
HM-63069

Antenna Specification V1.0

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1. Antenna Characteristic Specification

This specification describes the physical characteristics and electrical performance of the following 2.4 GHz Wi-Fi/BT 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(HM-63069)	\
Frequency	2400-2500	MHz
Gain	High channel: -6.88	dBi
	Medium channel: -6.71	dBi
	Low channel: -8.59	dBi
Antenna Efficiency	7.53	%
VSWR	< 10	\
Polarization	Linear Polarization	\
Axial Ratio	\	\
Radiation pattern	Omnibearing	\
impedance	50	ohm
Power handling	33	dBm
Interface	\	\
Overall dimensions	15mm*5mm	\
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

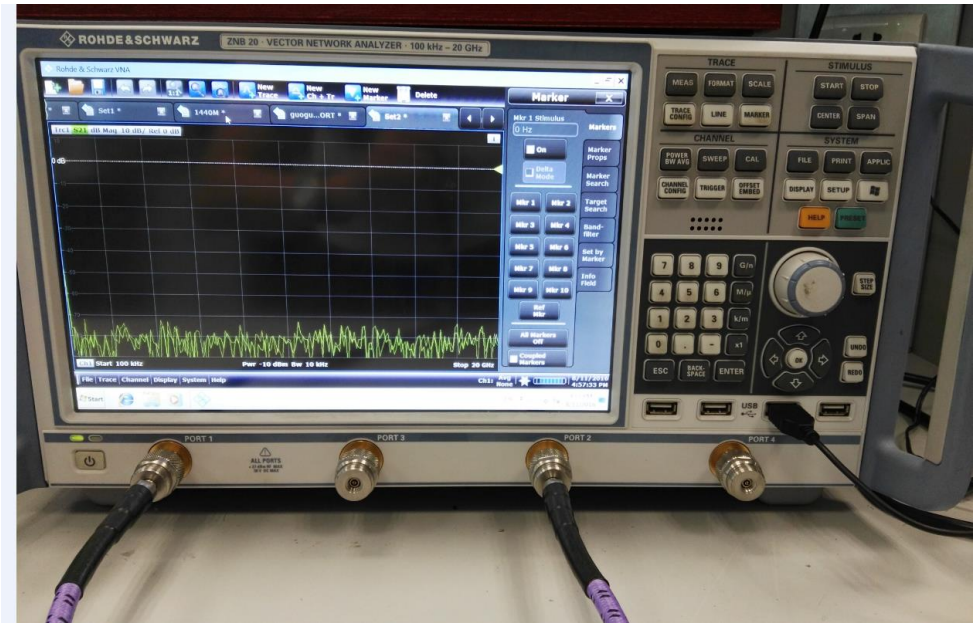


Figure 2.Vector Network Analyzer

2.2 Test Result

Return Loss (S11)

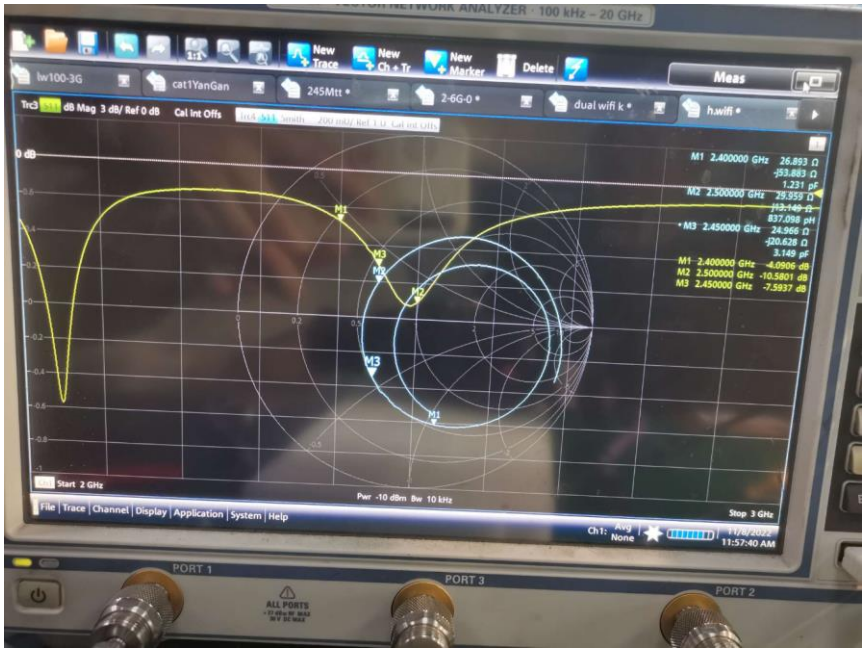


Figure 4.Return Loss

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

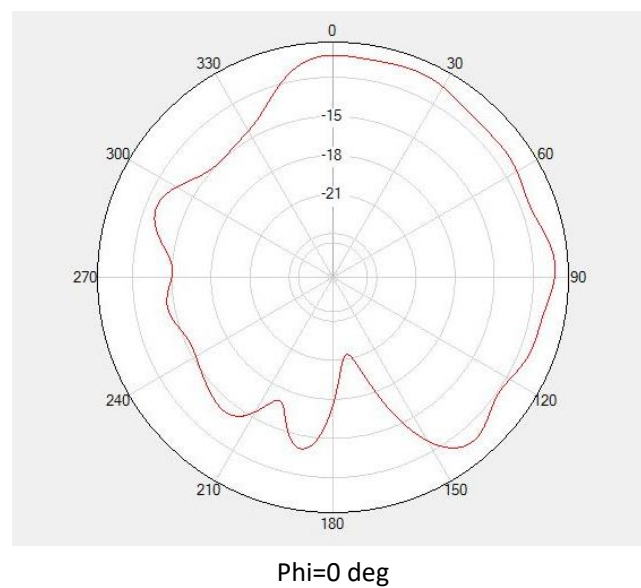
condition matches well.

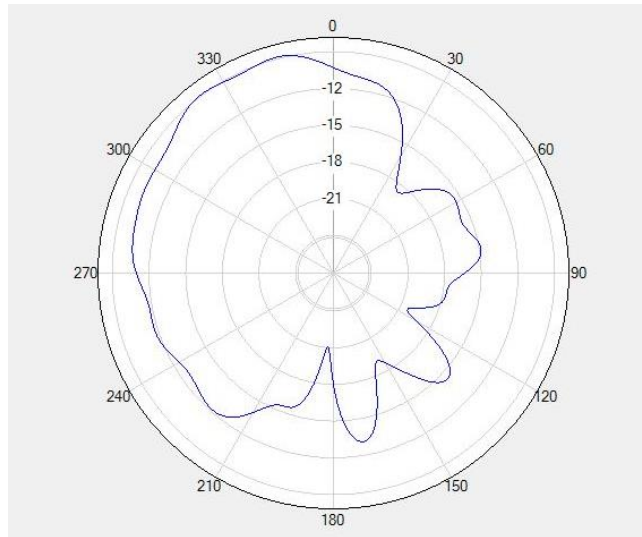
Antenna Efficiency

Frequency /MHz	Efficiency /%
2400	5.56
2410	6.23
2420	6.79
2430	7.33
2440	7.87
2450	8.07
2460	8.40
2470	8.43
2480	8.33
2490	8.01
2500	7.85

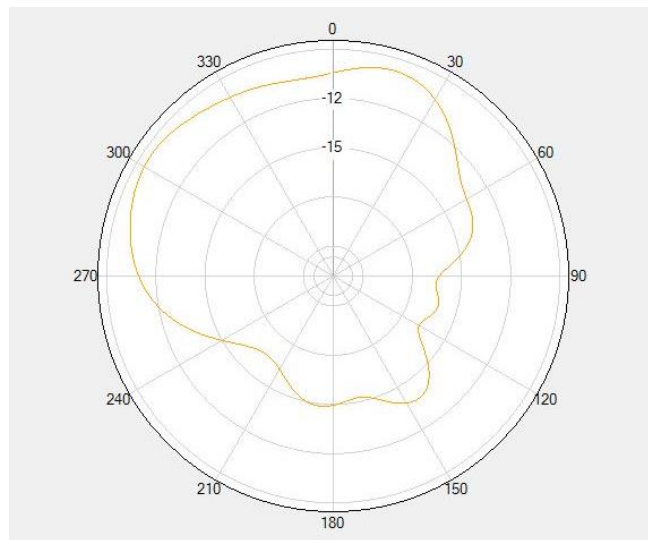
Antenna 2D Radiation Pattern

2400MHz:



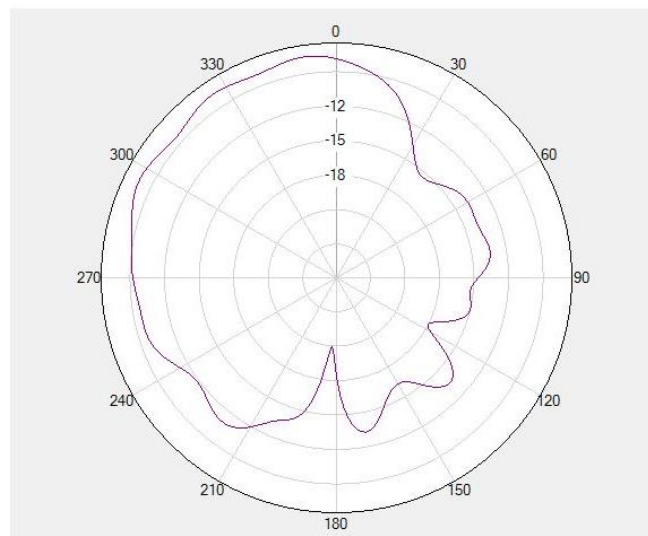


$\Phi = 90^\circ$

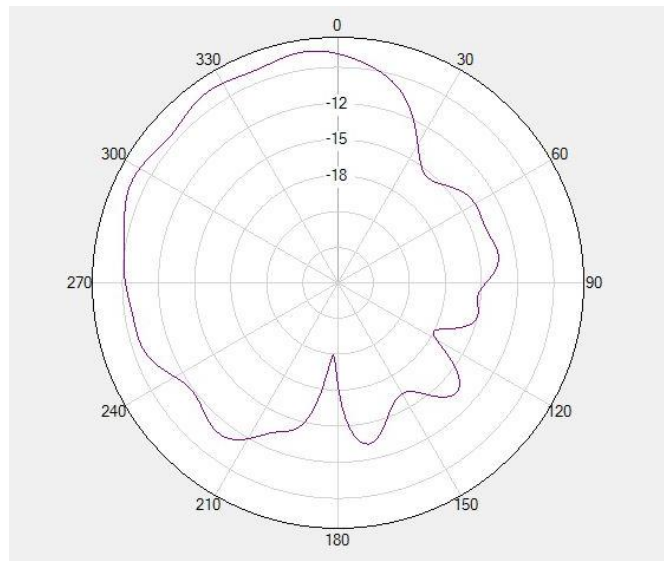


$\Theta = 90^\circ$

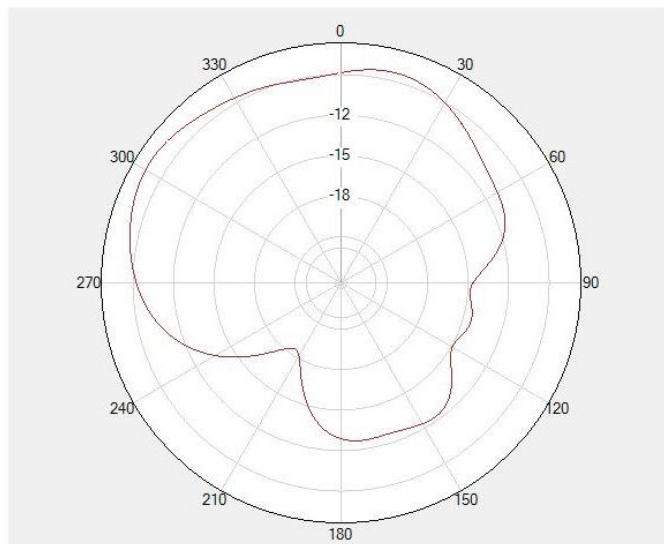
2450MHz:



Phi=0 deg

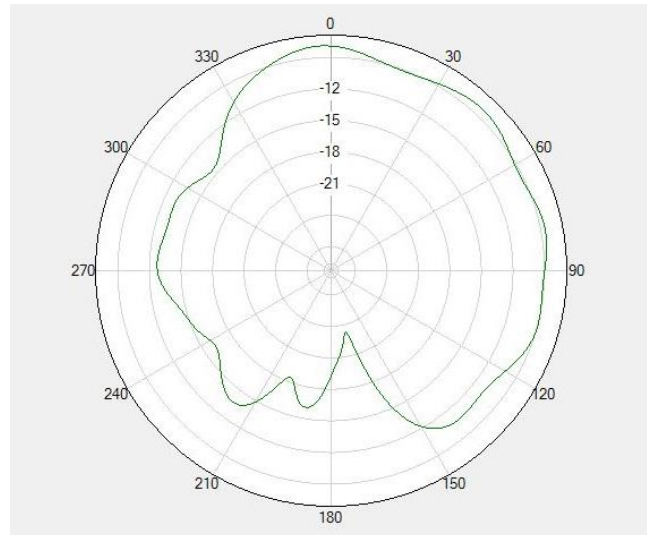


Phi=90 deg

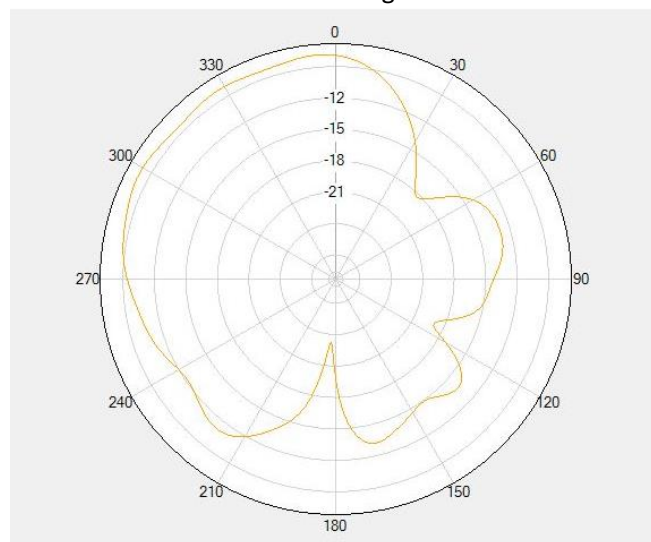


Theta=90 deg

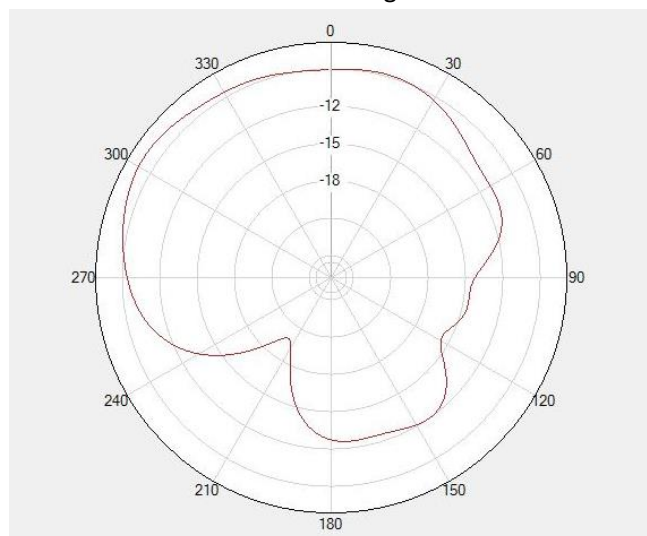
2500MHz:



$\Phi = 0^\circ$



$\Phi = 90^\circ$



$\Theta = 90^\circ$

Revision History

Revision	Content	Date	Author
V1.0	First Edition	Dec. 1, 2022	Hua Lina