

DATE : 2007. 08. 30

CUSTOMER : First International Computer , Inc.

TEST REPORT

MODEL	MCR030
DESCRIPTION	PIFA For Wireless LAN Antenna 2.4~2.5GHZ / 5.15~5.875GHZ
SUPPLIER P/N	
CUSTOMER P/N	21-92657-01(M1) 21-92656-01 (M2) 21-92658-01 (AUX3)
FILE P/N	

FAVORTRON			CUSTOMER	
Manager	Supervisor	Engineer		
Dominic	Jesse	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
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TEL: (02) 2218-2189
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[URL: www.fvc.com.tw](http://www.fvc.com.tw)

1. Antenna Spec. For WLAN

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

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

802.11a Spec.

- a. Frequency range : 4.9 ~ 5.875GHz (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

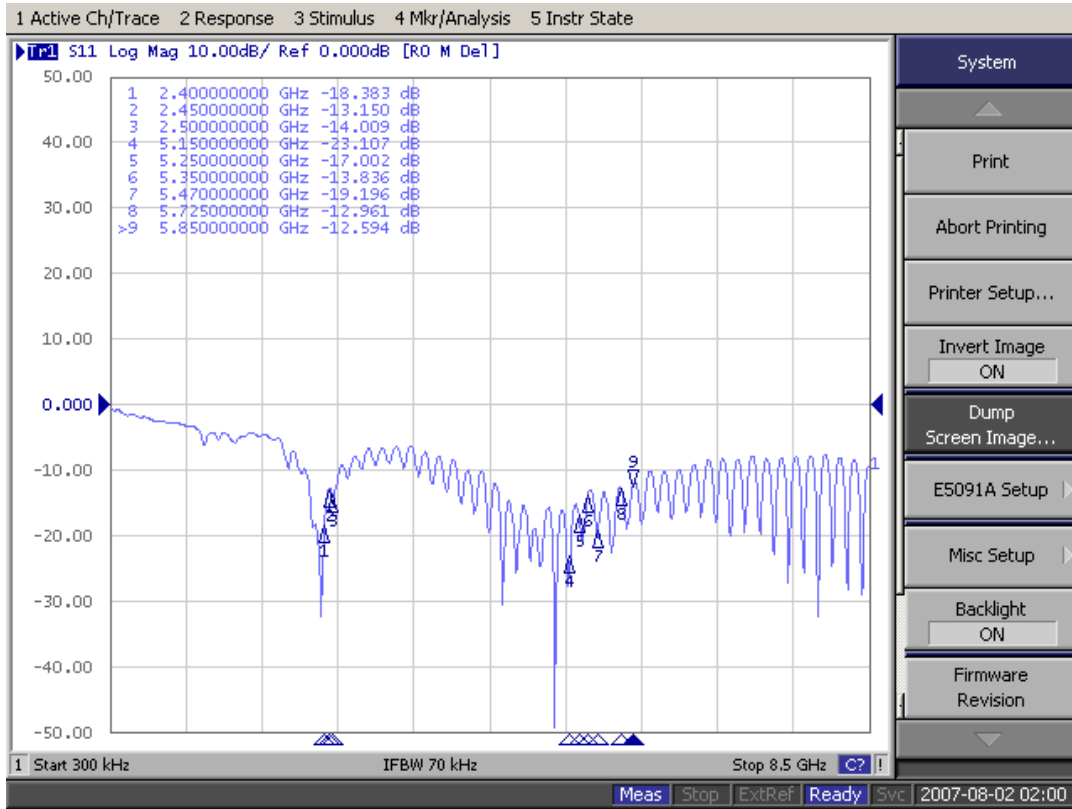
Antenna	Peak Gain (dBi)			Average Gain (dBi)		
	Frequency			Frequency		
	4.9GHz	5.47GHz	5.875GHz	4.9GHz	5.47GHz	5.875GHz
Main	≤ 5	≤ 5	≤ 5	≥ -4.8	≥ -4.8	≥ -4.8
Auxiliary	≤ NA	≤ NA	≤ NA	≥ -4.8	≥ -4.8	≥ -4.8

2. DESCRIPTION

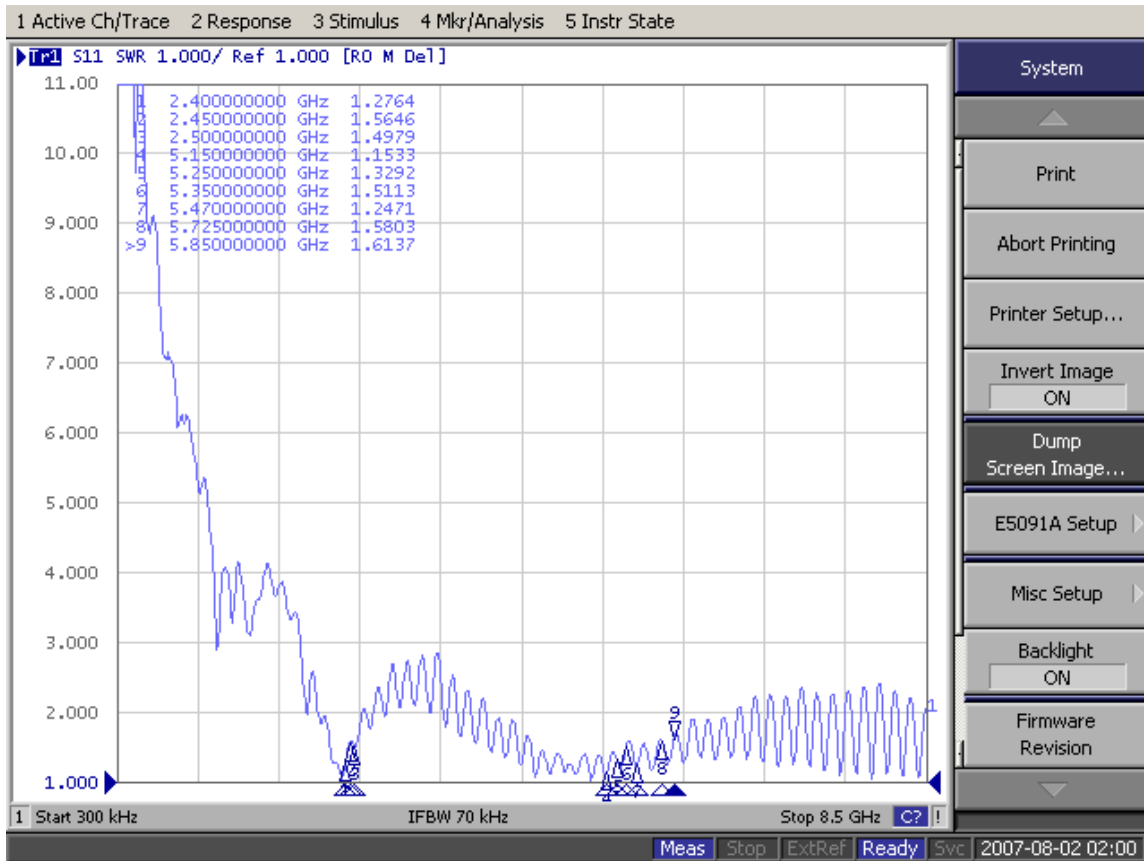
- a. **FIC Project Name & FIC P/N** **MR030**
21-92657-01(M1), 21-92656-01 (M2),
21-92658-01 (AUX3)
- b. **& Frequency** **Daul Band 2.4~2.5 & 5.15~5.875 GHz**
- b. **Vendor's antenna P/N** **K05004003101(M1), K05004003001(M2),**
K05004002801(AUX3)
- c. **Antenna P/N & type & material** **M02007024001(M1), M02007025001 (M2) ,**
M02007042001 (AUX3) ,PIFA & Iron
395 mm(Right, Black) & 1.13Φ
- d. **Coaxial cable length & diameter(Φ)** **M04007034001**
- e. **& Cable P/N & Vendor** **L07001001001**
- e. **Connector model no. & vendor** **L07001001001**
- f. **Coaxial cable length & diameter(Φ)** **650 mm(Left, Grey) & 1.13Φ**
- f. **& Cable P/N & Vendor** **M04007222001**
- g. **Connector model no. & vendor** **L07001001001**
- h. **Coaxial cable length & diameter(Φ)** **315 mm(Right, White) & 1.13Φ**
- h. **& Cable P/N & Vendor** **M04007232001**
- i. **Connector model no. & vendor** **L07001001001**

3. WLAN.(AUX 3)

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



2.4~2.5GHZ & 5.15~5.875GHZ / VSWR



4.Gain & Pattern – MIMO. (AUX 3)

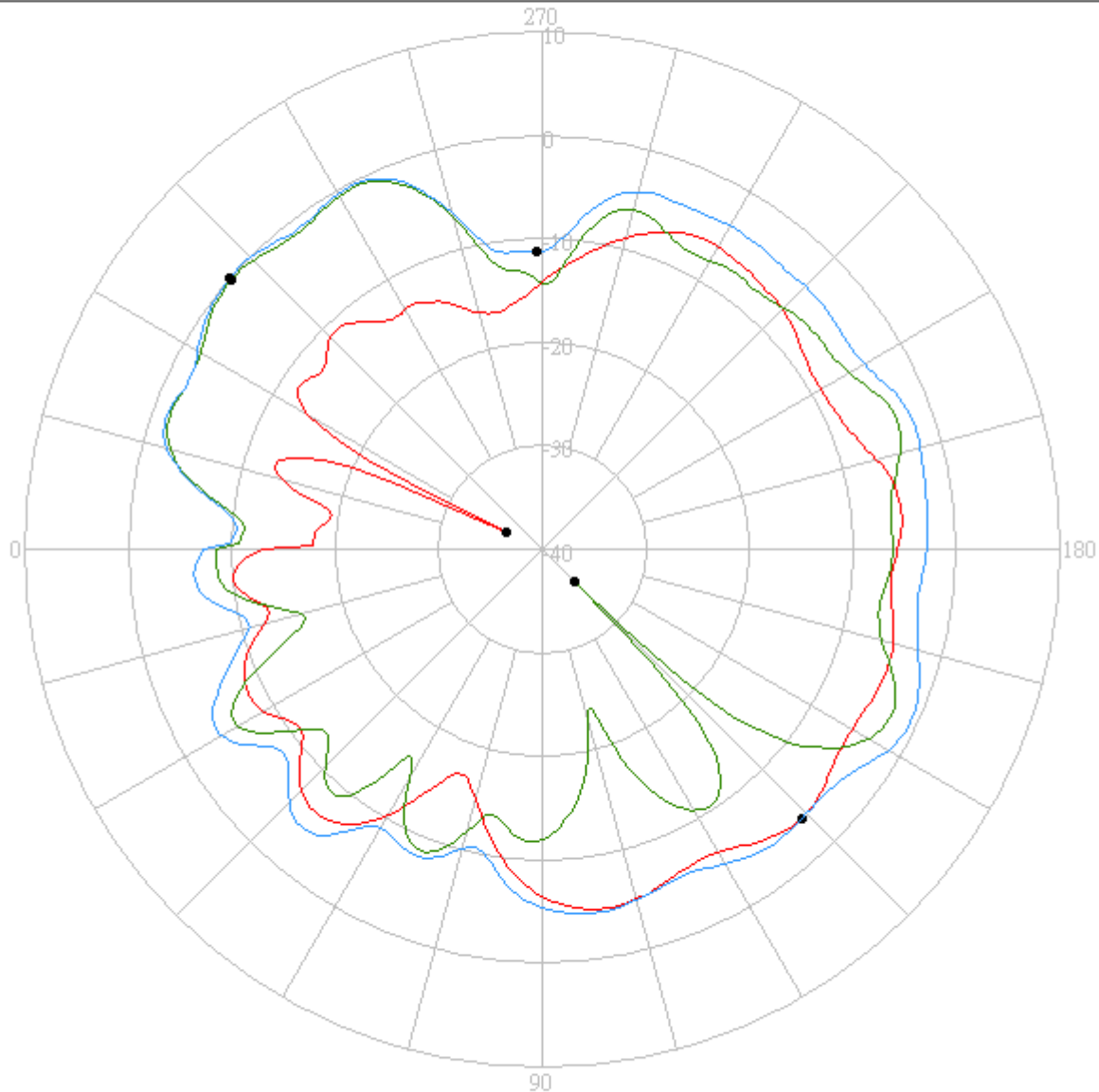
a. 2.4GHz



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Antenna Pattern Measurement

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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	2400.00	-3.93 / 134.00	-36.11 / 335.00	-8.04	Ver.	2007/8/3
2	MR030	AUX	2400.00	-0.22 / 319.00	-35.64 / 135.00	-5.99	Hor.	2007/8/3
3	MR030	AUX	2400.00	0.04 / 319.00	-11.27 / 271.00	-3.88	V+H	2007/8/3

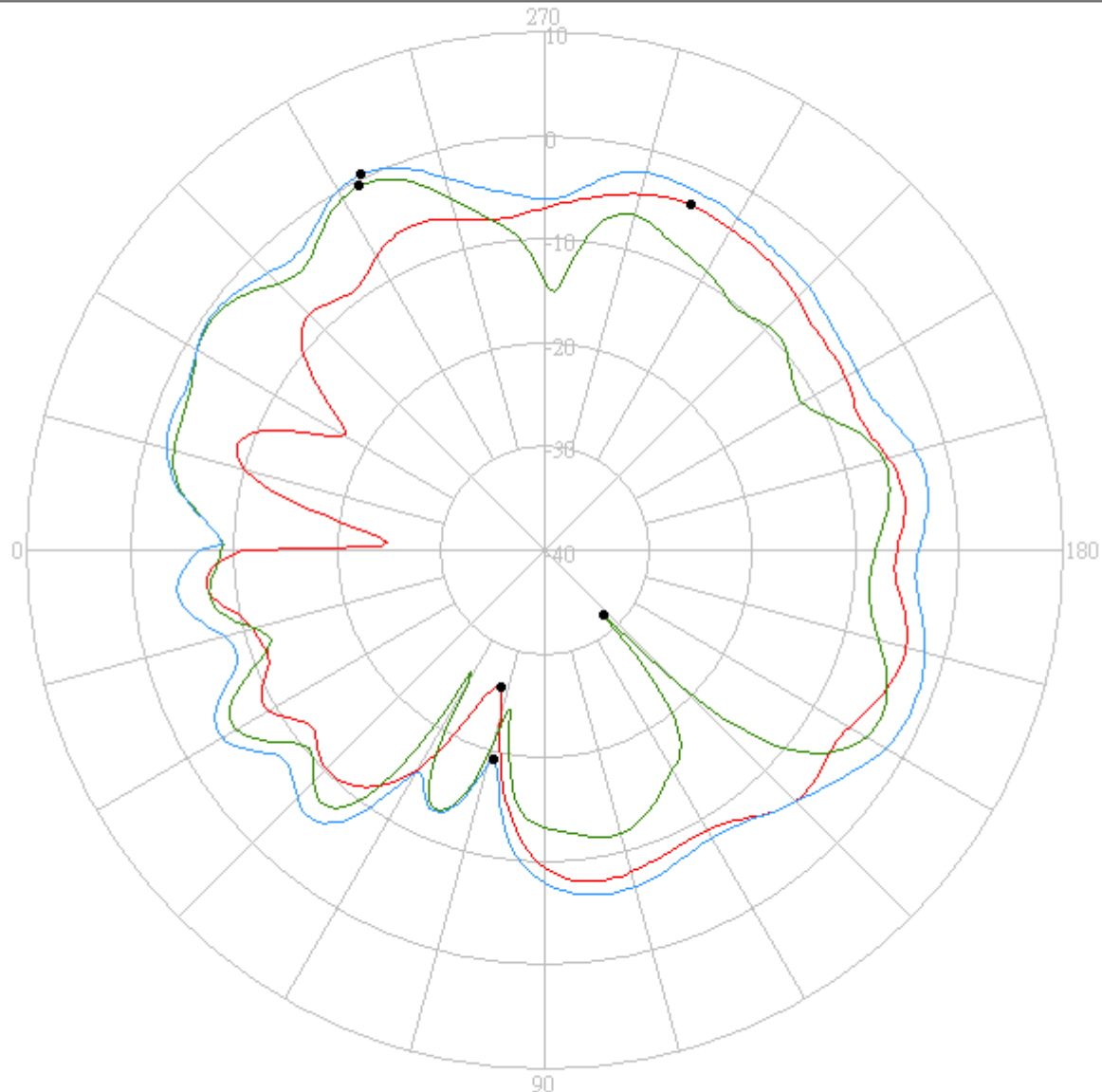
b. 2.45GHz



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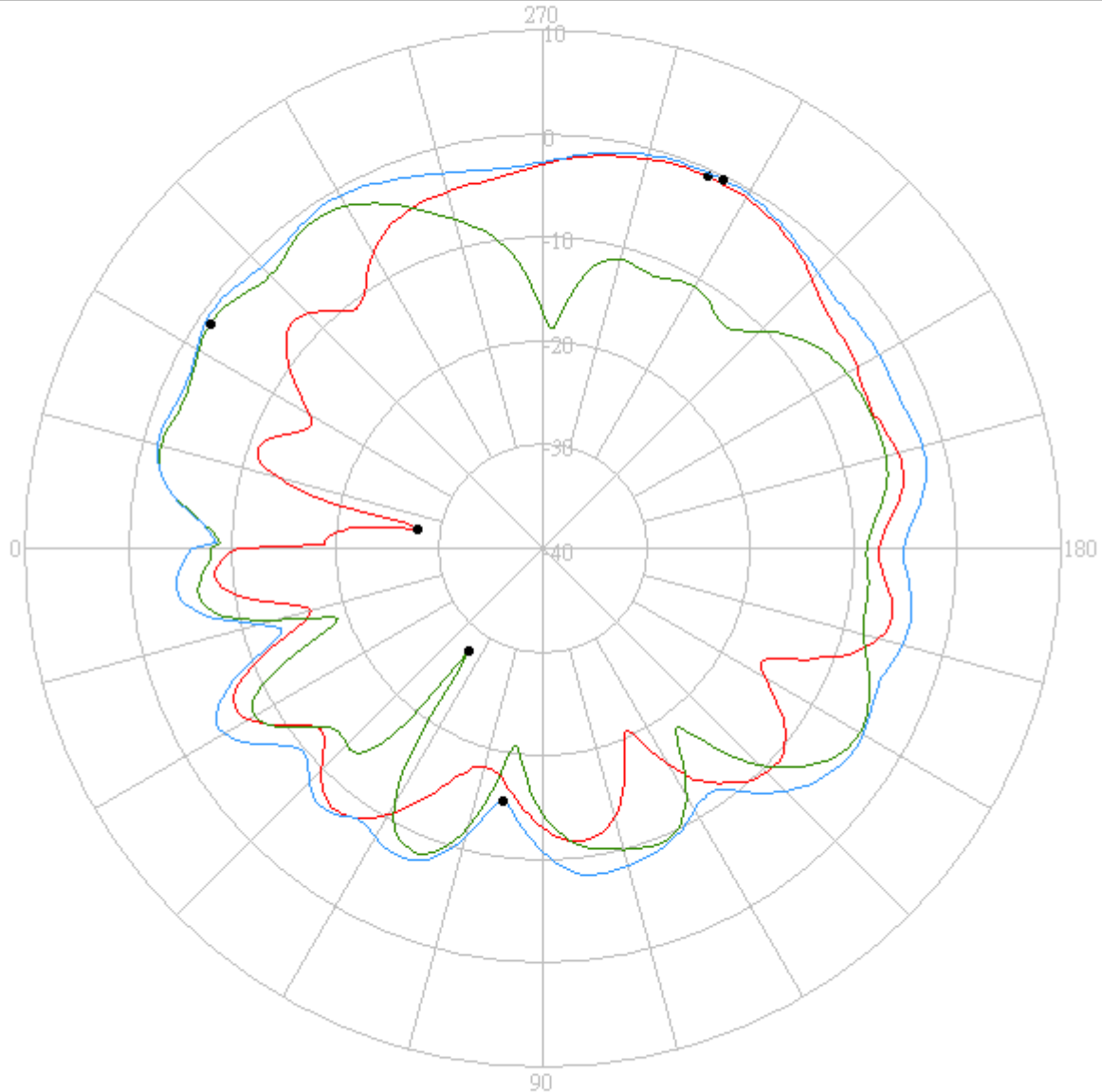
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	2450.00	-3.85 / 247.00	-26.20 / 72.00	-7.45	Ver.	2007/8/3
2	MR030	AUX	2450.00	-0.64 / 297.00	-31.60 / 133.00	-6.68	Hor.	2007/8/3
3	MR030	AUX	2450.00	0.34 / 296.00	-19.32 / 76.00	-4.04	V+H	2007/8/3

c. 2.5GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	2500.00	-0.78 / 246.00	-27.80 / 351.00	-6.68	Ver.	2007/8/3
2	MR030	AUX	2500.00	-1.26 / 326.00	-27.72 / 54.00	-6.87	Hor.	2007/8/3
3	MR030	AUX	2500.00	-0.43 / 244.00	-15.26 / 81.00	-3.76	V+H	2007/8/3

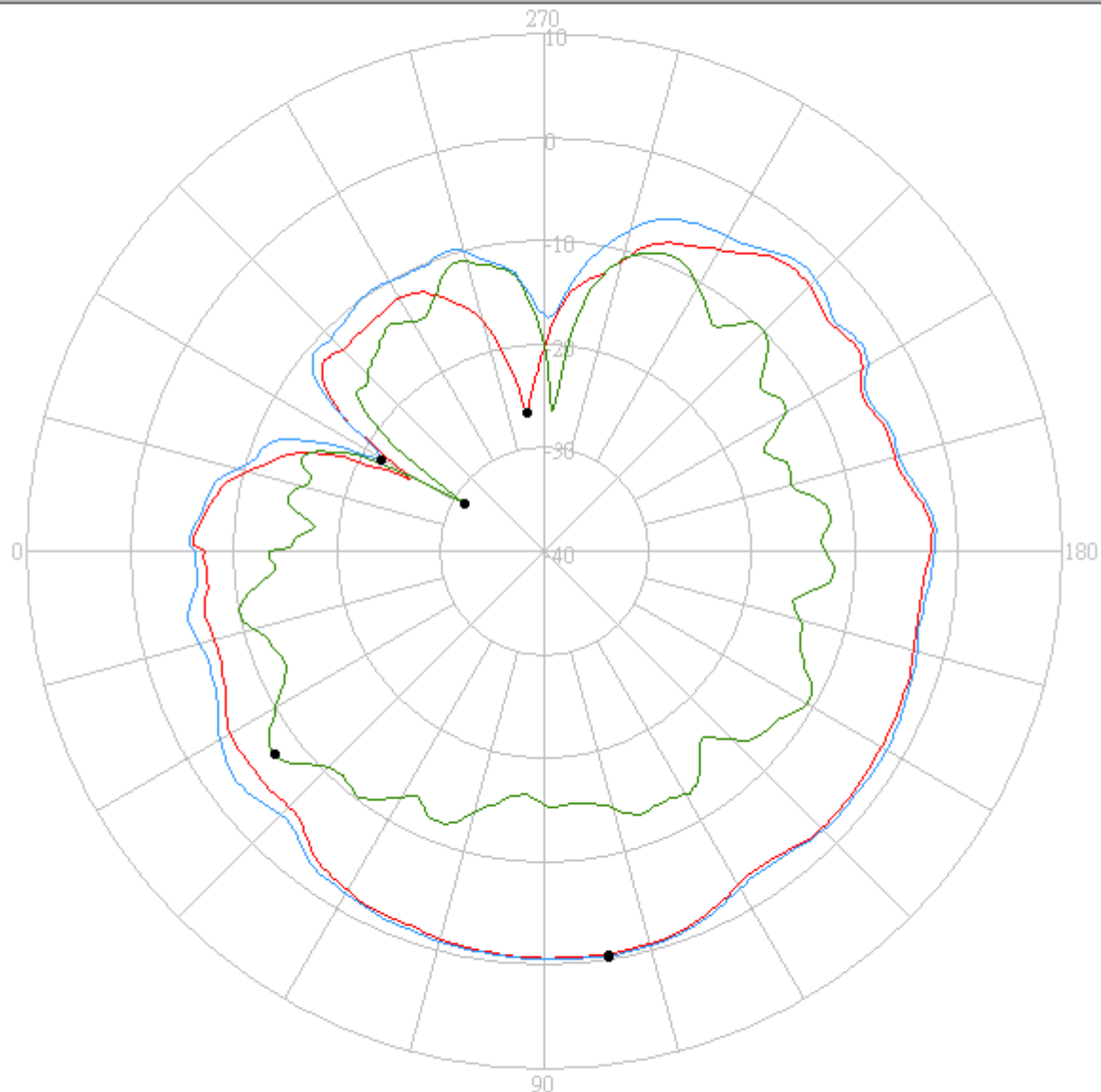
d. 4.9GHz



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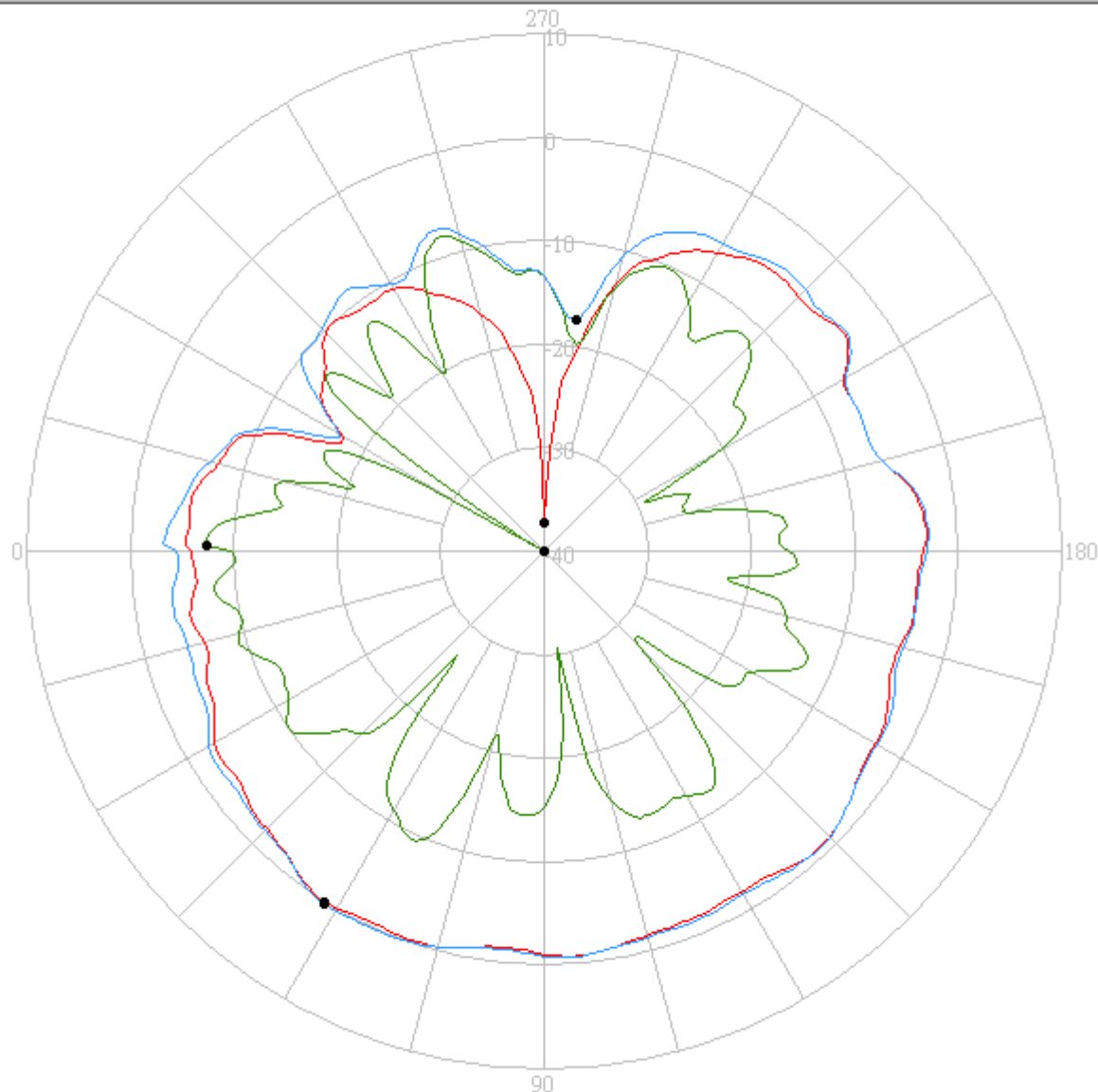
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	4900.00	-0.55 / 99.00	-26.46 / 277.00	-4.50	Ver.	2007/8/3
2	MR030	AUX	4900.00	-7.38 / 37.00	-31.13 / 329.00	-12.76	Hor.	2007/8/3
3	MR030	AUX	4900.00	-0.40 / 99.00	-21.91 / 331.00	-3.90	V+H	2007/8/3

e. 5.075GHz



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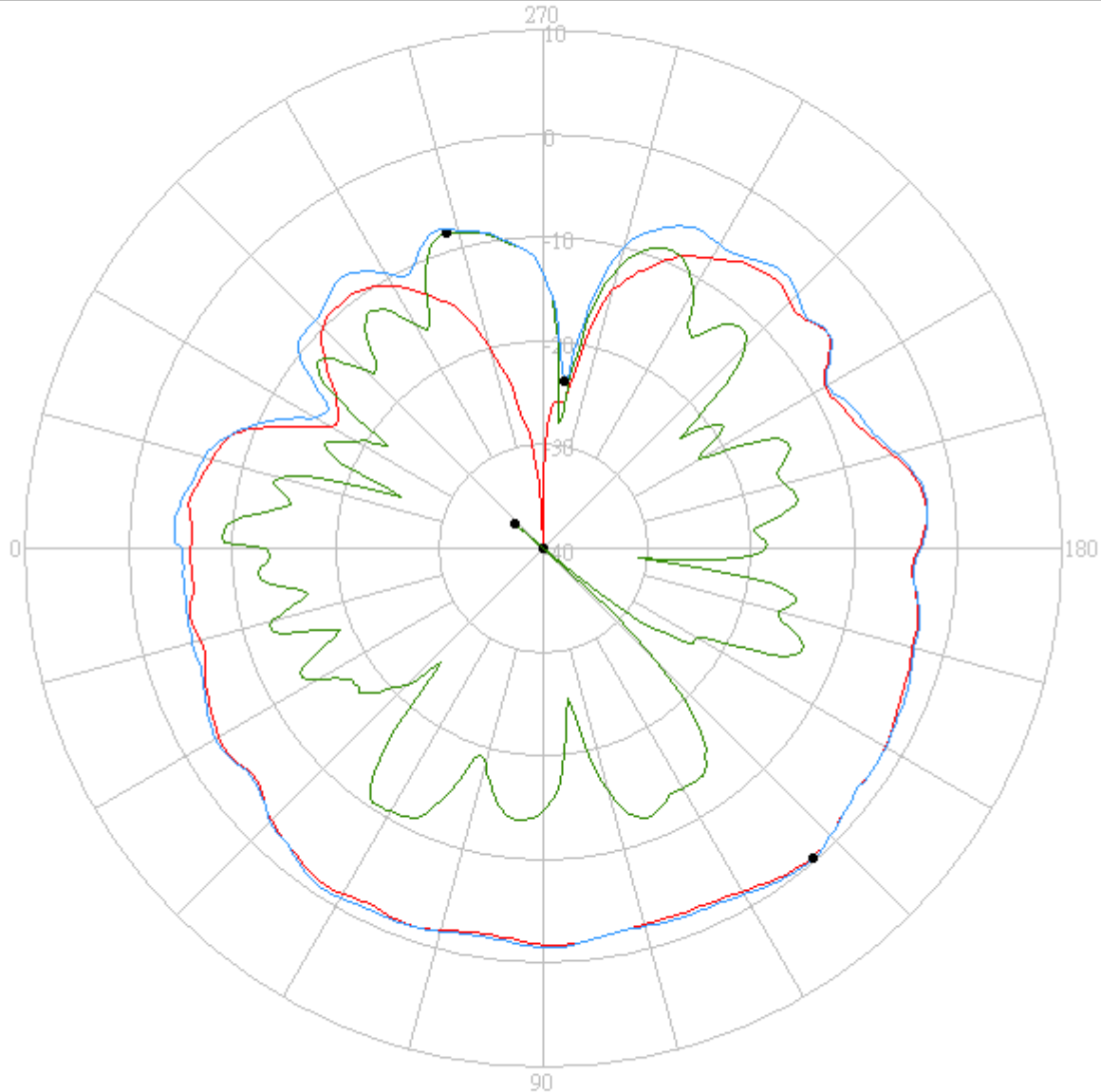
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5075.00	-0.06 / 58.00	-37.34 / 269.00	-4.19	Ver.	2007/8/3
2	MR030	AUX	5075.00	-7.40 / 359.00	-40.05 / 330.00	-13.41	Hor.	2007/8/3
3	MR030	AUX	5075.00	0.23 / 58.00	-17.49 / 262.00	-3.70	V+H	2007/8/3

f. 5.15GHz



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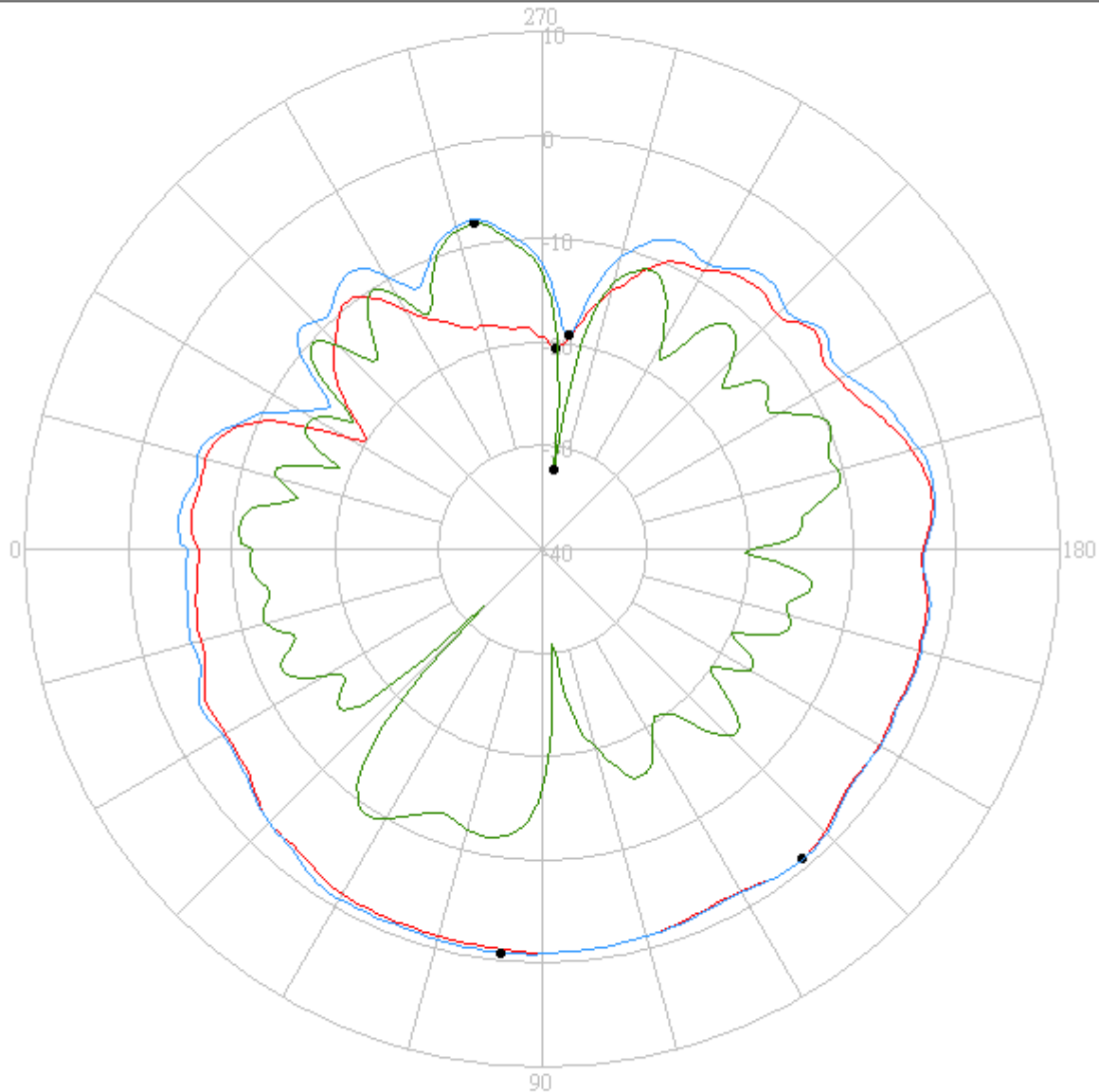
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5150.00	-0.46 / 131.00	-41.46 / 272.00	-4.54	Ver.	2007/8/3
2	MR030	AUX	5150.00	-8.27 / 287.00	-43.63 / 139.00	-13.99	Hor.	2007/8/3
3	MR030	AUX	5150.00	-0.37 / 131.00	-23.69 / 263.00	-4.08	V+H	2007/8/3

g. 5.25GHz



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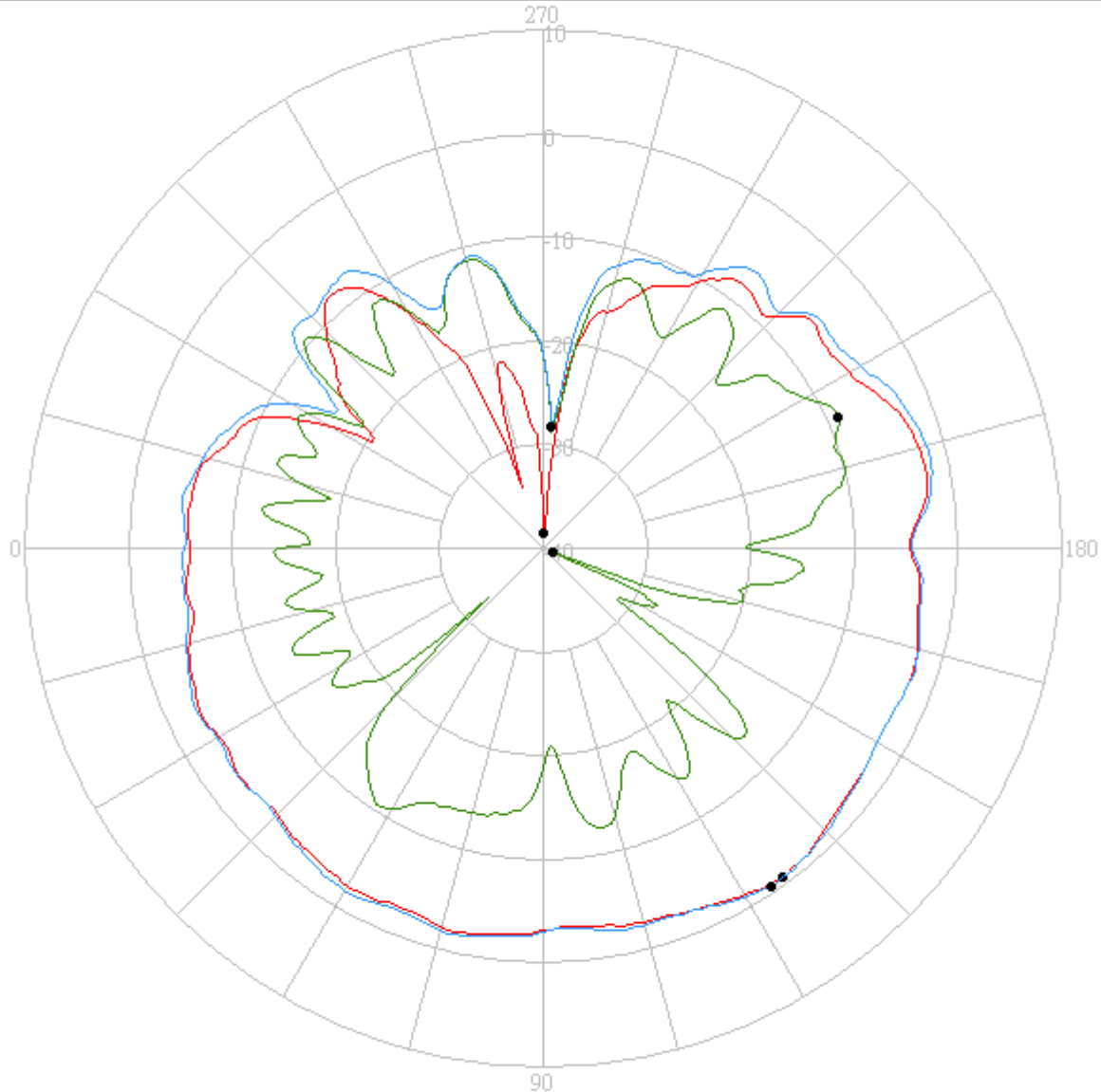
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5250.00	-0.93 / 130.00	-20.52 / 266.00	-4.33	Ver.	2007/8/3
2	MR030	AUX	5250.00	-7.87 / 282.00	-32.27 / 262.00	-13.34	Hor.	2007/8/3
3	MR030	AUX	5250.00	-0.84 / 84.00	-19.19 / 263.00	-3.81	V+H	2007/8/3

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	MR030	AUX	5350.00	-0.84 / 126.00	-38.49 / 267.00	-4.72	Ver.	2007/8/3
2	MR030	AUX	5350.00	-8.93 / 204.00	-38.94 / 158.00	-14.35	Hor.	2007/8/3
3	MR030	AUX	5350.00	-0.71 / 124.00	-28.34 / 266.00	-4.27	V+H	2007/8/3

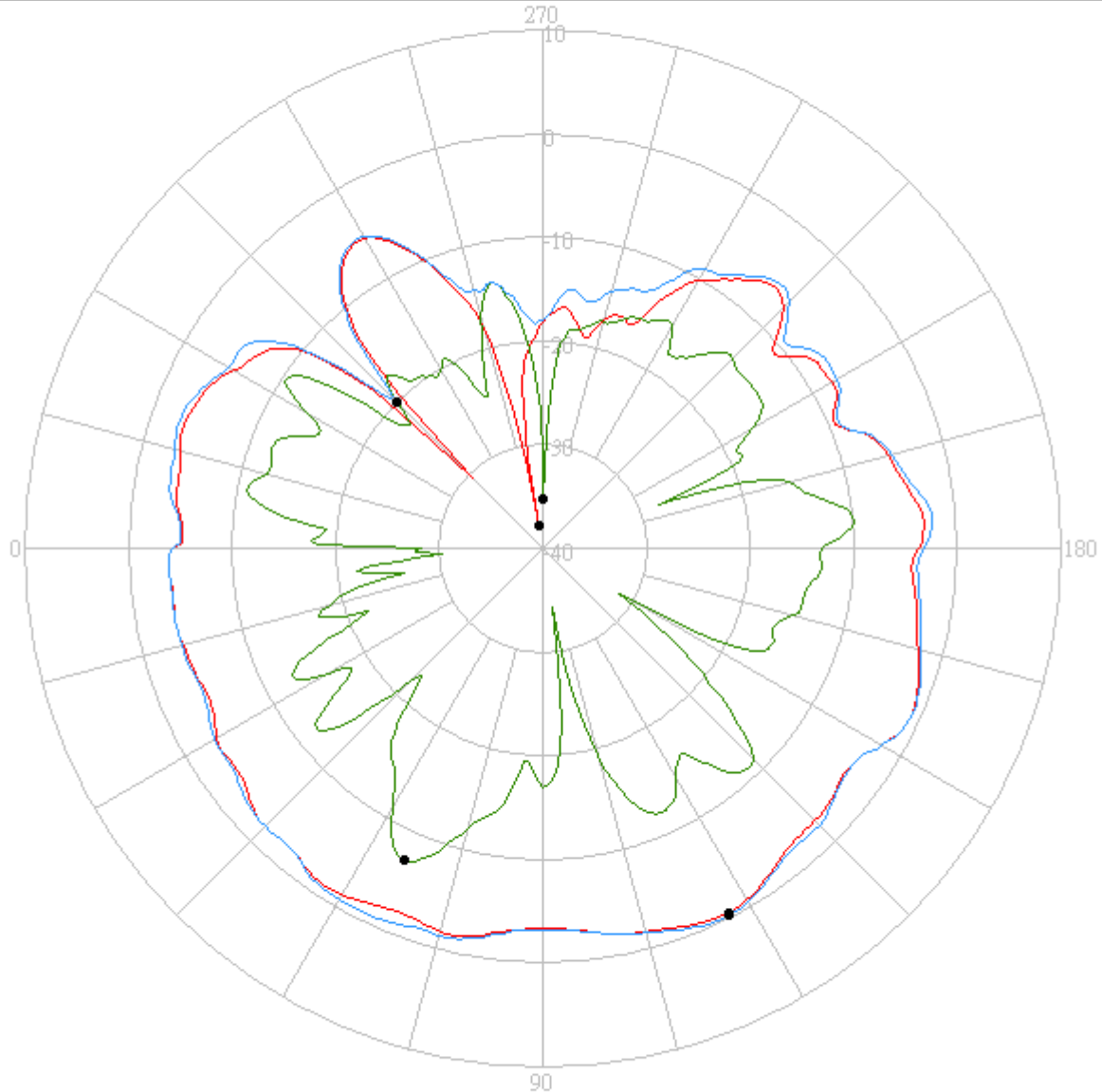
i. 5.47GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5470.00	-0.60 / 117.00	-37.72 / 280.00	-4.33	Ver.	2007/8/3
2	MR030	AUX	5470.00	-7.13 / 66.00	-35.23 / 269.00	-14.86	Hor.	2007/8/3
3	MR030	AUX	5470.00	-0.33 / 117.00	-19.96 / 315.00	-3.97	V+H	2007/8/3

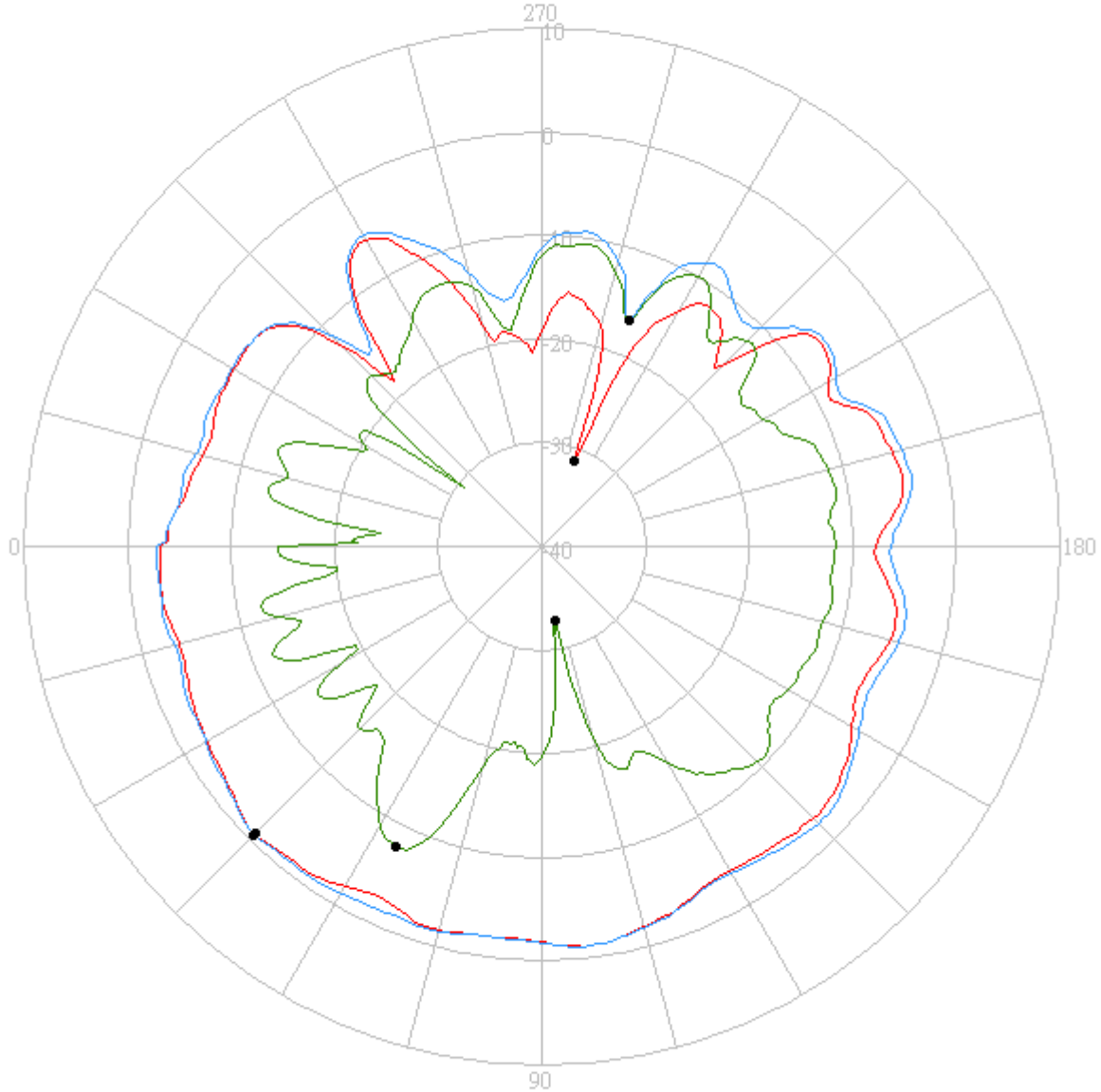
j. 5.6GHz



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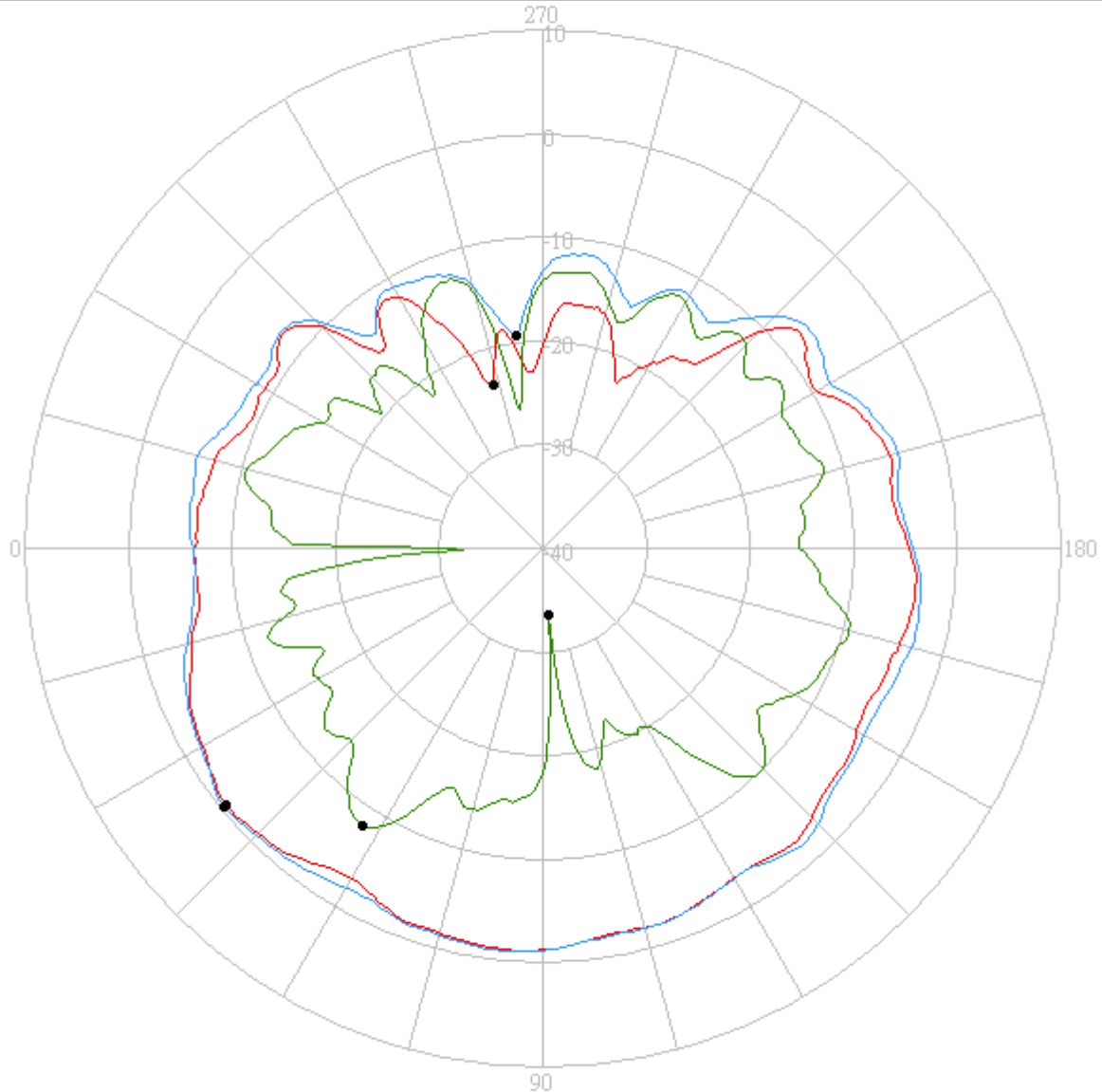
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5600.00	-0.81 / 45.00	-31.12 / 249.00	-4.80	Ver.	2007/8/3
2	MR030	AUX	5600.00	-7.79 / 64.00	-32.83 / 100.00	-13.60	Hor.	2007/8/3
3	MR030	AUX	5600.00	-0.66 / 45.00	-16.64 / 249.00	-4.26	V+H	2007/8/3

k. 5.725GHz



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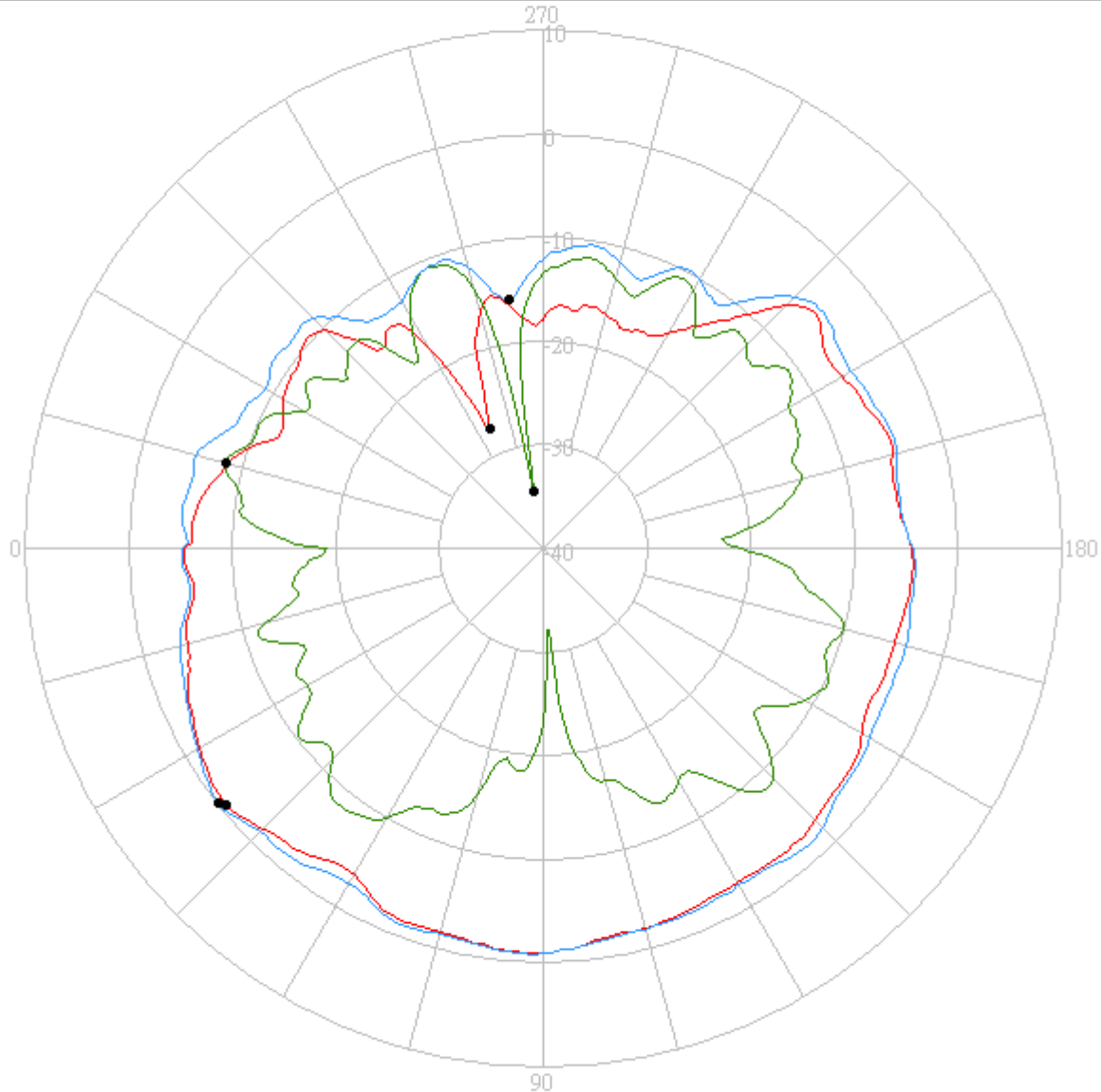
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5725.00	-0.69 / 39.00	-23.61 / 287.00	-5.03	Ver.	2007/8/3
2	MR030	AUX	5725.00	-8.15 / 57.00	-33.53 / 95.00	-13.64	Hor.	2007/8/3
3	MR030	AUX	5725.00	-0.43 / 39.00	-19.36 / 277.00	-4.47	V+H	2007/8/3

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	MR030	AUX	5785.00	-0.64 / 39.00	-27.43 / 294.00	-4.91	Ver.	2007/8/3
2	MR030	AUX	5785.00	-8.30 / 345.00	-34.39 / 280.00	-12.64	Hor.	2007/8/3
3	MR030	AUX	5785.00	-0.20 / 38.00	-15.83 / 278.00	-4.23	V+H	2007/8/3

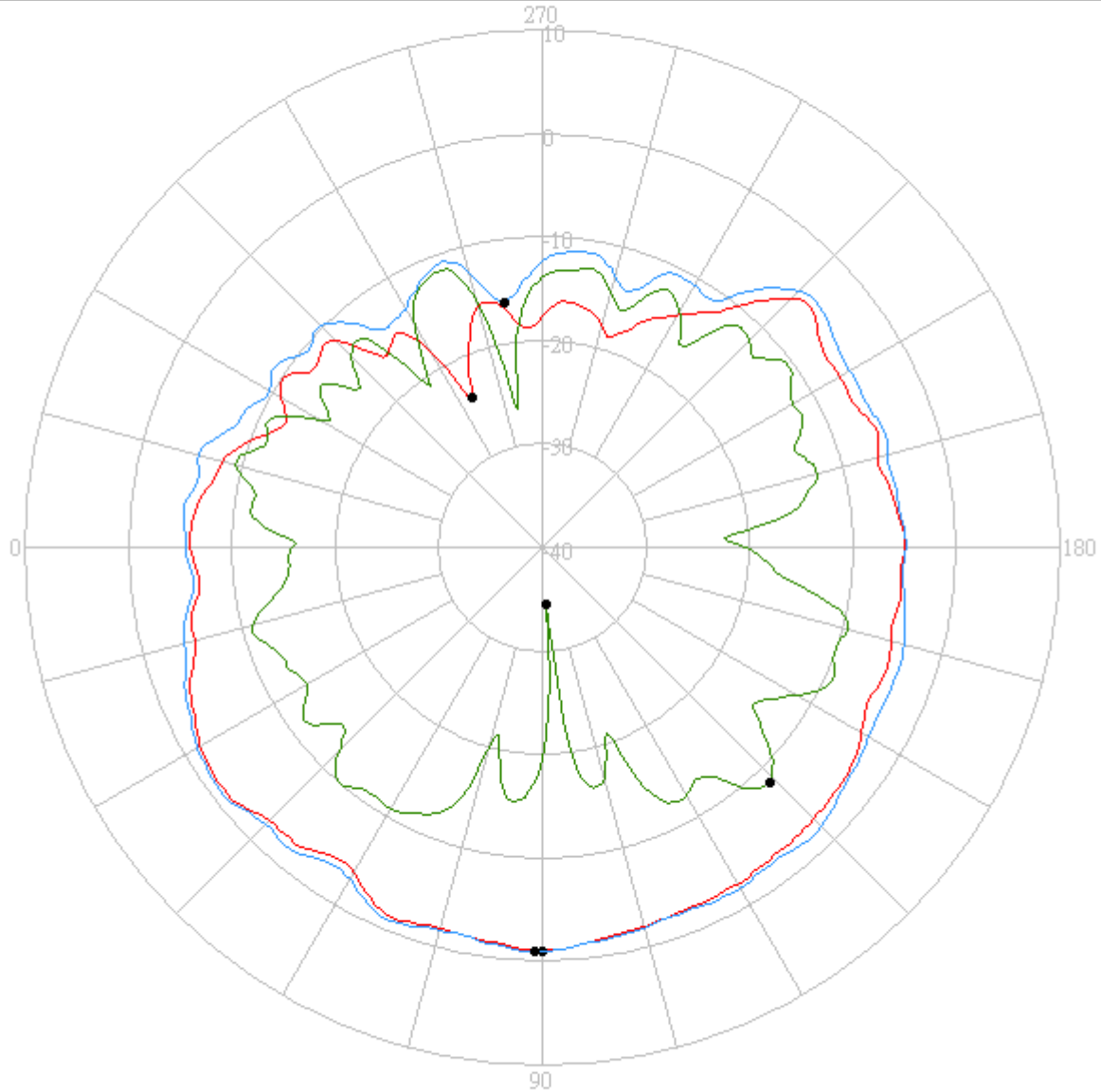
m. 5.85GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5850.00	-1.05 / 90.00	-24.05 / 295.00	-5.08	Ver.	2007/8/3
2	MR030	AUX	5850.00	-8.40 / 134.00	-34.49 / 94.00	-12.95	Hor.	2007/8/3
3	MR030	AUX	5850.00	-0.97 / 89.00	-16.00 / 279.00	-4.43	V+H	2007/8/3

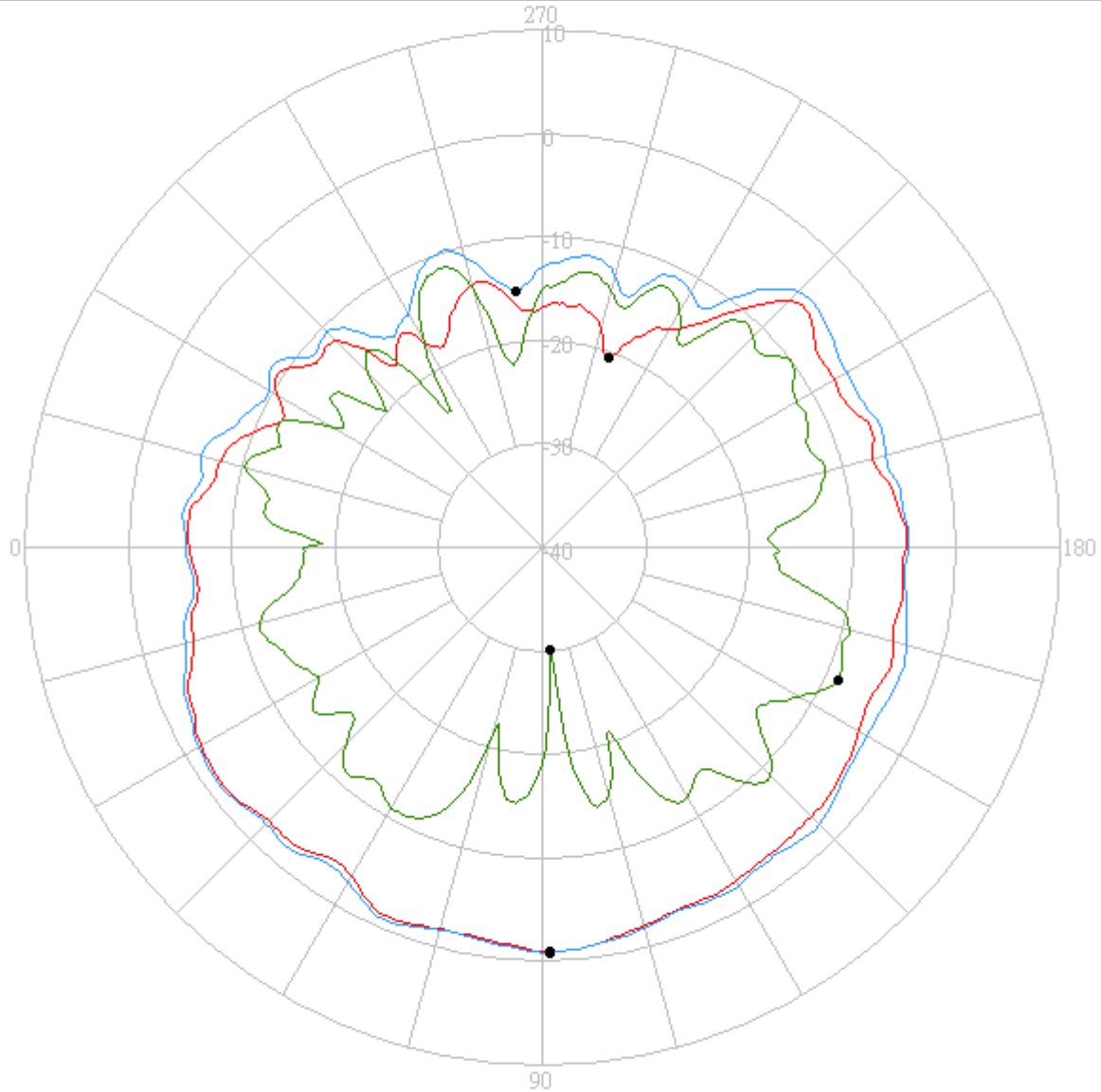
n. 5.875GHz



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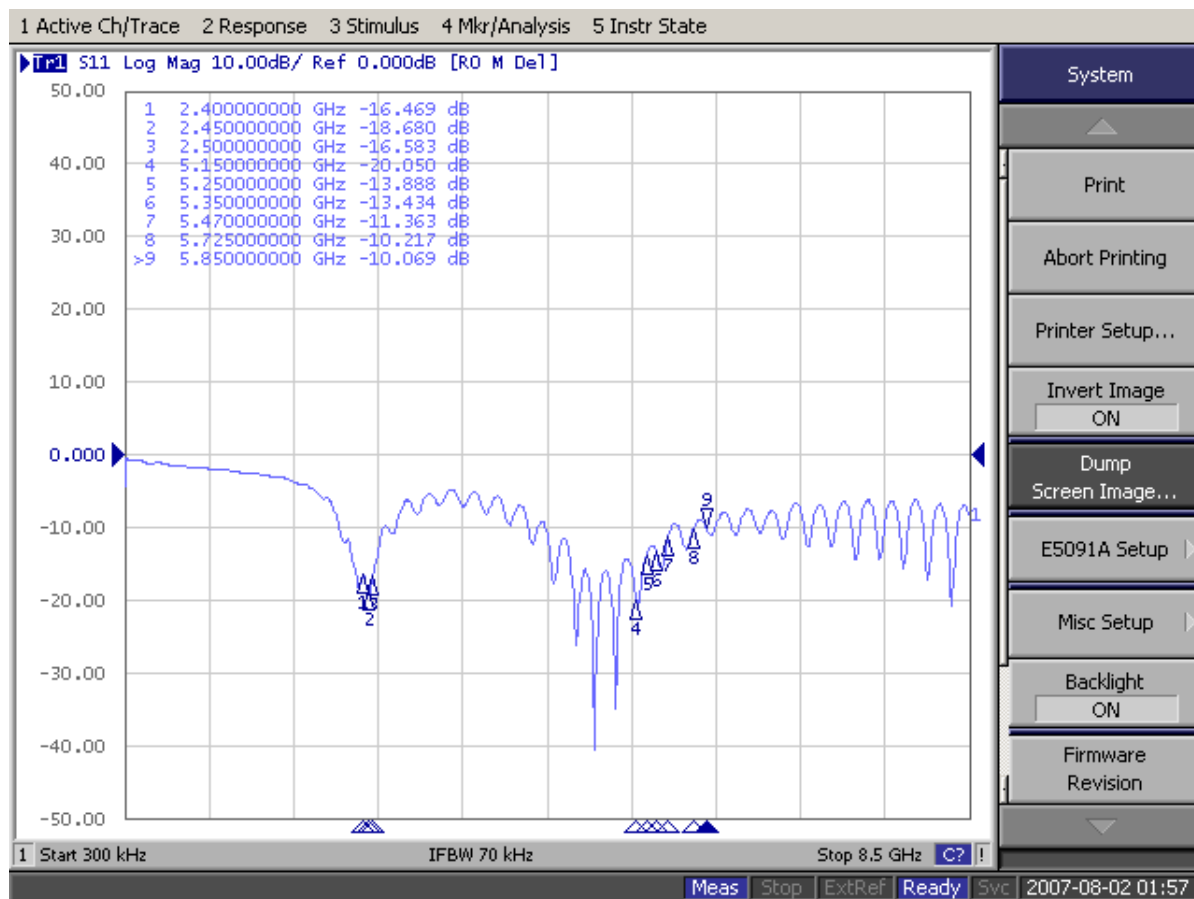
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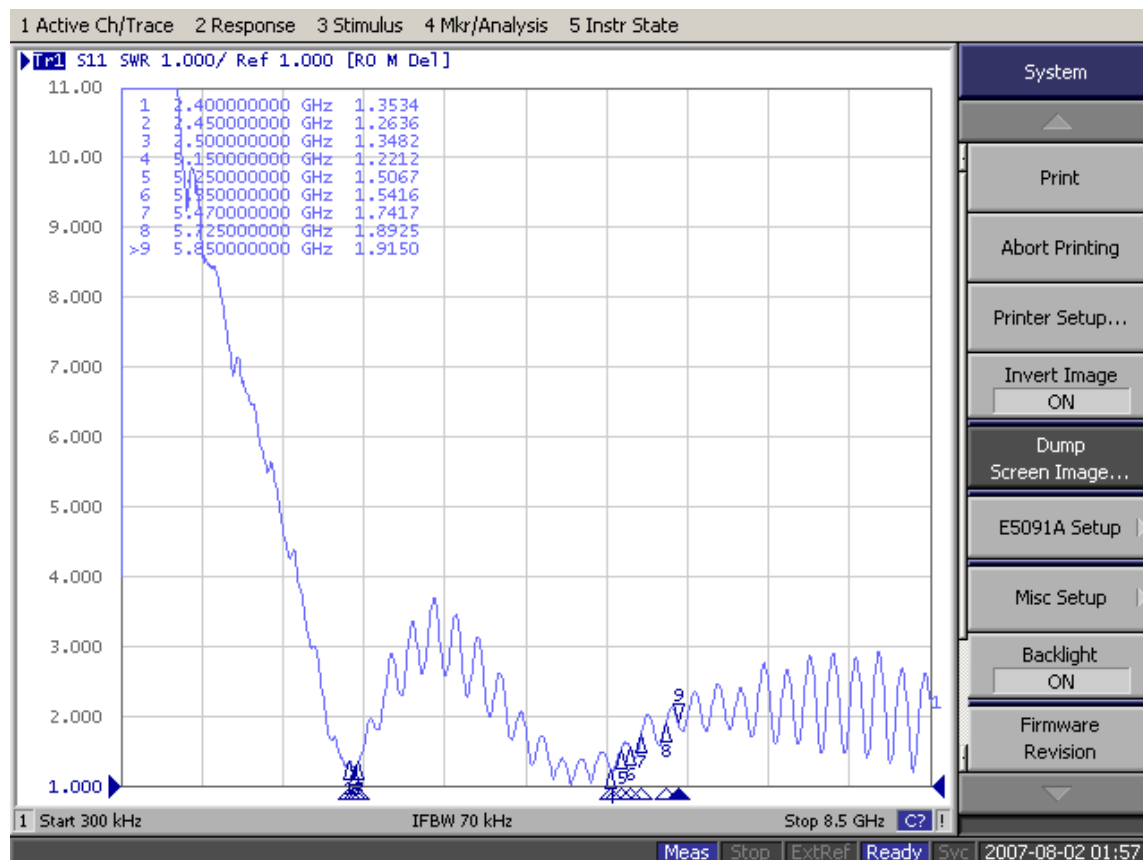
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	AUX	5875.00	-0.89 / 91.00	-20.59 / 251.00	-5.11	Ver.	2007/8/3
2	MR030	AUX	5875.00	-8.65 / 156.00	-30.04 / 94.00	-13.17	Hor.	2007/8/3
3	MR030	AUX	5875.00	-0.85 / 91.00	-15.22 / 276.00	-4.48	V+H	2007/8/3

5.MIMO.(MAIN 1)

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



2.4~2.5GHZ & 5.15~5.875GHZ / VSWR



6. Gain & Pattern – MIMO. (MAIN 1)

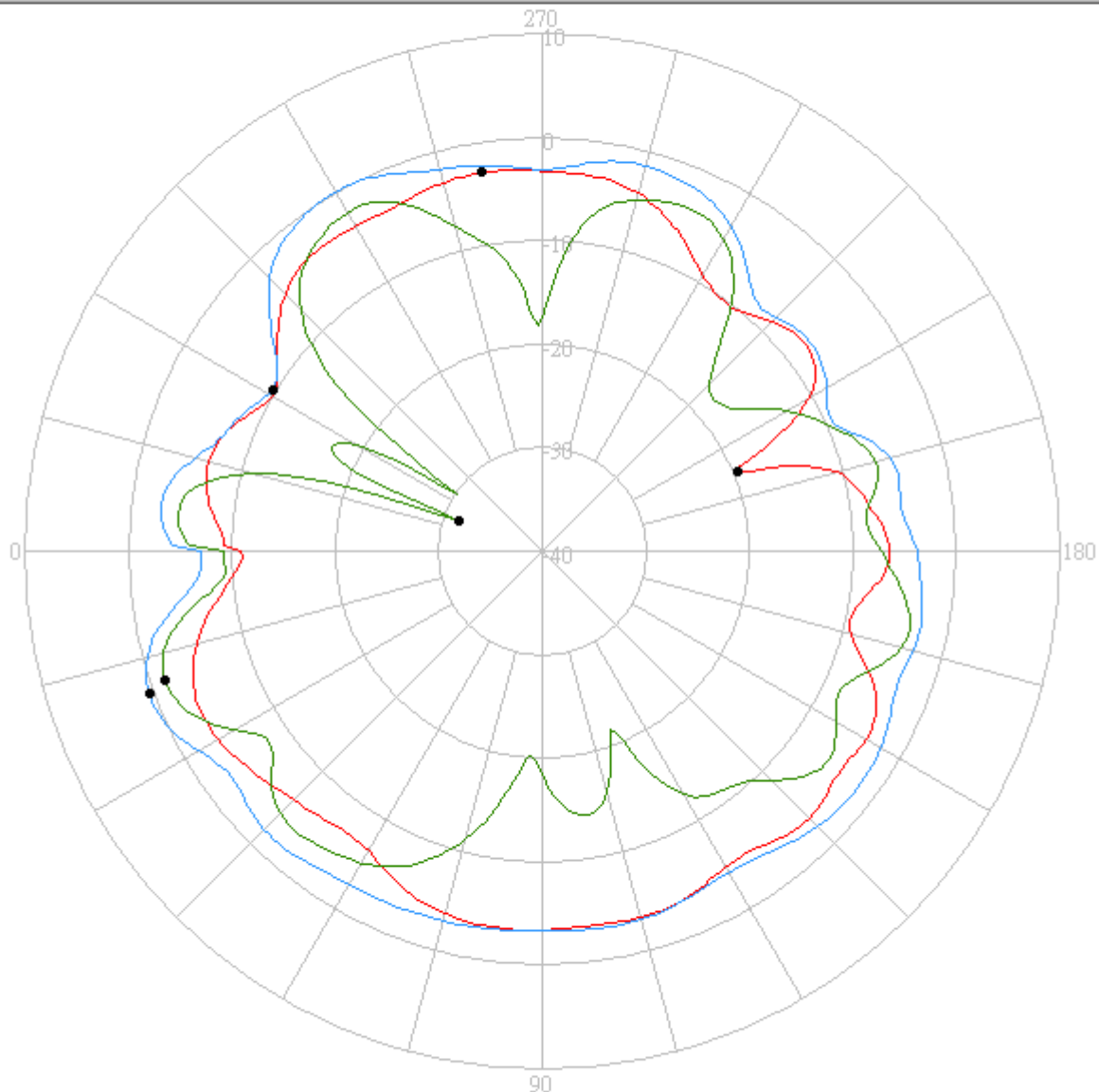
a. 2.4GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	MAIN	2400.00	-2.99 / 279.00	-19.70 / 202.00	-5.39	Ver.	2007/8/1
2	MR030	MAIN	2400.00	-1.49 / 19.00	-31.33 / 340.00	-6.99	Hor.	2007/8/1
3	MR030	MAIN	2400.00	0.40 / 20.00	-9.62 / 329.00	-3.10	V+H	2007/8/1

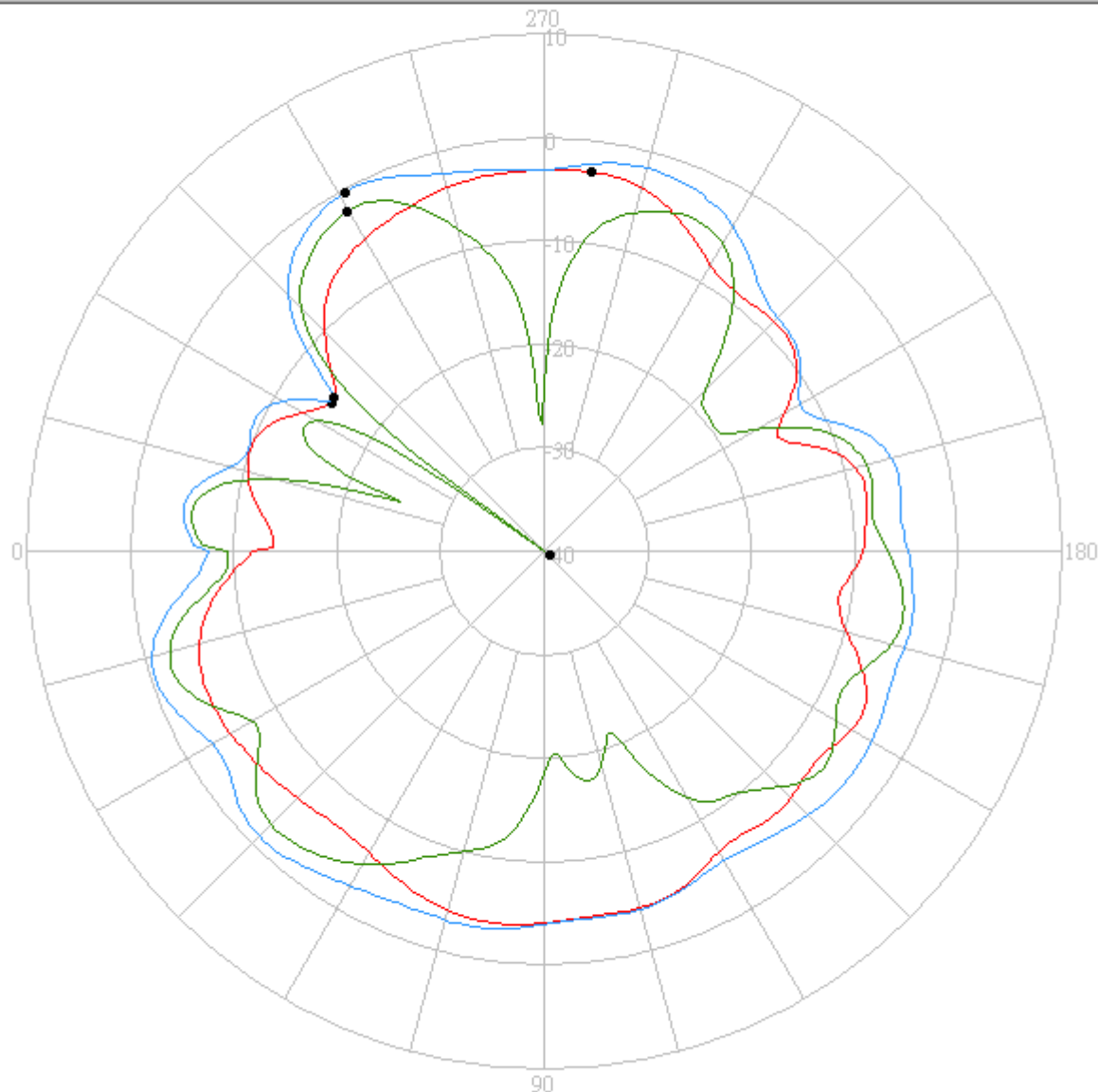
b. 2.45GHz



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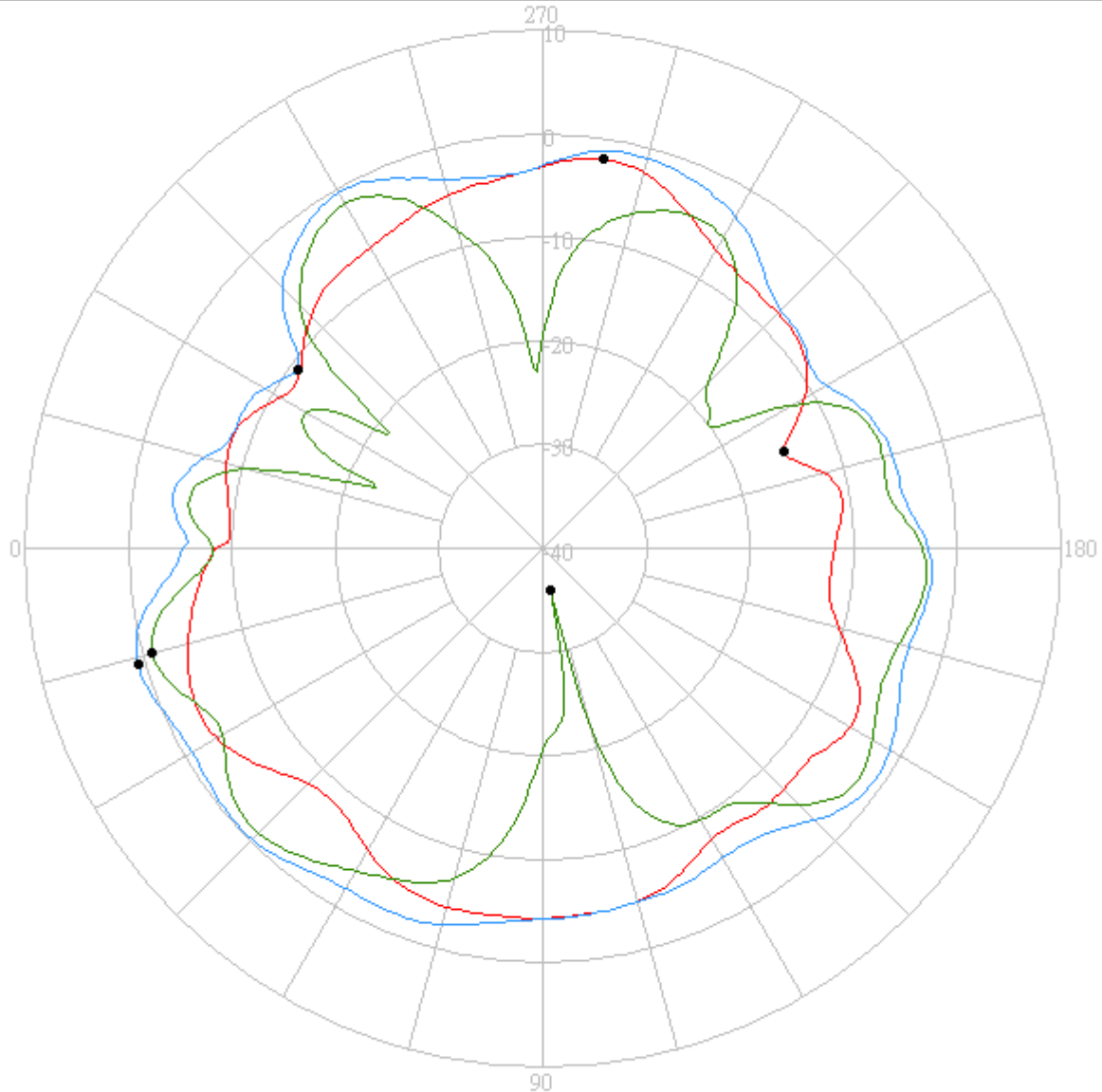
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	MAIN	2450.00	-3.11 / 263.00	-14.95 / 325.00	-6.34	Ver.	2007/8/1
2	MR030	MAIN	2450.00	-2.06 / 300.00	-40.61 / 324.00	-7.19	Hor.	2007/8/1
3	MR030	MAIN	2450.00	-0.32 / 299.00	-14.87 / 324.00	-3.73	V+H	2007/8/1

c. 2.5GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	2500.00	-2.01 / 261.00	-14.86 / 202.00	-6.26	Ver.	2007/8/1
2	MRO30	MAIN	2500.00	-1.00 / 15.00	-35.82 / 101.00	-5.74	Hor.	2007/8/1
3	MRO30	MAIN	2500.00	0.64 / 16.00	-10.71 / 324.00	-2.98	V+H	2007/8/1

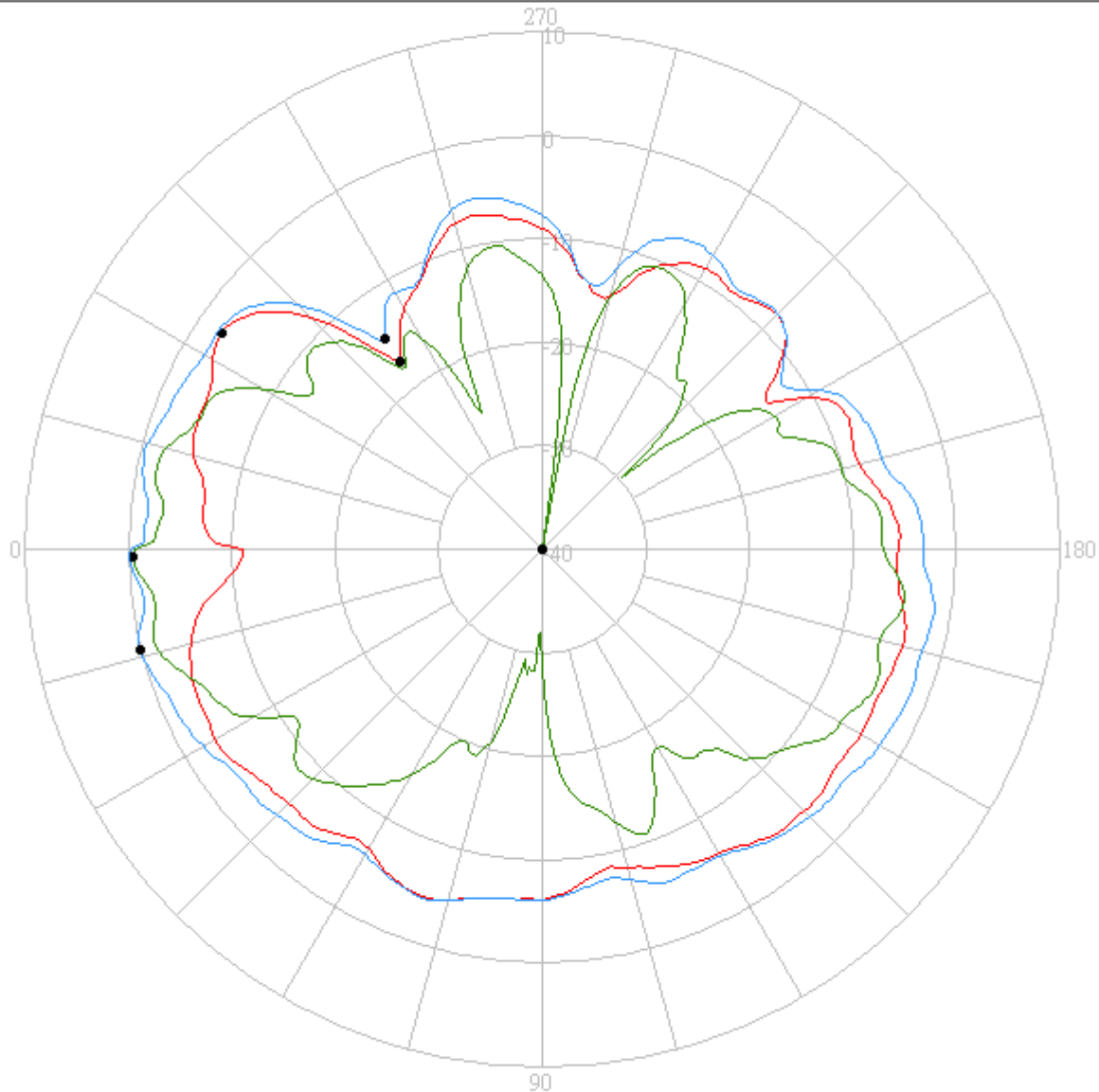
d. 4.9GHZ



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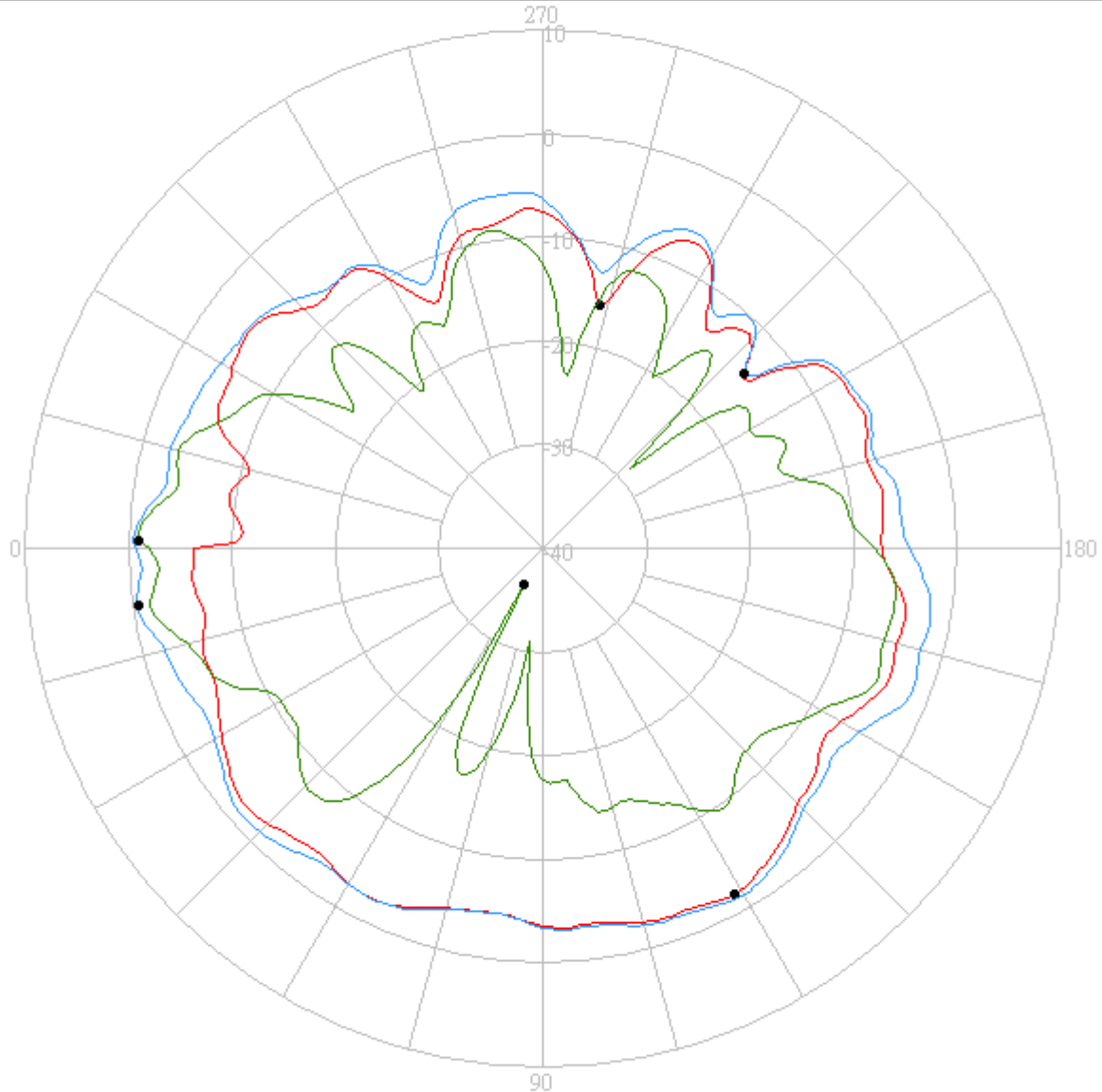
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	4900.00	-2.66 / 326.00	-17.21 / 307.00	-6.34	Ver.	2007/8/1
2	MRO30	MAIN	4900.00	-0.47 / 1.00	-46.03 / 261.00	-8.29	Hor.	2007/8/1
3	MRO30	MAIN	4900.00	0.06 / 14.00	-14.60 / 307.00	-4.20	V+H	2007/8/1

e. 5.075GHZ



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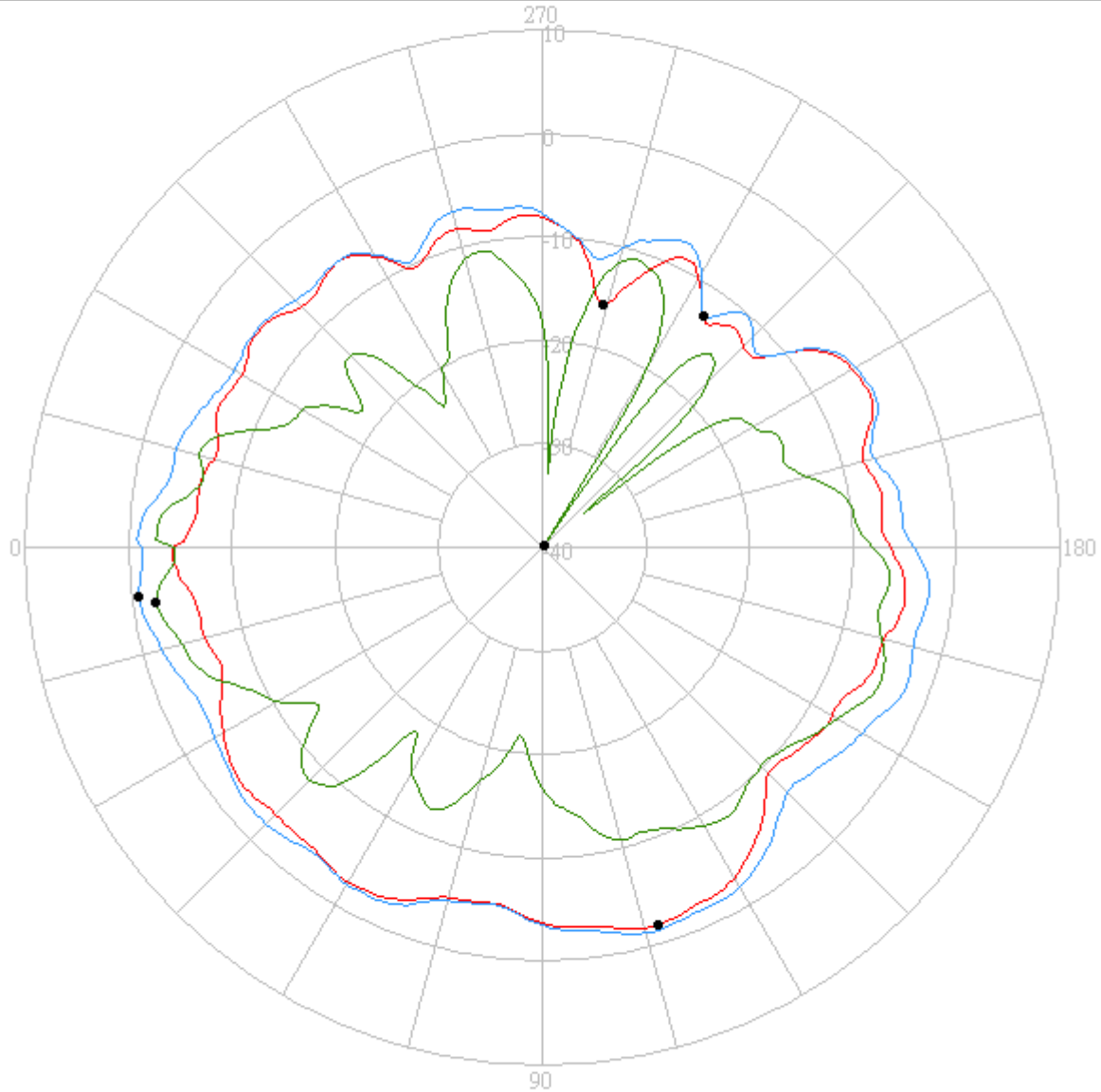
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	5075.00	-1.87 / 119.00	-15.98 / 257.00	-5.62	Ver.	2007/8/1
2	MRO30	MAIN	5075.00	-1.00 / 359.00	-36.07 / 62.00	-9.14	Hor.	2007/8/1
3	MRO30	MAIN	5075.00	-0.52 / 8.00	-14.22 / 221.00	-4.02	V+H	2007/8/1

f. 5.15GHZ



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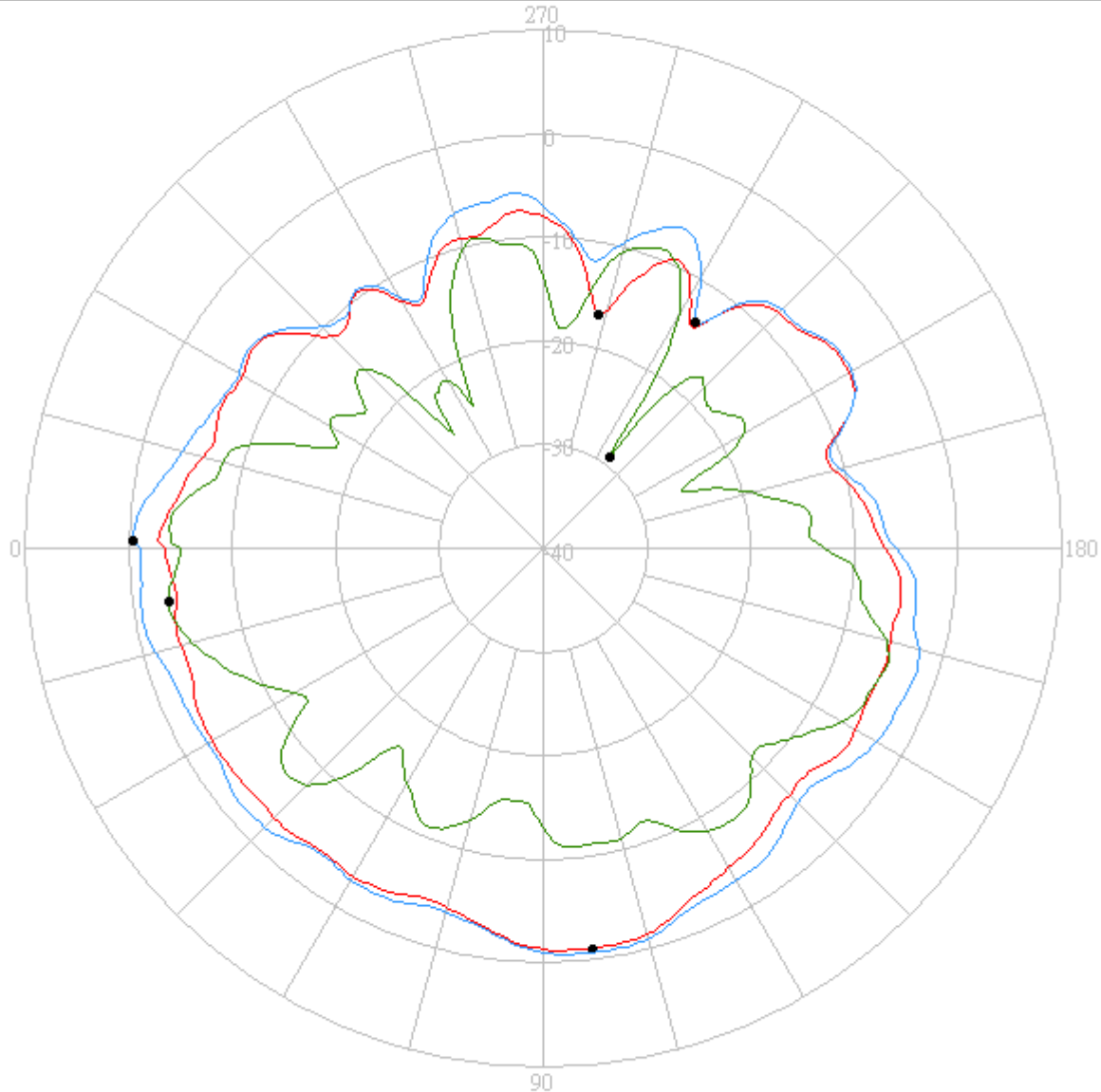
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	5150.00	-1.91 / 107.00	-15.82 / 256.00	-5.78	Ver.	2007/8/1
2	MRO30	MAIN	5150.00	-2.36 / 8.00	-39.69 / 237.00	-9.53	Hor.	2007/8/1
3	MRO30	MAIN	5150.00	-0.76 / 7.00	-12.78 / 235.00	-4.25	V+H	2007/8/1




g. 5.25GHz



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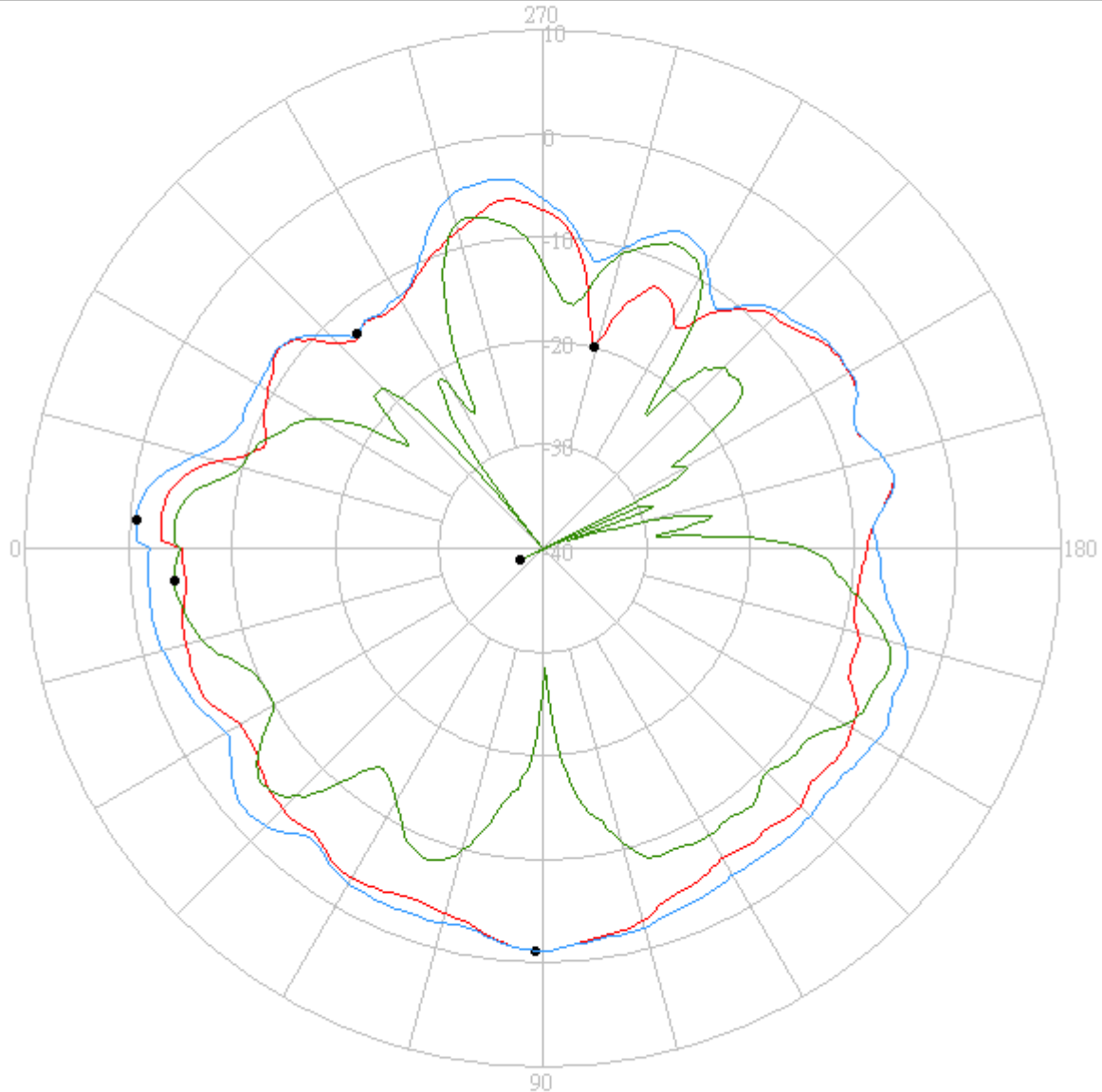
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	 MR030	MAIN	5250.00	-1.15 / 97.00	-16.79 / 257.00	-5.38	Ver.	2007/8/1
2	 MR030	MAIN	5250.00	-3.51 / 8.00	-29.18 / 234.00	-10.04	Hor.	2007/8/1
3	 MR030	MAIN	5250.00	-0.40 / 359.00	-13.72 / 236.00	-4.10	V+H	2007/8/1

h. 5.35GHz



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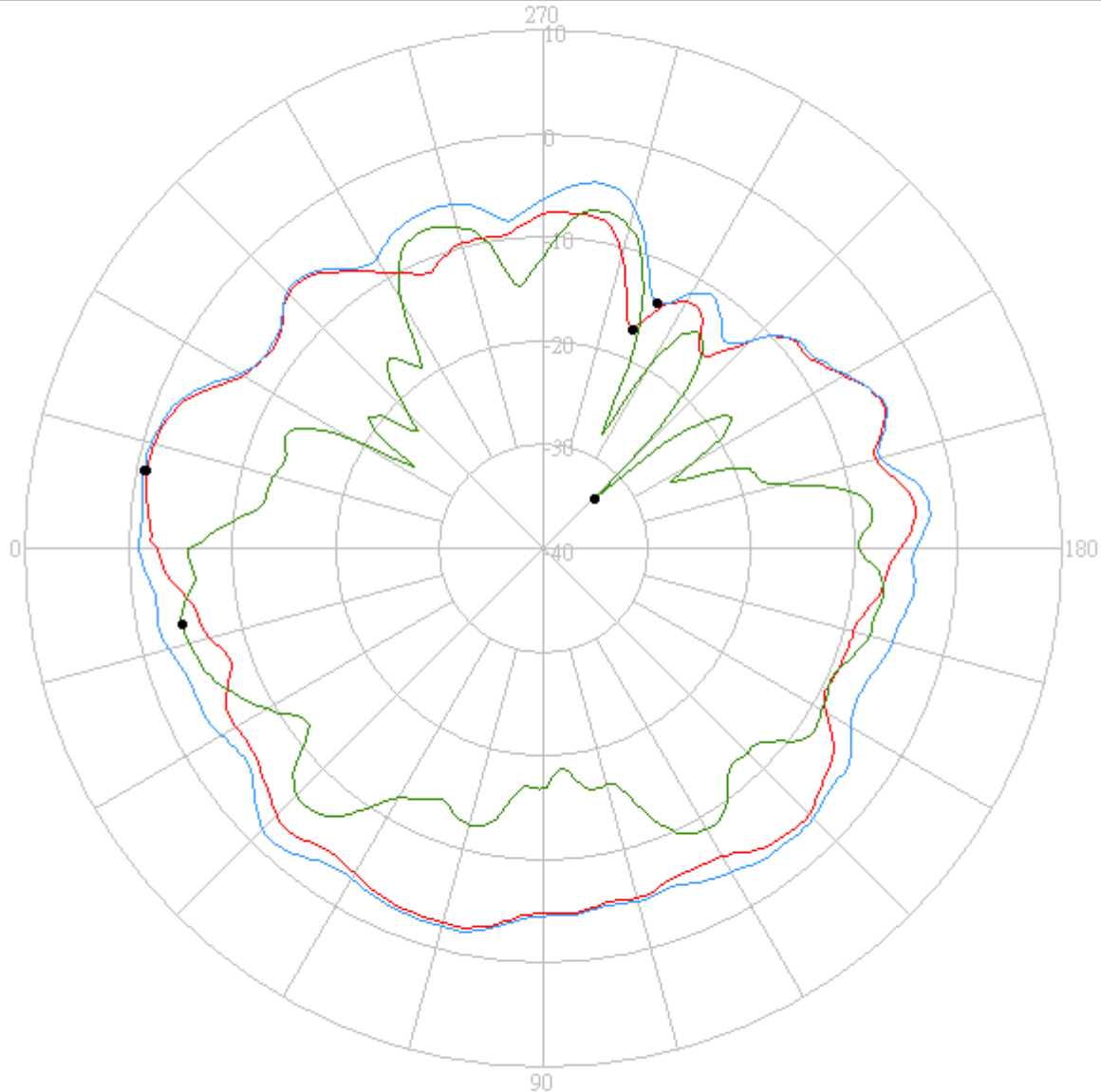
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	5350.00	-1.18 / 89.00	-19.92 / 256.00	-5.94	Ver.	2007/8/1
2	MRO30	MAIN	5350.00	-4.30 / 5.00	-50.61 / 309.00	-9.59	Hor.	2007/8/1
3	MRO30	MAIN	5350.00	-0.68 / 356.00	-12.59 / 311.00	-4.38	V+H	2007/8/1

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	MRO30	MAIN	5470.00	-1.08 / 349.00	-17.22 / 248.00	-5.57	Ver.	2007/8/1
2	MRO30	MAIN	5470.00	-4.37 / 12.00	-33.16 / 224.00	-10.27	Hor.	2007/8/1
3	MRO30	MAIN	5470.00	-0.80 / 349.00	-14.02 / 245.00	-4.30	V+H	2007/8/1

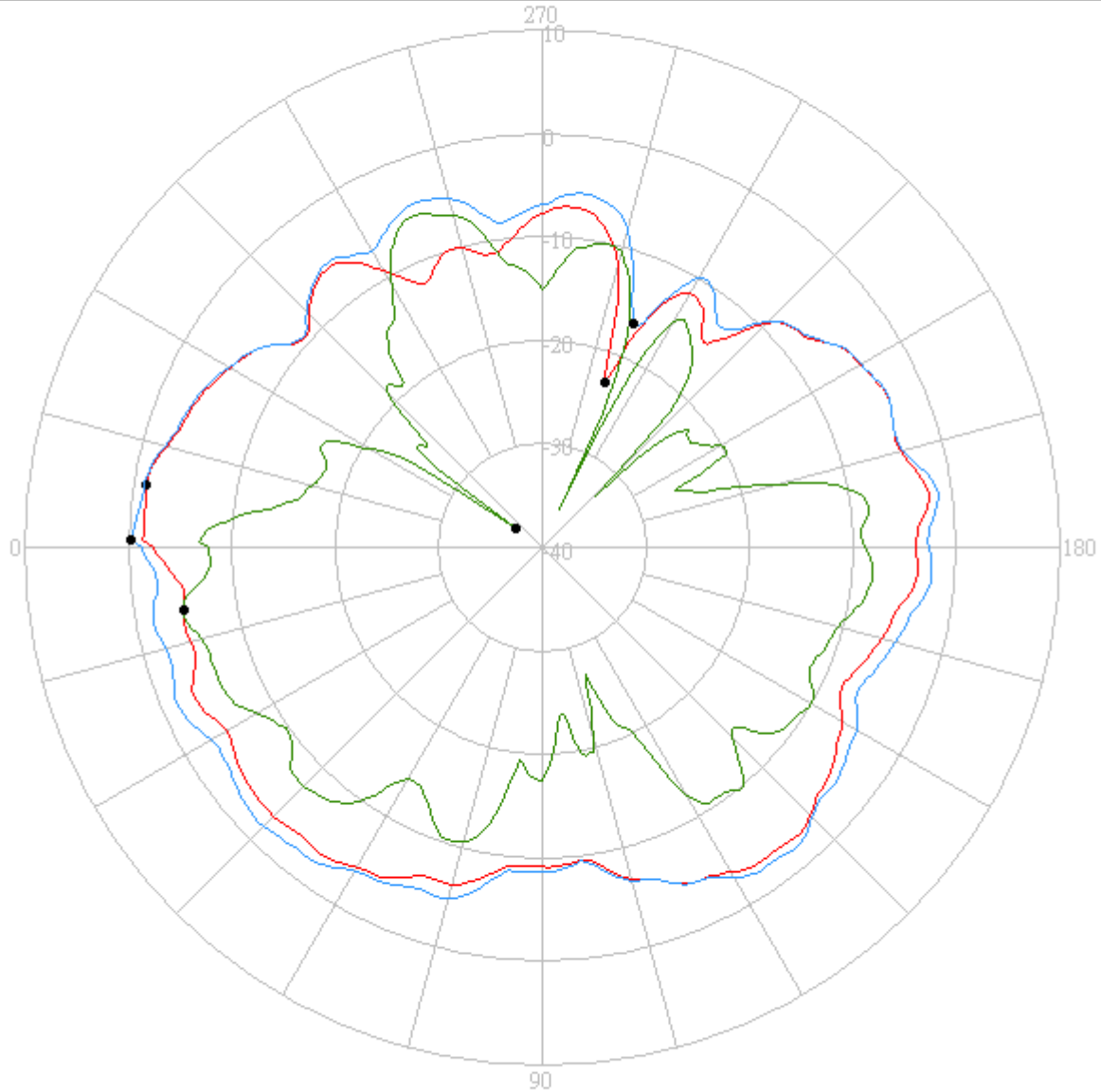
j. 5.6GHz



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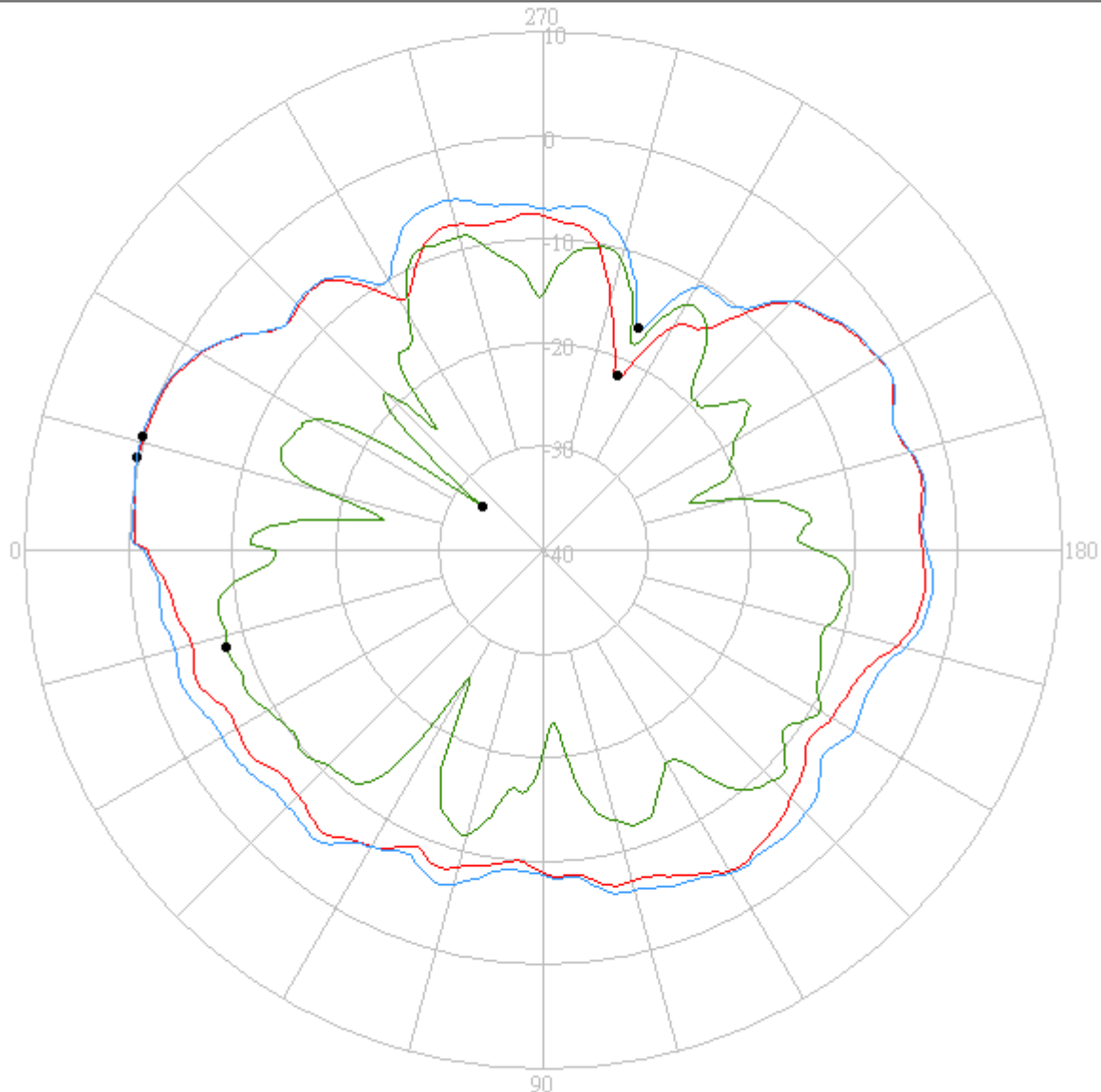
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	5600.00	-1.32 / 351.00	-22.88 / 249.00	-5.41	Ver.	2007/8/1
2	MRO30	MAIN	5600.00	-4.77 / 10.00	-36.83 / 325.00	-10.99	Hor.	2007/8/1
3	MRO30	MAIN	5600.00	-0.32 / 359.00	-16.71 / 248.00	-4.35	V+H	2007/8/1

k. 5.725GHz



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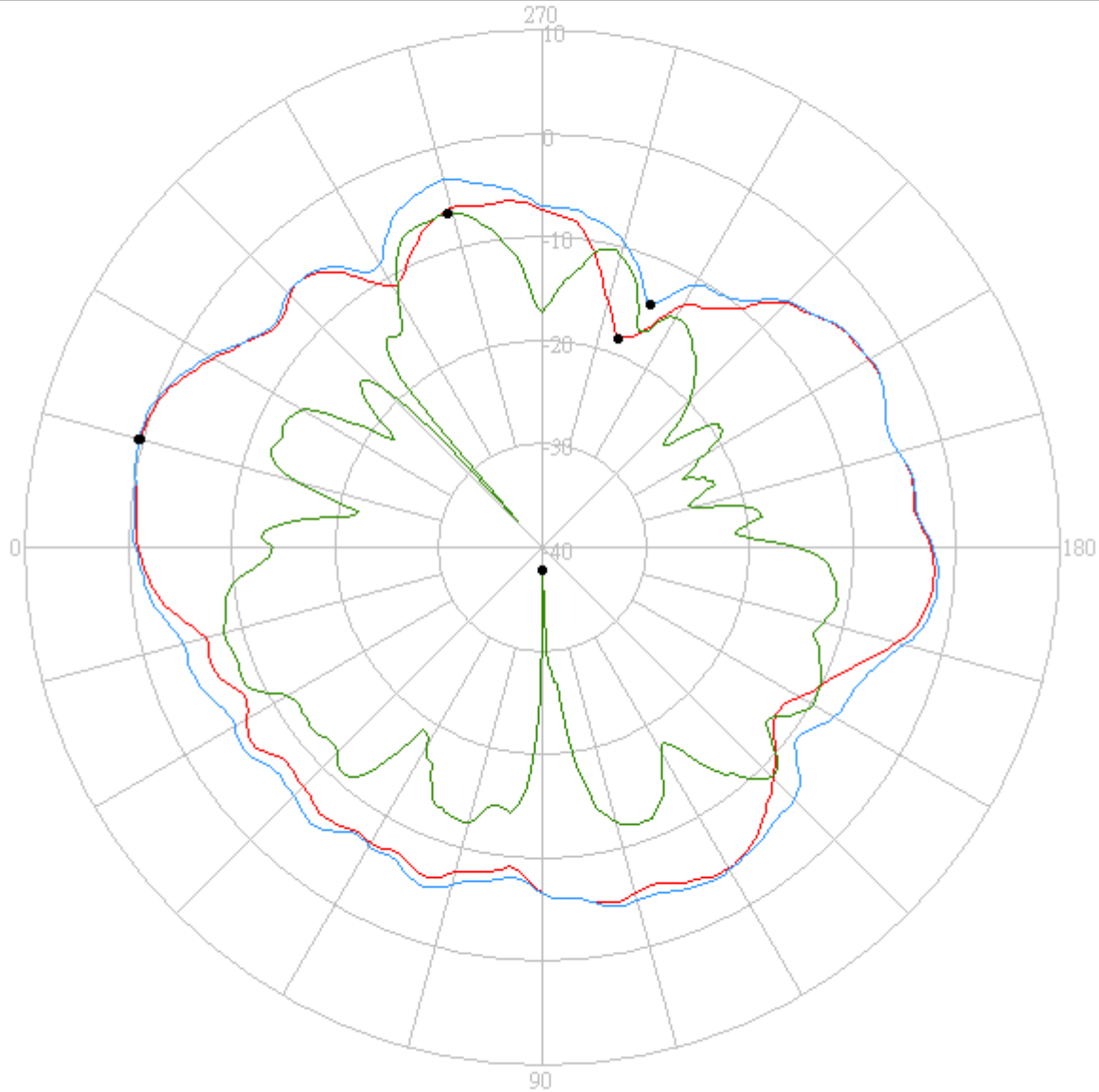
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	5725.00	0.14 / 347.00	-21.73 / 247.00	-5.19	Ver.	2007/8/1
2	MRO30	MAIN	5725.00	-8.07 / 17.00	-32.69 / 324.00	-12.42	Hor.	2007/8/1
3	MRO30	MAIN	5725.00	0.18 / 344.00	-16.71 / 247.00	-4.44	V+H	2007/8/1

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	MRO30	MAIN	5785.00	0.19 / 345.00	-18.55 / 250.00	-5.24	Ver.	2007/8/1
2	MRO30	MAIN	5785.00	-6.45 / 286.00	-37.82 / 91.00	-12.56	Hor.	2007/8/1
3	MRO30	MAIN	5785.00	0.31 / 345.00	-14.28 / 246.00	-4.50	V+H	2007/8/1

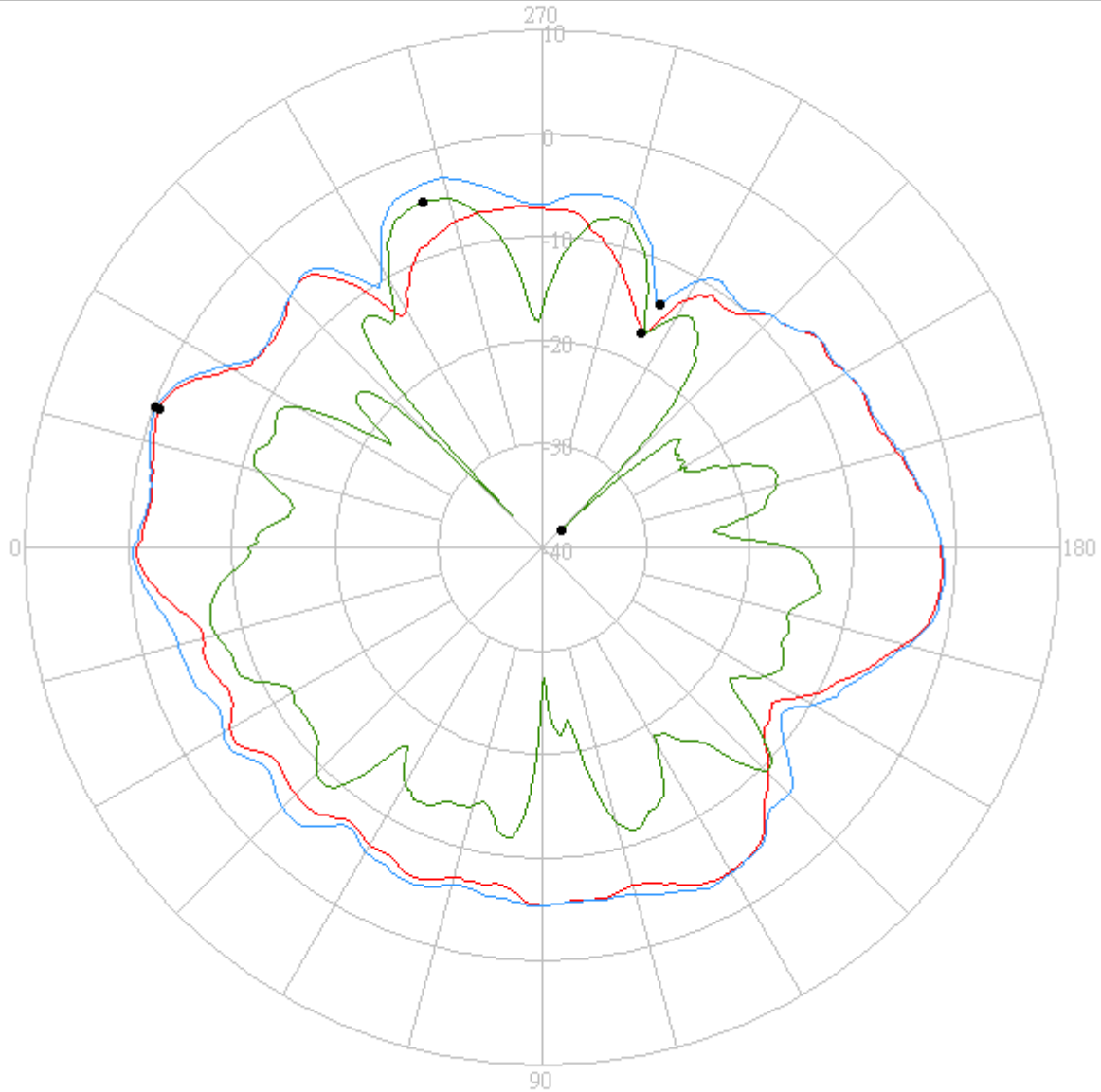
m. 5.85GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	5850.00	-0.69 / 340.00	-17.25 / 245.00	-5.47	Ver.	2007/8/1
2	MRO30	MAIN	5850.00	-4.70 / 289.00	-37.58 / 224.00	-11.98	Hor.	2007/8/1
3	MRO30	MAIN	5850.00	-0.34 / 340.00	-13.89 / 244.00	-4.59	V+H	2007/8/1

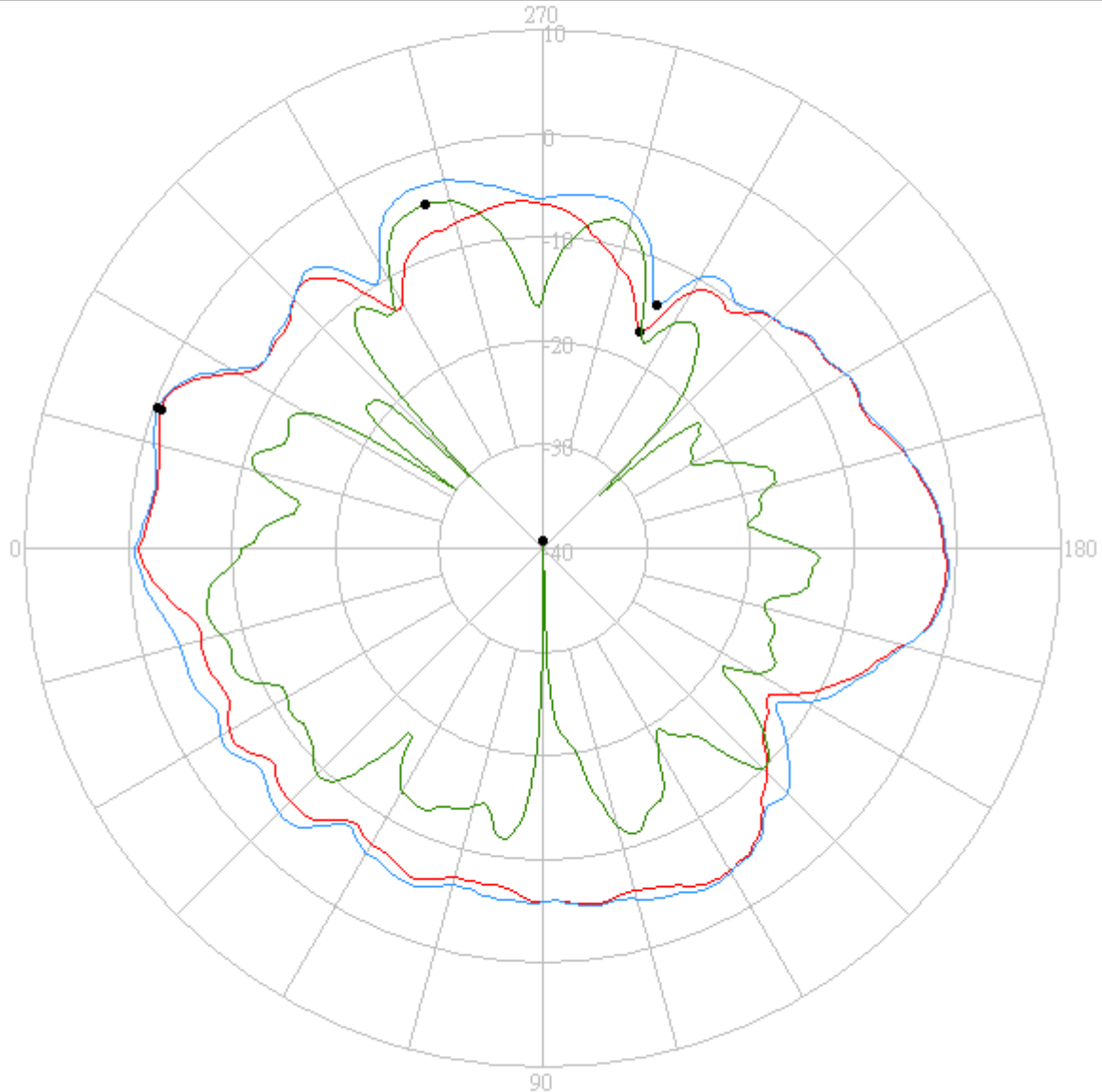
n. 5.875GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

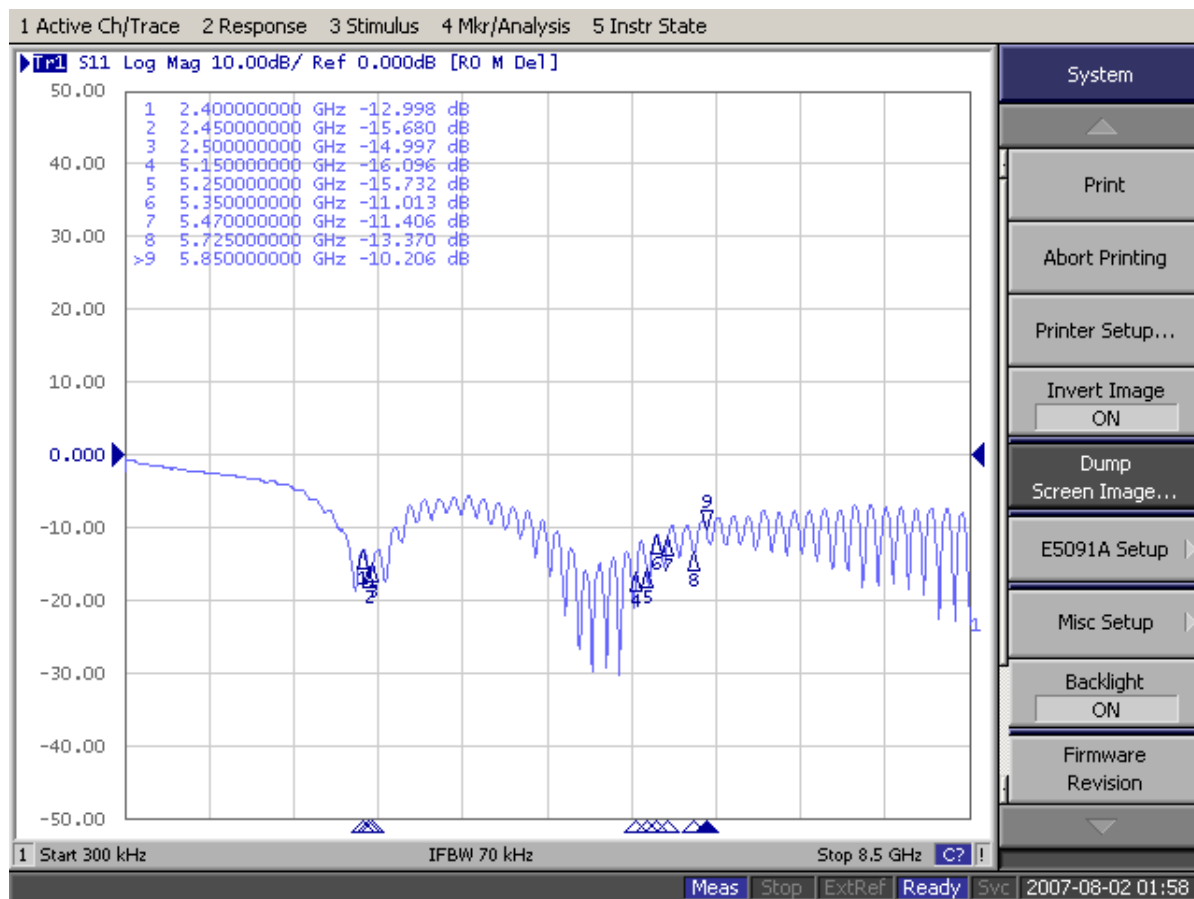
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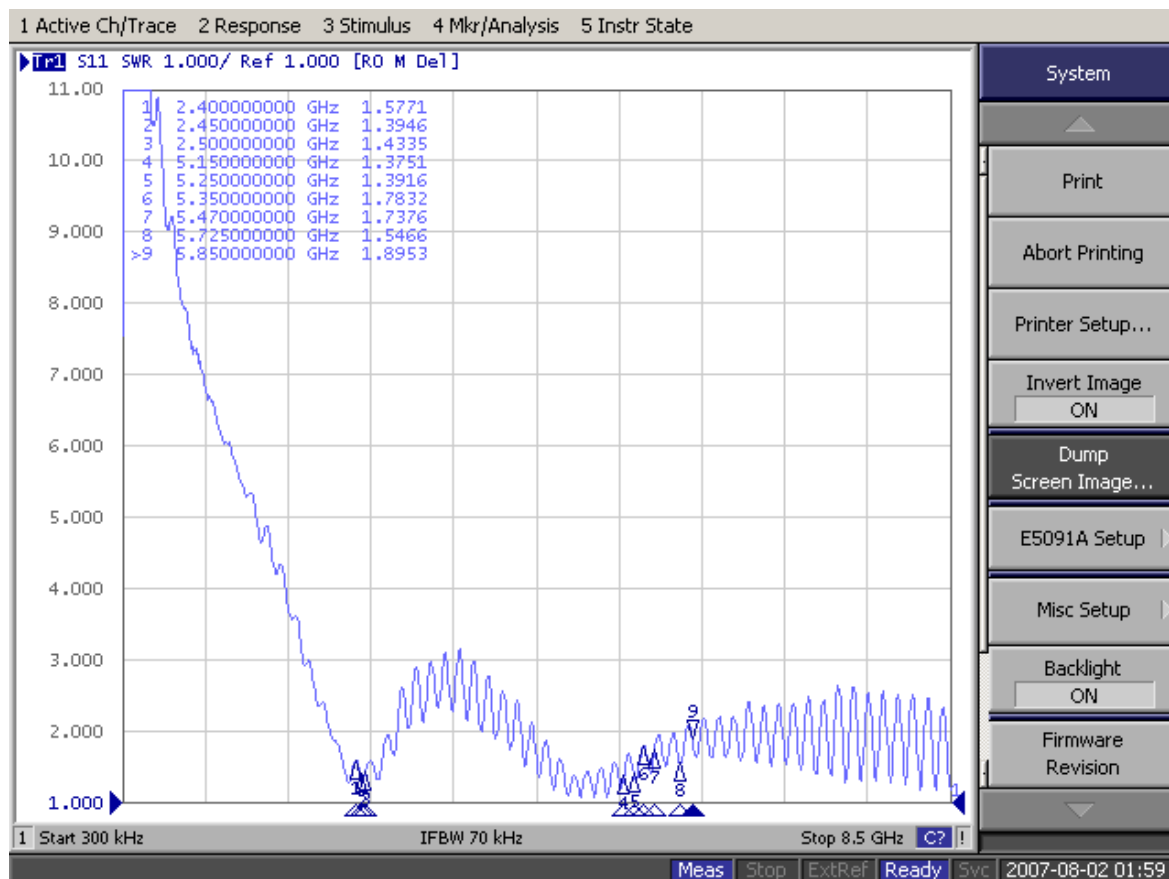
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN	5875.00	-0.79 / 340.00	-17.08 / 246.00	-5.49	Ver.	2007/8/1
2	MRO30	MAIN	5875.00	-4.94 / 289.00	-40.80 / 91.00	-12.01	Hor.	2007/8/1
3	MRO30	MAIN	5875.00	-0.46 / 340.00	-14.05 / 245.00	-4.61	V+H	2007/8/1

7.MIMO.(MAIN 2)

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

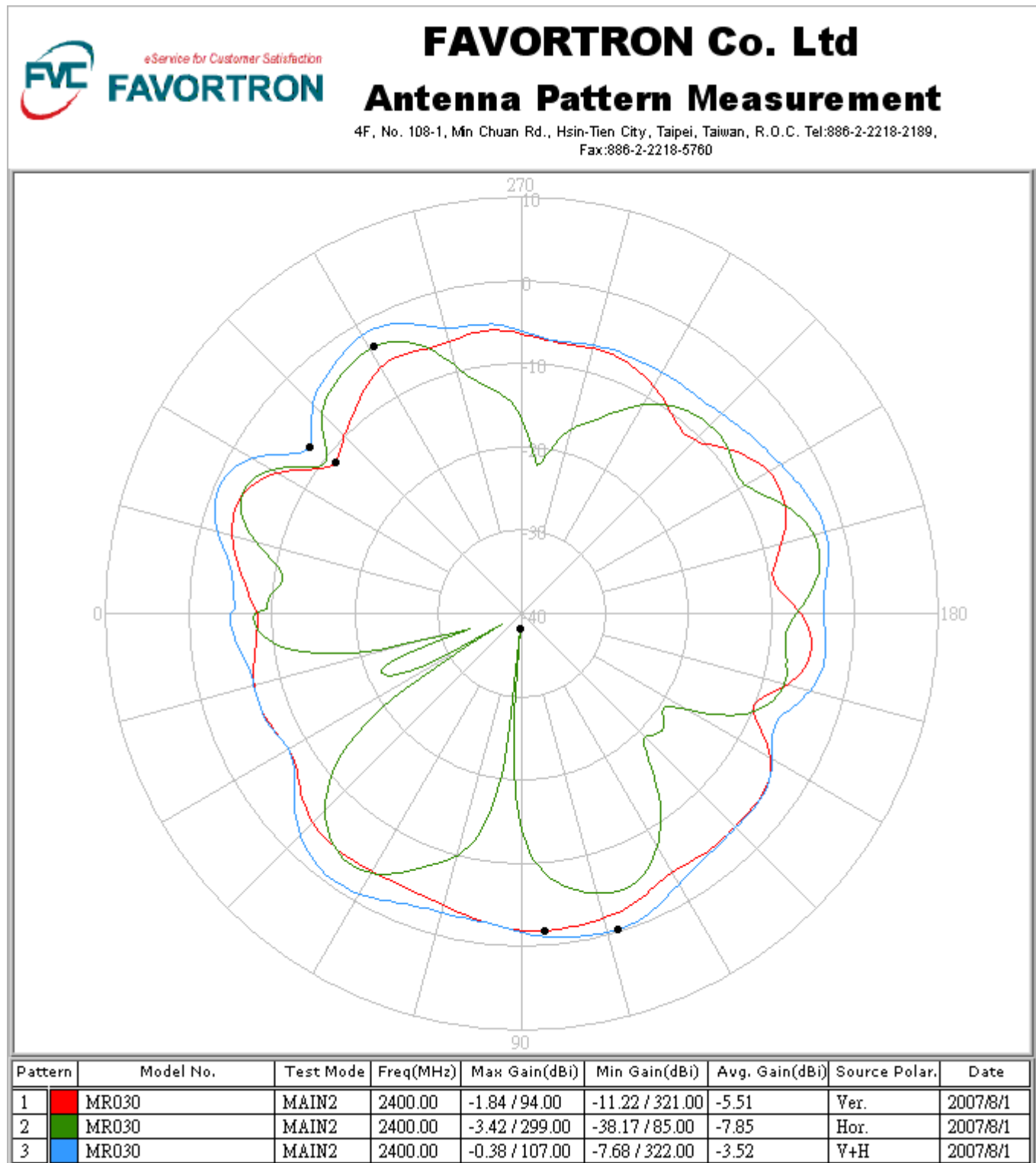


2.4~2.5GHZ & 5.15~5.875GHZ / VSWR



8. Gain & Pattern – MIMO. (MAIN 2)

a. 2.4GHz



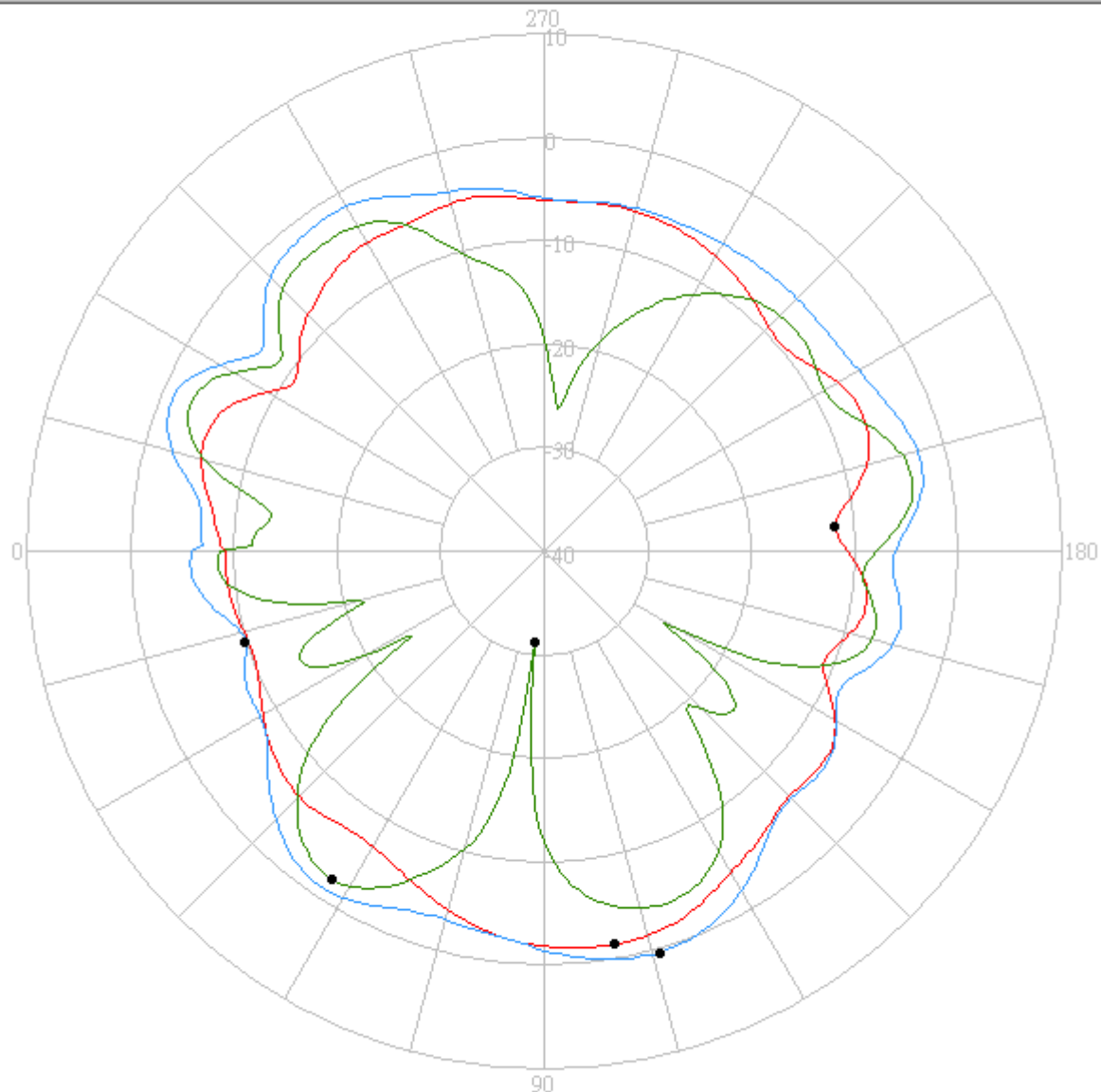
b. 2.45GHz



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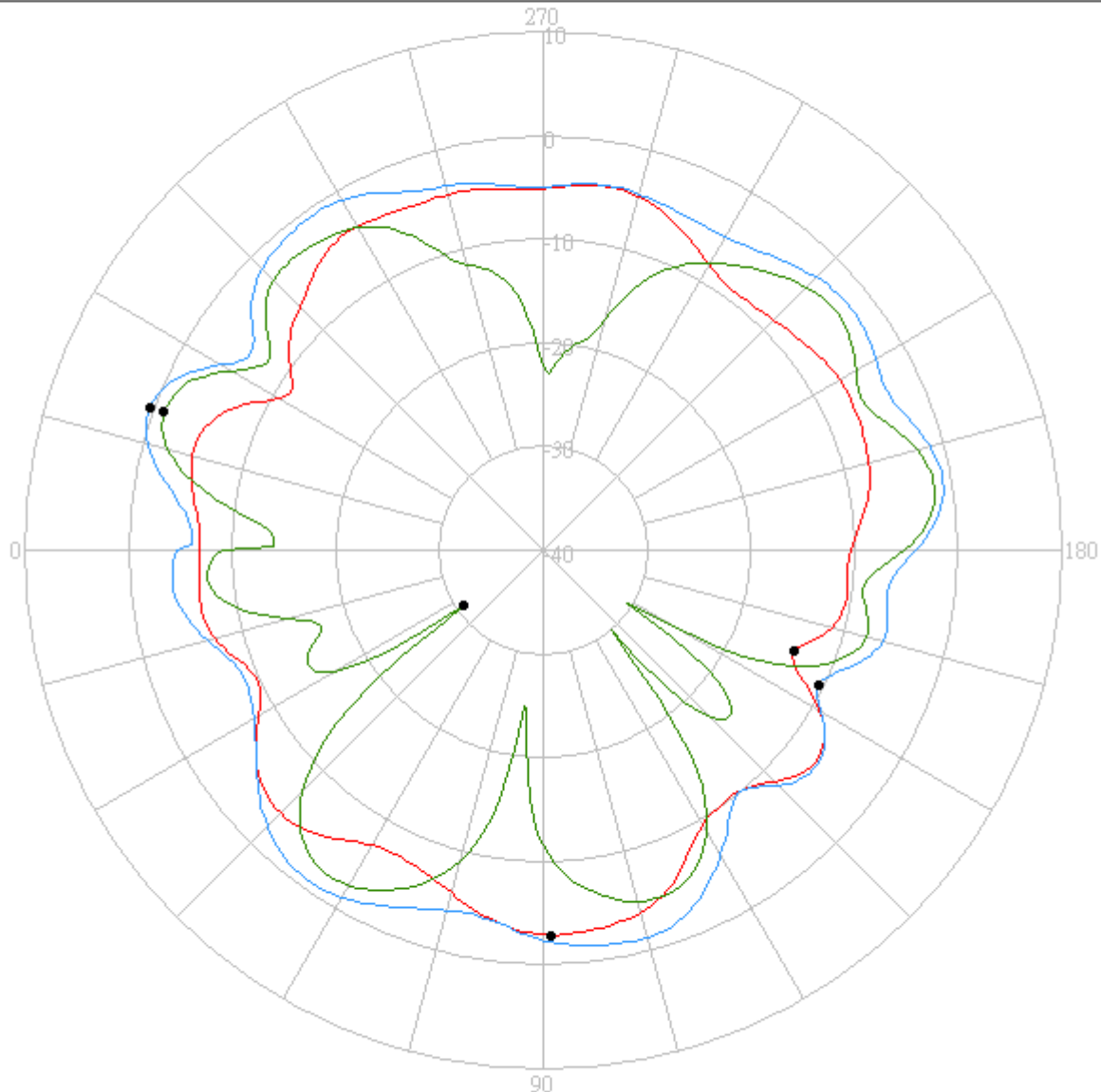
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	MAIN2	2450.00	-1.47 / 100.00	-11.79 / 185.00	-6.16	Ver.	2007/8/1
2	MR030	MAIN2	2450.00	-2.25 / 57.00	-31.12 / 84.00	-7.53	Hor.	2007/8/1
3	MR030	MAIN2	2450.00	0.30 / 106.00	-9.83 / 17.00	-3.78	V+H	2007/8/1

c. 2.5GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN2	2500.00	-2.88 / 91.00	-13.96 / 158.00	-6.38	Ver.	2007/8/1
2	MRO30	MAIN2	2500.00	-1.09 / 340.00	-30.59 / 35.00	-6.60	Hor.	2007/8/1
3	MRO30	MAIN2	2500.00	0.30 / 340.00	-10.48 / 154.00	-3.48	V+H	2007/8/1

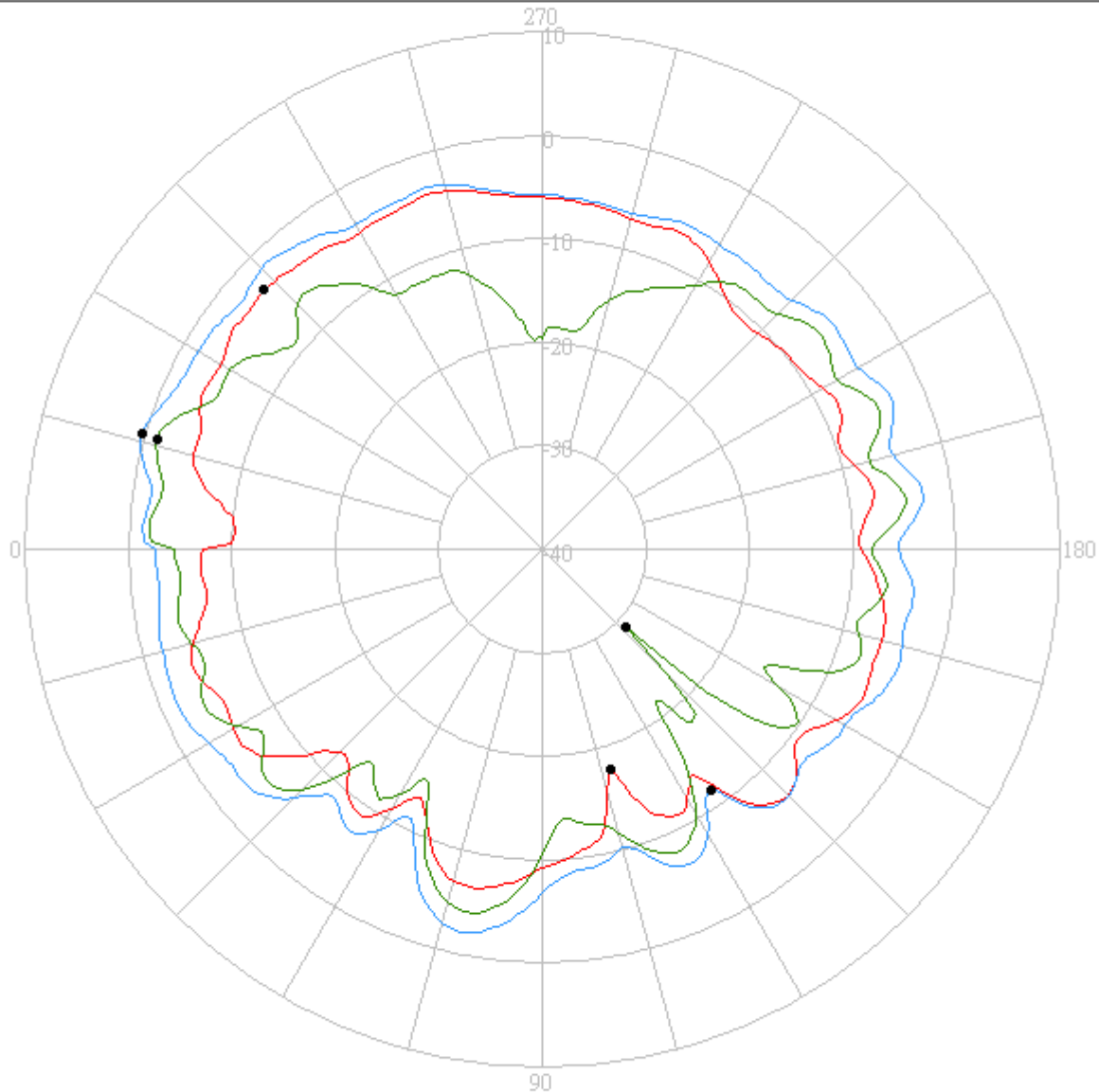
d. 4.9GHZ



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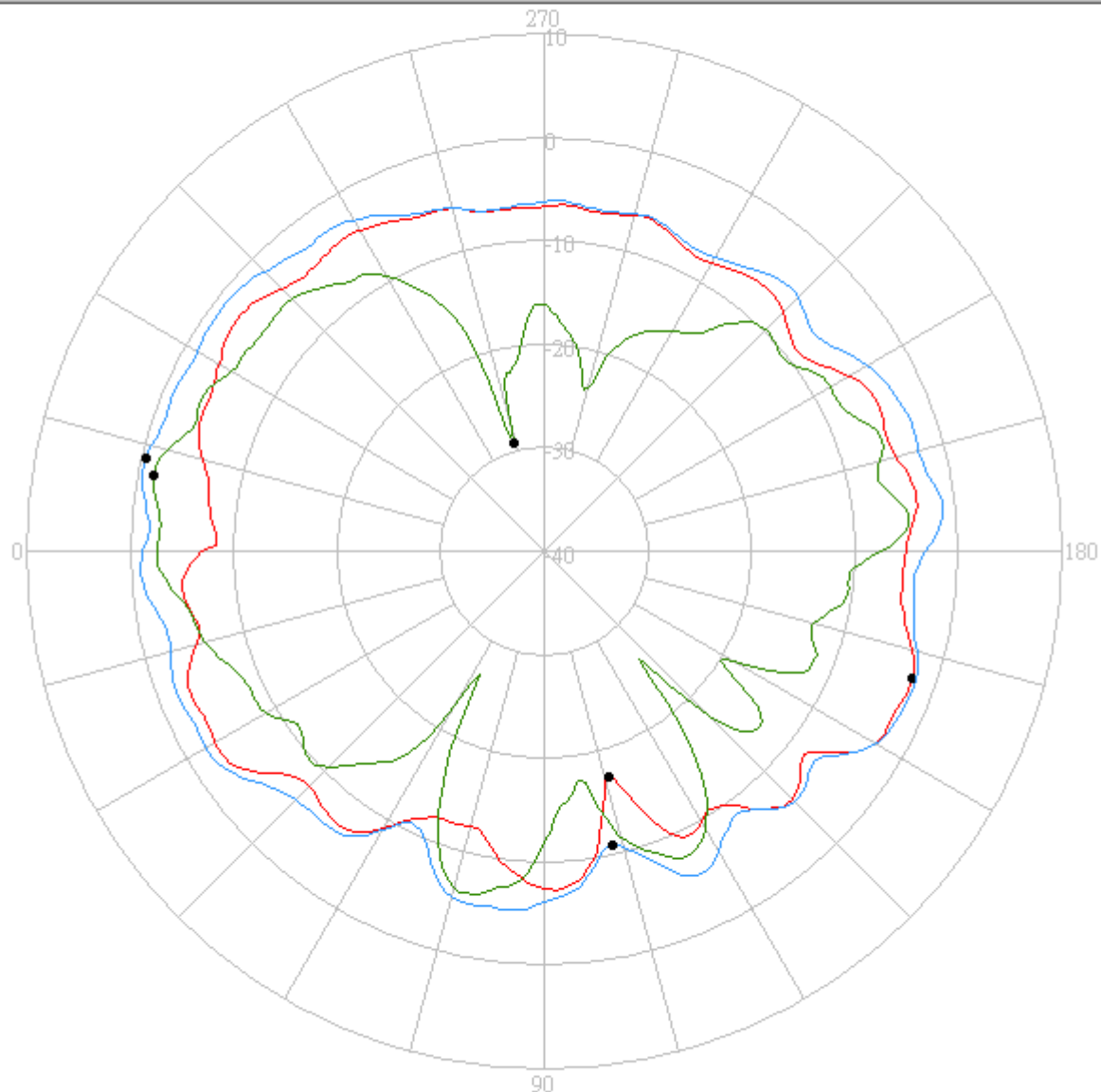
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	MAIN2	4900.00	-3.25 / 317.00	-17.70 / 107.00	-6.91	Ver.	2007/8/1
2	MR030	MAIN2	4900.00	-1.29 / 344.00	-28.86 / 137.00	-7.40	Hor.	2007/8/1
3	MR030	MAIN2	4900.00	0.22 / 344.00	-11.71 / 125.00	-4.13	V+H	2007/8/1

e. 5.075GHZ



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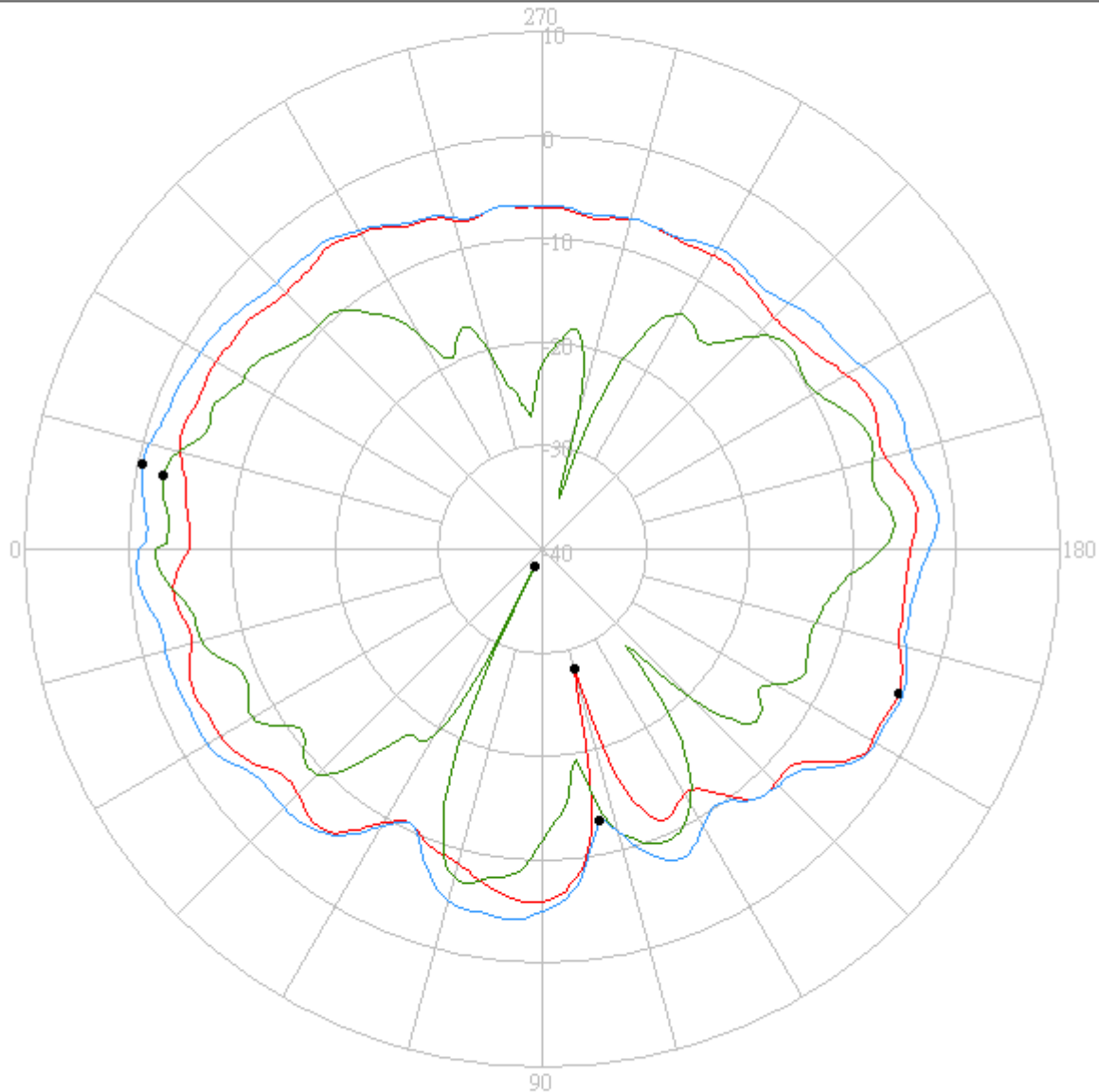
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN2	5075.00	-2.40 / 161.00	-17.34 / 106.00	-5.85	Ver.	2007/8/1
2	MRO30	MAIN2	5075.00	-1.56 / 349.00	-29.13 / 286.00	-8.31	Hor.	2007/8/1
3	MRO30	MAIN2	5075.00	-0.46 / 347.00	-10.88 / 103.00	-3.90	V+H	2007/8/1

f. 5.15GHZ



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Fax:886-2-2218-5760



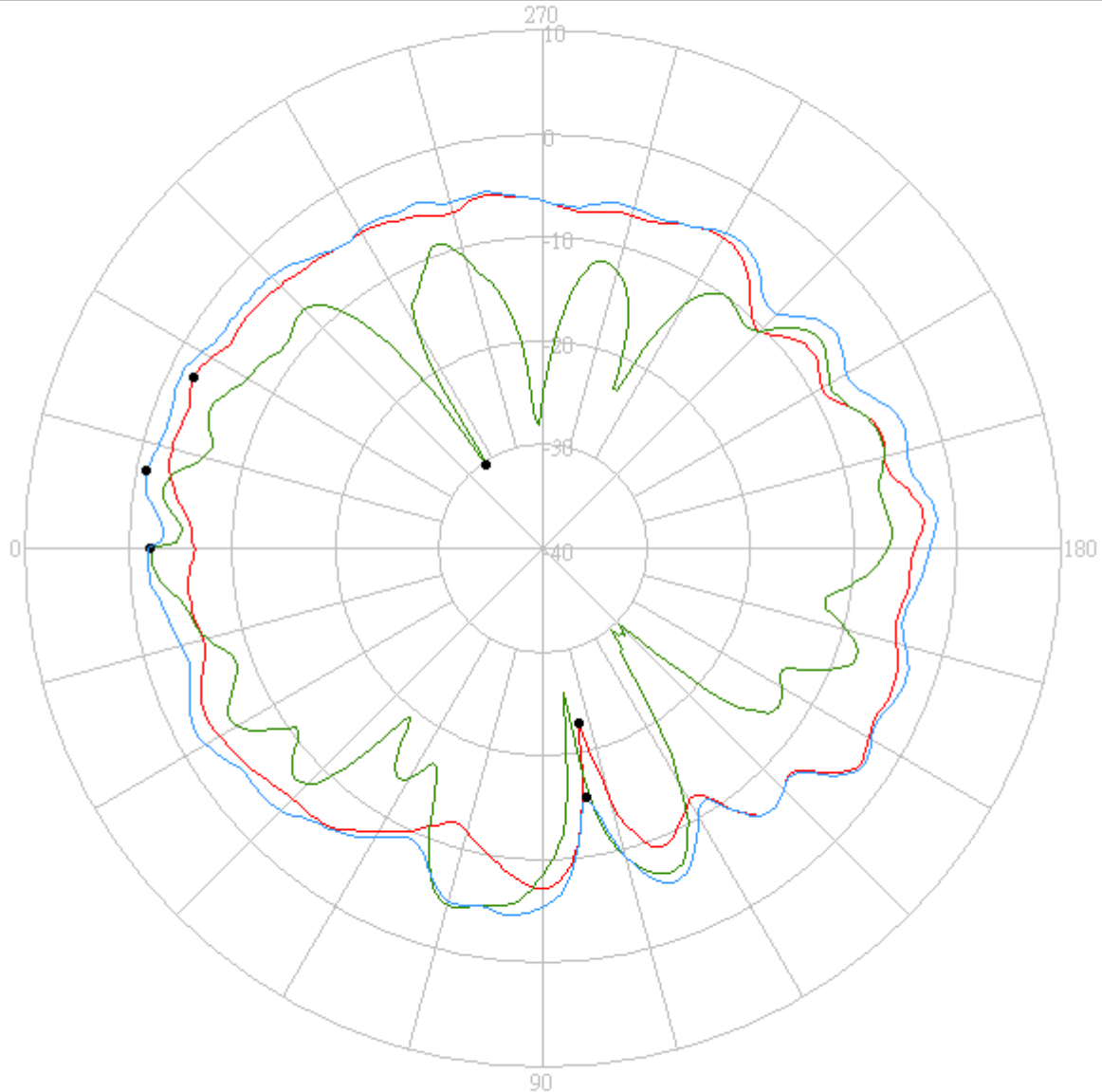
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN2	5150.00	-2.84 / 158.00	-28.15 / 105.00	-5.84	Ver.	2007/8/1
2	MRO30	MAIN2	5150.00	-2.70 / 349.00	-38.16 / 64.00	-9.31	Hor.	2007/8/1
3	MRO30	MAIN2	5150.00	-0.58 / 348.00	-13.23 / 102.00	-4.23	V+H	2007/8/1

g. 5.25GHz



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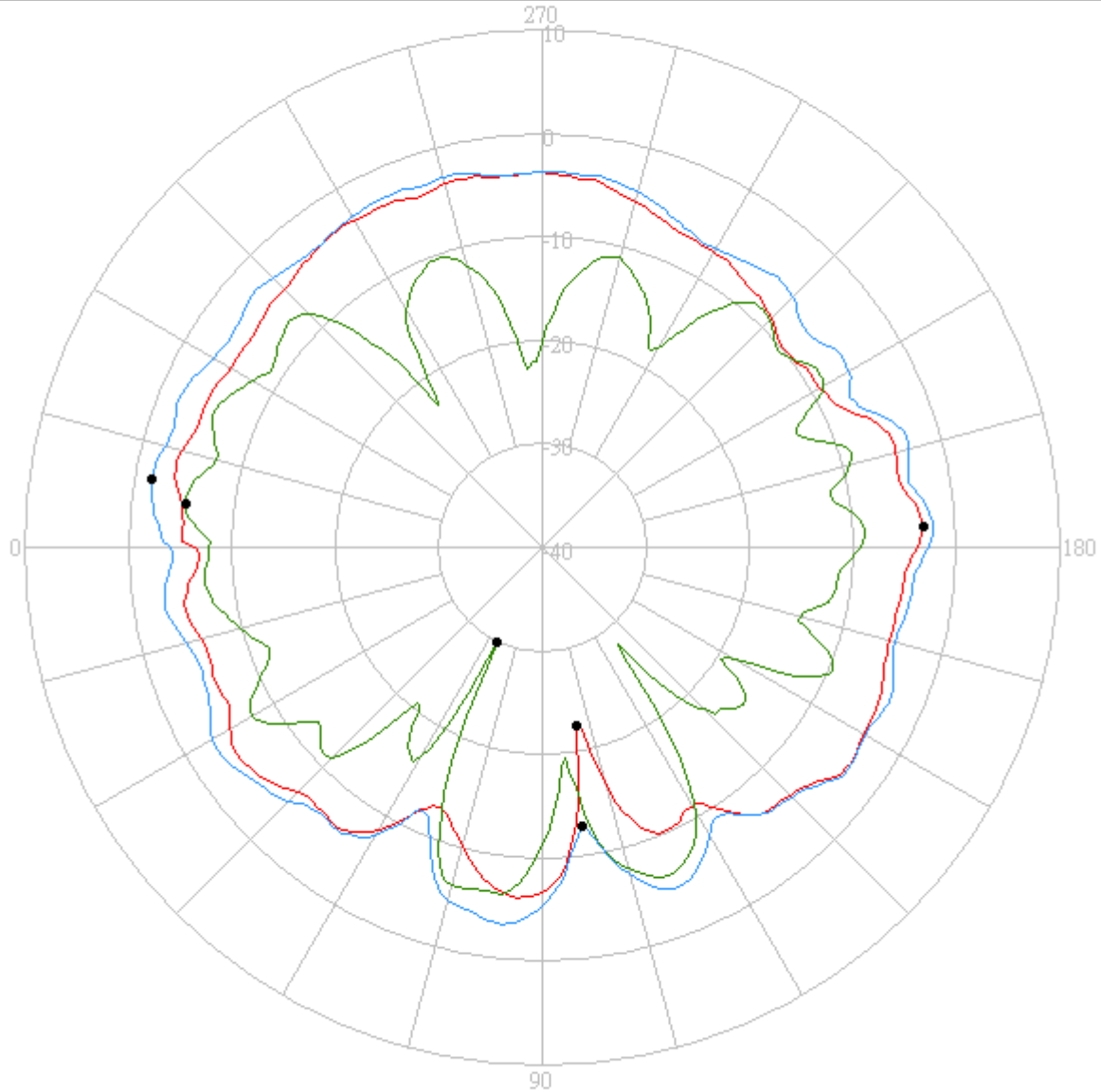
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN2	5250.00	-2.57 / 334.00	-22.84 / 102.00	-5.80	Ver.	2007/8/1
2	MRO30	MAIN2	5250.00	-2.17 / 0.00	-30.19 / 304.00	-8.43	Hor.	2007/8/1
3	MRO30	MAIN2	5250.00	-1.10 / 349.00	-15.62 / 100.00	-4.38	V+H	2007/8/1

h. 5.35GHz



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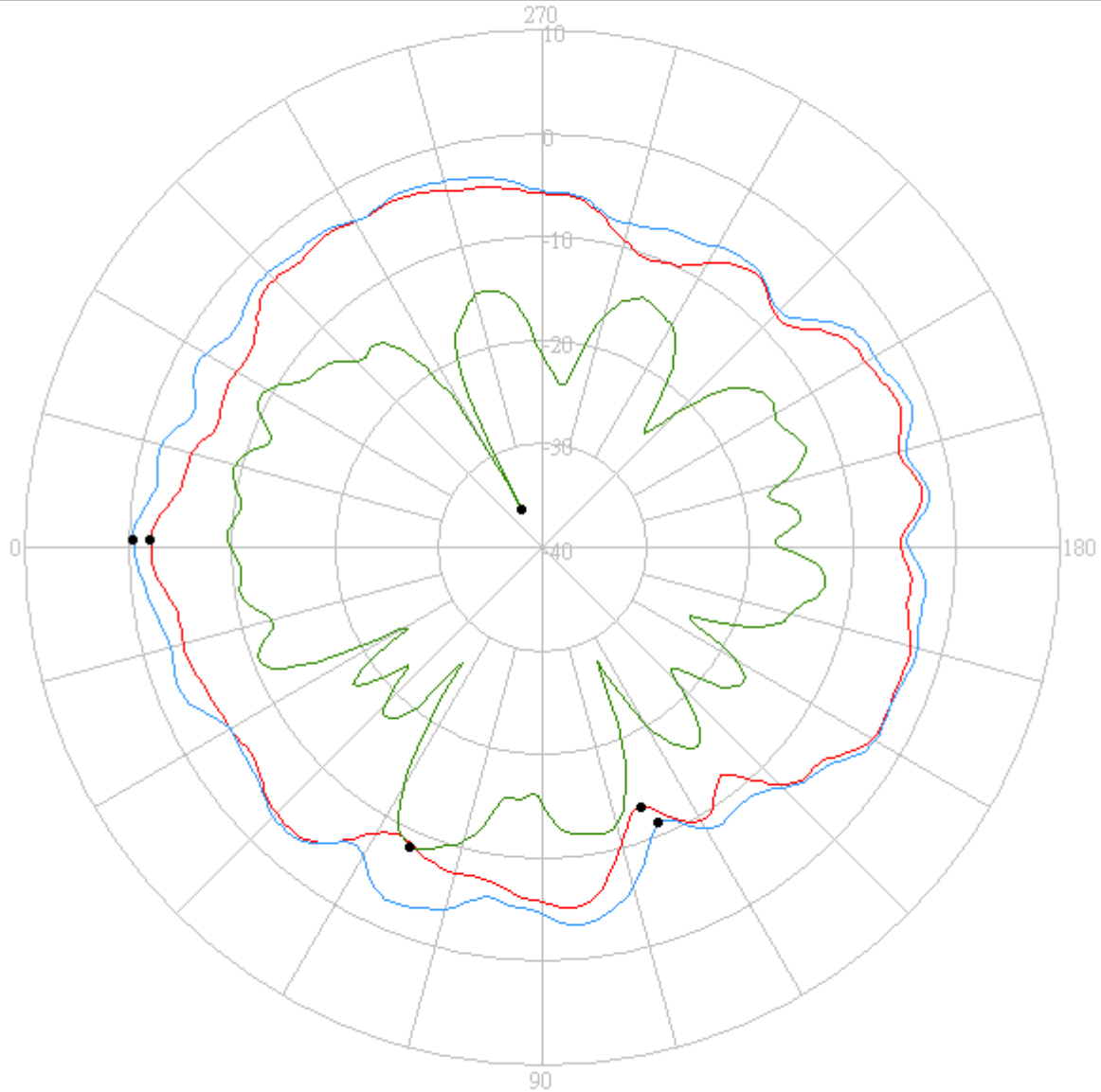
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN2	5350.00	-3.22 / 183.00	-22.51 / 101.00	-5.75	Ver.	2007/8/1
2	MRO30	MAIN2	5350.00	-5.26 / 353.00	-29.90 / 64.00	-10.11	Hor.	2007/8/1
3	MRO30	MAIN2	5350.00	-1.73 / 350.00	-12.87 / 98.00	-4.40	V+H	2007/8/1

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	MRO30	MAIN2	5470.00	-2.11 / 359.00	-13.20 / 111.00	-5.20	Ver.	2007/8/1
2	MRO30	MAIN2	5470.00	-8.35 / 66.00	-35.77 / 298.00	-14.01	Hor.	2007/8/1
3	MRO30	MAIN2	5470.00	-0.38 / 359.00	-11.22 / 113.00	-3.88	V+H	2007/8/1

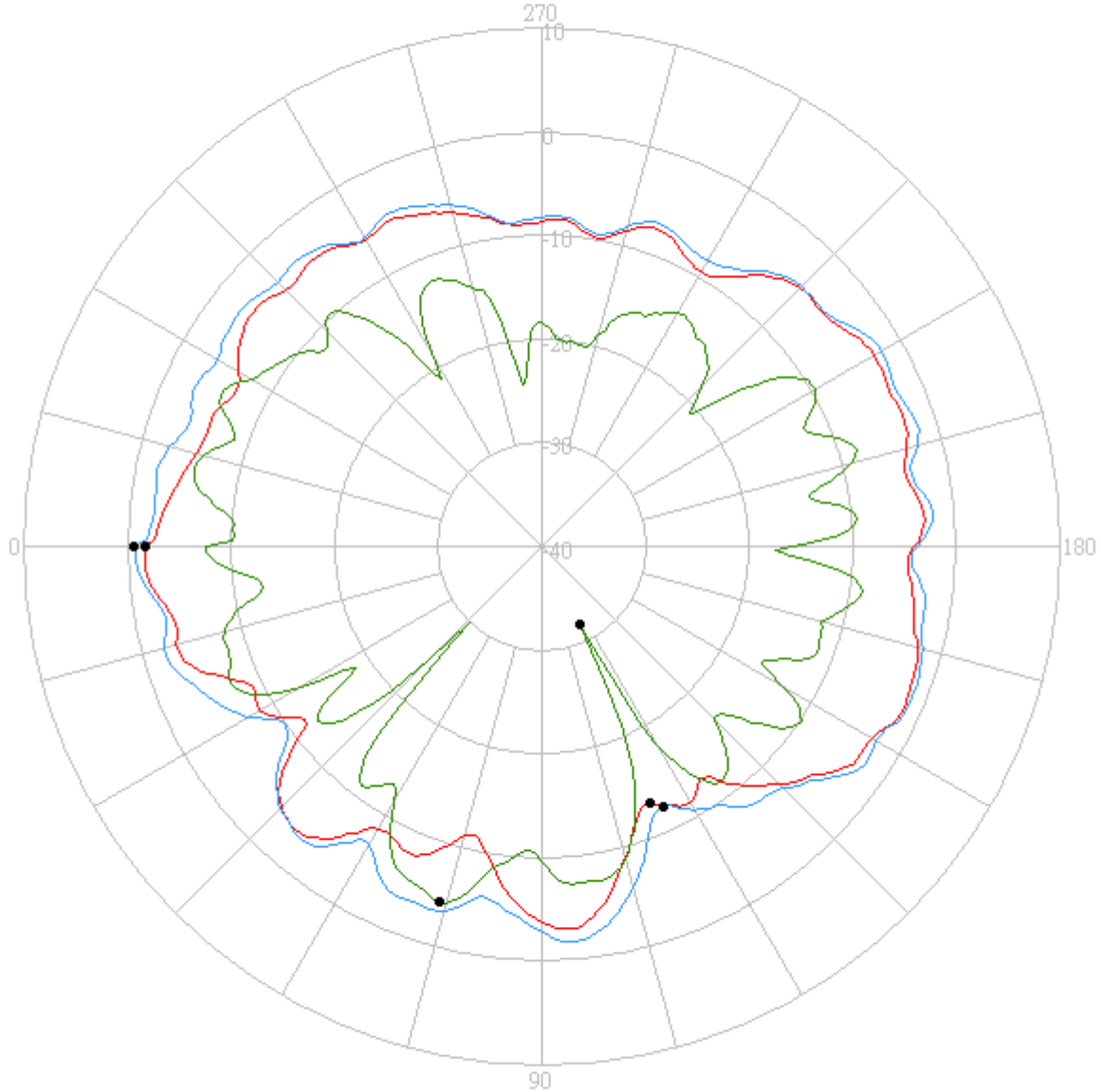
j. 5.6GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	MAIN2	5600.00	-1.69 / 0.00	-13.08 / 113.00	-5.33	Ver.	2007/8/1
2	MR030	MAIN2	5600.00	-4.34 / 74.00	-31.68 / 116.00	-10.59	Hor.	2007/8/1
3	MR030	MAIN2	5600.00	-0.70 / 0.00	-12.32 / 115.00	-4.20	V+H	2007/8/1

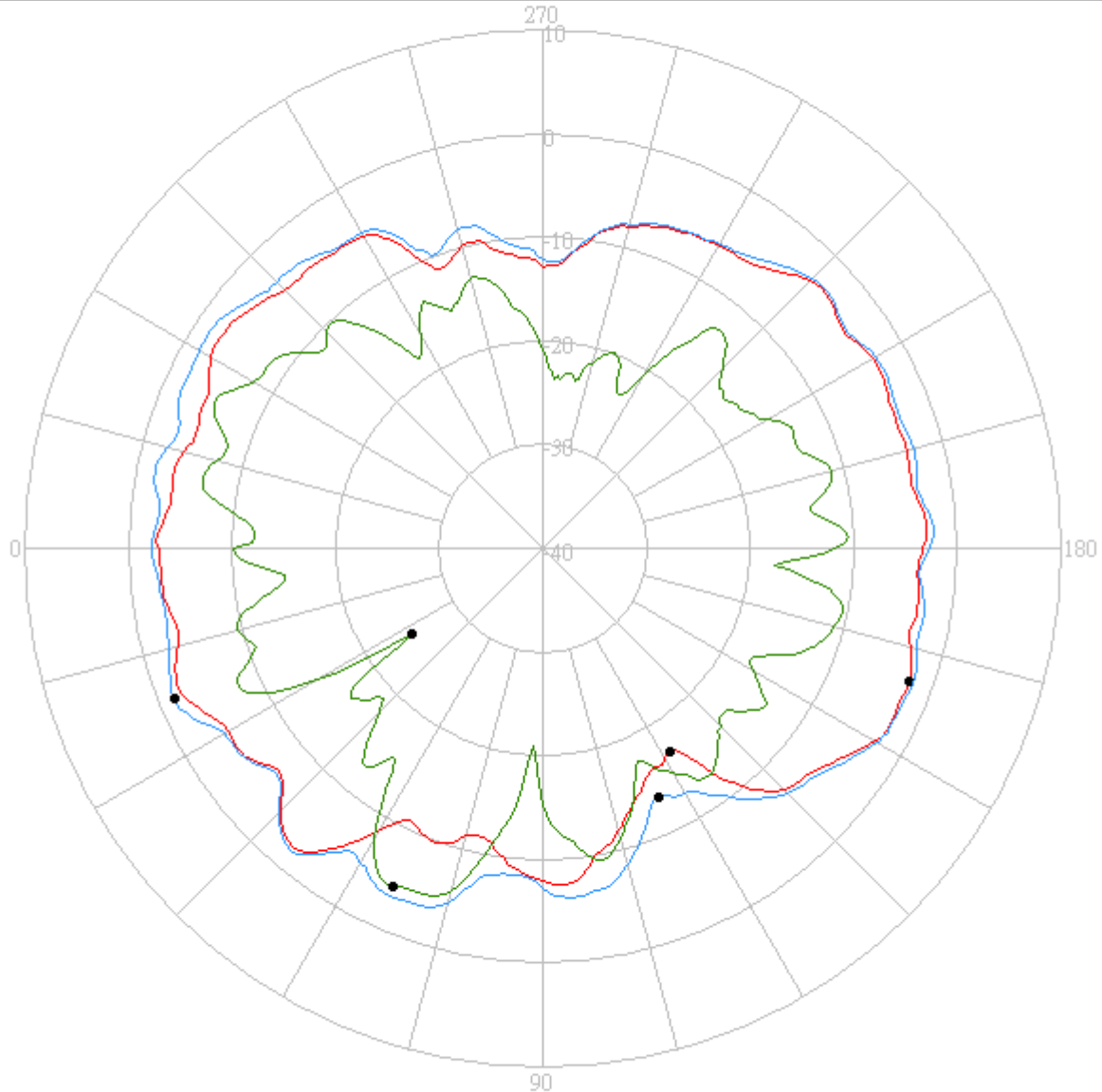
k. 5.725GHz



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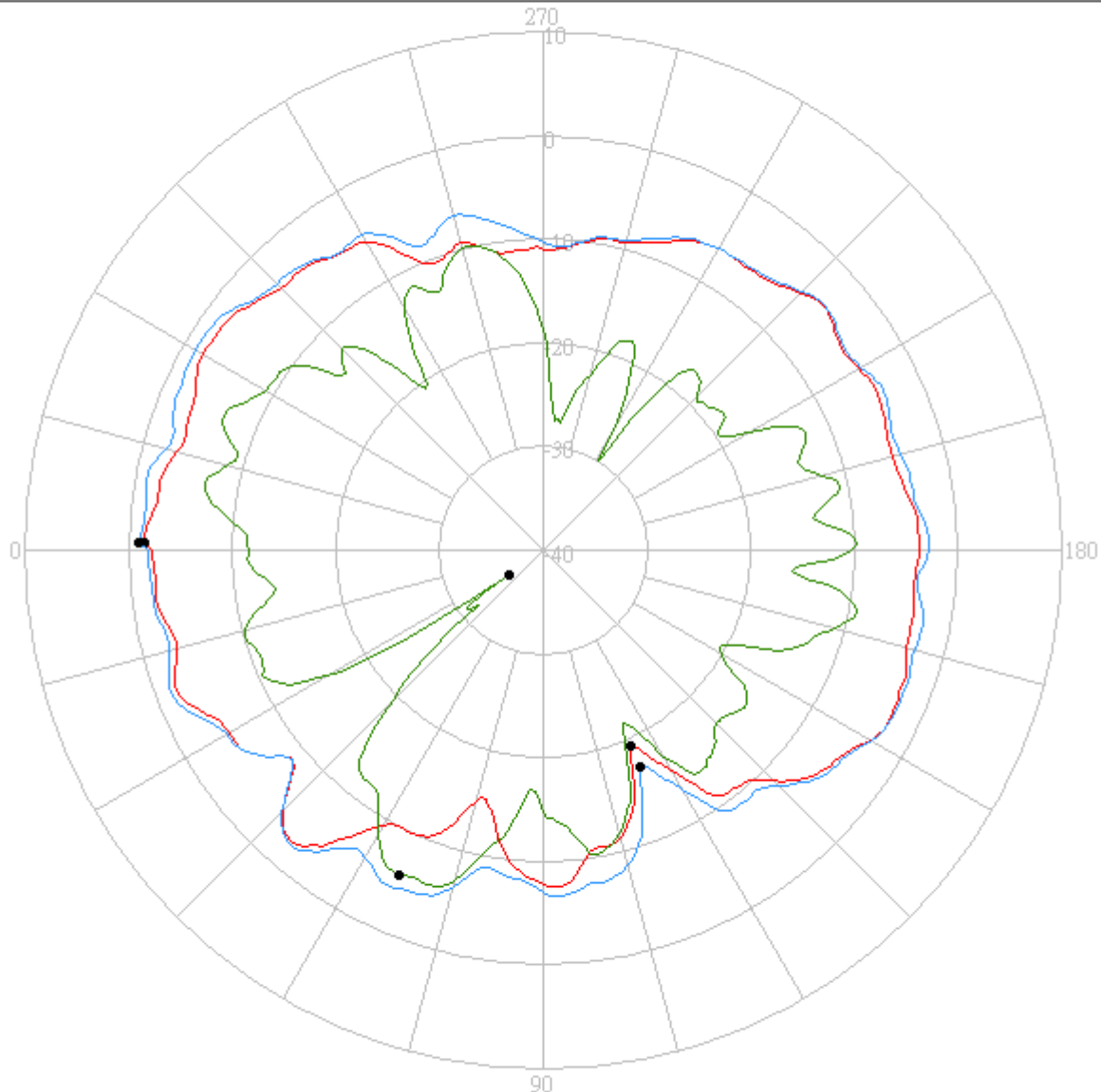
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN2	5725.00	-2.33 / 160.00	-16.90 / 122.00	-5.27	Ver.	2007/8/1
2	MRO30	MAIN2	5725.00	-4.29 / 66.00	-24.99 / 33.00	-11.50	Hor.	2007/8/1
3	MRO30	MAIN2	5725.00	-1.59 / 22.00	-13.63 / 115.00	-4.34	V+H	2007/8/1

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	MRO30	MAIN2	5785.00	-1.44 / 359.00	-19.41 / 114.00	-5.42	Ver.	2007/8/1
2	MRO30	MAIN2	5785.00	-5.80 / 66.00	-35.93 / 35.00	-12.13	Hor.	2007/8/1
3	MRO30	MAIN2	5785.00	-1.02 / 359.00	-17.23 / 114.00	-4.58	V+H	2007/8/1

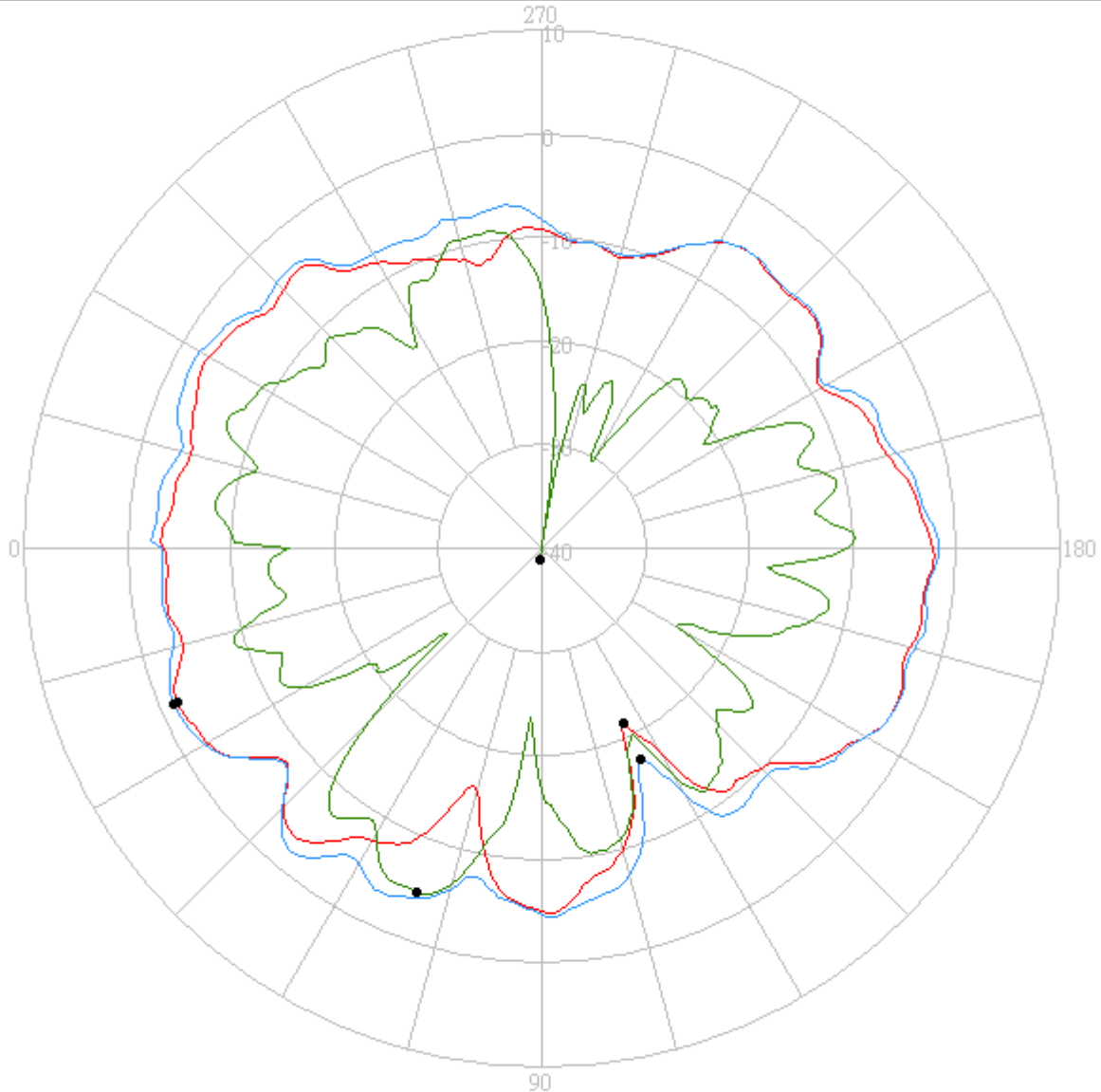
m. 5.85GHz



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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MR030	MAIN2	5850.00	-1.81 / 23.00	-21.51 / 115.00	-5.64	Ver.	2007/8/1
2	MR030	MAIN2	5850.00	-4.77 / 70.00	-41.15 / 262.00	-11.86	Hor.	2007/8/1
3	MR030	MAIN2	5850.00	-1.48 / 23.00	-17.54 / 115.00	-4.71	V+H	2007/8/1

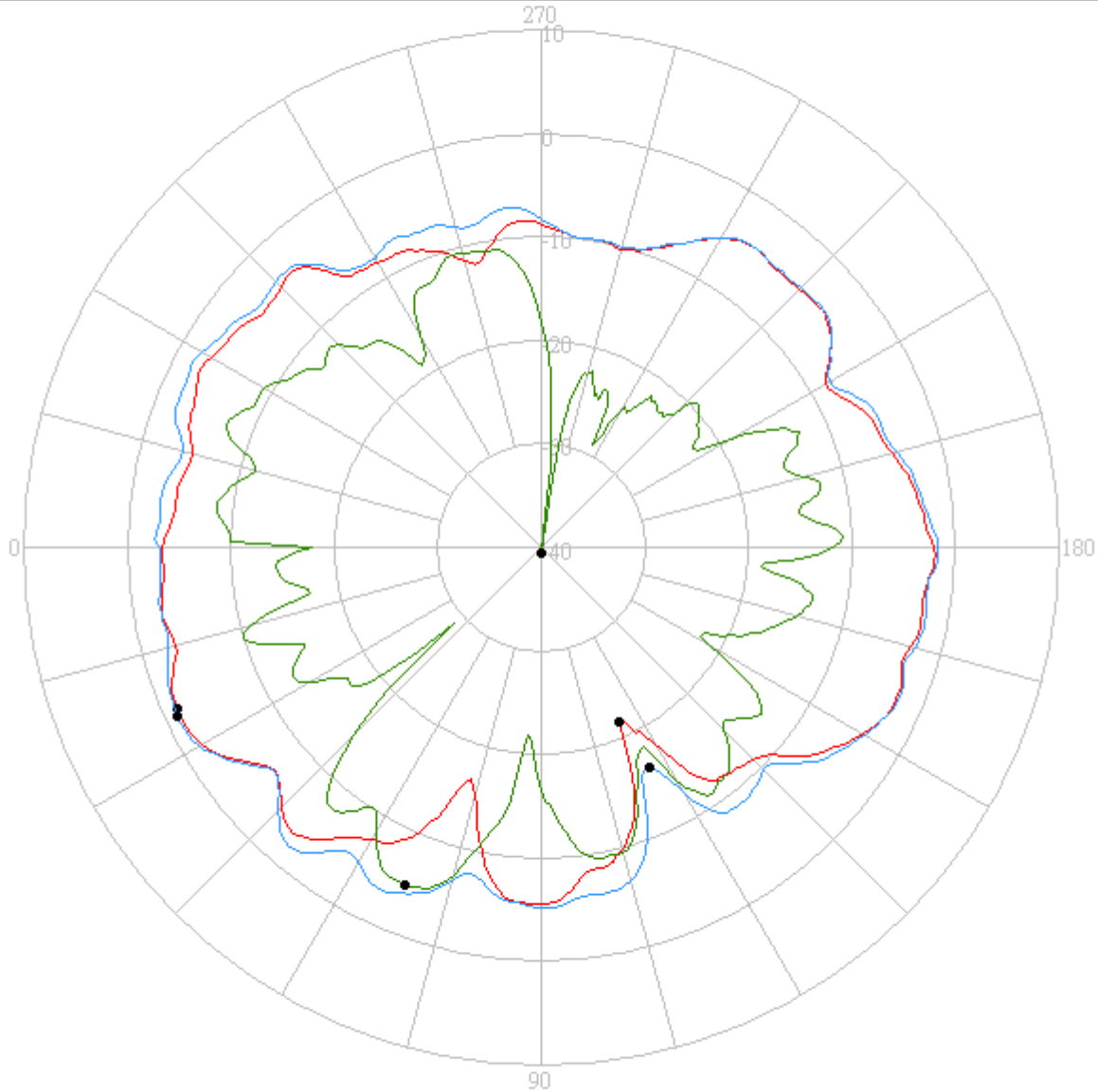
n. 5.875GHz



FAVORTRON Co. Ltd

Antenna Pattern Measurement

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



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	MRO30	MAIN2	5875.00	-1.51 / 24.00	-21.61 / 114.00	-5.45	Ver.	2007/8/1
2	MRO30	MAIN2	5875.00	-4.86 / 68.00	-40.63 / 262.00	-12.30	Hor.	2007/8/1
3	MRO30	MAIN2	5875.00	-1.29 / 25.00	-16.34 / 116.00	-4.63	V+H	2007/8/1