

# Antenna Information

Antenna picture	Please refer to the internal photo.
Antenna Type	Internal PCB antenna
Antenna Peak Gain	BLE: 3.25dBi
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	
DUT photo	Please refer to the external photo.
Test Engineer Test Date	2024-02-03
Test Date	Zhu Wei

## 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 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
<input checked="" type="checkbox"/>	Network Analyzer	Keysight	E5071C	MY46527808	2024/1/4	2025/1/3

<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"/>	

## BLE Test Result

### Efficiency and Gain

Table 1 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	3.25	-2.31	58.70
2410	3.12	-2.53	55.87
2420	3.03	-2.63	54.61
2430	3.00	-2.66	54.26
2440	2.94	-2.70	53.73
2450	2.79	-2.93	50.93
2460	2.71	-2.96	50.60
2470	2.53	-2.93	50.89
2480	2.44	-2.96	50.60

## Radiation Pattern

Table 2 Product coordinates

Product Coordinates
Please refer to the antenna setup photo.

Table 3 3D radiation pattern

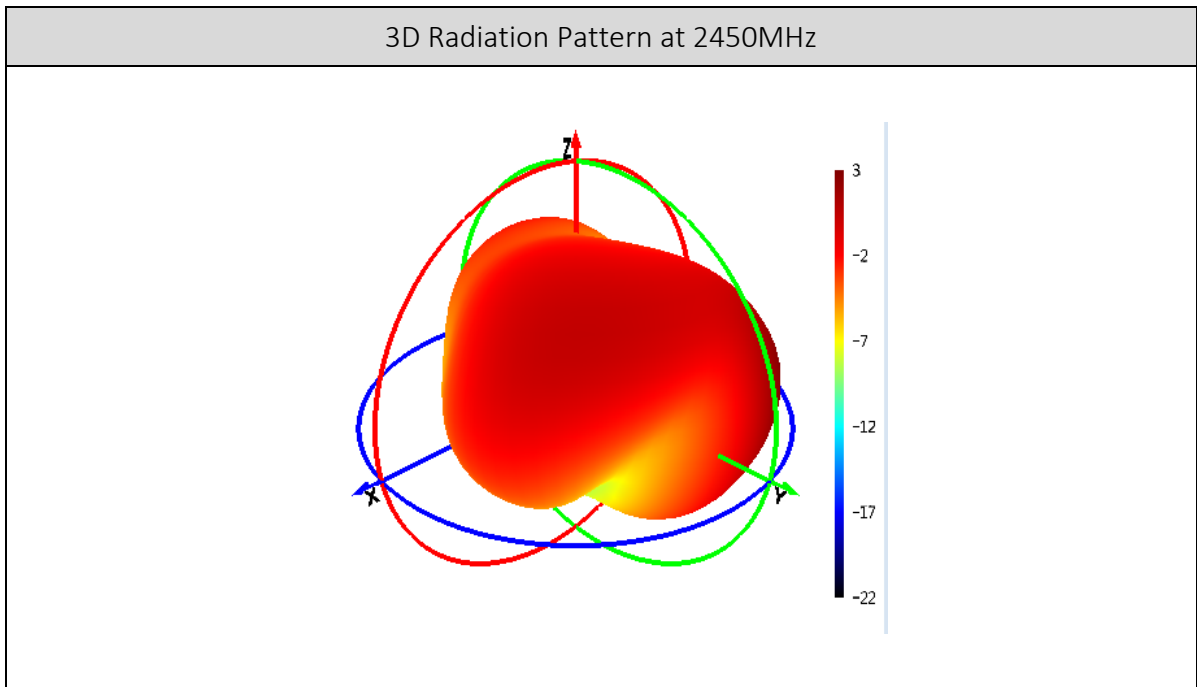


Table 4 Radiation pattern in XY Plane

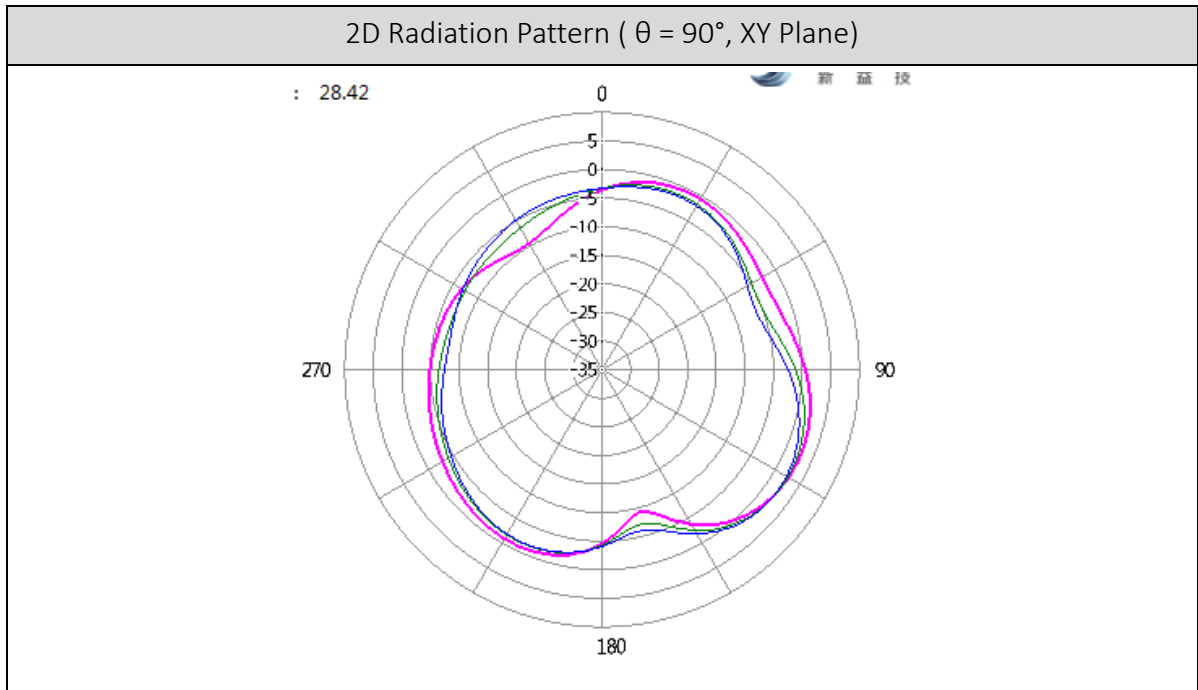


Table 5 Radiation pattern in XZ Plane

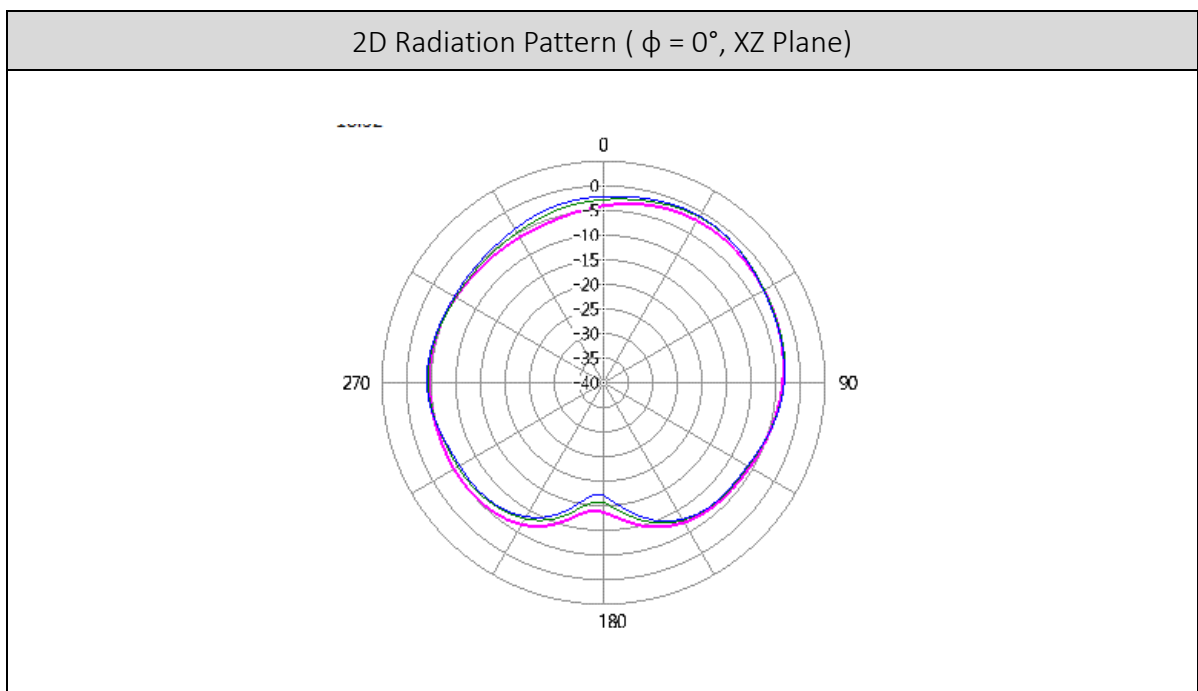


Table 6 Radiation pattern in YZ Plane

