

Antenna



連騰科技股份有限公司

The Most Appropriate Antenna for Your Design!

Advanced Wireless & Antenna Inc.

ELO I4 Slim WLAN Antenna Test report

ADVANCED-CONNECTEK INC.

Wireless Communications BU.

2021.10.25



Executive Summary

- **Purpose**

Antenna study for I4 Slim . Result as following.

- **Agenda**

- Test Environment and Equipment
- Antenna Positions and Dimensions
- Antenna Test Data

Test Result : Antenna Return Loss

Test Result : Antenna Efficiency & Peak Gain

Test Result : Antenna 2D Radiation Patternn

Test Environment and Equipments

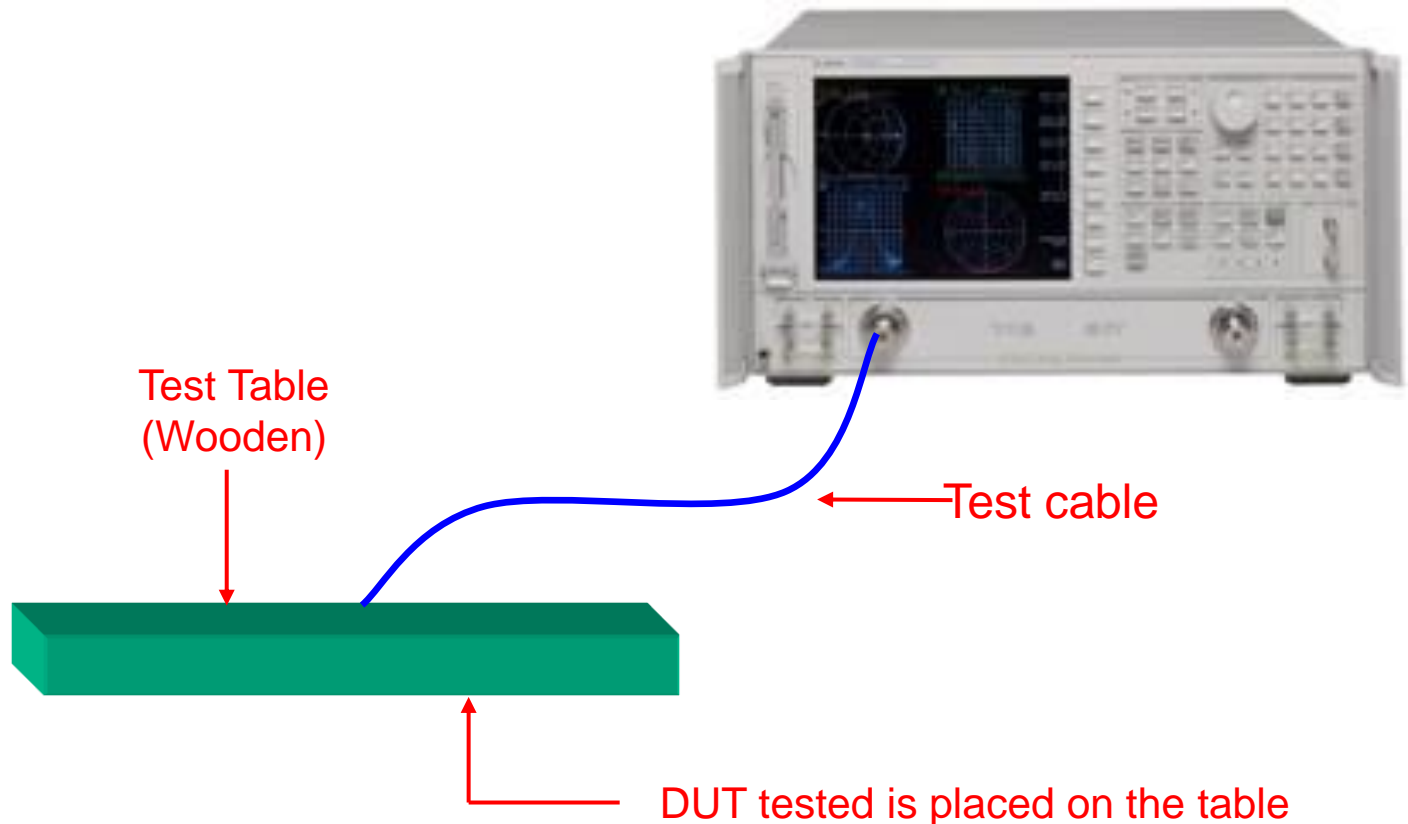
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S-Parameter test

- Network Analyzer(Agilent-E5071C)
- Testing range from 9KHz to 8.5GHz



Test Environment and Equipments

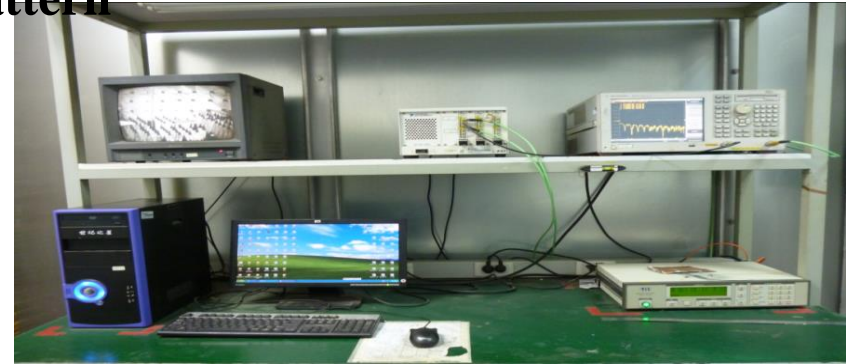
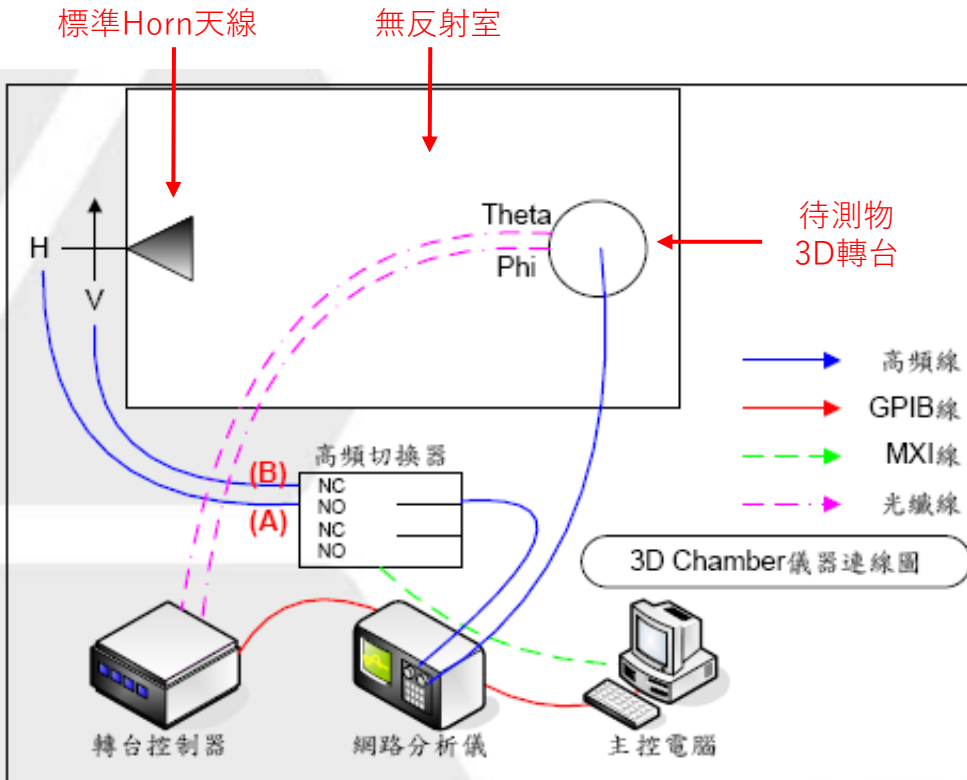
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The Gain, Efficiency, Directivity and 2D/3D Pattern

- ACON 3D Anechoic Chamber
- Chamber Room Size: L*W*H=9*4.7*4.7 M

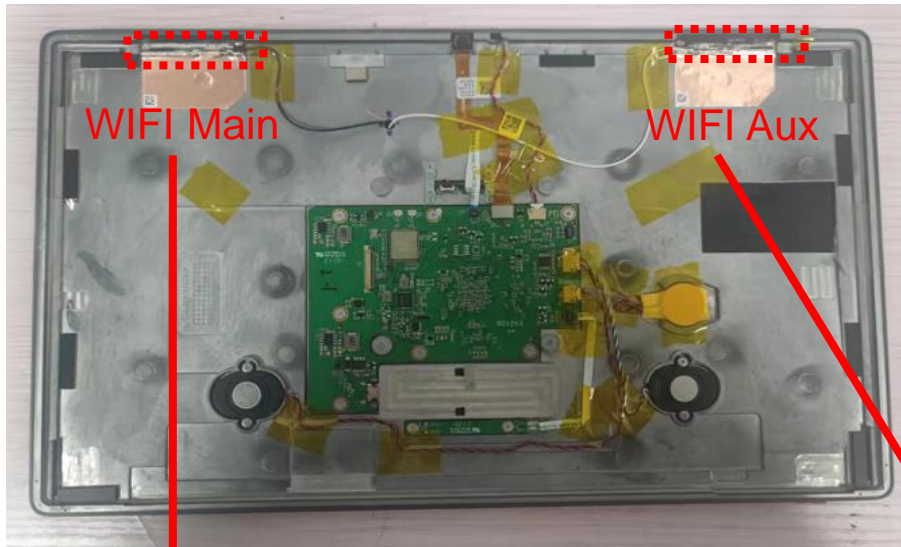


Antenna Positions and Dimensions

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WIFI Main :

Antenna Size : 46*7.5*0.4mm

Cable Length : 150mm

Cable OD : 1.13

銅箔尺寸 : 25mm*46mm

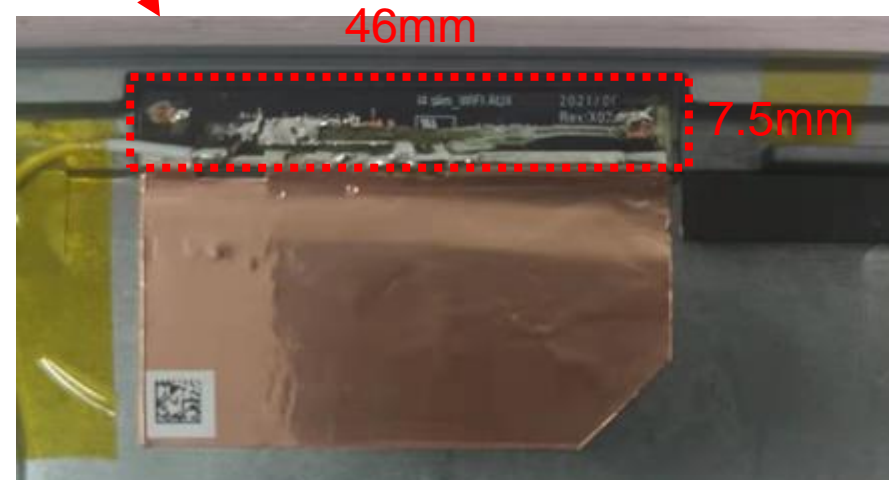
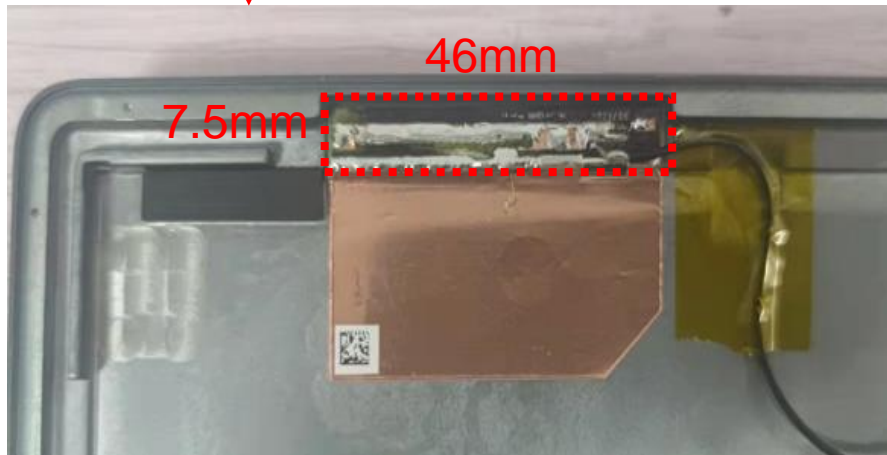
WIFI Aux :

Antenna Size : 46*7.5*0.4mm

Cable Length : 215mm

Cable OD : 1.13

銅箔尺寸 : 25mm*46mm

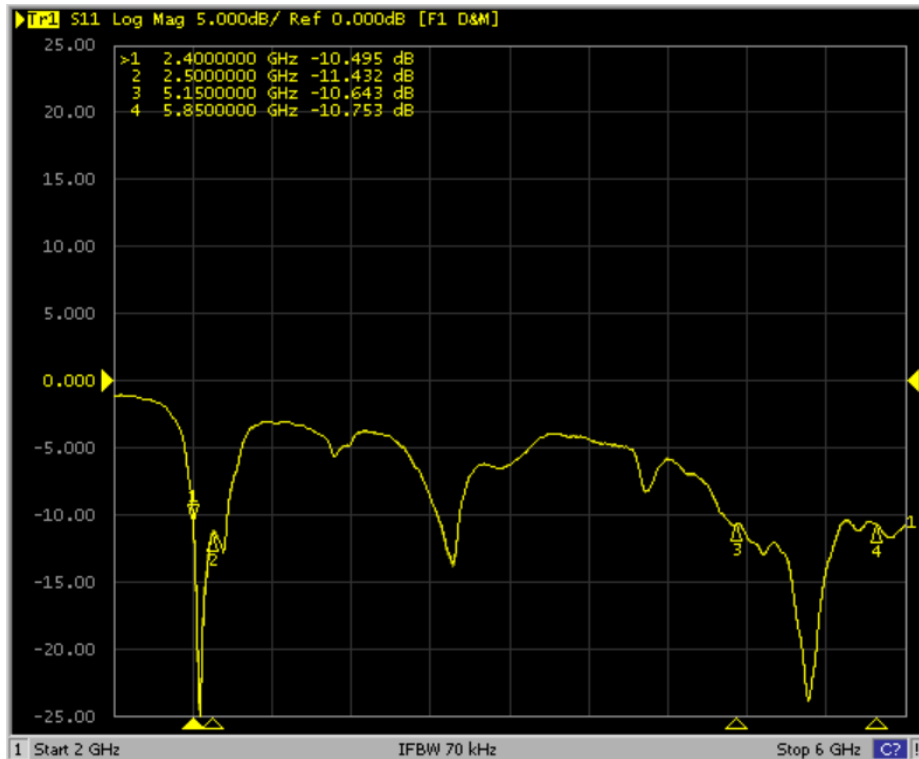


Test Result: Antenna Return Loss

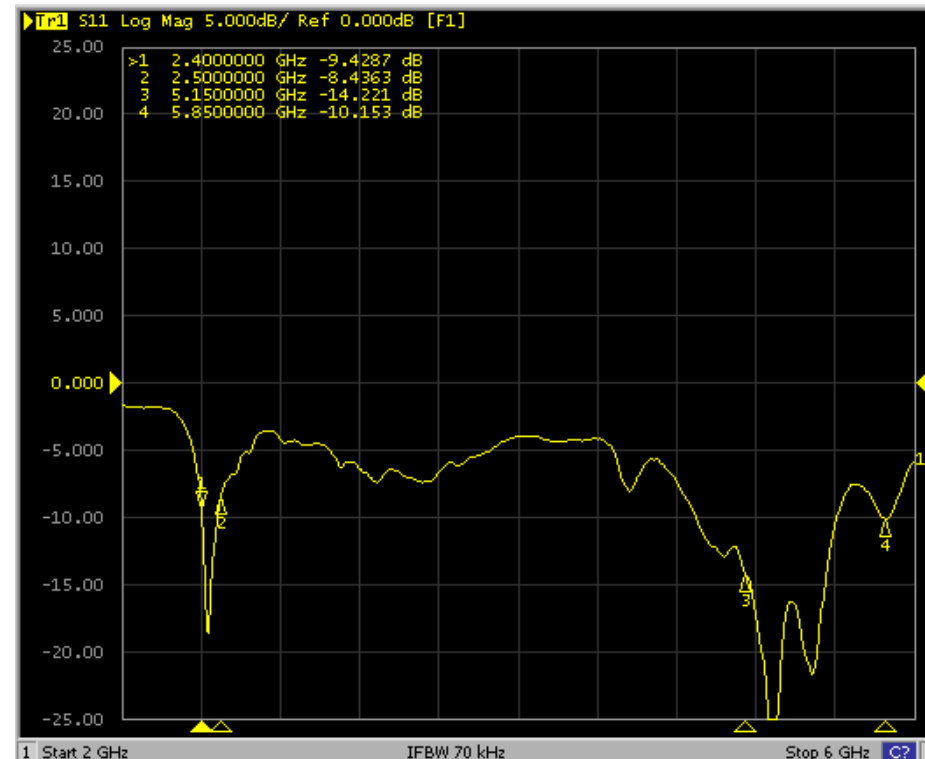
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WIFI Main



WIFI Aux

Test Result:Antenna Efficiency

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Frequency (MHz)	WIFI Main		
	Efficiency (dB)	Efficiency (%)	Peak Gain (dB)
2400	-4.85	32.67	2.24
2450	-4.58	34.79	2.72
2500	-4.94	31.99	2.66
5150	-3.79	41.73	1.79
5180	-4.96	31.89	2.26
5250	-4.22	37.78	1.50
5350	-4.01	39.64	2.80
5470	-4.87	32.52	2.73
5600	-4.44	35.96	1.93
5725	-4.32	36.95	2.52
5785	-4.42	36.06	2.30
5800	-4.81	32.98	1.48
5850	-4.57	34.85	2.04

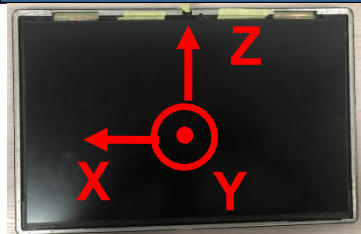
Frequency (MHz)	WIFI Aux		
	Efficiency (dB)	Efficiency (%)	Peak Gain (dB)
2400	-5.19	30.25	2.04
2450	-4.10	38.90	2.51
2500	-4.62	34.54	2.76
5150	-4.69	33.95	2.70
5180	-4.85	32.74	2.37
5250	-4.30	37.15	2.14
5350	-4.99	31.68	2.40
5470	-4.85	32.74	1.74
5600	-5.01	31.54	1.70
5725	-5.06	31.16	1.95
5785	-4.81	33.06	2.55
5800	-4.81	33.07	1.96
5850	-4.28	37.33	2.75

Test Result:2D Radiation Pattern WIFI Main

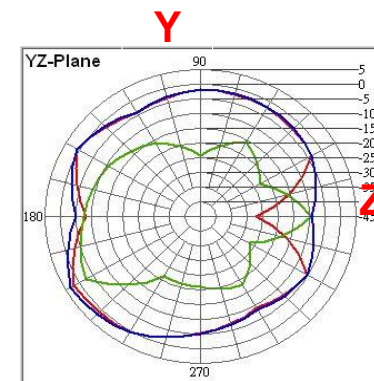
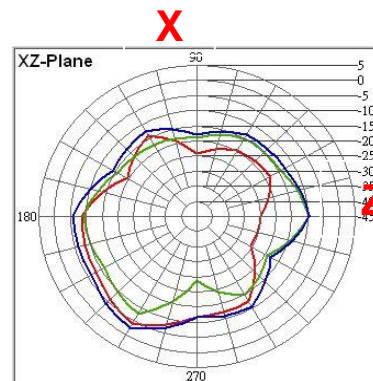
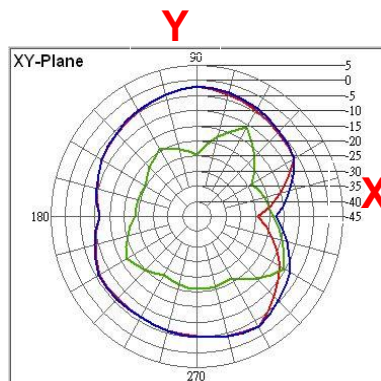
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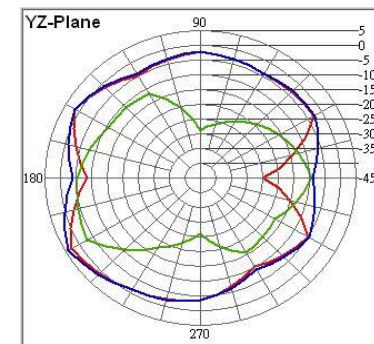
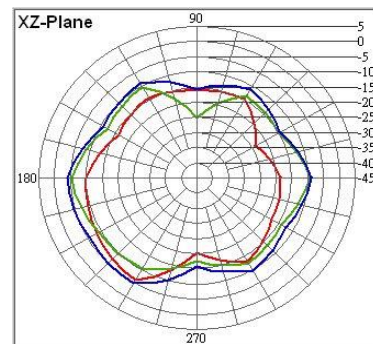
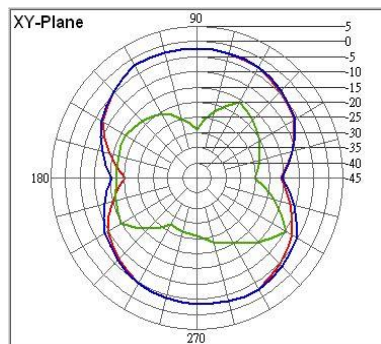
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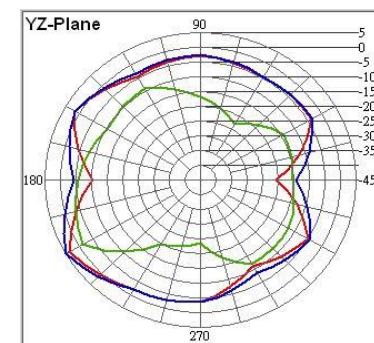
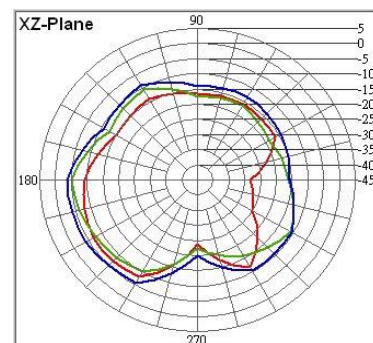
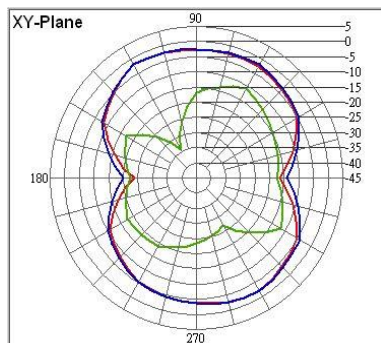
2400MHz



2450MHz



2500MHz



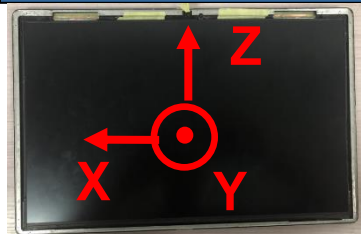
— H-Pol — V-Pol — H+V

Test Result:2D Radiation Pattern WIFI Main

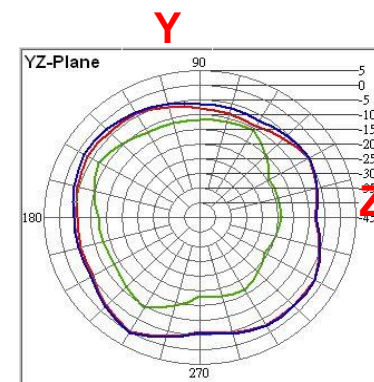
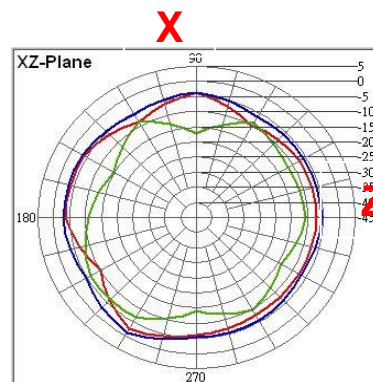
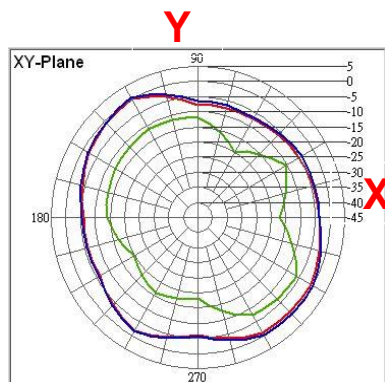
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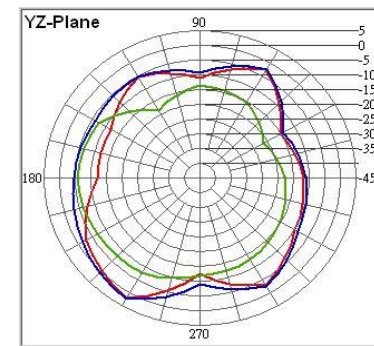
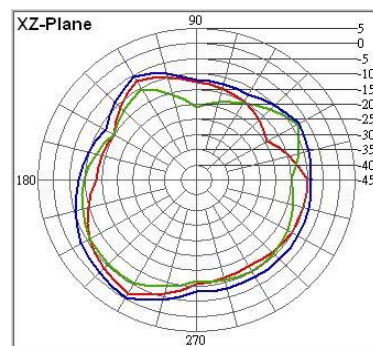
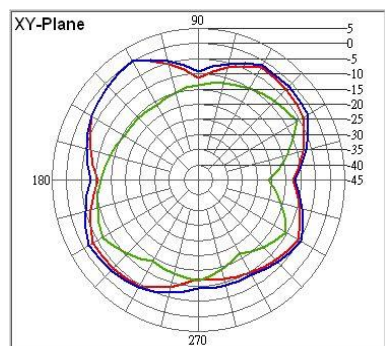
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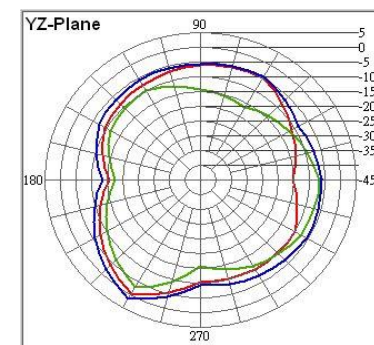
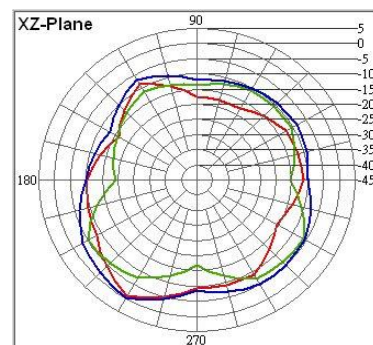
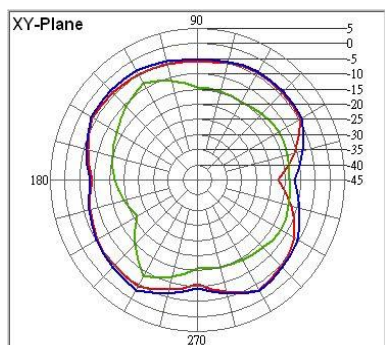
5150MHz



5470MHz



5850MHz



 H-Pol  V-Pol  H+V

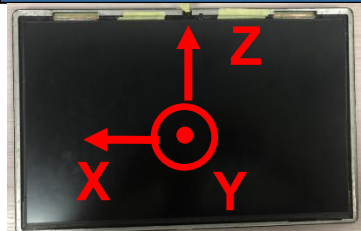
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Test Result: 2D Radiation Pattern WIFI Aux

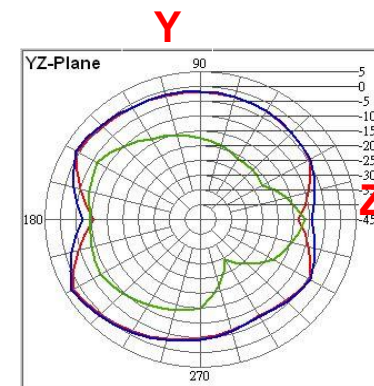
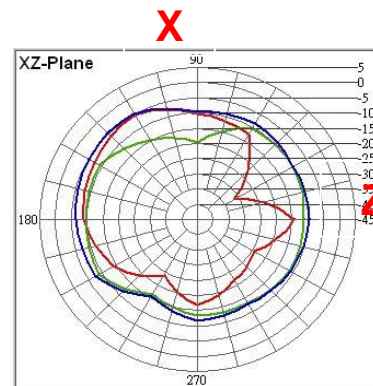
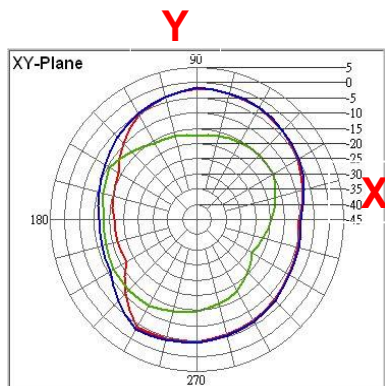
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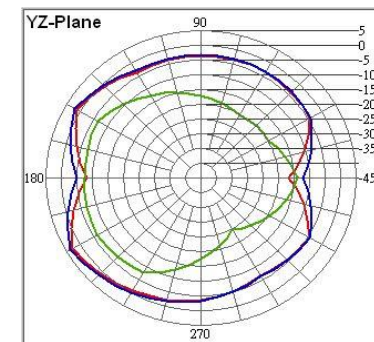
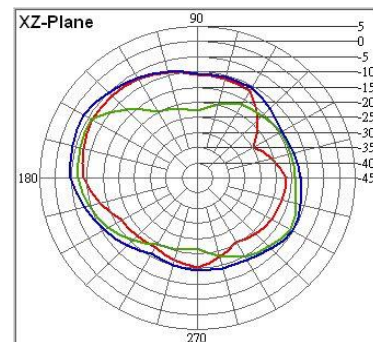
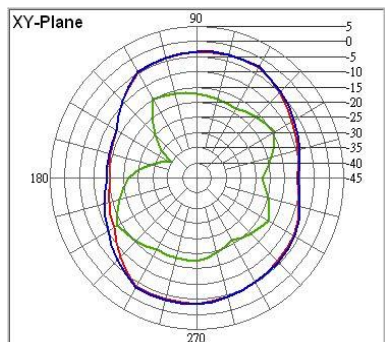
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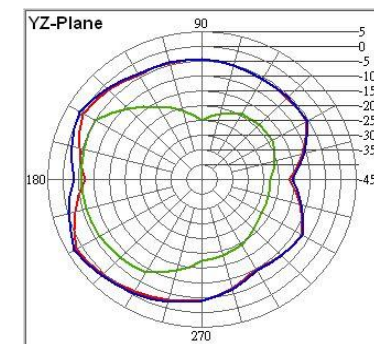
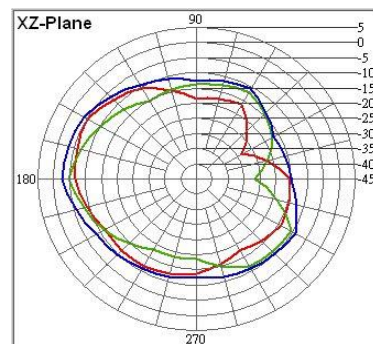
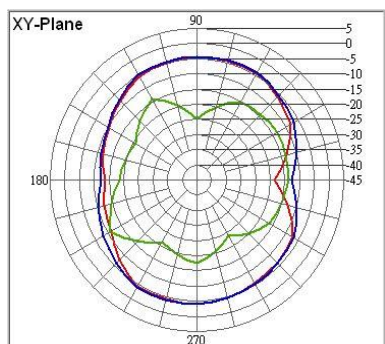
2400MHz



2450MHz



2500MHz



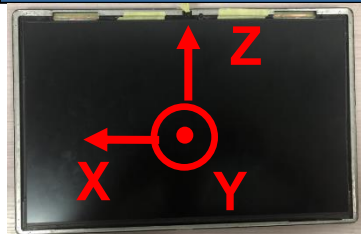
— H-Pol — V-Pol — H+V

Test Result: 2D Radiation Pattern WIFI Aux

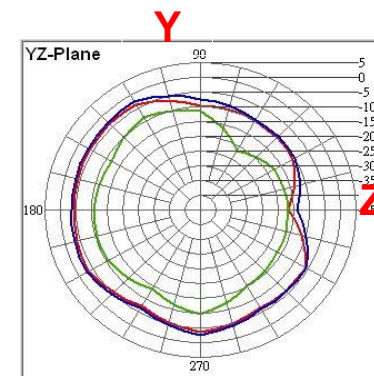
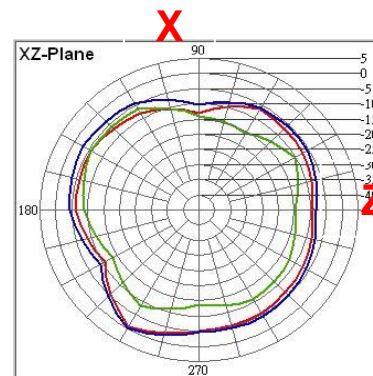
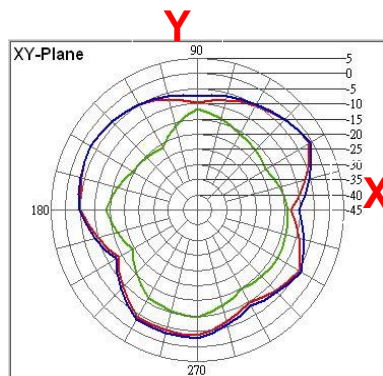
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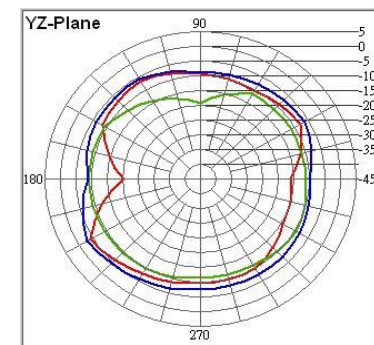
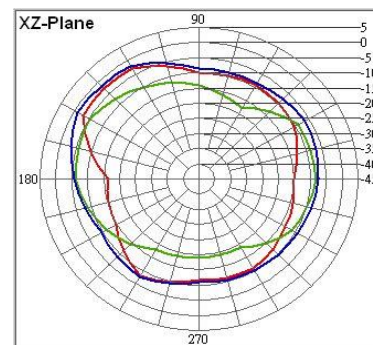
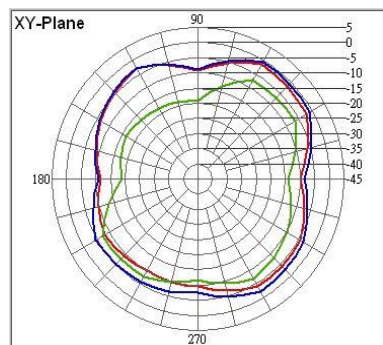
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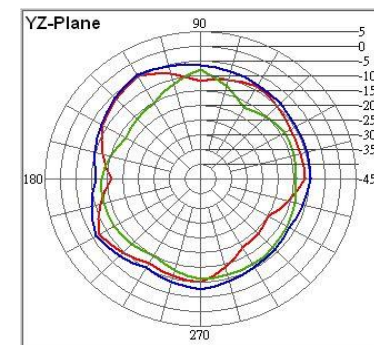
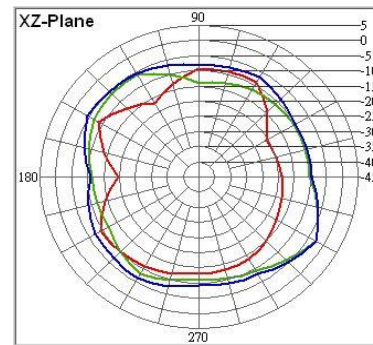
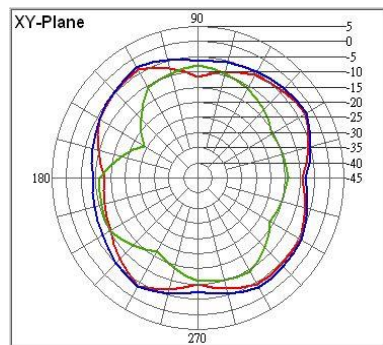
5150MHz



5470MHz



5850MHz



— H-Pol — V-Pol — H+V

Thank you!

