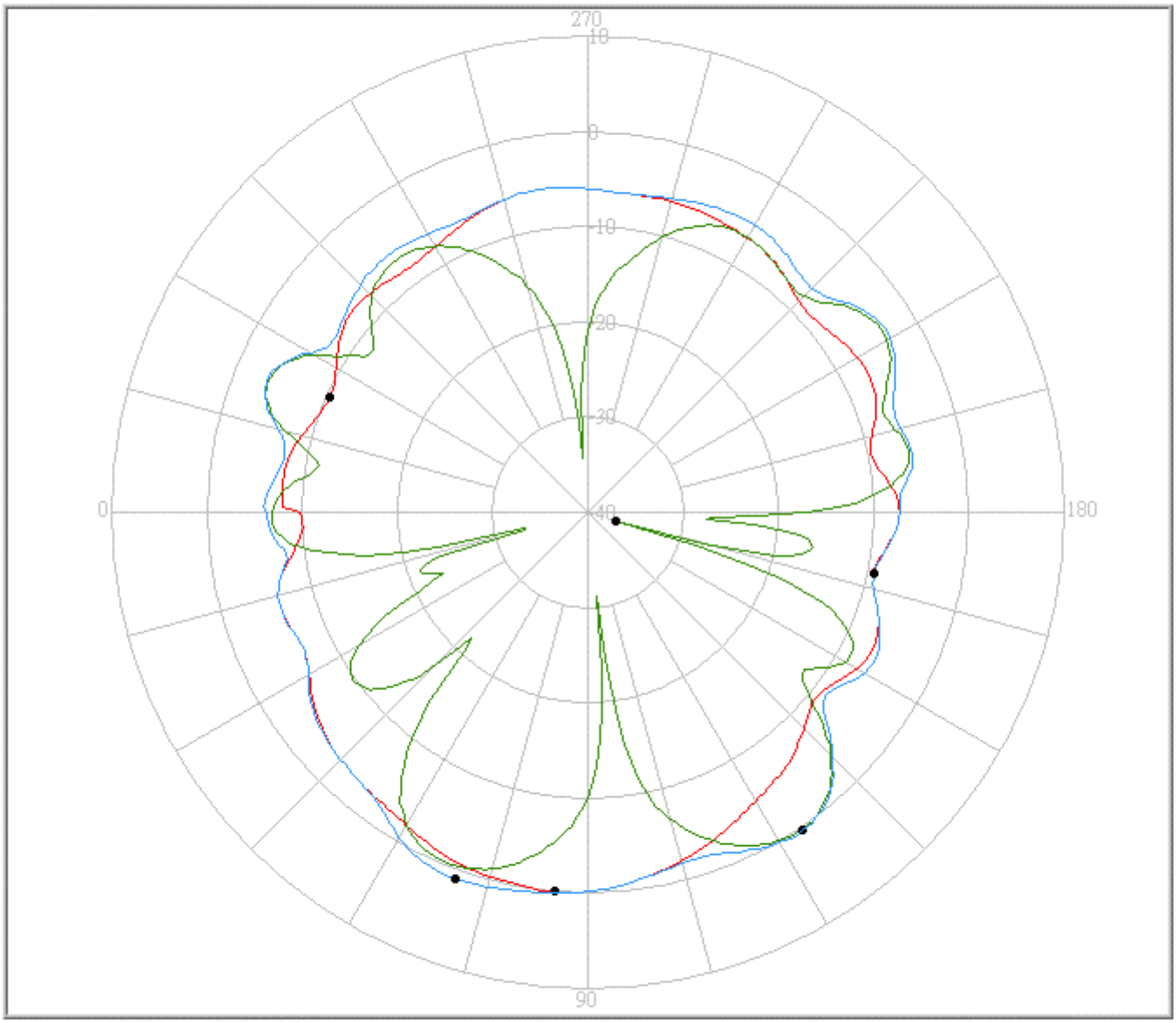
b. 2.45GHz

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	GT1W	Left	2450.00	-0.02 / 85.00	-10.40 / 336.00	-5.27	Ver.	2005/9/2
2	GT1W	Left	2450.00	0.16 / 124.00	-36.98 / 164.00	-6.49	Hor.	2005/9/2
3	GT1W	Left	2450.00	0.95 / 70.00	-9.29 / 168.00	-3.88	V+H	2005/9/2

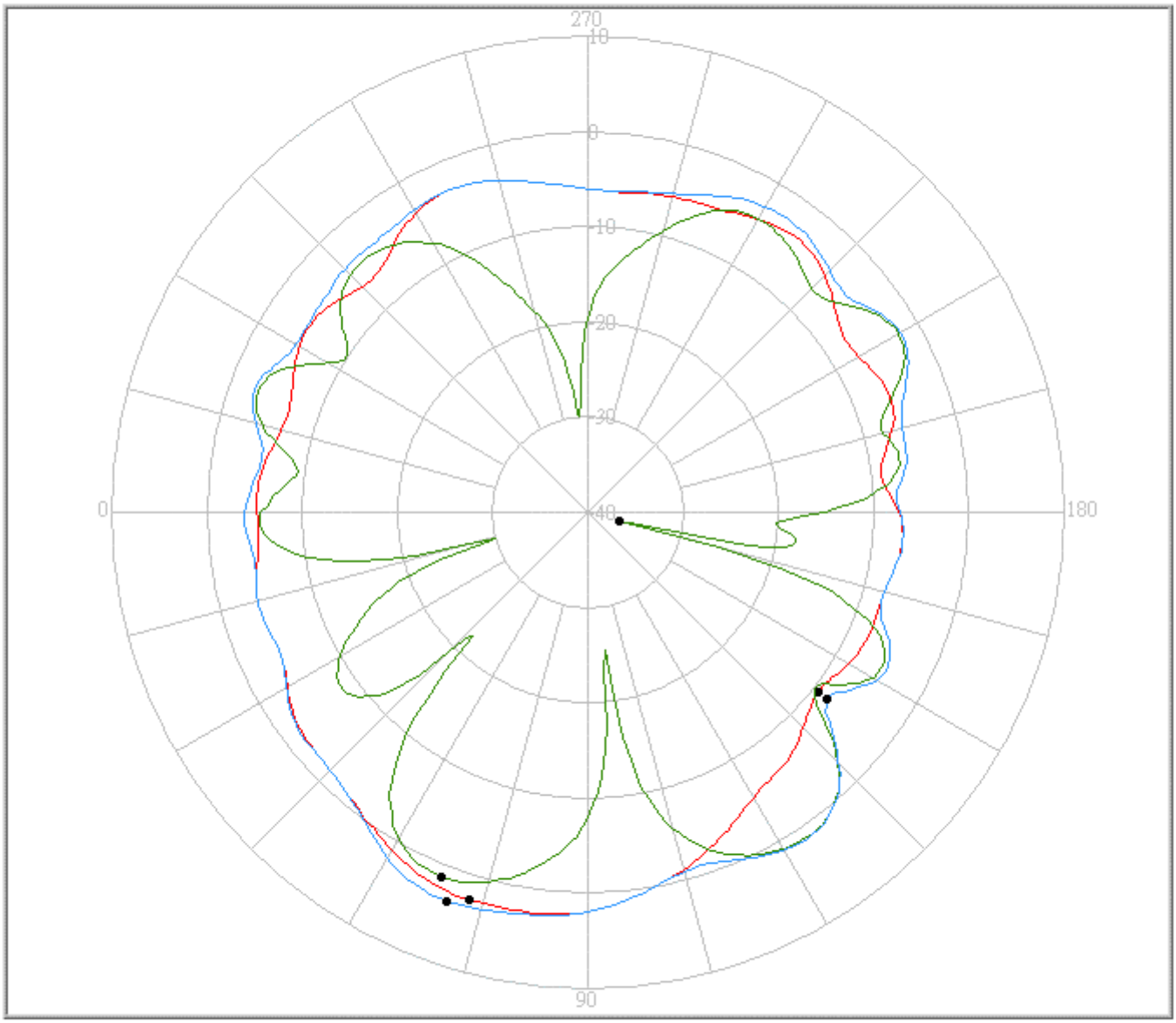
c. 2.5GHz

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	GT1W	Left	2500.00	2.56 / 73.00	-9.36 / 142.00	-3.27	Ver.	2005/9/2
2	GT1W	Left	2500.00	1.22 / 68.00	-36.52 / 166.00	-5.19	Hor.	2005/9/2
3	GT1W	Left	2500.00	2.42 / 70.00	-8.10 / 142.00	-2.14	V+H	2005/9/2

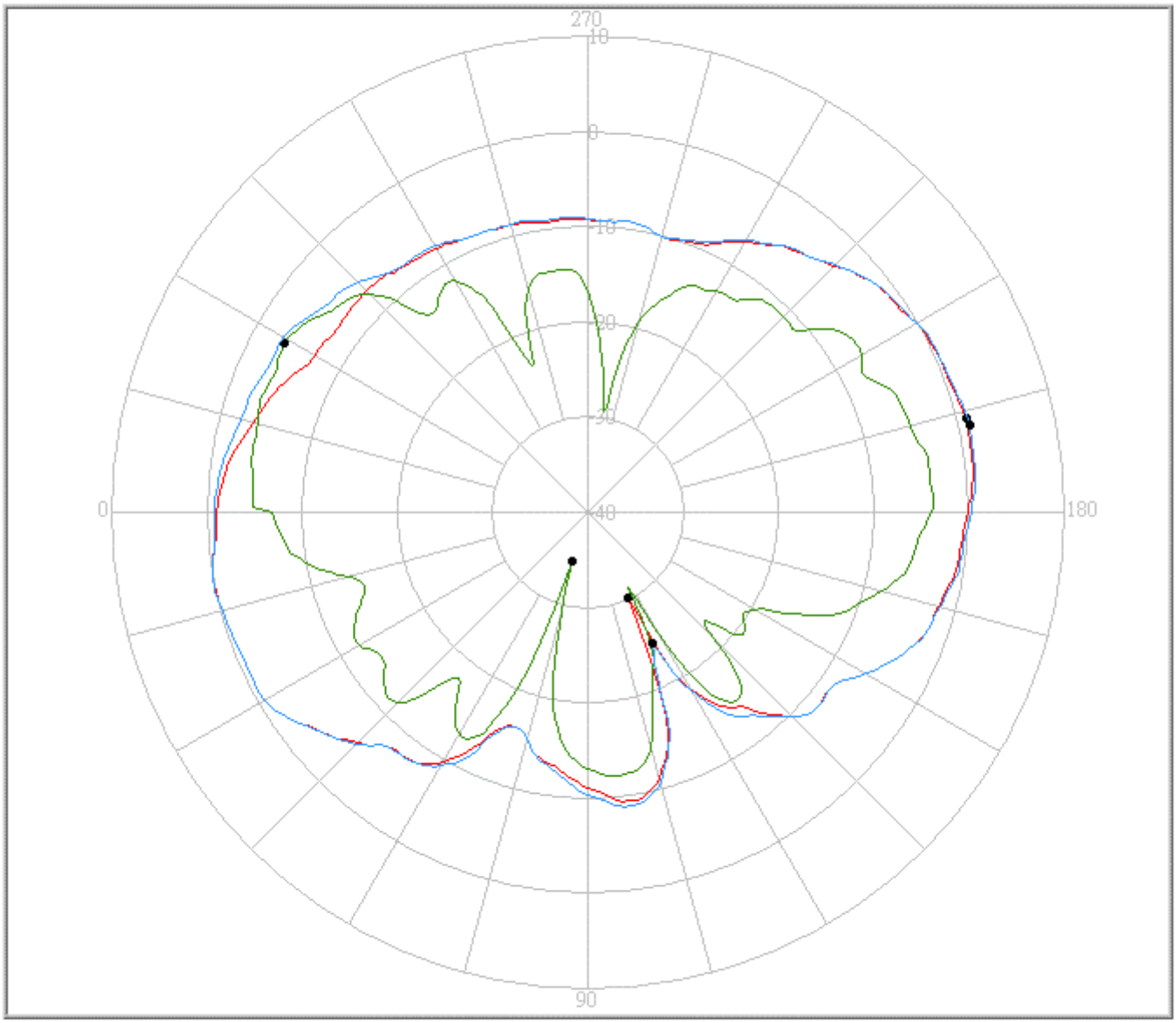
f. 5.15GHZ

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	GT1W	Left	5150.00	0.93 / 194.00	-30.13 / 115.00	-4.15	Ver.	2005/9/2
2	GT1W	Left	5150.00	-3.52 / 331.00	-34.58 / 72.00	-9.30	Hor.	2005/9/2
3	GT1W	Left	5150.00	1.08 / 193.00	-24.72 / 116.00	-3.82	V+H	2005/9/2

g. 5.25GHz

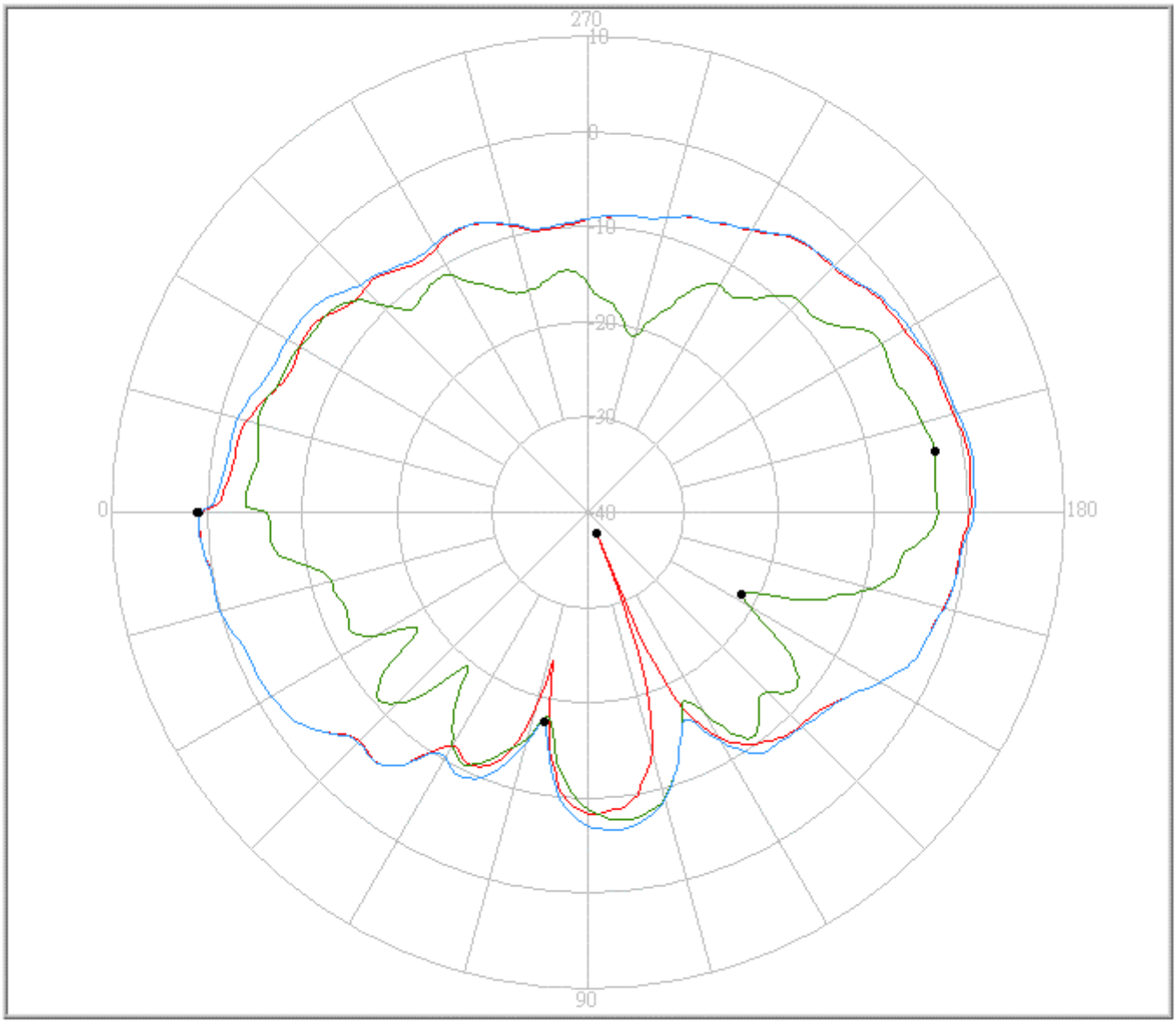
eService for Customer Satisfaction

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	GT1W	Left	5250.00	0.87 / 0.00	-37.71 / 112.00	-4.06	Ver.	2005/9/2
2	GT1W	Left	5250.00	-2.95 / 190.00	-21.71 / 152.00	-8.60	Hor.	2005/9/2
3	GT1W	Left	5250.00	0.95 / 0.00	-17.59 / 78.00	-3.67	V+H	2005/9/2

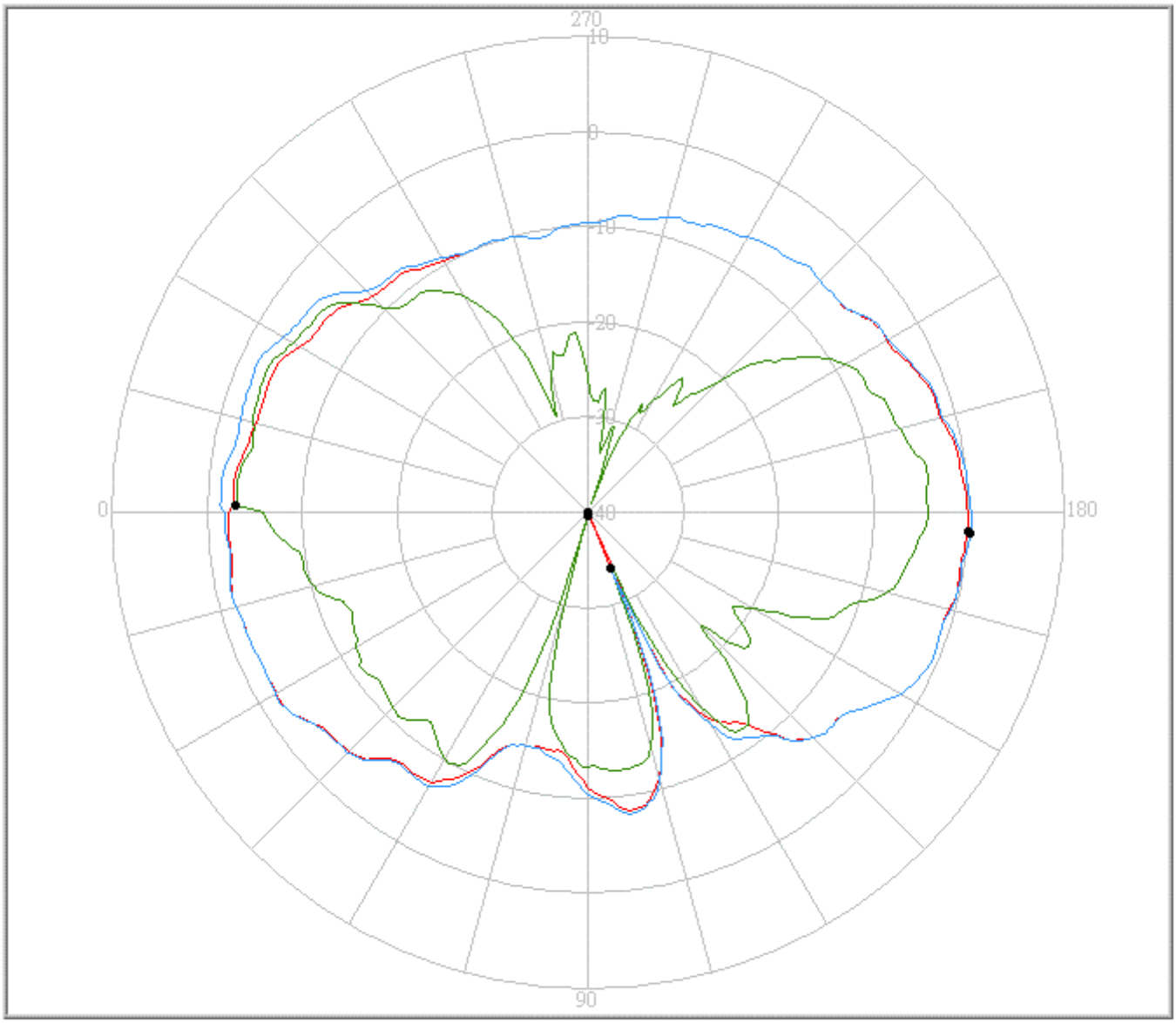
Hz. 5.35GHz

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	GT1W	Left	5350.00	0.01 / 177.00	-40.20 / 113.00	-4.69	Ver.	2005/9/2
2	GT1W	Left	5350.00	-3.08 / 359.00	-39.68 / 74.00	-9.43	Hor.	2005/9/2
3	GT1W	Left	5350.00	0.25 / 177.00	-33.68 / 113.00	-4.30	V+H	2005/9/2

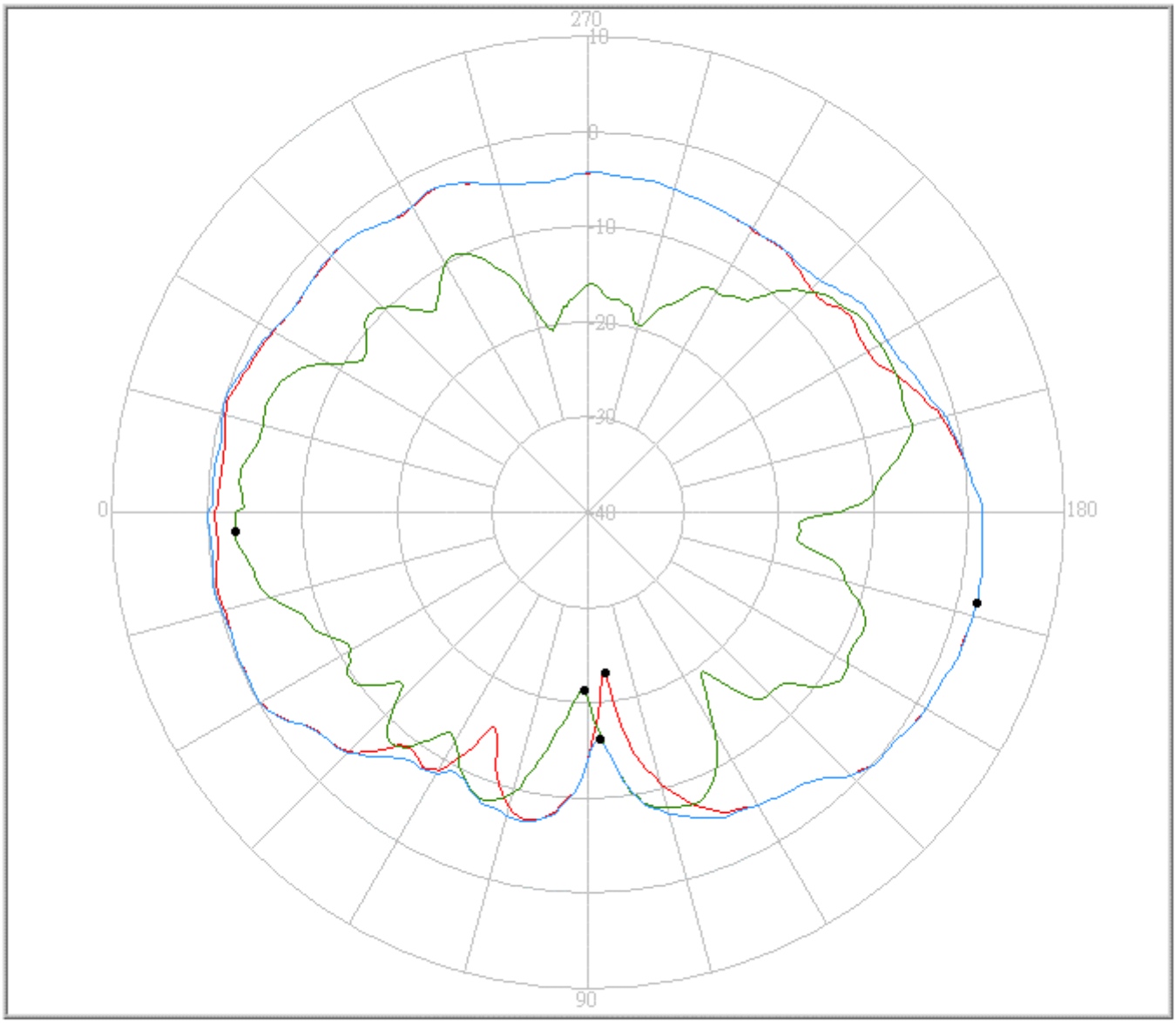
i. 5.47GHz

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	GT1W	Left	5470.00	1.95 / 167.00	-23.13 / 96.00	-2.48	Ver.	2005/9/2
2	GT1W	Left	5470.00	-2.93 / 3.00	-21.36 / 89.00	-8.63	Hor.	2005/9/2
3	GT1W	Left	5470.00	1.95 / 167.00	-16.11 / 93.00	-2.22	V+H	2005/9/2

j. 5.597GHz

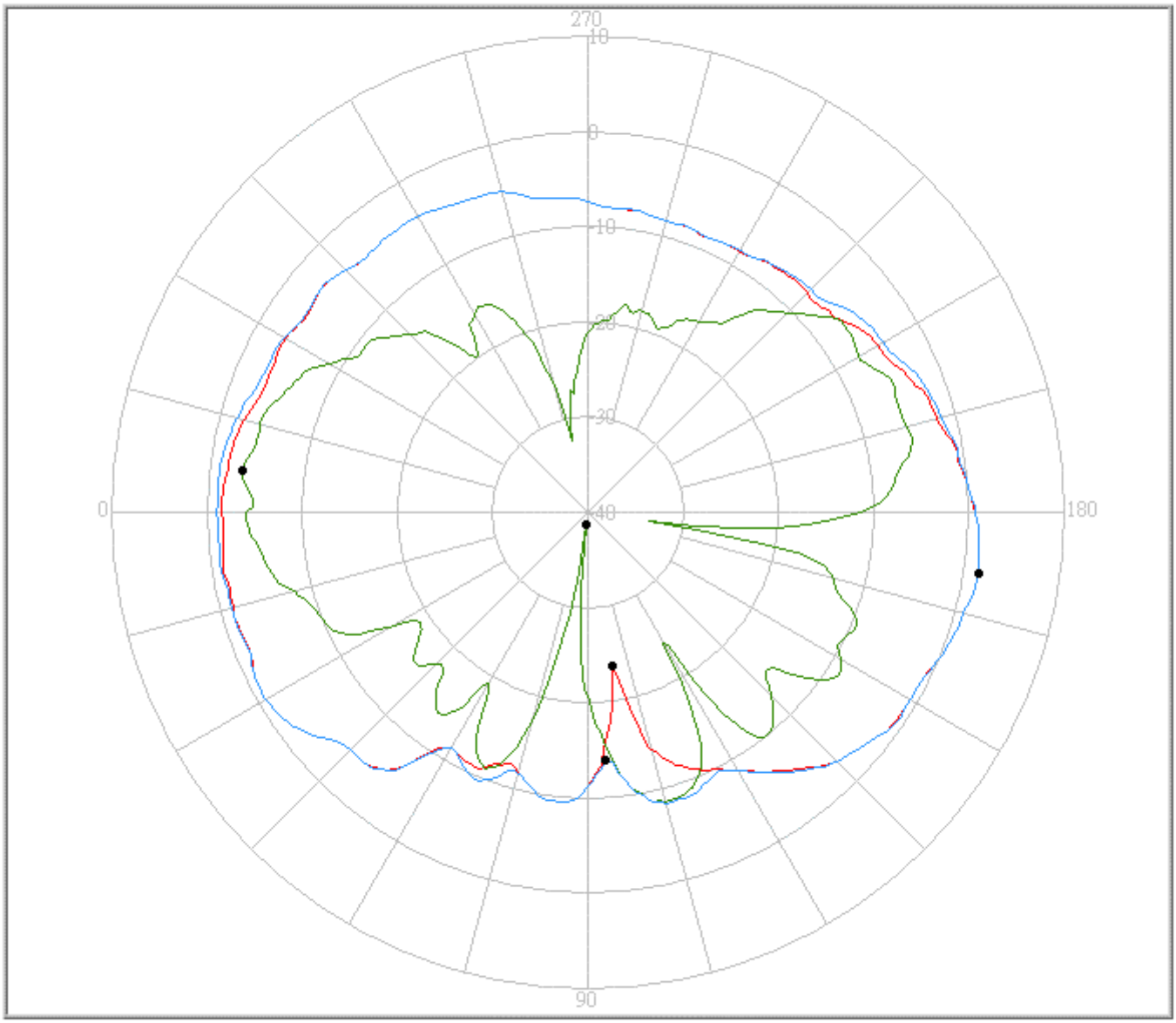
eService for Customer Satisfaction

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	GT1W	Left	5597.50	1.54 / 171.00	-23.62 / 99.00	-3.66	Ver.	2005/9/2
2	GT1W	Left	5597.50	-3.51 / 353.00	-38.63 / 83.00	-10.05	Hor.	2005/9/2
3	GT1W	Left	5597.50	1.54 / 171.00	-14.00 / 94.00	-3.43	V+H	2005/9/2

k. 5.725GHz

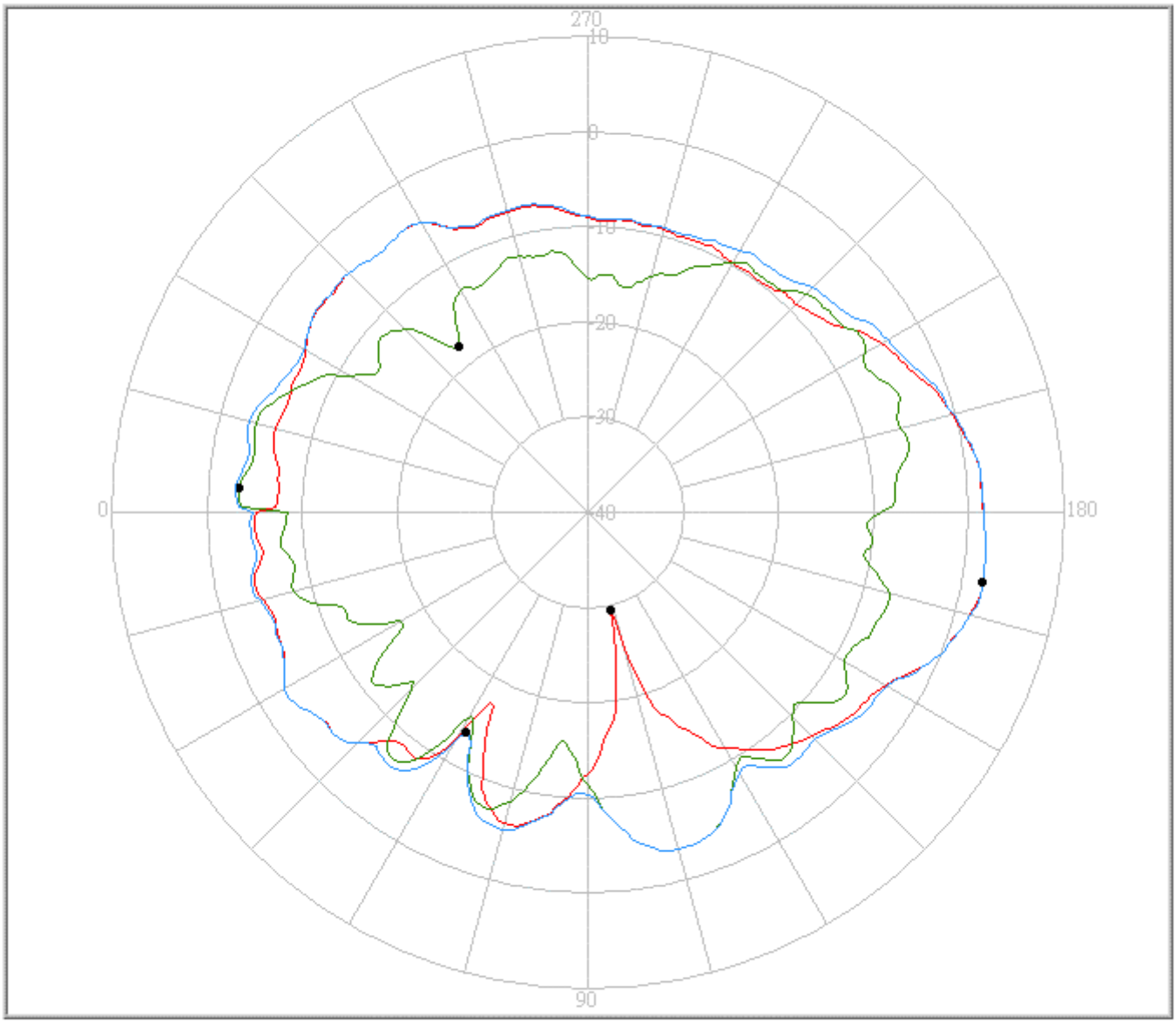
eService for Customer Satisfaction

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	GT1W	Left	5725.00	2.10 / 170.00	-29.56 / 103.00	-4.64	Ver.	2005/9/2
2	GT1W	Left	5725.00	-3.20 / 356.00	-17.90 / 308.00	-8.38	Hor.	2005/9/2
3	GT1W	Left	5725.00	2.10 / 170.00	-13.68 / 61.00	-3.91	V+H	2005/9/2

l. 5.785GHz

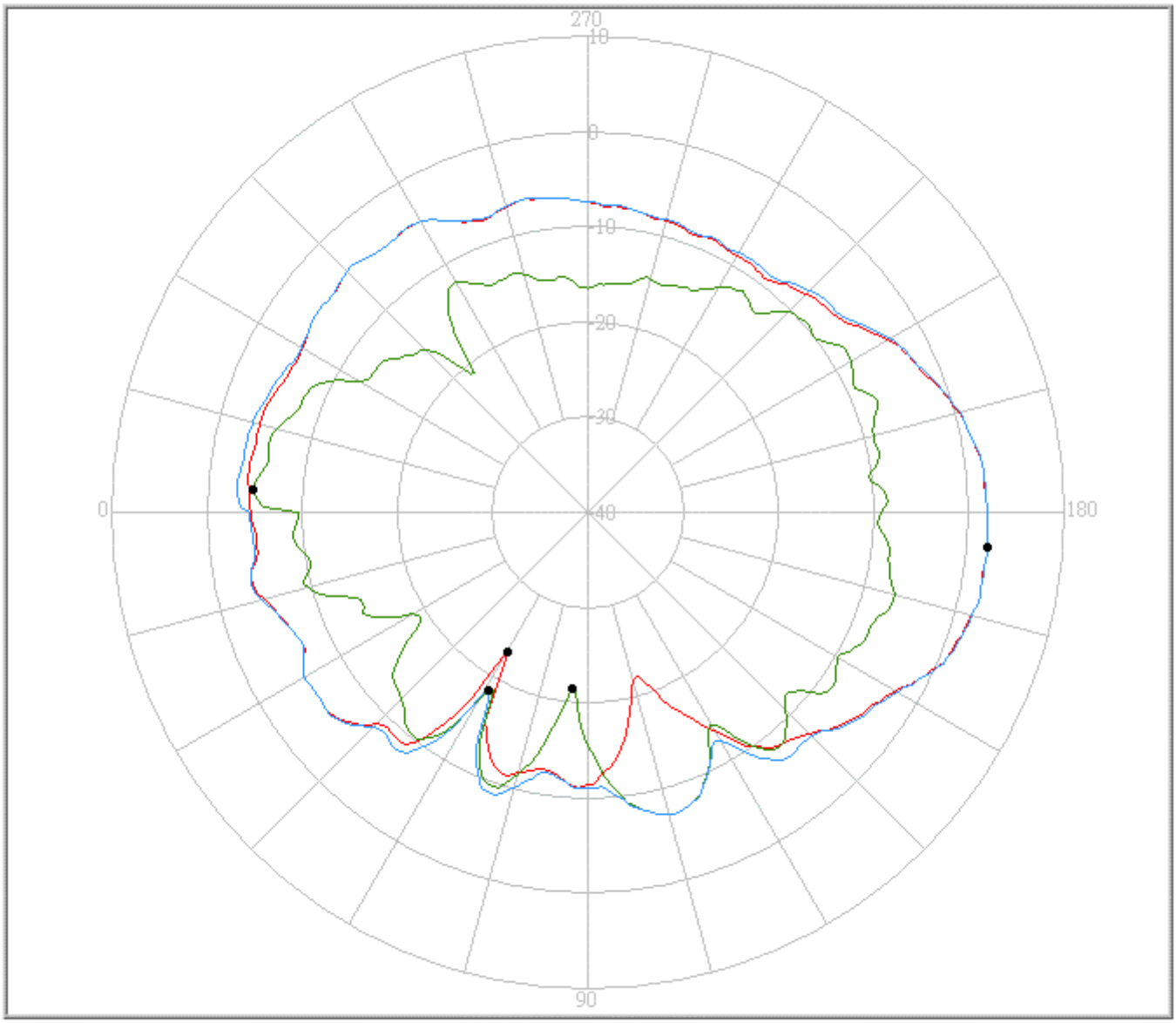
eService for Customer Satisfaction

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	GT1W	Left	5785.00	2.13 / 175.00	-23.10 / 60.00	-4.36	Ver.	2005/9/2
2	GT1W	Left	5785.00	-4.82 / 356.00	-21.40 / 85.00	-10.37	Hor.	2005/9/2
3	GT1W	Left	5785.00	2.14 / 175.00	-18.56 / 61.00	-4.08	V+H	2005/9/2

m. 5.85GHz

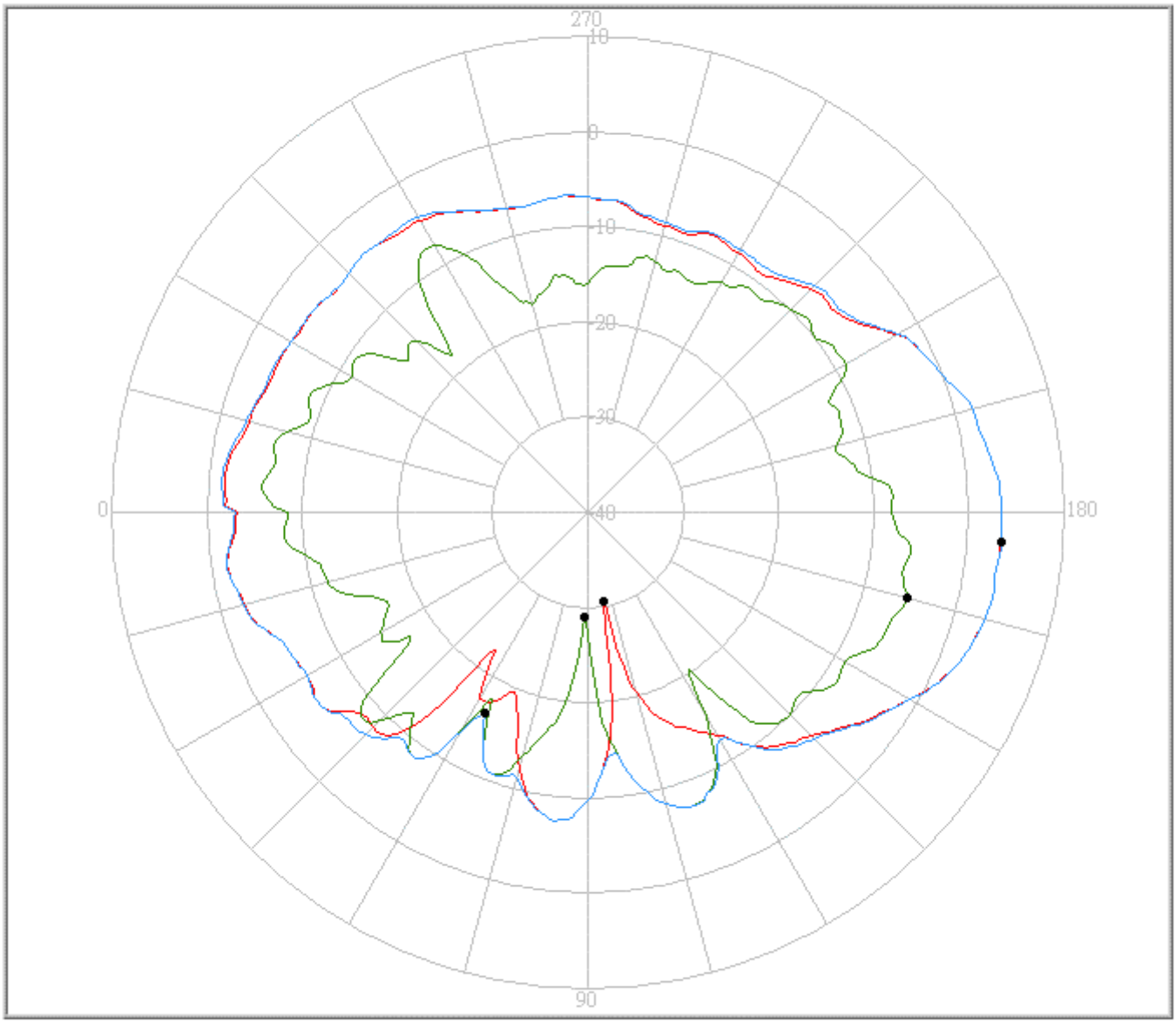
eService for Customer Satisfaction

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	GT1W	Left	5850.00	3.54 / 176.00	-30.54 / 100.00	-3.20	Ver.	2005/9/2
2	GT1W	Left	5850.00	-5.28 / 165.00	-29.08 / 88.00	-10.27	Hor.	2005/9/2
3	GT1W	Left	5850.00	3.55 / 176.00	-16.33 / 63.00	-3.00	V+H	2005/9/2

n. 5.875GHz

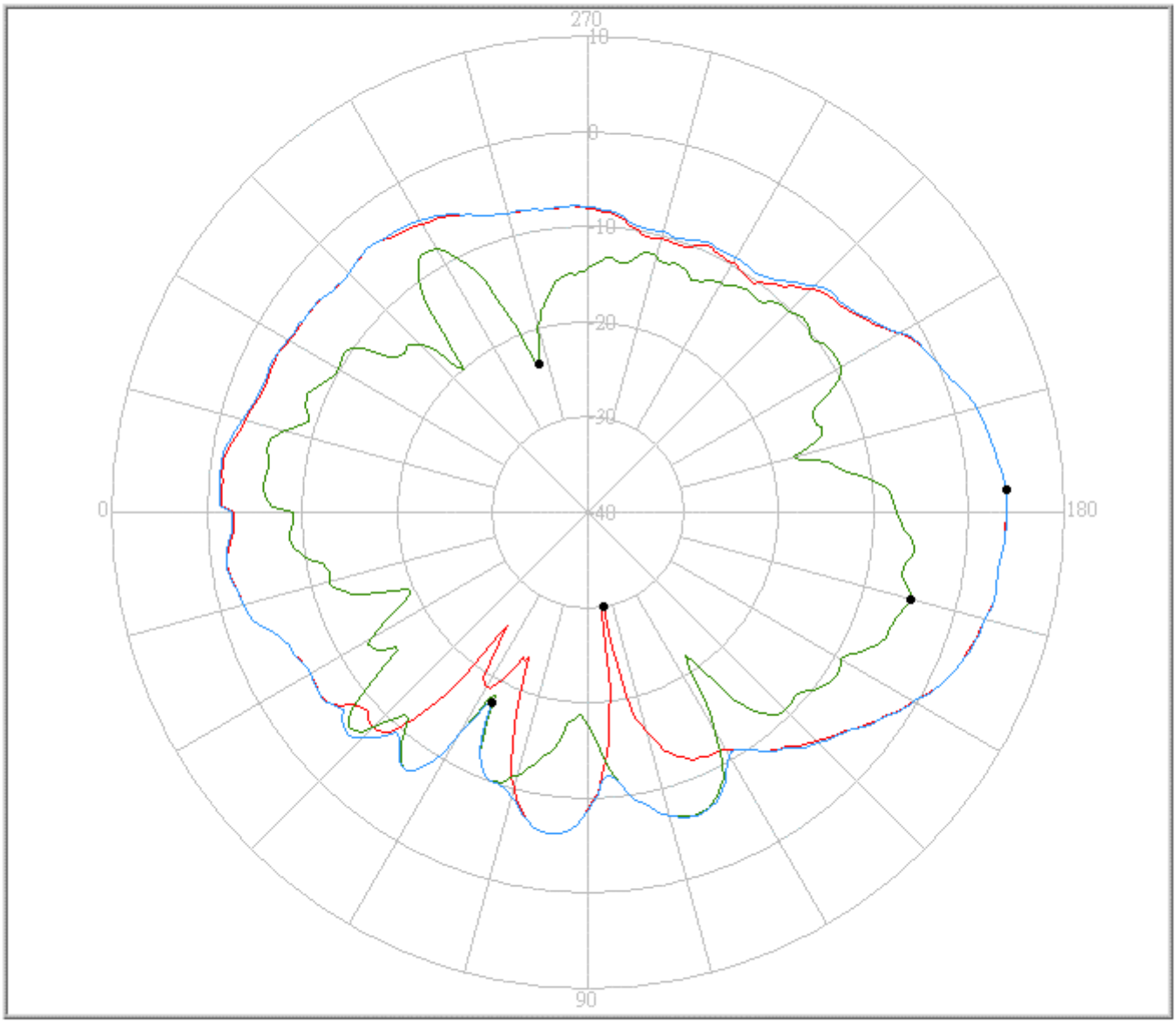
eService for Customer Satisfaction

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	GT1W	Left	5875.00	4.02 / 183.00	-29.98 / 99.00	-2.93	Ver.	2005/9/2
2	GT1W	Left	5875.00	-4.93 / 165.00	-23.66 / 288.00	-10.00	Hor.	2005/9/2
3	GT1W	Left	5875.00	4.03 / 183.00	-17.65 / 63.00	-2.70	V+H	2005/9/2

7. Diversity

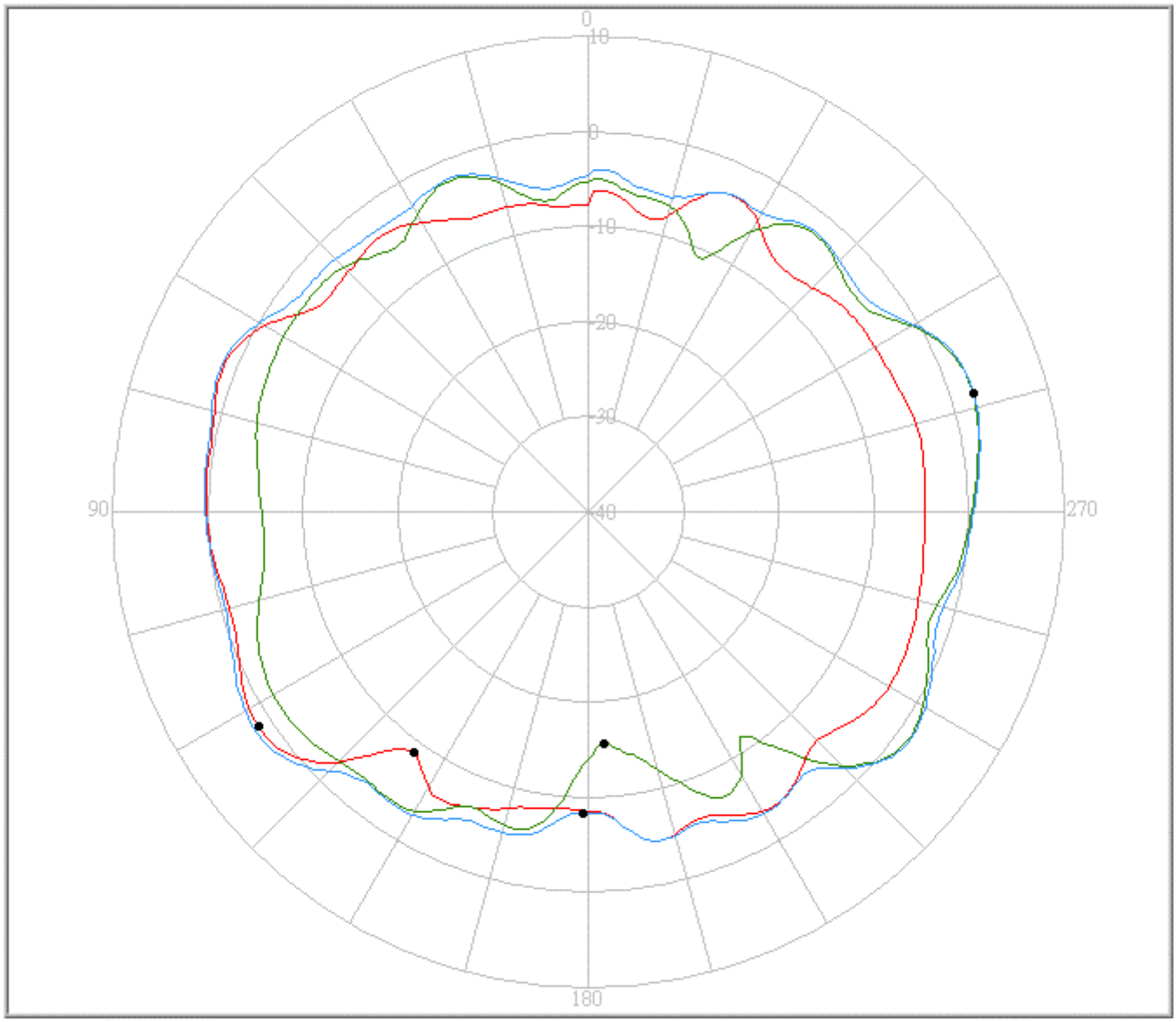
a. 2.400GHz

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	GT1W	Left	2400.00	1.37 / 123.00	-8.77 / 144.00	-3.43	V+H	2005/9/2
2	GT1W	Right	2400.00	2.29 / 287.00	-15.60 / 184.00	-3.01	V+H	2005/9/2
3	GT1W	Div	2400.00	2.39 / 287.00	-8.32 / 179.00	-1.34	Div.	2005/9/2

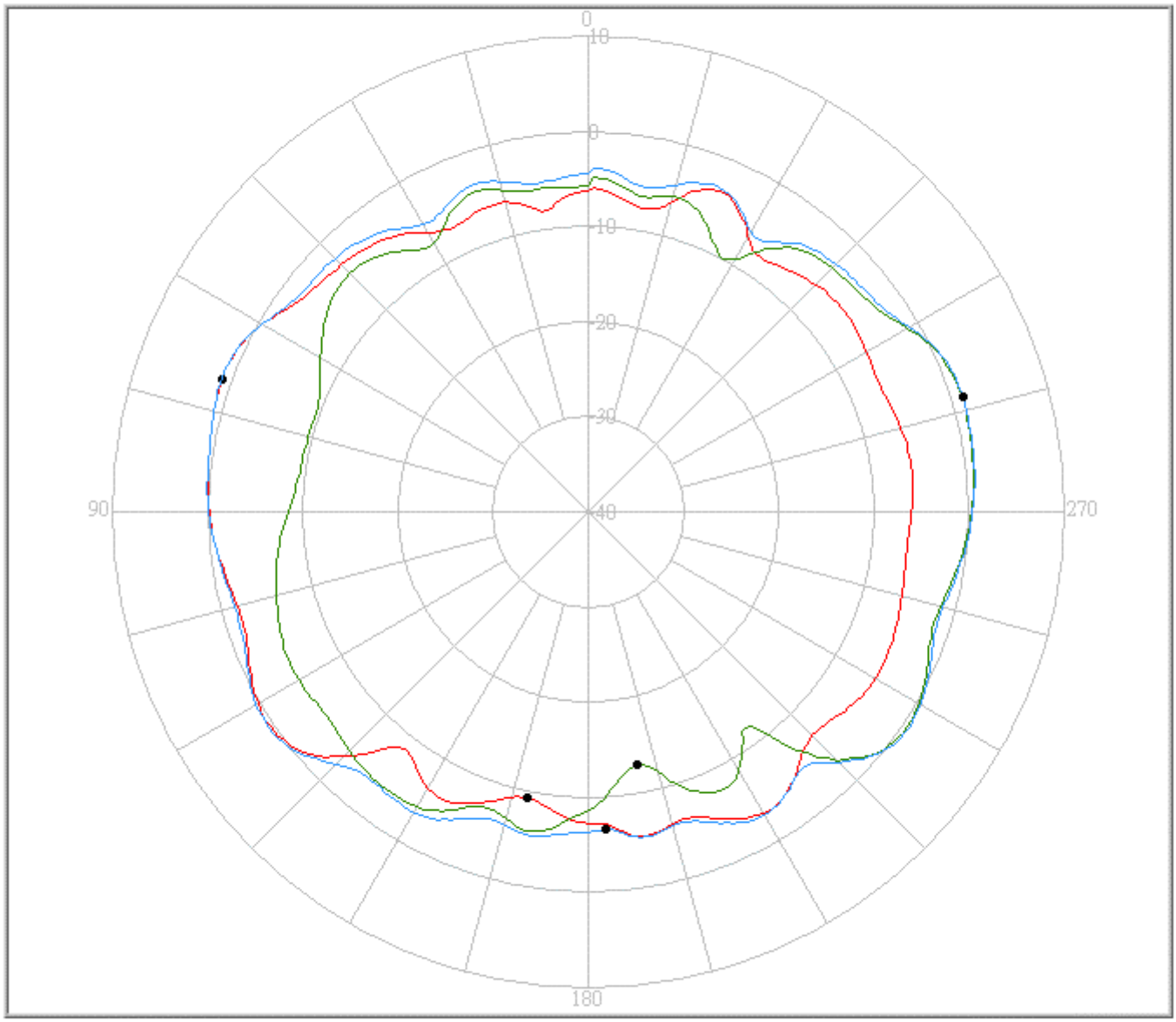
b. 2.450GHz

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	GT1W	Left	2450.00	0.95 / 70.00	-9.29 / 168.00	-3.88	V+H	2005/9/2
2	GT1W	Right	2450.00	1.08 / 287.00	-12.91 / 191.00	-4.00	V+H	2005/9/2
3	GT1W	Div	2450.00	1.16 / 287.00	-6.55 / 183.00	-1.92	Div.	2005/9/2

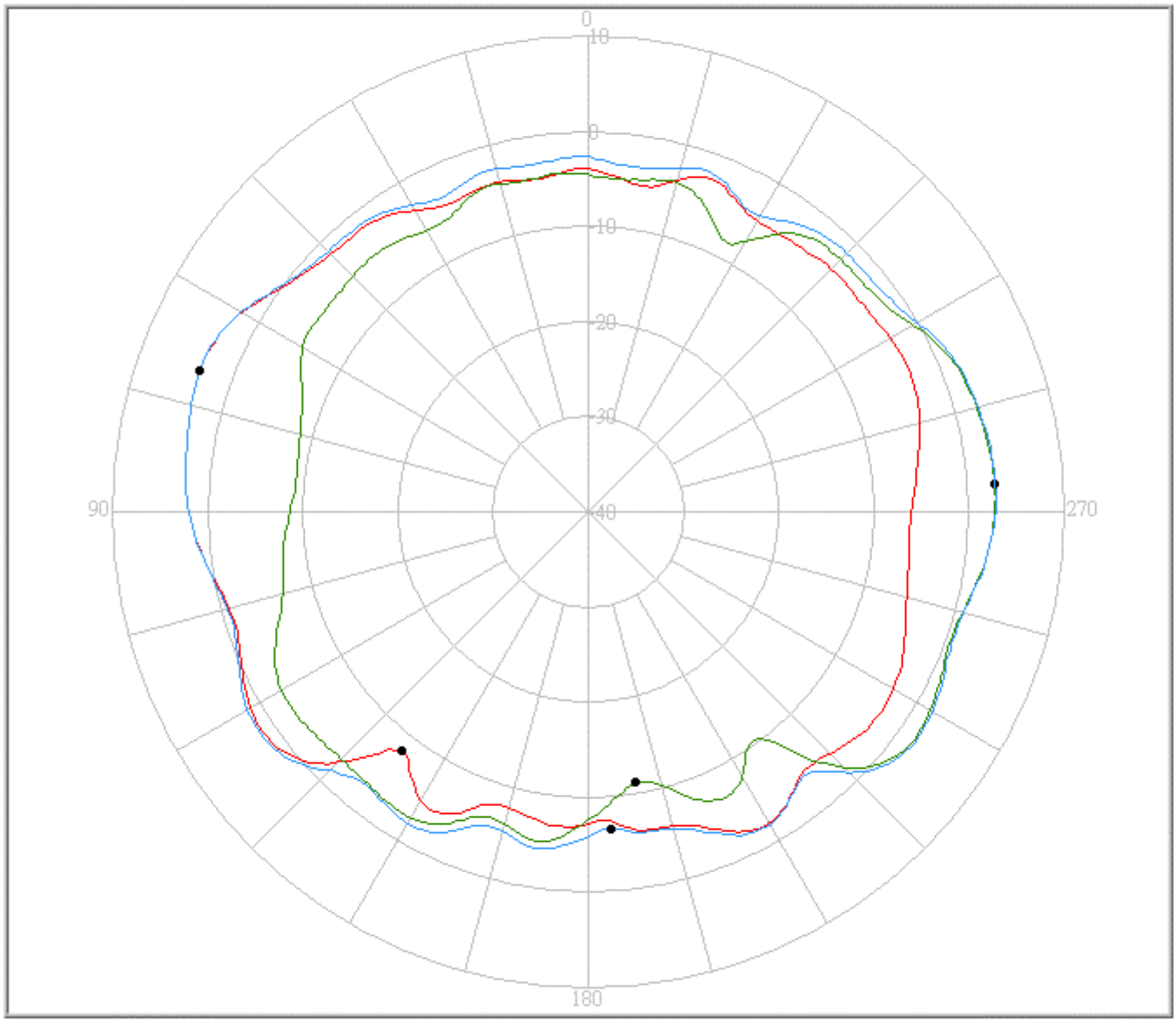
c. 2.500GHz

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	GT1W	Left	2500.00	2.42 / 70.00	-8.10 / 142.00	-2.14	V+H	2005/9/2
2	GT1W	Right	2500.00	2.82 / 274.00	-11.12 / 190.00	-2.62	V+H	2005/9/2
3	GT1W	Div	2500.00	2.43 / 70.00	-6.62 / 184.00	-0.30	Div.	2005/9/2

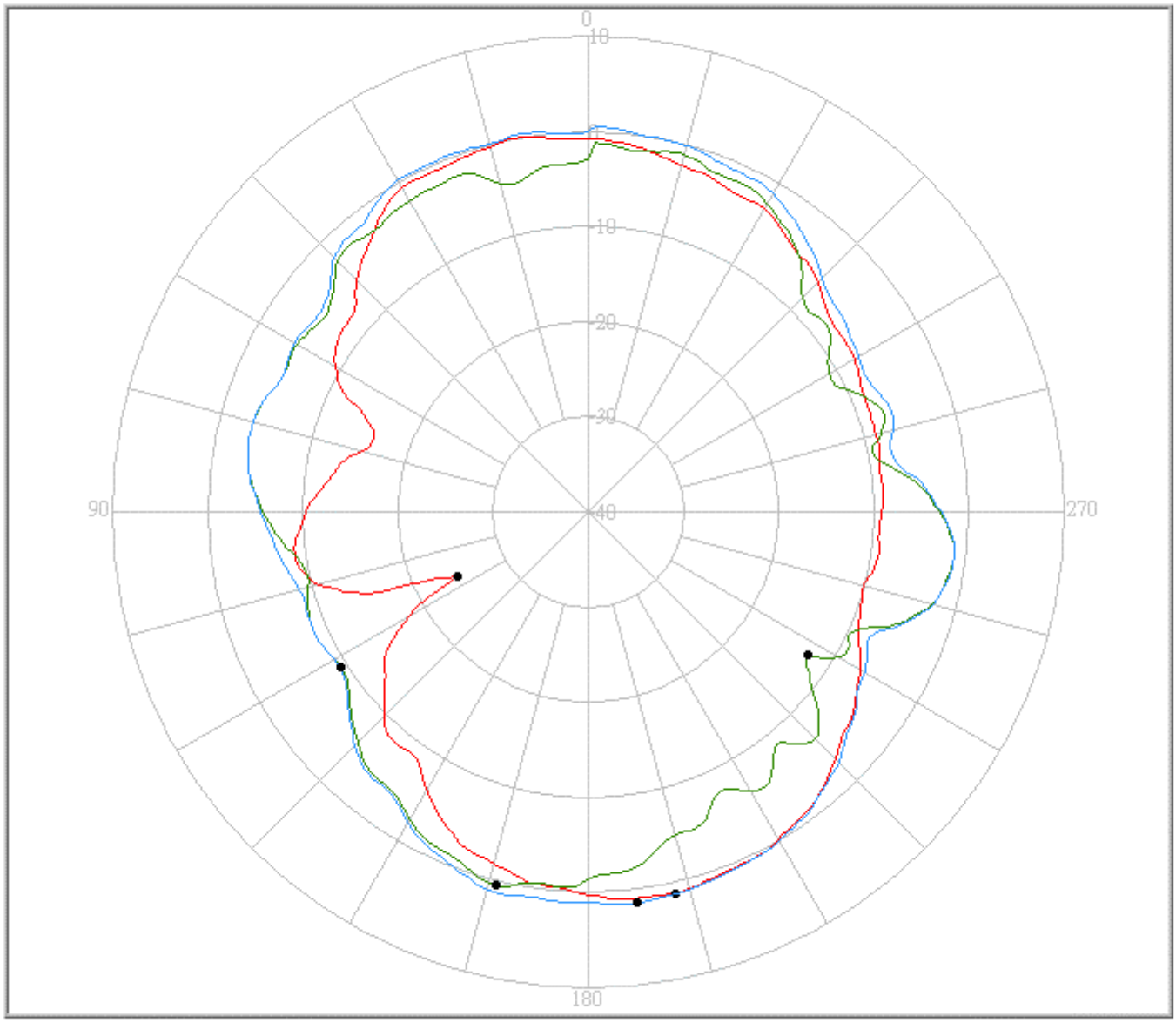
d. 5.150GHz

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	GT1W	Left	5150.00	1.08 / 193.00	-24.72 / 116.00	-3.82	V+H	2005/9/2
2	GT1W	Right	5150.00	0.44 / 166.00	-12.57 / 237.00	-4.07	V+H	2005/9/2
3	GT1W	Div	5150.00	1.40 / 187.00	-9.26 / 122.00	-2.14	Div.	2005/9/2

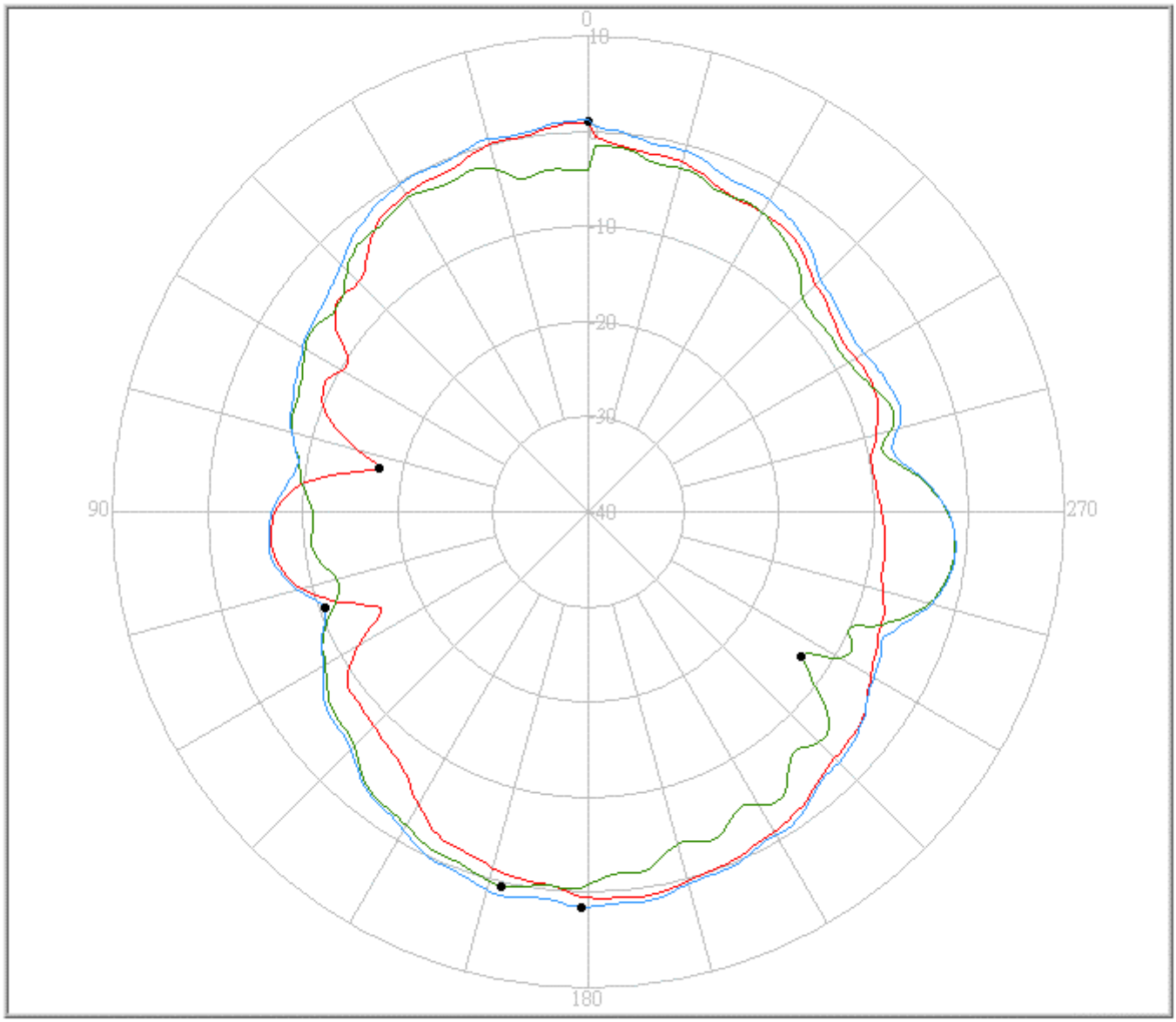
e. 5.250GHz

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	GT1W	Left	5250.00	0.95 / 0.00	-17.59 / 78.00	-3.67	V+H	2005/9/2
2	GT1W	Right	5250.00	0.38 / 167.00	-12.95 / 236.00	-4.16	V+H	2005/9/2
3	GT1W	Div	5250.00	1.52 / 179.00	-10.49 / 110.00	-2.20	Div.	2005/9/2

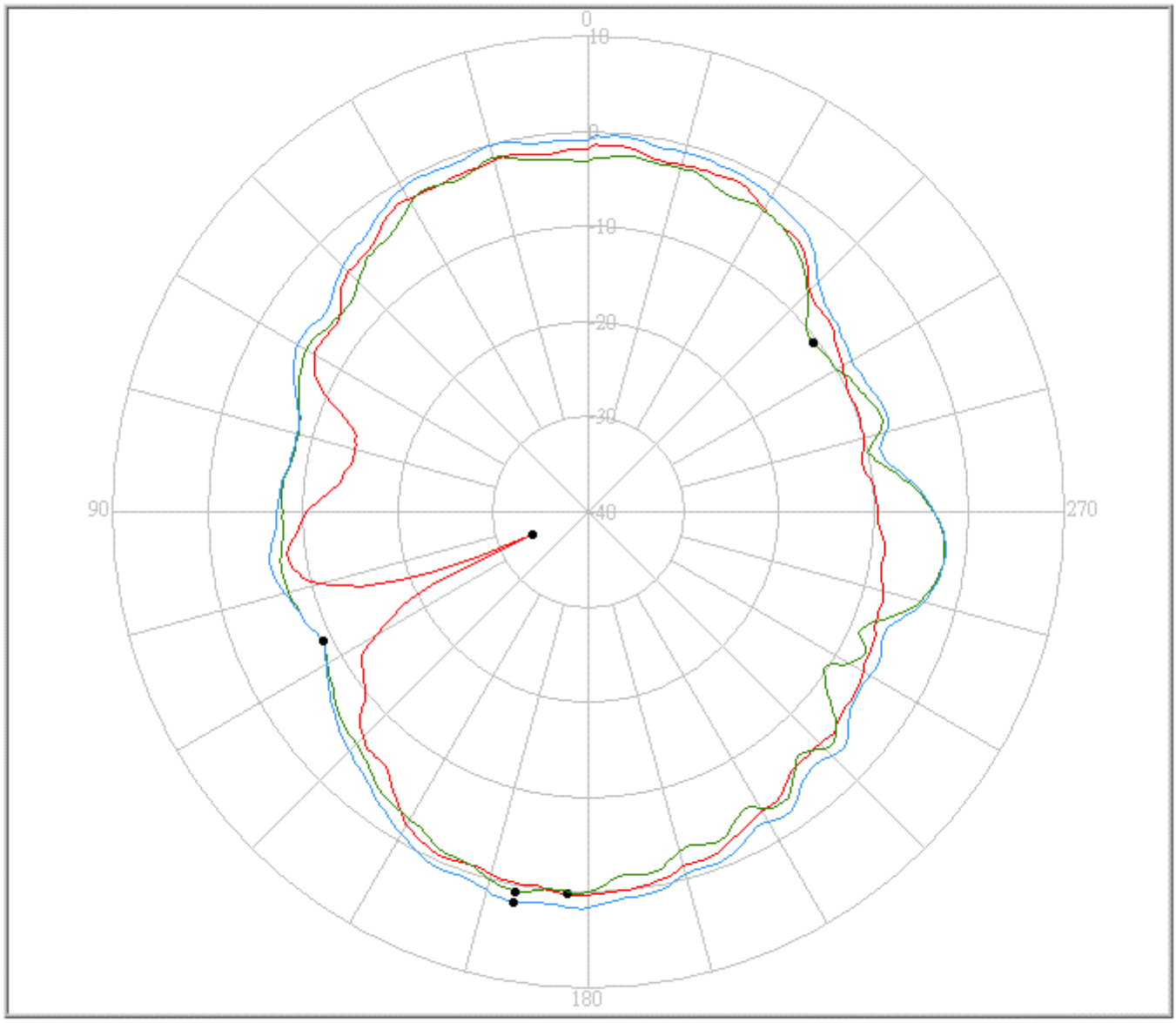
f. 5.350GHz

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	GT1W	Left	5350.00	0.25 / 177.00	-33.68 / 113.00	-4.30	V+H	2005/9/2
2	GT1W	Right	5350.00	0.59 / 169.00	-10.53 / 307.00	-4.19	V+H	2005/9/2
3	GT1W	Div	5350.00	1.73 / 169.00	-8.97 / 116.00	-2.66	Div.	2005/9/2

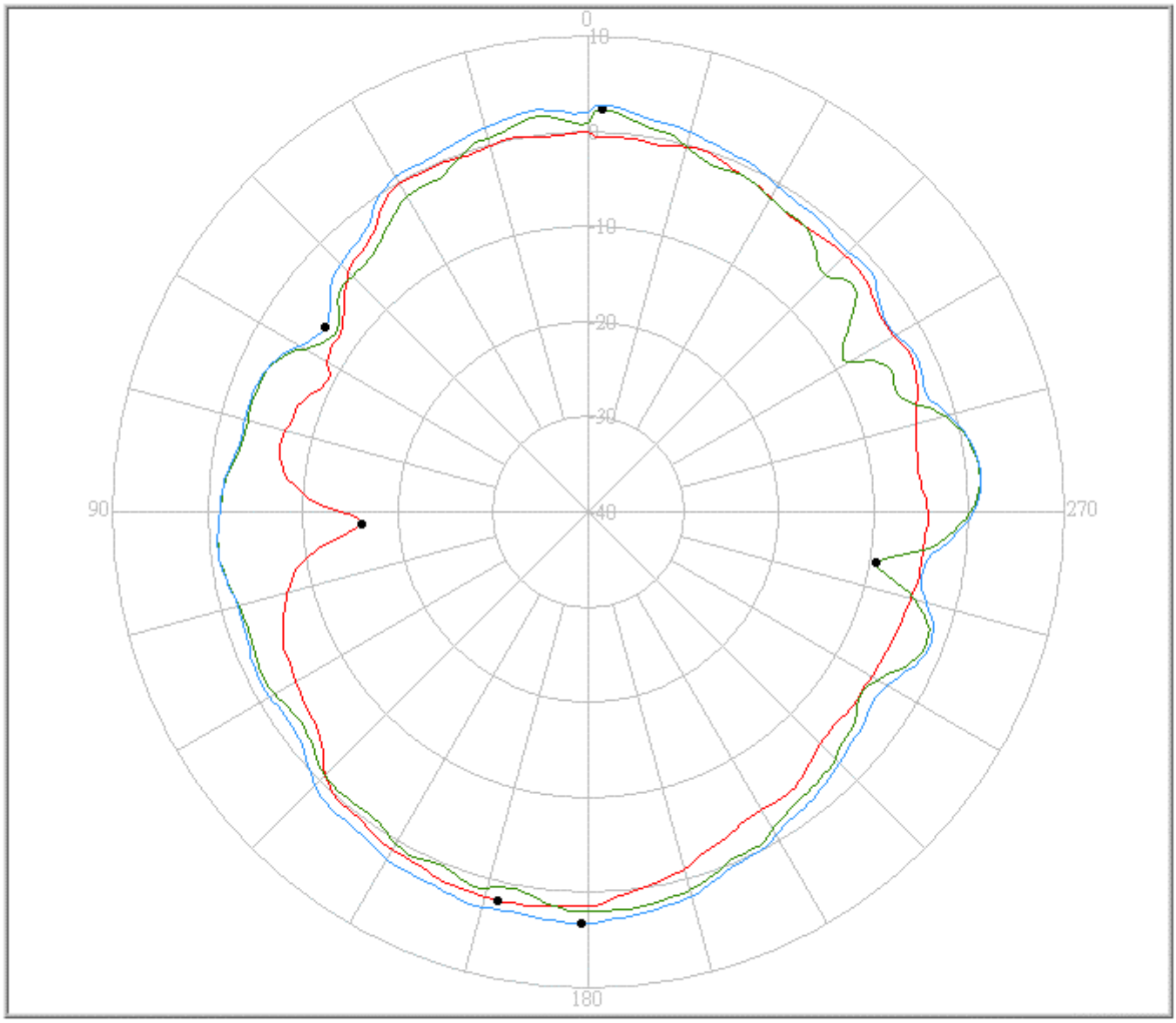
g. 5.470GHz

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	GT1W	Left	5470.00	1.95 / 167.00	-16.11 / 93.00	-2.22	V+H	2005/9/2
2	GT1W	Right	5470.00	2.26 / 358.00	-9.36 / 260.00	-1.24	V+H	2005/9/2
3	GT1W	Div	5470.00	3.25 / 179.00	-6.25 / 55.00	-0.04	Div.	2005/9/2

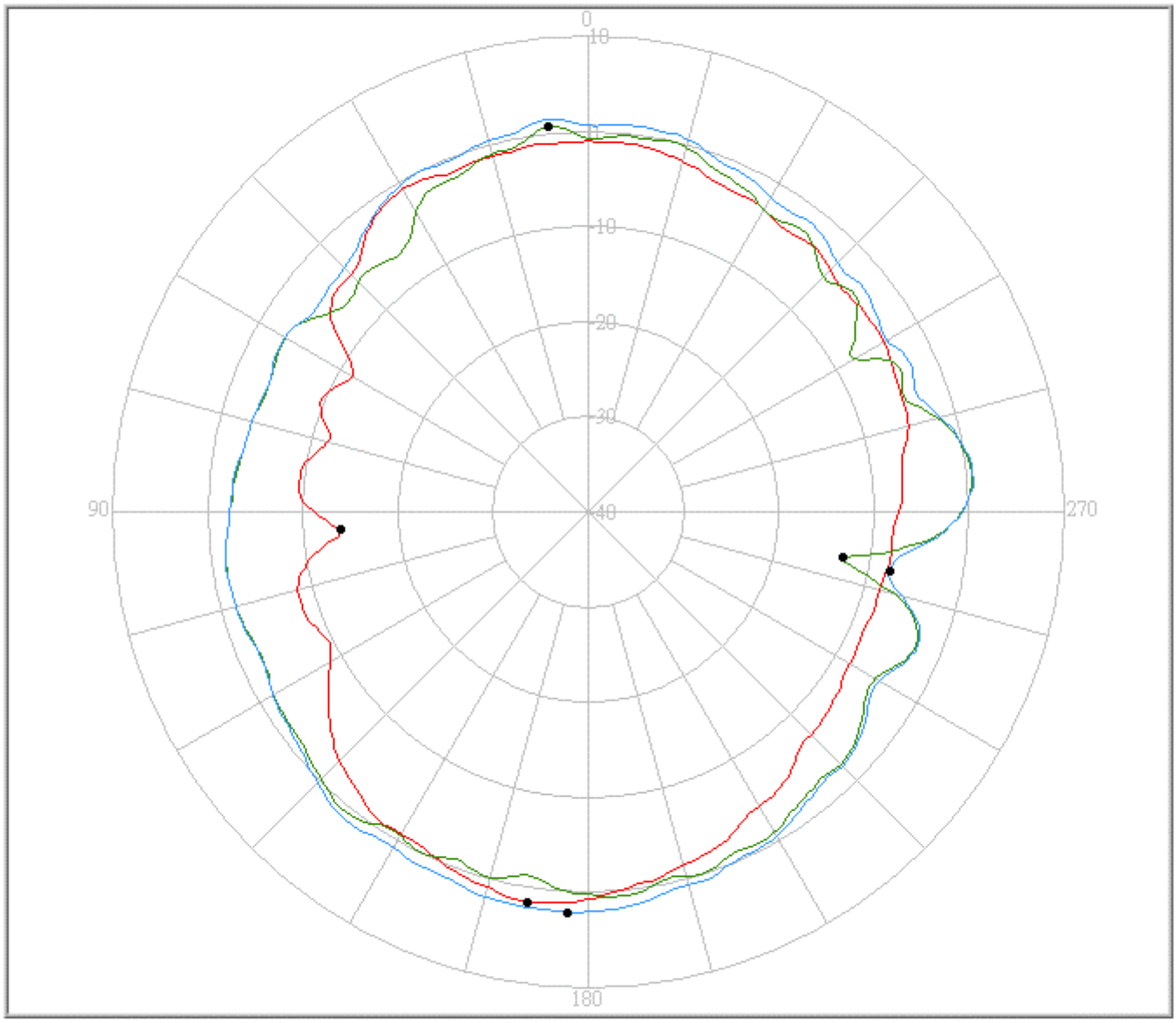
h. 5.59750GHz

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	GT1W	Left	5597.50	1.54 / 171.00	-14.00 / 94.00	-3.43	V+H	2005/9/2
2	GT1W	Right	5597.50	0.69 / 6.00	-12.79 / 260.00	-1.98	V+H	2005/9/2
3	GT1W	Div	5597.50	2.15 / 177.00	-7.77 / 259.00	-0.91	Div.	2005/9/2

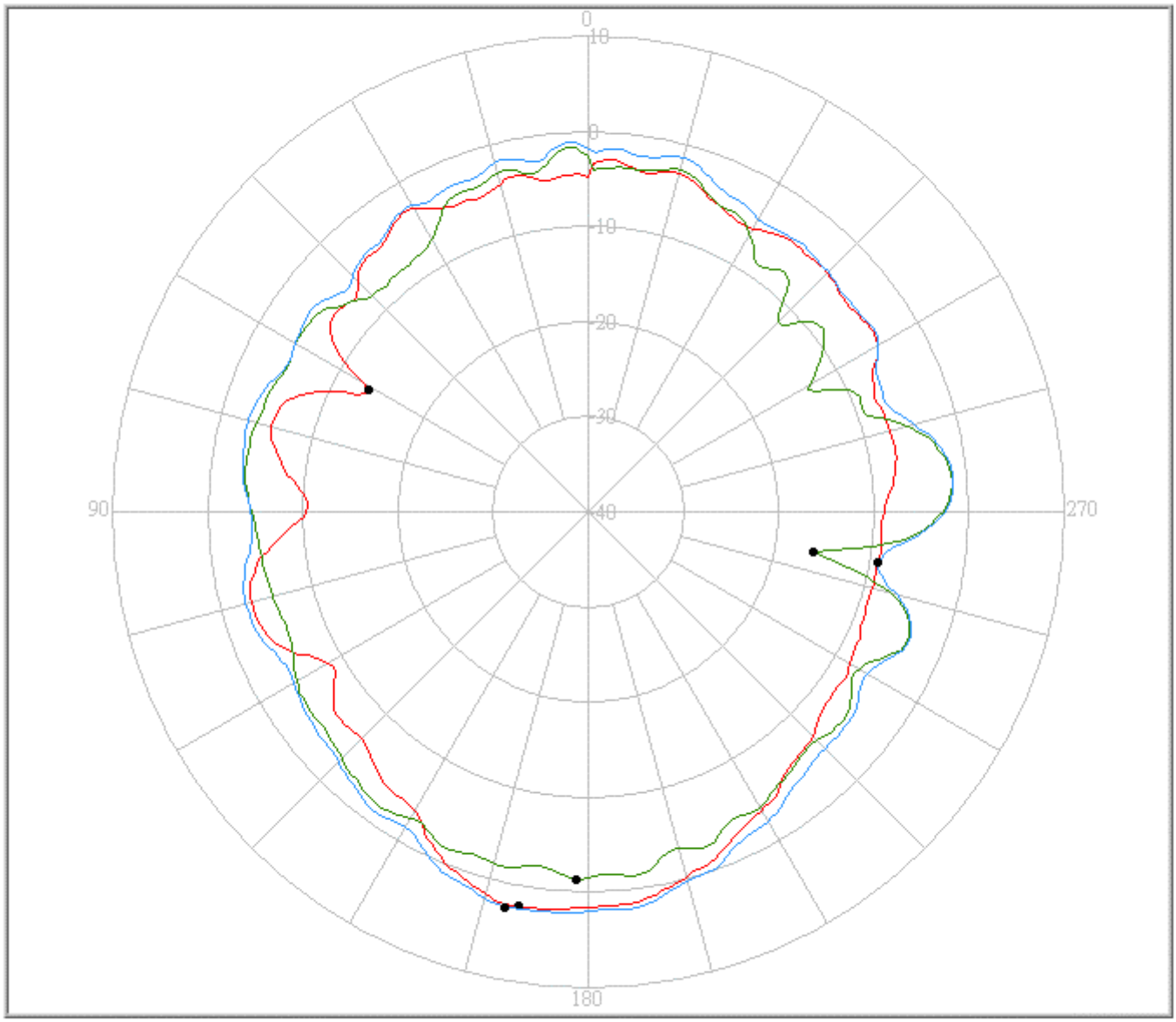
i. 5.725GHz

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	GT1W	Left	5725.00	2.10 / 170.00	-13.68 / 61.00	-3.91	V+H	2005/9/2
2	GT1W	Right	5725.00	-1.38 / 178.00	-16.01 / 260.00	-4.37	V+H	2005/9/2
3	GT1W	Div	5725.00	2.43 / 168.00	-9.11 / 260.00	-2.42	Div.	2005/9/2

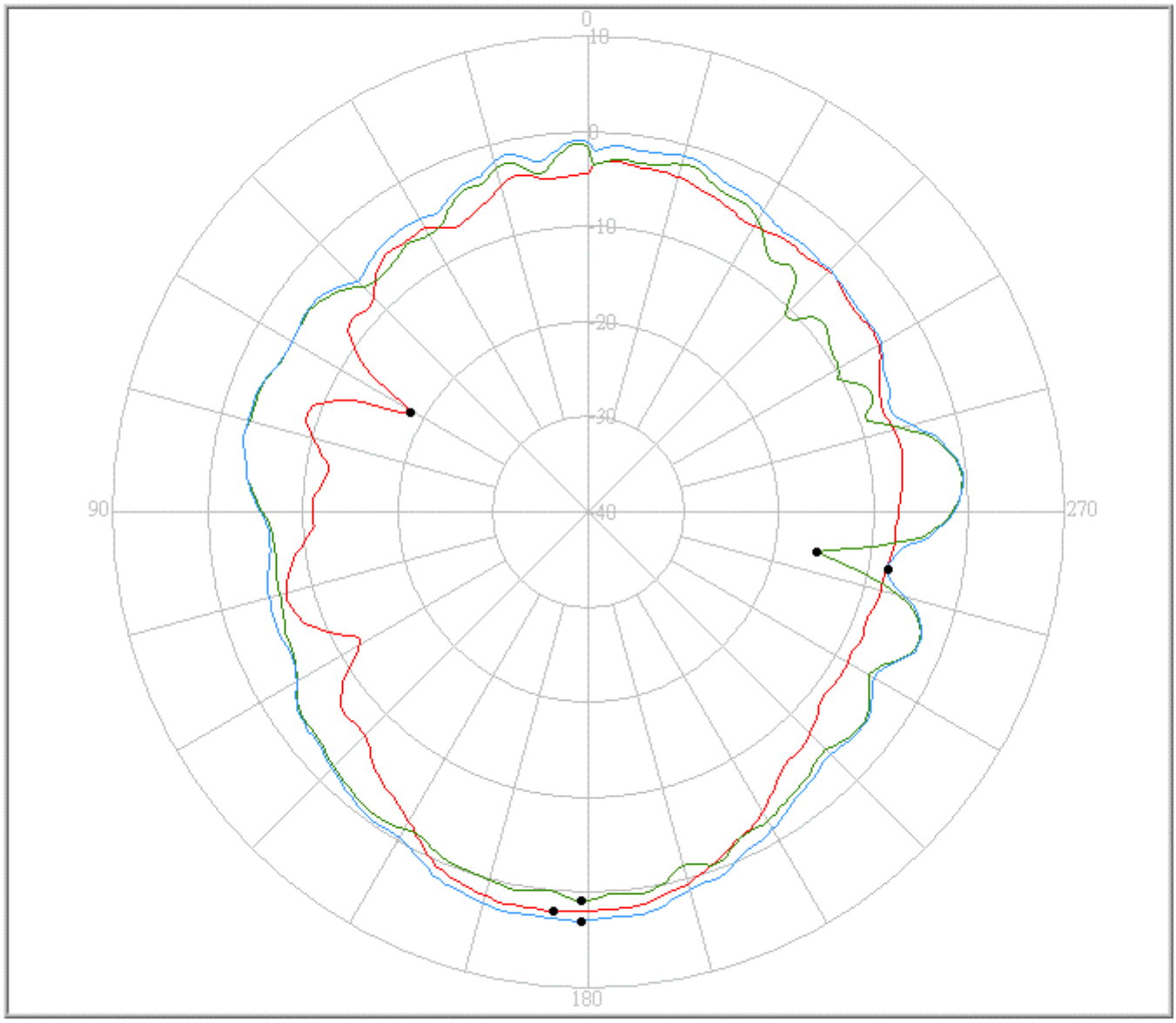
j. 5.785GHz

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	GT1W	Left	5785.00	2.14 / 175.00	-18.56 / 61.00	-4.08	V+H	2005/9/2
2	GT1W	Right	5785.00	0.90 / 179.00	-15.68 / 260.00	-3.26	V+H	2005/9/2
3	GT1W	Div	5785.00	2.99 / 179.00	-7.94 / 259.00	-1.94	Div.	2005/9/2

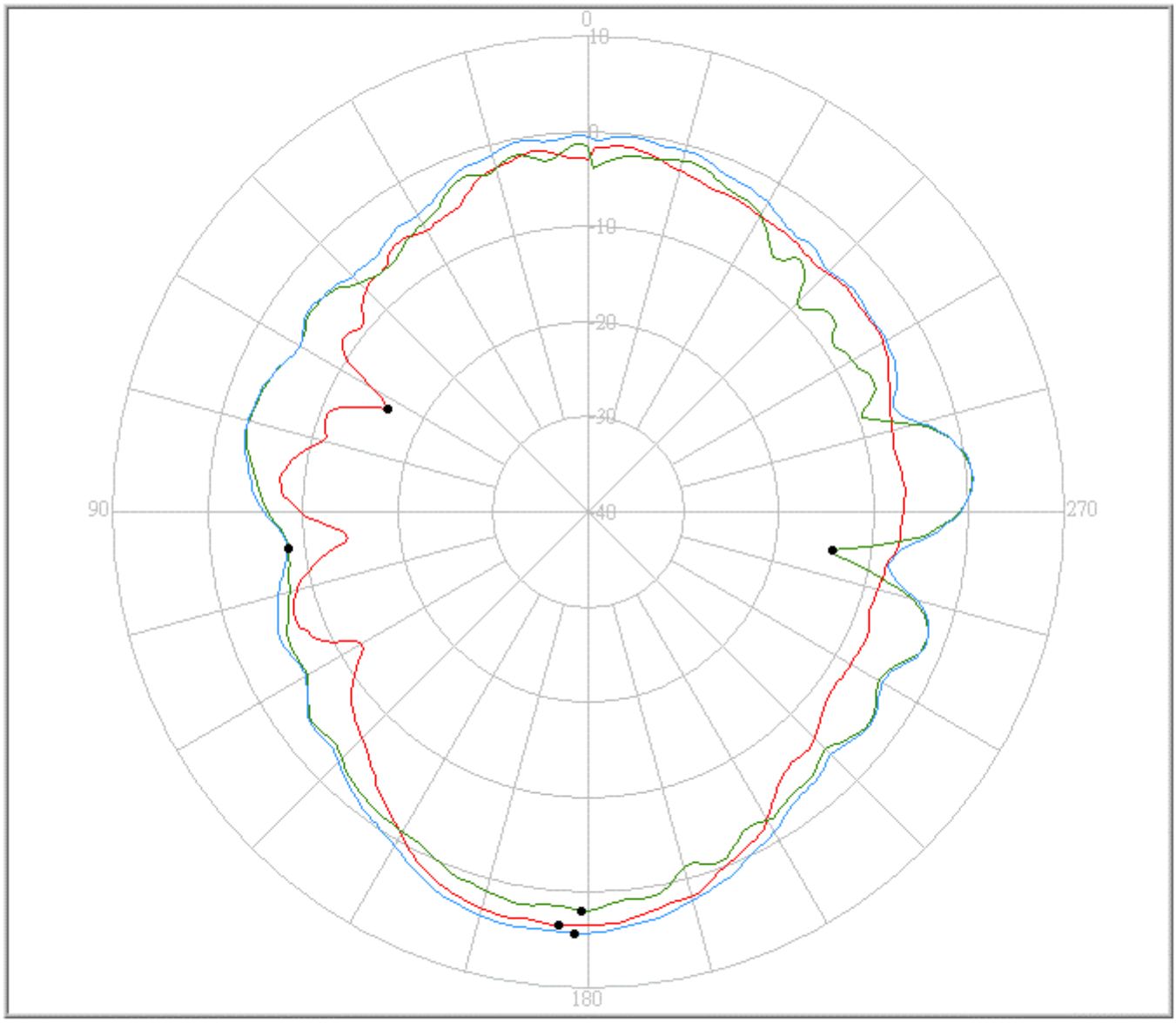
k. 5.850GHz

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	GT1W	Left	5850.00	3.55 / 176.00	-16.33 / 63.00	-3.00	V+H	2005/9/2
2	GT1W	Right	5850.00	1.98 / 179.00	-13.99 / 261.00	-2.83	V+H	2005/9/2
3	GT1W	Div	5850.00	4.30 / 178.00	-8.21 / 97.00	-1.23	Div.	2005/9/2

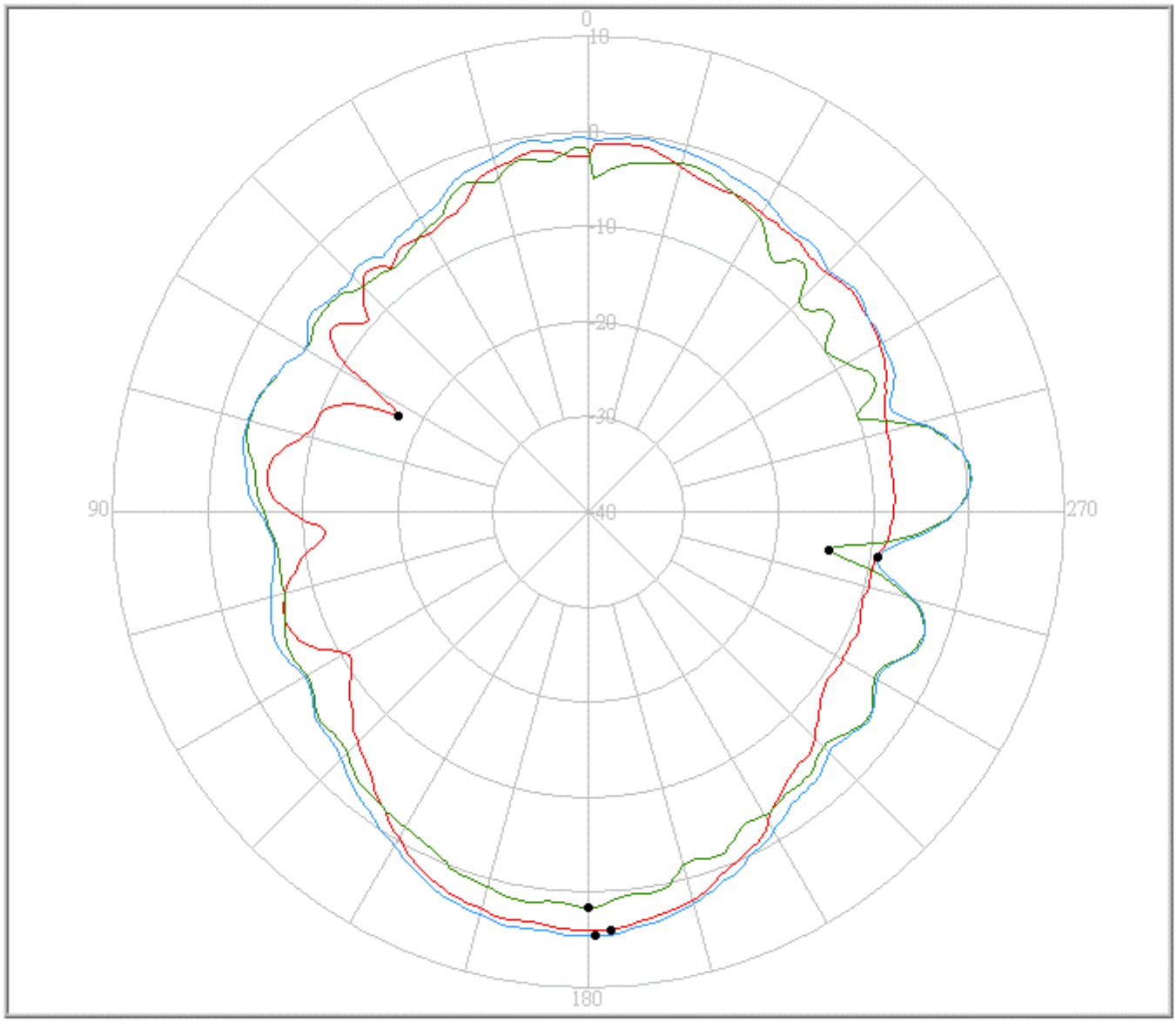
l. 5.875GHz

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	GT1W	Left	5875.00	4.03 / 183.00	-17.65 / 63.00	-2.70	V+H	2005/9/2
2	GT1W	Right	5875.00	1.65 / 180.00	-14.34 / 261.00	-3.21	V+H	2005/9/2
3	GT1W	Div	5875.00	4.60 / 181.00	-9.24 / 261.00	-1.24	Div.	2005/9/2

9. Coaxial Cable Specification :

KURABE INDUSTRIAL CO., LTD

SP3830M-X	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5022) UL 1979	PAGE	
PRODUCT STANDARD		ISSUED	11-12-2001
		REVISED	18-3-2002

1. SCOPE

This standard covers "FEP insulated High-Frequency coaxial cable".

These cable are approved by UL as Style 1979 AWM (File E-46702)

[UL1979:105℃, 30V]

Use: Internal wiring of Class 2 Circuits of Electronic Equipment.

2. CONSTRUCTION

Construction and dimensions of the cable are shown in Figure.1 and Table 1.

3. PERFORMANCE

Performance of the finished cable is shown in Table 2. The test methods are in accordance with applicable test methods described in JIS C 3005.

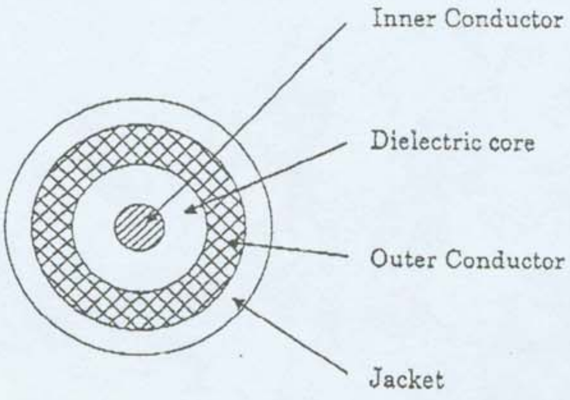


Figure 1.

NOTE:	MADE BY	T. Seki
	APPROVALS	T. Hasegawa

KURABE INDUSTRIAL CO., LTD

SP3830M-X	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5022) UL 1979	PAGE	
PRODUCT STANDARD		ISSUED	11-12-2001
		REVISED	18-3-2002

Table 1. Construction

Item		Unit	Specified Value
Inner Conductor	Material	—	Silver coated annealed copper wire
	Stranding	No./mm	7/0.08
	Dia.(approx.)		0.24
Dielectric Core	Material	—	FEP
	Thick.(nom.)	mm	0.22
	Dia.	mm	0.68±0.05
	Color	—	Natural
Outer Conductor	Material	—	Silver coated annealed copper wire
	Type	—	Braid (16/4/0.05)
	Dia.(approx)	mm	0.93
Jacket	Material	—	FEP
	Thick.(nom.)	mm	0.10
	Dia.	mm	1.13 +0.10/-0.06
	Color	—	Standard colors are white,black,blue,brown,and gray.

Table 2. Performance

Item	Unit	Specified Value	Note
Appearance	—	Faultless in visible	—
Inner conductor resistance	Ω/km	Max.597	at 20℃
Insulation resistance	MΩ·km	Min.1500	at 20℃
Dielectric strength	—	Dielectric core: No breakdown at AC1.5kV for 0.15sec.	Spark test
		Jacket: No breakdown at AC1.5kV for 0.15sec.	Spark test
		No breakdown at AC500V for 1min.	Outer conductor to inner conductor
Heat resistance for solder	—	Shrink or expansion of dielectric core are not more than 0.5mm	※
Capacitance	pF/m	nom. 98	at 1kHz
Characteristic impedance	Ω	50±2	TDR method
Attenuation (nom.)	dB/m	2.0	1.0GHz
		2.9	2.0GHZ
		3.6	3.0GHz
		4.2	4.0GHz
		4.7	5.0GHz
		5.2	6.0GHz

※ After immersion of dielectric core, 10mm into soldering pot which is 255℃±5℃ for 5 seconds, shrinkage or expansion of the dielectric core must not exceed 0.5mm.

NOTE :

MADE BY	T. Sekei
APPROVALS	T. Kawazura

AVLV2 December 18, 1993

Appliance Wiring Material - Component

KURABE INDUSTRIAL CO LTD E46702

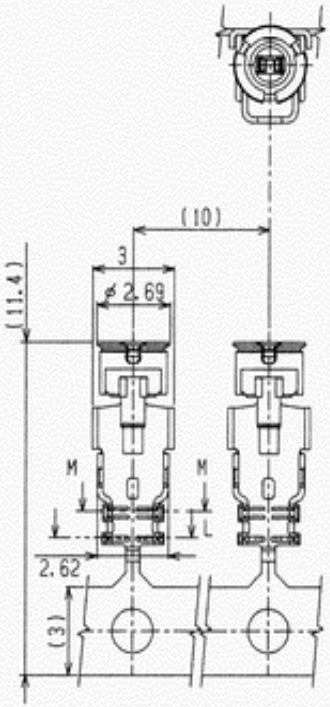
4830 TAKATSUKA-CHO HAMAMATSU-SHI, SHIZUOKA 432-8521 JAPAN

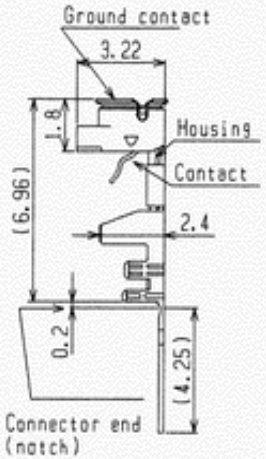
LOOK FOR THE RECOGNITION MARK

See General Information Preceding These Recognitions

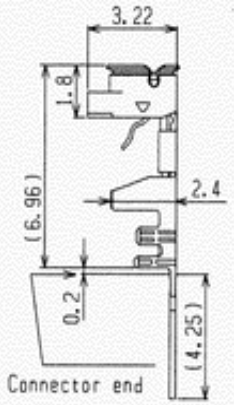
For use only in equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

PART NO.
20278-**1R-**





Part No. 20278-101R-**
For hand tool
(with notch)



Part No. 20278-111R-**
For semi auto
termination machine
(without notch)

GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

FORM REV. 4

REV	ECN	BY	DATE	APP
4	Z2023	K.O	JAN/30/02	E.K
3	Z1256	K.O	NOV/14/01	K.K
2	Z1197	K.O	AUG/27/01	K.K
1	Z1118	K.O	JUN/26/01	K.K
0	Z1109	K.O	JUN/13/01	
6B	Z2146	K.O	JUN/24/02	K.K
5B	Z2117	A.H	MAY/17/02	K.K

REV. RECORD
SERIES No. 2814

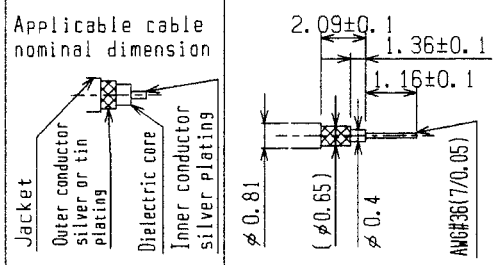
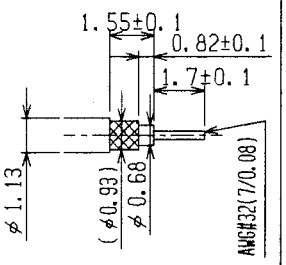
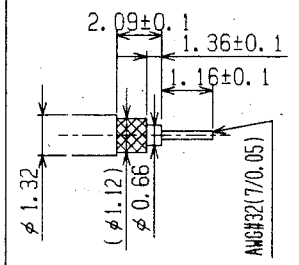
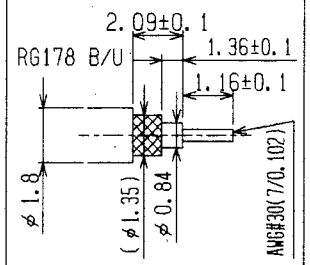
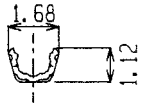
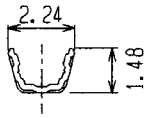
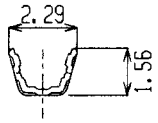
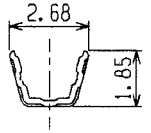
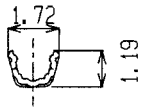
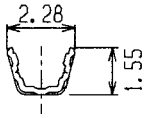
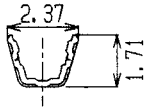
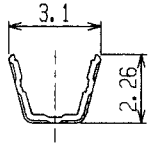
WAS T

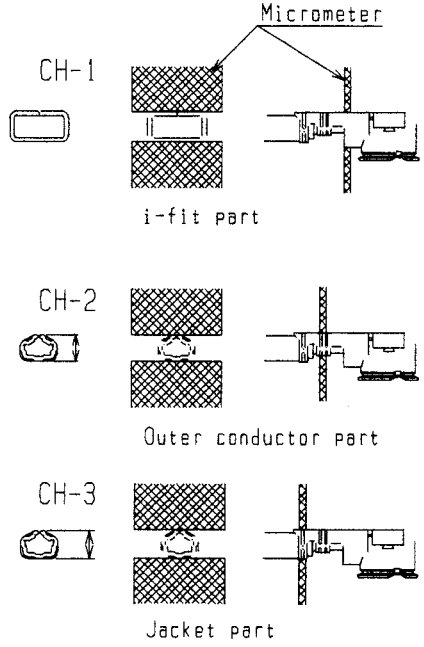
DESIGN'D BY K.Ohbayashi DATE JUN/13/01
CHK'D BY DATE
APP'D BY K.Katabuchi DATE JUN/13/01
CUSTOMER COPY
PROJECTION

I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN

TITLE: MHF series micro coaxial connector plug vertical

SCALE 6/1 | UNIT mm | DWG. No. 20278 | SHEET 1/3 | REV. 6B

Part No.		20278-101R-08 / 20278-111R-08	20278-101R-13 / 20278-111R-13	20278-101R-32 / 20278-111R-32	20278-101R-18 / 20278-111R-18
Applicable cable nominal dimension					
Braided shield of Outer conductor 外部導体の編組		Single / 1重編組	Single / 1重編組	Double / 2重編組	Single / 1重編組
P/N of hand Tool / P/N of semi auto termination machine		<Under developing>	90187-013 / 90213-013	<Under developing>	<Under developing>
Sect. M-M					
Sect. L-L					
Crimp Height	CH-1	Under developing	1.34~1.40	Under developing	Under developing
	CH-2	Under developing	1.06~1.14	Under developing	Under developing
	CH-3	Under developing	1.15~1.35	Under developing	Under developing



Crimp Height

GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

DESIGN'D BY	DATE	I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN	
CHK'D BY	DATE	TITLE: MHF series micro coaxial connector plug vertical	
APP'D BY	DATE		
CUSTOMER COPY	PROJECTION	SCALE: 6/1 UNIT: mm DWG. No.: 20278	SHEET: 2/3 REV.: 6B

FORM REV. 4

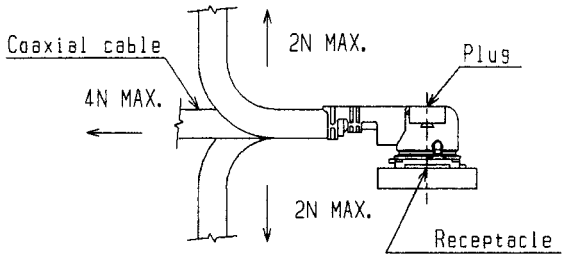
WAS T

Notes

1. Material
 (1) Housing : PBT , UL94V-0 , black
 (2) Contact
  phosphor bronze
  gold plating
 (3) Ground contact
  phosphor bronze , gold plating
2. Packing : reel
3. Mating partner part No.
 : 20279-001E-01

1. 材　料
 (1) ハウジング：PBT, UL94V-0, 黒色
 (2) コンタクト
  ：りん青銅
  ：金メッキ
 (3) グランドコンタクト
  ：りん青銅, 金メッキ
2. 梱包　：　リール
3. かん合相手　Part No.
 ：20279-001E-01

4. Permissible load of cable at mating　コネクタかん合後のケーブルに対する荷重

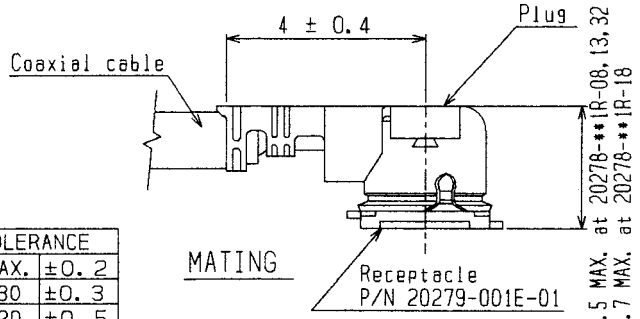


5. Suggestions for mating & unmating operation.

5-1 Mating.
Please mate the connector straightly to vertical direction as much as possible, adjusting the mating axis of plug and receptacle.
As excessive slant angle mating may break the connector , please don't do it.

5.　コネクタかん合時および抜去時の注意

5－1　コネクタ挿入時
PlugとReceptacleのかん合軸を合わせ、できるだけ垂直に挿入して下さい。
極端な斜め挿入は行わないで下さい。
コネクタ破損の原因となりますので、過度なこじり挿抜は行わないで下さい。



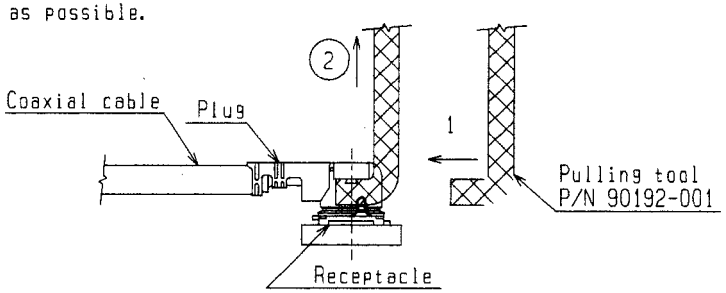
GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

5-2 Unmating.

5－2　コネクタ抜去時

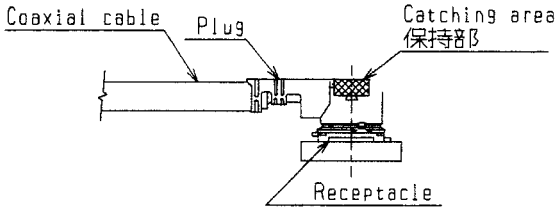
(1) In case of unmating by pulling tool.
Please use the pulling tool as the following drawing, and please pull plug to vertical direction as directly as possible.

(1)　抜去ジグを用いる場合
下図のようにできるだけ垂直に引き抜いて下さい。



(2) In case of unmating directly by hand
Please catch the catching area of plug , and please pull plug to vertical direction as directly as possible.

(2)　手で直接引き抜く場合
下図の保持部をつかみ，できるだけ垂直に引き抜いて下さい。



DESIGN'D BY	DATE	I-PEX Interconnect and Packaging Electronics TOKYO, JAPAN					
CHK'D BY	DATE	TITLE MHF series micro coaxial connector plug vertical					
APP'D BY	DATE						
CUSTOMER COPY	PROJECTION	SCALE -/-	UNIT mm	DWG. No. 20278		SHEET 3/3	REV. 6B

No.2006-3
Feb/13 /'04

材料証明書
MATERIAL CERTIFICATE

当社製品には下記の材料が使われている事を証明致します。
WE HEREBY CERTIFY THAT THE FOLLOWING MATERIALS ARE USED IN OUR PRODUCT.

PRODUCT NAME : MHF series micro coaxial connector PLUG
P/N 20278-**1R-** , 20308-**1R-** , P/N 20351-**1R-37

	部品 COMPONENT	材料／MATERIAL			UL94難燃性 UL94 FLAME CLASS	ULファイルNo. UL FILE No.
		材質名 MATERIAL	型名 CAT No.	材料メーカ MANUFACTURER		
1	HOUSING	PBT	3116	WINTECH POLYMER LTD.	V－0	E 213445

PRODUCT NAME : MHF series micro coaxial connector RECEP.
P/N 20279-001E-01, P/N20314-001E-01

	部品 COMPONENT	材料／MATERIAL			UL94難燃性 UL94 FLAME CLASS	ULファイルNo. UL FILE No.
		材質名 MATERIAL	型名 CAT No.	材料メーカ MANUFACTURER		
1	HOUSING	LCP	E130i	POLYPLASTICS CO.,LTD.	V－0	E 106764

PRODUCT NAME : MHF Ⅱ connector P/N 20311-**1R-** , P/N 20312-**1R-**

	部品 COMPONENT	材料／MATERIAL			UL94難燃性 UL94 FLAME CLASS	ULファイルNo. UL FILE No.
		材質名 MATERIAL	型名 CAT No.	材料メーカ MANUFACTURER		
1	HOUSING	LCP	A430	POLYPLASTICS CO.,LTD.	V－0	E 106764

株式会社アイペックス
I-PEX Co.,Ltd.

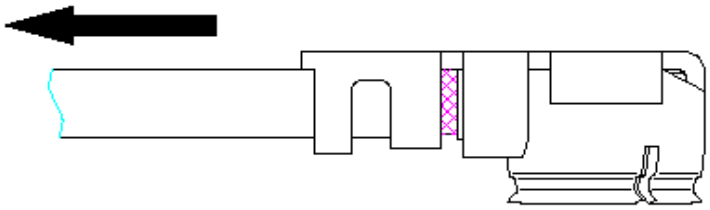
APPROVAL	CHECK	ORIGINATOR
T.Harada Feb/13/'04		K.Ohbayashi Feb/13/'04

FORM REV.0

I-PEX CONNECTOR 拉力測試報告

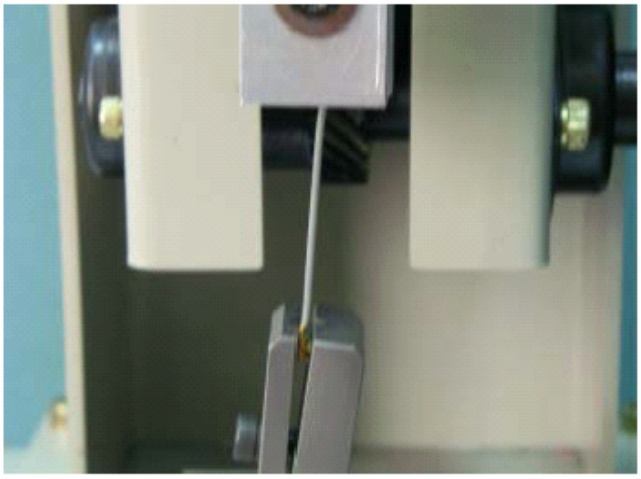
編 號	1	2	3	4	5	6	7	8	9	10	Avg.
拉力值	19.8	23.6	20.5	19.4	19.9	21.2	22.2	19.5	23.2	21.6	21.09

UNIT: N



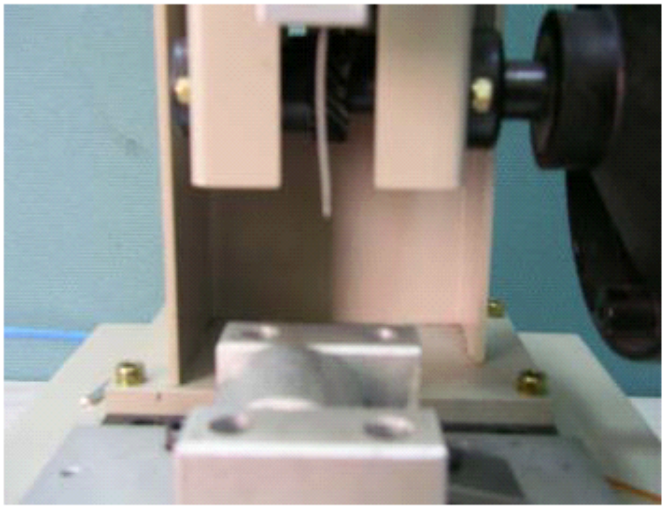
I-PEX CONNECTOR 拉力測試報告

測 試 前



I-PEX CONNECTOR 拉力測試報告

測 試 後



11. Sponge Specification:

試 験 報 告 書

No. 3G－1672

平成5年11月 4日

CR-250

財団法人 化学[illegible]協会
大阪[illegible]所

1．依 頼 者　　富原ゴム工業株式会社

2．受 付 日　　平成5年10月18日

3．試 料 名　　CR－250

4．試験項目及び結果

1）硬さ試験		
硬 さ	Hs(SRIS-C)	23
2）引張試験		
引張強さ	kgf/cm²	10.3
伸 び	%	210
50%引張応力	kgf/cm²	3.2
3）みかけ比重		0.22
4）圧縮試験		
25%圧縮応力	kgf/cm²	0.63
50%圧縮応力	kgf/cm²	1.54
5）圧縮回復試験（室温×24hrs，50%圧縮，解除30分後に測定）		
回復率	%	93.7
6）老化試験（ギヤー式，100±1℃×24hrs）		
硬 さ	Hs(SRIS-C)	22
引張強さ	kgf/cm²	9.5
伸 び	%	180
50%引張応力	kgf/cm²	3.8
7）圧縮永久ひずみ試験（70±1℃×22hrs，圧縮率25%）		
＊圧縮永久ひずみ率	%	11

8）耐熱収縮試験

試験条件	70±1℃×2hrs	100±1℃×24hrs
収縮率 %	0.0	2.3
	0.1	1.8

9）燃焼試験

燃焼時間 （秒）	1.8
残じんの有無	なし
燃焼停止位置	燃焼限界線を越えない

〒543 大阪市天王寺区堂ケ芝1-6-5　☎(06)771-5157

QMFZ2 January 29, 1987
Component Plastics

MIYAHARA RUBBER INDUSTRY CO LTD
1-20 KARUMO-DORI 1-CHOME NAGATO-KU KOBE-SHI , HYOGO-KEN JAPAN

E66114 (S)

Mil Deg	Col	Den PCF (g/cc)	Min Thk In.	Min Thk (mm)	UL94 Flame Class
Chloroprene rubber foam furnished in sheet or block form.					
CR-30	BK	12.7(0.2)-14.4(0.23)	0.073	(1.85)	94HBF
CR-45	BK	15.90(0.28)-16.74(0.26)	0.078	(2.0)	94HF-1
CR-250	BK	12.0(0.19)-13.2(0.21)	0.062	(1.57)	94HF-1

Marking: Company name and material designation on container, wrapper or finished part.

See General Information Preceding These Recognitions.

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.

Report: March 1, 1978.

Replaces E66114 dated December 2, 1986.

TECHNICAL REPORT

Industrial Adhesive Tape
T4000

Industrial Adhesive Tape T4000

Doudle-Faced Adhesive Tape

T4000 is a double-faced adhesive tape developed for the requirement of strong and permanent bonding. It is a highly selected doudle-faced adhesive tape with outstanding reliability, having high low-temperature adhesion.

SPECIFICATIONS

Coating amounts (g/m²)	140–170
Coating thickness (mm)	approx. 0.15
Thickness of release paper (mm)	approx. 0.14

FEATURES

- Excellent in thermal holding strength
- Excellent in low-temperature adhesion
- High bonding strength in the widest temperature range
- No smell
- Outstanding reliability and durability

APPLICATION

T4000 is most suitable for the adhesion to surface decorative sheet, rating plate and escutcheon, etc. made of metal and plastic material for the automobiles and household electric appliances.
T4000 is also recommendable for use as a double-faced permanent adhesive tape for various substrates.

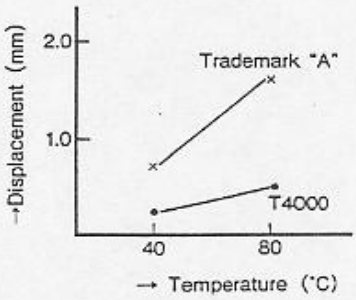
Sony Chemicals Corporation

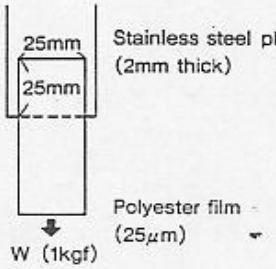
Industrial Adhesive Tape T4000

SPECIFICATIONS

1. Holding strength at elevated temperatures

T4000 demonstrates an excellent holding strength even under severe conditions.

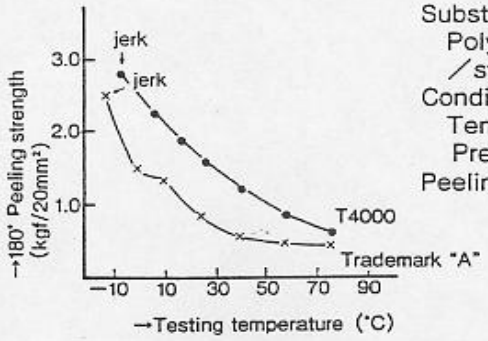




Conditions for preparing test pieces
Temperature : 20°C
Pressure : 2kgf/cm² (one stroke)
Conditions for test peeling
60minutes ; 1kgf of loading

2. Temperature change of 180° peeling strength

T4000 provides a high bonding strength at various temperatures



Substrate :
Polyester film (25μm)
／stainless steel plate (2mm thick)
Conditions for preparing test pieces
Temperature : 20°C
Pressure : 2kgf/cm² (one stroke)
Peeling speed : 300mm/min.

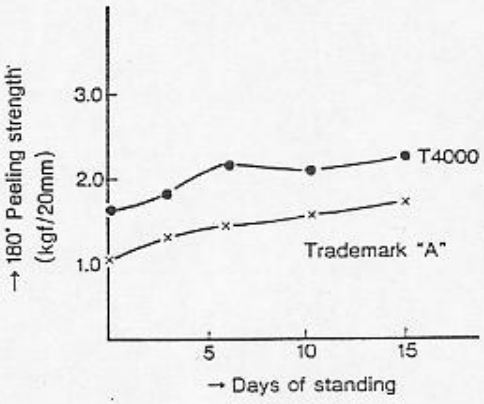
3. Peeling strength after aging

T4000 has excellent thermal aging resistance, and high resistances to moisture, water, oil and weather.

Substrate : Polyester film (25μm)/stainless steel plate (2mm thick)
Conditions for preparing test pieces :
Temperature : 20°C
Pressure : 2kgf/cm² (one stroke)
Test peeling speed : 300m/min.

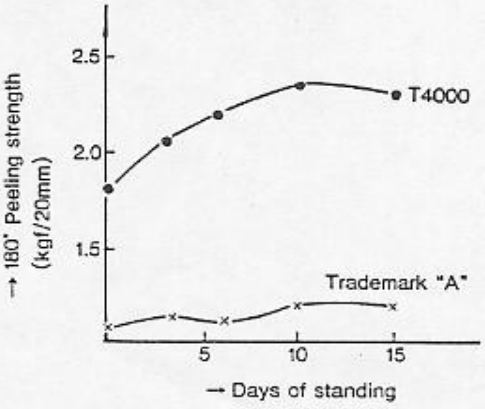
● THERMAL AGING

Standing test in the atmosphere



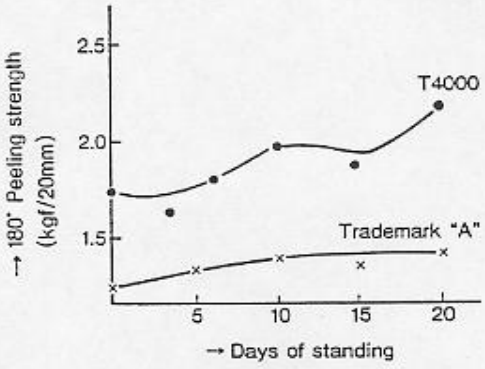
● MOISTURE RESISTANCE

Standing test in the atmosphere of 50°C and relative humidity of 90 %



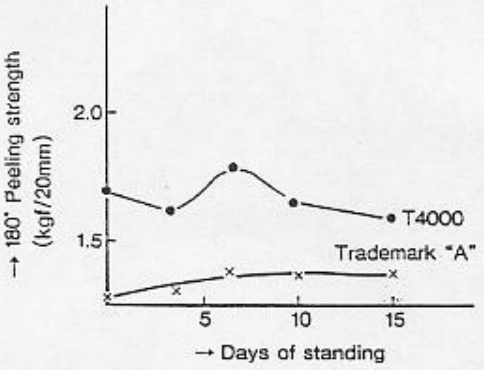
● WATER RESISTANCE

standing test in water at 40°C

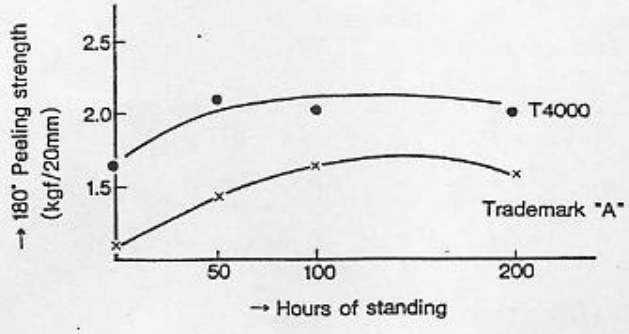


● OIL RESISTANCE

Standing test in machine oil at 40°C



● WEATHERING

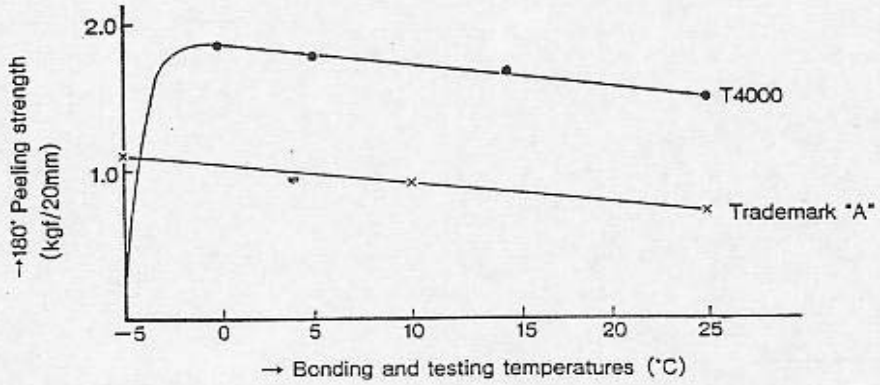


Industrial Adhesive Tape T4000

WORKABILITY

Low-temperature adhesion

T4000 provides high adhesion even in the bonding work at low temperatures.



T4000, T4000W . For bonding aluminum (thickness .007 to 0.020 in), polycarbonate (thickness .019 to .079 in) and acrylic (thickness .019 to .079 in) to acrylonitrile butadiene styrene (ABS) plastic, maximum surface temperature 80 C (176 F), minimum temperature -40 C (-40 F). Suitable where exposed indoors to high humidity and occasional exposure to water.

T4000B, T4000BW . For bonding aluminum (thickness .007 to 0.020 in), polycarbonate (thickness .019 to .079 in) and acrylic (thickness .019 to .079 in) to acrylonitrile butadiene styrene (ABS) plastic, maximum surface temperature 80 C (176 F), minimum temperature -40 C (-40 F). Suitable where exposed indoors to high humidity and occasional exposure to water.

T4500B, T4500BW . For bonding aluminum (thickness .007 to 0.020 in), polycarbonate (thickness .019 to .079 in) and acrylic (thickness .019 to .079 in) to acrylonitrile butadiene styrene (ABS) plastic, maximum surface temperature 80 C (176 F), minimum temperature -40 C (-40 F). Suitable where exposed indoors to high humidity and occasional exposure to water.

T4700M . For bonding aluminum (thickness 0.002 to 0.032 in) to aluminum, and galvanized steel, max temperature 150 C (302 F) min temperature -40 C (-40 F); Acrylonitrile Butadiene Stylene (ABS) and Polypropylene plastics; max temperature 80 C (176 F) min temperature -40 C (-40 F); Polystyrene plastics; max temperature 60 C(140 F) min tem-

12. SUMITUBE Specification:

SUMIPAC

Sumitube F32

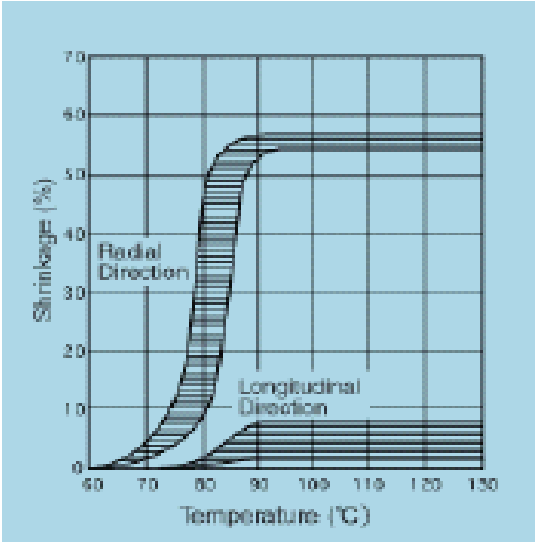
UL224 and CSA approved
Thin, flame-retardant heat-shrinkable tubing
The maximum operating temperature is 125℃.

:

■Basic Properties

1)	Materials	Cross-linked, flexible, flame-retardant polyolefin resin
2)	Shrink temperature	90℃ min.
3)	Shrink ratio (Radial change)	50% min.
4)	Longitudinal change	-(5±5)%
5)	Continuous operating temperature	-55 to 125℃

■Shrinkage-Temperature Curve



The above curve chart shows the shrink ratio in each direction. The shrink ratio in longitudinal direction should be indicated with negative sign.
(ex. 15% → -15%)

■Features & Benefits

1) UL224 and CSA recognition
2) Flame-retardant
3) Flexible
4) Free of polybrominated biphenyl ethers(PBBEs), polybrominated biphenyl oxides(PBBOs), polybrominated biphenyls(PBBs).
5) Made in Sumi-Pac, Taiwan, only.

■Specifications / Approvals

UL224(5 Edition)

File No.: E48762
Catalogue No. : SUMITUBE F32
Operating temperature : 125℃
Voltage rating : 600V
Flammability rating : VW-1

CSA C22.2 No.198.1-99

Authorized file No. : LR84766
Operating temperature 125℃
Voltage rating : 600V
Flammability rating : VW-1

Electrical Appliance and Material Control Law
Optional Registration System of Compounds and Materials

Registration of flammability rating (-F-)
(Registration No. : F-SPE-001 to F-SPE-004)

■Markings

The following letters are printed on the surface of Sumitube F32.

SUMIPAC CSA SUMITUBE F32 CSA 125℃ VW-1 -F- (size)

■Applications

1) Insulation, protection and reinforcement of terminations and joints of electric wires
2) Color identification and bundling of electric wires
3) Insulation and protection of resistances and capacitors

■Colors

Standard colors	: Black, brown, red, orange, yellow, green, blue, violet, gray and white

■Properties [UL224]

Properties	Items	Requirements	Typical Values*
Mechanical	Tensile Strength (before aging)	10.4MPa{1.06kg/mm^2} min.	10.9MPa{1.11kgf/mm^2}
	Tensile Strength (after aging)	158℃ ×7 days Percent of original 70% min.	Percent of original 94%
	Ultimate Elongation (before aging)	200% min.	350%
	Ultimate Elongation (after aging)	158℃ ×7 days, 100% min.	320%
	Flexibility	158℃ ×7 days, No cracking	Pass
	Heat Shock	250℃ ×4 hours, No cracking	Pass
	Cold Bend	-30℃ ×1 hour, No cracking	Pass
Electrical	Dielectric Voltage Withstand (before aging)	AC2.5kV ×60sec. No breakdown	Pass
	Dielectric Voltage Withstand (after aging)	158℃ ×7 days AC2.5kV ×60sec. No breakdown	Pass

Electrical	Dielectric Voltage Breakdown (before aging)	AC2.5kV min.	24.8kV
	Dielectric Voltage Breakdown (after aging)	158℃ ×7 days Percent of original 50% AC2.5kV min.	Pass
	Volume Resistivity	10^{14}Ω cm min.	4.4 ×10^{14}Ω cm
Chemical	Copper Corrosion	After leaving for 24hours at humidity 95% and temperature 23℃ 158℃ ×7 days, No corrosion	Pass
	Copper Stability	After leaving for 24hours at humidity 95% and temperature 23℃ 158℃ ×7 days Ultimate Elongation 100% min.	338%
	Flammability	Flame-retardant, Pass VW-1	Pass

13. 導電貼布 Specification:

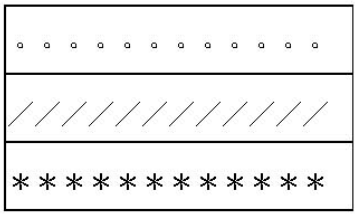
CATERON
嘉得隆科技股份有限公司
台北縣三重市溪尾街 94 號 7 樓
TEL:02-2287-4187 FAX:02-2287-4173
昆山嘉得隆電子有限公司
昆山市經濟技術開發區黃河南路 28 號
TEL:86-512-5737-6767 FAX:86-512-5737-6766

ELECTRICALLY CONDUCTIVE FABRIC TAPE
NO.85510 SERIES

1.PREFACE

CATERON 85510 series products are made of our metallized fabric,(POLYESTER Ni/Cu) CATERON F-510, coated with a pressure sensitive adhesive.
These products can be used as EMI/RFI shielding and grounding tape, which would meet market requirements.

2.COMPOSITION OF PRODUCT



Conductive layer (CATERON F-510)

Adhesive layer (Acrylic conductive pressure sensitive adhesive)

Release paper

3.CHARACTERISTICS OF CATERON 85510

Surface resistivity: ≦ 0.04 ohms/□
Far-field shielding effectiveness, (Typical)

AT	100	MHZ	dB	88
AT	1	GHZ	dB	77

Thickness 0.13mm ± 0.02mm (without release paper)
Peeling strength ≧ 1.1 kg/25mm
Tensile strength ≧ 15 kg/25mm
Electrical resistance through adhesive ≦ 0.06 ohms/sq in

4.PACKAGE

Material code: 85510-W-L
W: Width dimension by customer spec. (Max: 100cm)
L: Standard length 20M

Approved By	Checked By	Prepared By	Document No
駱旭盈	陳政廷	傅碧珠	

14. PIFA Specification:

FROM :WEL HARVEST METAL CO LTD FAX NO. :886229992628 Mar. 15 2004 09:52AM P1

試験成績書 TEST REPORT

三菱電機メテックス株式会社
〒229-1195 神奈川県相模原市宮下1丁目1番57号
電話 042 (779) 5583
MITSUBISHI ELECTRIC METECS Co., Ltd.
1-1-57 MIYASHIMO, SAGAMIHARA,
KANAGAWA 229-1196, JAPAN

御客先名 CUSTOMER NAME WELL HARVEST 御中

代理店名 AGENT NAME 御中

品名 PRODUCT NAME	C7521R	H	製造番号 LOT No.	263383	発行年月日 ISSUE DATE 2004/02/02
寸法 SIZE	0.300* 438.000*		納入数量 QUANTITY		試験年月日 TEST DATE 2003/11/19

化学成分 CHEMICAL COMPOSITION

成分記号 ELEMENT		Ni	Cu				Zn				
規格 SPEC. (%)	MAX.	19.50	66.00				—				
	MIN.	18.60	62.00				—				
分析値 ANALYSIS VALUE		18.810	65.220				17.622				

試験 TEST RESULT

項目 ITEM		引張強さ Tensile Strength N/mm2	伸び Elongation %	硬さ Hardness HV			
規格 SPEC.	条件 CONDITION						
	MAX.	—	—	205.0000			
	MIN.	540.0000	3.0000	150.0000			
測定値 MEASUREMENT VALUE		578.000	6.600	182.000			

項目 ITEM							
規格 SPEC.	条件 CONDITION						
	MAX.						
	MIN.						
測定値 MEASUREMENT VALUE							

項目 ITEM	条件 CONDITION	測定値 MEASUREMENT VALUE

備考 REMARKS

検査合格／PASS

規格番号 SPEC. NO.	1246000004 A
顧客仕様書番号 CUSTOMER'S SPEC. NO.	JIS H 3110

K. Kubozono
MANAGER of
QUALITY ASSURANCE SECTION

責任者	担当者