F2 Thermal Image Scope Onboard Antenna Specification V1.0

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Table of Content

1. Antenna Characteristic Specification

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

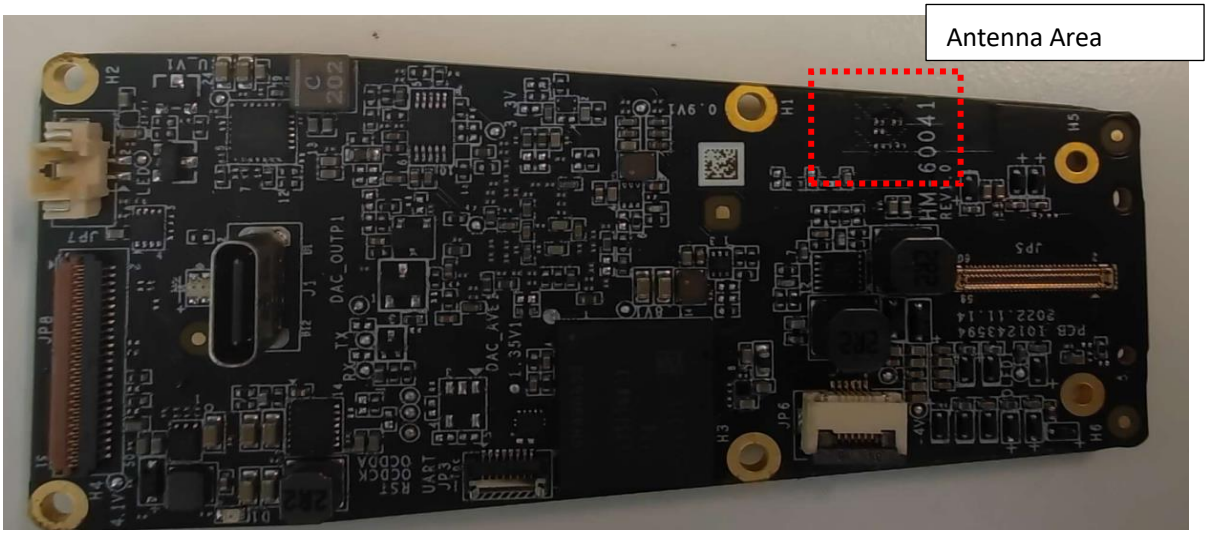


Figure 1.Antenna Actual Effect Picture

1.1 Antenna Structure

The antenna is mainly composed of on-board wiring on the PCB.

1.2 Antenna Technical Parameters and Interface

Design Specifications	Typical	Units
Form	On-board PCB	\
Frequency	2400-2500	MHz
Gain	High channel：-2.9	dB
	Medium channel：-1.82	dB
	Low channel：-2.21	dB
Antenna Efficiency	*17.2*	%
VSWR	< 3	\
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	℃
Storing Temp.	-30-70	℃

2. Antenna Test Conditions

2.1 Test Equipment

Antenna Vector Network Analyzer ROHDE&SCHWARZ ZNB 20

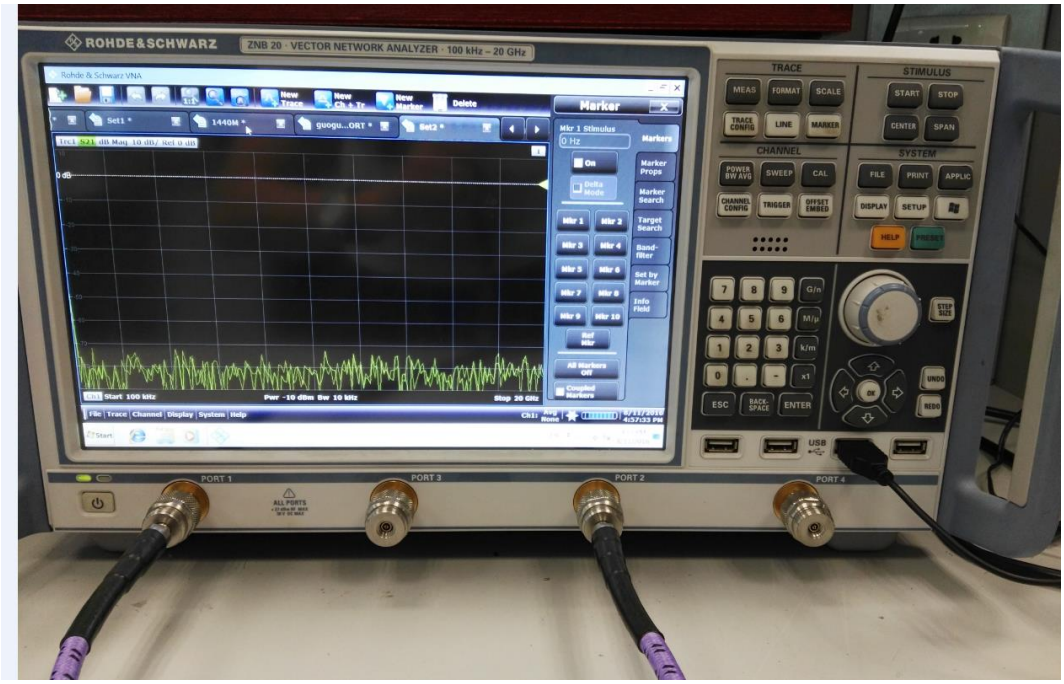


Figure 2.Vector Network Analyzer

2.2 Test Result

Return Loss (S11)

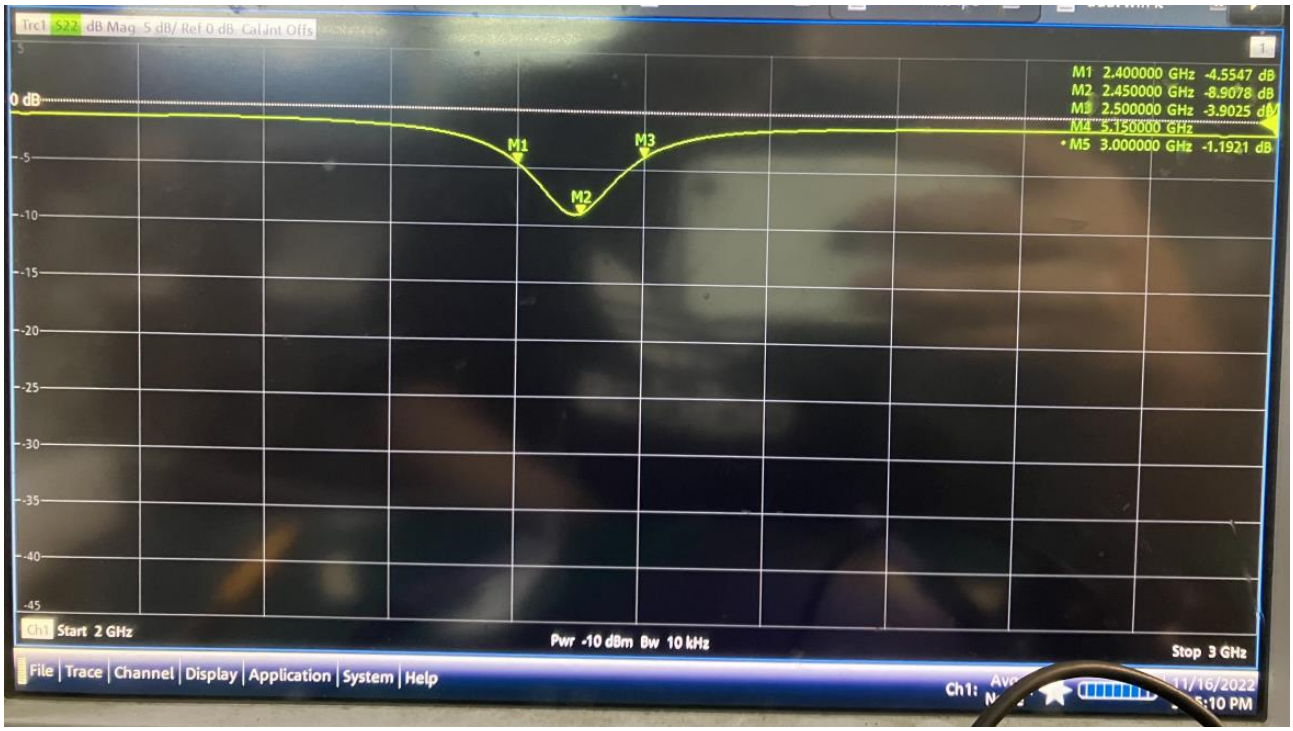


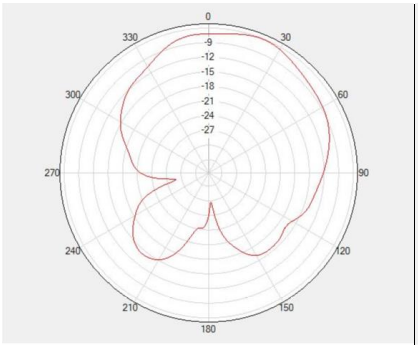
Figure 4.Return Loss

The above data show that the antenna syntony is realized well, and the resistance condition matches well.

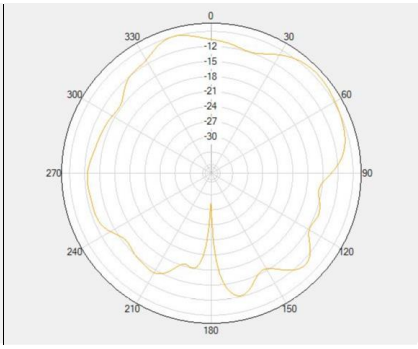
Antenna Efficiency

Frequency /MHz	Efficiency /%
2400	13.26
2410	14.88
2420	16.37
2430	17.36
2440	18.27
2450	18.59
2460	18.96
2470	18.98
2480	18.39
2490	17.44
2500	16.84

Antenna 2D Radiation Pattern



Phi=0°



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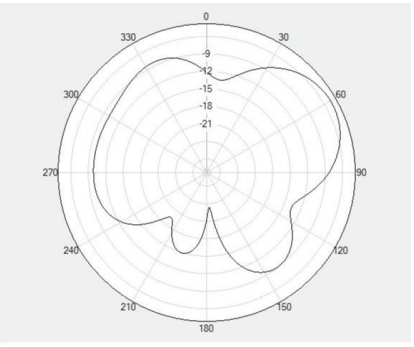

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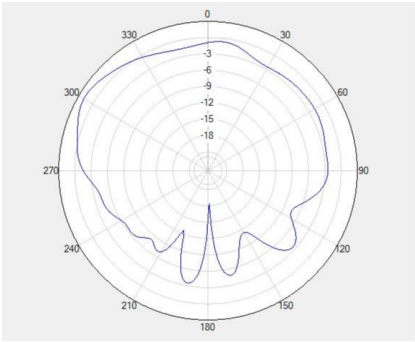
2400MHz



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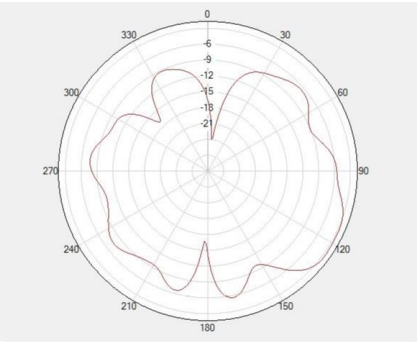

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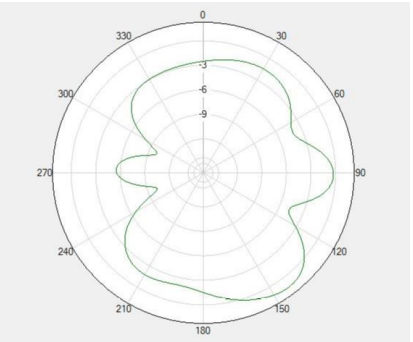

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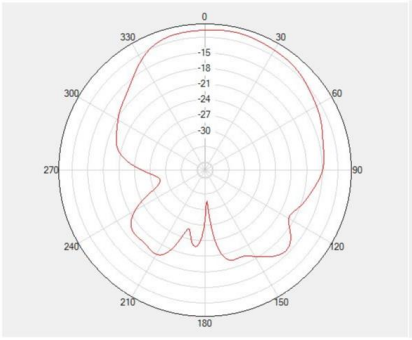
2450MHz



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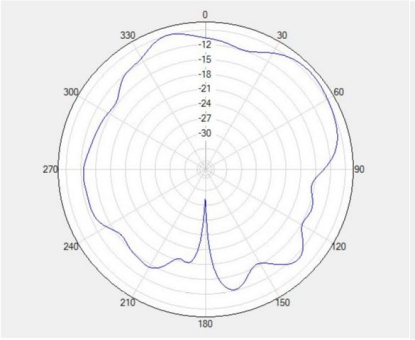

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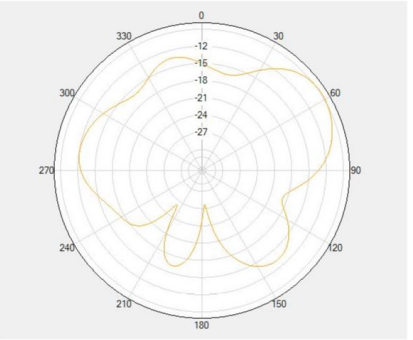

theta=90°

2500MHz

Revision History

Revision	Content	Date	Author
V1.0	First Edition	Dec. 22, 2022	黄可成