

Antenna Design For NE3-12124

V1.03

Document Number	NE3-12124
1st Released Date	11/27/12
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Review by	

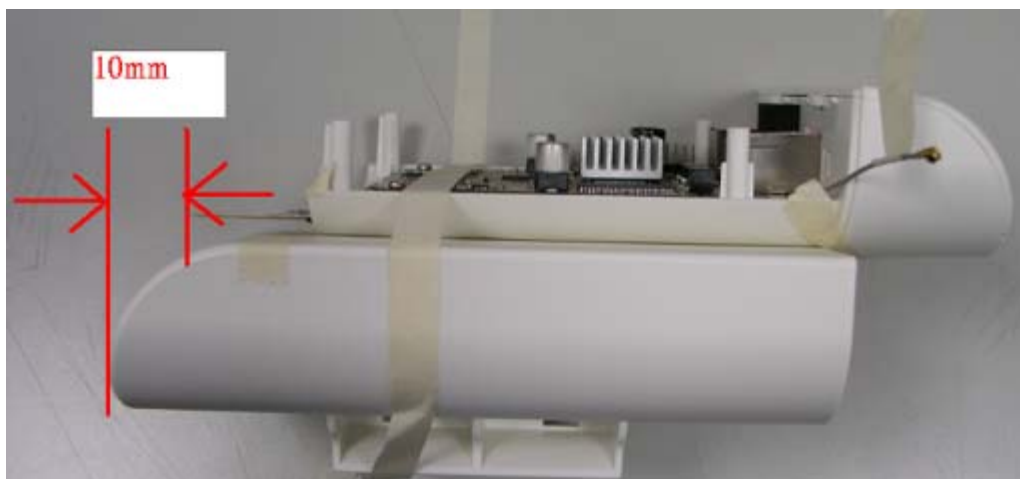
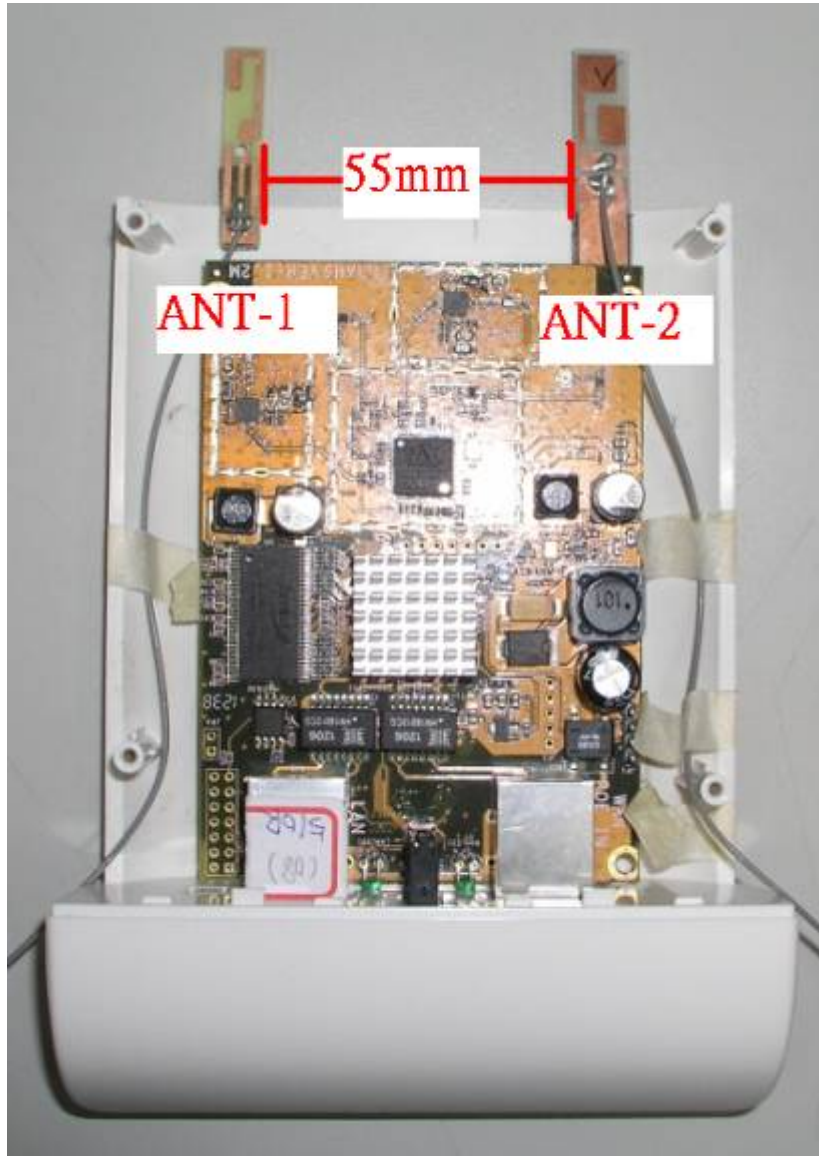
Revised History

Date	Version	Revised Record
11/27/12	1.00	● 1 st released
11/30/12	1.01	● 補測平躺測試結果
12/06/12	1.02	● 更換 ANT2 與 ANT1 同樣 TYPE
12/18/12	1.03	● 更換 ANT1

Specification

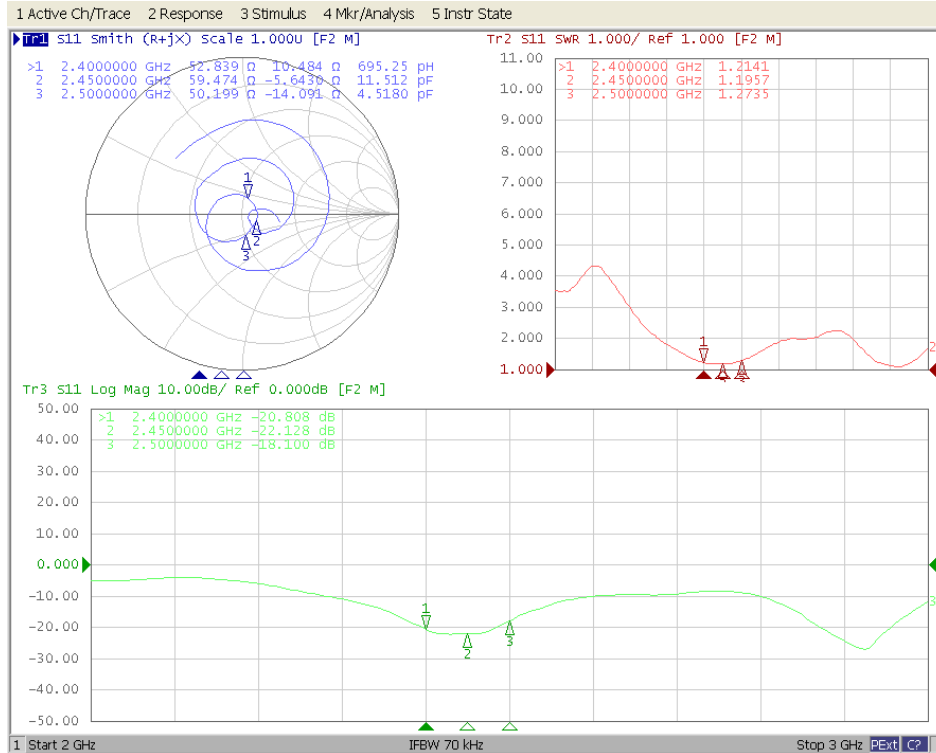
Rough description		
Item	Initial Specification	Final Specification
Dimensions		
Impedance	50Ω	
Test environment	With Housing	
Application	None	
Freq. Range	2400MHz~2500MHz	
Antenna type	ANT1-Dipole ANT2- Dipole	
Gain	ANT-1 (4.55dBi) ANT-2 (4.36dBi)	
VSWR	1.5:1	
Radiation	None	
Polarization	Linear	
HPBW / H	None	
HPBW / E	None	
Rad. efficiency	>65%	
Connector type	MHF	
Cable type	φ 1.13	

1 Antenna Introduction

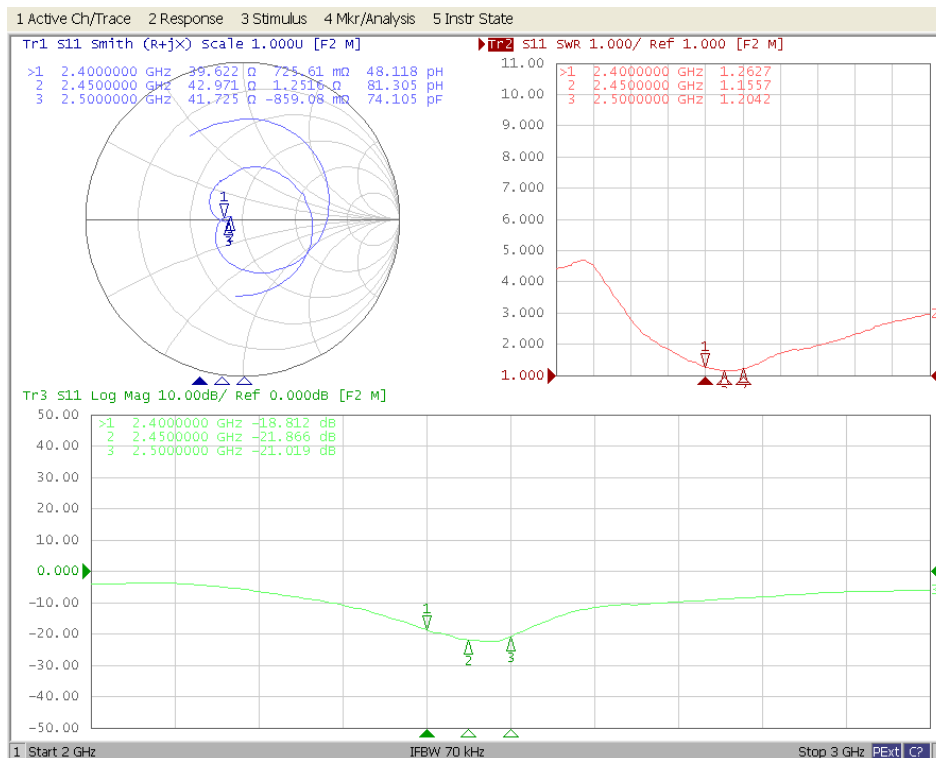


S11 test results

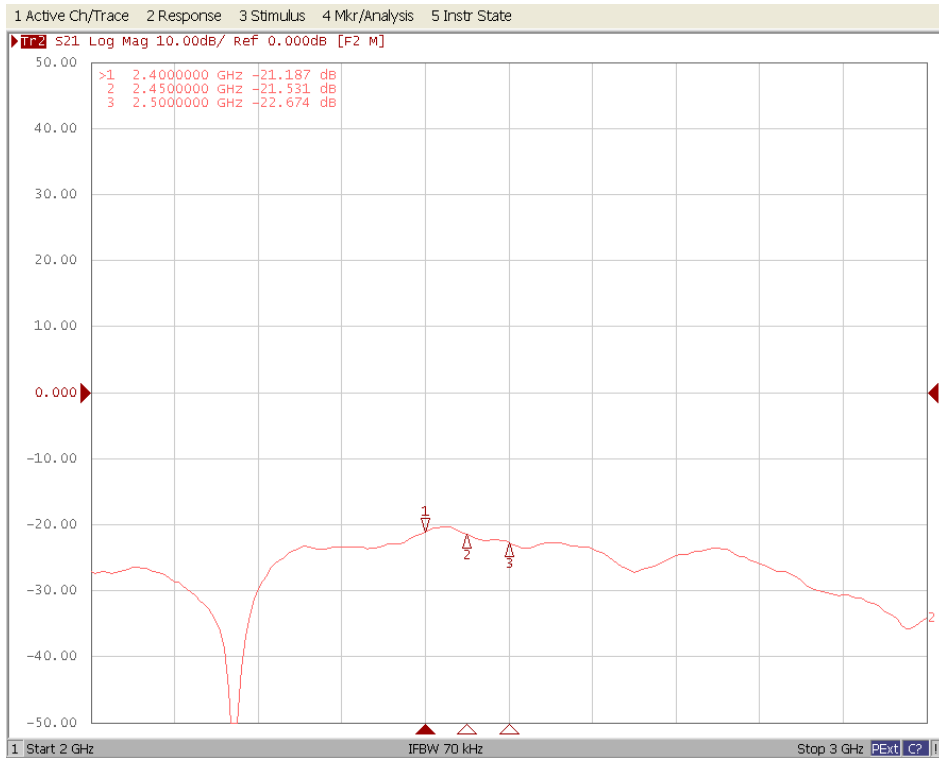
1.1 ANT1



ANT2

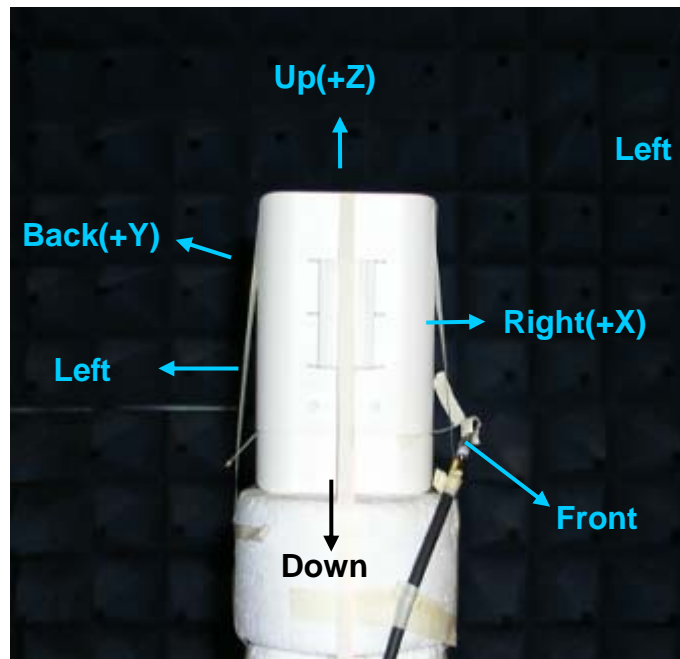
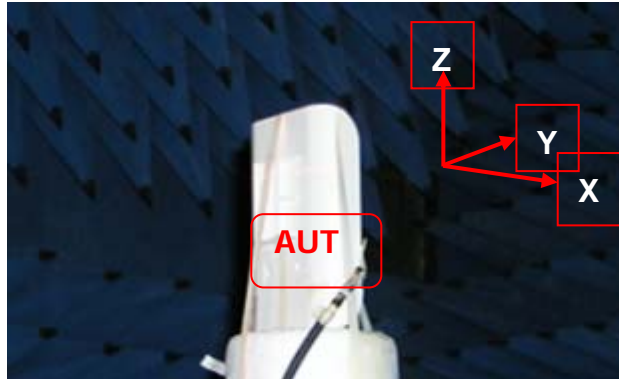


1.2 Isolation test results (ANT-1 to ANT2)

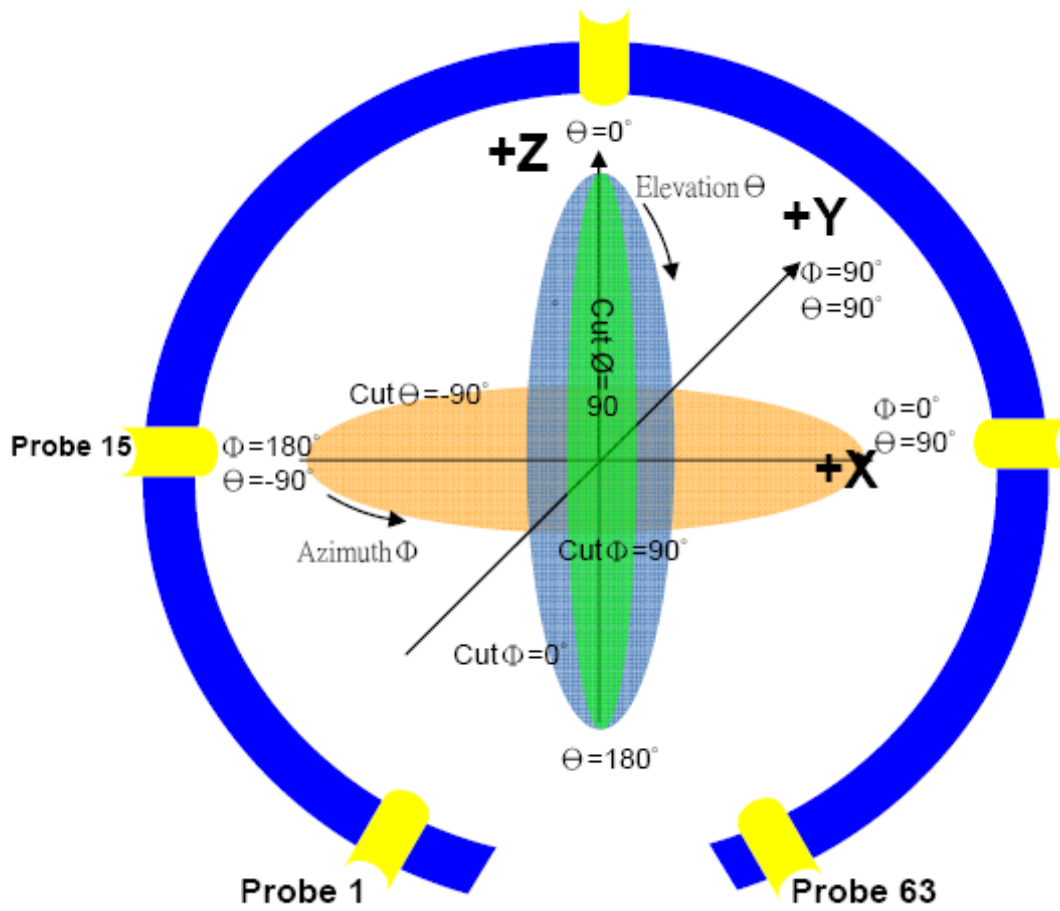


3 Gain & Patterns test results

3.1 Measurement setting



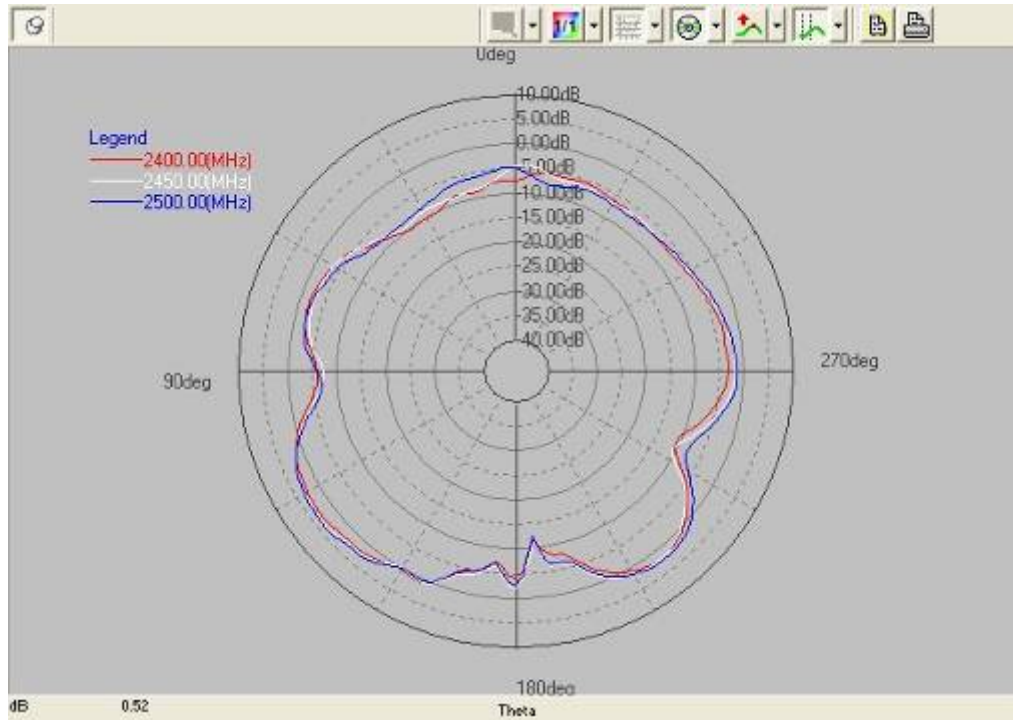
	XY	YZ	XZ
0°	Right	Up	Up
90°	Back	Back	Right
180°	Left	Down	Down
270°	Front	Front	Left



	θ	ϕ
Total angle	175°	360°
How many angle scan one point	5°	5°
Total scan point	36	73

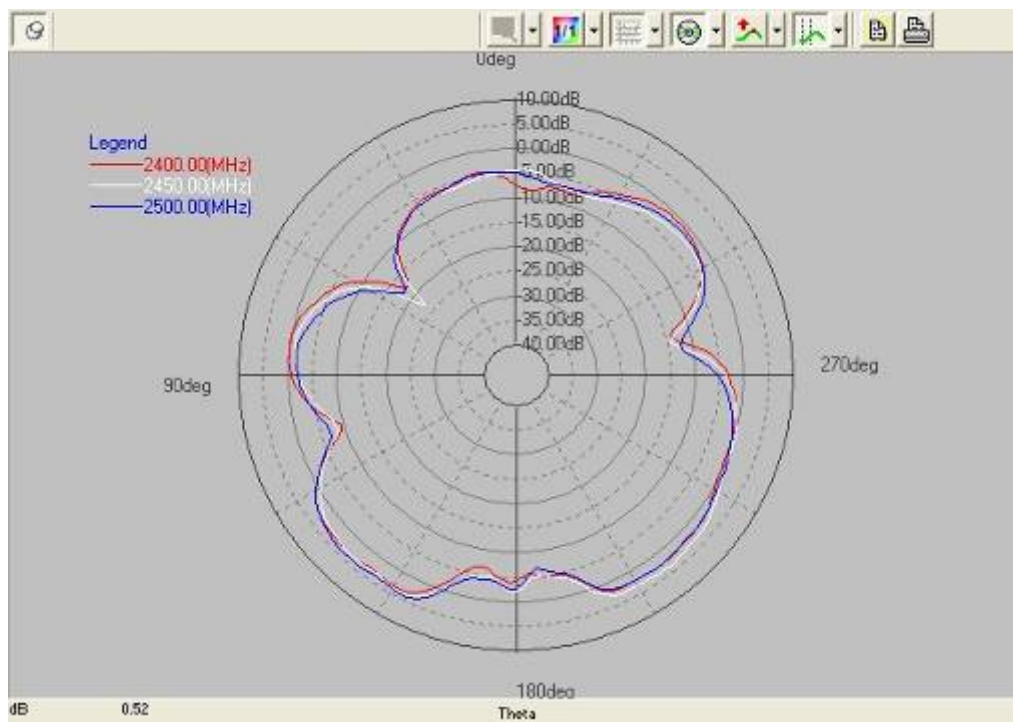
3.2 Ant 1(直立)

2400 MHz~2500 MHz



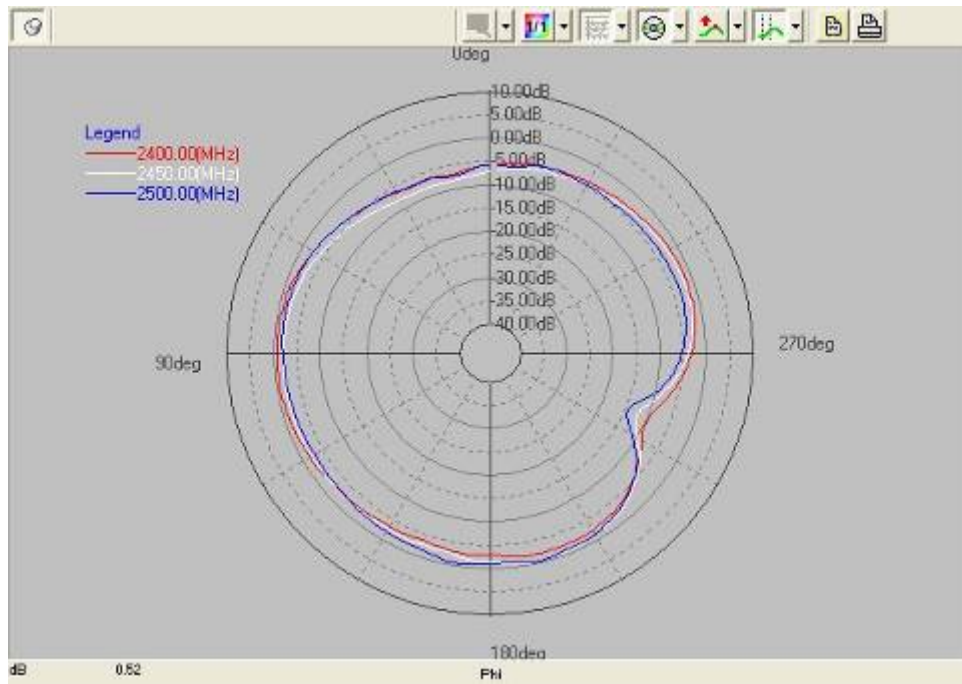
X-Z Plane (E-total)

2400 MHz~2500 MHz



Y-Z Plane (E-total)

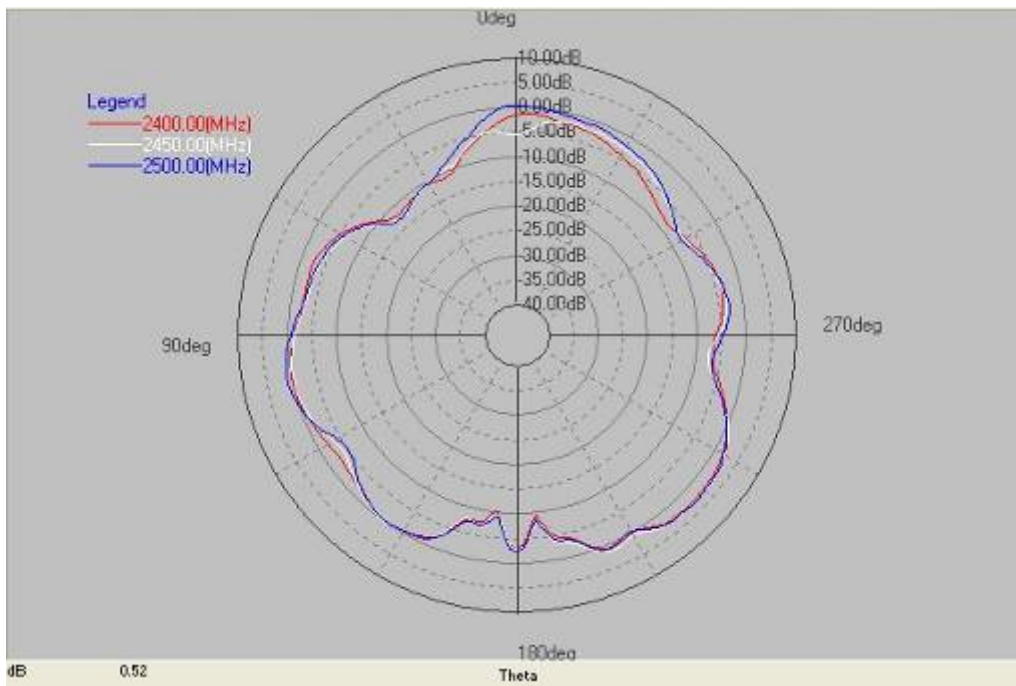
2400 MHz~2500 MHz



X-Y Plane (E-total)

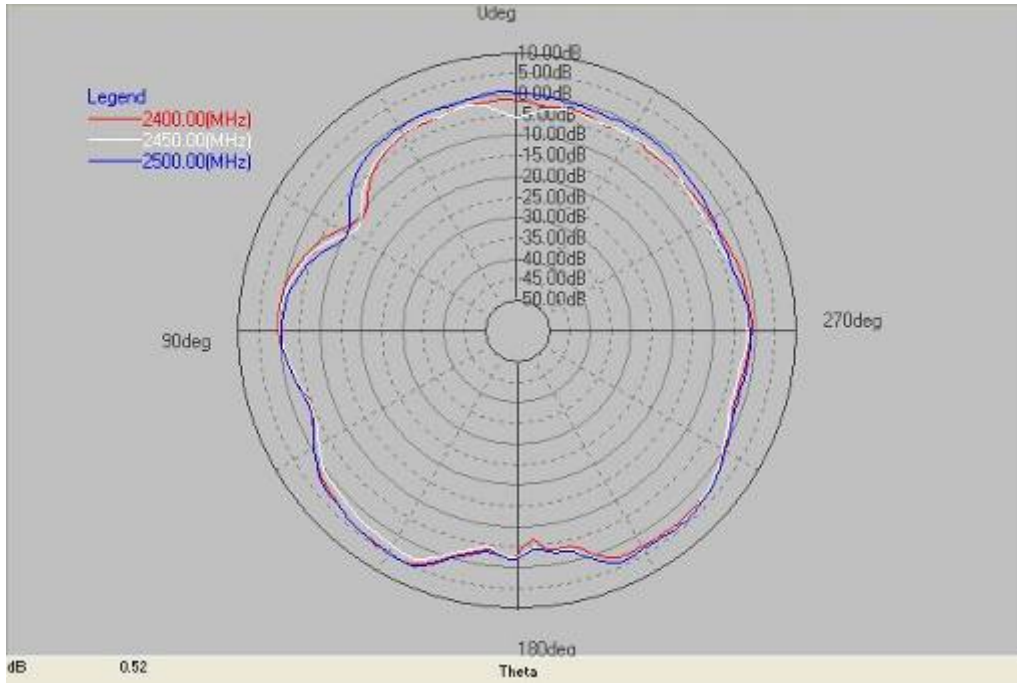
Ant 2 (直立)

2400 MHz~2500 MHz



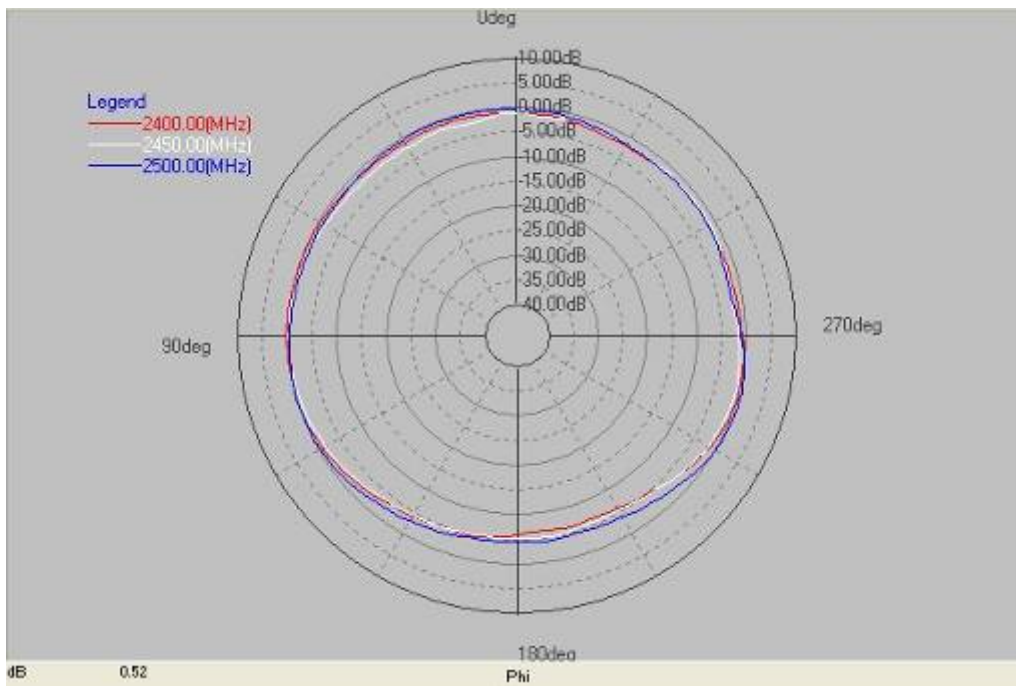
X-Z Plane (E-total)

2400 MHz~2500 MHz



Y-Z Plane (E-total)

2400 MHz~2500 MHz



X-Y Plane (E-total)

4 Summary

4.1 Return Loss

Frequency	Ant 1 (dB)	Ant 2 (dB)
2400 MHz	-20.80	-18.81
2450 MHz	-22.12	-21.86
2500 MHz	-18.10	-21.01

4.2 Isolation

Frequency	Ant 1 to Ant2(dB)
2400GHz	-21.18
2450GHz	-21.53
2500GHz	-22.67

4.3 3D total Peak Gain & Efficiency

Frequency	Ant 1(直立)		Ant 2(直立)	
	Peak Gain (dBi)	Efficiency (%)	Peak Gain (dBi)	Efficiency (%)
2400GHz	4.36	72.13	4.23	71.21
2450GHz	4.55	72.57	4.04	73.51
2500GHz	4.37	72.97	4.36	70.33