

WCBN3606L Antenna Report

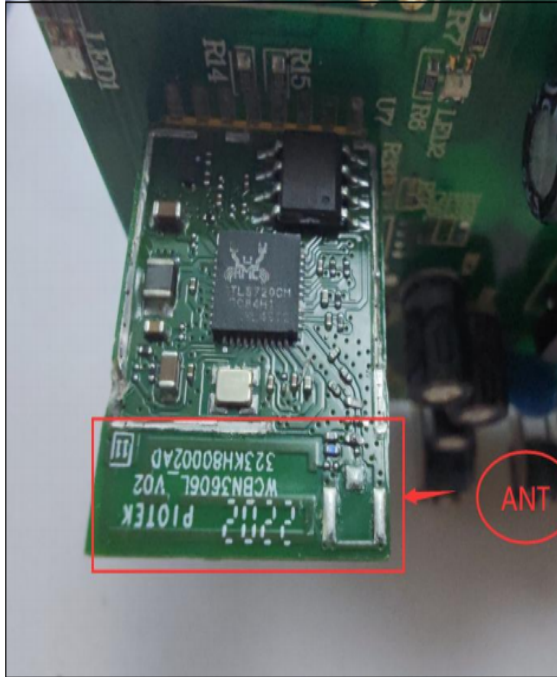
SAS

Outline

- Antenna Placement
- S - Parameter
- Matching Network
- Radiation Performance
- Radiation Pattern
- Conclusion

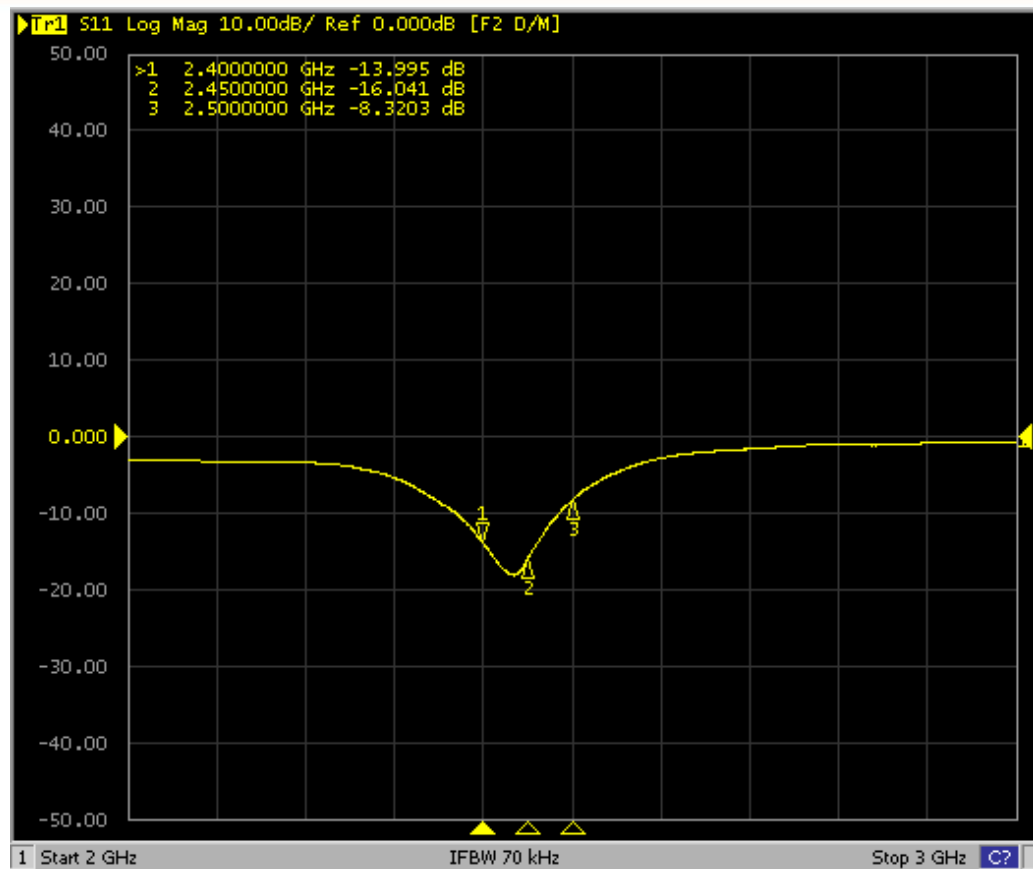
Antenna Placement

Horizontal

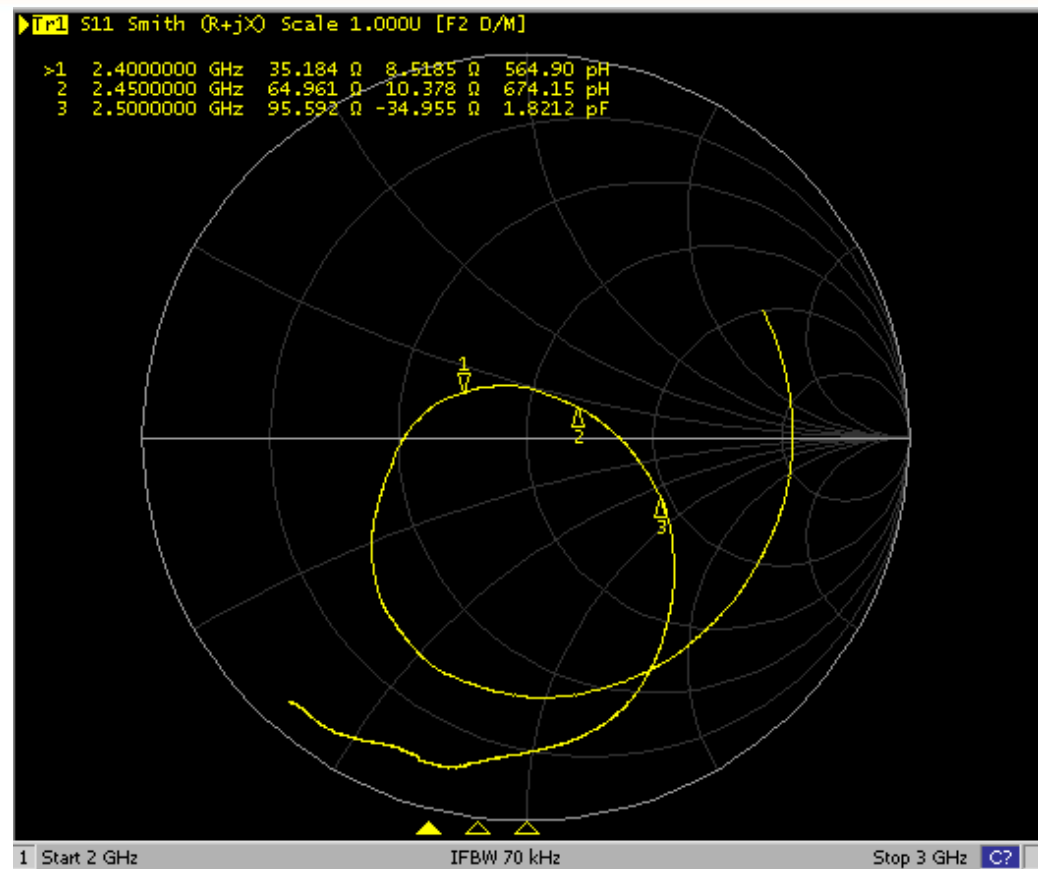


Antenna	Frequency(GHz)
WiFi	2.4-2.5

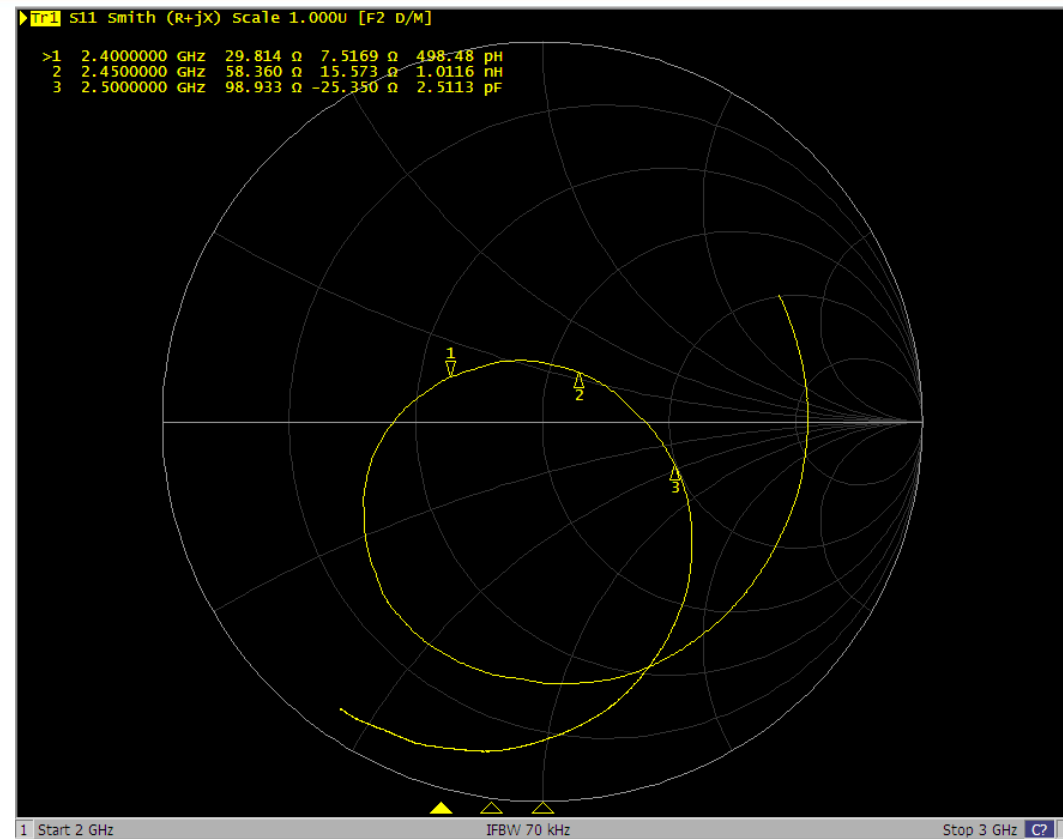
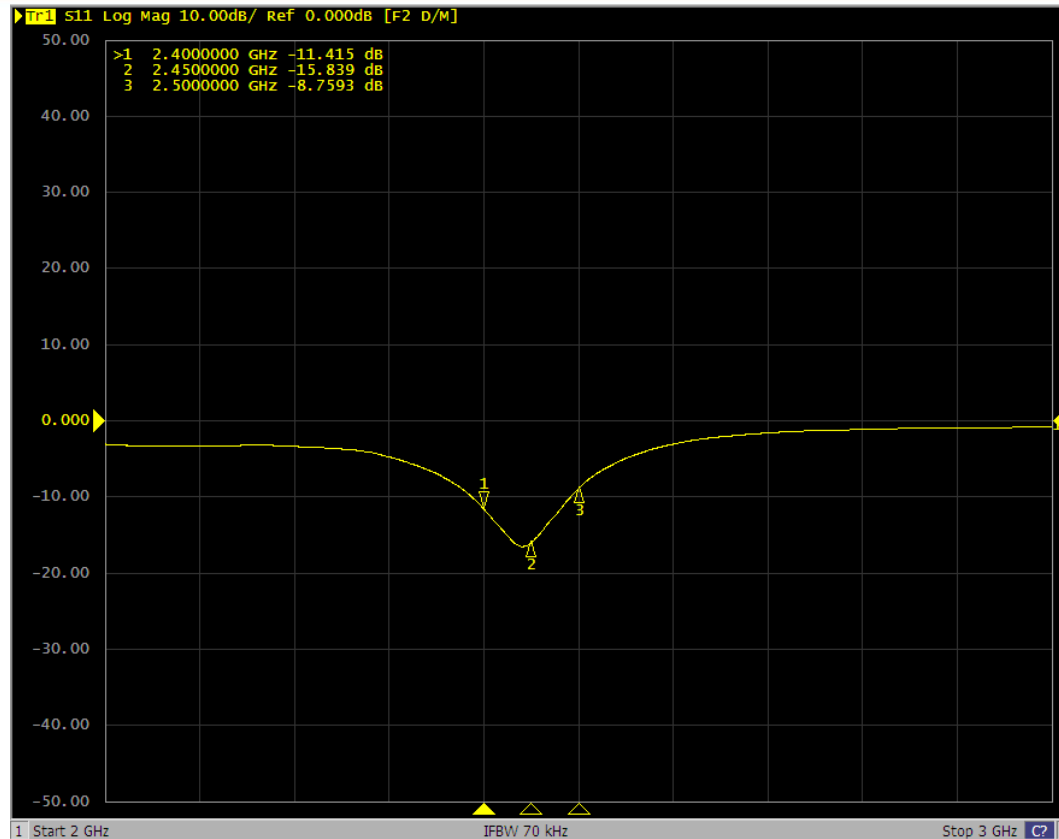
S - Parameter _ Horizontal



Frequency(GHz)	Return Loss(dB)
2.40	-13.99
2.45	-16.04
2.50	-8.32

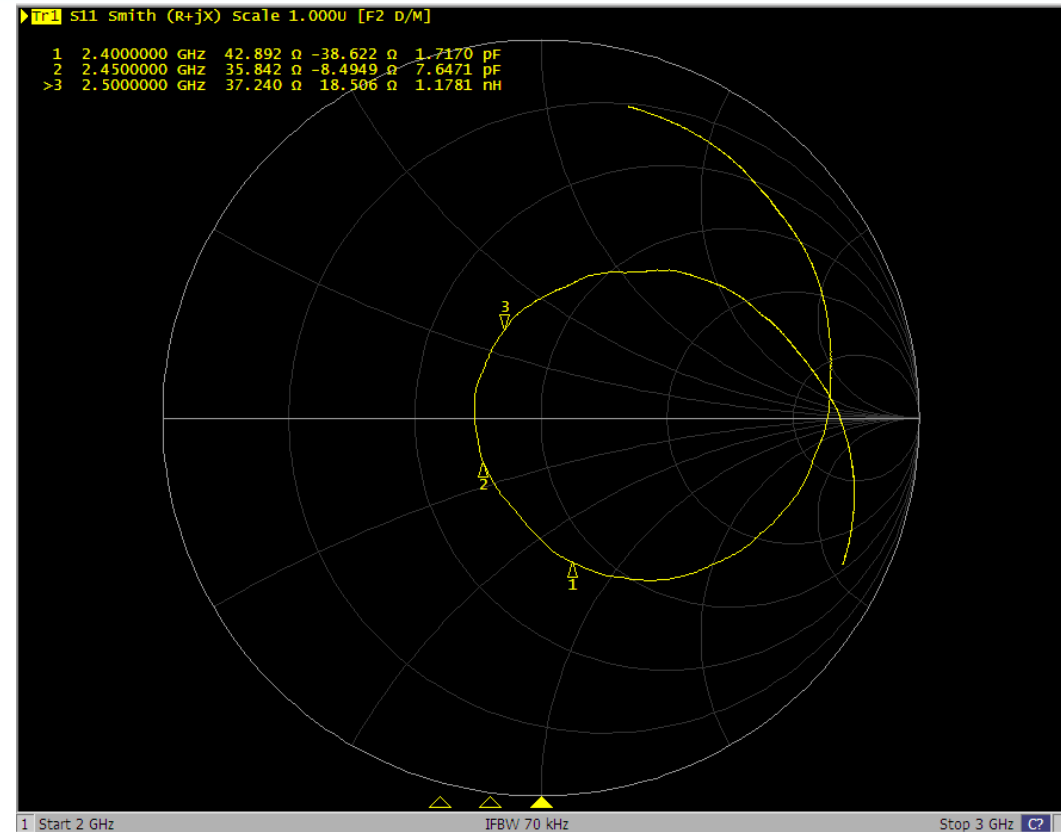
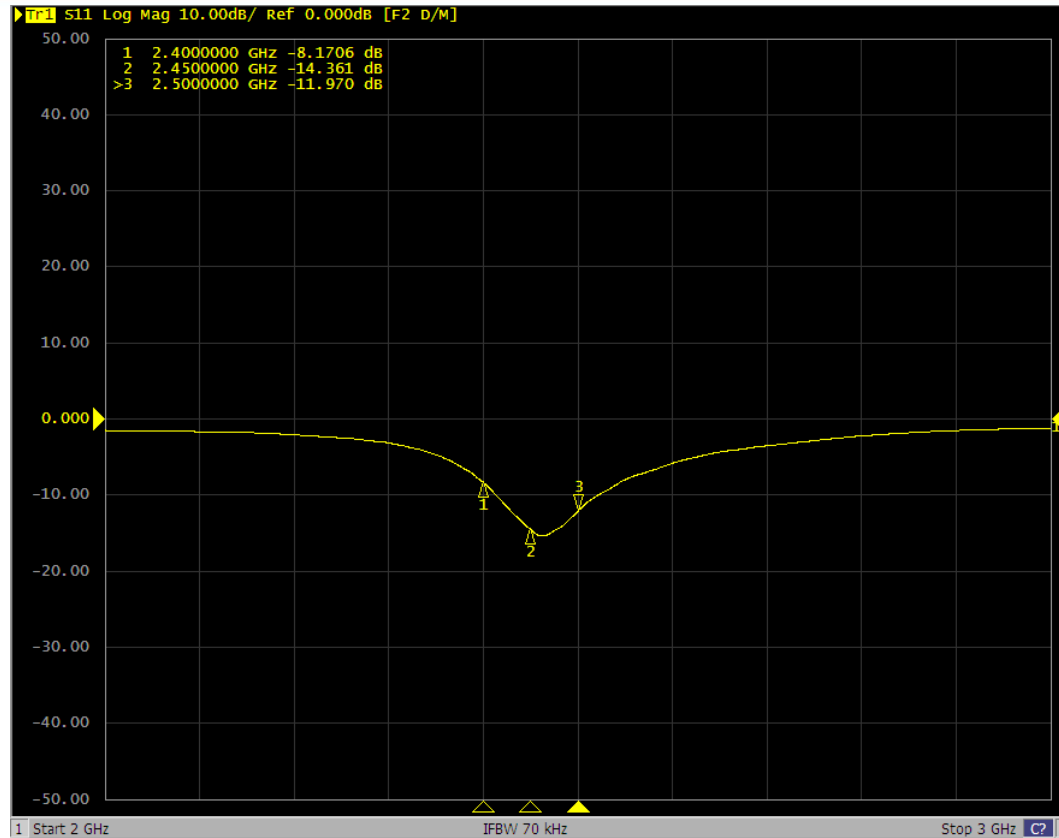


S - Parameter _ Horizontal(add 5mm keep-out area)



Frequency(GHz)	Return Loss(dB)
2.40	-11.41
2.45	-15.83
2.50	-8.75

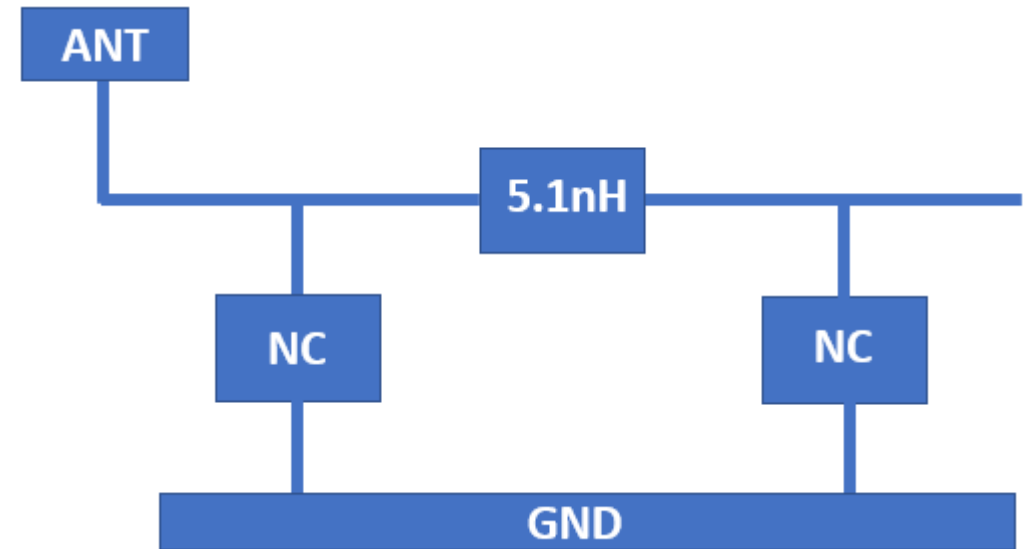
S - Parameter _ Vertical



Frequency(GHz)	Return Loss(dB)
2.40	-8.17
2.45	-14.36
2.50	-11.97

Matching Network

Vertical



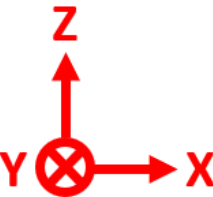
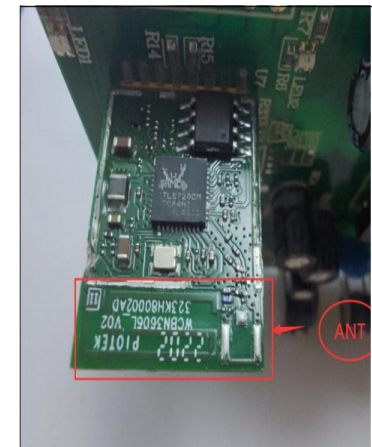
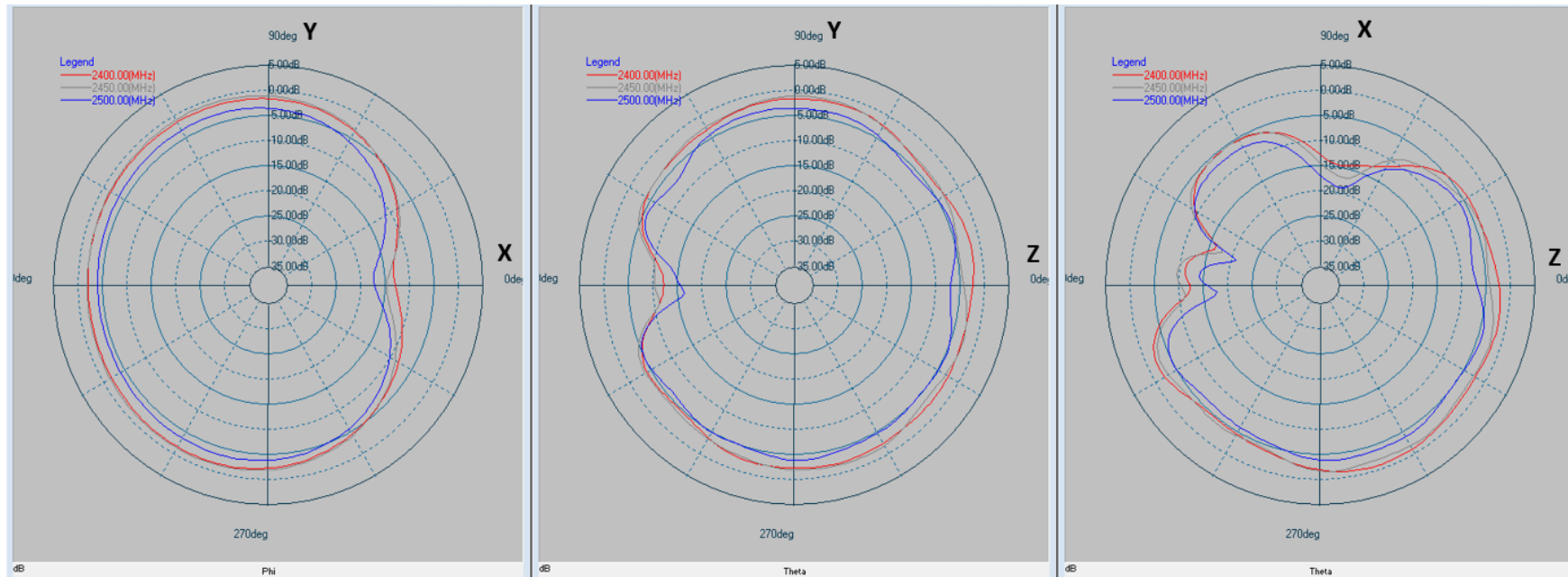
Radiation Performance

Horizontal			
Frequency(GHz)	Efficiency(%)	Efficiency(dB)	Peak Gain(dBi)
2.40	43.51	-3.61	-0.90
2.41	42.21	-3.75	-1.02
2.42	41.06	-3.87	-1.00
2.43	42.01	-3.77	-0.60
2.44	43.18	-3.65	-0.54
2.45	42.79	-3.69	-0.98
2.46	38.89	-4.10	-1.60
2.47	34.58	-4.61	-2.11
2.48	30.94	-5.09	-2.70
2.49	28.60	-5.44	-3.07
2.50	26.51	-5.77	-3.44

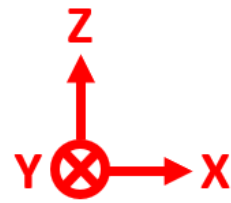
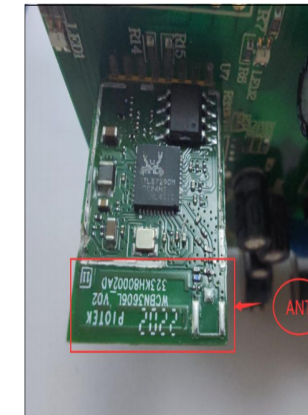
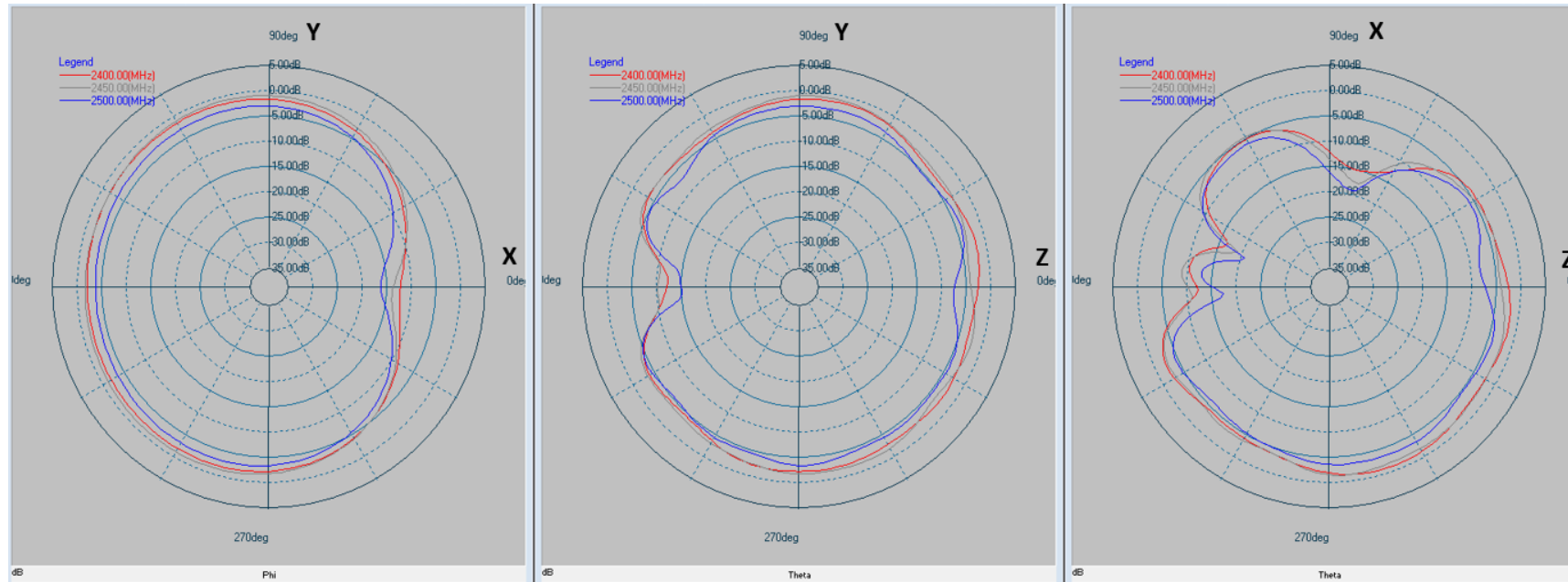
Vertical			
Frequency(GHz)	Efficiency(%)	Efficiency(dB)	Peak Gain(dBi)
2.40	47.20	-3.26	2.11
2.41	46.54	-3.32	2.07
2.42	47.02	-3.28	2.25
2.43	50.67	-2.95	2.71
2.44	54.07	-2.67	2.91
2.45	55.85	-2.53	2.96
2.46	54.63	-2.63	2.93
2.47	52.33	-2.81	2.81
2.48	50.46	-2.97	2.70
2.49	50.71	-2.95	2.70
2.50	51.06	-2.92	2.66

Horizontal(add 5mm keep-out area)			
Frequency(GHz)	Efficiency(%)	Efficiency(dB)	Peak Gain(dBi)
2.40	42.89	-3.68	-0.82
2.41	42.20	-3.75	-0.84
2.42	41.45	-3.83	-0.79
2.43	42.93	-3.67	-0.58
2.44	44.76	-3.49	-0.56
2.45	44.81	-3.49	-0.98
2.46	41.26	-3.84	-1.36
2.47	37.28	-4.29	-1.94
2.48	33.74	-4.72	-2.11
2.49	31.49	-5.02	-2.46
2.50	29.33	-5.33	-2.98

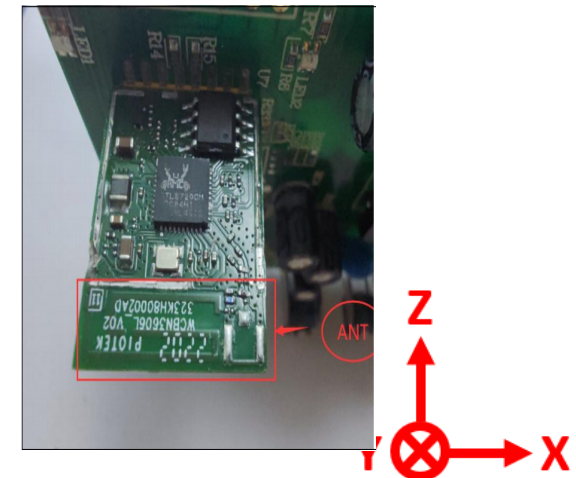
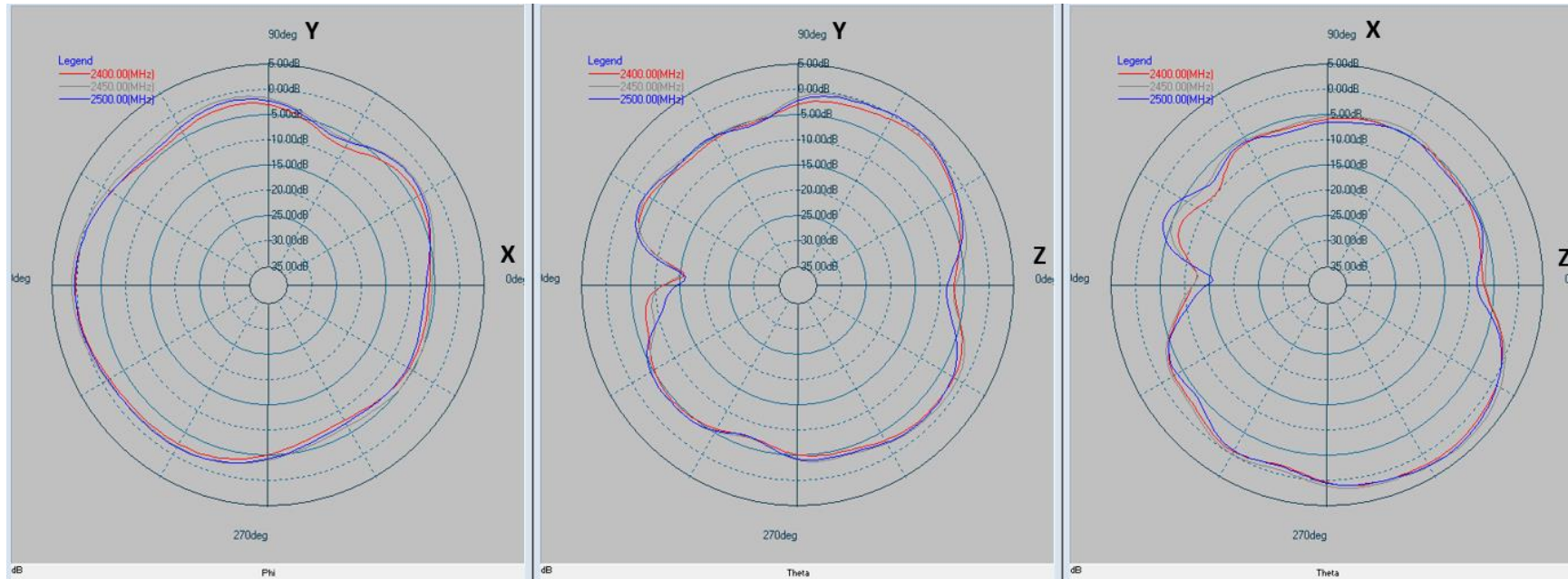
Radiation Pattern _ Horizontal



Radiation Pattern _ Horizontal(add 5mm keep-out area)



Radiation Pattern _ Vertical



Conclusion

- The maximum efficiency and peak gain of Horizontal are 43.51% and -0.54dBi.
- The maximum efficiency and peak gain of Horizontal(add 5mm keep-out area) are 44.81% and -0.56dBi.
- The maximum efficiency and peak gain of Vertical are 55.85% and 2.96dBi.