
HM-63098 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	PCB SMT(ANT PCB03)	\
Frequency	2400-2500&5180-5850	MHz
Gain	2.4G: -3.32	dBi
	5.1G: -0.32	dBi
	5.8G: -1.54	dBi
Antenna Efficiency	@2.45GHz: 18.6 @5.15GHz: 27.2 @5.85GHz: 18.1	%
VSWR	< 2	\
Polarization	Linear Polarization	\
Axial Ratio	\	\
Radiation pattern	Omnibearing	\
impedance	50	ohm
Power handling	33	dBm
Interface	\	\
Overall dimensions	18.1mm*4.4mm*3.6mm	\
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

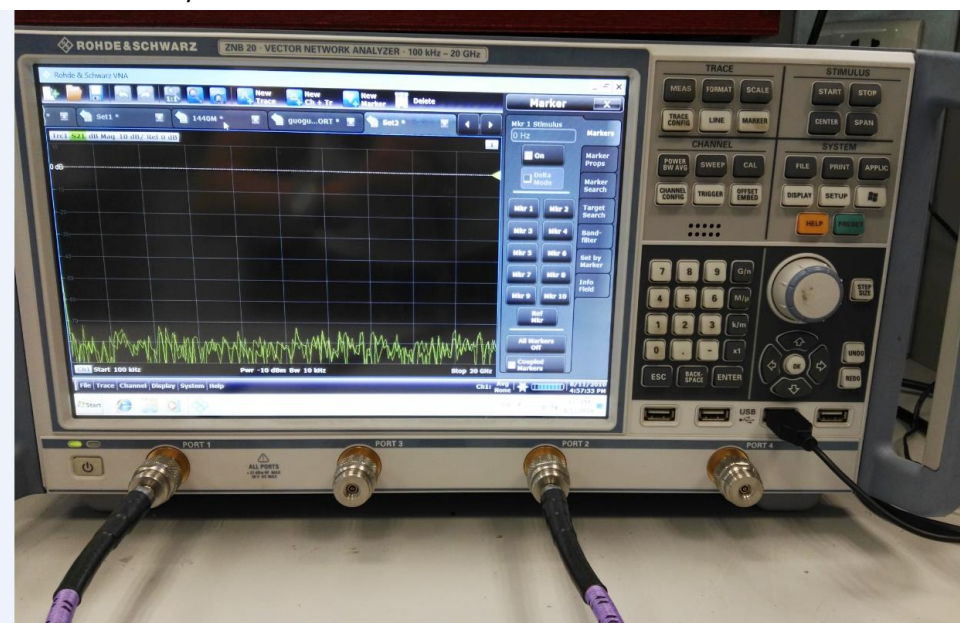


Figure 2.Vector Network Analyzer

2.2 Test Result

Return Loss (S11)

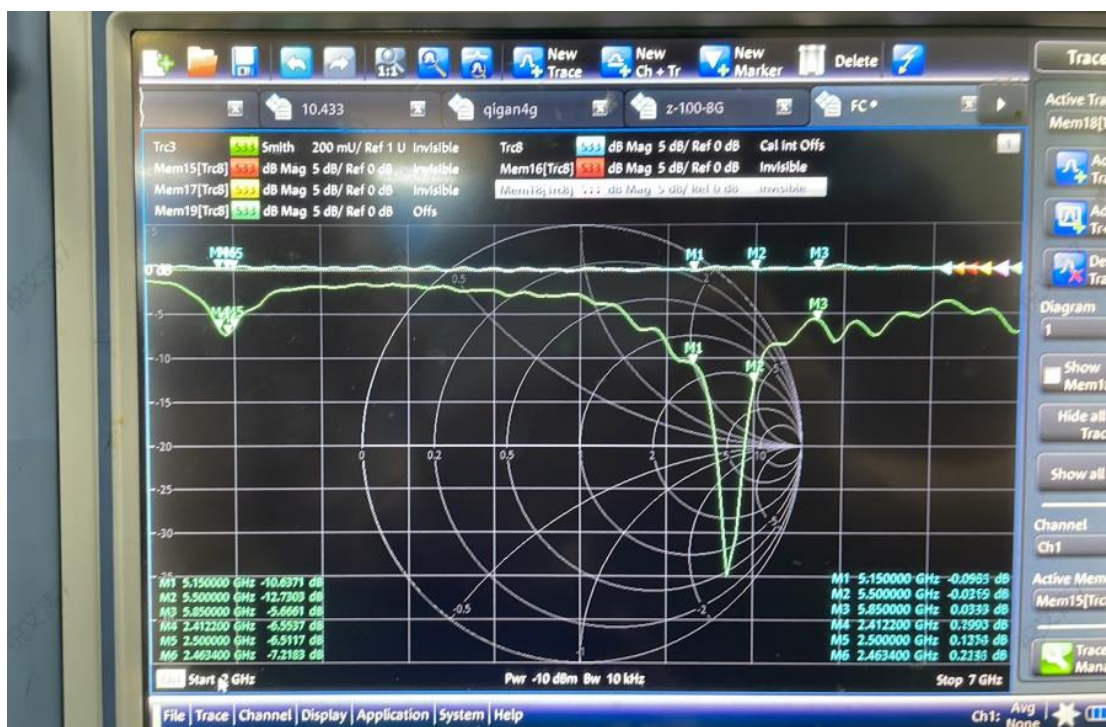


Figure 3.Return Loss

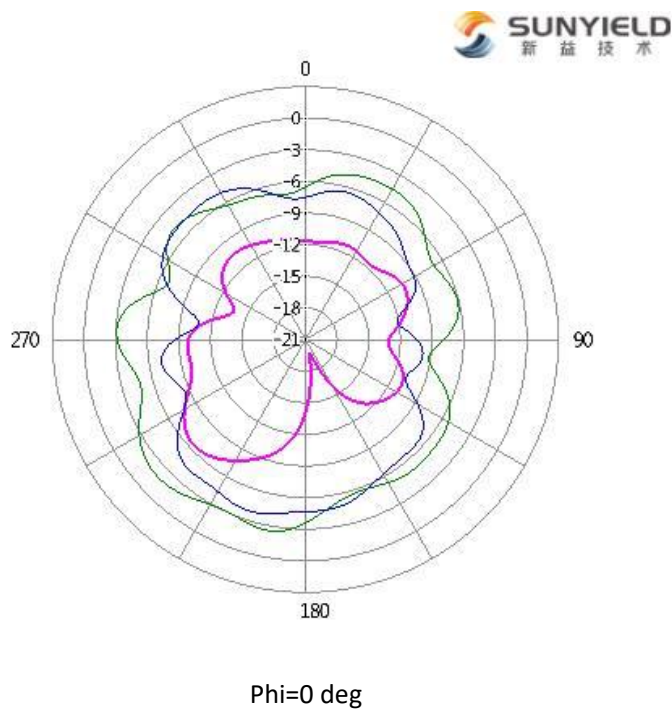
The yellow curve in the figure above shows that the antenna syntony is realized well, and the resistance condition matches well.

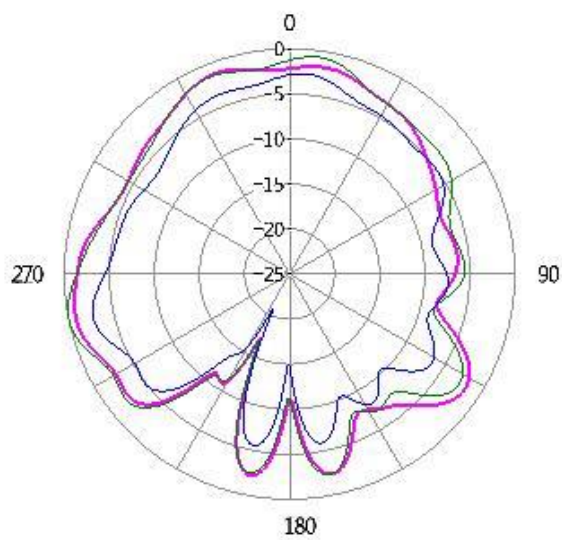
Antenna Efficiency

频率 (MHz)	效率 (%)	频率 (MHz)	效率 (%)
2400	14.52	5150	27.25
2410	13.71	5200	25.39
2420	15.45	5250	24.4
2430	16.94	5300	22.72
2440	17.94	5350	20.37
2450	18.6	5400	18.64
2460	16.64	5450	19.61
2470	15.34	5500	19.85
2480	13.56	5550	18.6
2490	12.08	5600	17.02
2500	10.71	5650	17.71
		5700	18.51
		5750	19.31
		5800	17.31
		5850	18.12

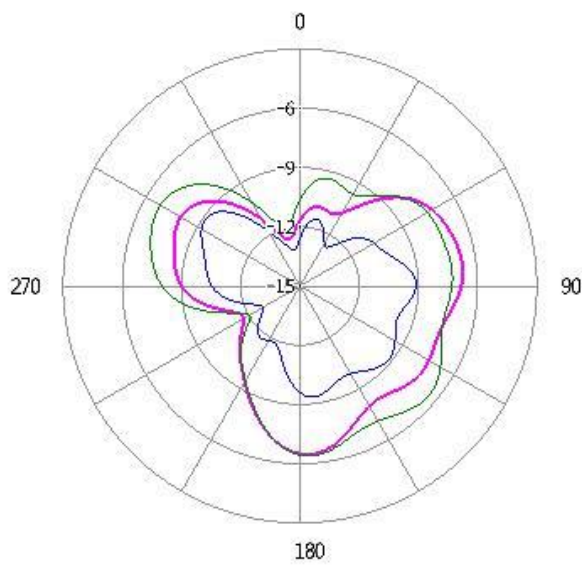
Antenna 2D Radiation Pattern

2.4G

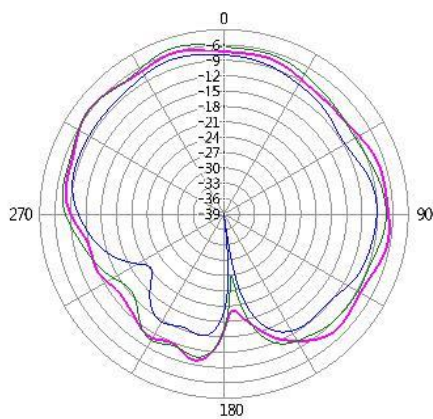




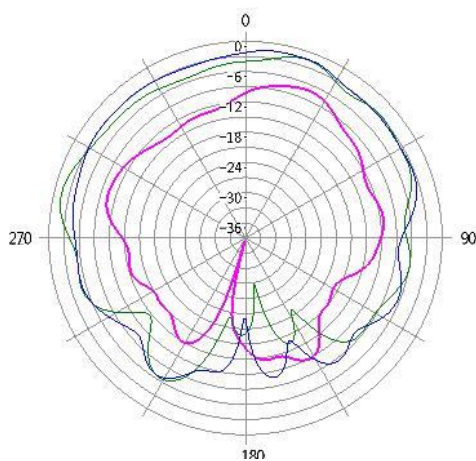
Phi=90 deg



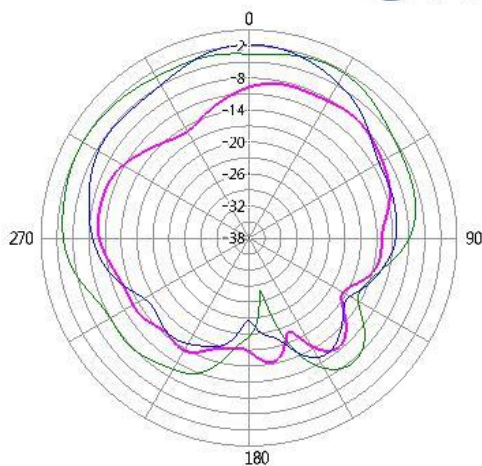
Theta=90 deg



Phi=0 deg



Phi=90 deg



Theta=90 deg

Revision History

Revision	Content	Date	Author
V1.0	First Edition	Apr. 19, 2024	Zhu Wentao