Antenna Test Report

Project No	P24069B6I	PCB Version	LS028FB_PCB_V1.0
Tester	XuNing	Date	2025.3.5
Auditing		Date	
Approval		Date	

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1. Project Information

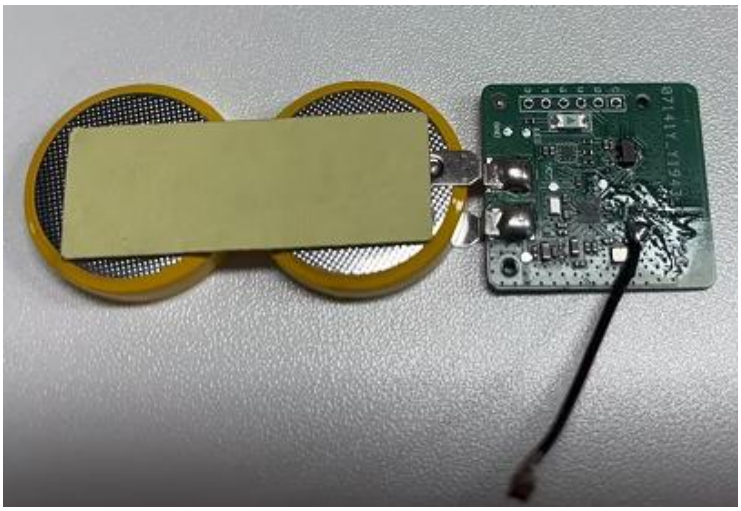
1.1. Antenna Coding：ANT-BBNCNC25001

1.2. Antenna Type：On board PCB Antenna

1.3. Model of the DUT：MTB07

1.4. Test Data ：2025.3.5

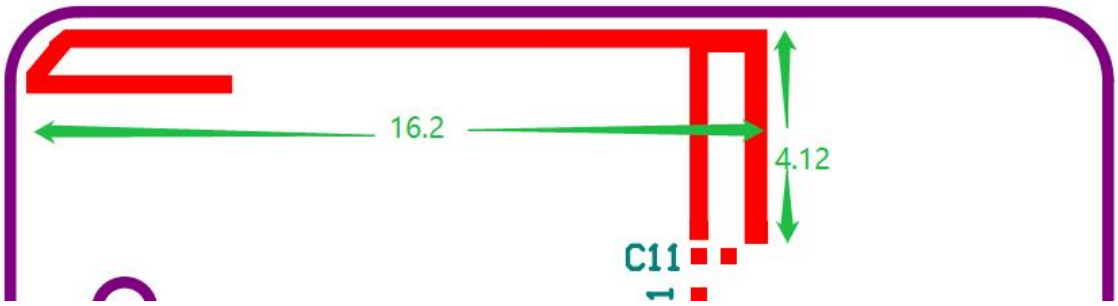
1.5. Product picture：

Product appearance	
PCB board and antenna	

2. Technical Specification

Electrical Specifications	
Frequency Range	2400-2480 MHz
Peak Gain	4.96 dBi
Efficiency	68.92%
Return Loss	≤-13dB
VSWR	≤1.5
Bandwidth (S11≤-10dB)	100 MHz
Input Impedance	50Ω
Radiation direction	Omni
Polarization Type	Linear
Lightning Protection	DC grounding
Power Capacity	1000mW（30dBm）
Mechanical Specifications	
Antenna Size	16.2 x 4.12 mm
Core Radiator	Copper
Substrate material	FPC
Substrate thickness	1mm±0.02mm
Substrate Size (mm)	24x 25 mm
Coaxial wire	Not Required
Connect Type	Not Required
Operating Temperature	-20 to +60℃
Storage Temperature	-10 to +60℃

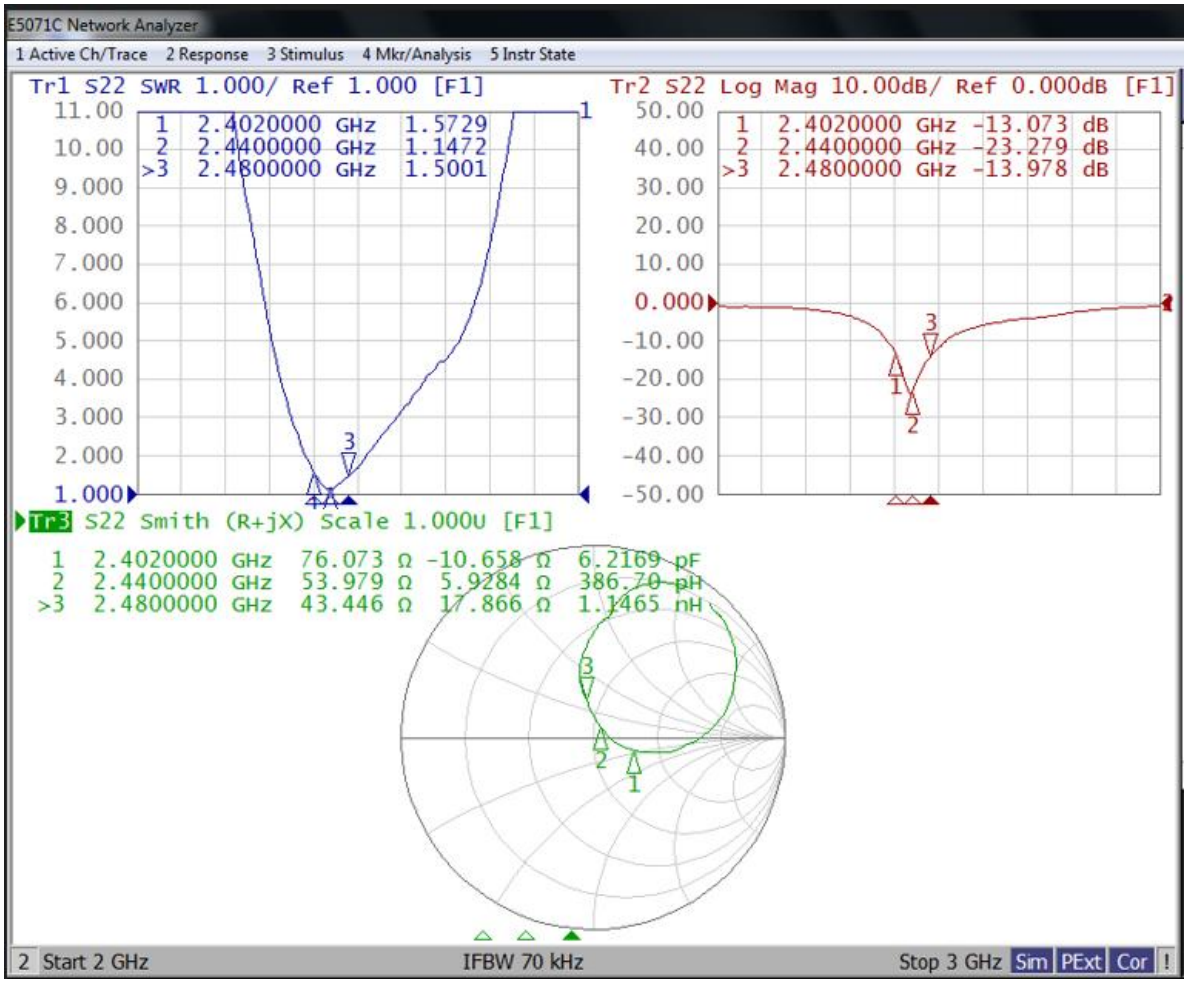
3. The shape and size of the antenna



Unit：mm

4. The result of the test

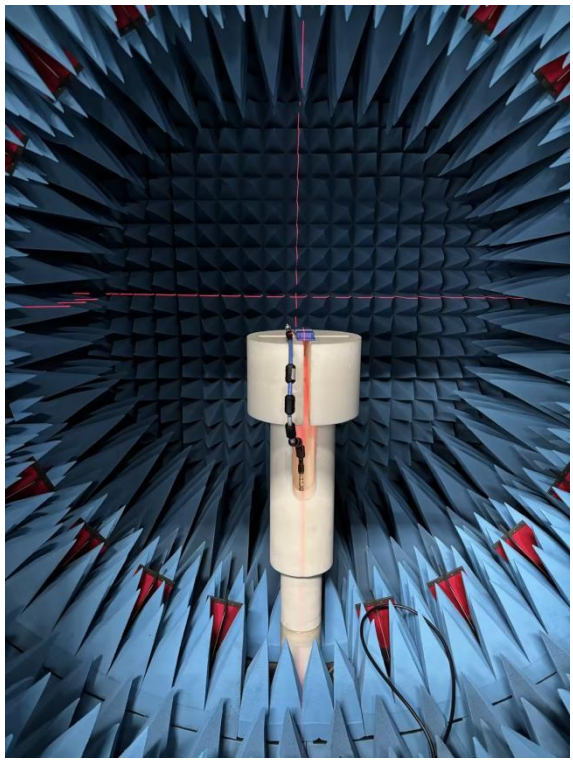
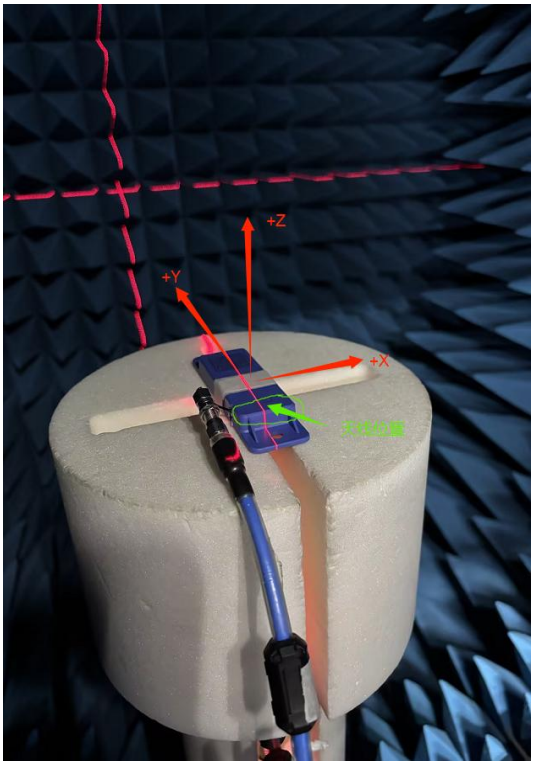
4.1. VSWR & Return loss & Smith



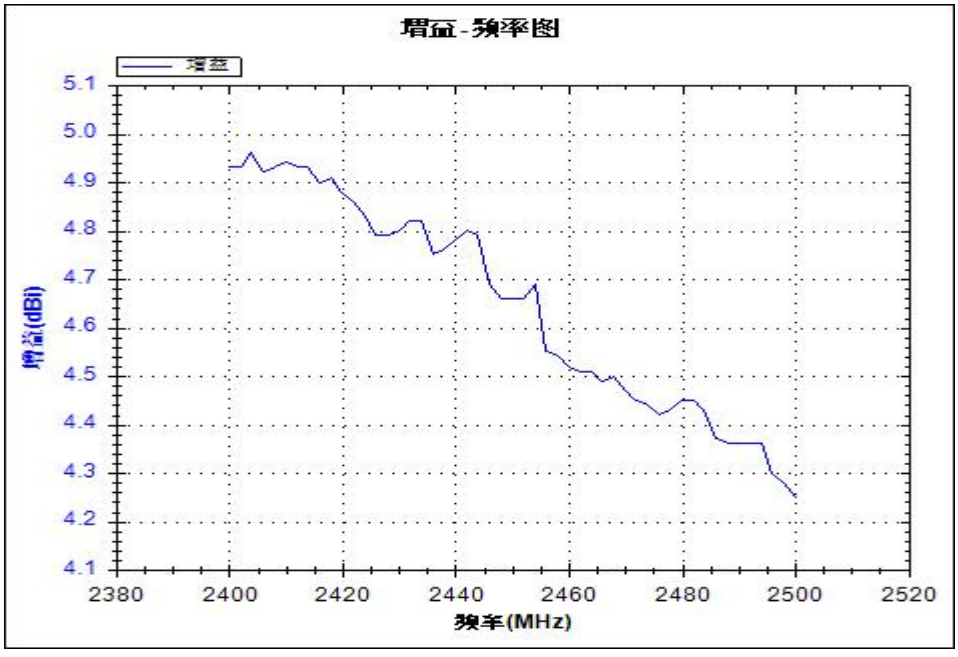
Frequency (MHz)	Return Loss (dB)	VSWR
2402	-13.0	1.57
2440	-23.2	1.14
2480	-13.9	1.50
Bandwidth (S11≤-10dB)	100	

4.2. Antenna Gain and Efficiency

4.2.1. Product coordinate axis position

Inside the microwave anechoic chamber	Product coordinate axis position
	

4.2.2. Graphs of Gain

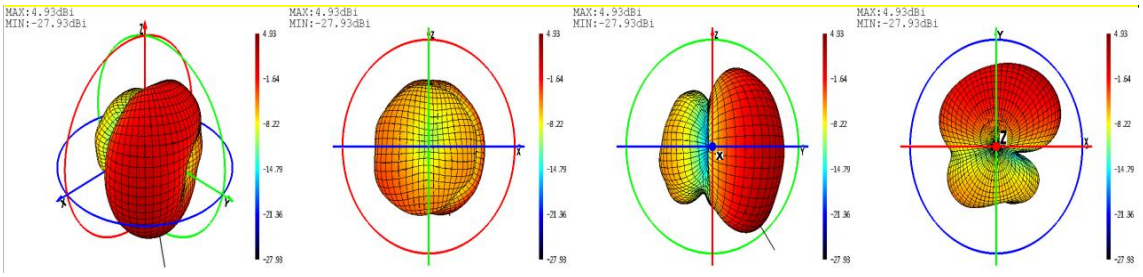
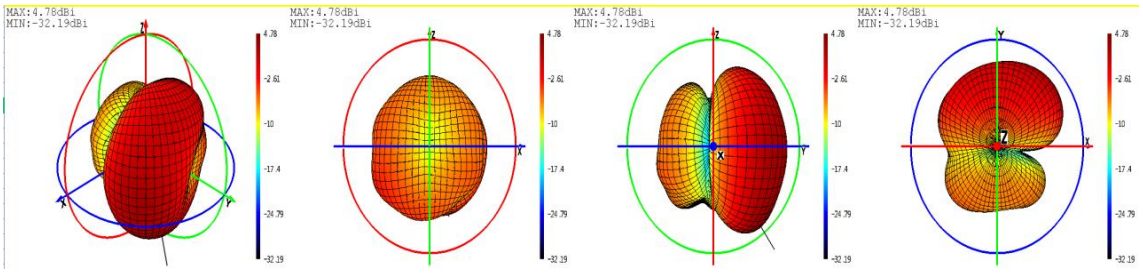
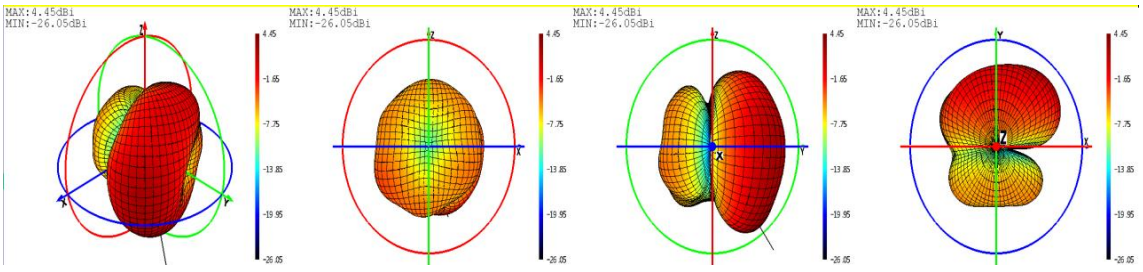


4.2.3. Gain and Efficiency date sheet

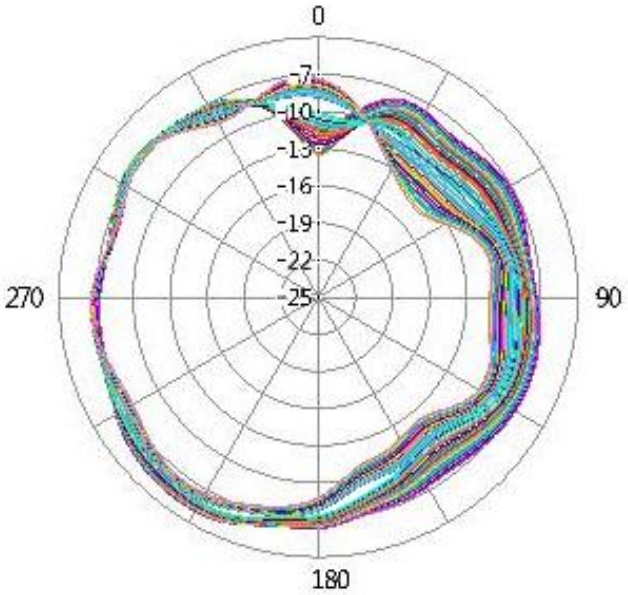
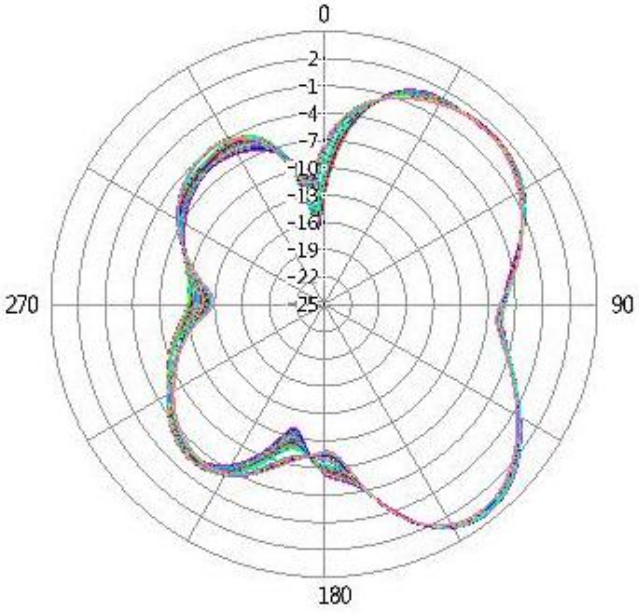
Fre(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)	PeakGain (dBi)
2400	4.93	-1.65	68.39	4.96
2402	4.93	-1.65	68.44	
2404	4.96	-1.62	68.83	
2406	4.92	-1.62	68.92	
2408	4.93	-1.60	69.15	
2410	4.94	-1.59	69.27	
2412	4.93	-1.60	69.24	
2414	4.93	-1.59	69.28	
2416	4.90	-1.60	69.14	
2418	4.91	-1.60	69.14	
2420	4.88	-1.62	68.82	
2422	4.86	-1.63	68.74	
2424	4.83	-1.64	68.58	
2426	4.79	-1.64	68.51	
2428	4.79	-1.64	68.51	
2430	4.80	-1.65	68.38	
2432	4.82	-1.65	68.42	
2434	4.82	-1.66	68.31	
2436	4.75	-1.68	67.99	
2438	4.76	-1.66	68.17	
2440	4.78	-1.65	68.43	
2442	4.80	-1.61	68.97	
2444	4.79	-1.60	69.14	
2446	4.69	-1.64	68.60	
2448	4.66	-1.63	68.67	
2450	4.66	-1.59	69.31	
2452	4.66	-1.59	69.41	
2454	4.69	-1.57	69.74	
2456	4.55	-1.60	69.25	
2458	4.54	-1.62	68.90	
2460	4.52	-1.66	68.27	
2462	4.51	-1.68	67.89	
2464	4.51	-1.68	67.84	
2466	4.49	-1.67	68.02	
2468	4.50	-1.66	68.17	
2470	4.47	-1.69	67.77	
2472	4.45	-1.70	67.60	
2474	4.44	-1.71	67.45	
2476	4.42	-1.72	67.32	
2478	4.43	-1.70	67.61	
2480	4.45	-1.67	68.00	

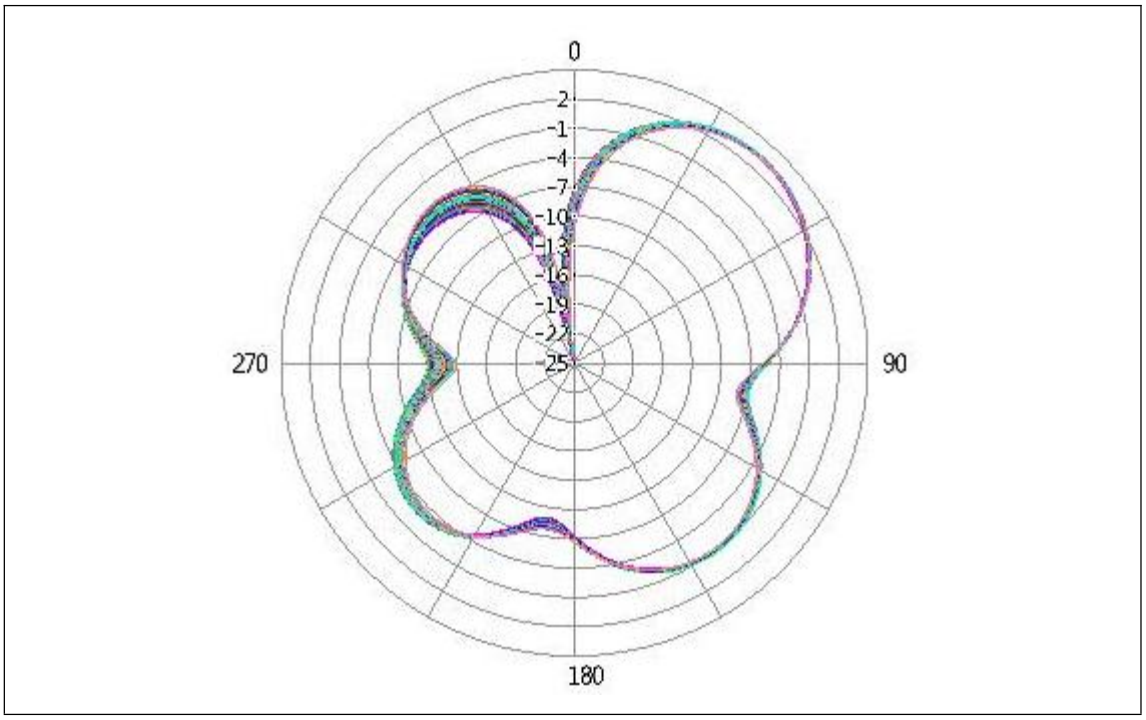
4.3.Radiation Pattern

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°）


0
2
-1
-4
-7
-10
-13
-16
-19
-22
-25
270
90
180