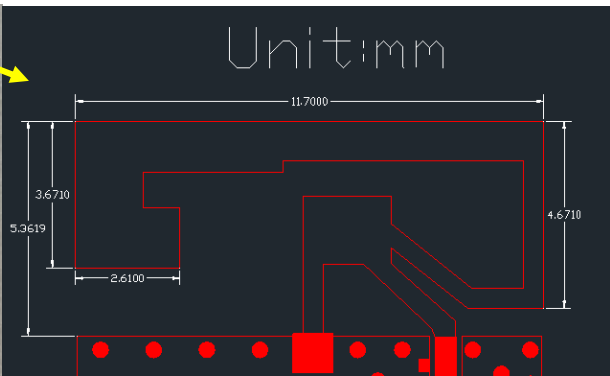
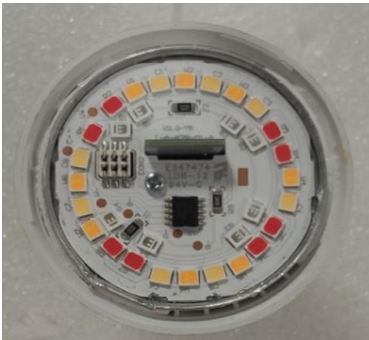


Antenna Specification

Antenna Picture	 
Antenna Type	Internal inverted F PCB antenna
Antenna Peak Gain	0.76 dBi
Operating Band	2400 MHz ~ 2483.5 MHz
Test laboratory Name	IoT Antenna Test Laboratory
Antenna Manufacturer and Address	LEEDARSON LIGHTING CO., LTD. Xingtai Industrial Park, Changtai Economic Development Zone, Zhangzhou, 363900, China
Model Name	13aSA-A800ST-Q1T
DUT Photo	
Test Date	2024-5-30
Test Conductor	Ou Min

OTA measurement

Test System

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



Figure 1 SY-16 OTA system

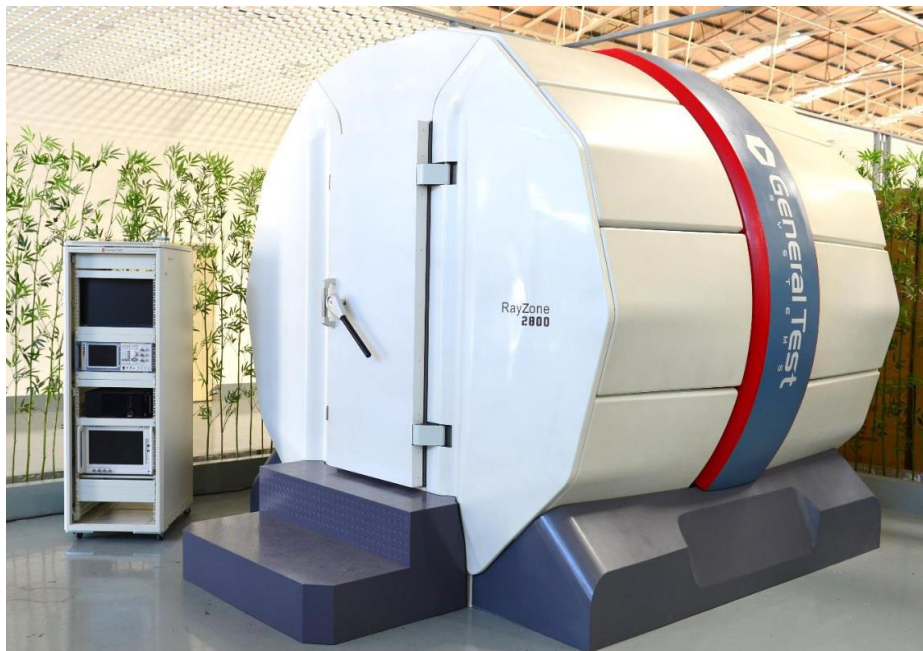


Figure 2 RayZone2800 OTA system

Equipment List

Table 1 Equipment List

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
☒	Network Analyzer	Keysight	E5071C	MY46527808	2024/1/9	2025/1/8
☐	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	0.08	-5.81	26.22
2410	0.11	-5.81	26.26
2420	0.26	-5.66	27.19
2430	0.51	-5.70	26.89
2440	0.54	-5.61	27.47
2450	0.70	-5.58	27.67
2460	0.76	-5.54	27.95
2470	0.61	-5.59	27.58
2480	0.71	-5.55	27.89
2490	0.66	-5.61	27.46
2500	0.58	-5.69	26.97

Radiation Pattern

Table 4 Product Coordinates

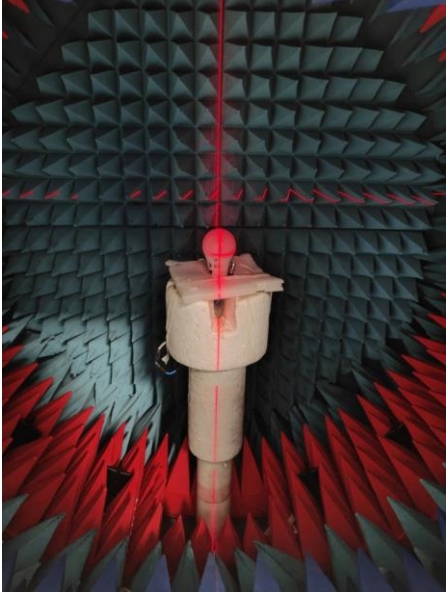
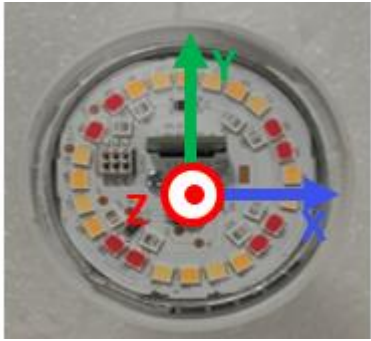
Product Coordinates	
	

Table 5 3D Radiation Pattern

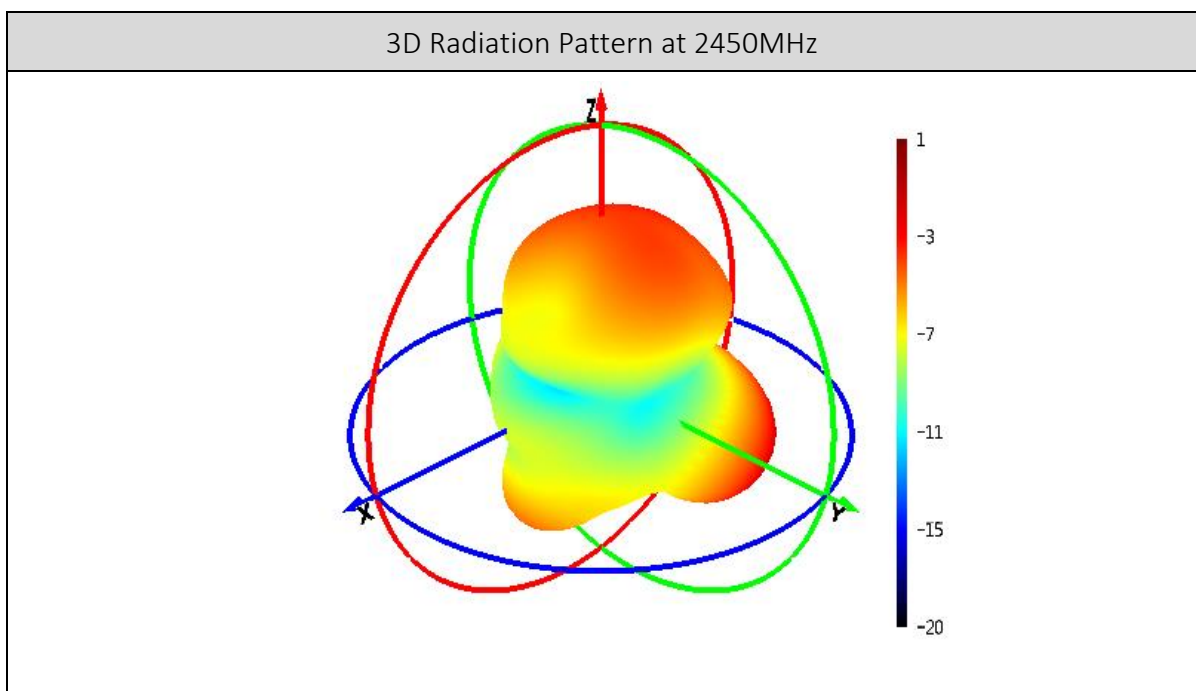


Table 6 Radiation Pattern in XY Plane

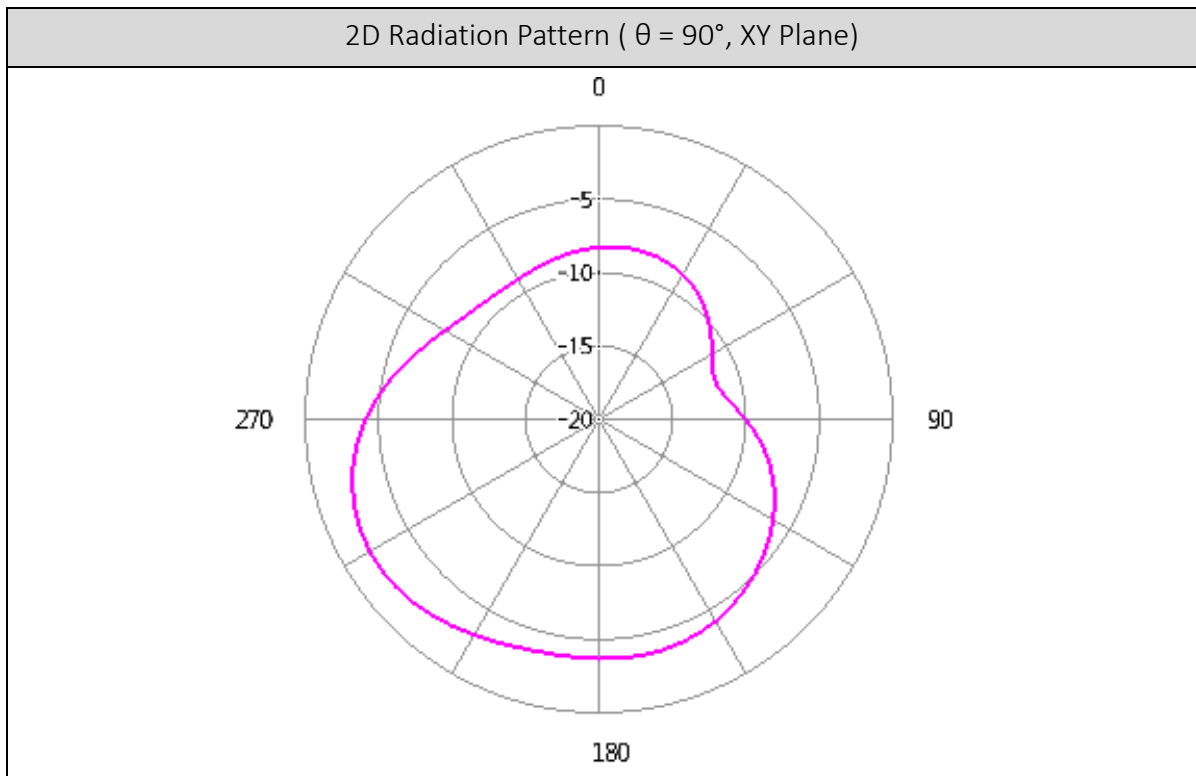


Table 7 Radiation Pattern in XZ Plane

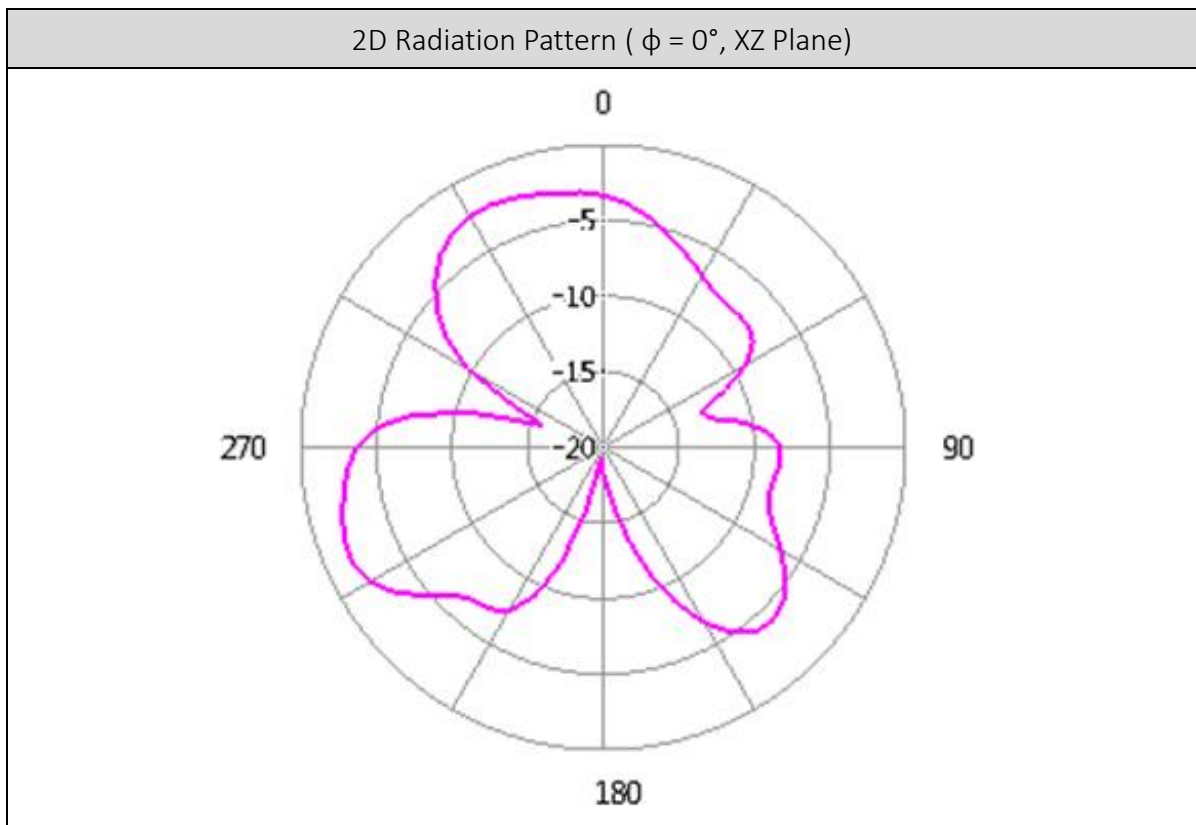


Table 8 Radiation Pattern in YZ Plane

