Antenna Test Report

Project No	P25043B7DF	PCB Version	LD024F6_SCH_V0.3
Antenna Engineer	XuNing	Date	2025.5.8
Auditing		Date	
Approval		Date	

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1. Project Information

1.1. Antenna Coding：ANT-BBNCNC25011

1.2. Antenna Type：On board PCB Antenna

1.3. Model of the DUT：DTB05

1.4. Test Data ：2025.5.8

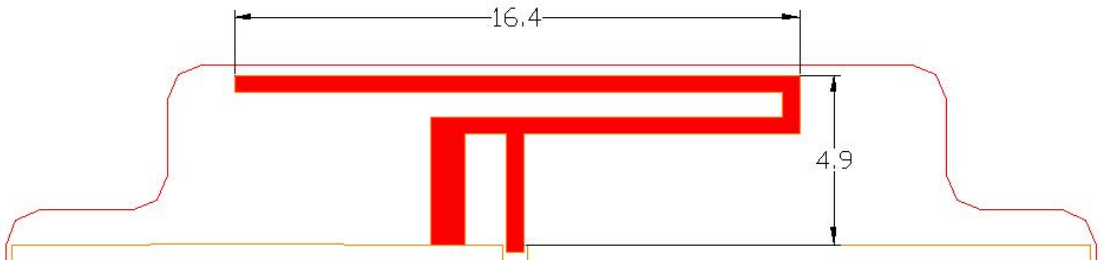
1.5. Product picture：

Product appearance	
PCB board and antenna	

2. Technical Specification

Electrical Specifications	
Frequency Range	2400-2480 MHz
Peak Gain	1.97 dBi
Efficiency	49.36%
Return Loss	≤-10dB
VSWR	≤2.0
Bandwidth (S11≤-10dB)	> 80MHz
Input Impedance	50Ω
Radiation direction	Omni
Polarization Type	Linear
Lightning Protection	DC grounding
Power Capacity	1000mW（30dBm）
Mechanical Specifications	
Antenna Size	16.4 x 4.9 mm
Core Radiator	Copper
Substrate material	FR4
Substrate thickness	1mm
Coaxial wire	Not Required
Connect Type	Not Required
Operating Temperature	-20 to +60℃
Storage Temperature	-10 to +60℃

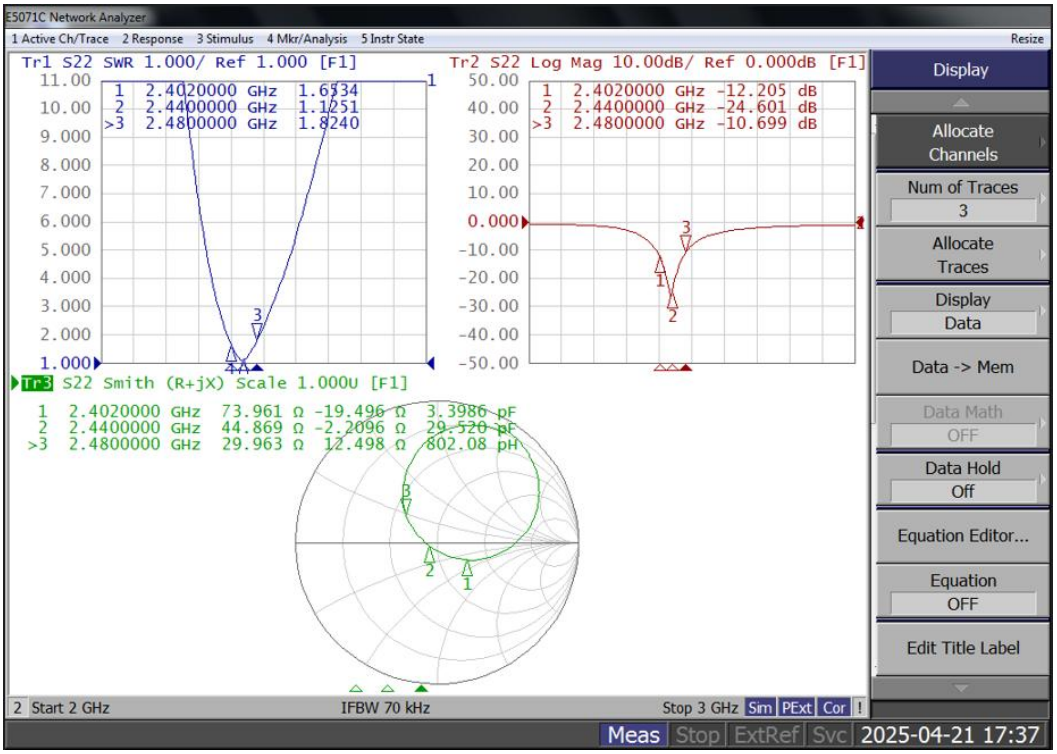
3. The shape and size of the antenna



Unit：mm

4. The result of the test

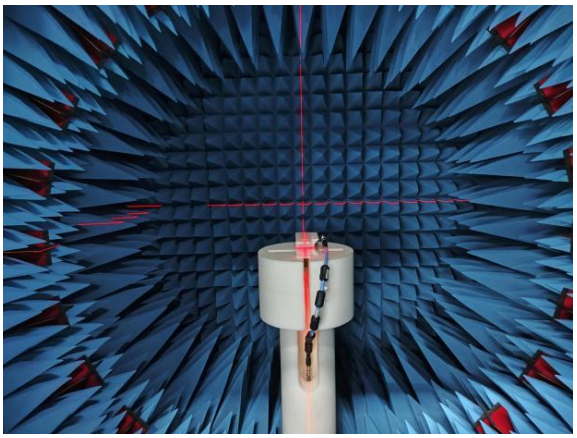
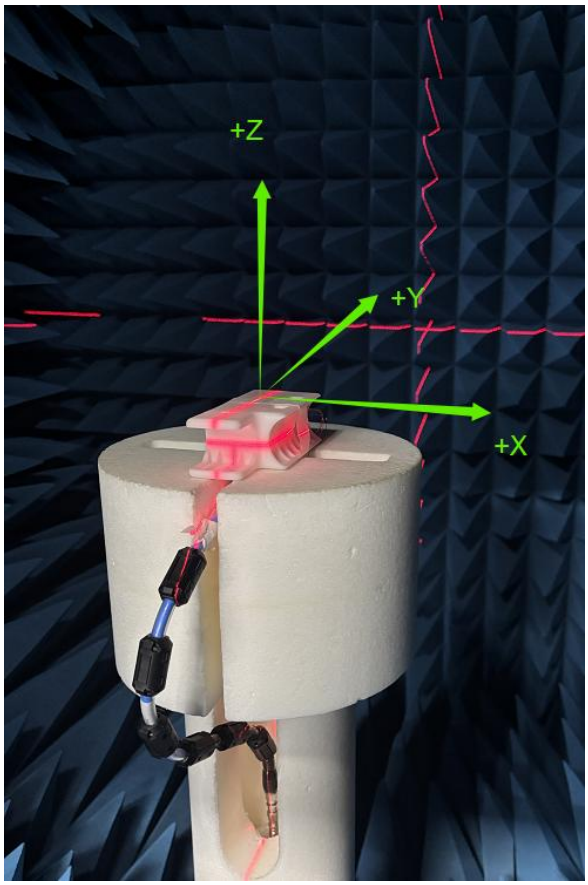
4.1. VSWR & Return loss & Smith



Frequency (MHz)	Return Loss (dB)	VSWR
2402	-12.2	1.65
2440	-24.6	1.12
2480	-10.7	1.82
Bandwidth (S11≤-10dB)	80	

4.2. Antenna Gain and Efficiency

4.2.1. Product coordinate axis position

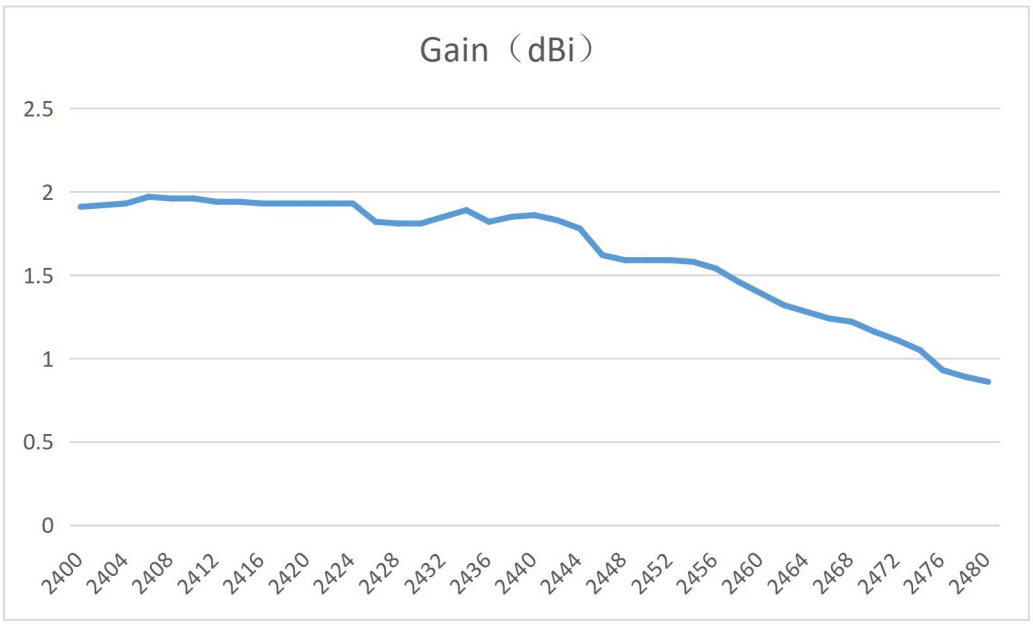
Inside the microwave anechoic chamber	Product coordinate axis position
	

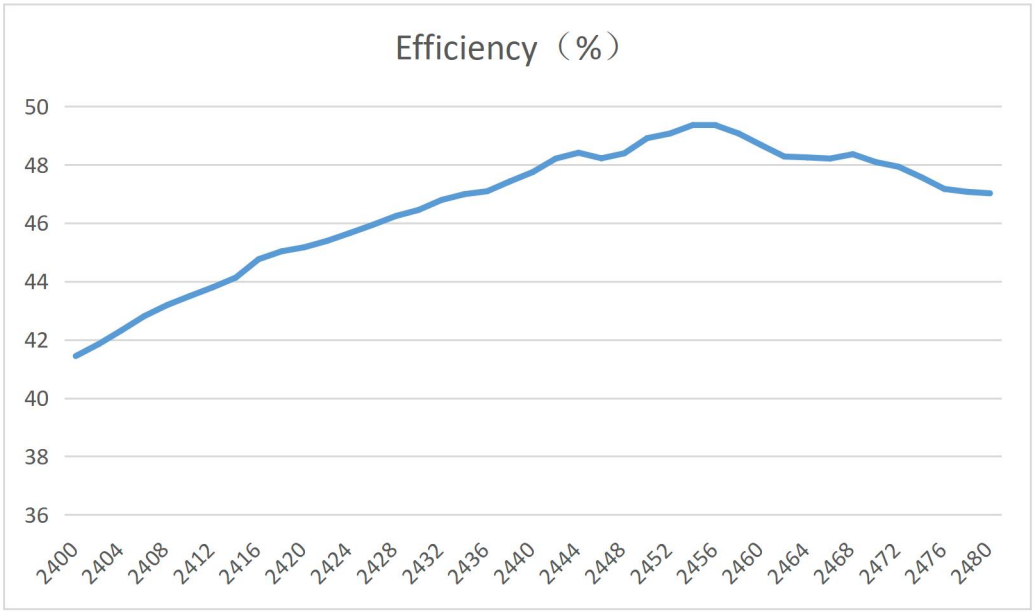
Note：The Antenna towards to +Y.

4.2.2. Gain and Efficiency date sheet

频率(MHz)	增益(dBi)	效率(%)	PeakGain (dBi)
2400	1.91	41.44	1.97
2402	1.92	41.85	
2404	1.93	42.32	
2406	1.97	42.81	
2408	1.96	43.19	
2410	1.96	43.5	
2412	1.94	43.8	
2414	1.94	44.13	
2416	1.93	44.76	
2418	1.93	45.03	
2420	1.93	45.17	
2422	1.93	45.39	
2424	1.93	45.66	
2426	1.82	45.94	
2428	1.81	46.24	
2430	1.81	46.45	
2432	1.85	46.79	
2434	1.89	46.99	
2436	1.82	47.09	
2438	1.85	47.43	
2440	1.86	47.75	
2442	1.83	48.21	
2444	1.78	48.41	
2446	1.62	48.22	
2448	1.59	48.39	
2450	1.59	48.91	
2452	1.59	49.07	
2454	1.58	49.36	
2456	1.54	49.35	
2458	1.46	49.07	
2460	1.39	48.67	
2462	1.32	48.28	
2464	1.28	48.25	
2466	1.24	48.21	
2468	1.22	48.36	
2470	1.16	48.09	
2472	1.11	47.93	
2474	1.05	47.57	
2476	0.93	47.17	
2478	0.89	47.07	
2480	0.86	47.02	

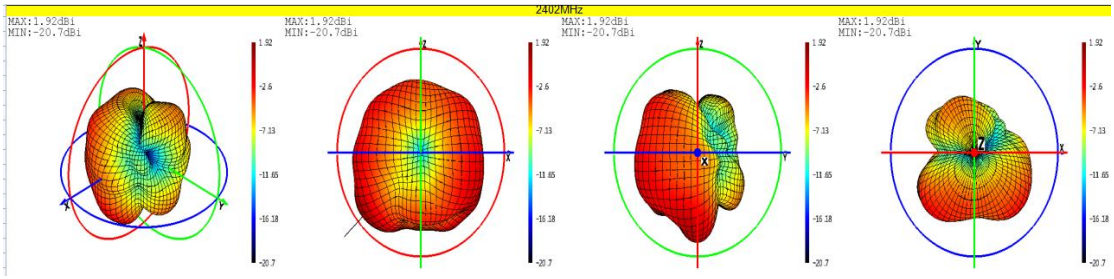
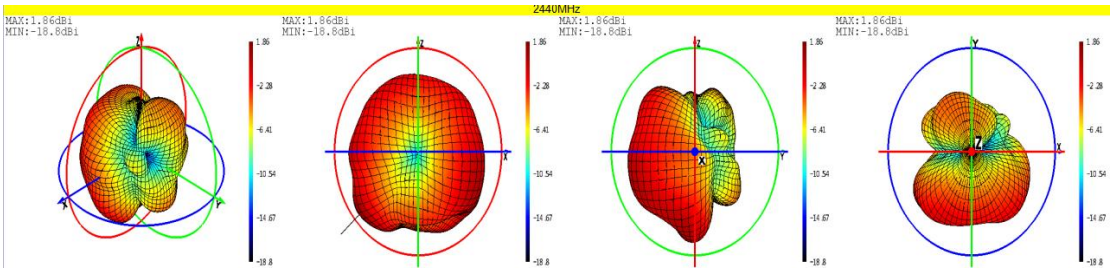
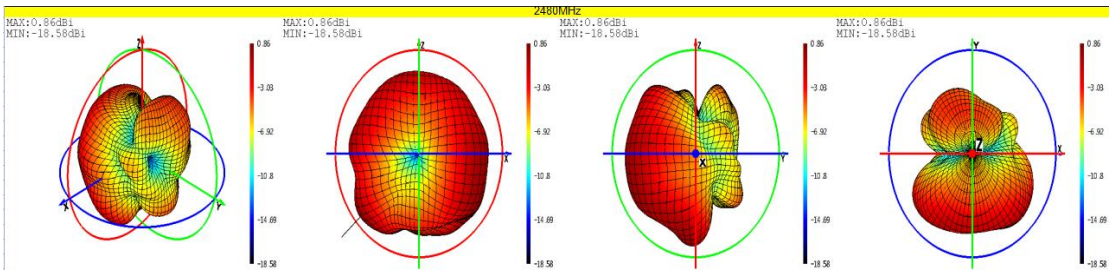
4.2.3. Graphs of Gain and Efficiency





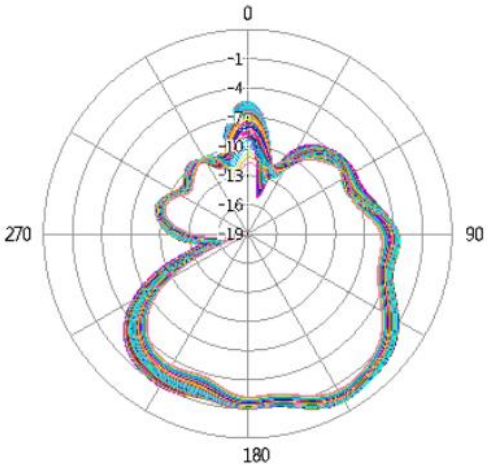
4.3.Radiation Pattern

4.3.1. 3D Radiation Pattern

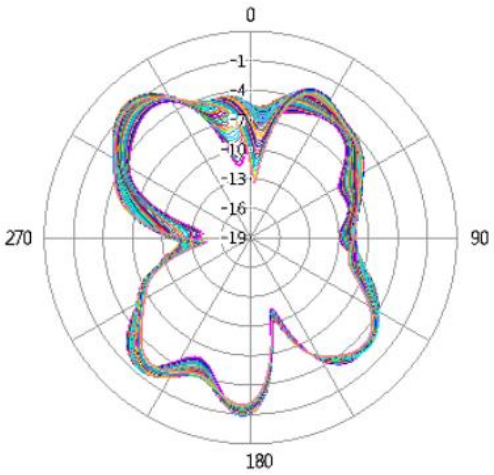
2402MHz

2440MHz

2480MHz


4.3.2. 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°）