

Antenna Specification

Antenna picture	
Antenna Type	Internal inverted F PCB antenna
Antenna Peak Gain	-3.86 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	A21 1600lm RGBTW
DUT photo	
Test Date	2023-12-20
Test Conductor	Zhu Wei

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

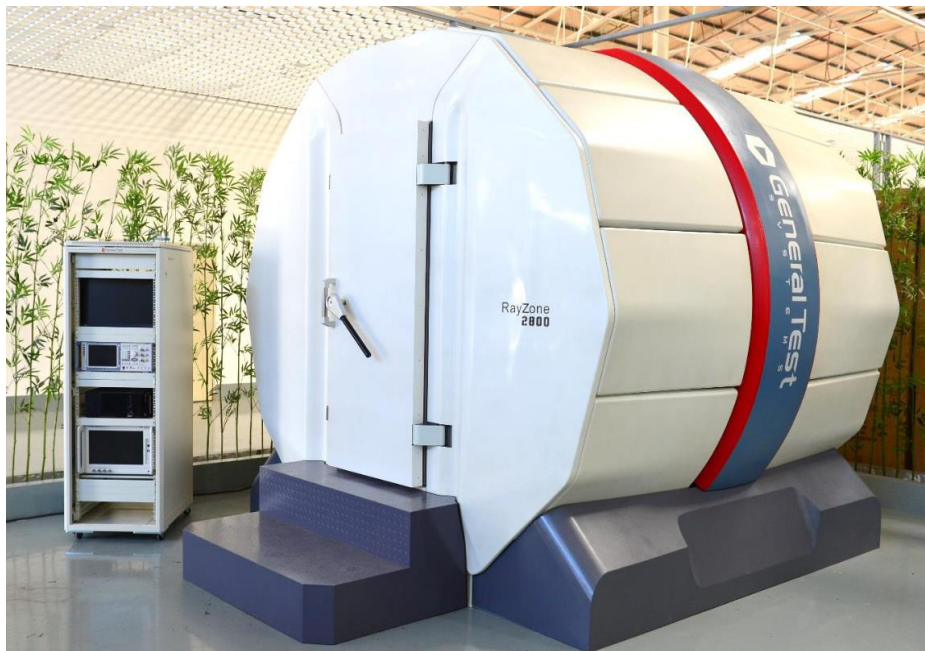


Figure 2 RayZone2800 OTA system

Equipment List

Table 1 Equipment List

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
<input checked="" type="checkbox"/>	Network Analyzer	Keysight	E5071C	MY46527808	2024/1/9	2025/1/8
<input type="checkbox"/>	Network Analyzer	Keysight	E5071C	MY46108051	2023/4/20	2024/4/19
<input checked="" type="checkbox"/>	Anechoic Chamber	Sunyield	SY-16	SI1727	2023/5/10	2024/5/9
<input type="checkbox"/>	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	<input checked="" type="checkbox"/>	MaxSign-V1.4.3	<input type="checkbox"/>	

Test Result

Efficiency and Gain

Table 3 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-4.00	-8.73	13.41
2410	-3.94	-8.63	13.71
2420	-4.19	-8.76	13.30
2430	-4.02	-8.46	14.25
2440	-3.86	-8.16	15.29
2450	-4.03	-8.37	14.55
2460	-4.05	-8.32	14.73
2470	-3.96	-8.04	15.70
2480	-3.88	-7.91	16.18
2490	-4.05	-7.95	16.01
2500	-4.20	-7.99	15.89

Radiation Pattern

Table 4 Product coordinates

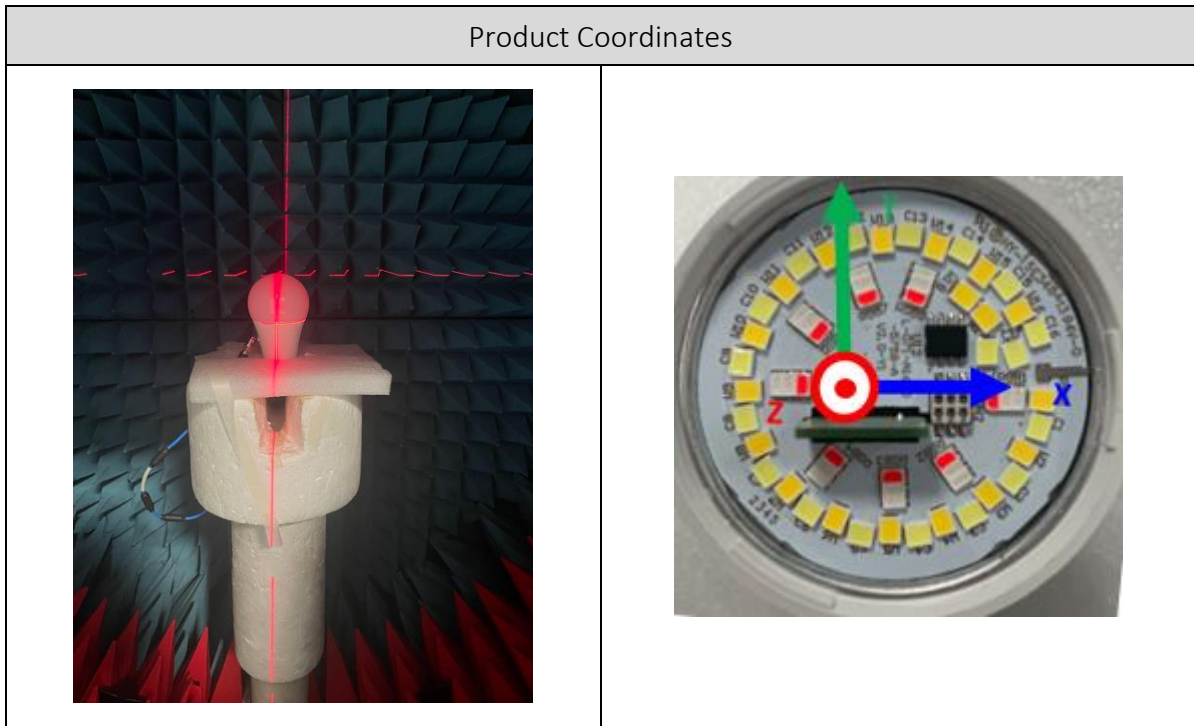


Table 5 3D radiation pattern

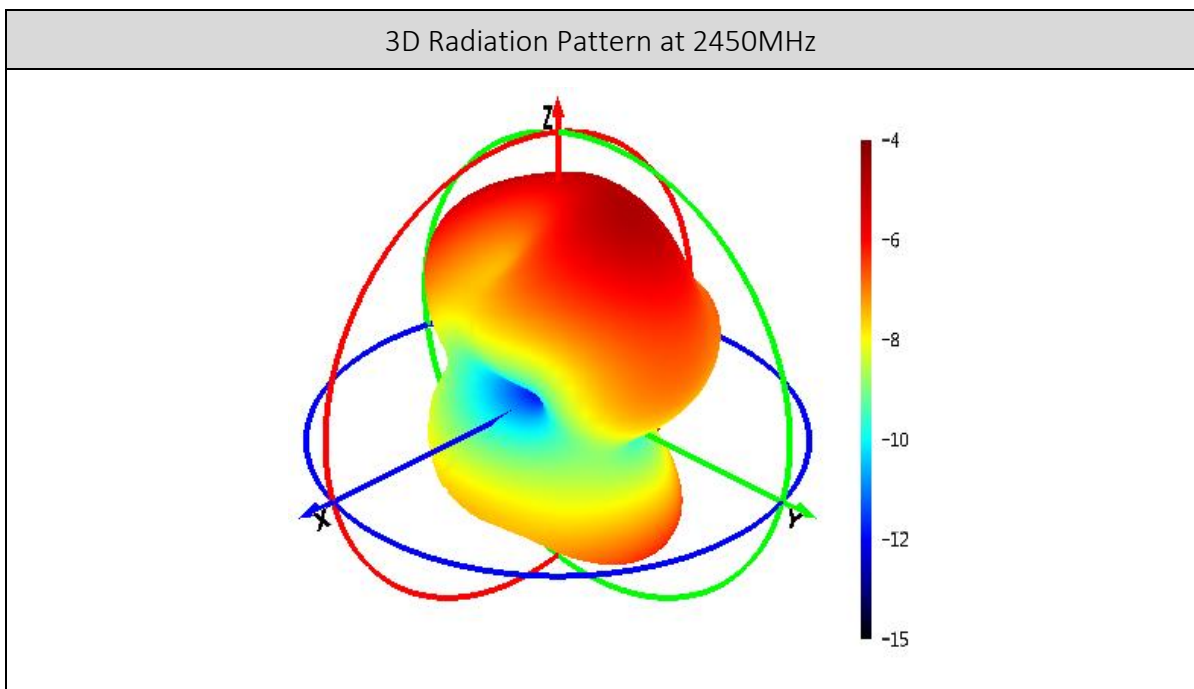


Table 6 Radiation pattern in XY Plane

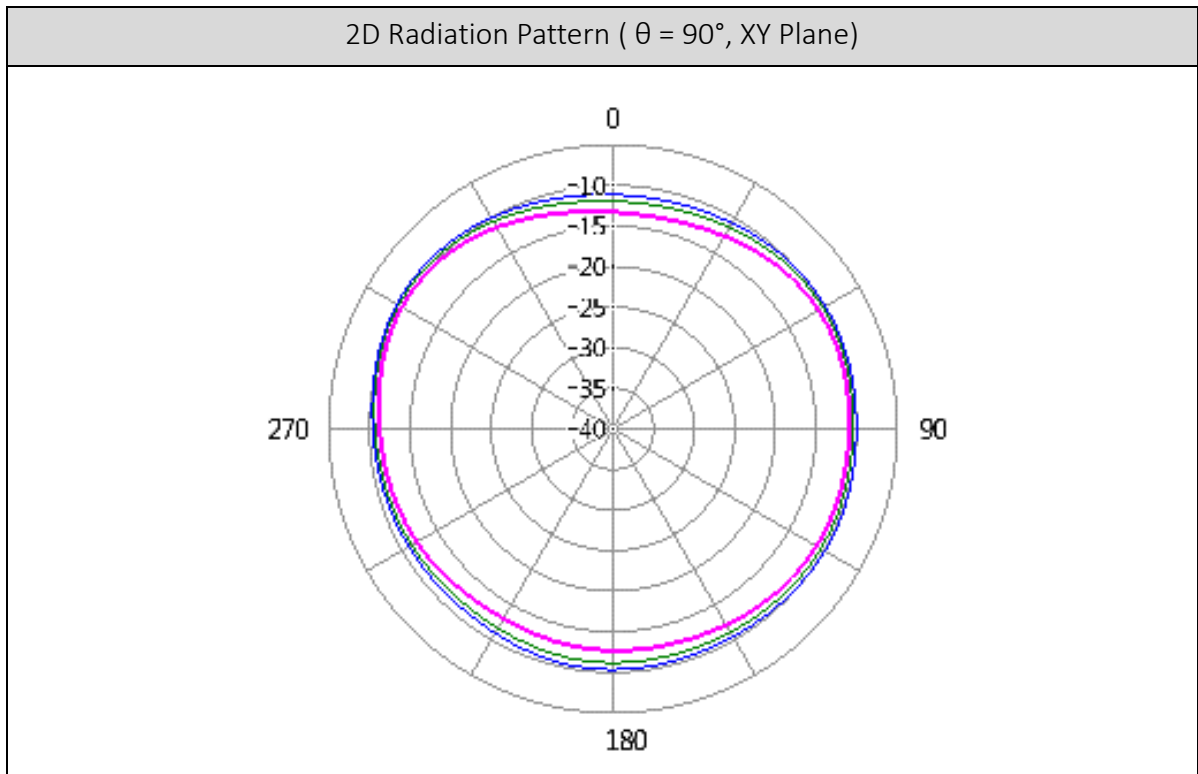


Table 7 Radiation pattern in XZ Plane

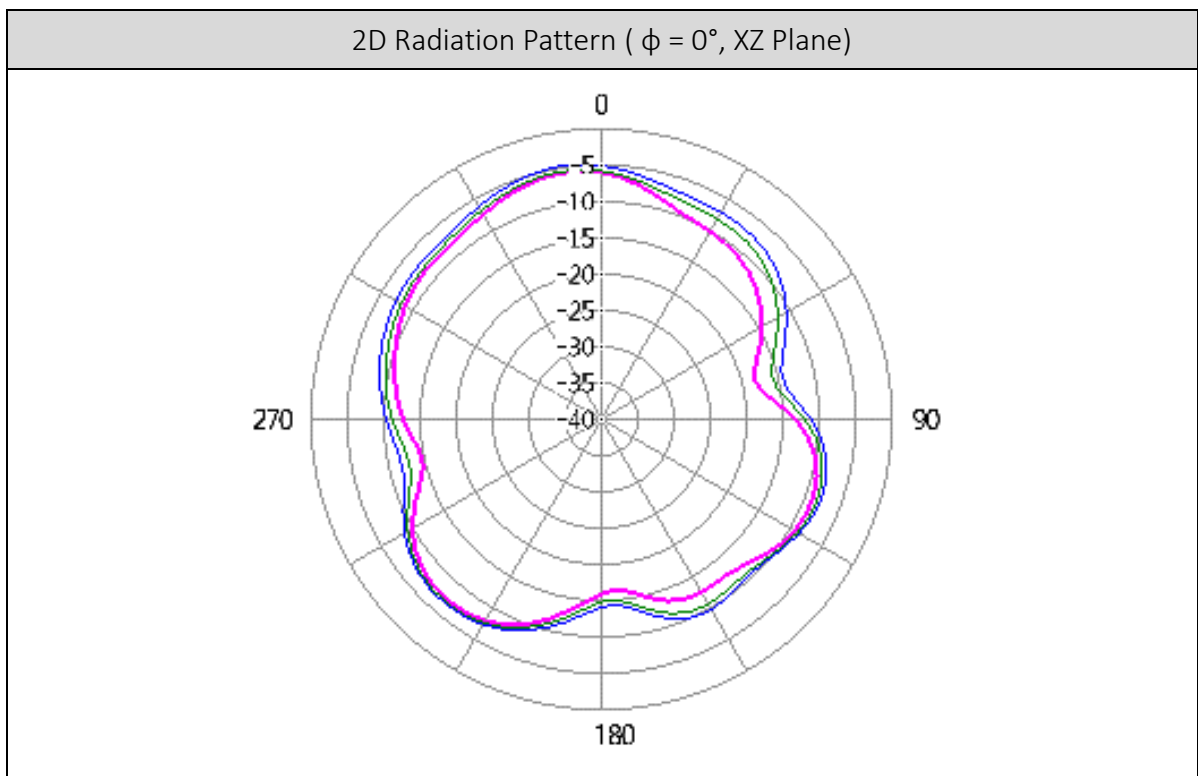


Table 8 Radiation pattern in YZ Plane

