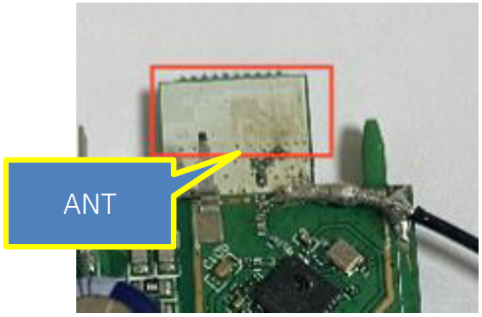
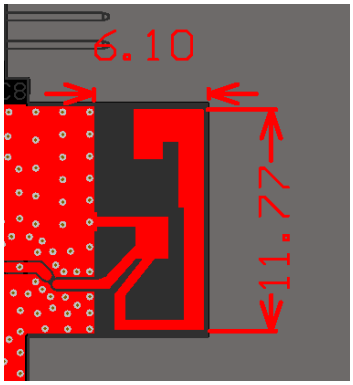
Antenna Specification

Antenna picture	 
Antenna Type	Internal inverted F PCB antenna
Antenna Peak Gain	-0.37 dBi
Operating Band	2400 MHz ~ 2483.5 MHz
Test laboratory name and Address	IoT Antenna Test Laboratory, 3 / A,LEEDARSON LIGHTING CO., LTD. Xingtai Industrial Park, Changtai Economic Development Zone, Zhangzhou, 363900, China
Antenna Manufacturer	LEEDARSON LIGHTING CO., LTD.
Model name	A149 生理节律 A19
DUT photo	
Test Date	2025-03-04
Test Conductor	Xiaokun Lin

OTA measurement

Test System

The SY-16 OTA system and RayZone2800 OTA system are anechoic chambers, which can measures antenna passive data such as antenna efficiency, antenna gain, and 2D&3D pattern. The systems are shown as follow:

Figure 1 SY-16 OTA system

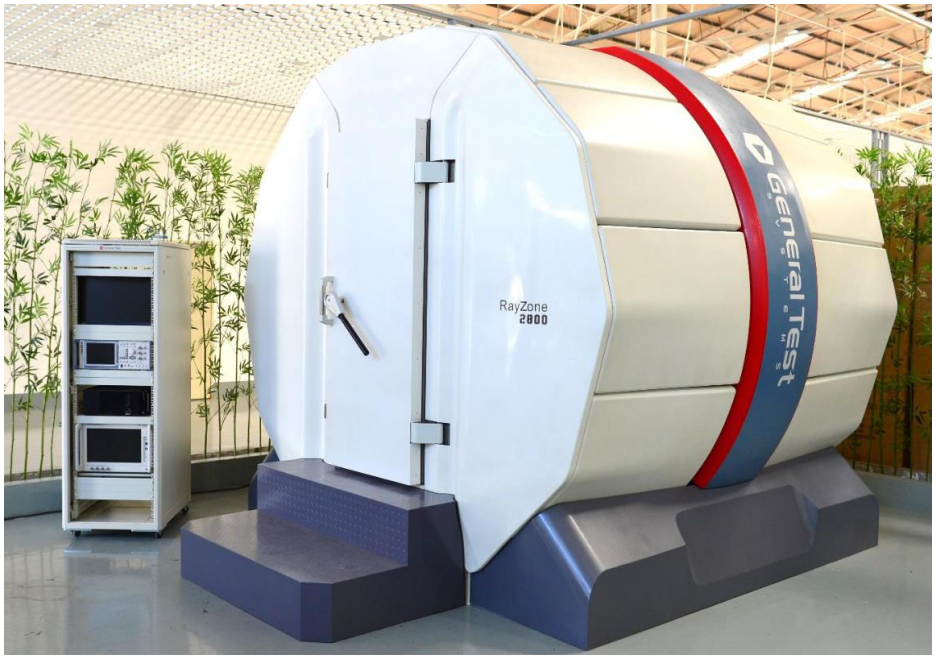


Figure 2 RayZone2800 OTA system

Equipment List

Table 1 Equipment List

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
☒	Network Analyzer	Keysight	E5071C	MY46527808	2025/1/9	2026/1/8
☐	Network Analyzer	Keysight	E5071C	MY46108051	2024/4/19	2025/4/18
☒	Anechoic Chamber	Sunyield	SY-16	SI1727	2024/4/28	2025/4/27
☐	Anechoic Chamber	General Test System	RayZone2800	CT10121244 B5079	2024/5/10	2025/5/9

Test Method

Table 2 Test Method

Name	Antenna Performance			
Parameter	Radiation Efficiency			
Test Method	IEEE Standard Test Procedures for Antennas			
Standard No.	ANSI/IEEE Std 149-2021			
Test Software	PMS-V2.8.5	☒	MaxSign-V1.4.3	☐

Test Result

Efficiency and Gain

Table 3 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-0.85	-6.56	22.07
2410	-0.48	-6.20	23.99
2420	-0.58	-6.29	23.52
2430	-0.69	-6.37	23.05
2440	-0.37	-6.03	24.92
2450	-0.44	-6.08	24.65
2460	-0.86	-6.43	22.74
2470	-1.09	-6.59	21.93
2480	-1.05	-6.45	22.62
2490	-1.38	-6.71	21.35
2500	-1.99	-7.28	18.73

Radiation Pattern

Table 4 Product coordinates

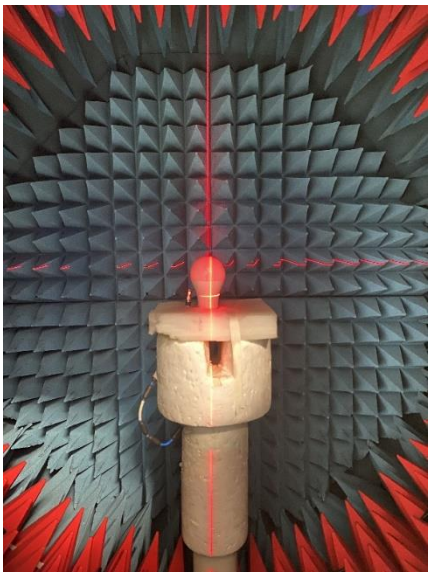
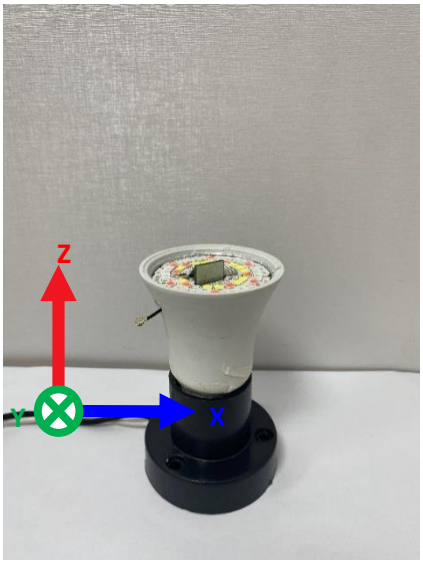
Product Coordinates	
	

Table 5 3D radiation pattern

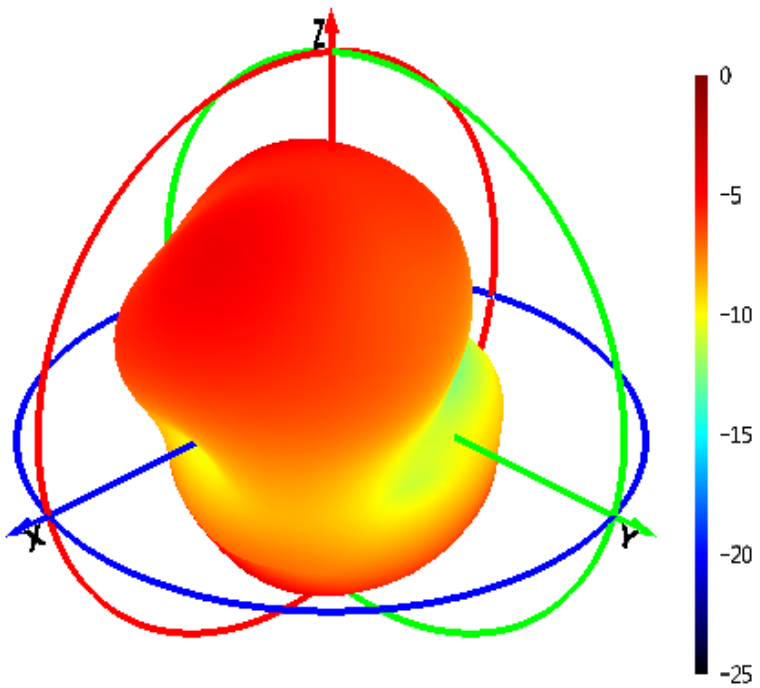
3D Radiation Pattern at 2450MHz


Table 6 Radiation pattern in XY Plane

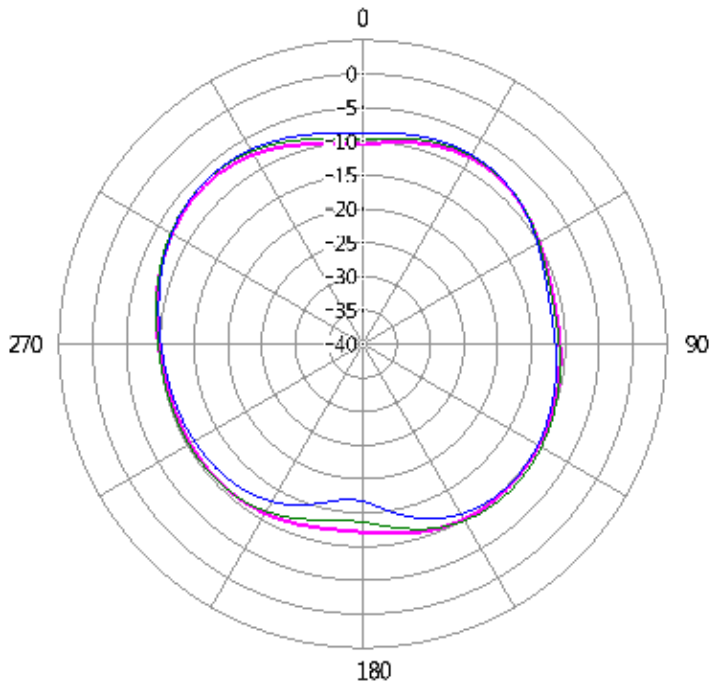
2D Radiation Pattern (θ = 90°, XY Plane)


Table 7 Radiation pattern in XZ Plane

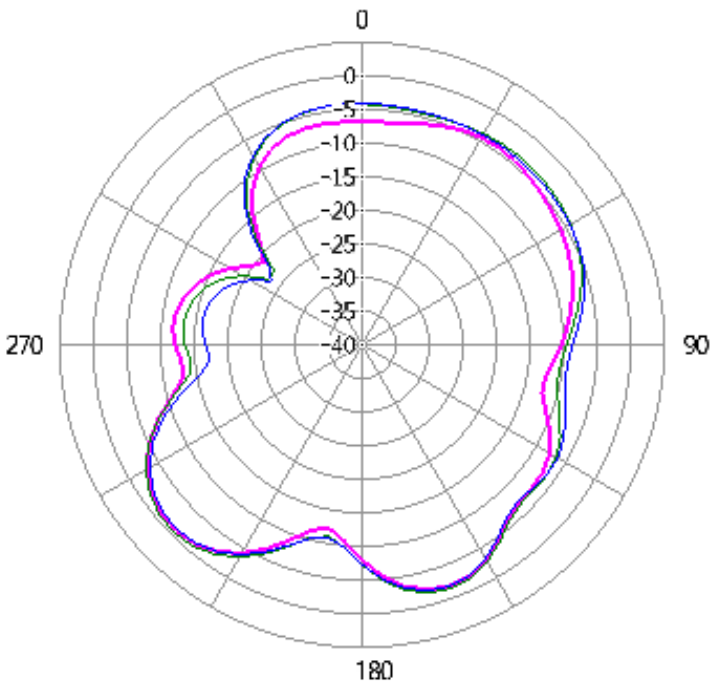
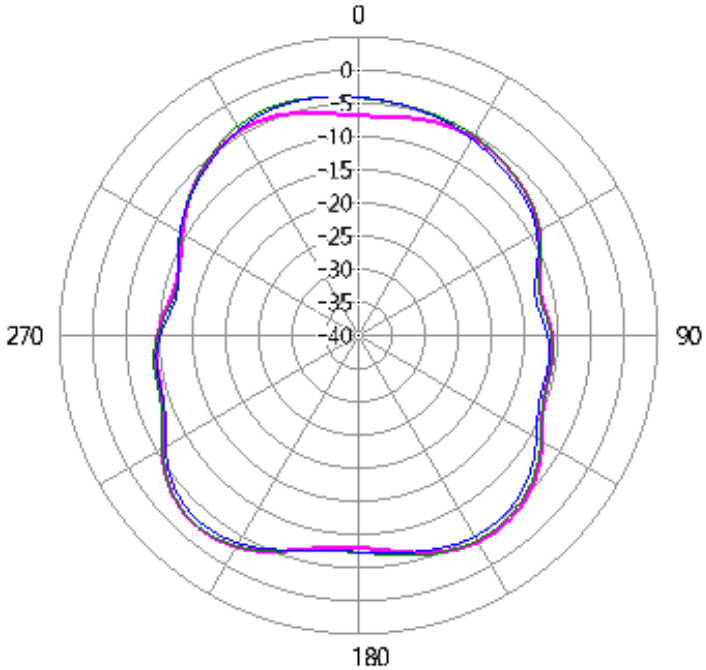
2D Radiation Pattern (ϕ = 0°, XZ Plane)


Table 8 Radiation pattern in YZ Plane

2D Radiation Pattern (ϕ = 90°, YZ Plane)