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SPECIFICATION


SPEC NO. : SP03B615750-0050
PART NO. : 03601403A0H0100
PRODUCT NAME : GHBA-A22
DESCRIPTION : 1.5~3.3V/18dB
RoHS Compliant Product

REVISION STATUS

VERSION	DATE	PAGE	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED
01	2011/6/21	Whole	New Issued	張啟學	張啟學	吳靖文

Prepared By 	Checked By 	Approved By 
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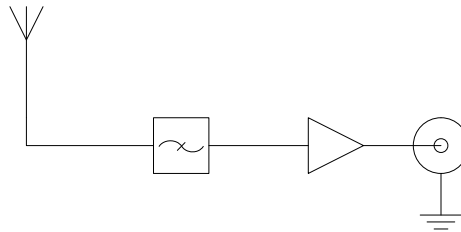
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SPECIFICATION FOR GPS ANTENNA WITH LOW NOISE AMPLIFIER

1.0 SYSTEM:

This antenna system consists of two functional blocks, the LNA portion and the patch antenna.

1.1 SYSTEM BLOCK



2.0 GENERAL

2.1 ENVIRONMENTAL CONDITIONS

2.1.1	Operation Temperature	- 40°C to + 85°C
2.1.2	Storage Temperature	- 40°C to + 105°C
2.1.3	Relative Humidity	40% to 95%

ANTENNA

2.2 ELECTRICAL SPECIFICATIONS

2.2.1	Input Voltage	Min:1.5 V	Typ: 1.8V	Max:3.3V
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2.3 CABLE & CONNECTOR

2.3.1	RF Cable	N/A	SAW Filter
2.3.2	RF Connector	N/A	

3.0 ANTENNA

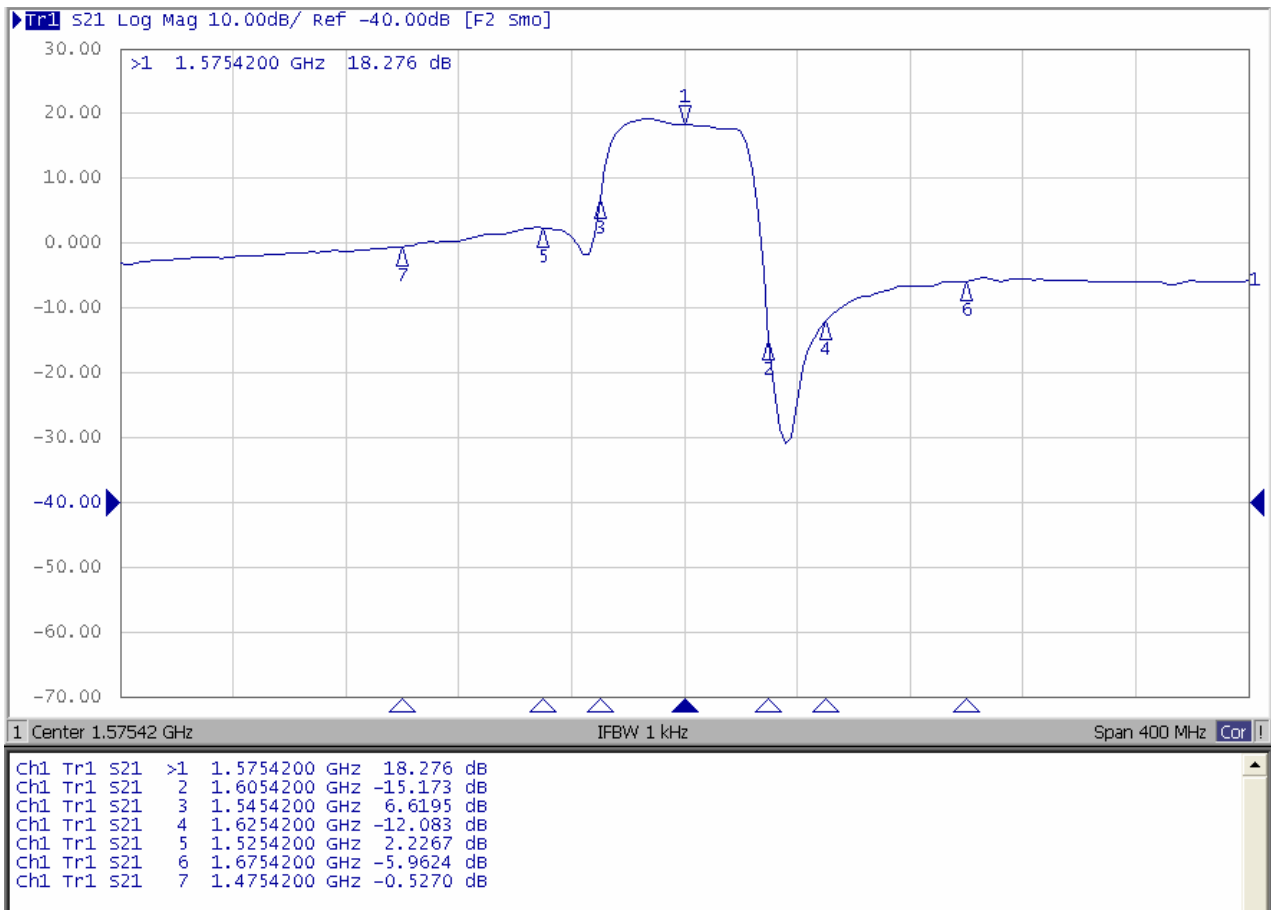
3.1	Antenna Dimensions	10mm*10mm*4mm
3.2	Frequency Range	1575.42 ± 1.023 MHz.
3.3	GAIN	-10 dB Typ. @zenith 10mm*10mm
3.4	Polaration	RHCP
3.5	Axial ratio	Max 4.0dB@zenith




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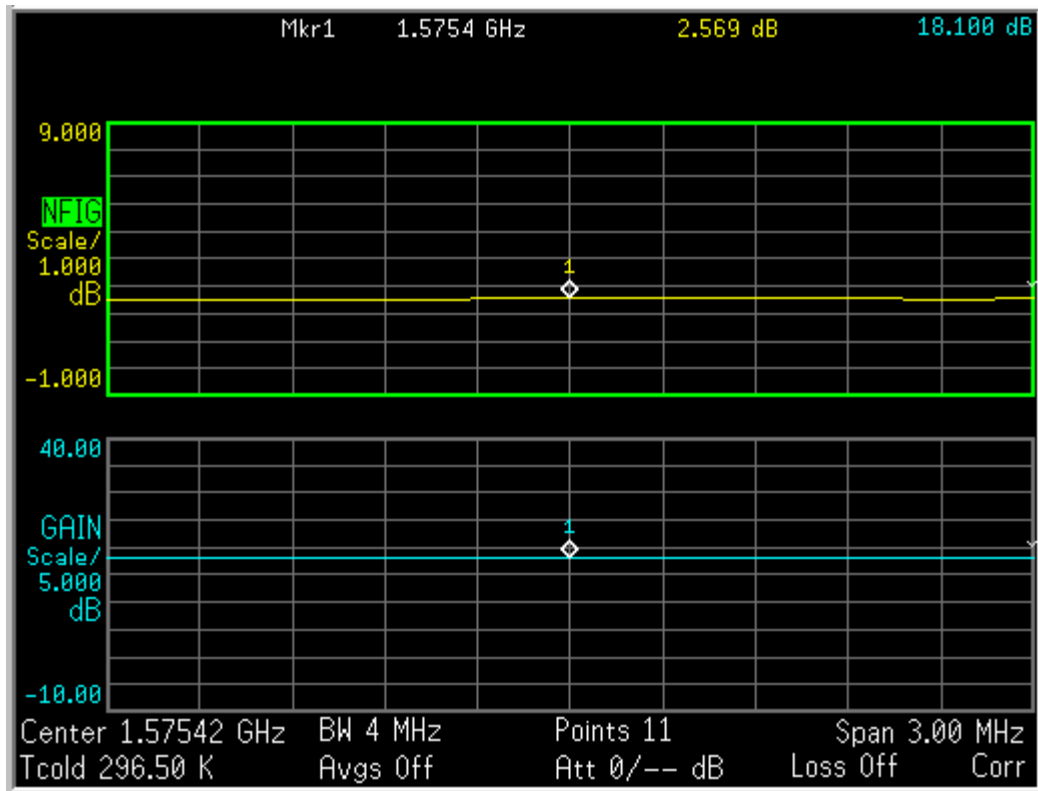
4.0 LNA

4.1	Frequency Range	1575.42 ± 1.023 MHz		
4.2	Output Impedance	50 Ω		
4.3	Outer Band Attenuation	F0=1575.42MHz F0±30MHz 9 dB min F0±50MHz 14 dB min F0±100MHz 16 dB min		
4.4	Pout at 1dB Gain Compression point	1dBm Typ.		
4.5	Output VSWR	2.0 Typ		
4.6	LNA Gain, Power Consumption and Noise Figure			
	Voltage	LNA Gain(Typ)	Power Consumption(mA) Typ	Noise Figure(Typ)
	Min 1.5V	18dB	3.5mA	2.6 dB
	Typ 1.8V	18dB	3.5mA	2.6 dB
	Max 3.3V	18dB	3.5mA	2.6 dB



LNA Gain and Out Band Rejection @ 1.8V

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LNA Noise Figure @1.8V

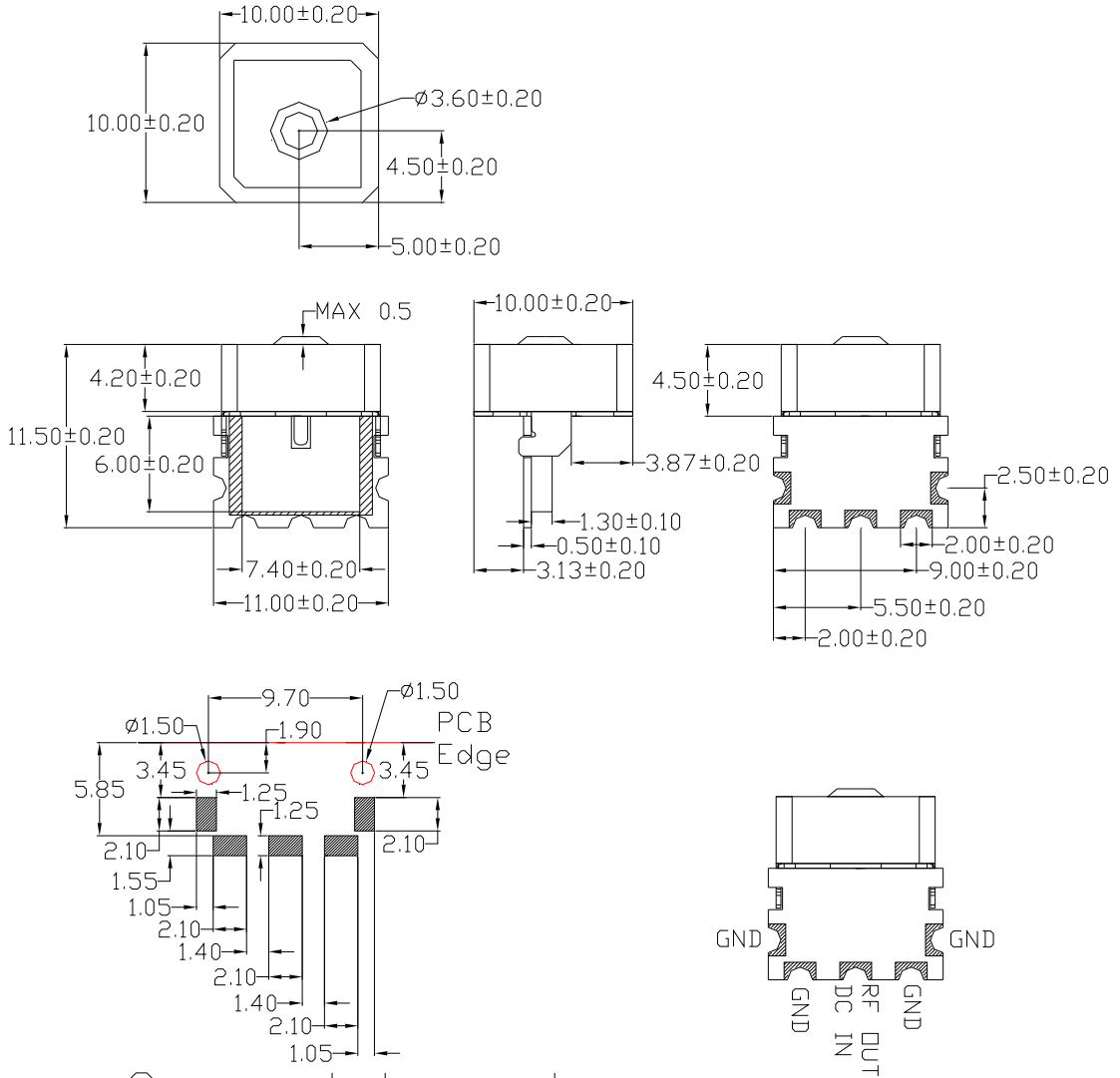
5.0 TOTAL SPECIFICATIONS (Through Antenna, LNA, Cable and Connector)

5.1	Frequency Range	1575.42 ± 1.023MHz
5.2	Gain	At 90° 15 ± 4dBic
5.3	Output Impedance	50Ω
5.4	Output VSWR	2.0 Max



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6.0 OUTLINE





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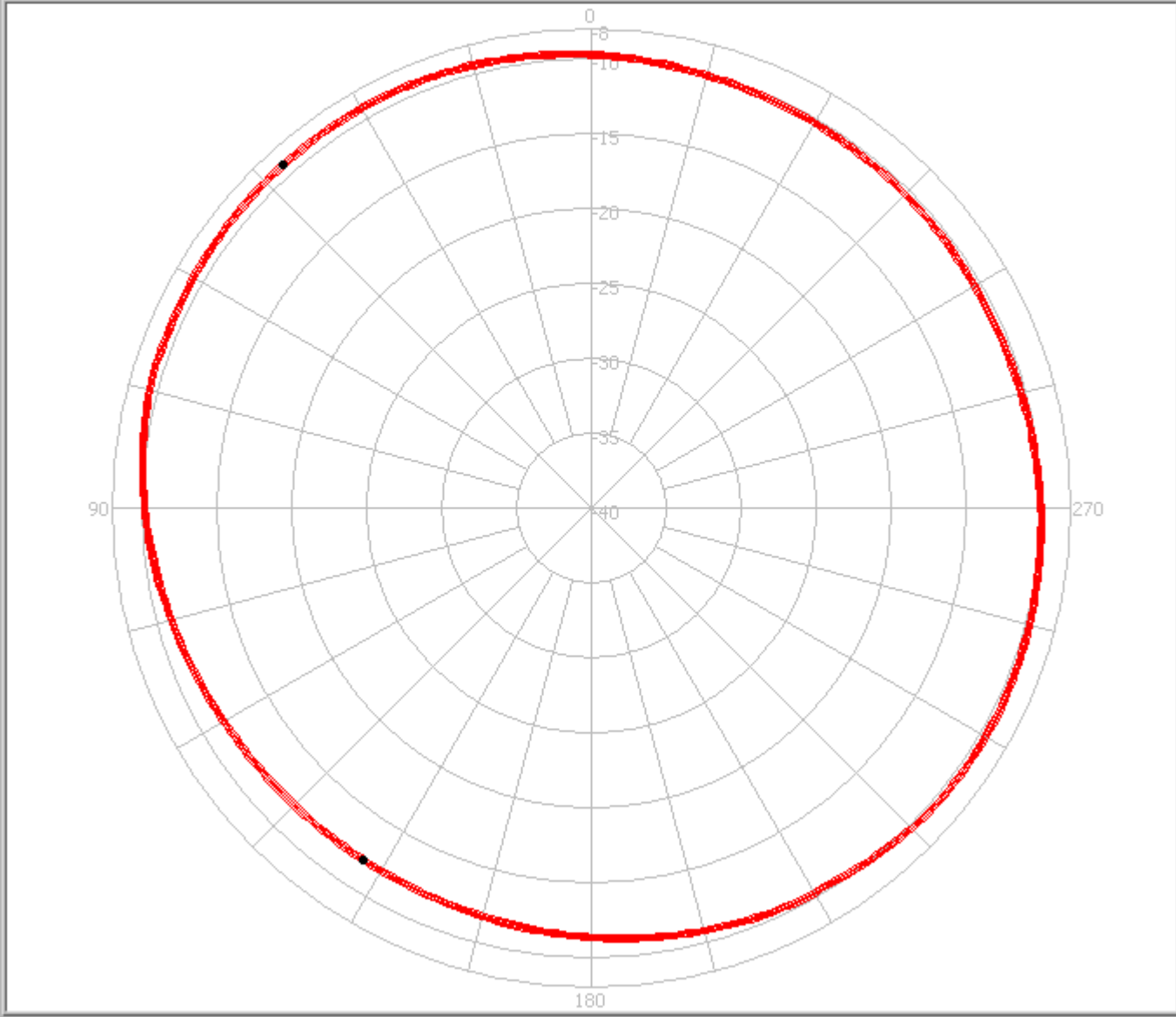
7.0 Radiation patterns



Cirocomm Technology Corp.


Antenna Pattern Measurement

No. 37, Industrial South Road, Kuntien Industrial Park, Kuntien Hsiang, Tainan Hsien, Taiwan.
R.O. C. Tel:886-6-6992961, Fax:886-6-6992964.



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	1620	XZ	1620.00	-9.20 / 42.00	-11.99 / 147.00	-10.24	RHCP	2010/4/29

XZ-Plane

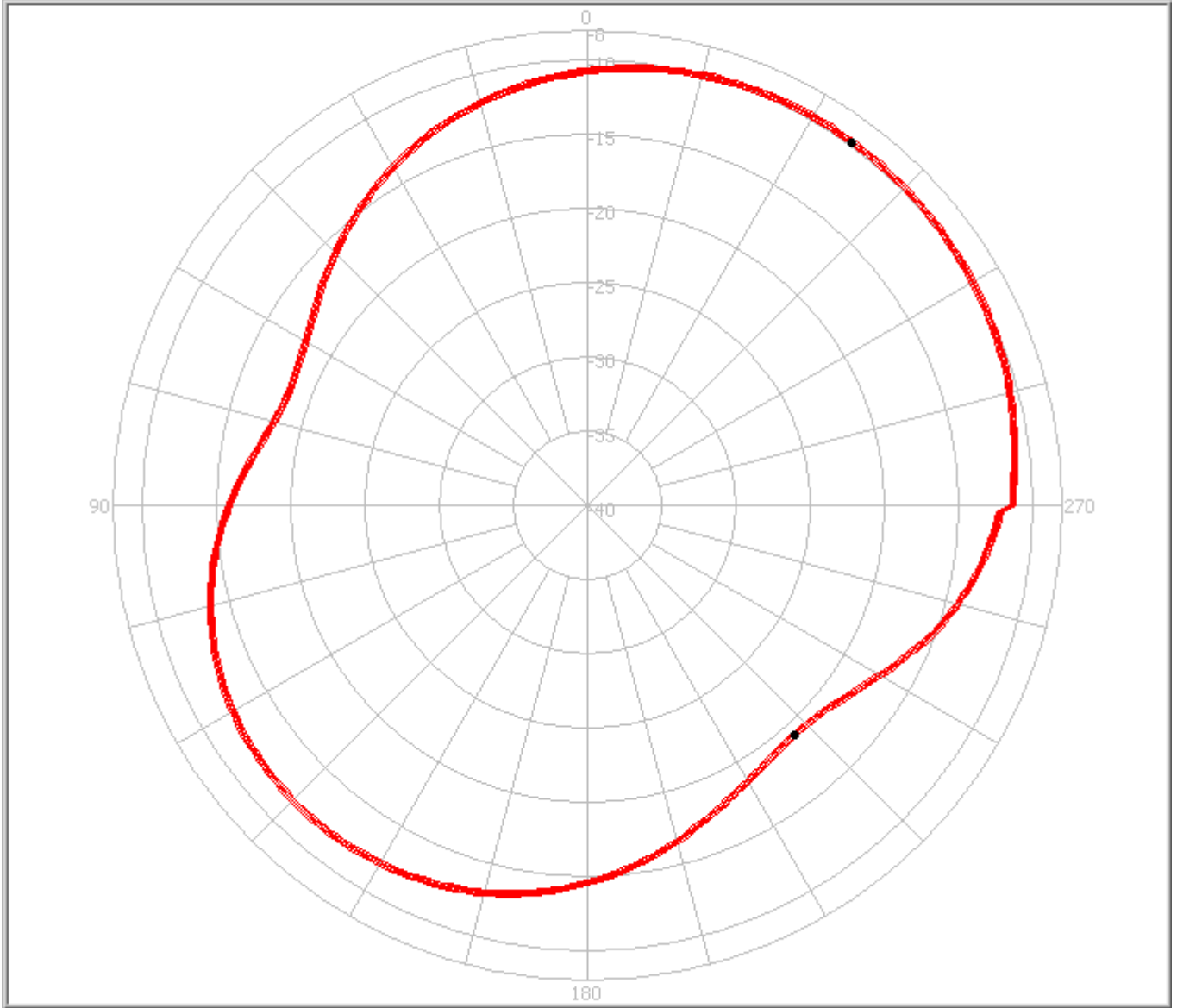
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Antenna Pattern Measurement

No.31, Industrial South Road, Kuntien Industrial Park, Kuntien Hsiang, Tainan Hsien, Taiwan.
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Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	1620	YZ	1620.00	-9.73 / 324.00	-19.18 / 222.00	-12.80	RHCP	2010/4/29

YZ-Plane

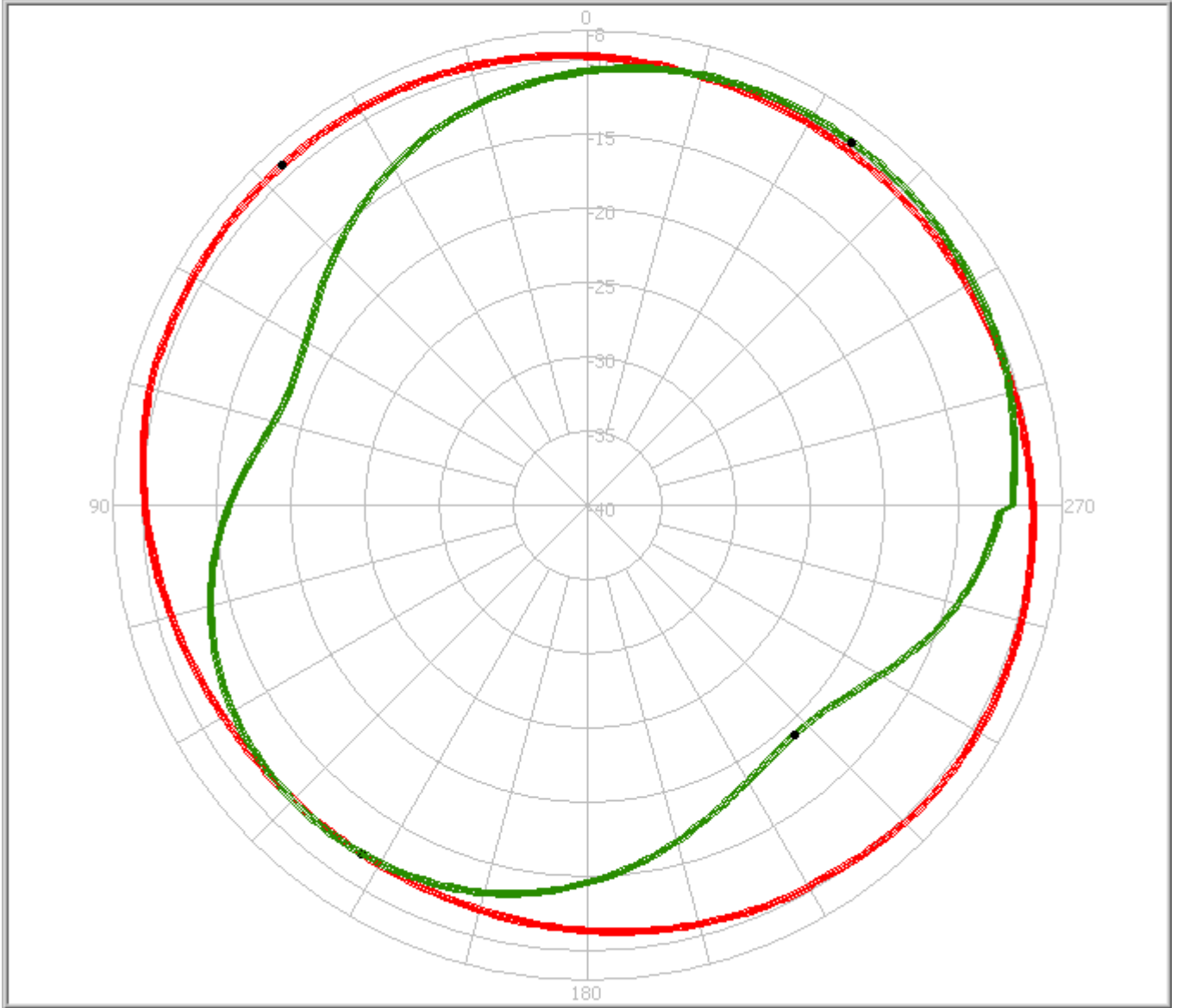
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2	1620	YZ	1620.00	-9.73 / 324.00	-19.18 / 222.00	-12.80	RHCP	2010/4/29

XY-Plane