Antenna Test Report

Project No	RS133	PCB Version	ES012EX_V1.0
Tester	ZHUWANLI	Date	2026-04-13
Auditing		Date	
Approval		Date	

Contents

一、Project Information

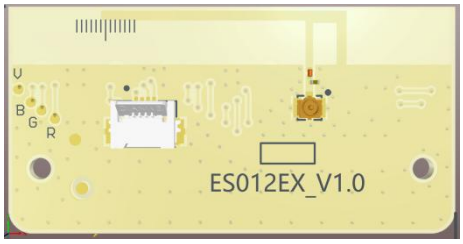
1. Antenna Coding：ANT-BBNCNC26018

2.Antenna Type：IFA

3. Model of the DUT：RS133

4 .Test Data ：2026-04-13

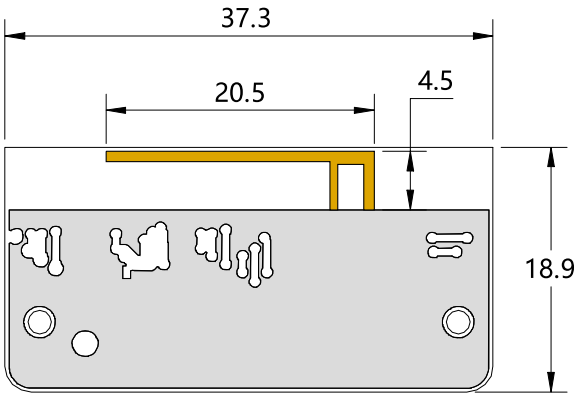
5 .Product picture：

Product appearance	
PCB board and antenna	

二、Technical Specification

Electrical Specifications	
Frequency Range	2400-2480 MHz
Peak Gain	3.04 dBi
Efficiency	49.55%
Return Loss	≥10 dB（MAX）
VSWR	≤2.0（MAX）
Bandwidth (S11≤-10dB)	150 MHz
Input Impedance	50 Ω
Radiation direction	Omni
Polarization Type	Linear
Lightning Protection	DC grounding
Power Capacity	1000mW（30dBm）
Mechanical Specifications	
Antenna Size	4.5 x 20.5 mm
Core Radiator	Copper
Substrate material	FR4
Substrate thickness	0.6 mm
Substrate Size (mm)	37.3 x 18.9 mm
Coaxial wire	Not required
Connect Type	Not required

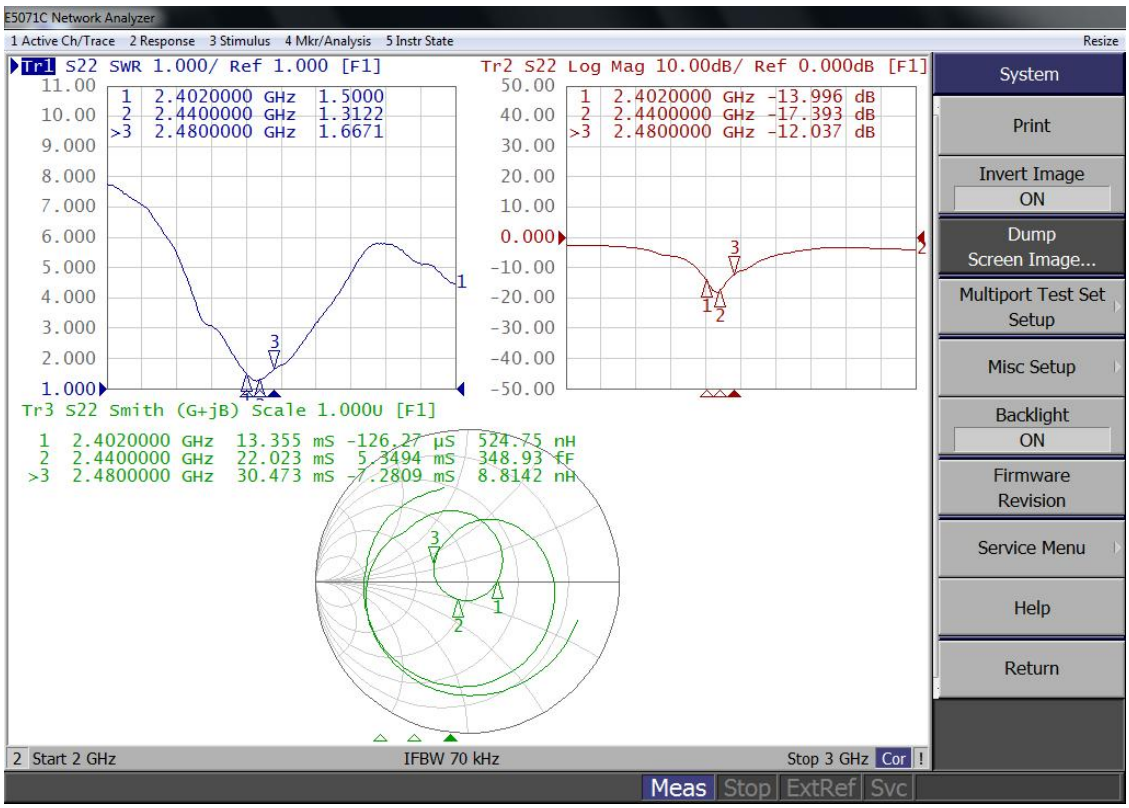
三、The shape and size of the antenna



Unit:mm

四、The result of the test

1 .VSWR & Return loss & Smith



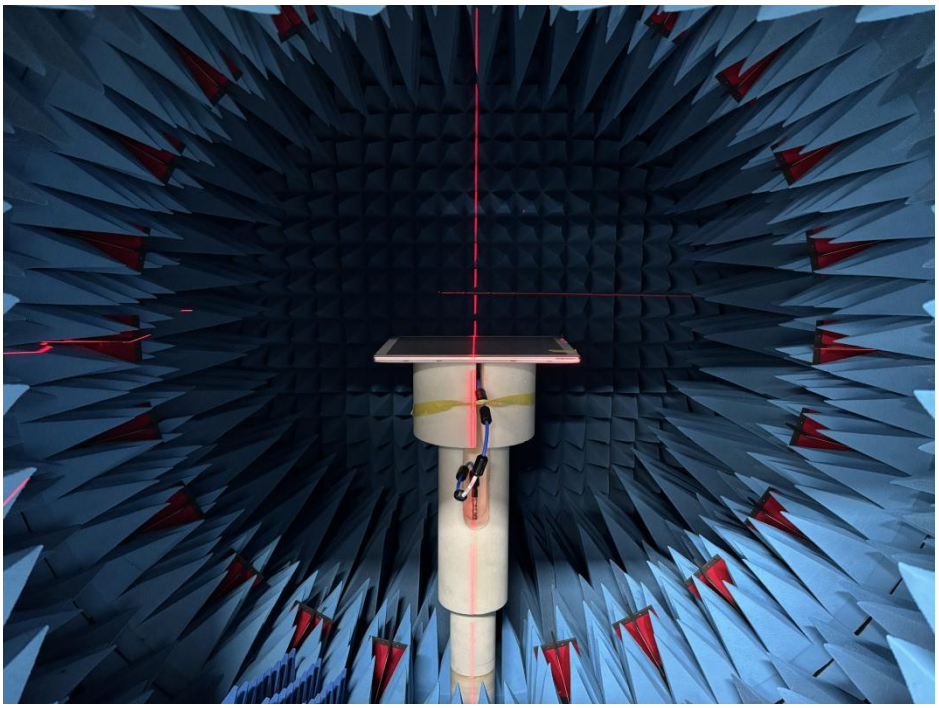
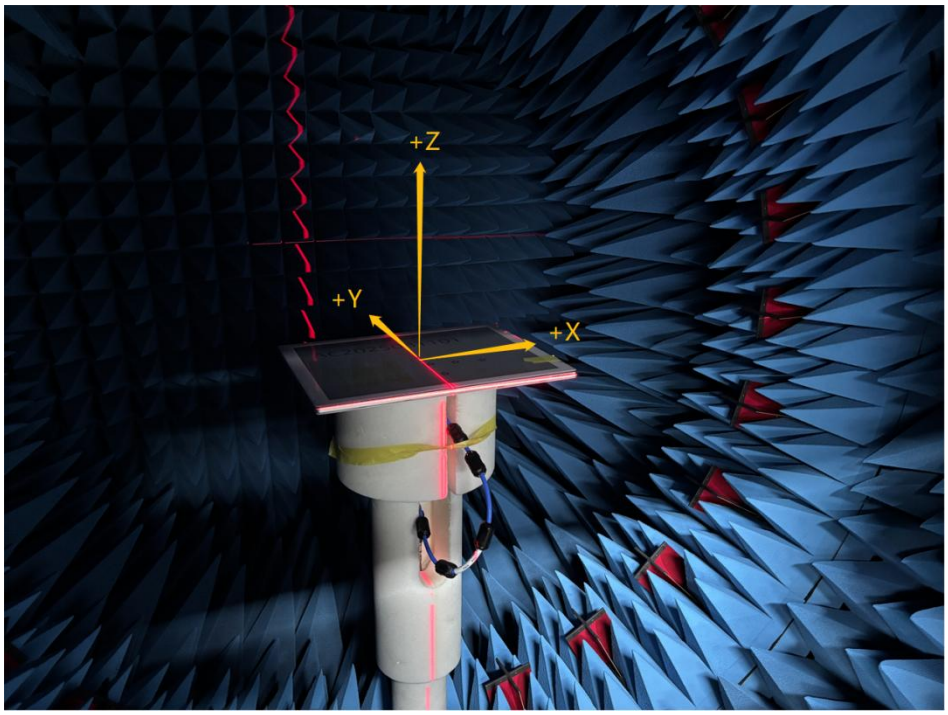
Frequency (MHz)	Return Loss (dB)	VSWR
2402	13.9	1.50
2440	17.3	1.31
2480	12.0	1.66
Bandwidth (S11≤-9.8dB)	150	

2. Antenna Testing Environment

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

(2).Test Engineer ： ZHUWANLI

(3).Test Environment ： Microwave anechoic chamber

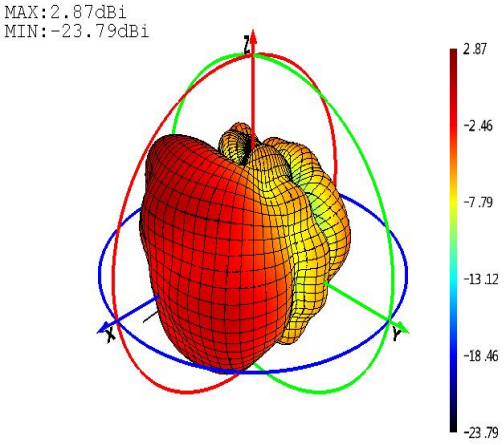
Inside the microwave anechoic chamber

Product coordinate axis position


3 .Gain and Efficiency

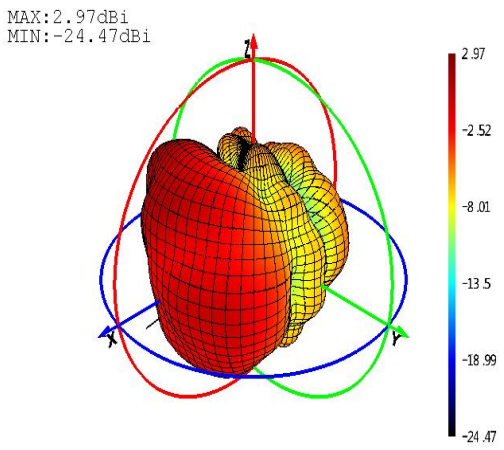
频率(MHz)	增益(dBi)	效率(%)
2400	2.88	49.18
2402	2.87	49.06
2404	2.88	49.15
2406	2.88	49.08
2408	2.87	49.09
2410	2.86	48.98
2412	2.85	48.84
2414	2.86	48.77
2416	2.87	48.70
2418	2.89	48.60
2420	2.89	48.33
2422	2.90	48.20
2424	2.90	48.18
2426	2.81	48.21
2428	2.83	48.26
2430	2.85	48.20
2432	2.91	48.24
2434	2.95	48.21
2436	2.90	48.14
2438	2.94	48.26
2440	2.97	48.42
2442	3.00	48.83
2444	3.01	48.94
2446	2.95	48.70
2448	2.96	48.79
2450	3.00	49.23
2452	3.01	49.32
2454	3.04	49.55
2456	3.03	49.44
2458	2.99	49.22
2460	2.93	48.82
2462	2.90	48.52
2464	2.91	48.54
2466	2.93	48.69
2468	2.97	48.77
2470	2.97	48.58
2472	2.96	48.49
2474	2.93	48.29
2476	2.87	48.08
2478	2.87	48.22
2480	2.89	48.42
2482	2.88	48.43
2484	2.87	48.36
2486	2.81	48.09
2488	2.81	48.15
2490	2.80	48.25
2492	2.81	48.31
2494	2.79	48.29
2496	2.71	47.98
2498	2.67	47.69
2500	2.67	47.47

4 .3D Radiation Pattern

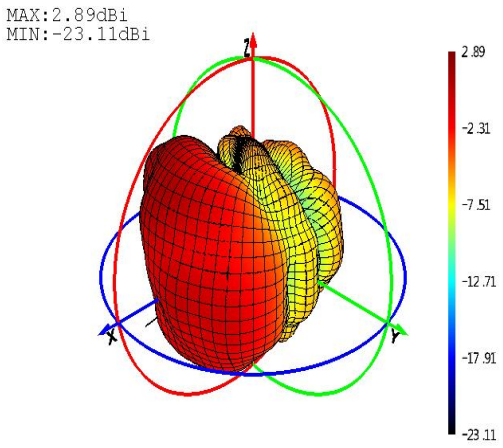
2402MHz



2440MHz

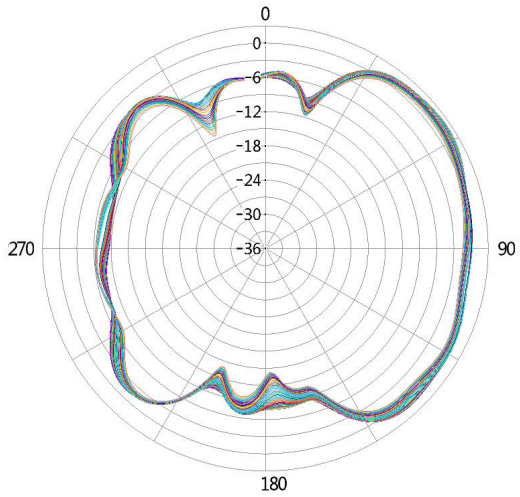


2480MHz

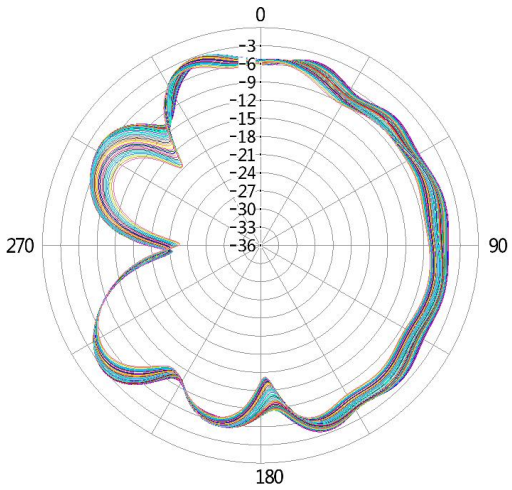


5.2D Radiation Pattern

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°）