
HM-63100 REV1.0
Antenna Specification V1.0

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1. Antenna Characteristic Specification

This specification describes the physical characteristics and electrical performance of the following 2.4G&5G Wi-Fi antennas.



Figure 1. Antenna Actual Effect Picture

1.1 Antenna Structure

The antenna is mainly composed of SMT on the PCB.

1.2 Antenna Technical Parameters and Interface

Design Specifications	Typical	Units
Form	IPEX	\
Frequency	2400-2500&5180-5850	MHz
Gain	2.4G: 1.62	dBi
	5.1G: 1.79	dBi
	5.8G: 1.94	dBi
Antenna Efficiency	@2.45GHz: 30.21 @5.15GHz: 35.67 @5.85GHz: 34.13	%
VSWR	< 2	\
Polarization	Linear Polarization	\
Axial Ratio	\	\
Radiation pattern	Omnibearing	\
impedance	50	ohm
Power handling	33	dBm
Interface	\	\
Overall dimensions	50*27mm	\
Weight	\	\
Operation Temp.	-30-70	°C
Storing Temp.	-30-70	°C

2. Antenna Test Conditions

2.1 Test Equipment

Antenna Vector Network Analyzer ROHDE&SCHWARZ ZNB 20

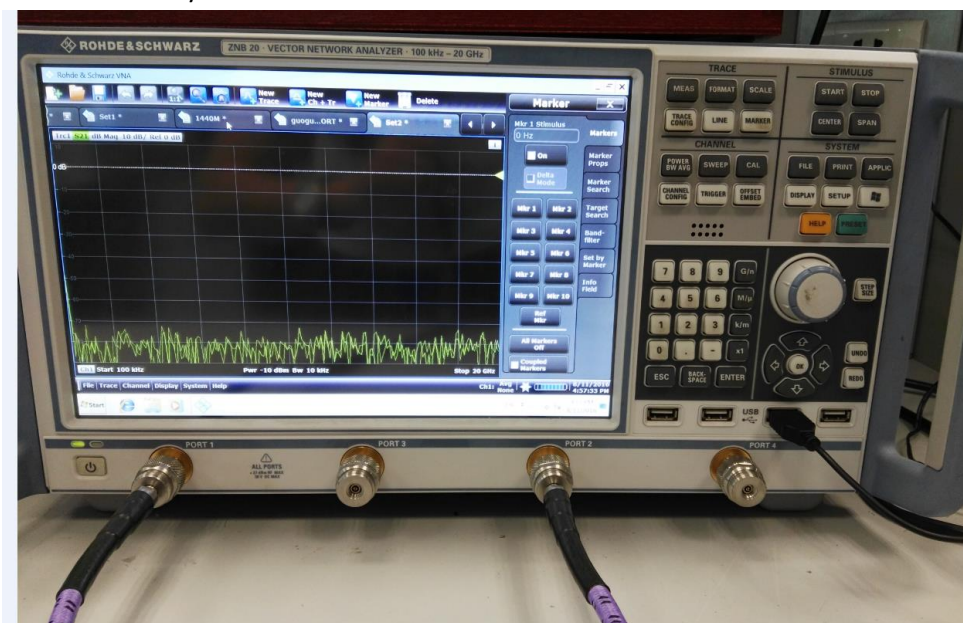


Figure 2.Vector Network Analyzer

2.2 Test Result

Return Loss (S11)

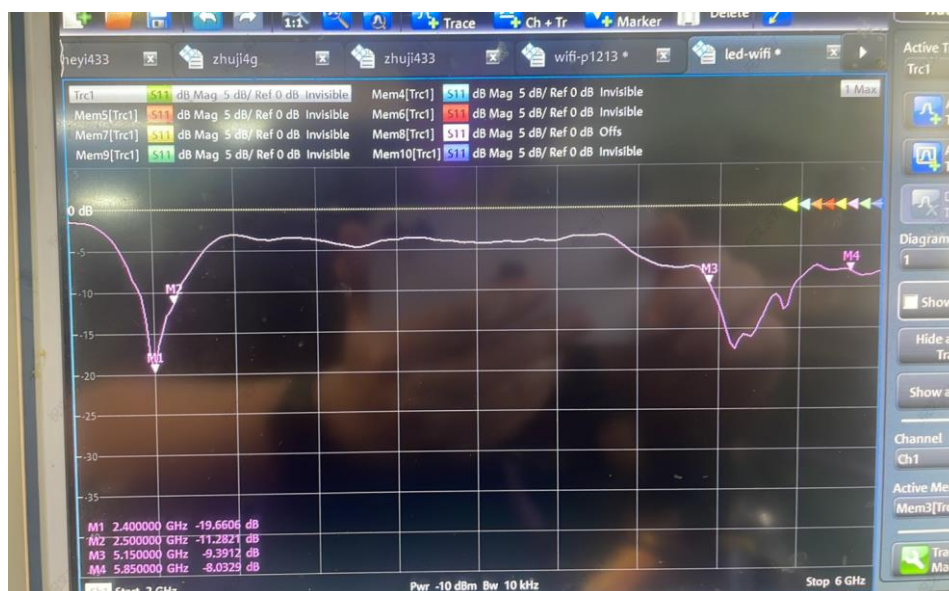


Figure 3.Return Loss

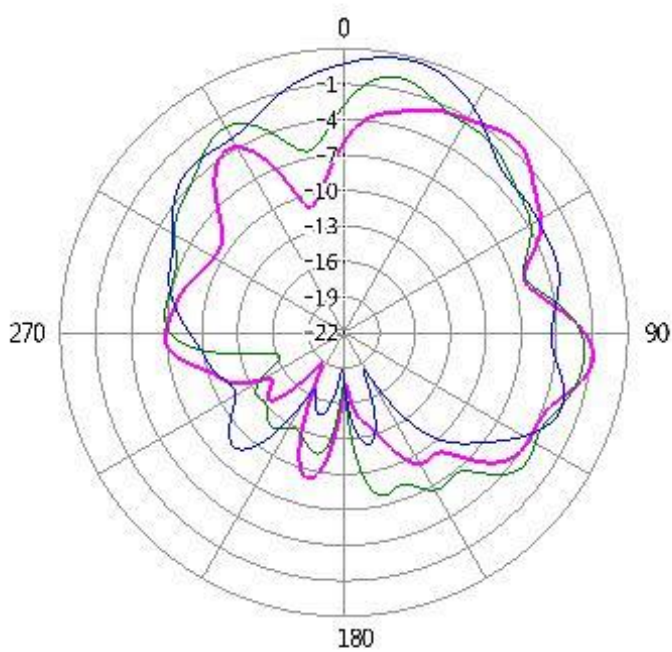
The yellow curve in the figure above shows that the antenna syntony is realized well, and the resistance condition matches well.

Antenna Efficiency

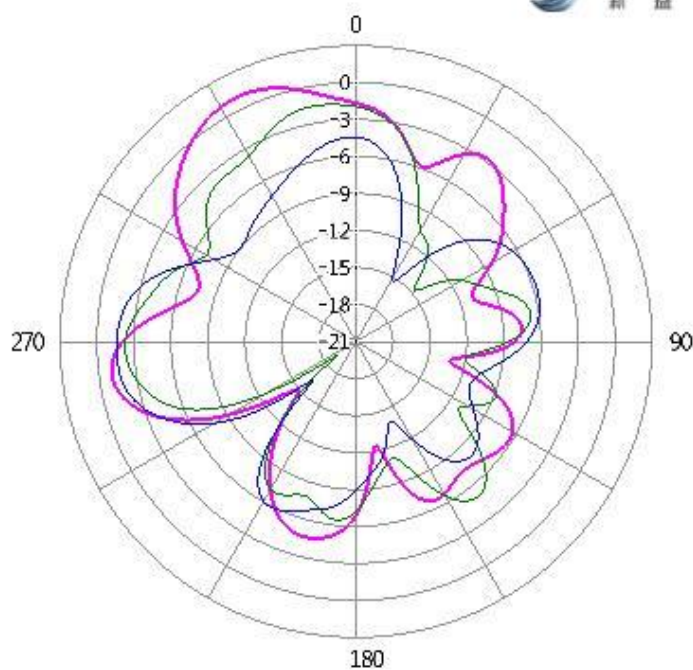
Frequency	efficiency	Frequency	efficiency
2400	29.6	5150	30.3
2410	31.3	5200	35.9
2420	33.4	5250	38.0
2430	35.2	5300	39.4
2440	37.3	5350	40.7
2450	38.7	5400	36.9
2460	40.2	5450	38.2
2470	41.0	5500	35.7
2480	40.7	5550	32.9
2490	39.8	5600	31.3
2500	38.5	5650	28.4
		5700	30.1
		5750	27.6
		5800	29.2
		5850	28.0

Antenna 2D Radiation Pattern

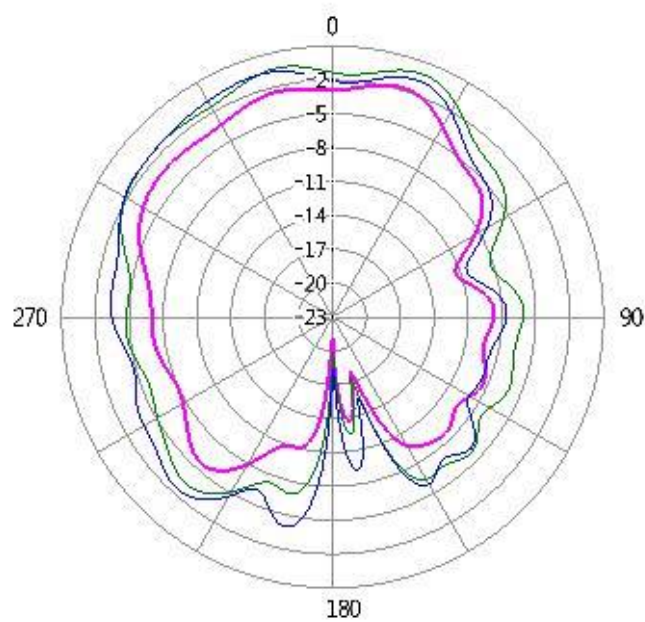
2.4G



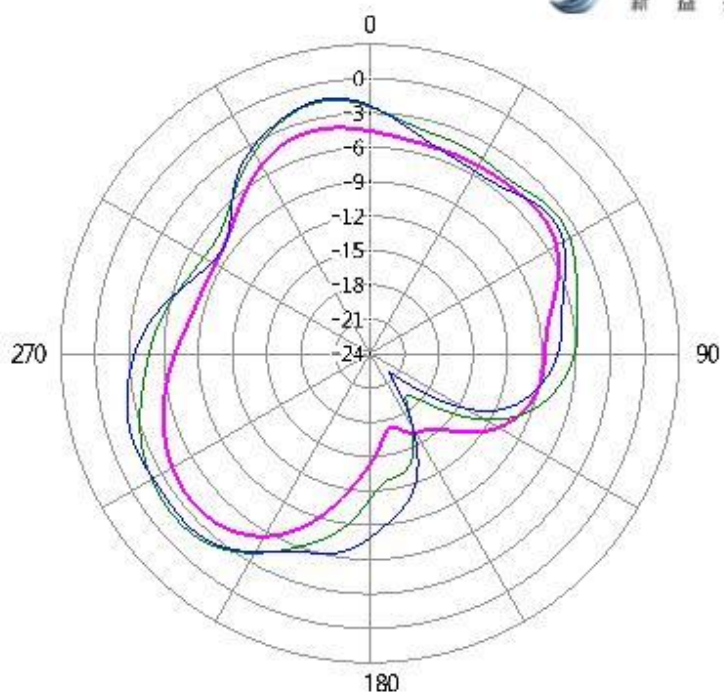
Phi=0 deg



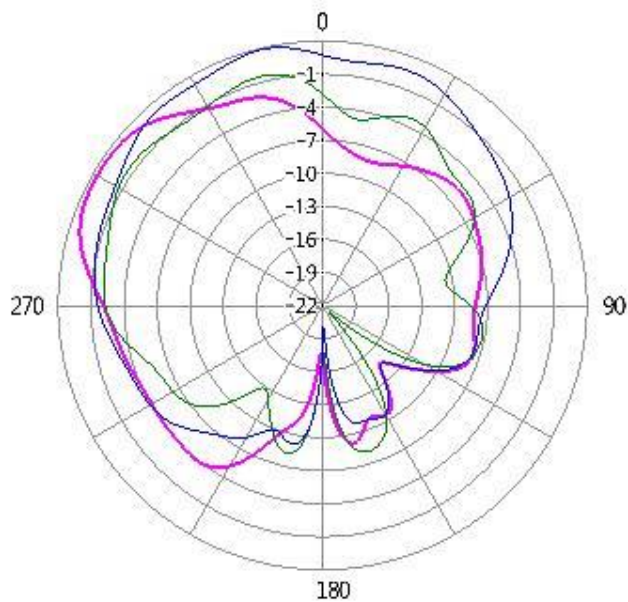
Phi=90 deg



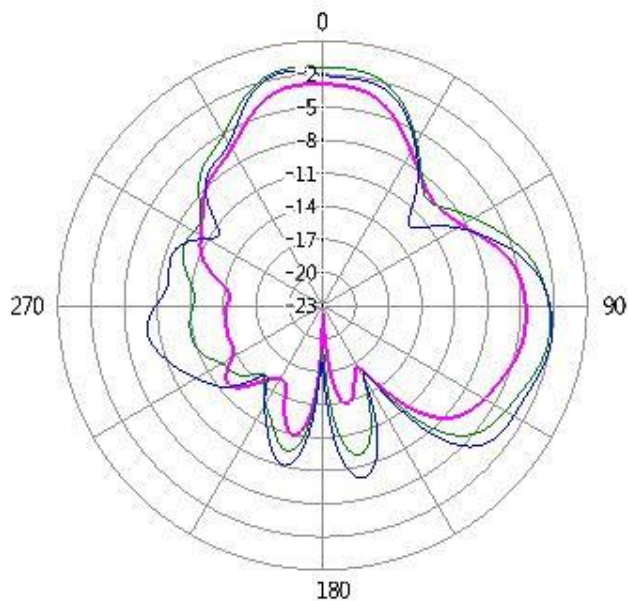
Theta=90 deg



Phi=0 deg



Phi=90 deg



Theta=90 deg

Revision History

Revision	Content	Date	Author
V1.0	First Edition	Apr. 26, 2024	Zhu Wentao