Antenna Test Report

Project No	CS24223I	PCB Version	MS51SF1_V1.1
Tester	ZHU WANLI	Date	2024/11/14
Auditing	LI JINBEI	Date	2024/11/14
Approval		Date	

Contents

一、Project Information

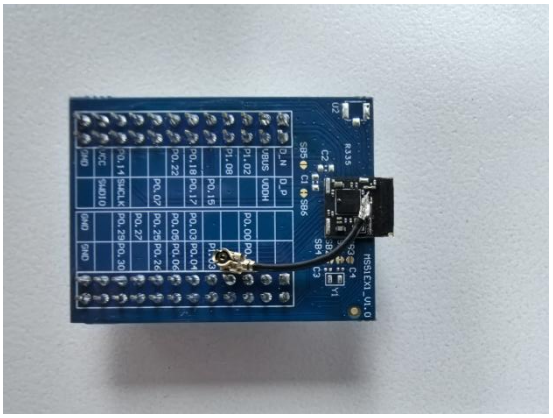
1. Antenna Coding：ANT-BBNCNC22020

2.Antenna Type：PCB onboard Antenna

3. Model of the DUT：MS51SF1_V1.1

4 .Test Data ：2024.11.14

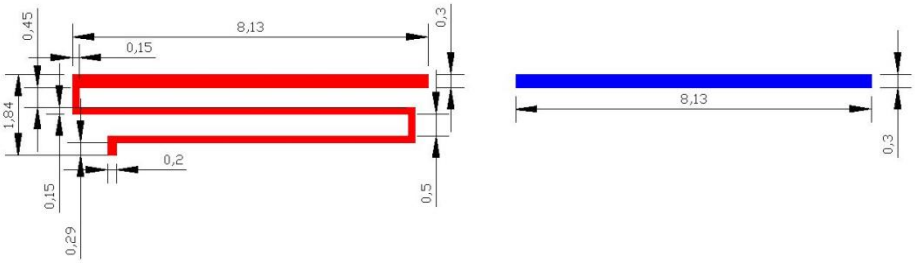
5 .Product picture：

Product appearance	
PCB board and antenna	

二、Technical Specification

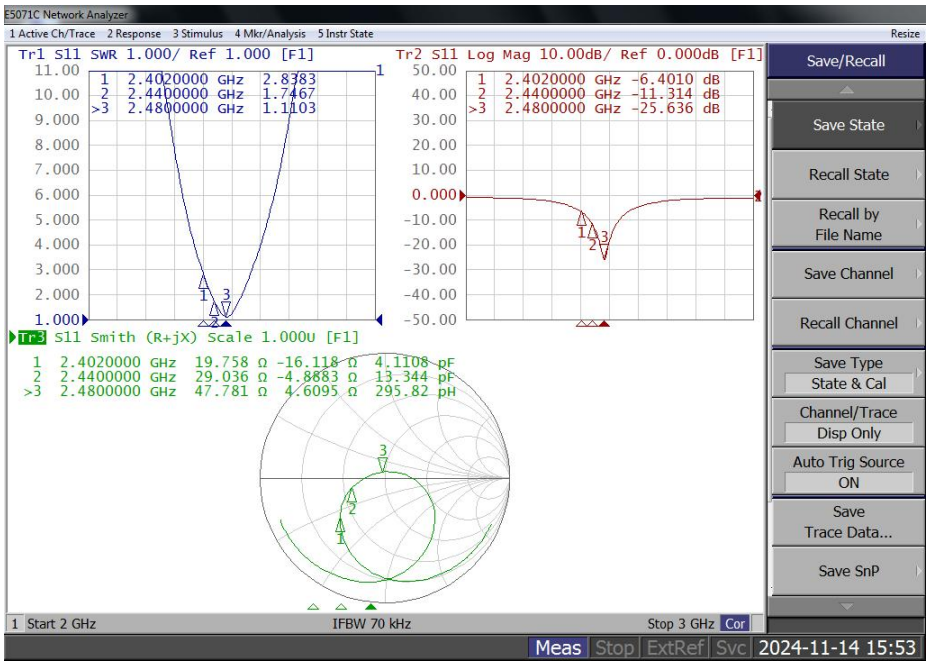
Electrical Specifications	
Frequency Range	2400-2480 MHz
Peak Gain	-1.25 dBi
Efficiency	34.16%
Return Loss	≤-6.40 dB
VSWR	≤2.83
Bandwidth (S11≤-10dB)	94 MHz
Input Impedance	50 Ω
Radiation direction	Omni
Polarization Type	Linear
Lightning Protection	DC grounding
Power Capacity	1000mW（30dBm）
Mechanical Specifications	
Antenna Size	8.13 x1.84mm
Core Radiator	Copper
Substrate material	FR4
Substrate thickness	0.6 mm
Substrate Size (mm)	8.4mm*3.16mm*0.6mm
Coaxial wire	无
Connect Type	无
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

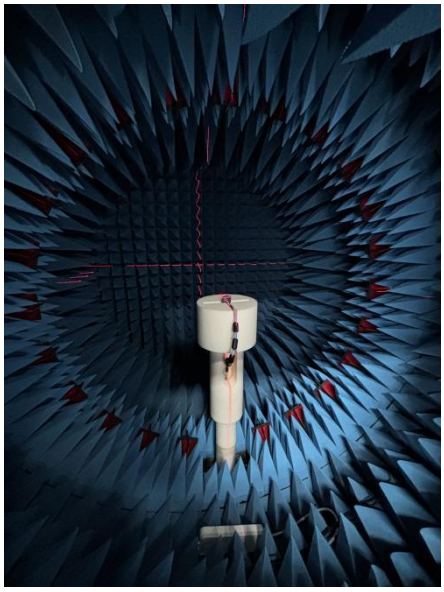
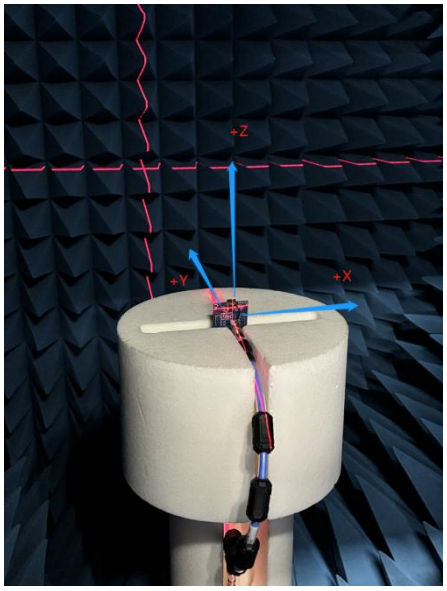


Frequency (MHz)	Return Loss (dB)	VSWR
2402	-6.40	2.83
2440	-11.31	1.74
2480	-25.63	1.11
Bandwidth (S11≤-10dB)	120	

2. Antenna Testing Environment

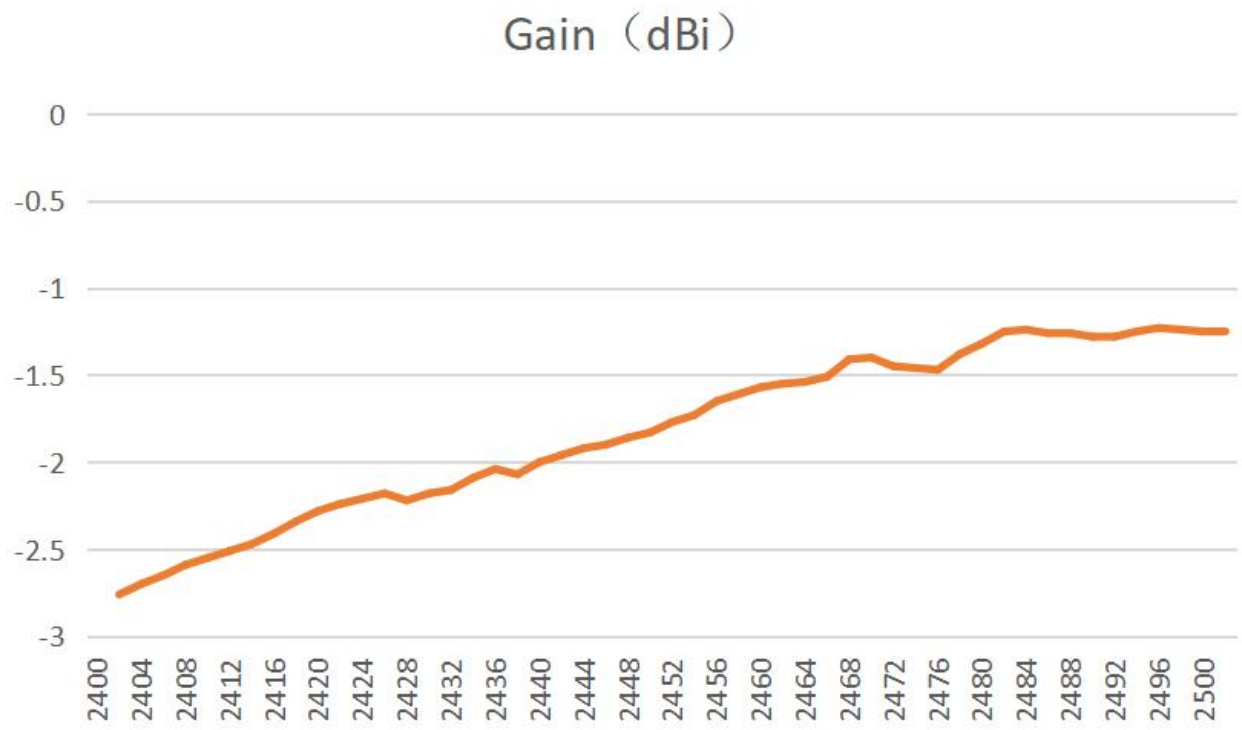
(1).Test Equipment ： SATIMO，SY-24M，Agilent-E5071C

(2).Test Environment ： The microwave unreflected chamber

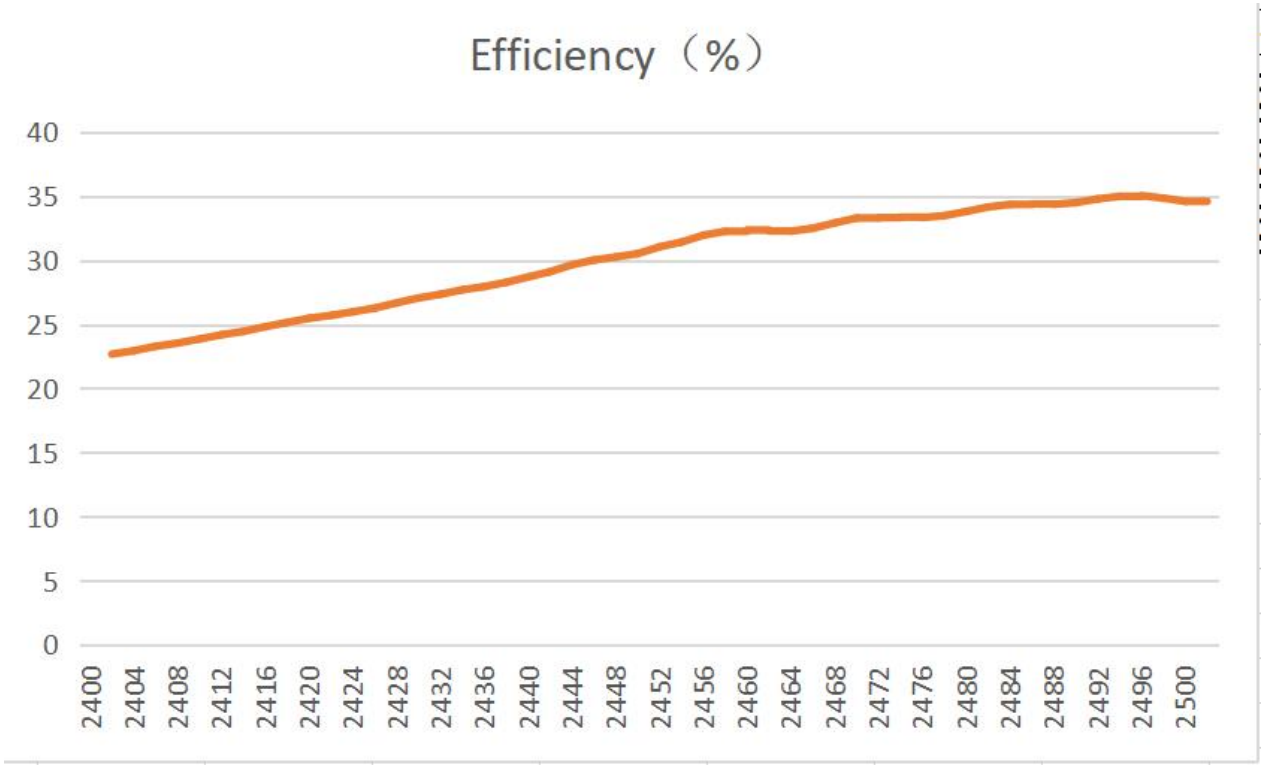
Inside the microwave anechoic chamber	Product coordinate axis position
	

3 .Gain and Efficiency

(1).Antenna Efficiency

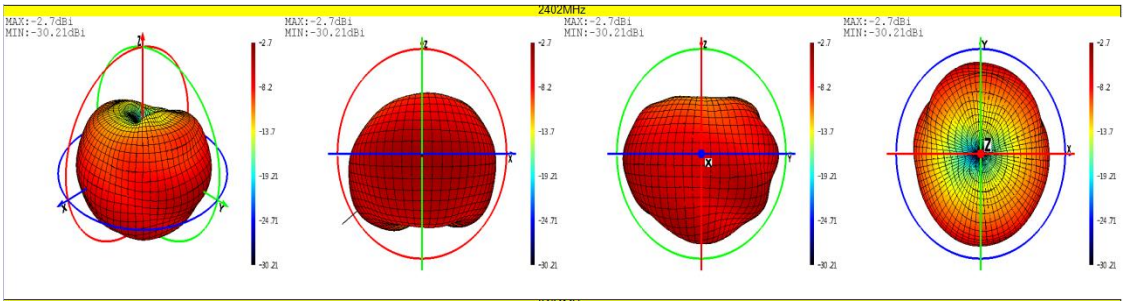


(2).Antenna Gain

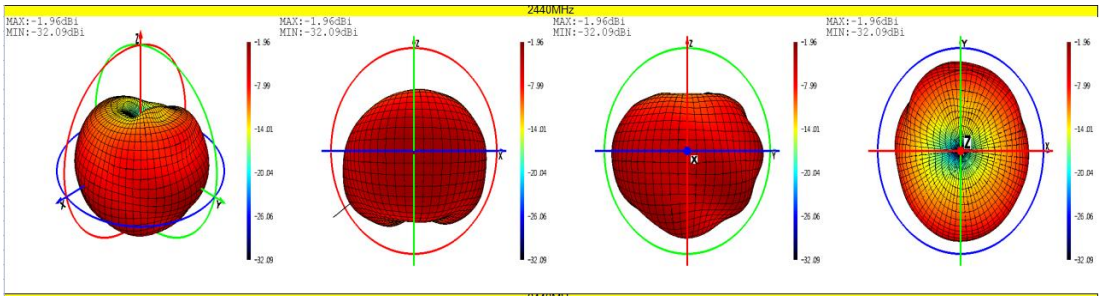


4 .3D Radiation Pattern

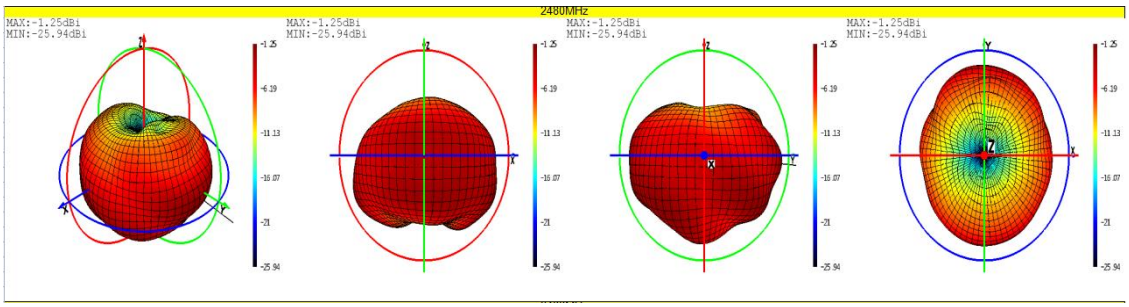
2402MHz



2440MHz

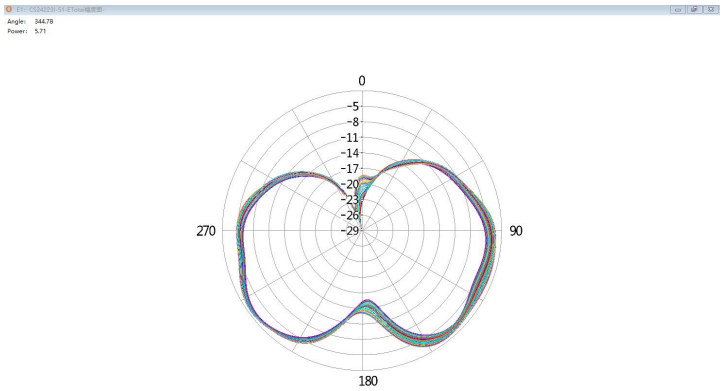


2480MHz

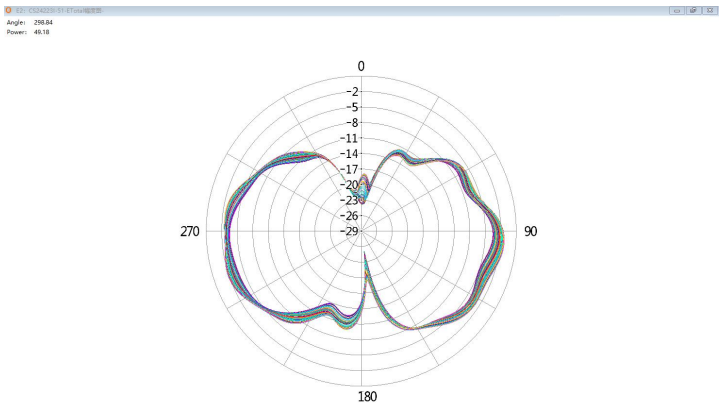


5.2D Radiation Pattern

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



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



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