

Model : GN-4030

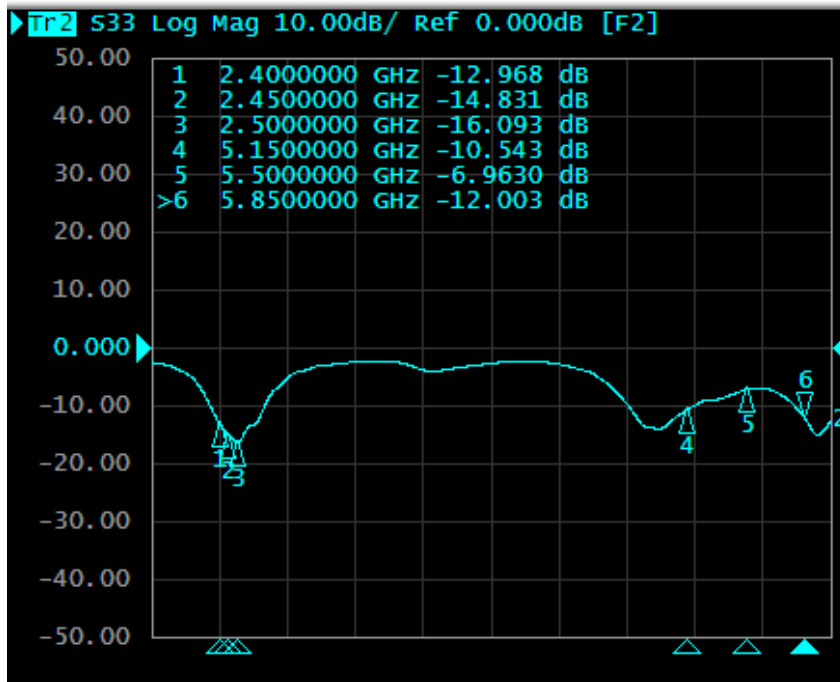
WCBN4504L antenna measurement report

Outline

- WCBN4504L(Original)
 - Return Loss
 - Efficiency, Peak Gain
 - Radiation pattern
- WCBN4504L(With Housing)
 - Return Loss
 - Efficiency, Peak Gain
 - Radiation pattern
- Summary

WCBN4504L(Original)

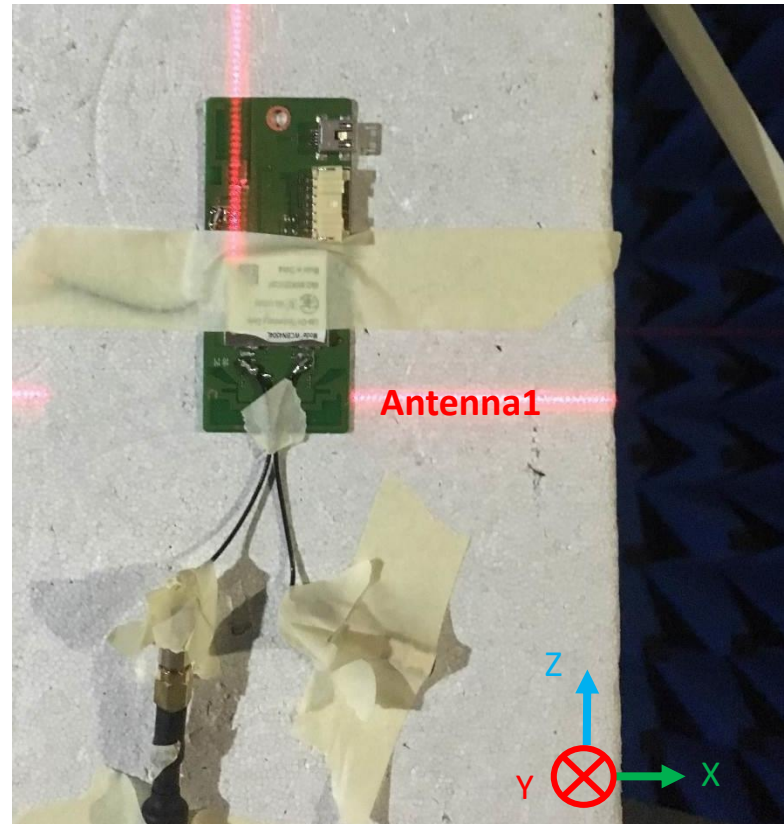
WCBN4504L Return Loss of Antenna1



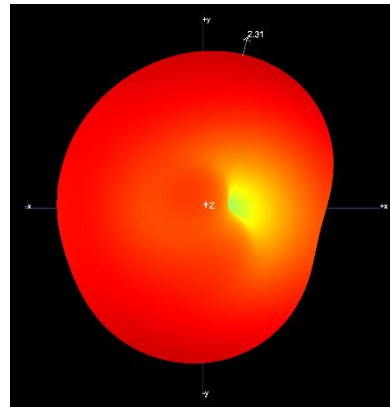
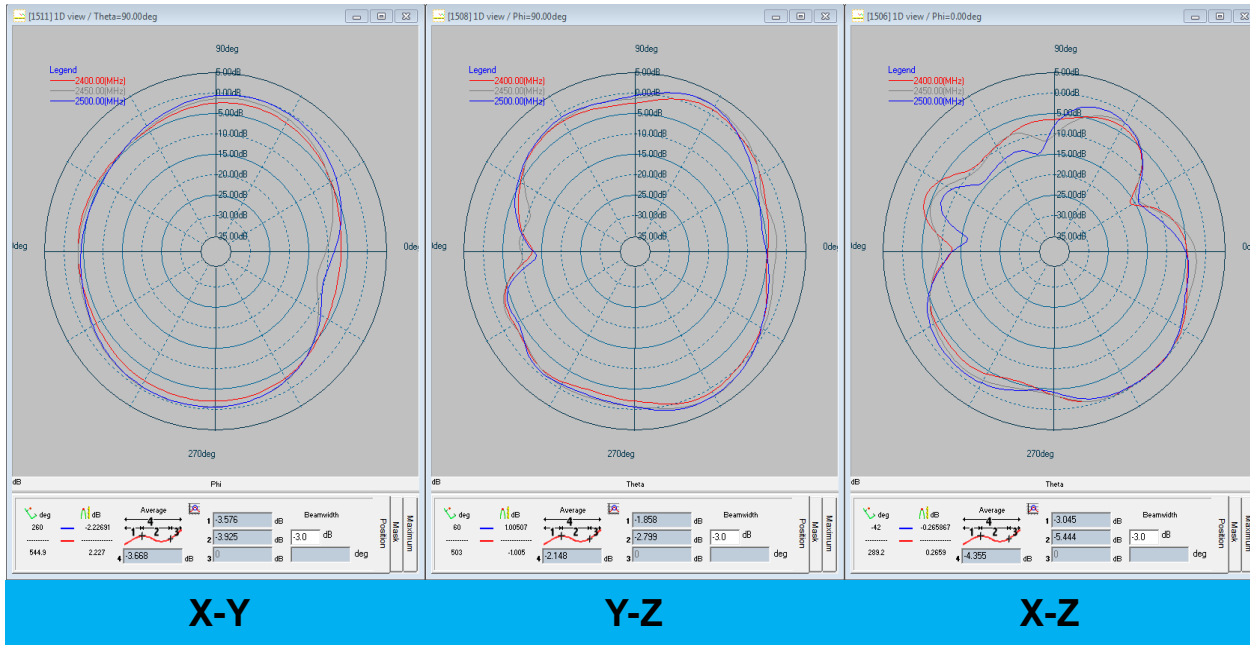
Frequency	2400	2450	2500	5200	5500	5800
Return loss	-12.96	-14.83	-16.09	-10.54	-6.96	-12

Efficiency, Peak Gain and Pattern

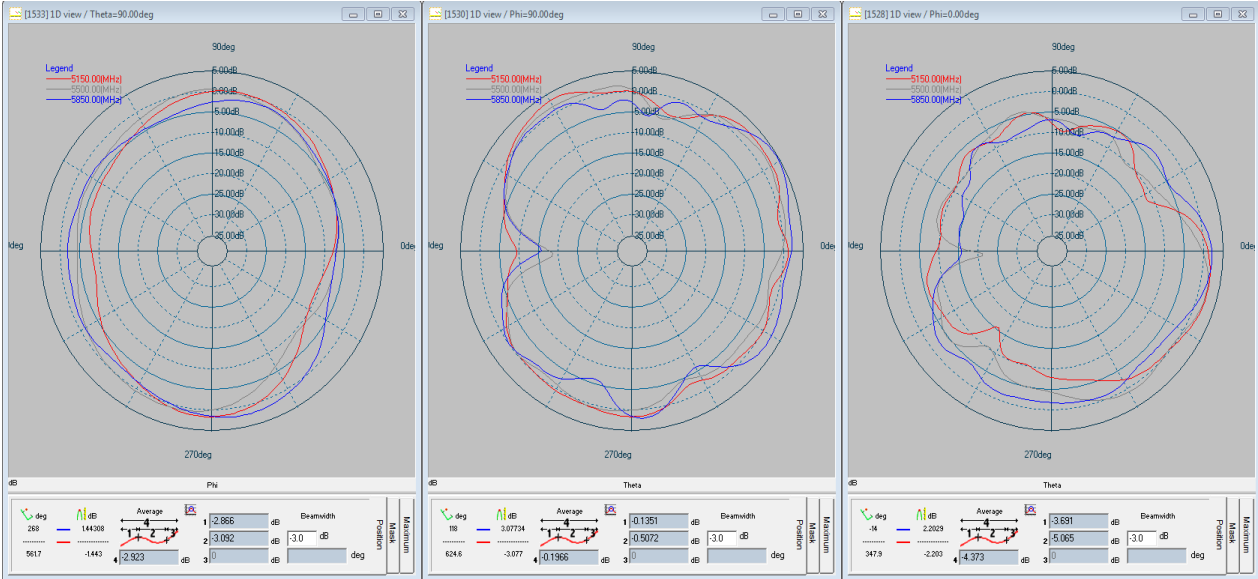
Frequency (MHz)	WIFI	
	Efficiency (>50%)	Peak Gain (dBi)
2400	44%	1.25
2450	53.1%	1.73
2500	53%	1.67
5200	46.9%	1.34
5500	51.5%	1.55
5800	55.5%	2



Radiation pattern (2.45 GHz)



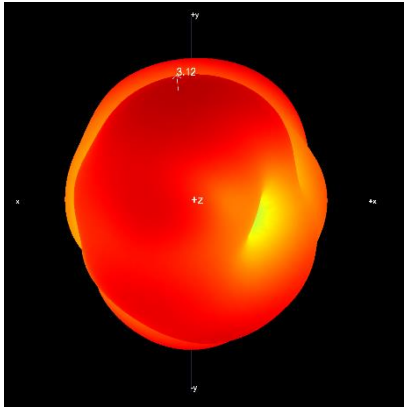
Radiation pattern (5 GHz)



X-Y

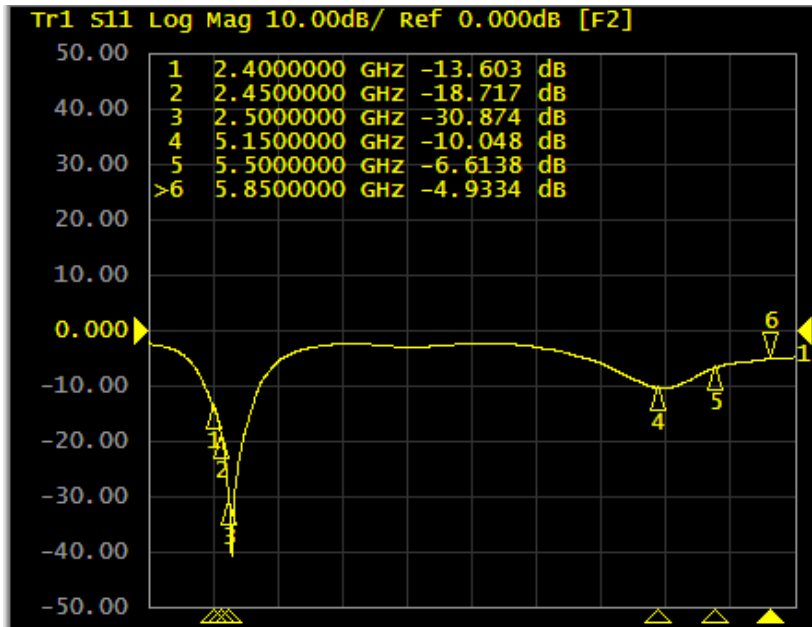
Y-Z

X-Z



3D

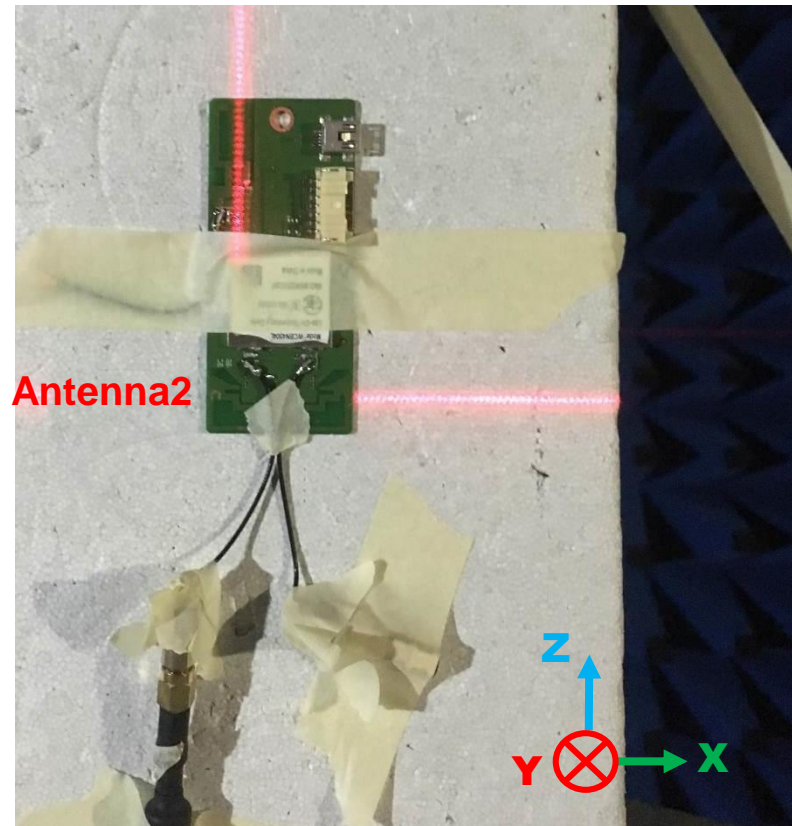
WCBN4504L Return Loss of Antenna2



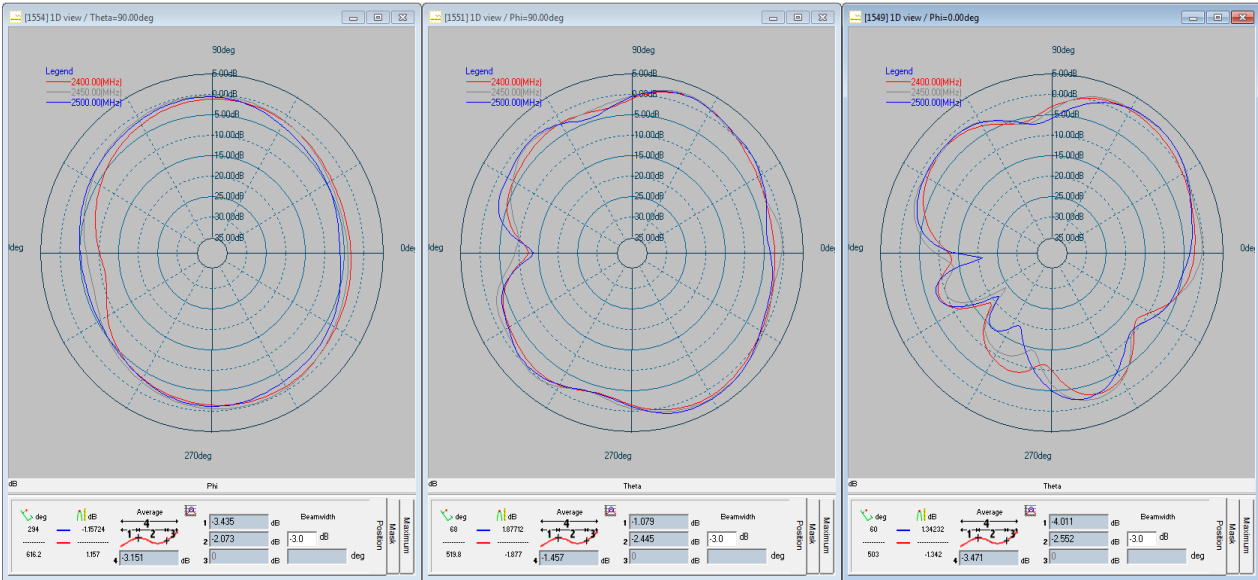
Frequency	2400	2450	2500	5200	5500	5800
Return loss	-13.6	-18.71	-30.87	-10.4	-6.61	-4.93

Efficiency, Peak Gain and Pattern

Frequency (MHz)	WIFI	
	Efficiency (>50%)	Peak Gain (dBi)
2400	53%	1.95
2450	62%	2.38
2500	56.75%	2.2
5200	56%	2.1
5500	49.2%	2
5800	40.4%	1.21



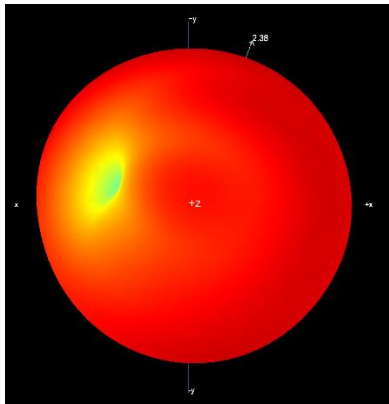
Radiation pattern (2.45 GHz)



X-Y

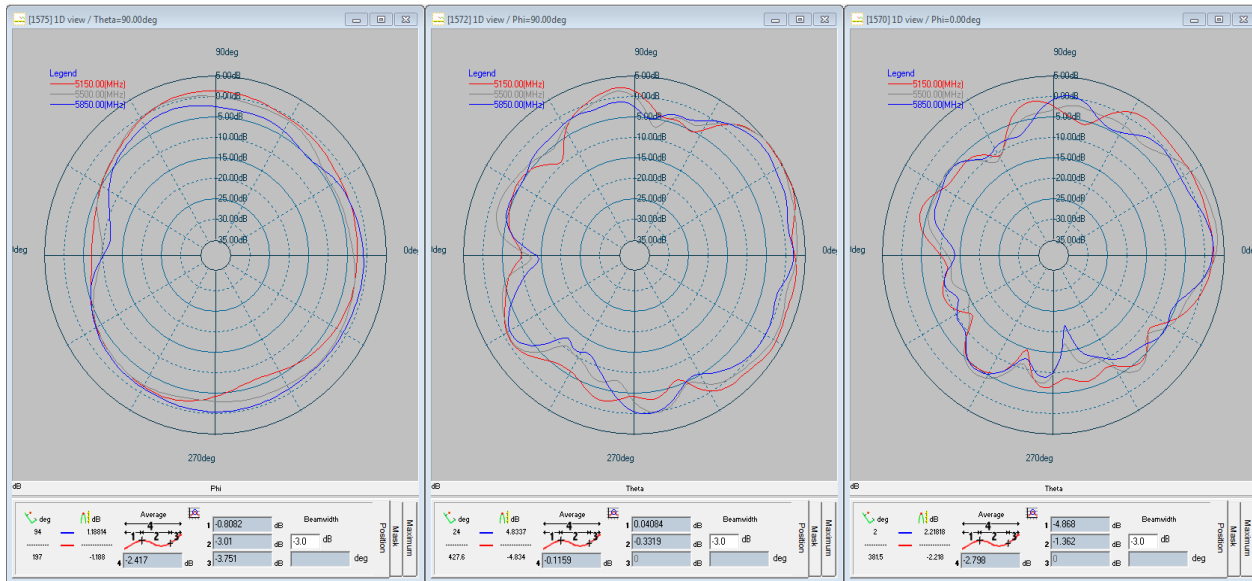
Y-Z

X-Z



3D

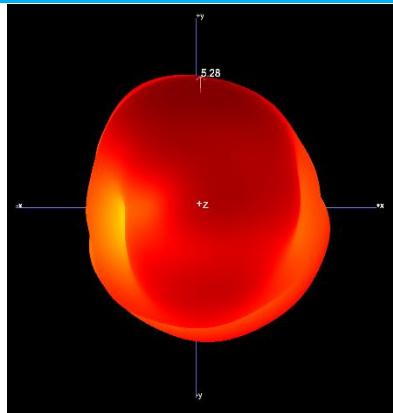
Radiation pattern (5 GHz)



X-Y

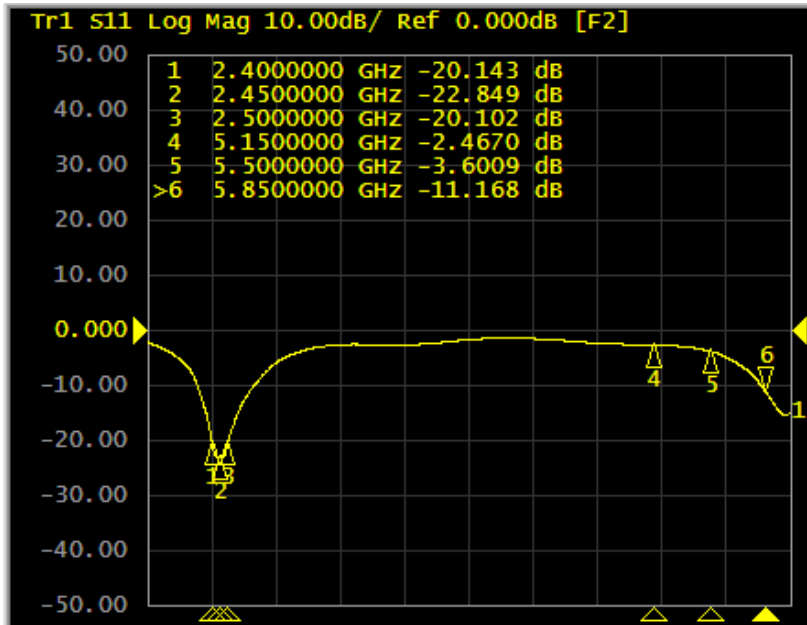
Y-Z

X-Z



3D

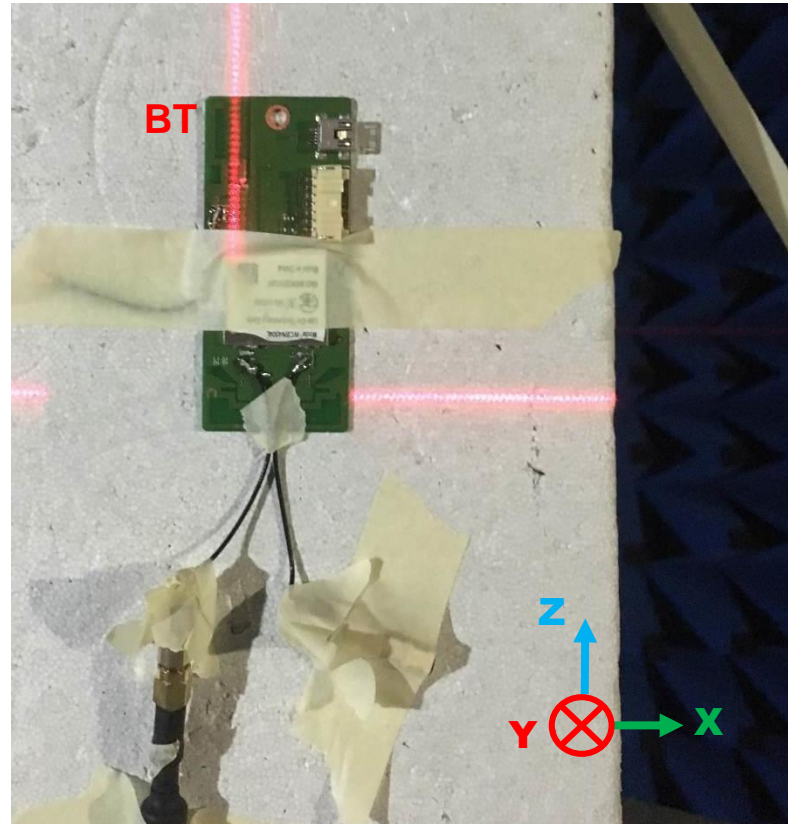
WCBN4504L Return Loss of BT



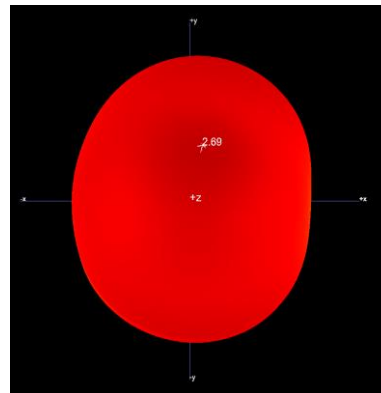
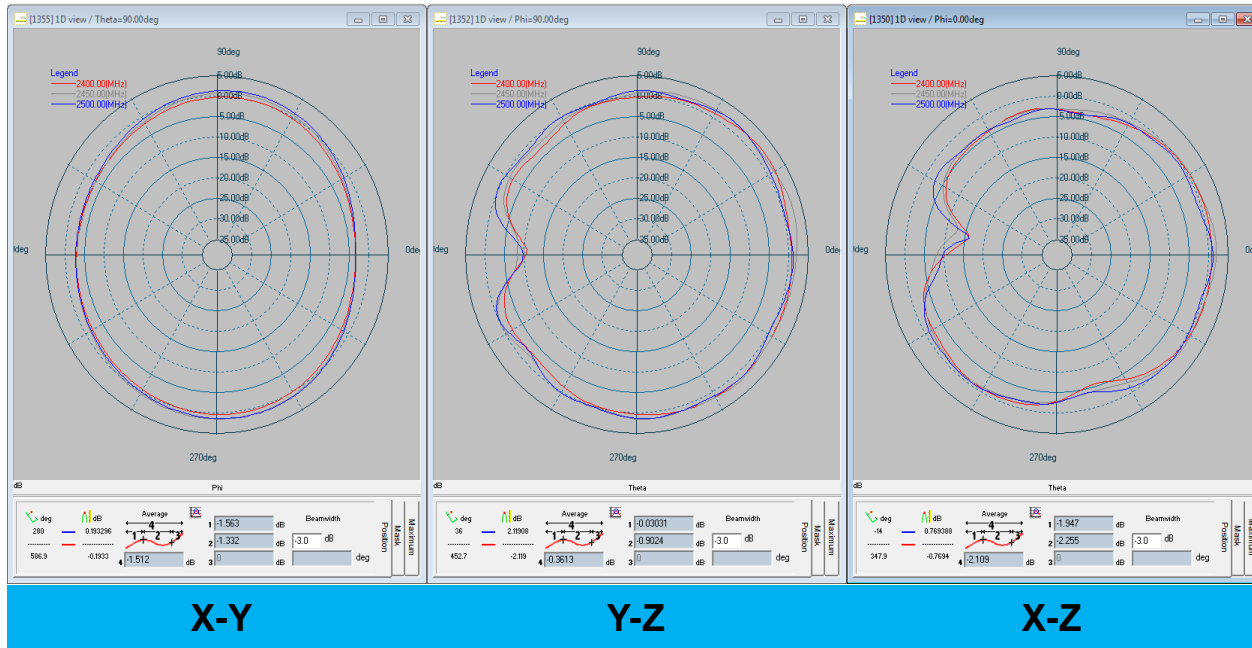
Frequency	2400	2450	2500
Return loss	-20.14	-22.85	-20.12

Efficiency, Peak Gain and Pattern

Frequency (MHz)	BT	
	Efficiency (>50%)	Peak Gain (dBi)
2400	50.3%	1.77
2450	60.15%	2.3
2500	57.2%	2.13



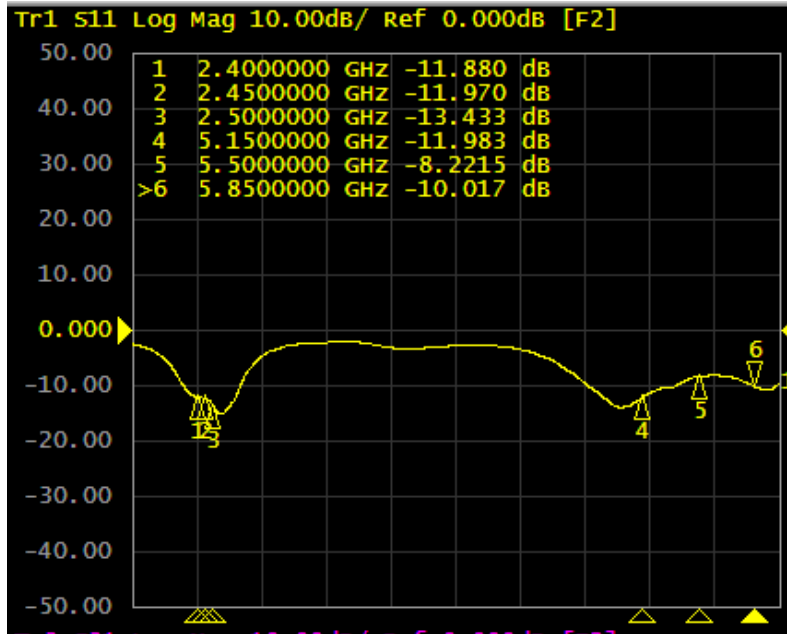
Radiation pattern (2.45 GHz)



3D

WCBN4504L(With housing)

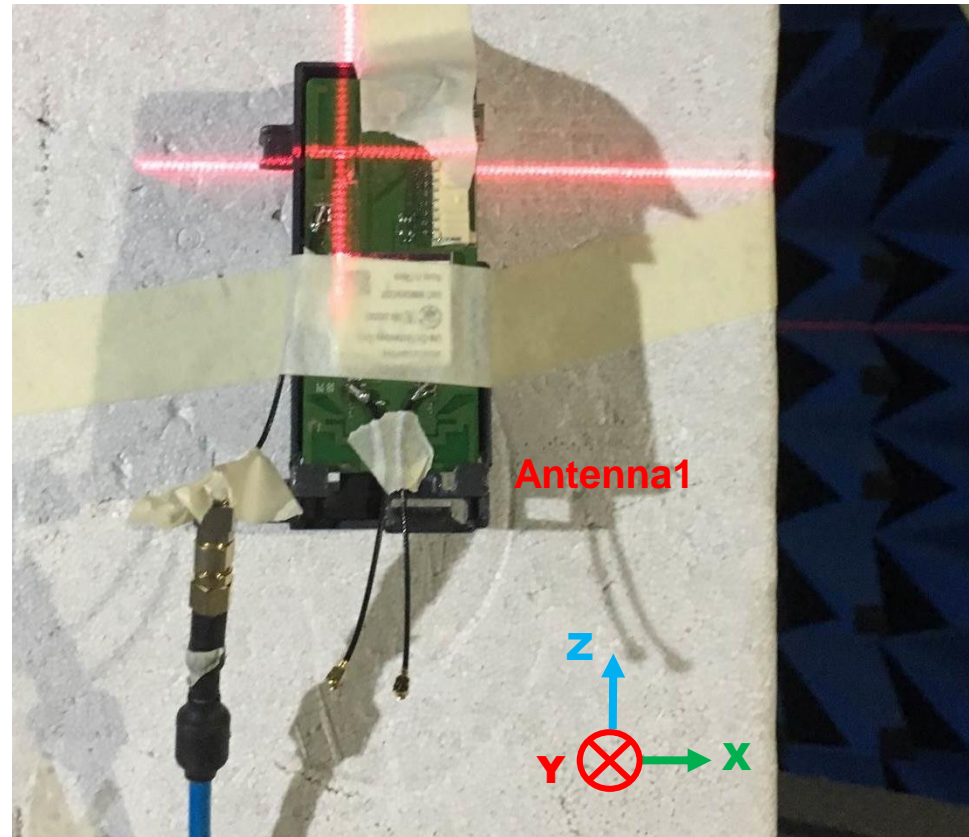
WCBN4504L Return Loss of Antenna1 (With housing)



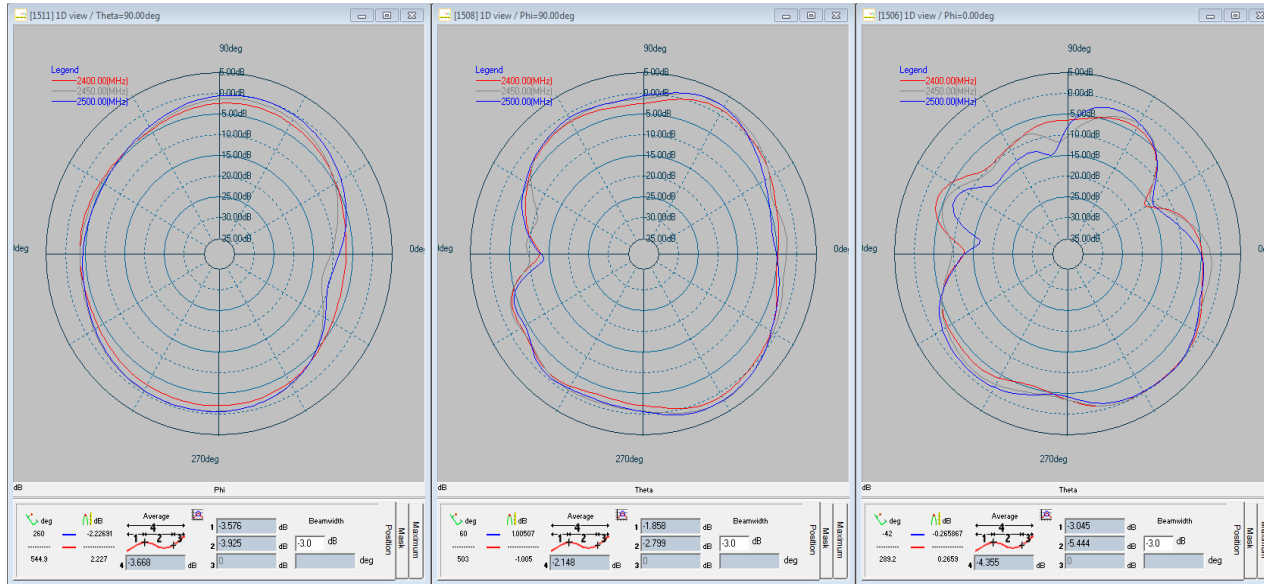
Frequency	2400	2450	2500	5200	5500	5800
Return loss	-11.88	-11.97	-13.43	-11.98	-8.22	-10.01

Efficiency, Peak Gain and Pattern

Frequency (MHz)	WIFI	
	Efficiency (>50%)	Peak Gain (dBi)
2400	44.02%	1.43
2450	53.18%	1.83
2500	53.12%	1.76
5200	46.95%	1.54
5500	51.56%	1.56
5800	55.5%	2.01



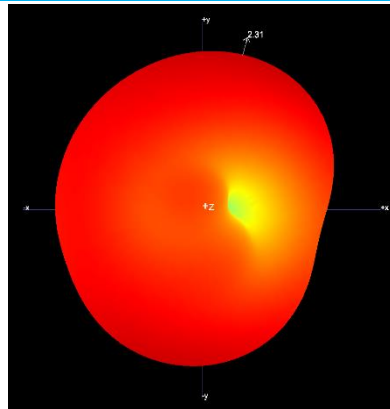
Radiation pattern (2.45 GHz)



X-Y

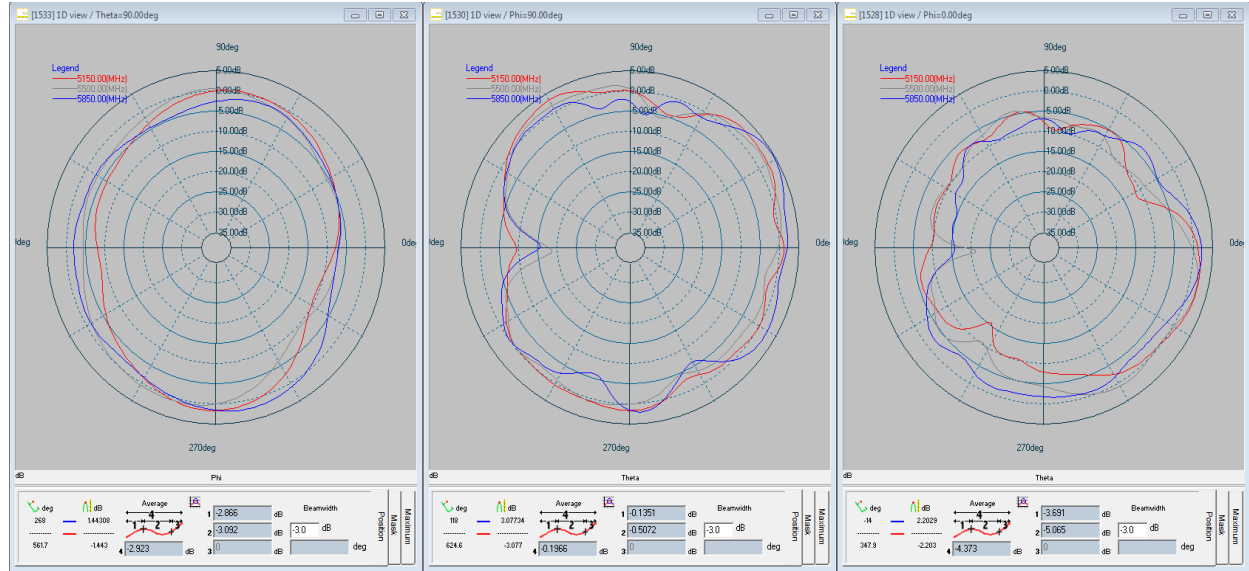
Y-Z

X-Z



3D

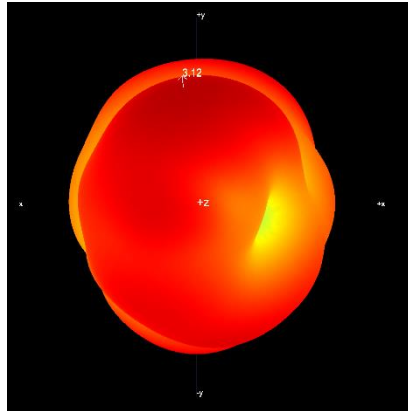
Radiation pattern (5 GHz)



X-Y

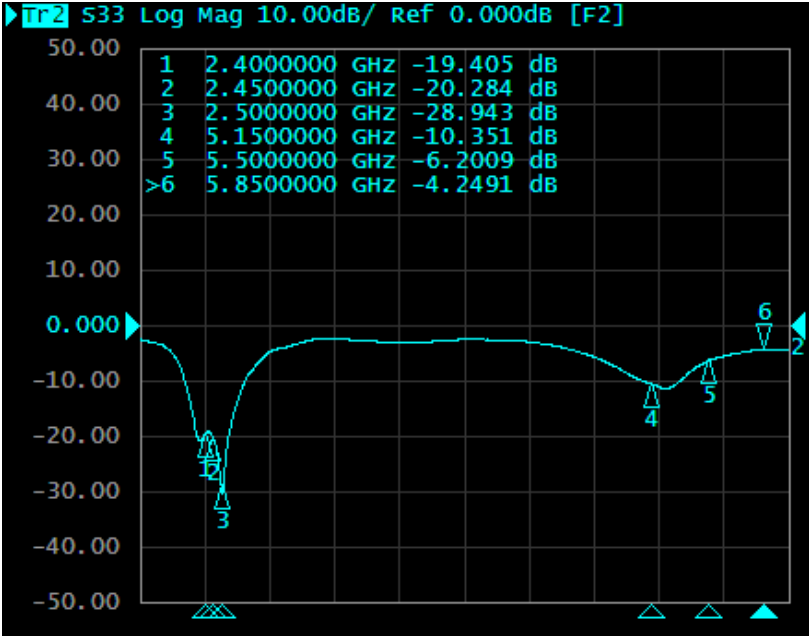
Y-Z

X-Z



3D

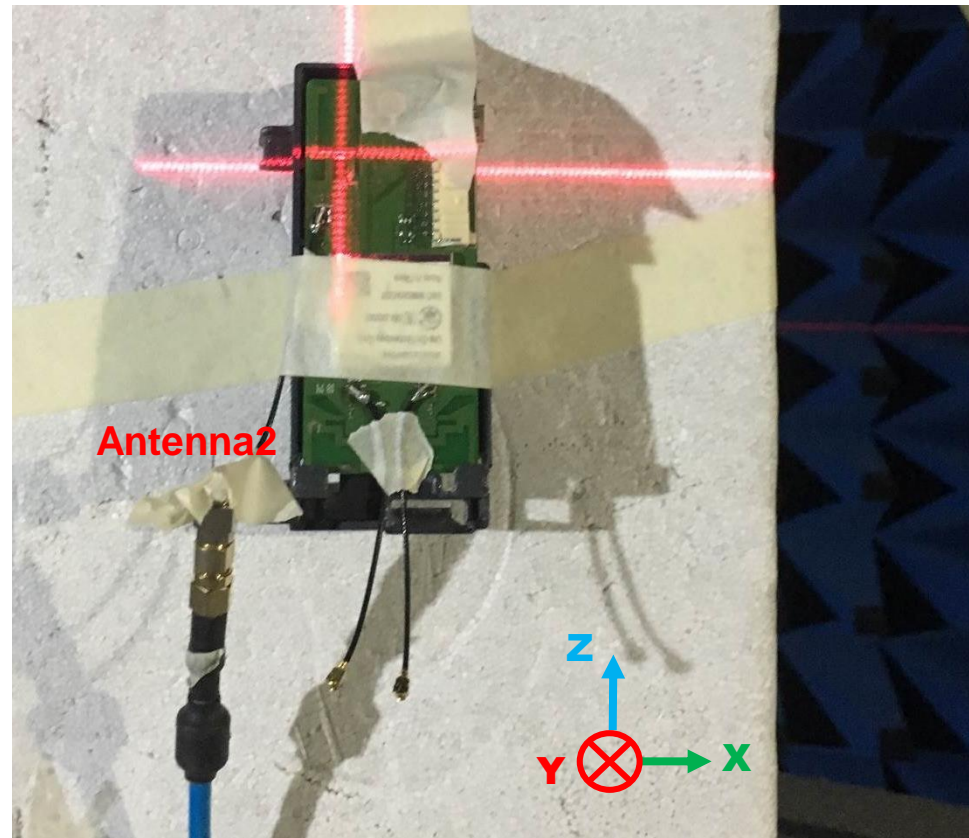
WCBN4504L Return Loss of Antenna2 (With housing)



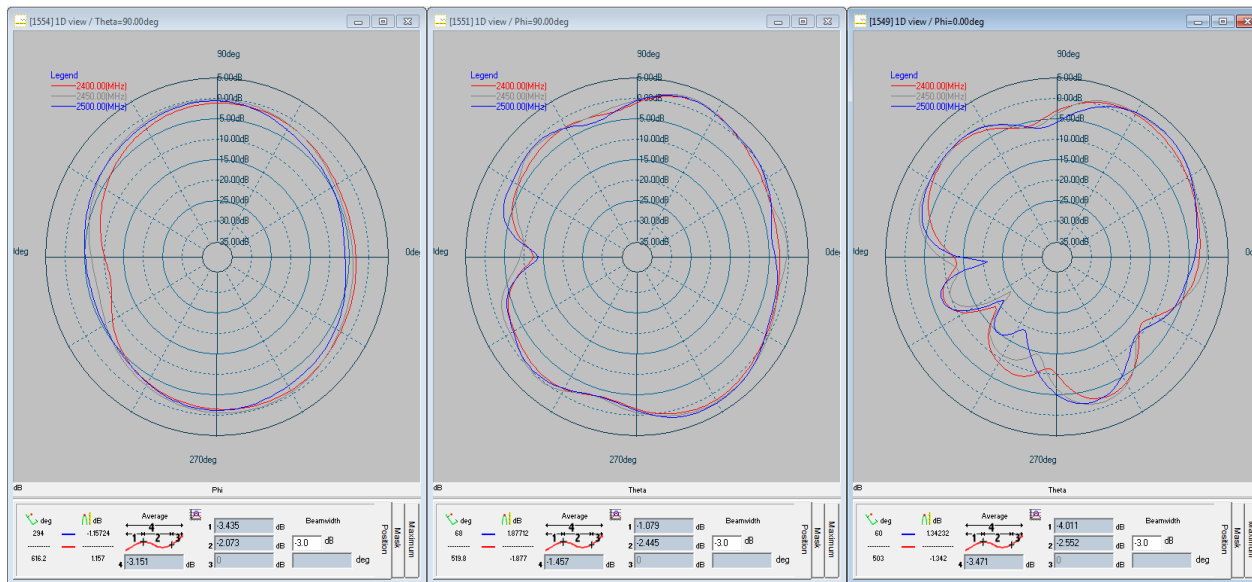
Frequency	2400	2450	2500	5200	5500	5800
Return loss	-19.4	-20.284	-28.94	-10.35	-6.2	-4.24

Efficiency, Peak Gain and Pattern

Frequency (MHz)	WIFI	
	Efficiency (>50%)	Peak Gain (dBi)
2400	53.47%	1.85
2450	62%	2.38
2500	56.75%	2.11
5200	56%	2.1
5500	54.23%	1.78
5800	40.37%	1.12



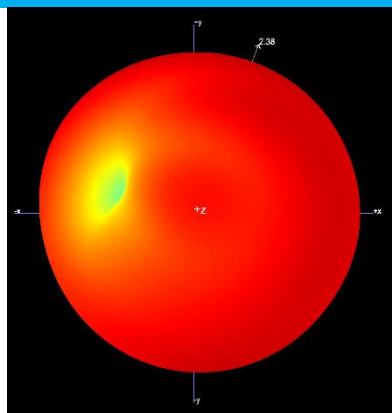
Radiation pattern (2.45 GHz)



X-Y

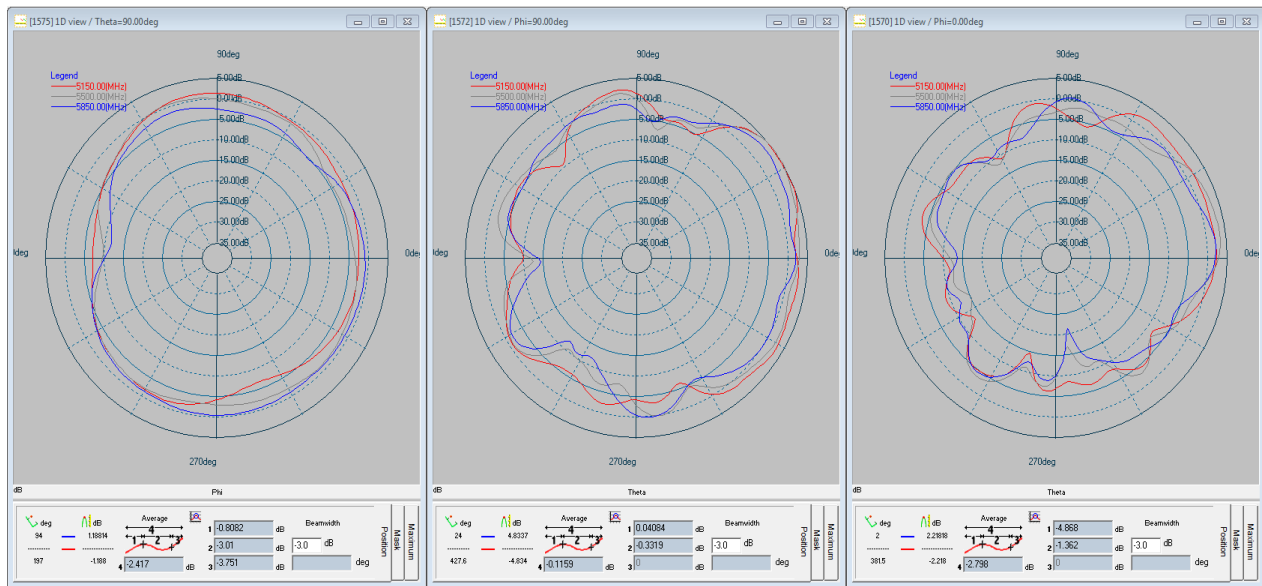
Y-Z

X-Z



3D

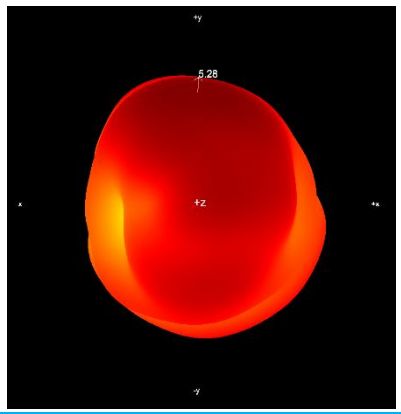
Radiation pattern (5 GHz)



X-Y

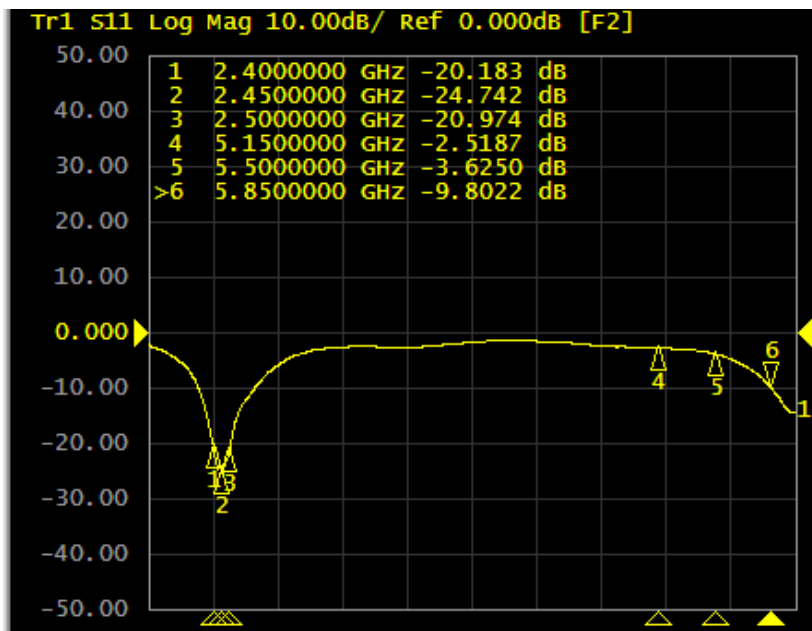
Y-Z

X-Z



3D

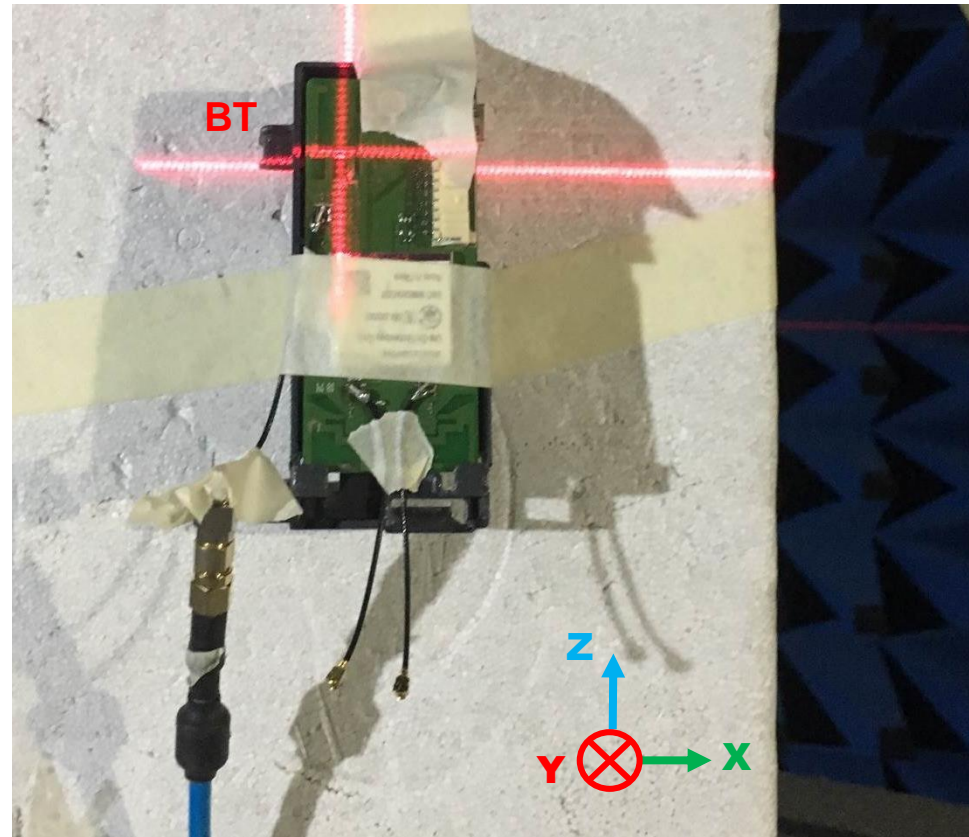
WCBN4504L Return Loss of BT (With housing)



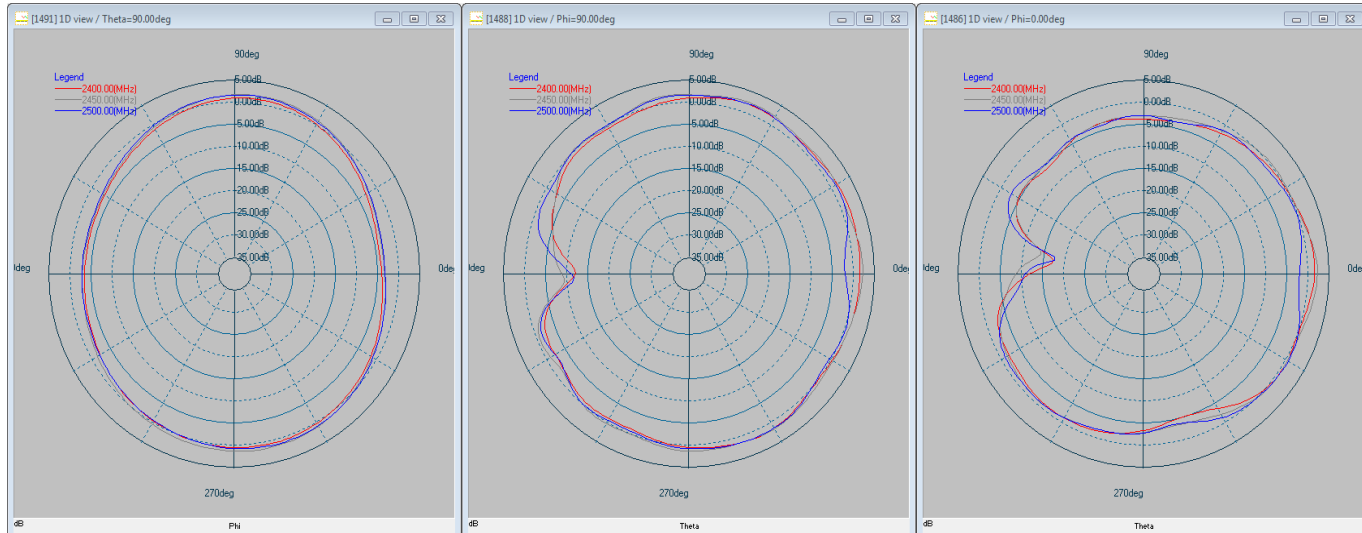
Frequency	2400	2450	2500
Return loss	-20.18	-24.74	-20.97

Efficiency, Peak Gain and Pattern

Frequency (MHz)	BT	
	Efficiency (>50%)	Peak Gain (dBi)
2400	50.55%	1.71
2450	60.62%	2.29
2500	55.46%	1.93



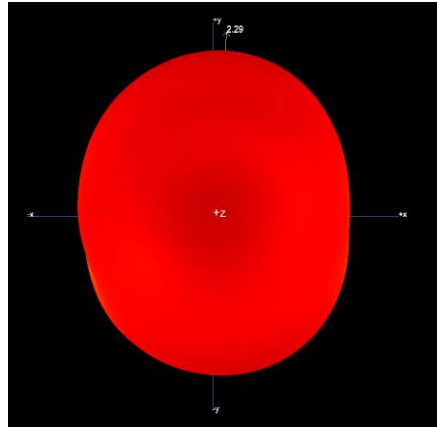
Radiation pattern (2.45 GHz)



X-Y

Y-Z

X-Z



3D

Summary

- The antenna result of module on this structure can work.
- We suggest the materials of red marks is plastic to make sure the radiation of antenna1 and antenna 2 wouldn't be block by the structure.

