

SSR-84757

Antenna Design For SerComm

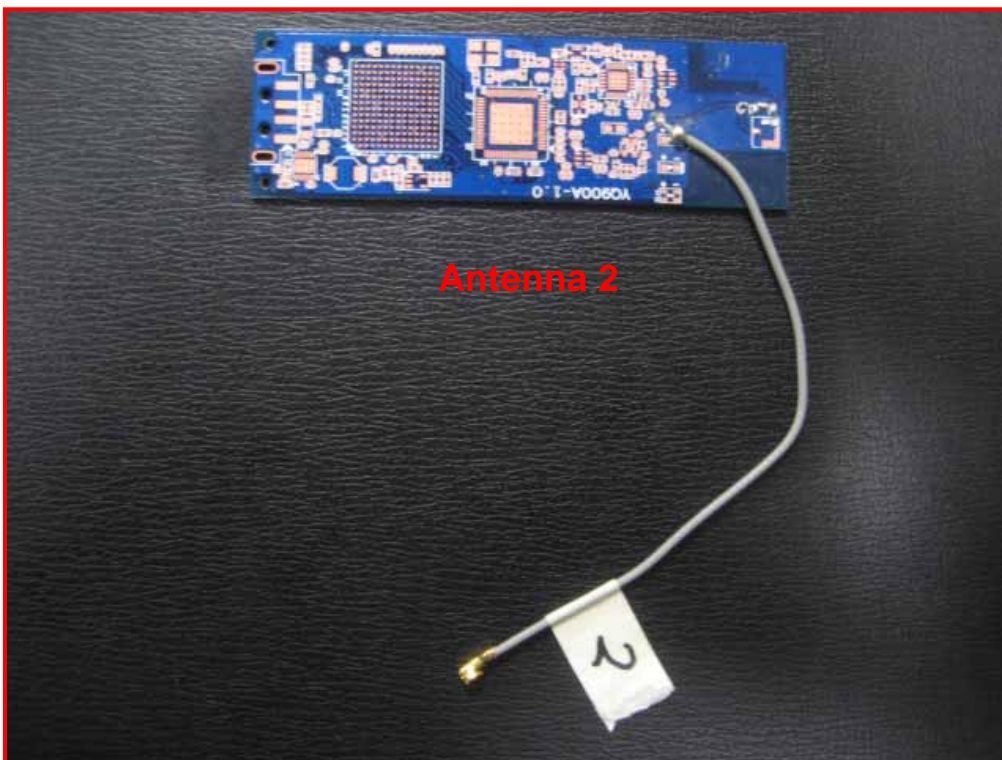
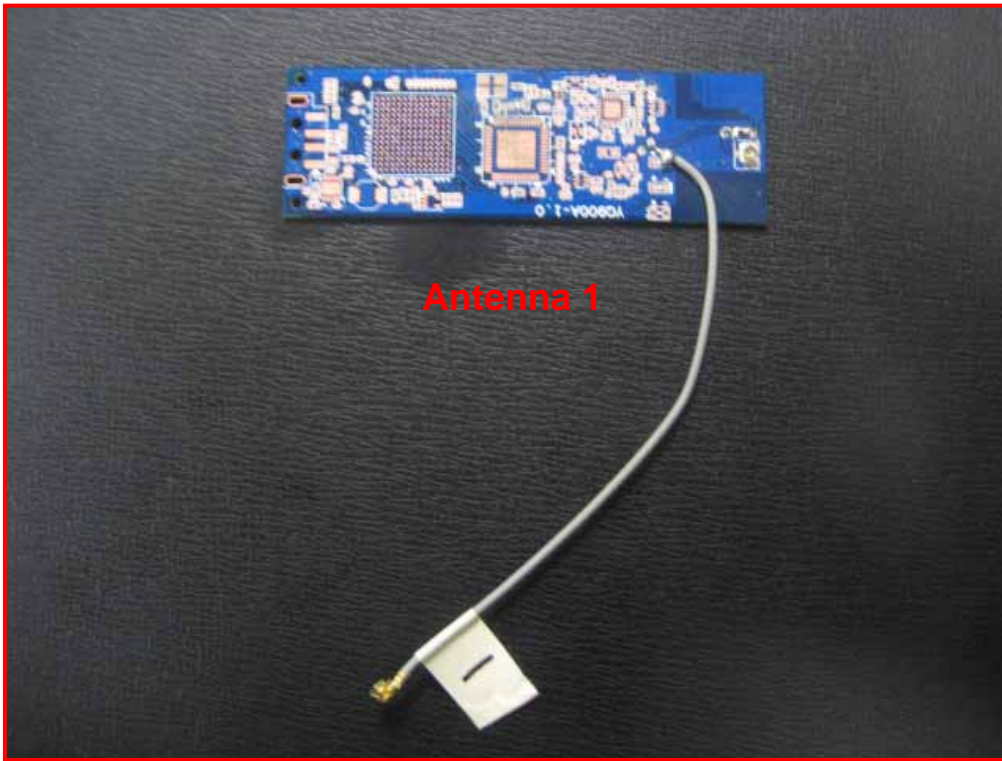
V1.02

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Review by	Romeo Chou

Specification

Rough description	Dual band Antenna for a AP.
Dimensions	None
Impedance	50Ω
Test environment	None
Application	None
Freq. Range	2.4~2.5 GHz/4.9~5.825 GHz
Gain	None
VSWR	1.92 : 1
Radiation	Omni for antenna
Polarization	linear
HPBW / H	None
HPBW / E	None
Efficiency	None
Downtilt	None
Connector type	None
Cable type	None
Isolation	None
Special request	None

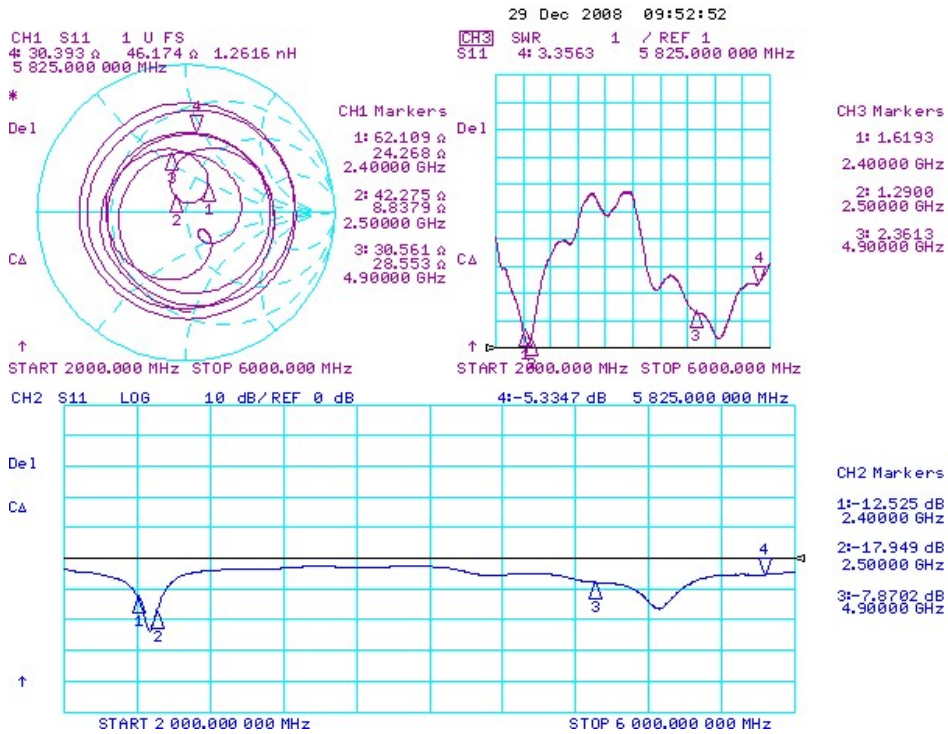
1 Antenna Introduction



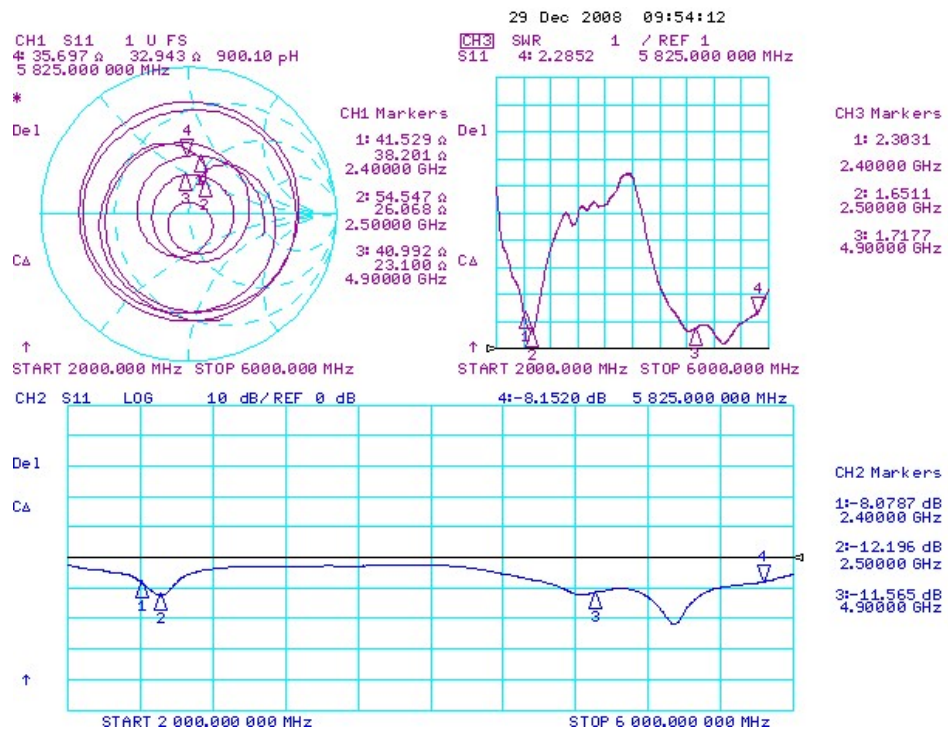
S-parameter test results

1.2 S11 test results

1.2.1 Antenna 1

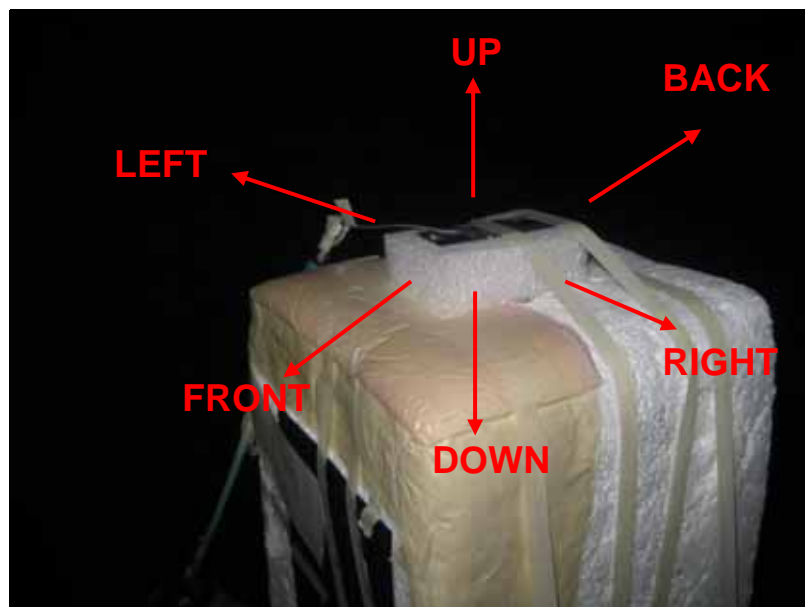
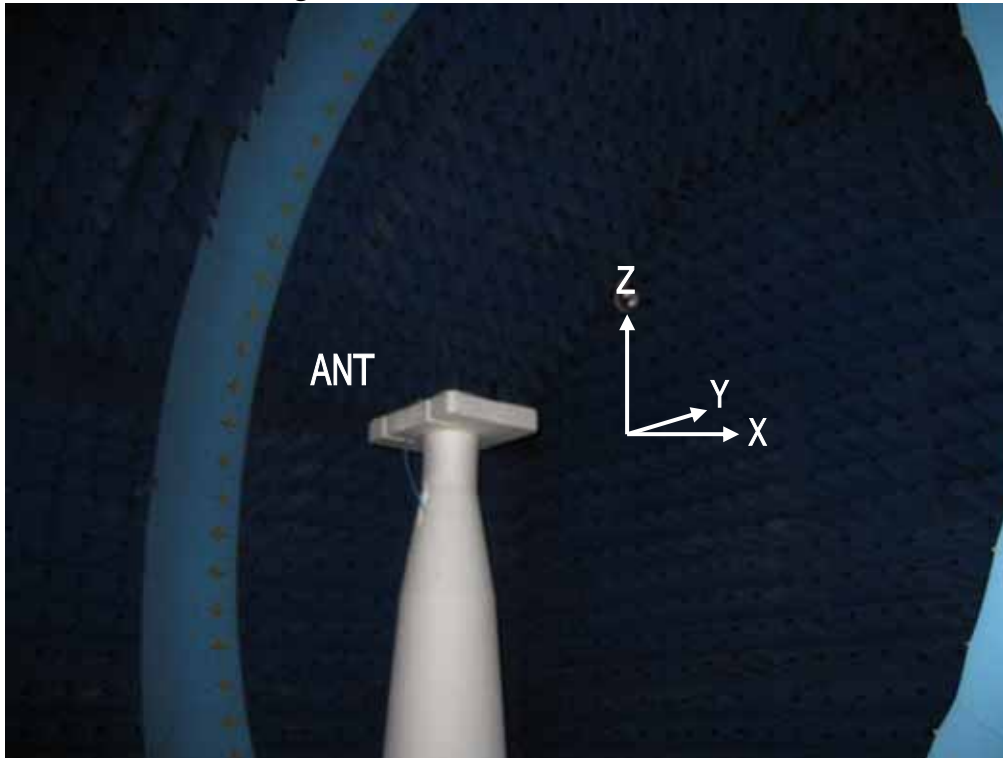


1.2.2 Antenna 2

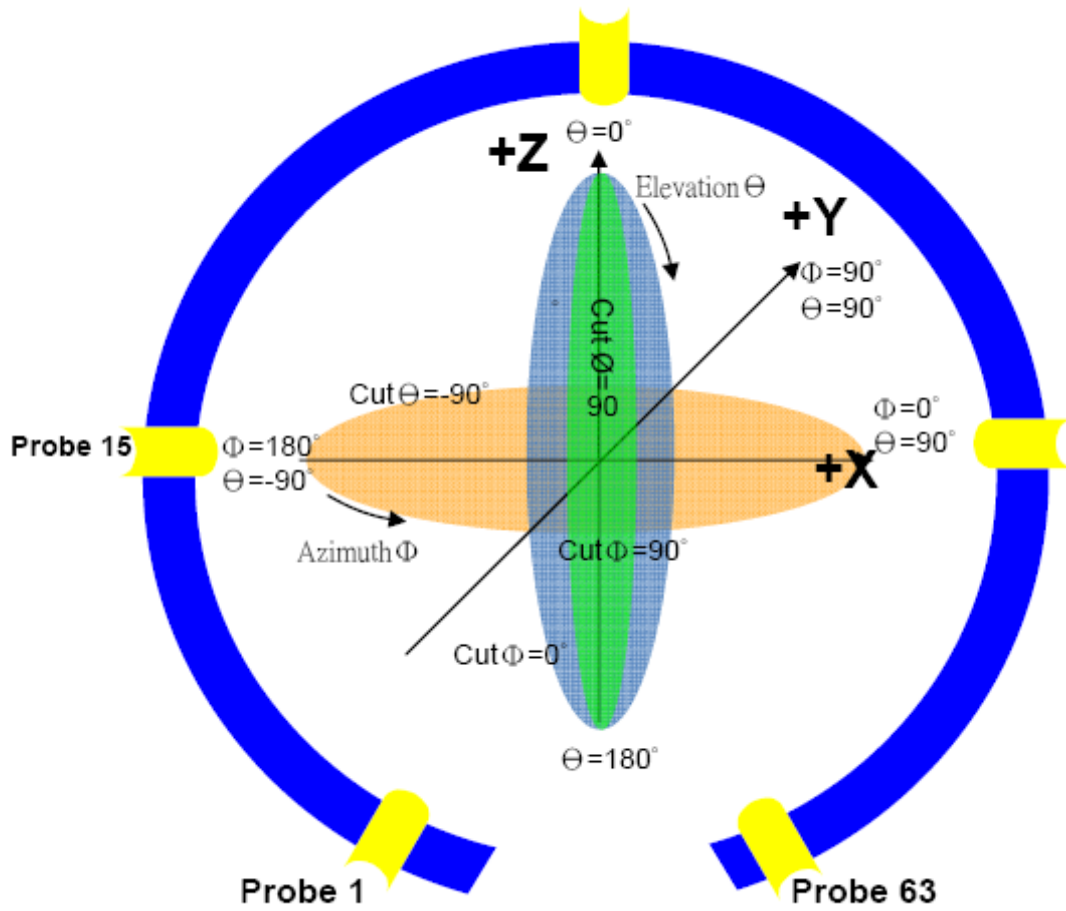


2 Gain & Patterns test results

2.1 Measurement setting



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



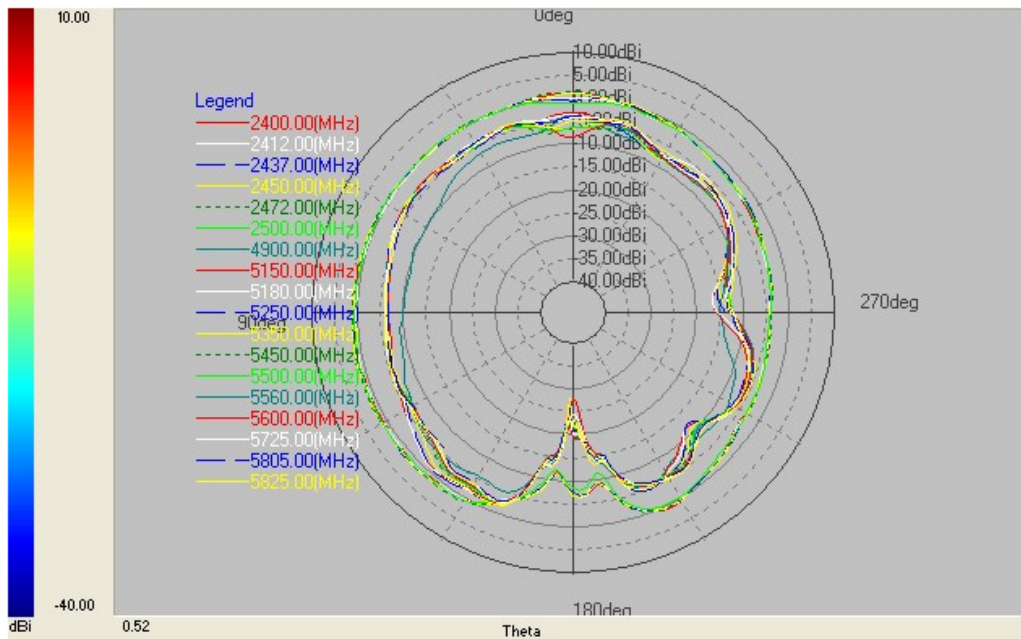
Total angle	175°	360°
How many angle scan one point	5°	5°
Total scan point	36	73

2.2 2D patterns

2.2.1 Antenna 1

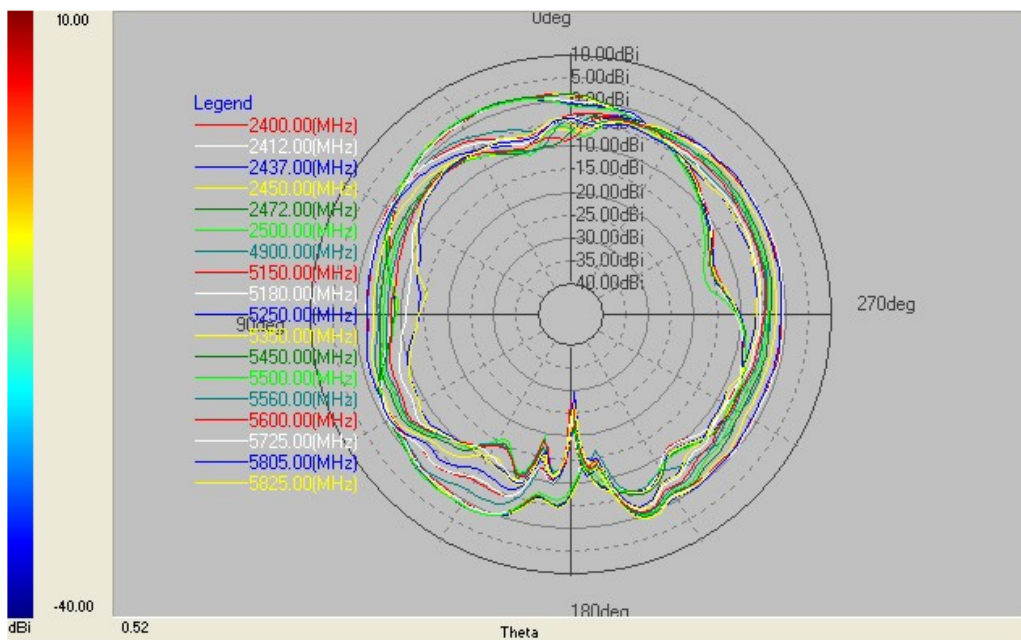
2.4~2.5GHz/4.9~5.825GHz

▲ 1Phi=0.00deg1



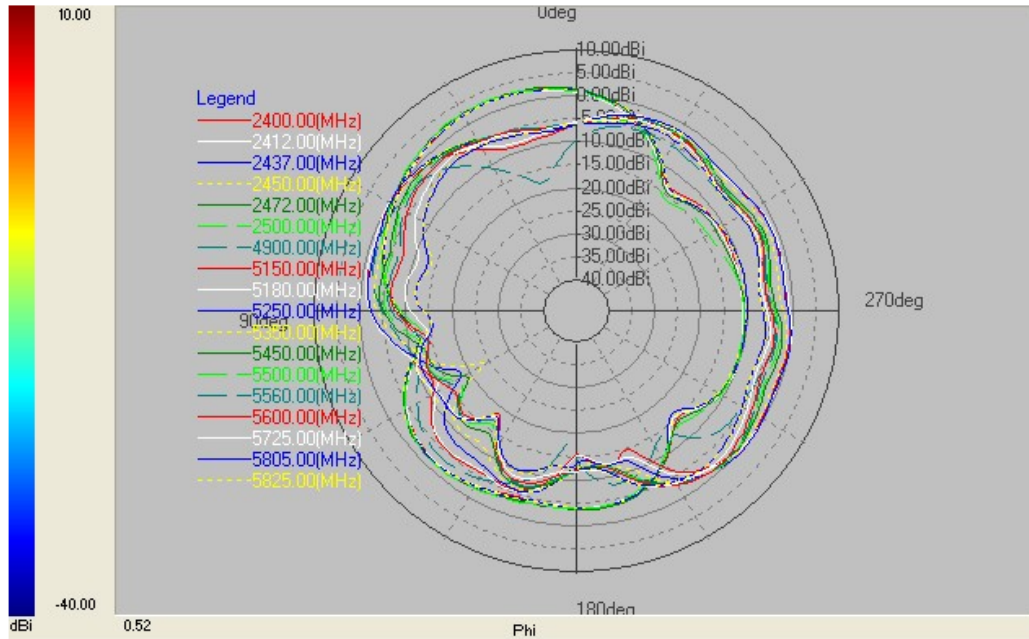
X-Z Plane (E-total)

▲ 1Phi=90.00deg1



Y-Z Plane (E-total)

▲ 1 Theta=90.00deg 1

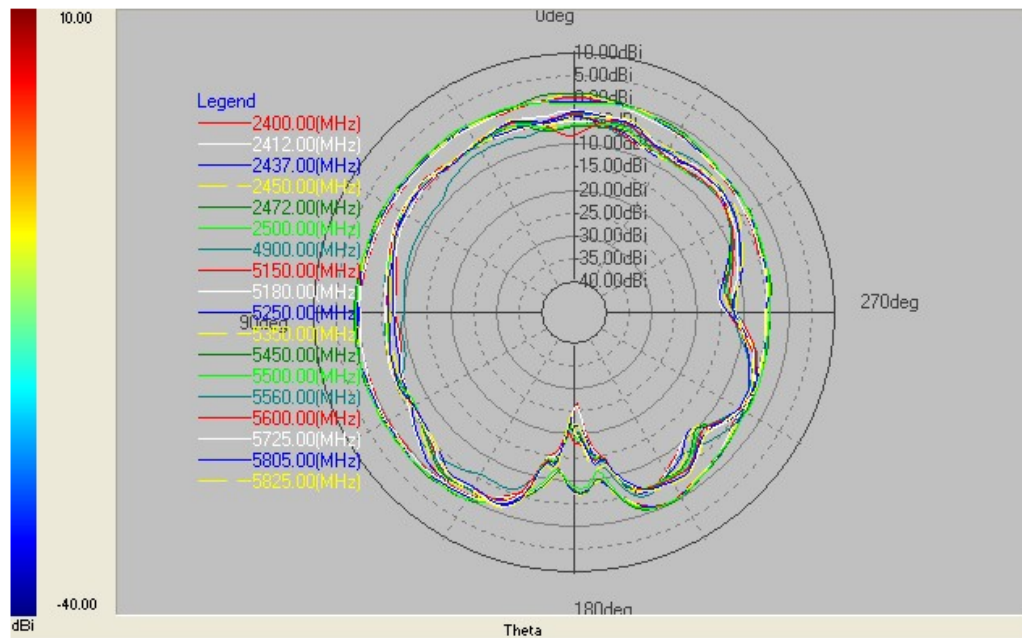


X-Y Plane (E-total)

2.2.2 Antenna 2

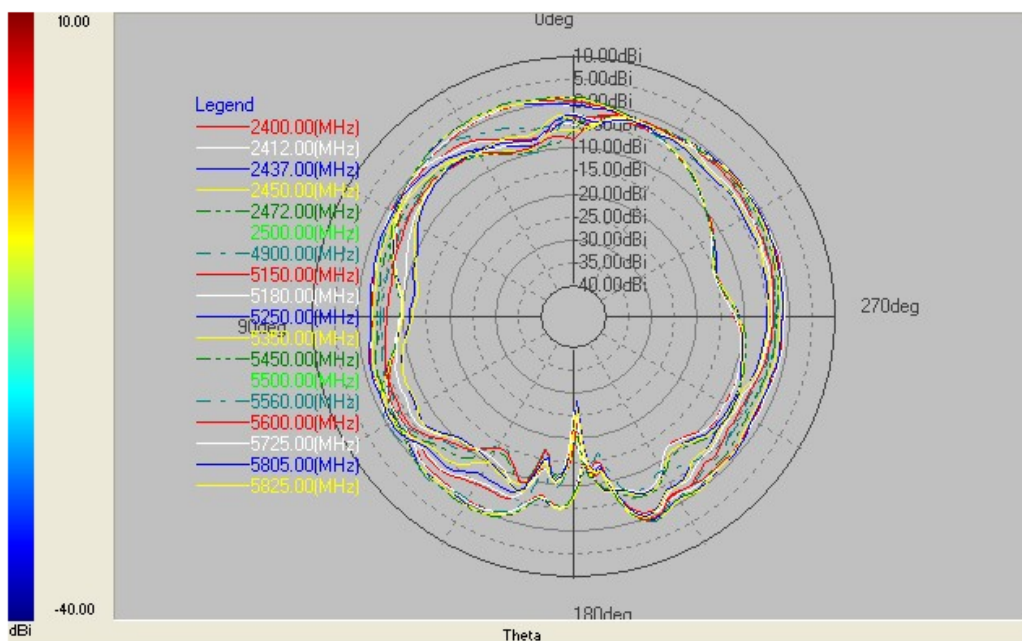
2.4~2.5GHz/4.9~5.825GHz

▲ $\Phi = 0.00\text{deg}$



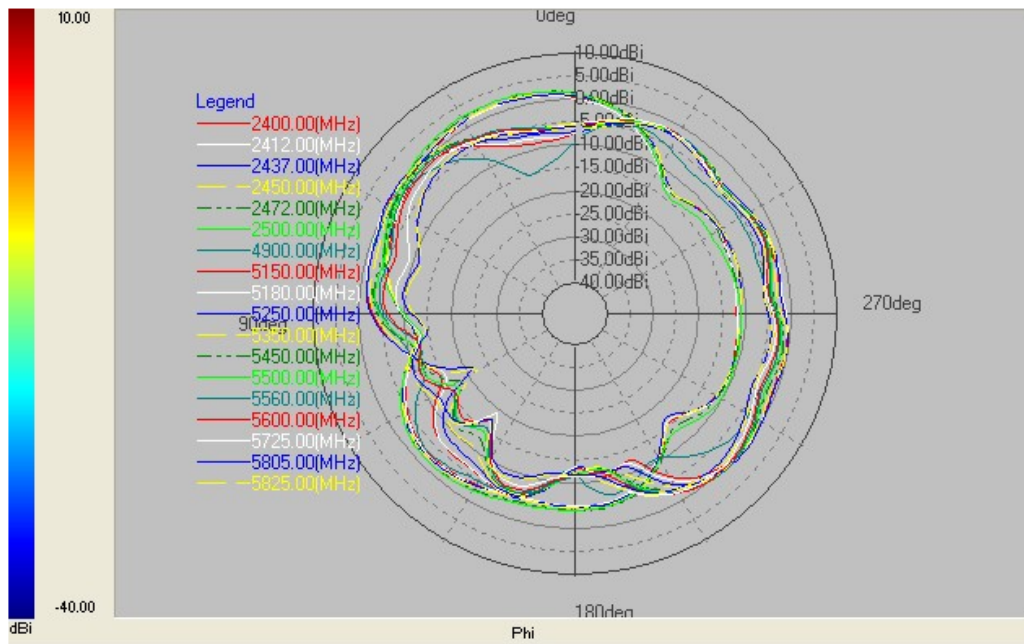
X-Z Plane (E-total)

▲ $\Phi = 90.00\text{deg}$



Y-Z Plane (E-total)

▲ 1 Theta=90.00deg 1



X-Y Plane (E-total)

3. Summary

3.1 Return Loss

	Antenna 1 (dB)	Antenna 2 (dB)
2.40 GHz	-12.52	-8.07
2.50 GHz	-17.94	-12.19
4.90 GHz	-7.87	-11.56
5.825 GHz	-5.33	-8.15

3.2 3D total Peak Gain & 3D Avg Gain

	Antenna 1		
	Peak Gain (dBi)	Avg Gain (dB)	Efficiency(%)
2.40 GHz	3.34	-4.74	63
2.412 GHz	3.44	-4.82	64
2.437 GHz	3.75	-4.65	67
2.45 GHz	3.87	-4.57	68
2.472 GHz	3.89	-4.40	68
2.50 GHz	3.53	-4.62	65
4.90 GHz	0.31	-6.53	32
5.15 GHz	1.11	-4.08	47
5.18 GHz	1.45	-3.86	48
5.25 GHz	1.73	-3.91	47
5.35 GHz	1.37	-4.50	41
5.45 GHz	0.73	-5.22	35
5.50 GHz	0.36	-5.50	32
5.56 GHz	0.12	-5.79	31

5.60 GHz	-0.34	-6.14	29
5.725 GHz	-1.13	-6.81	26
5.805 GHz	-1.88	-7.66	23
5.825 GHz	-1.42	-7.40	25

	Antenna 2		
	Peak Gain (dBi)	Avg Gain (dB)	Efficiency(%)
2.40 GHz	2.44	-5.57	52
2.412 GHz	2.63	-5.54	53
2.437 GHz	3.17	-5.20	59
2.45 GHz	3.34	-5.02	61
2.472 GHz	3.56	-4.66	64
2.50 GHz	3.37	-4.65	64
4.90 GHz	1.42	-5.58	40
5.15 GHz	0.78	-4.11	46
5.18 GHz	1.09	-3.96	47
5.25 GHz	1.42	-3.88	47
5.35 GHz	1.66	-4.05	45
5.45 GHz	1.55	-4.34	42
5.50 GHz	1.32	-4.51	40
5.56 GHz	1.32	-4.67	39
5.60 GHz	0.80	-5.04	37
5.725 GHz	0.23	-5.55	35
5.805 GHz	-0.28	-6.45	30
5.825 GHz	0.04	-6.11	33