

D i g i t a l T e c h n o l o g y C o . , L t d .

HM-63126 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: -0.34	dBi
	5.1G: -1.2	dBi
	5.8G: -3.02	dBi
Antenna Efficiency	@2.45GHz: 15.6 @5.15GHz: 21.2 @5.85GHz: 12.1	%
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

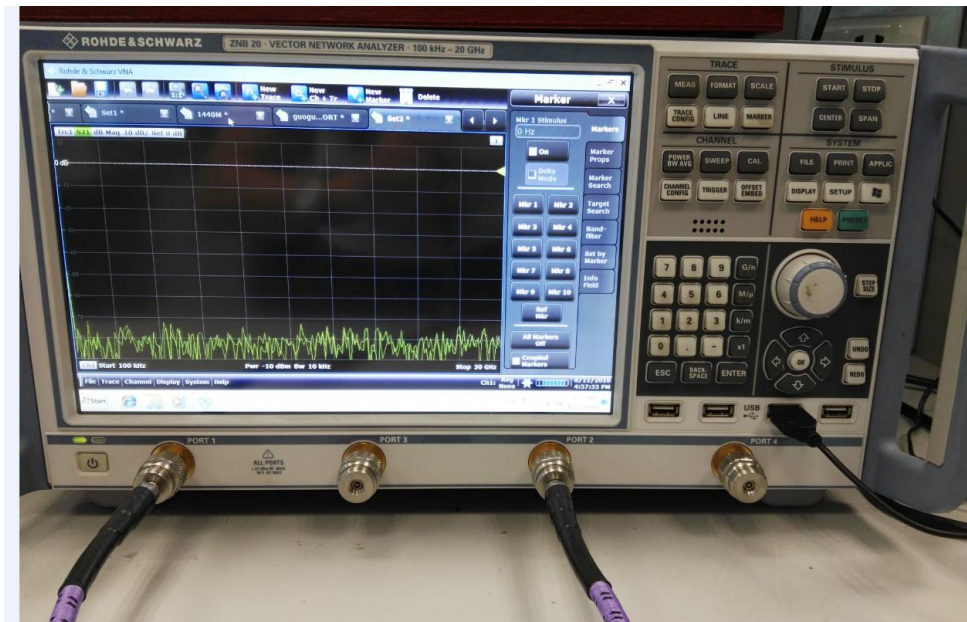


Figure 2.Vector Network Analyzer

2.2 Test Result

Return Loss (S11)



Figure 3.Return Loss

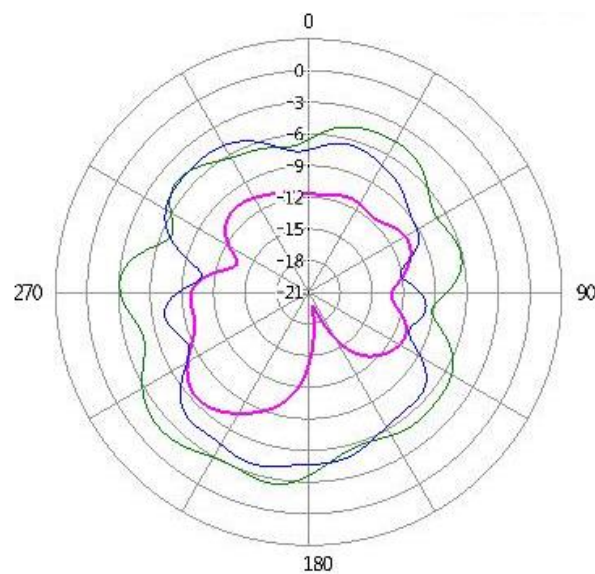
The yellow curve in the figure above shows that the antenna syntony is realized well, and the resistance condition matches well.

Antenna Efficiency

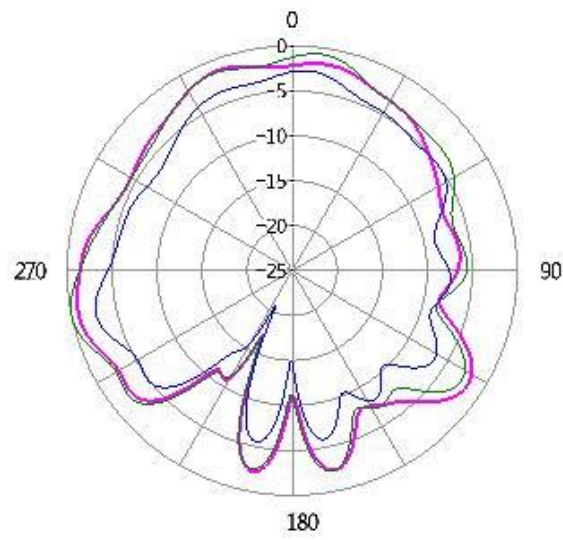
frequency (MHz)	efficiency (%)	frequency (MHz)	efficiency (%)
2400	15.64	5150	21.20
2410	17.82	5200	22.77
2420	19.95	5250	25.12
2430	21.43	5300	26.94
2440	23.03	5350	26.93
2450	22.80	5400	22.52
2460	18.08	5450	22.08
2470	18.90	5500	19.61
2480	17.72	5550	18.31
2490	16.75	5600	15.44
2500	15.49	5650	14.24
		5700	13.14
		5750	12.86
		5800	12.39
		5850	12.16

Antenna 2D Radiation Pattern

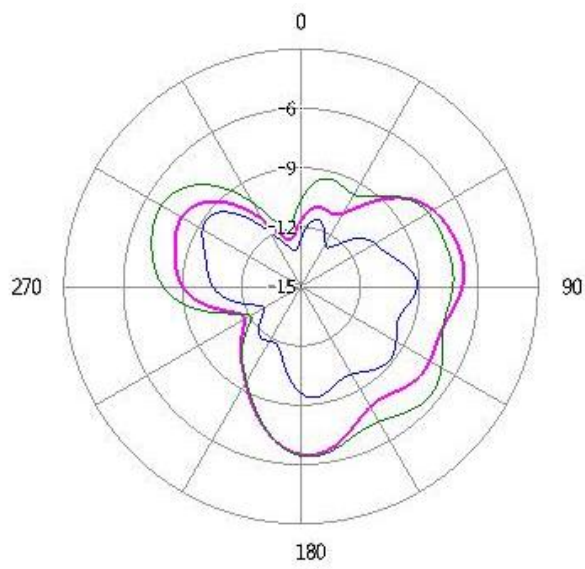
2.4G



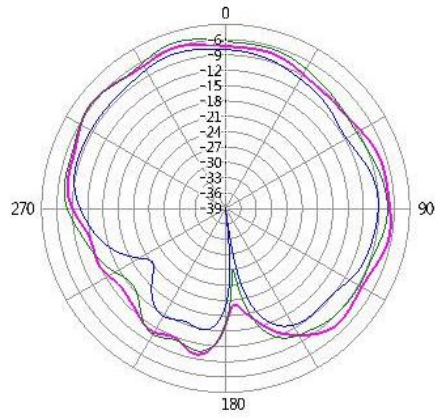
Phi=0 deg



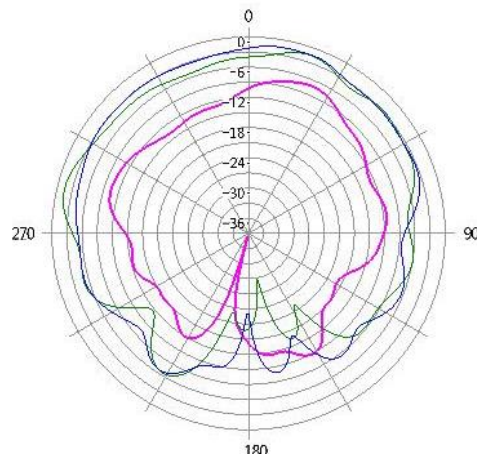
$\Phi = 90^\circ$



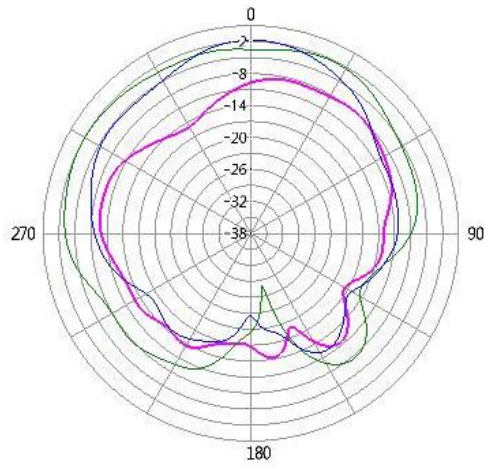
$\Theta = 90^\circ$



Phi=0 deg



Phi=90 deg



Theta=90 deg

Revision History

Revision	Content	Date	Author
V1.0	First Edition	Nov. 4, 2024	

