HM-40037 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 5G Wi-Fi antennas.

Annex Antenna Physical Assembly Picture

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 ANT	\
Frequency	5150-5850	MHz
Gain	3.35	dBi
Antenna Efficiency	30.82	%
VSWR	< 3	\
Polarization	Linear Polarization	\
Axial Ratio	\	\
Radiation pattern	Omnibearing	\
impedance	50	ohm
Power handling	33	dBm
Interface	\	\
Overall dimensions	$14.70 \times 12.00 \times 1\ mm^3$	\
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

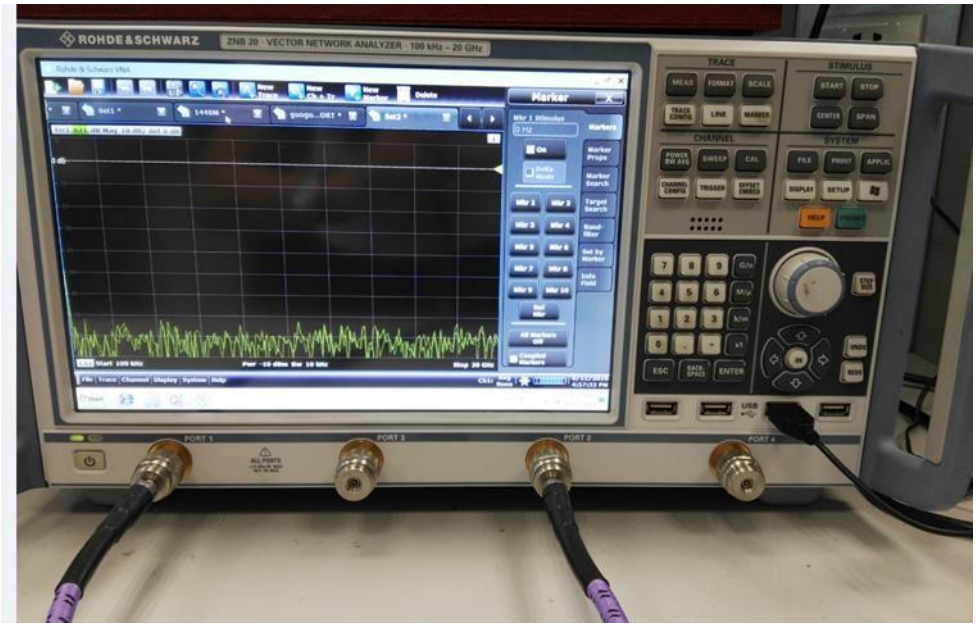


Figure 2.Vector Network Analyzer

2.2 Test Result

Return Loss (S11)

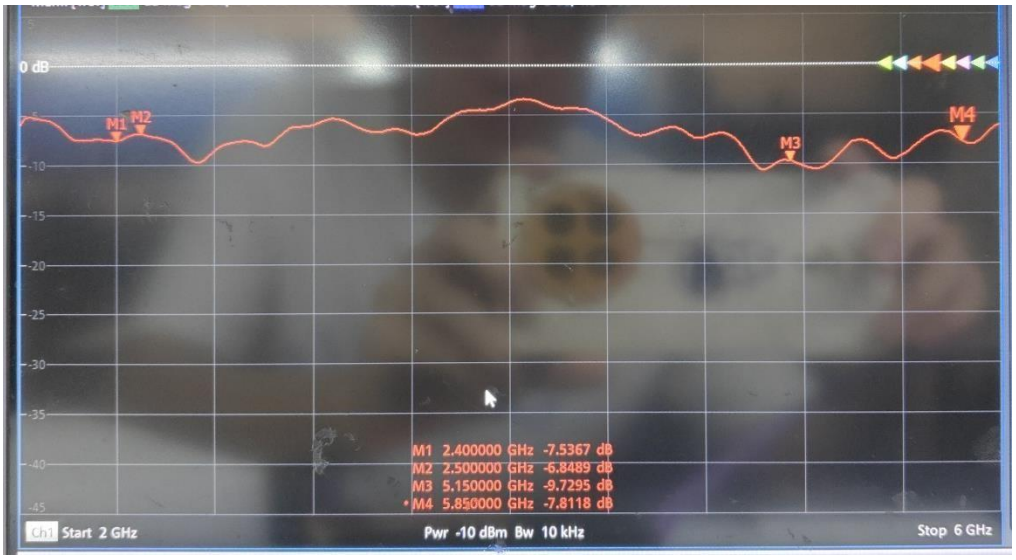


Figure 3.Return Loss

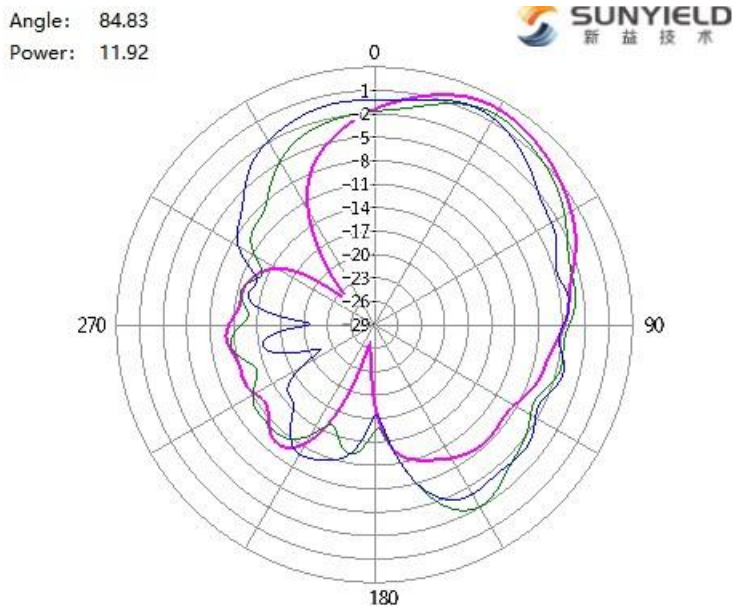
The red curve in the figure above shows that the antenna syntony is realized well, and the resistance condition matches well.

Antenna Efficiency

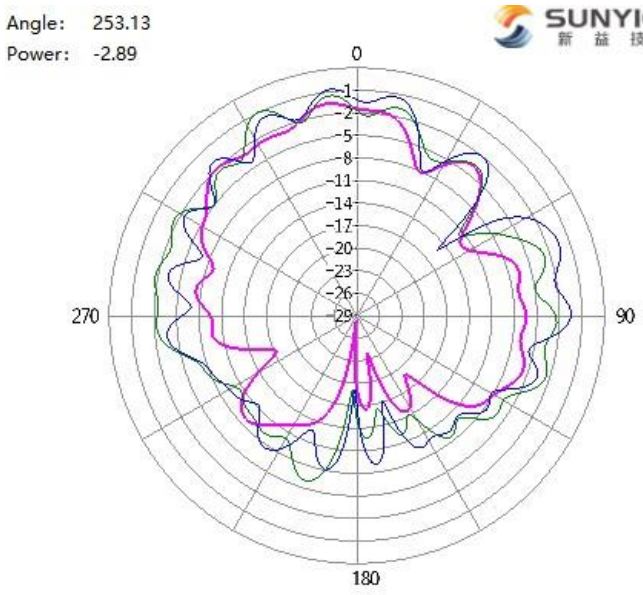
Frequency (MHz)	Gain (dB)	Efficiency (%)
5150	3.19	24.61
5200	2.3	21.52
5250	2.28	21.94
5300	1.97	22.25
5350	2.61	25.18
5400	2.63	27.27
5450	2.85	31.37
5500	3	33.46
5550	3.35	37.84
5600	2.57	35.20
5650	2.16	34.03
5700	2.19	35.33
5750	2.52	36.31
5800	2.77	36.94
5850	2.98	39.03

Antenna 2D Radiation Pattern

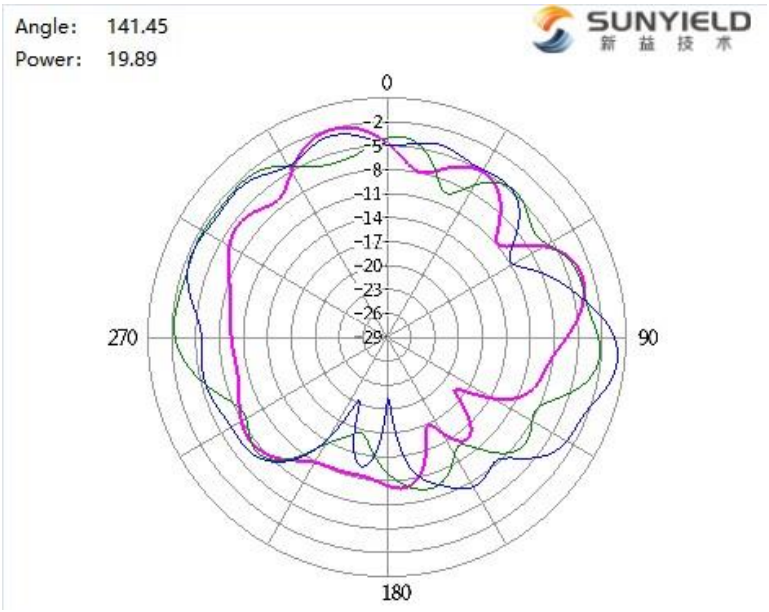
5.15 GHz &5.5 GHz &5.85 GHz



Phi=0 deg



Phi=90 deg



Theta=90 deg

3. Antenna Model and Manufacturer

Model: AT-PCB302

Manufacturer: Jiangmen Chongda Circuit Technology Co., Ltd

Manufacturer Address: No. 363 Lianhai Road, High tech Zone, Jianghai District, Jiangmen City, Guangdong Province

Revision History

Revision	Content	Date	Author
V1.0	First Edition	May. 15, 2025	
V2.0	Second Edition	Aug. 13, 2025	