



Antenna Test Report

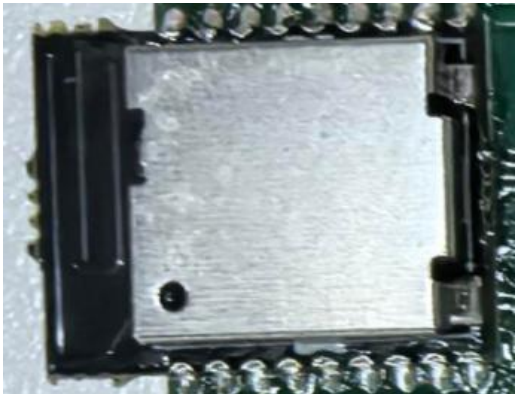
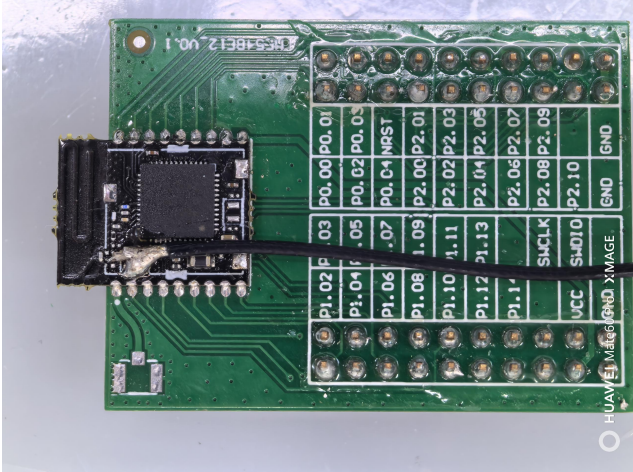
Project No	CS25093B	PCB Version	ME54BS12_V1.0
Tester	Qi Mo	Date	2025/09/10
Auditing	Jinbei Li	Date	2025/09/10
Approval		Date	

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一、Project Information

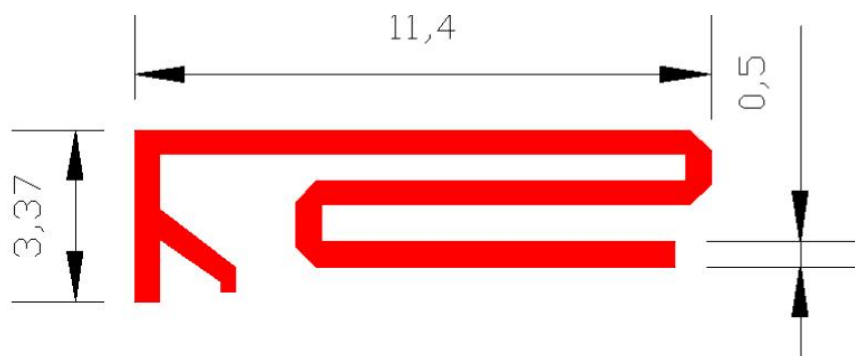
- 1. Antenna Coding：ANT-BBNCNC25022
- 2. Antenna Type：PCB onboard Antenna
- 3. Model of the DUT：ME54BS12_V1.0
- 4 .Test Data ：2025.09.10
- 5 .Product picture：

Product appearance	
PCB board and antenna	

二、Technical Specification

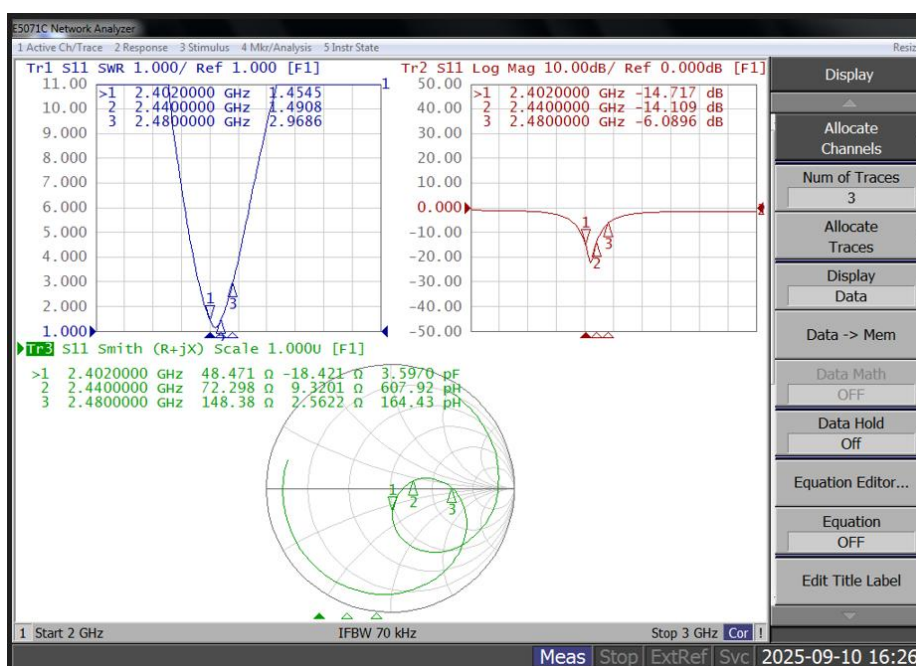
Electrical Specifications	
Frequency Range	2400-2480 MHz
Peak Gain	0.46 dBi
Efficiency	49.11%
Return Loss	≤ -6.08 dB
VSWR	≤ 2.96
Bandwidth ($S_{11} \leq -10$ dB)	70 MHz
Input Impedance	50 Ω
Radiation direction	Omni
Polarization Type	Linear
Lightning Protection	DC grounding
Power Capacity	1000mW (30dBm)
Mechanical Specifications	
Antenna Size	11.40 x3.37mm
Core Radiator	Copper
Substrate material	FR4
Substrate thickness	0.6 mm
Substrate Size (mm)	12mm*4.06mm*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

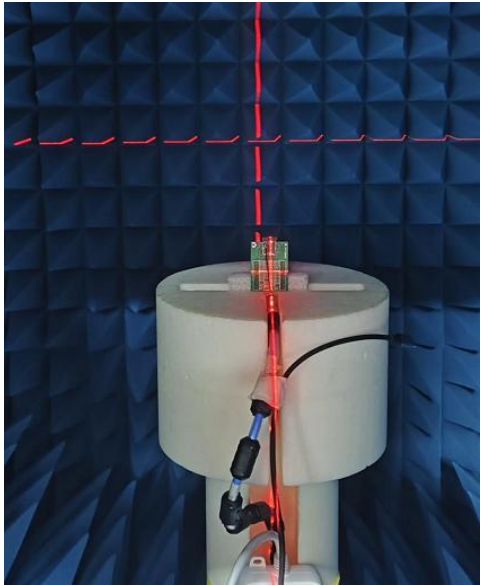
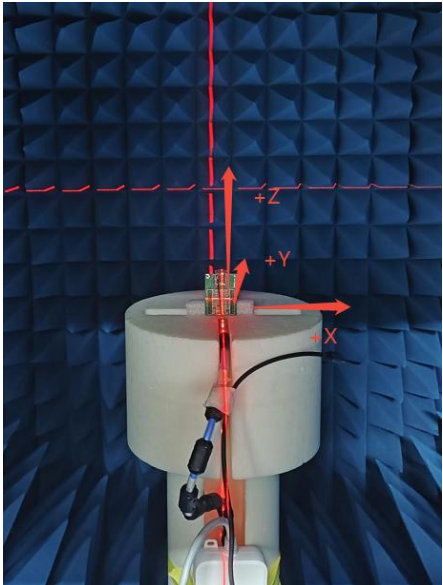


Frequency (MHz)	Return Loss (dB)	VSWR
2402	-14.71	1.45
2440	-14.10	1.49
2480	-6.08	2.96
Bandwidth (S11≤-10dB)	70	

2. Antenna Testing Environment

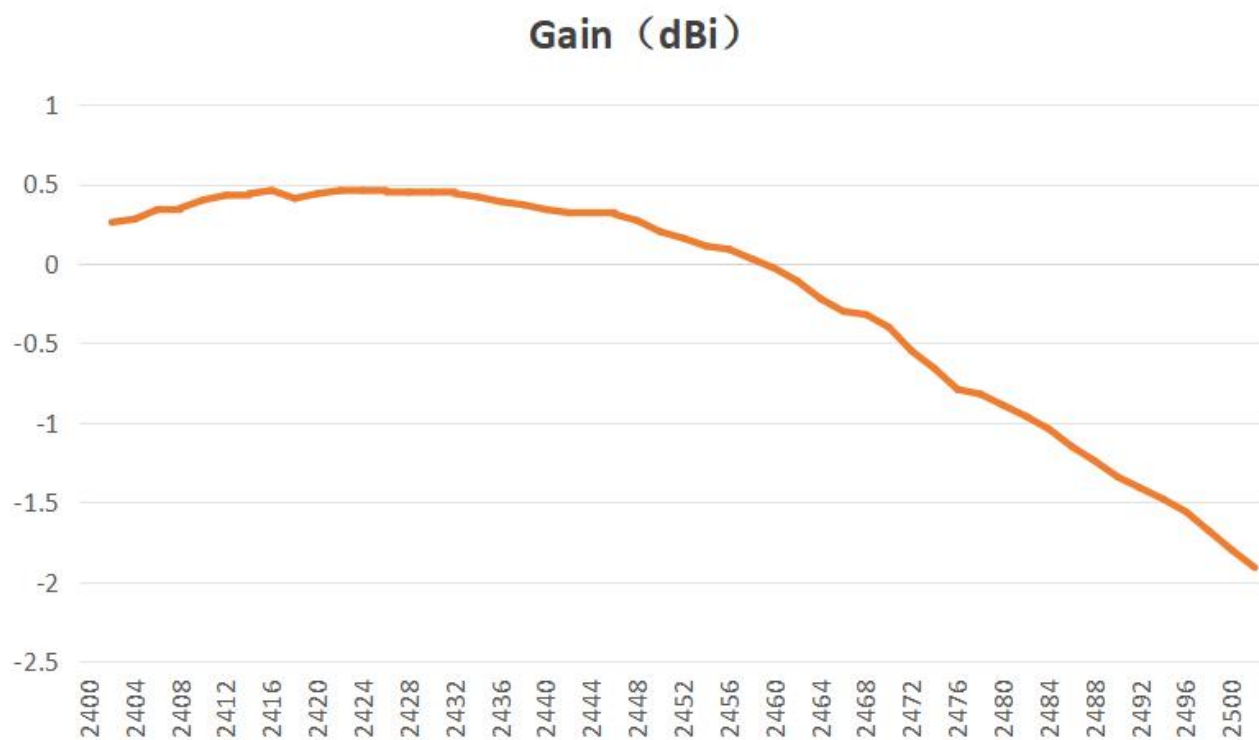
(1).Test Equipment : SATIMO, SY-24M, Agilent-E5071C

(2).Test Environment : The microwave unreflected chamber

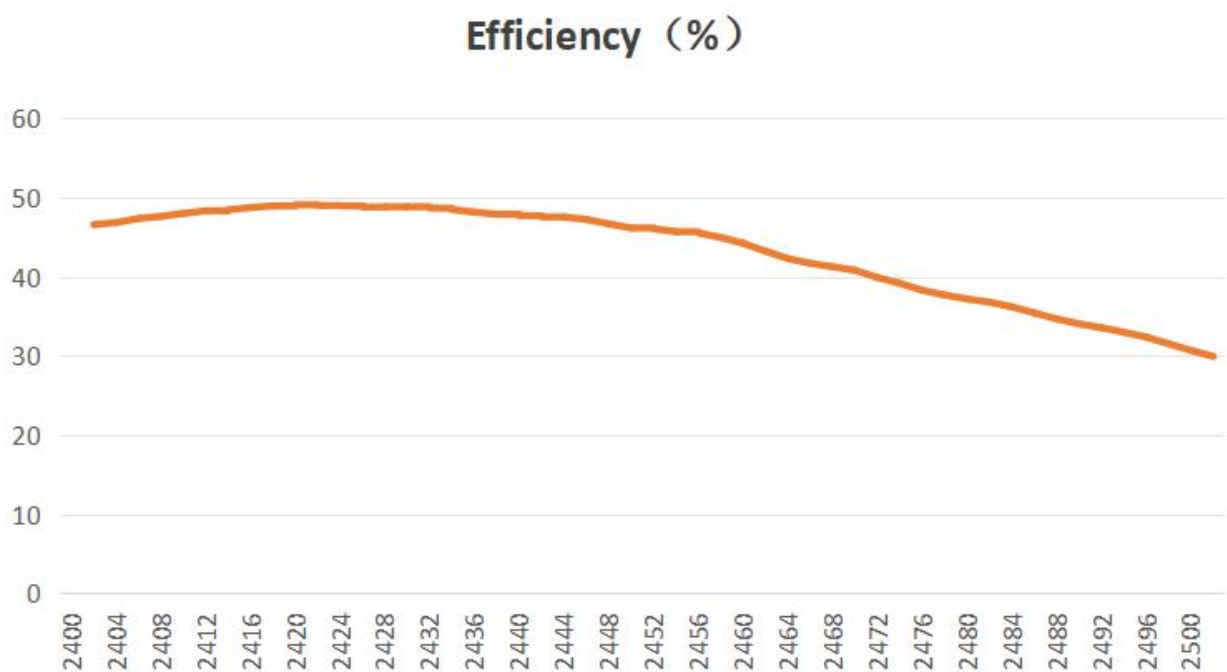
Inside the microwave anechoic chamber	Product coordinate axis position
	

3 .Gain and Efficiency

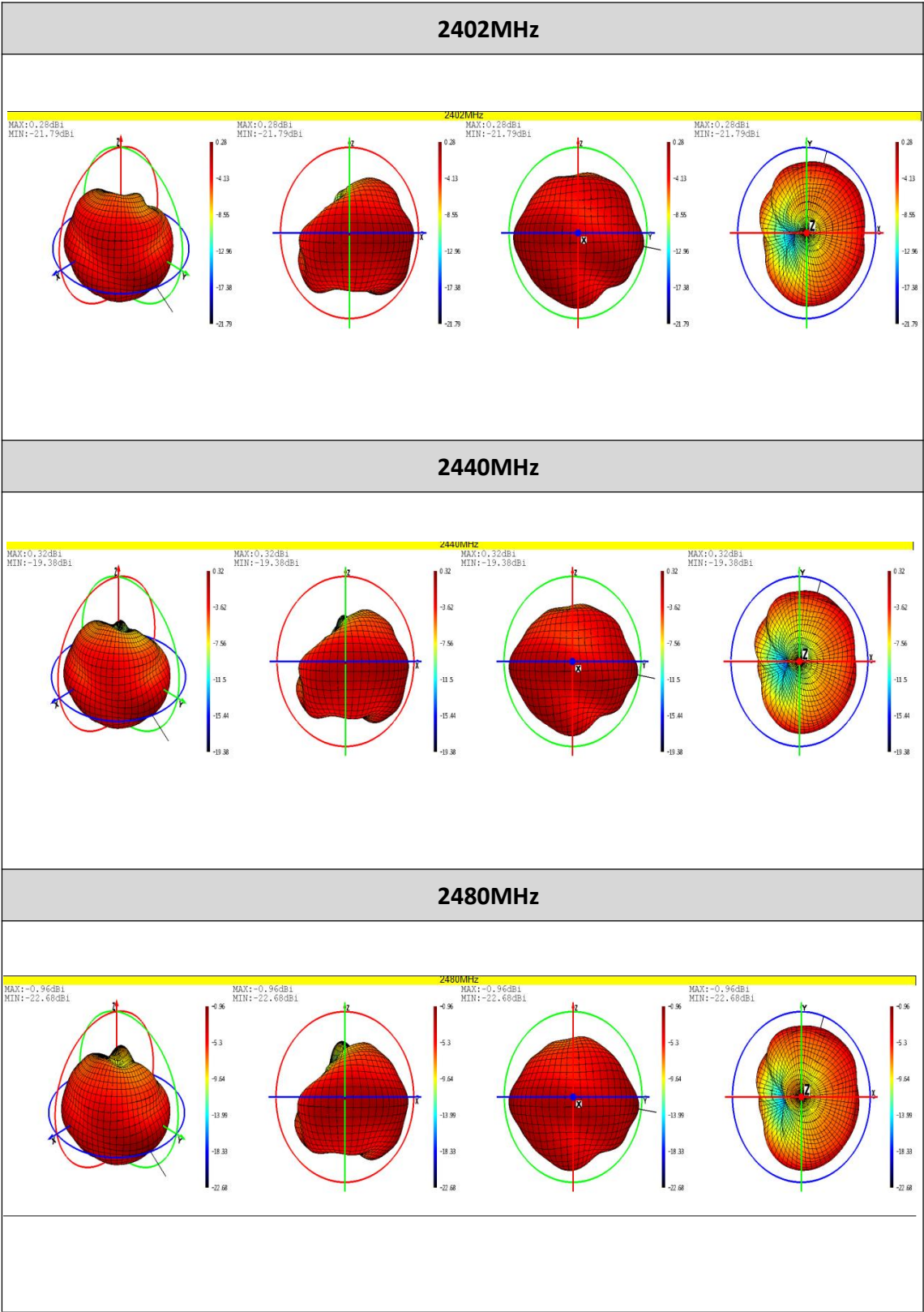
(1).Antenna Gain



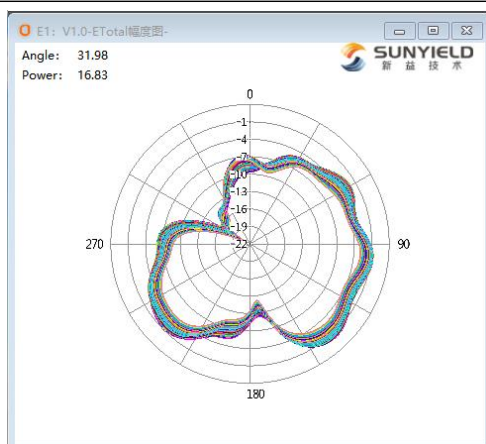
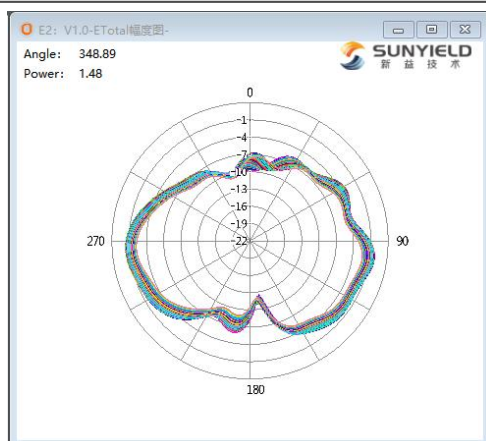
(2).Antenna Efficiency



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, $\phi=0\sim360^\circ$, $\theta=90^\circ$)