杰迅通

WIFI Antenna Test Report

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Test Items and Test Equipment

Test Items	Test Parameters	Test Equipoment
1. S Parameter	VSWR; Smith;	Network Analyzer: Agilent 5071B
2. Passive Test	Efficiency	Comprehensive Tester: Network Analyzer: Agilent 5071B Microwave Darkroom: GTS Chamber

Key Terms:

VSWR: VSWR is the abbreviation of Voltage Standing Wave Ratio, which refers to the ratio of the amplitude of the reflected wave to the amplitude of the incident wave. Ideally, when the impedance is perfectly matched, the value of VSWR equals to 1. In actual engineering, there must be reflections. At this time, the VSWR is greater than 1, and the larger the reflections, the larger the VSWR. Therefore, for this technical parameter of VSWR, the lower the value and the closer to 1, the better.

Return Loss: The return loss (RL) refers to the ratio of the power reflected from the RF input signal to the power of the input signal. It is measured in unit dB and it is a negative number. In the ideal case, the impedance of the antenna and RF circuit is completely matched without reflected power at all, then the return loss is infinitely small. However, it is impossible to match the impedance perfectly in engineering, so the reflected power must exist. The worst case is that the input power is completely reflected, then the return loss is 0. Therefore, for the RL technical parameter, the lower the value, the better the performance of the antenna.

Effi: Effi refers to the ratio of the power radiated by the antenna (i.e. the power that effectively converts electromagnetic wave) to the power input to the antenna. It is a value that is constantly less than 100%.

Gain: Gain is defined as the ratio of the power density of the signal generated by the actual antenna and the ideal radiating unit at the same point in space under the condition of equal input power, which quantitatively

describes the degree to which the antenna concentrates the input power for radiation, and it is generally measured in unit dBi.

Smith Chart: It refers to the trajectory chart of expressing the normalized impedance on the reflection coefficient complex plane by means of the correspondence between normalized impedance and reflection coefficient.

TRP: TRP: Total Radiated Power (TRP) is the integral value of the spherical integration of the effective radiated power EIRP of the mobile station in three-dimensional space (spherical mean), which reflects the emission characteristics of the mobile station in all directions.

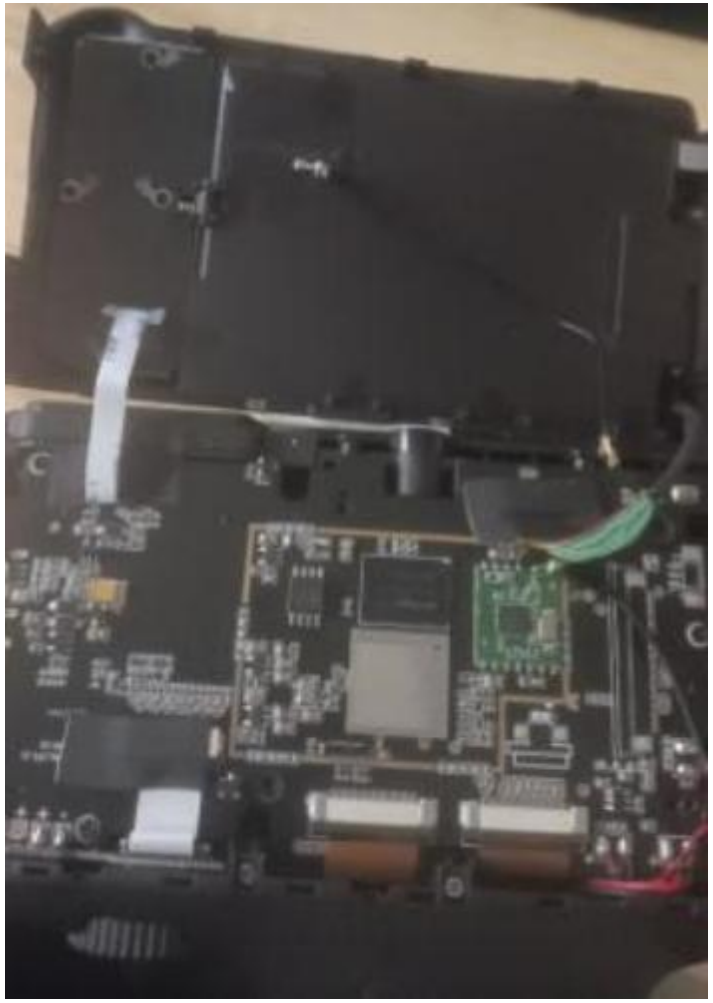
TIS: Total Isotropic Sensitivity (TIS) is the integral value (spherical mean) of the spherical integration of the effective radiation receiving Effective Isotropic Sensitivity (EIS) of a mobile station in three-dimensional space, which reflects the receiving characteristics of the mobile station in all directions.

1/ Diagram of Machine/Dark Room Test

Diagram of Machine

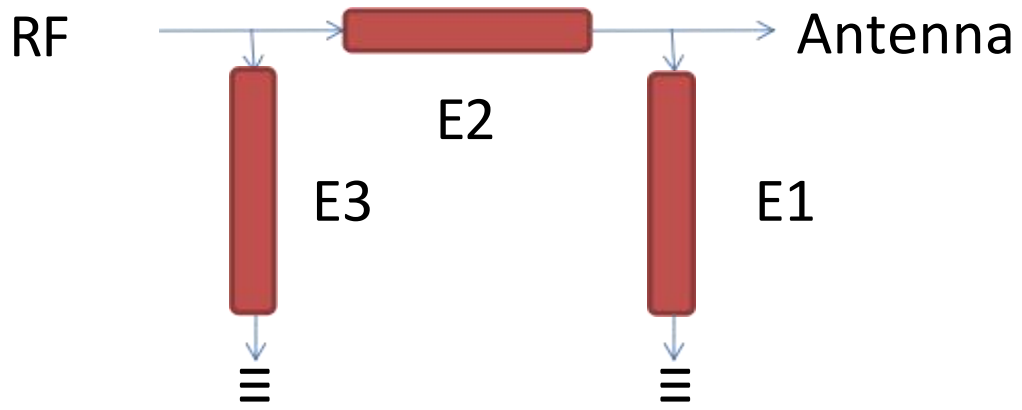
Diagram of Dark Room Test

2 Antenna Location



3 Matching Descriptions

E1	E2	E3
NC	0 ohm	NC

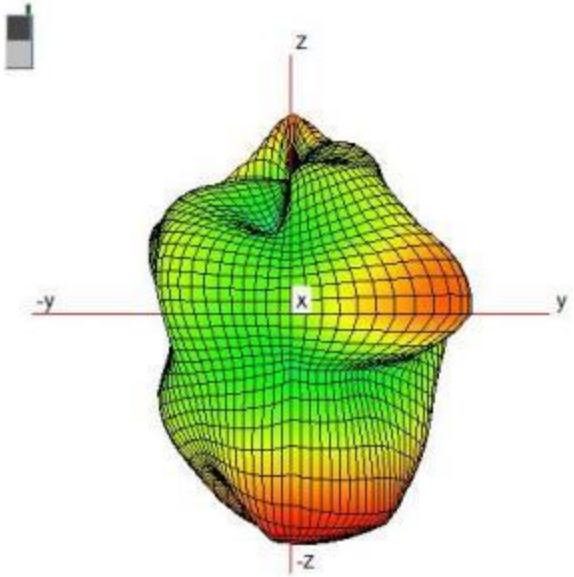


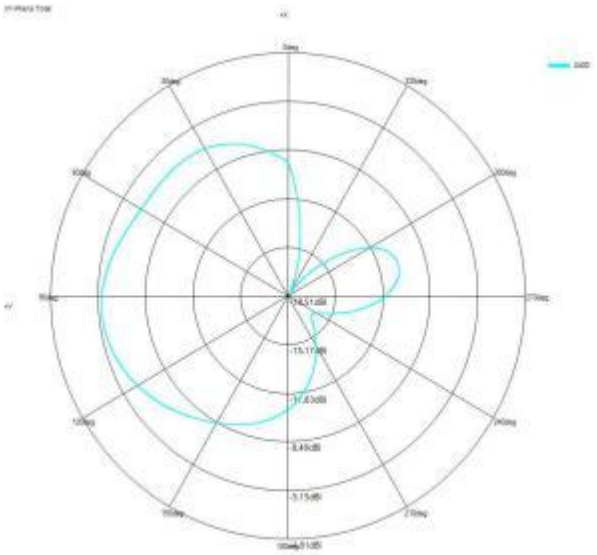
Note: Antenna matching has not been changed.

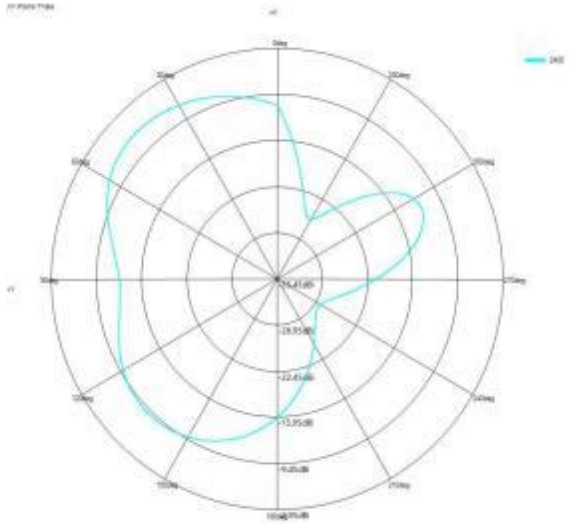
5 2.4G Complete Test Data of Passive Efficiency Gain

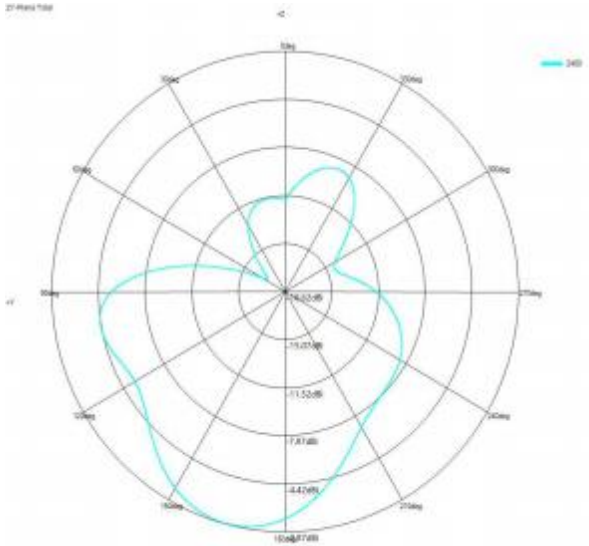
Freq (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-1.863368445	-8.701831425	13.48394143
2410	-2.07731028	-8.937200708	12.77261816
2420	-2.439220985	-9.213696054	11.98478906
2430	-2.662075249	-9.337187769	11.64880092
2440	-2.850092676	-9.375178793	11.54734445
2450	-3.03878364	-9.407831873	11.46084958
2460	-3.331534798	-9.439237169	11.37827126
2470	-3.727011033	-9.583288121	11.0070563
2480	-4.172380155	-9.747027934	10.59978867
2490	-4.572903368	-9.925169136	10.17379744
2500	-4.845165664	-9.987460579	10.02891481

6/ 3D & 2D Diagrams of Passive Test









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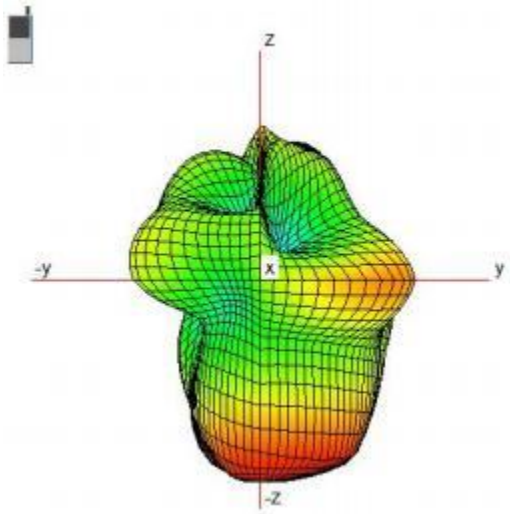

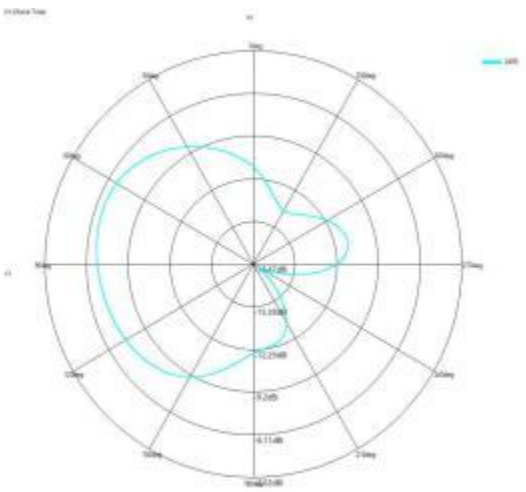

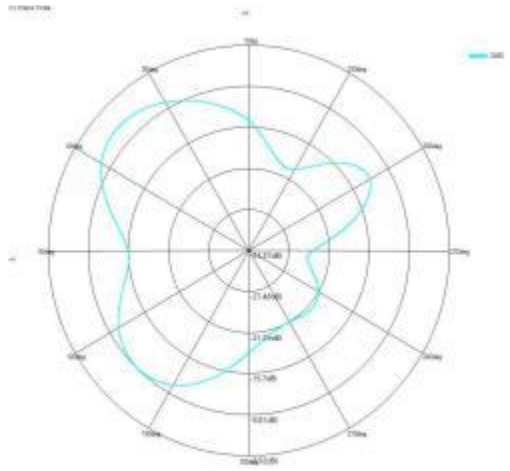

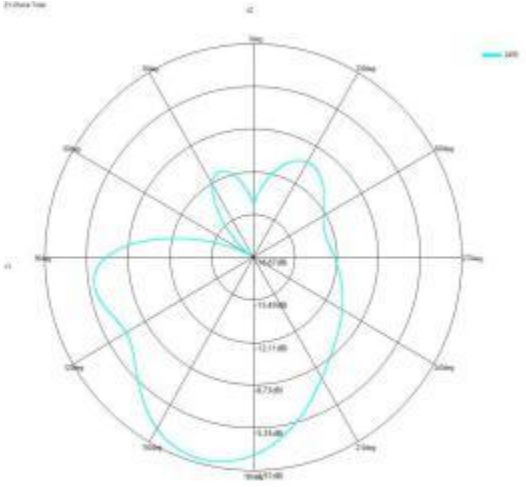

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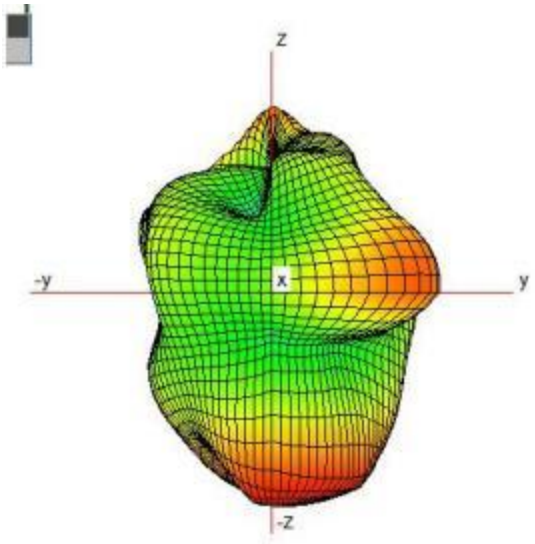

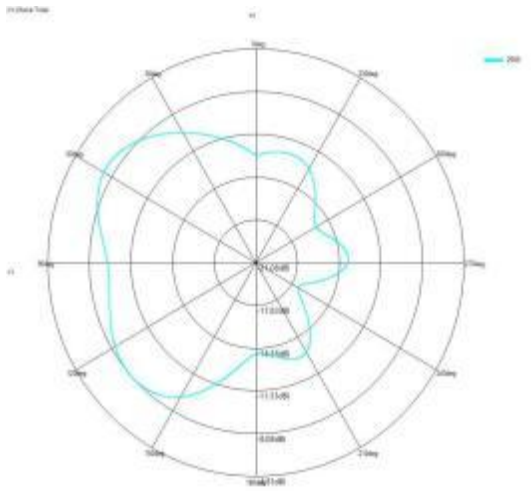

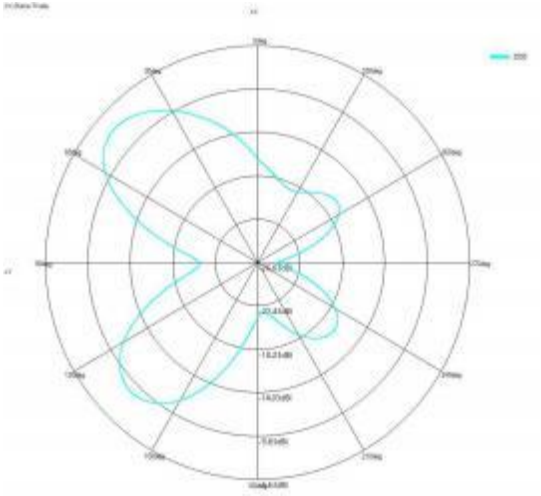

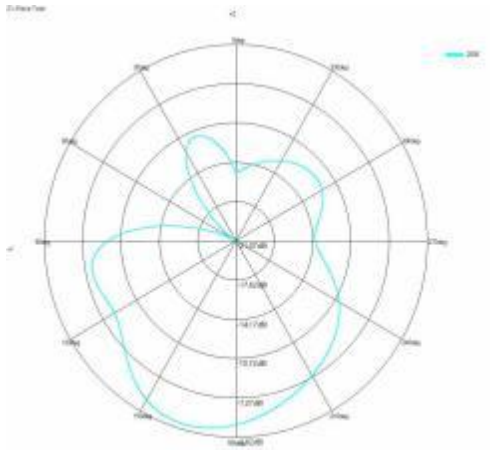

7/ Notes

1. The 2.4GWIFI passive test data is shown as above.

2. Please contact us in time if you have any questions, thank you!

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THANKS FOR YOU