WNC Wistron NeWeb Corp.

LongChamp(P1JBC) C-Build WLAN SKU Antenna Test Report

Provide by: Nathan Chang
Reviewed by: GuoLun Huang
DATE:2014-07-28
Ver:04

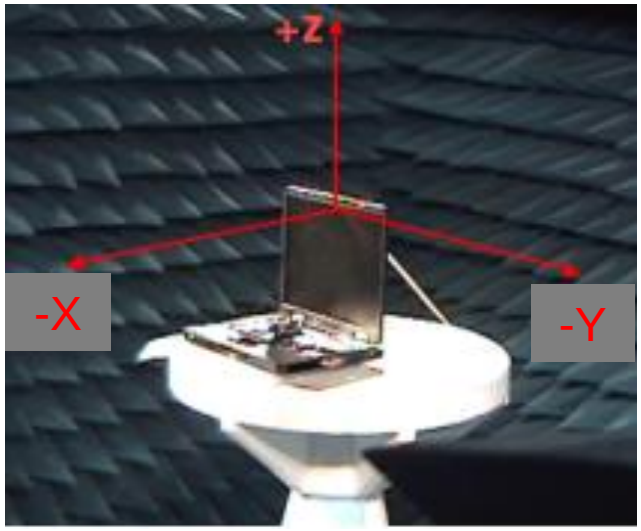
Agenda

1. Experimental setup
2. Configuration
3. Antenna placement and picture
4. Measured Efficiency &VSWR &Isolation
5. Antenna 2D Radiation Pattern
6. Conclusion

1. Experimental setup

- Measurement Item: a. VSWR b. Radiation Pattern

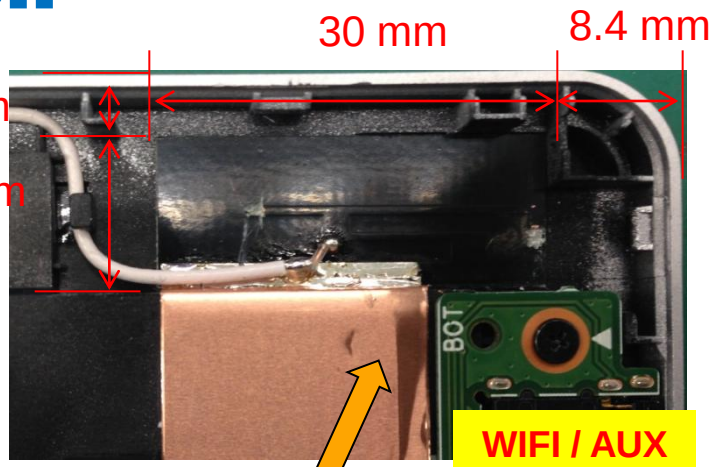
- VSWR: a. Instrument: vector network analyzer
  b. Calibration method: open/short/load
- Radiation Pattern:
  Instrument: WNC In-house 3D Antenna Measurement System
  @Satimo SG 64
- Coordinate system:



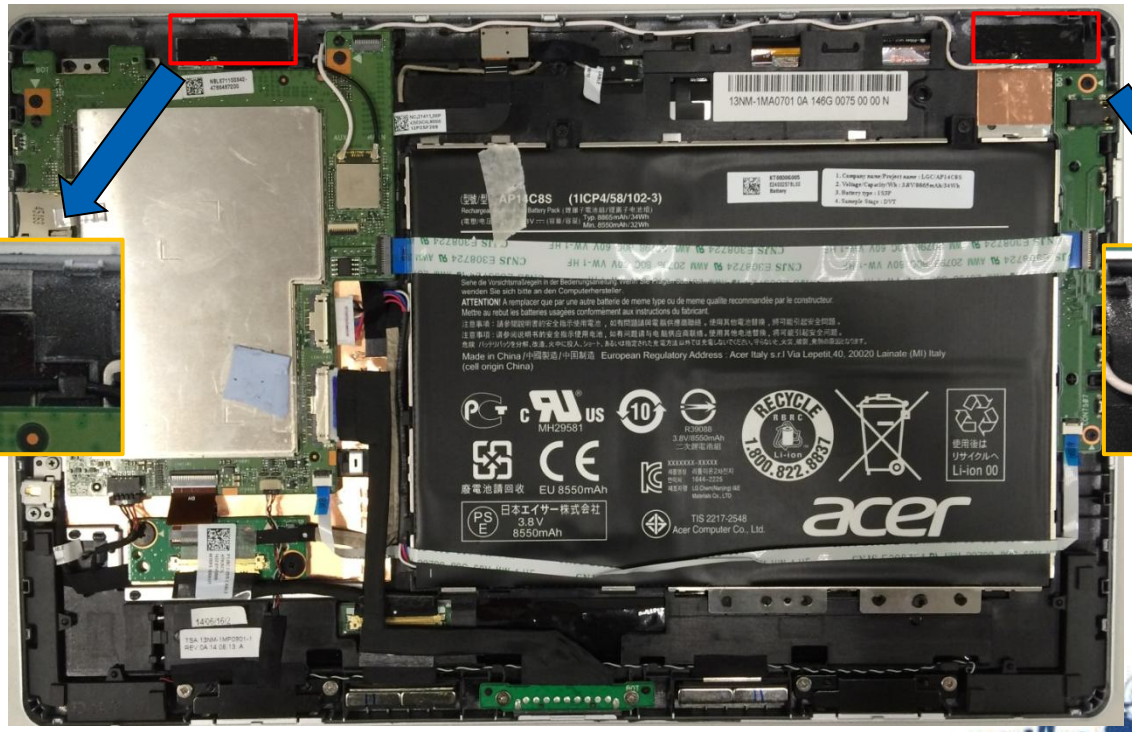
2.Configuration

Configuration

WIFI / MAIN



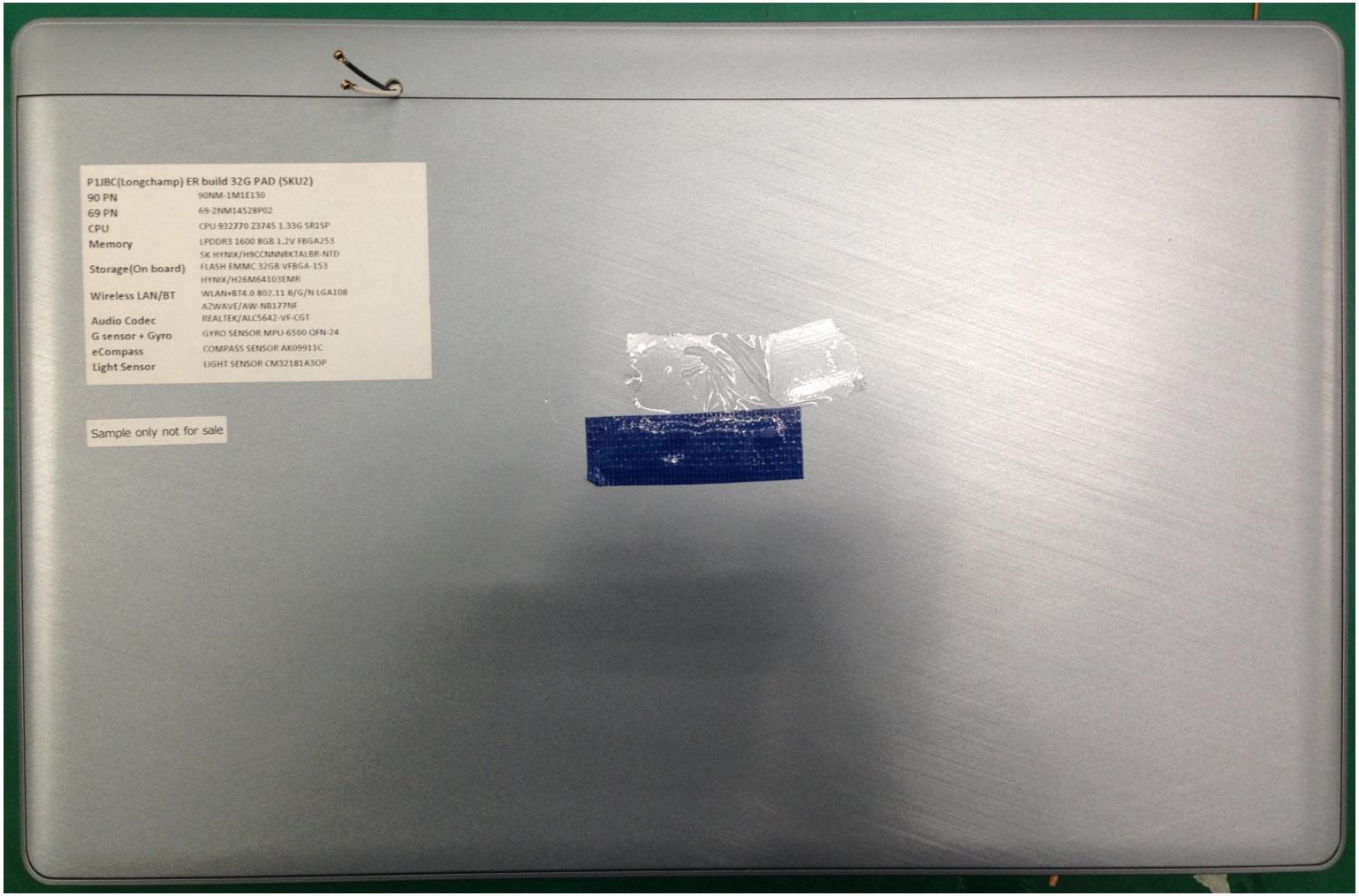
WIFI / AUX



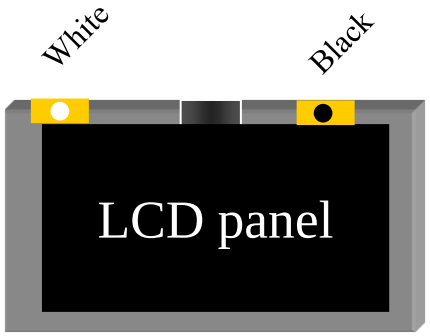
11 mm

9.7 mm

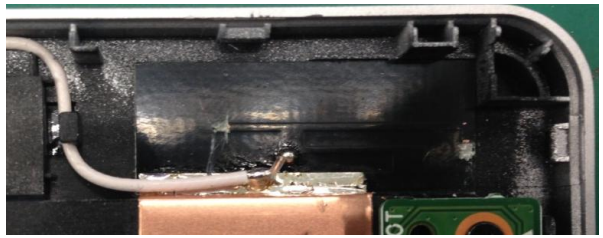
2.Configuration



3. Antenna placement and picture



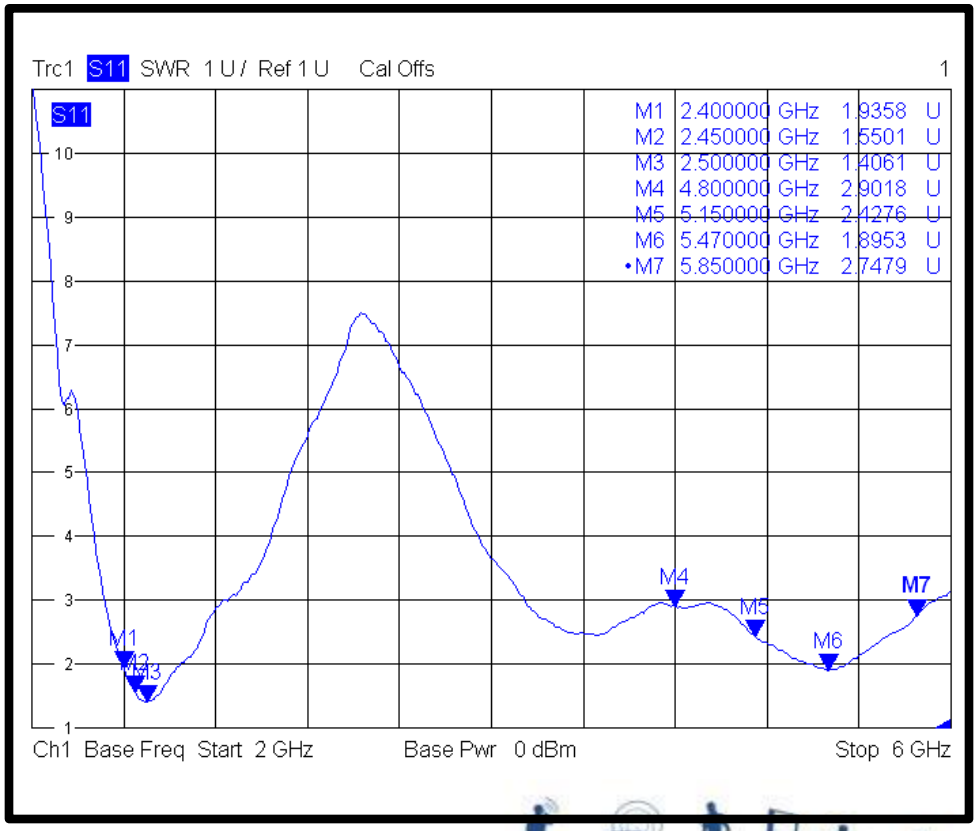
Antenna Cable:Φ1.13	
Color:	Length(mm)
WLAN Main / Black	64 mm
WLAN Aux / White	242mm

WLAN Main	WLAN Aux
	
30 x 9 x 0.4	30 x 12 x 0.4

4. Measured Efficiency &VSWR

WLAN Main\ Black

Freq. (MHz)	X-Y Plane Peak Gain (dBi)	X-Y Plane Average Gain (dBi)	Efficiency	
			(%)	dB
2400	2.43	-1.93	49.95	-3.01
2442	2.67	-1.49	52.04	-2.84
2450	2.69	-1.69	53.22	-2.74
2484	2.71	-1.89	54.01	-2.68
2500	2.78	-2.11	55.81	-2.53
4800	1.16	-3.43	48.13	-3.18
5150	-0.65	-3.45	50.47	-2.97
5250	0.34	-3.63	51.05	-2.92
5350	1.02	-3.68	54.38	-2.65
5470	0.80	-3.64	55.63	-2.55
5600	0.19	-3.73	53.25	-2.74
5725	0.83	-4.07	51.27	-2.90
5850	0.85	-4.38	49.00	-3.10
5875	0.78	-4.52	48.45	-3.15



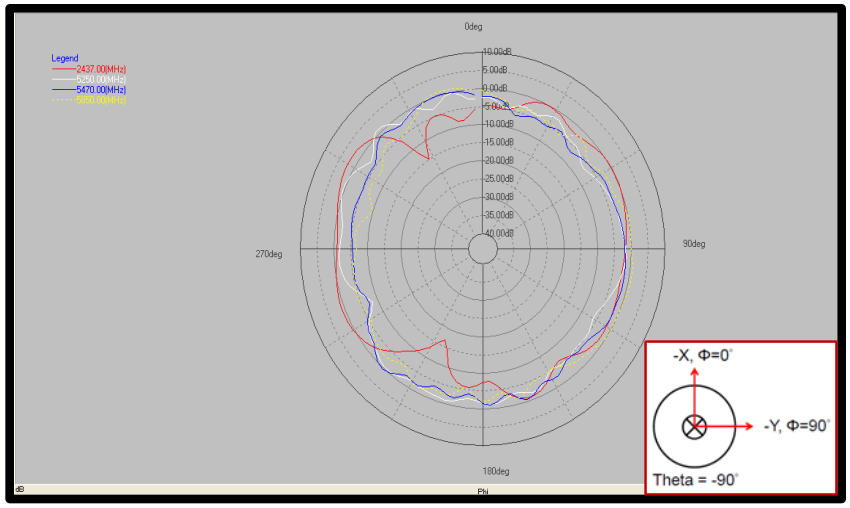
Measured Efficiency &VSWR

WLAN Aux\ White

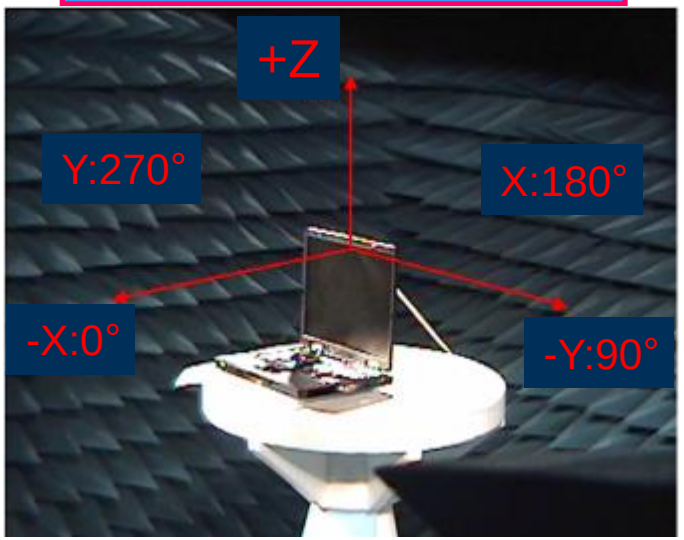
Freq. (MHz)	X-Y Plane Peak Gain (dBi)	X-Y Plane Average Gain (dBi)	Efficiency	
			(%)	dB
2400	-0.22	-4.58	43.55	-3.61
2442	0.50	-4.33	42.88	-3.68
2450	0.87	-4.04	45.21	-3.45
2484	1.12	-4.19	42.25	-3.74
2500	1.35	-4.34	41.22	-3.85
4800	-1.18	-5.21	41.75	-3.79
5150	-0.37	-4.39	45.90	-3.38
5250	-0.33	-4.74	44.83	-3.48
5350	0.09	-4.51	42.95	-3.67
5470	-0.16	-4.16	43.22	-3.64
5600	-0.17	-4.26	42.28	-3.74
5725	0.59	-4.37	40.62	-3.91
5850	0.50	-4.10	43.42	-3.62
5875	1.33	-3.79	45.88	-3.38

5. Antenna 2D Radiation Pattern

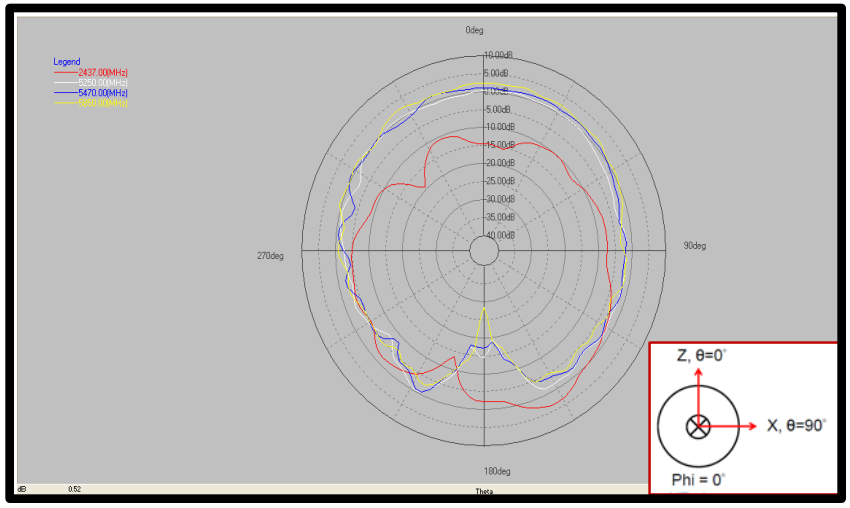
XY-Plane



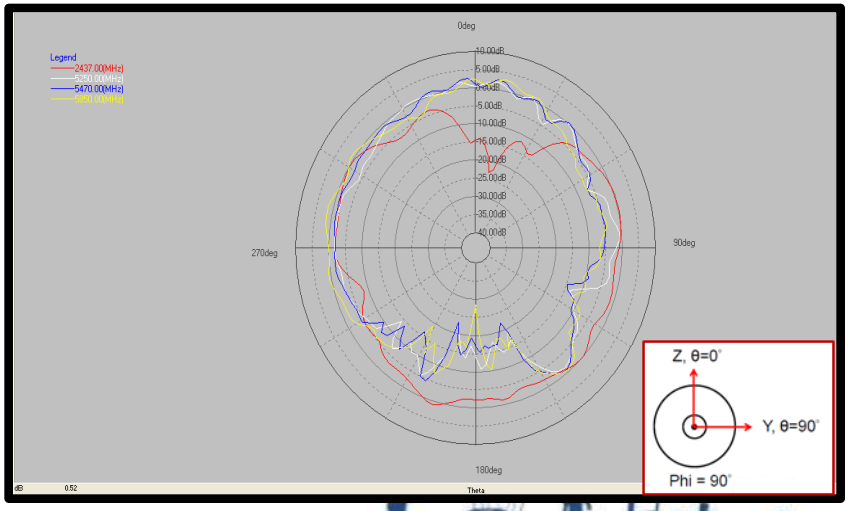
WLAN Main / Black



XZ-Plane

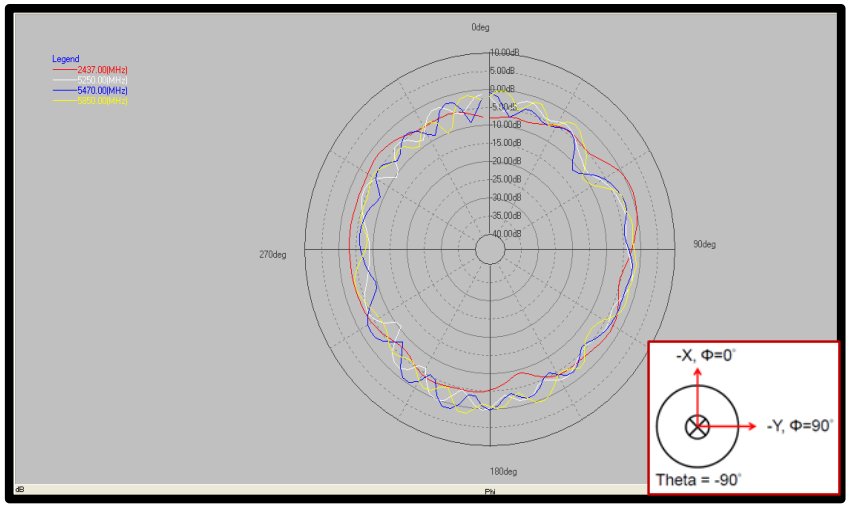


YZ-Plane

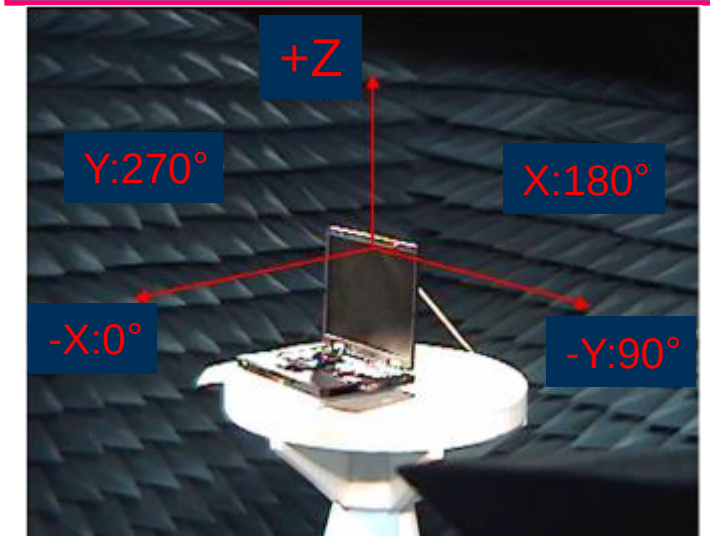


Antenna 2D Radiation Pattern

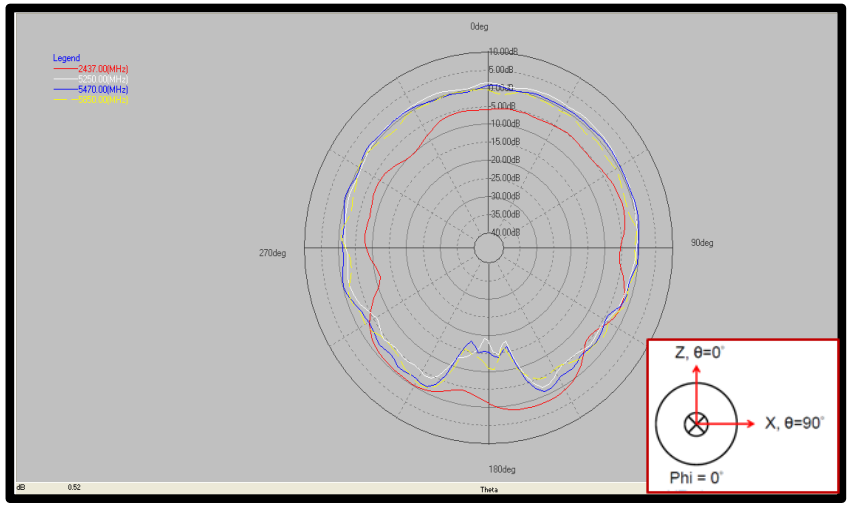
XY-Plane



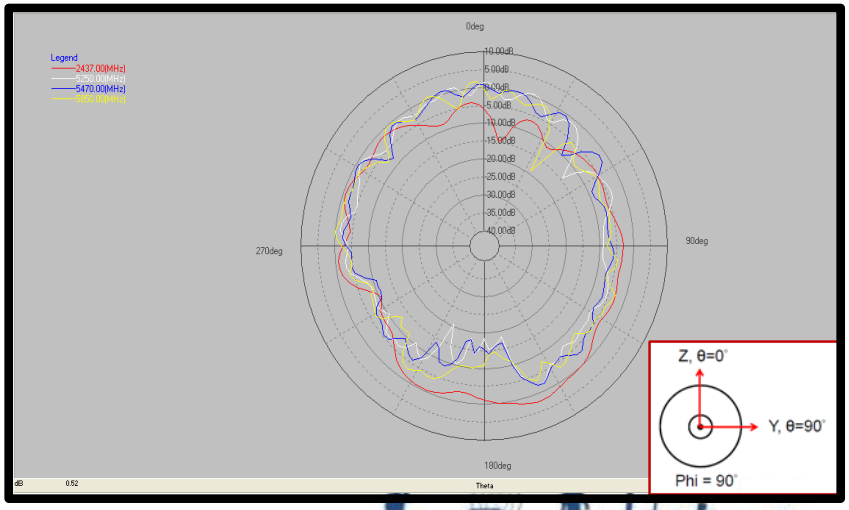
WLAN Aux / White



XZ-Plane



YZ-Plane



6. Conclusion

	VSWR	Average gain	Efficiency	Peak gain
WLAN Black antenna	<2.0 @ 2.4~2.5GHz <2.0 @ 5.15~5.85GHz	>-4 @ 2.4G band >-5 @ 5G band	>40 @ 2.4~2.5GHz	<3 @ 2.4G band <6 @ 5G band
WLAN White antenna	<2.0 @ 2.4~2.5GHz <2.0 @ 5.15~5.85GHz	>-4 @ 2.4G band >-5 @ 5G band	>40 @ 2.4~2.5GHz	<3 @ 2.4G band <6 @ 5G band