



Antenna Test Report

Project No	CS24243I	PCB Version	MS52SF1_V1.1
Tester	ZHU WANLI	Date	2025/01/02
Auditing	LI JINBEI	Date	2025/01/02
Approval		Date	

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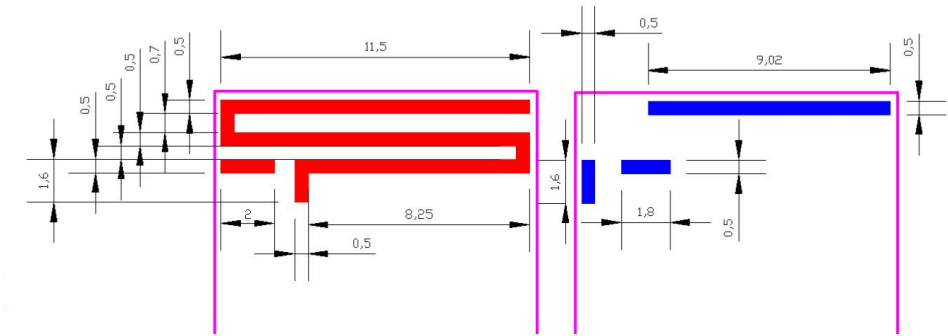
一、Project Information

1. Antenna Coding: ANT-BBNCNC24028
2. Antenna Type: PCB onboard Antenna
3. Model of the DUT: MS52SF1_V1.1
4. Test Data : 2025.01.02

二、Technical Specification

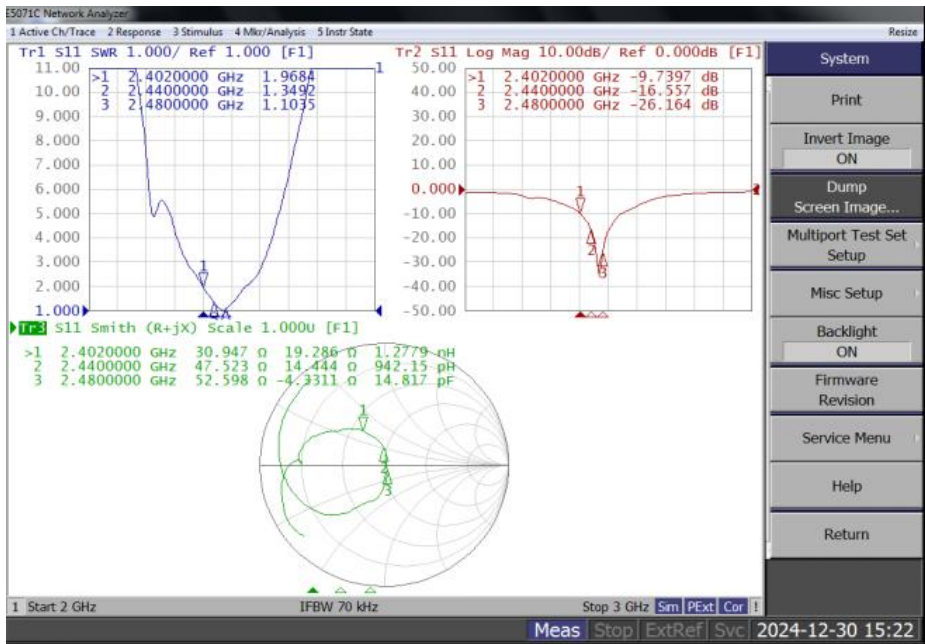
Electrical Specifications	
Frequency Range	2400-2480 MHz
Peak Gain	1.12 dBi
Efficiency	61.13%
Return Loss	≤ -9.73 dB
VSWR	≤ 1.96
Bandwidth (S11 ≤ -10 dB)	120 MHz
Input Impedance	50 Ω
Radiation direction	Omni
Polarization Type	Linear
Lightning Protection	DC grounding
Power Capacity	1000mW (30dBm)
Mechanical Specifications	
Antenna Size	11.54 x3.8mm
Core Radiator	Copper
Substrate material	FR4
Substrate thickness	0.6 mm
Substrate Size (mm)	12mm*4.11mm*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	-9.73	1.96
2440	-16.55	1.34
2480	-26.16	1.10
Bandwidth (S11≤-10dB)	120	

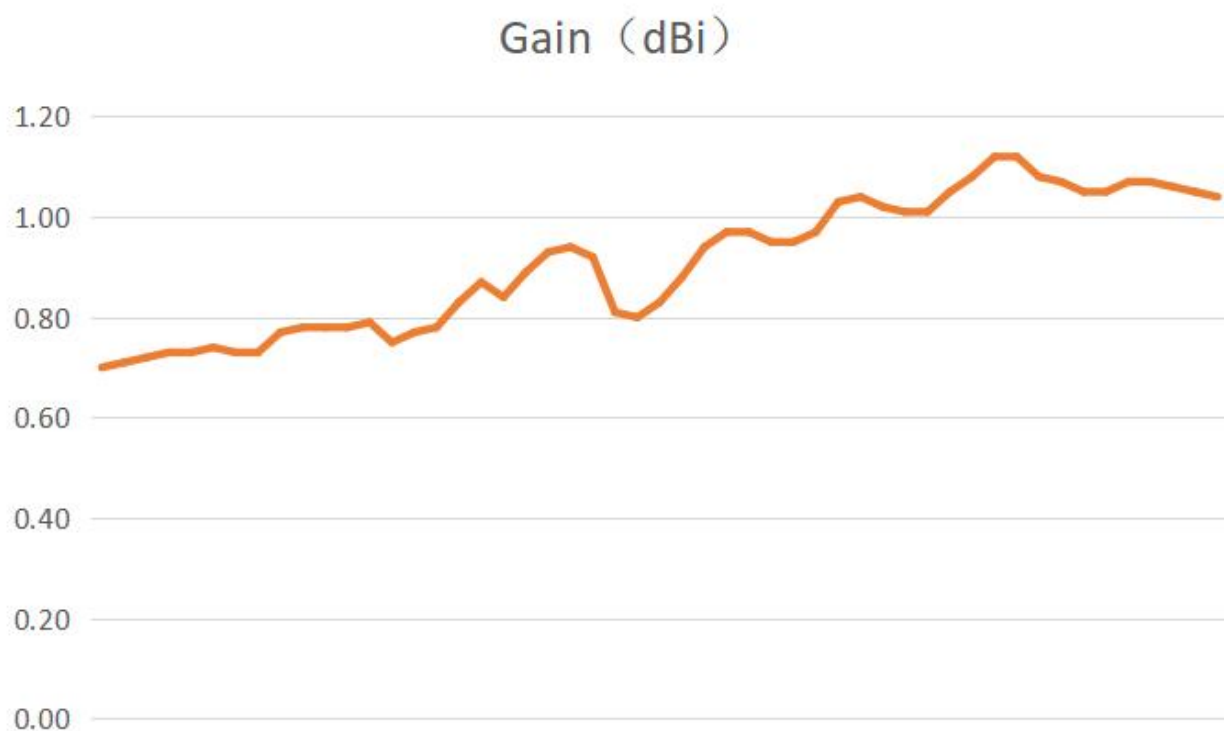
2. Antenna Testing Environment

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

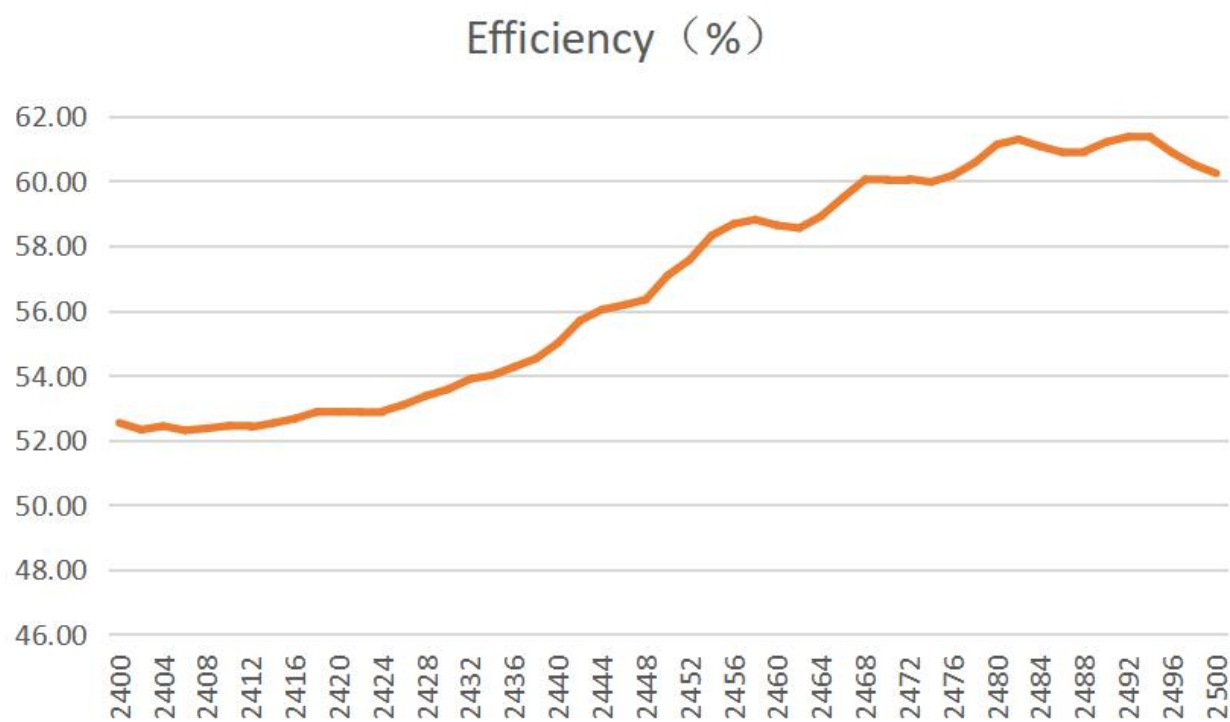
(2).Test Environment : The microwave unreflected chamber

3 .Gain and Efficiency

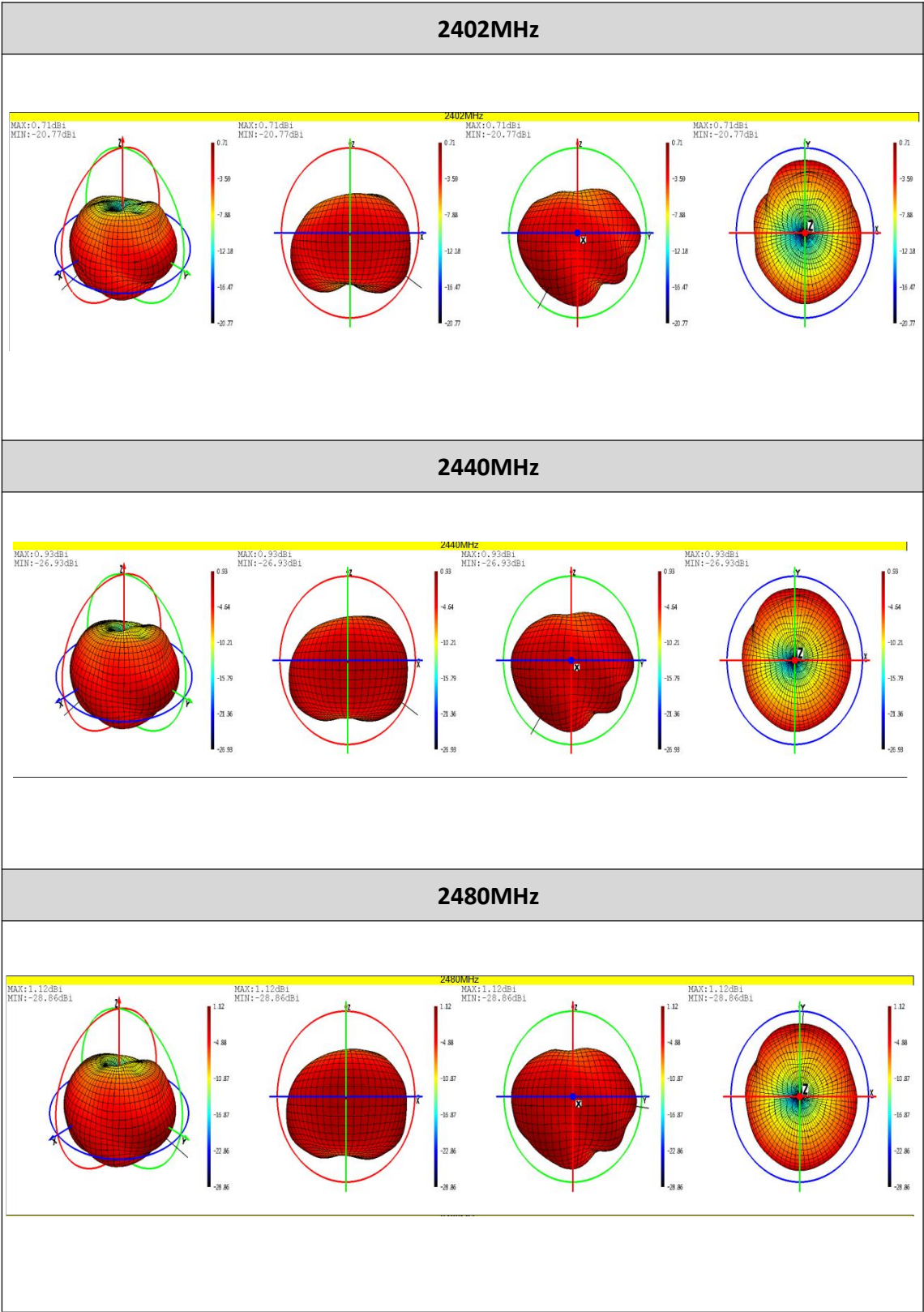
(1).Antenna Efficiency



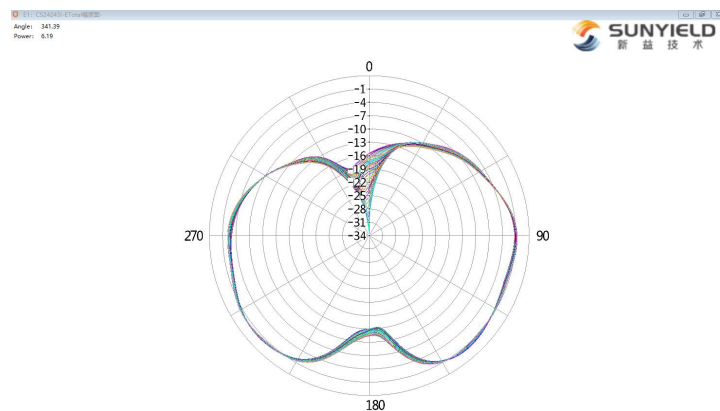
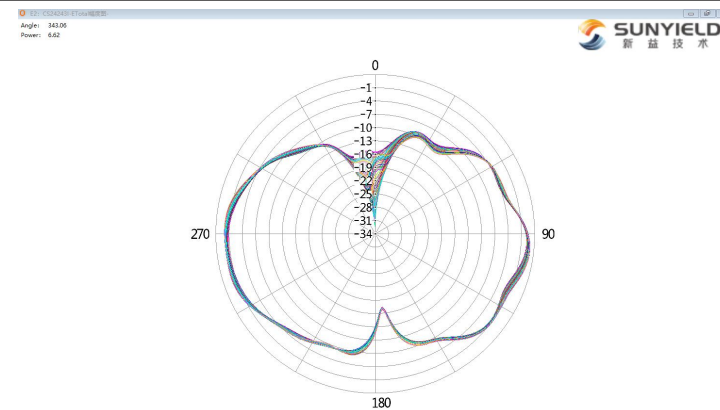
(2).Antenna Gain



4 .3D Radiation Pattern



5.2D Radiation Pattern

E1, XZ-Face, $\phi=0^\circ$; (E1, $\theta=0\sim360^\circ$, $\phi=0^\circ$)E2, YZ-Face, $\phi=90^\circ$; (E2, $\theta=0\sim360^\circ$, $\phi=90^\circ$)H, XY-Face, $\theta=90^\circ$; (H, $\phi=0\sim360^\circ$, $\theta=90^\circ$)