Antenna Specification

Antenna picture	Please refer to the internal photos.
Antenna Type	Internal inverted F PCB antenna
Antenna Peak Gain	5.05 dBi
Operating Band	2402 MHz ~ 2480 MHz
Test laboratory name and Address	IoT Antenna Test Laboratory, 11 / F,LEEDARSON LIGHTING CO., LTD. Xingtai Industrial Park, Changtai Economic Development Zone, Zhangzhou, 363900, China
Antenna Manufacturer	LEEDARSON LIGHTING CO., LTD.
Model name	F-1569 V1.1
DUT photo	Please refer to the external photos.
Test Date	2024-4-9
Test Conductor	Shangqing wei

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

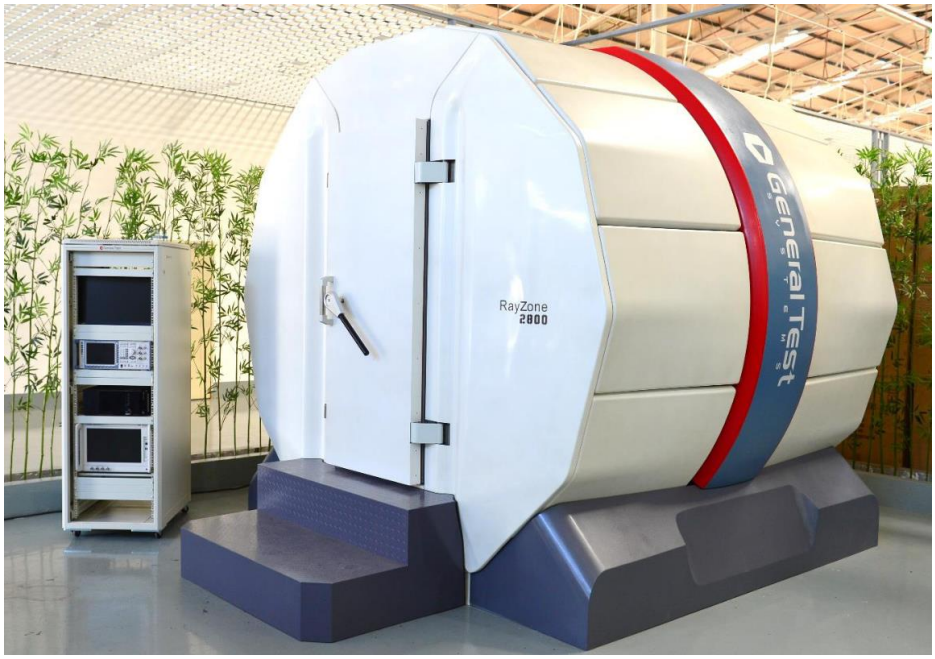


Figure 2 RayZone2800 OTA system

Equipment List

Table 1 Equipment List

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
☒	Network Analyzer	Keysight	E5071C	MY46527808	2024/1/9	2025/1/8
☐	Network Analyzer	Keysight	E5071C	MY46108051	2023/4/20	2024/4/19
☒	Anechoic Chamber	Sunyield	SY-16	SI1727	2023/5/10	2024/5/9
☐	Anechoic Chamber	General Test System	RayZone2800	CT10121244 B5079	2023/5/20	2024/5/19

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	4.91	-4.08	39.07
2410	5.05	-3.98	40
2420	5.03	-3.99	39.89
2430	4.91	-4.07	39.18
2440	4.96	-3.95	40.28
2450	4.91	-4.05	39.4
2460	4.8	-4.12	38.74
2470	4.62	-4.15	38.45
2480	4.59	-4.15	38.49
2490	4.51	-4.18	38.18
2500	4.53	-4.18	38.22

Radiation Pattern

Table 4 Product coordinates

Product Coordinates
Please refer to the antenna setup photos.

Table 5 3D radiation pattern

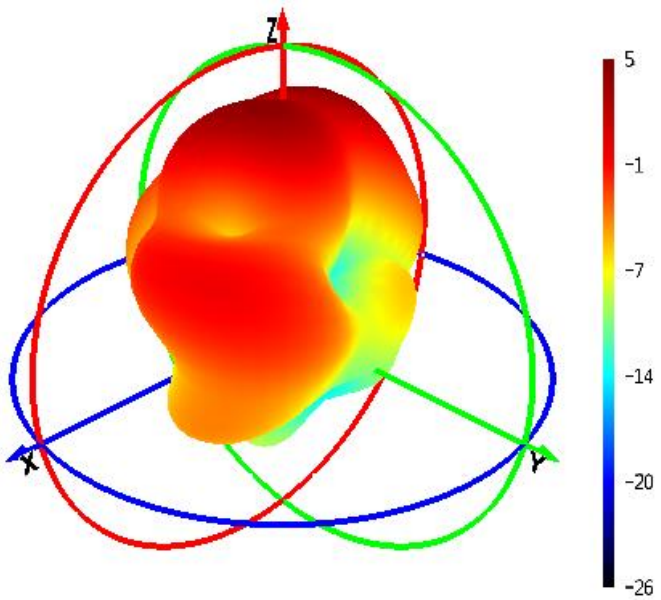
3D Radiation Pattern at 2450MHz


Table 6 Radiation pattern in XY Plane

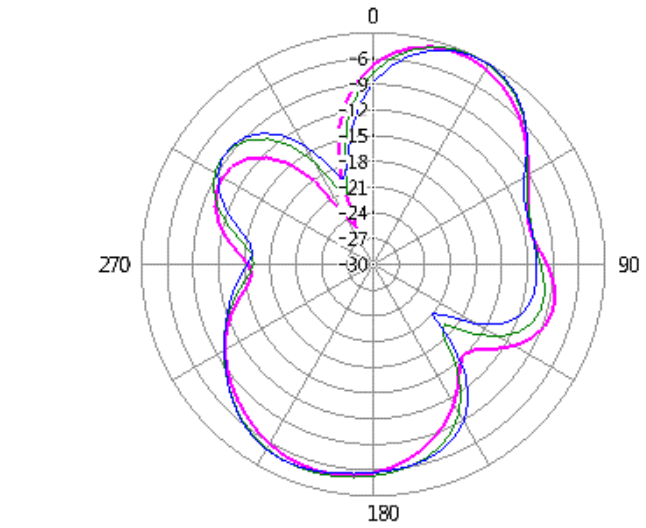
2D Radiation Pattern (θ = 90°, XY Plane)


Table 7 Radiation pattern in XZ Plane

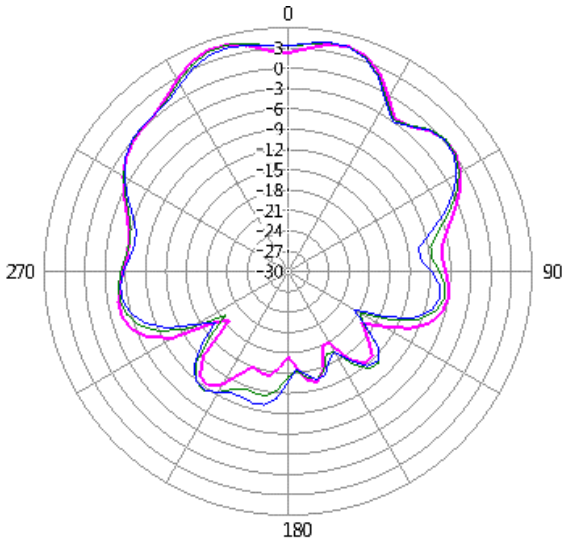
2D Radiation Pattern (ϕ = 0°, XZ Plane)


Table 8 Radiation pattern in YZ Plane

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