Antenna Test Report

Project No	CS2333D	PCB Version	ME16WS01_V1.0
Tester	Qi Mo	Date	2025/04/22
Auditing	Jinbei Li	Date	2025/04/22
Approval		Date	

Contents

一、Project Information

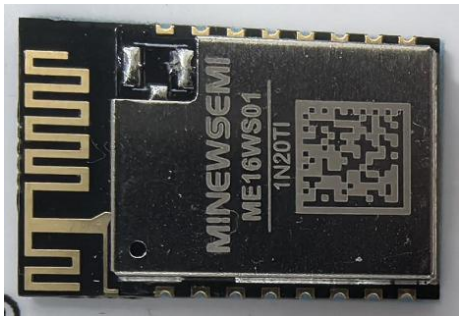
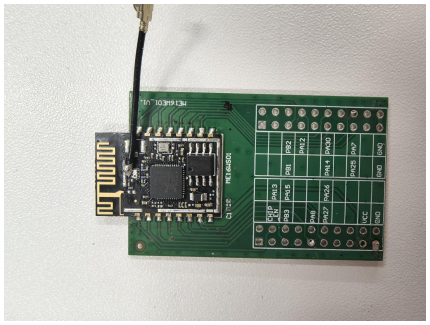
1. Antenna Coding：ANT-WBNCNC25010

2.Antenna Type：PCB onboard Antenna

3. Model of the DUT：ME16WS01_V1.0

4 .Test Data ：2025.04.22

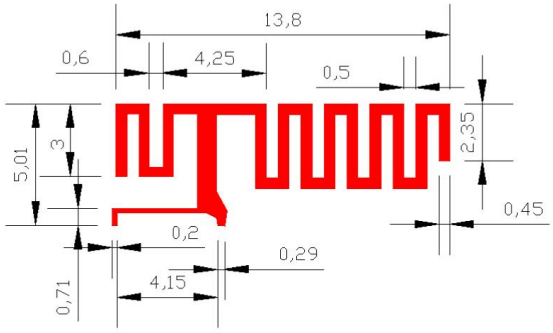
5 .Product picture：

Product appearance	
PCB board and antenna	

二、Technical Specification

Electrical Specifications		
Frequency Range	2400-2480 MHz	5150-5850MHz
Peak Gain	1.59 dBi	3.01 dBi
Efficiency	54.99%	51.83%
Return Loss	≤-6.78 dB	≤-7.34 dB
VSWR	≤2.68	≤2.50
Bandwidth (S11≤-10dB)	/	440MHz
Input Impedance	50 Ω	
Radiation direction	Omni	
Polarization Type	Linear	
Lightning Protection	DC grounding	
Power Capacity	1000mW（30dBm）	
Mechanical Specifications		
Antenna Size	13.95 x4.96mm	
Core Radiator	Copper	
Substrate material	FR4	
Substrate thickness	0.8 mm	
Substrate Size (mm)	16mm*5.31mm*0.8mm	
Coaxial wire	/	
Connect Type	/	
Operating Temperature	-40 to +85° C	
Storage Temperature	-40 to +85° C	

三、The shape and size of the antenna



四、The result of the test

1 .VSWR & Return loss & Smith

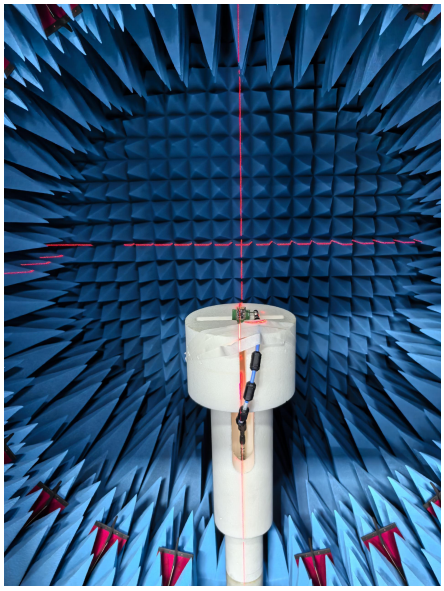
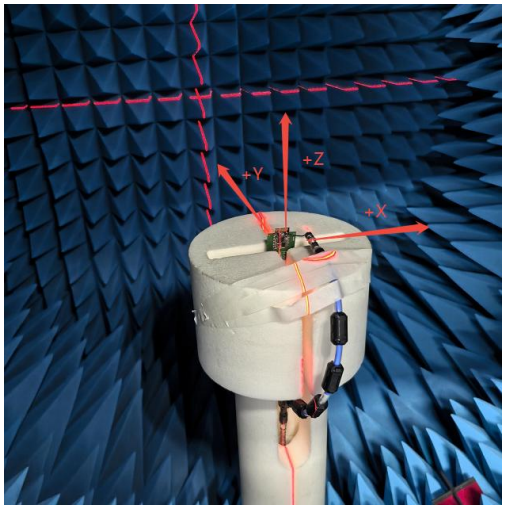
Frequency (MHz)	Return Loss (dB)	VSWR
2402	-7.895	2.349
2440	-7.519	2.452
2480	-6.788	2.687
Bandwidth (S11≤-10dB)	/	

Frequency (MHz)	Return Loss (dB)	VSWR
5150	-7.378	2.494
5500	-24.154	1.132
5850	-7.341	2.505
Bandwidth (S11≤-10dB)	440	

2. Antenna Testing Environment

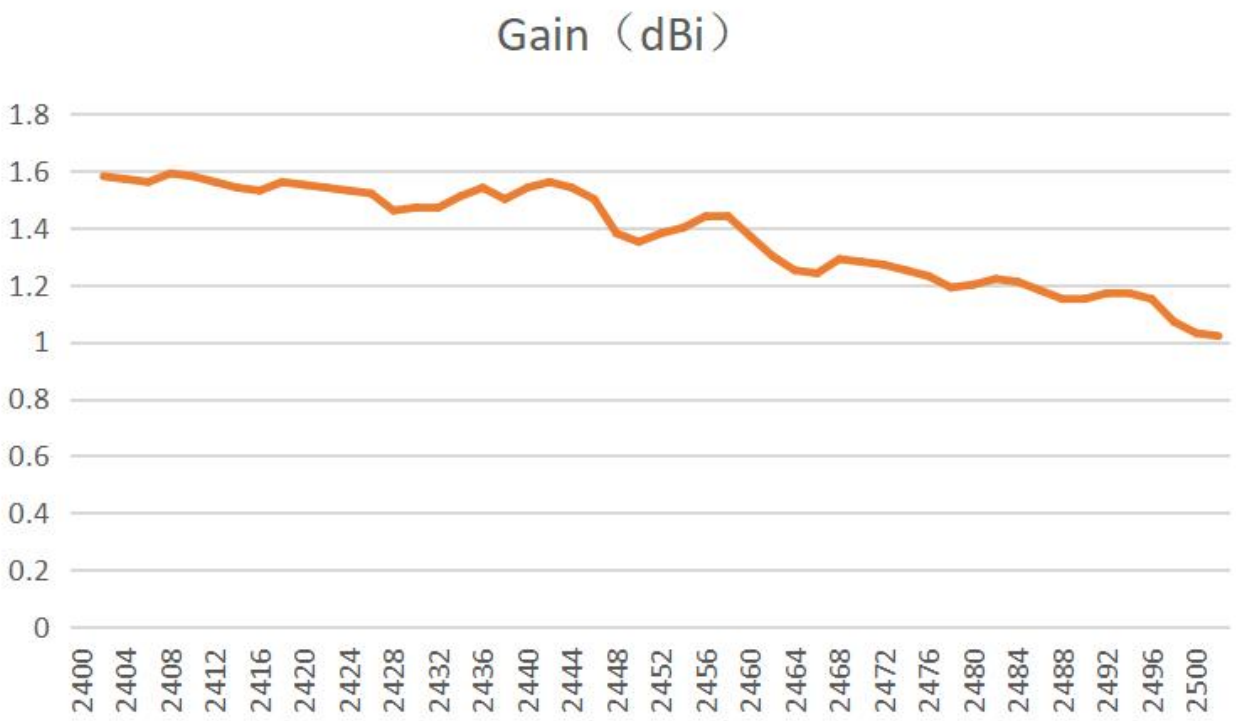
(1).Test Equipment ： SATIMO，SY-24M，Agilent-E5071C

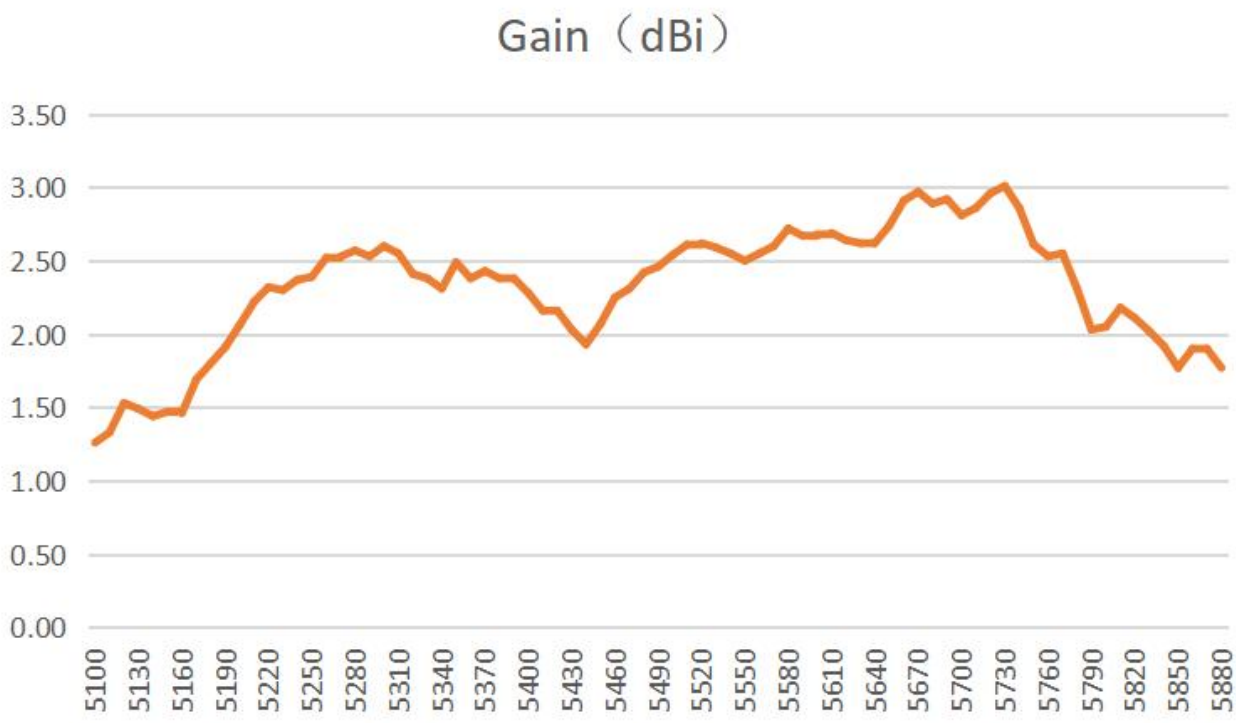
(2).Test Environment ： The microwave unreflected chamber

Inside the microwave anechoic chamber	Product coordinate axis position
	

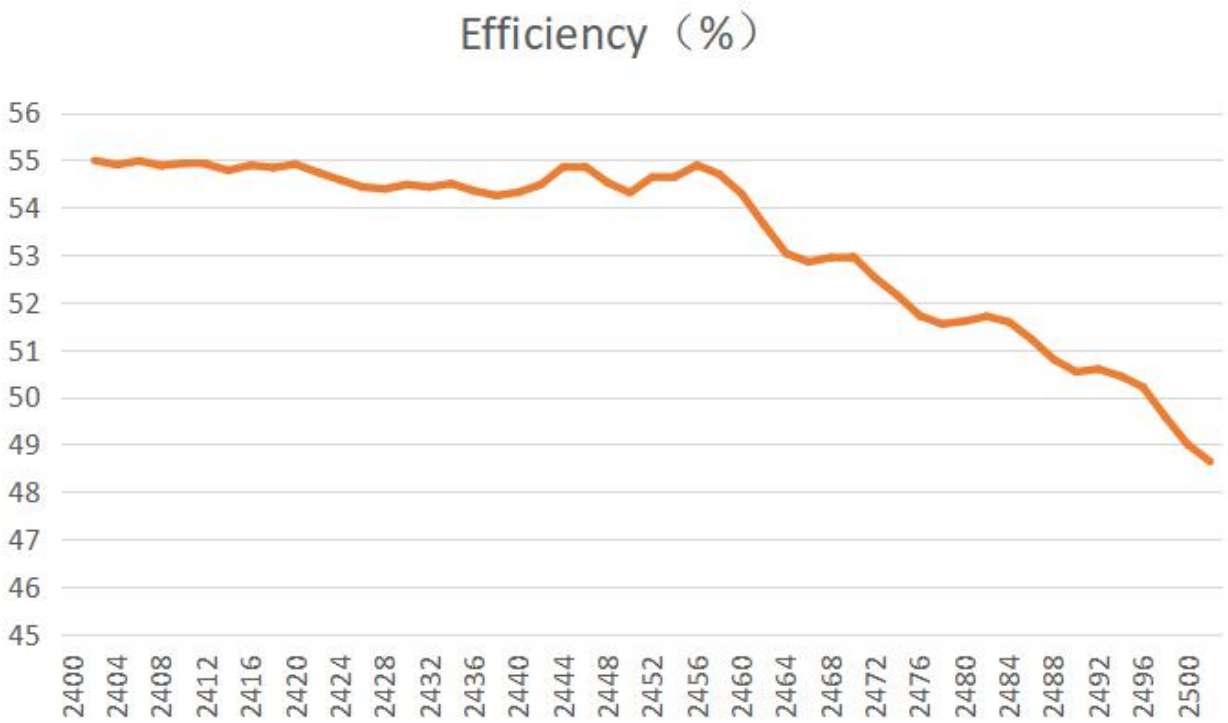
3 .Gain and Efficiency

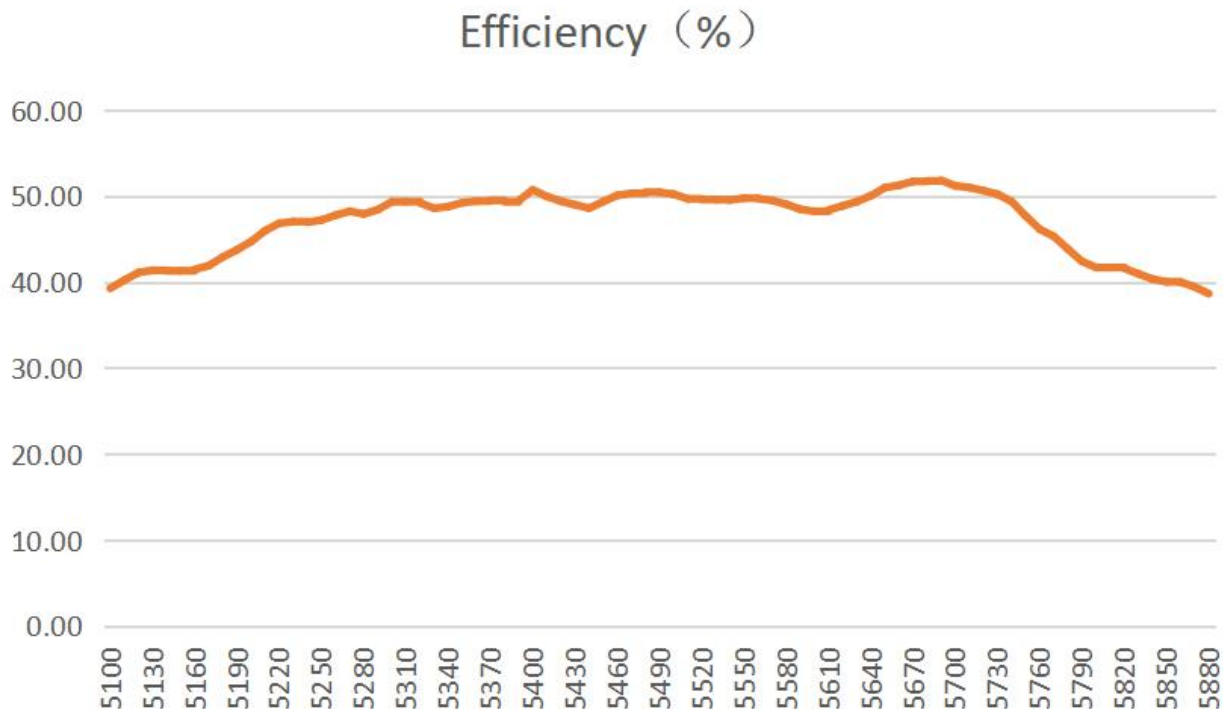
(1).Antenna Efficiency





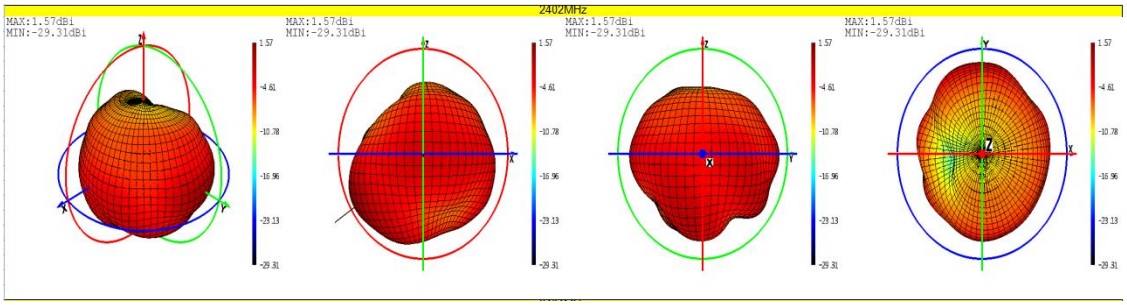
(2).Antenna Gain



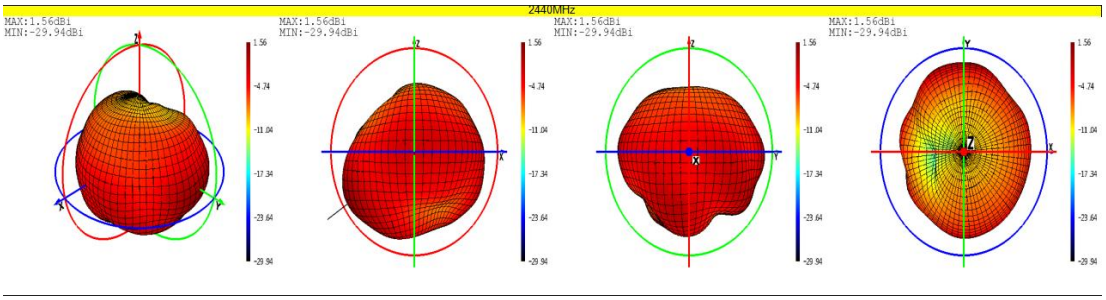


4 .3D Radiation Pattern

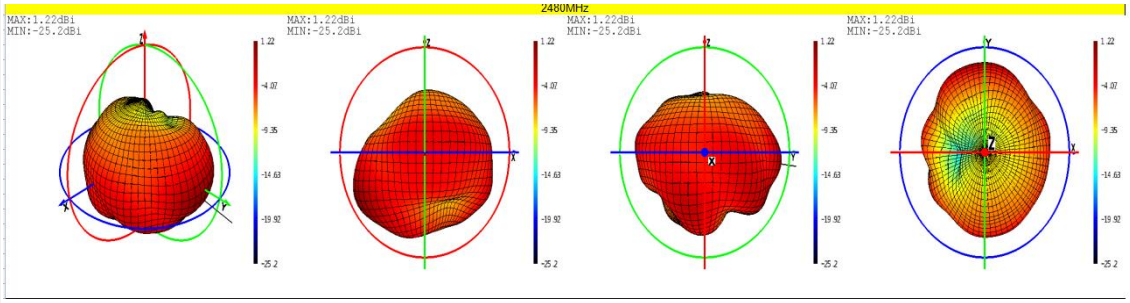
2402MHz



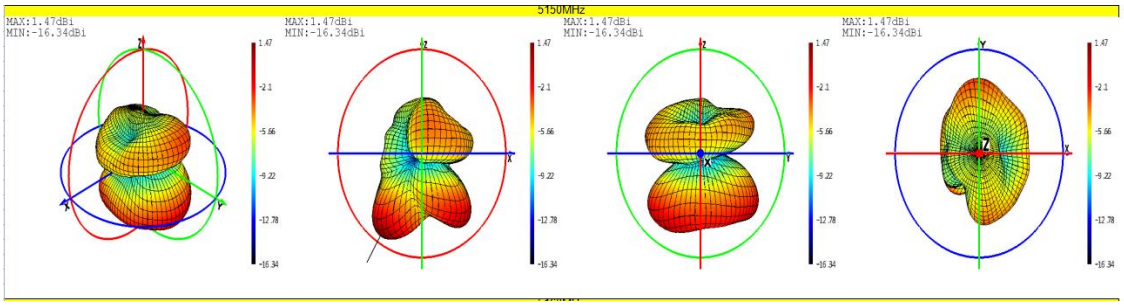
2440MHz



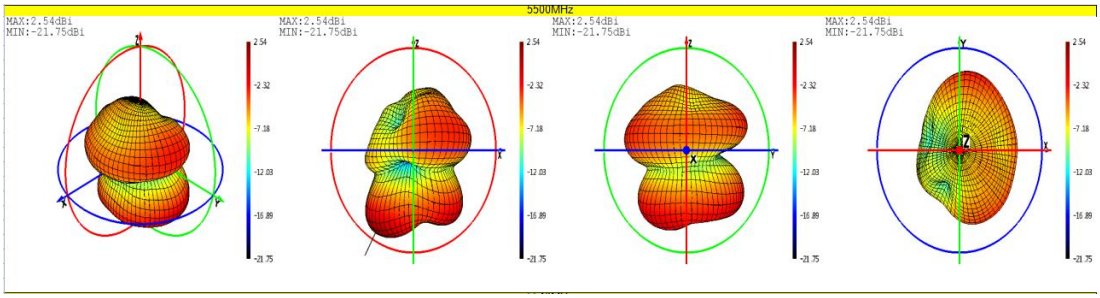
2480MHz



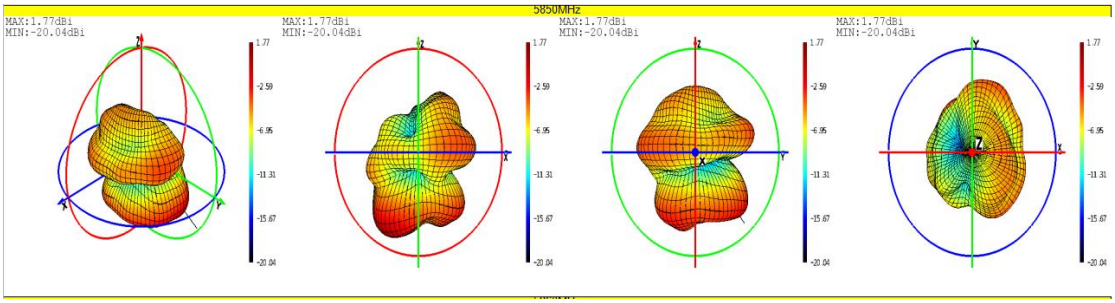
5150MHz



5500MHz

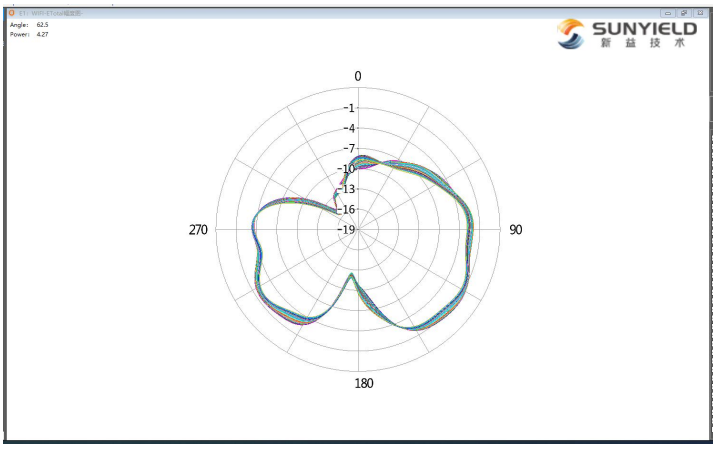


5850MHz

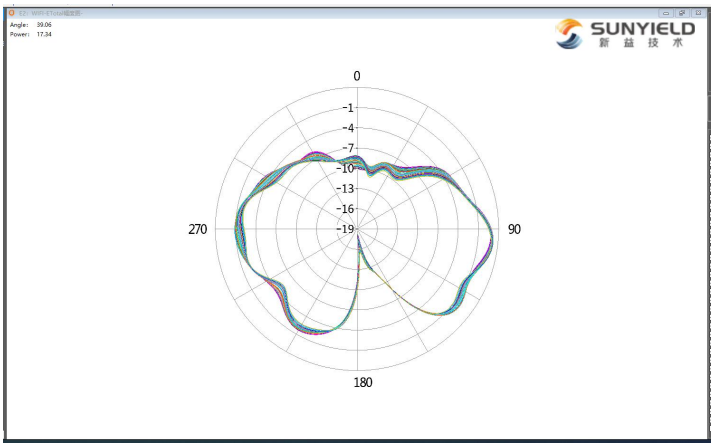


5.2D Radiation Pattern

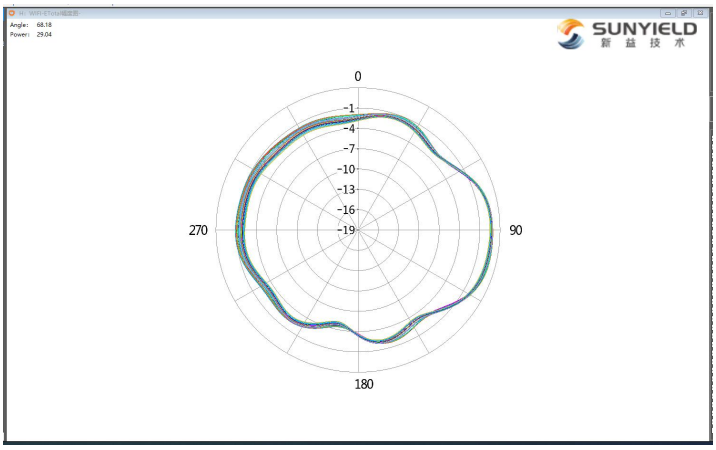
2.4GHz，E1，XZ-Face，phi=0°；（E1，theta=0~360°，phi=0°）

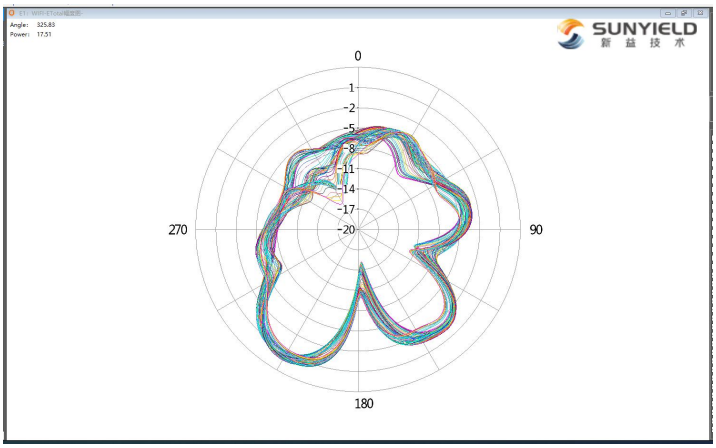
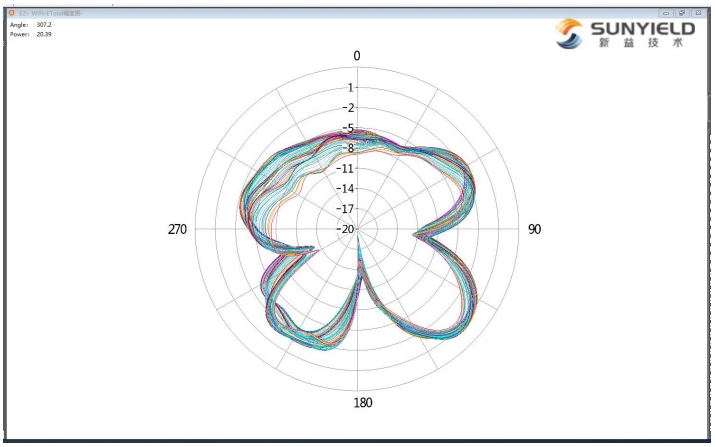


2.4GHz，E2，YZ-Face，phi=90°；（E2，theta=0~360°，phi=90°）



2.4GHz，H，XY-Face，theta=90°；（H，phi=0~360°，theta=90°）



5GHz，E1，XZ-Face，phi=0°；（E1，theta=0~360°，phi=0°）

5GHz，E2，YZ-Face，phi=90°；（E2，theta=0~360°，phi=90°）

5GHz，H，XY-Face，theta=90°；（H，phi=0~360°，theta=90°）