

Antenna Specification

Antenna picture	
Antenna Type	PCB IFA antenna
Antenna Peak Gain	-0.25dBi
Operating Band	2400-2483.5 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	9290045822
Test Date	2024-02-19
Test Conductor	Feng Huijuan

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

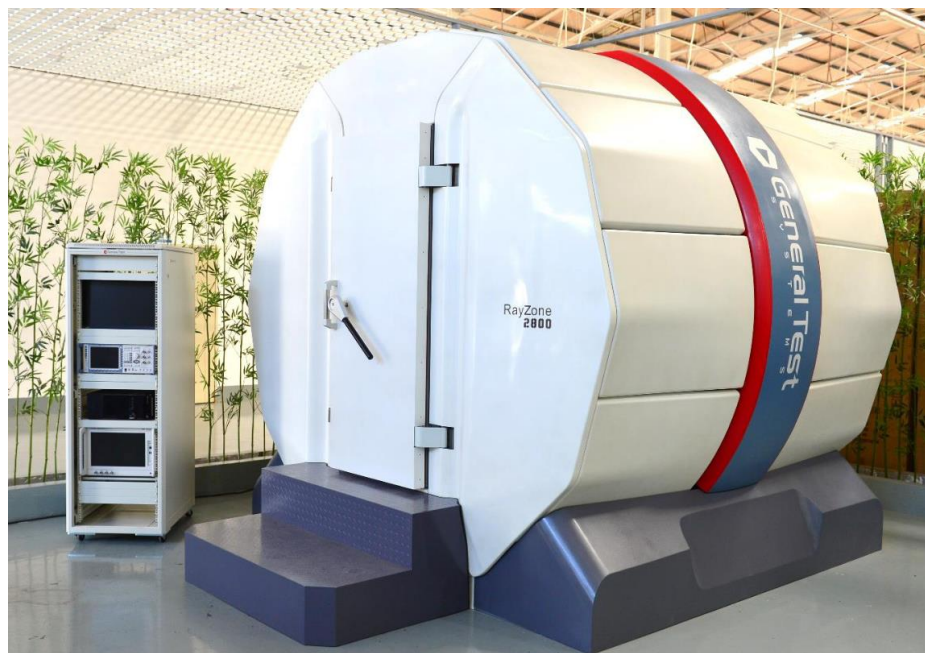


Figure 2 RayZone2800 OTA system

Equipment List

Table 1 Equipment List

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
☒	Network Analyzer	Keysight	E5071C	MY46527808	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	-0.36	-3.28	47.02
2410	-0.45	-3.35	46.28
2420	-0.25	-3.14	48.55
2430	-0.51	-3.35	46.19
2440	-0.55	-3.39	45.86
2450	-0.31	-3.16	48.26
2460	-0.27	-3.11	48.89
2470	-0.58	-3.42	45.47
2480	-0.49	-3.36	46.18
2490	-0.34	-3.25	47.26
2500	-0.66	-3.6	43.62

Radiation Pattern

Table 4 Product coordinates

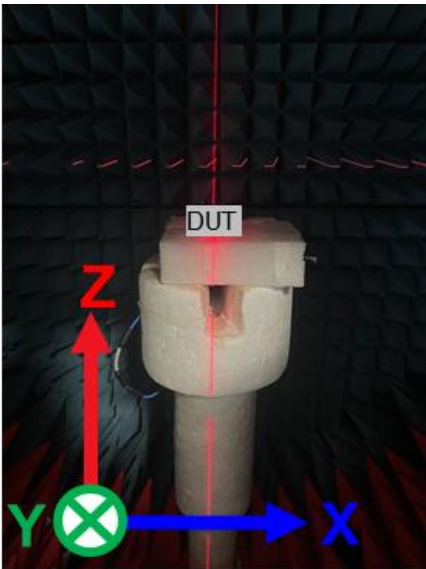
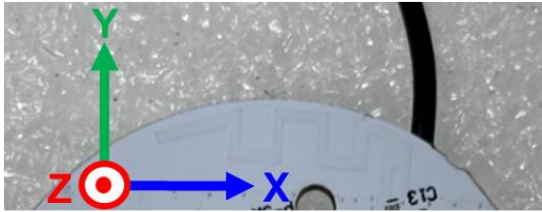
Product Coordinates	
	

Table 5 3D radiation pattern

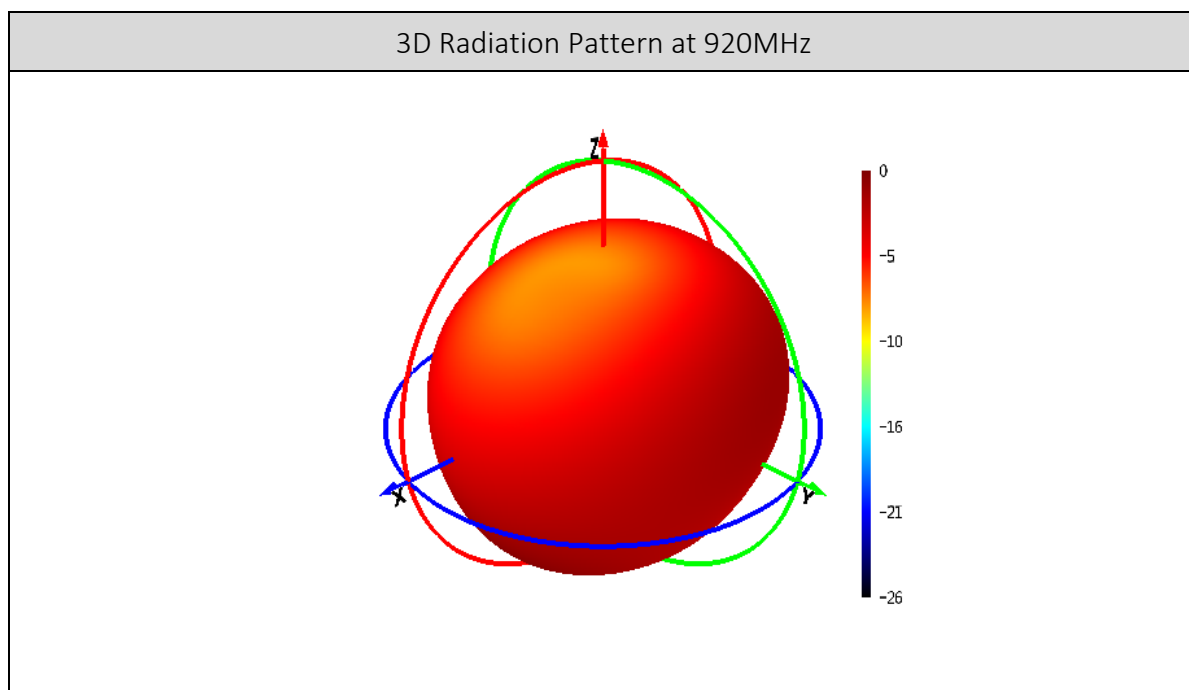


Table 6 Radiation pattern in XY Plane

2D Radiation Pattern ($\theta = 90^\circ$, XY Plane)

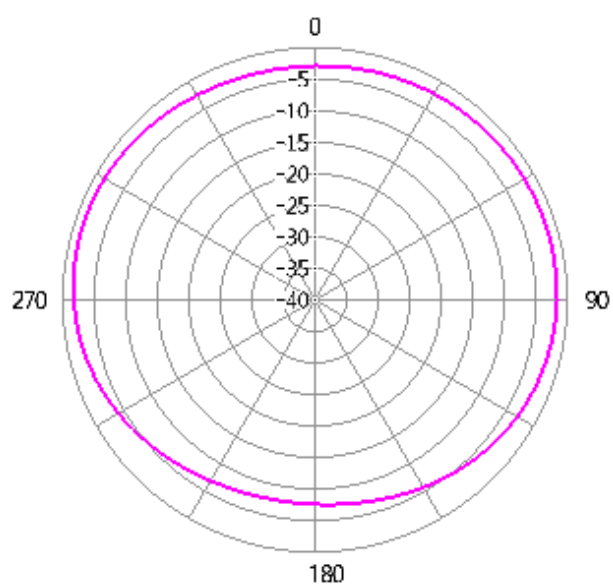


Table 7 Radiation pattern in XZ Plane

2D Radiation Pattern ($\phi = 0^\circ$, XZ Plane)

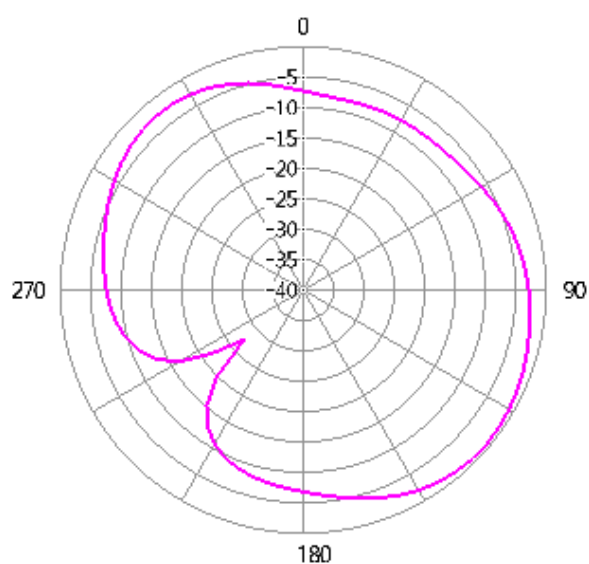


Table 8 Radiation pattern in YZ Plane

2D Radiation Pattern ($\phi = 90^\circ$, YZ Plane)

