

# Antenna Specification

Antenna Type	PCB Loop antenna
Antenna Peak Gain	-14.26 dBi
Operating Band	433 MHz -434 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	KEYFOB
Test Date	2024-04-29
Test Conductor	Fenghuijuan

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 type="checkbox"/>	Network Analyzer	Keysight	E5071C	MY46527808	2024/1/9	2025/1/8
<input checked="" type="checkbox"/>	Network Analyzer	Keysight	E5071C	MY46108051	2024/4/19	2025/4/18
<input type="checkbox"/>	Anechoic Chamber	Sunyield	SY-16	SI1727	2024/4/28	2025/4/27
<input checked="" type="checkbox"/>	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	<input type="checkbox"/>	MaxSign-V1.4.3	<input checked="" type="checkbox"/>	

## Test Result

### Efficiency and Gain

Table 3 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
432	-14.75	-17.53	1.76
434	-14.26	-17.03	1.98

## Radiation Pattern

Table 4 Product coordinates

Product Coordinates
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Please refer to antenna setup photos.

Table 5 3D radiation pattern

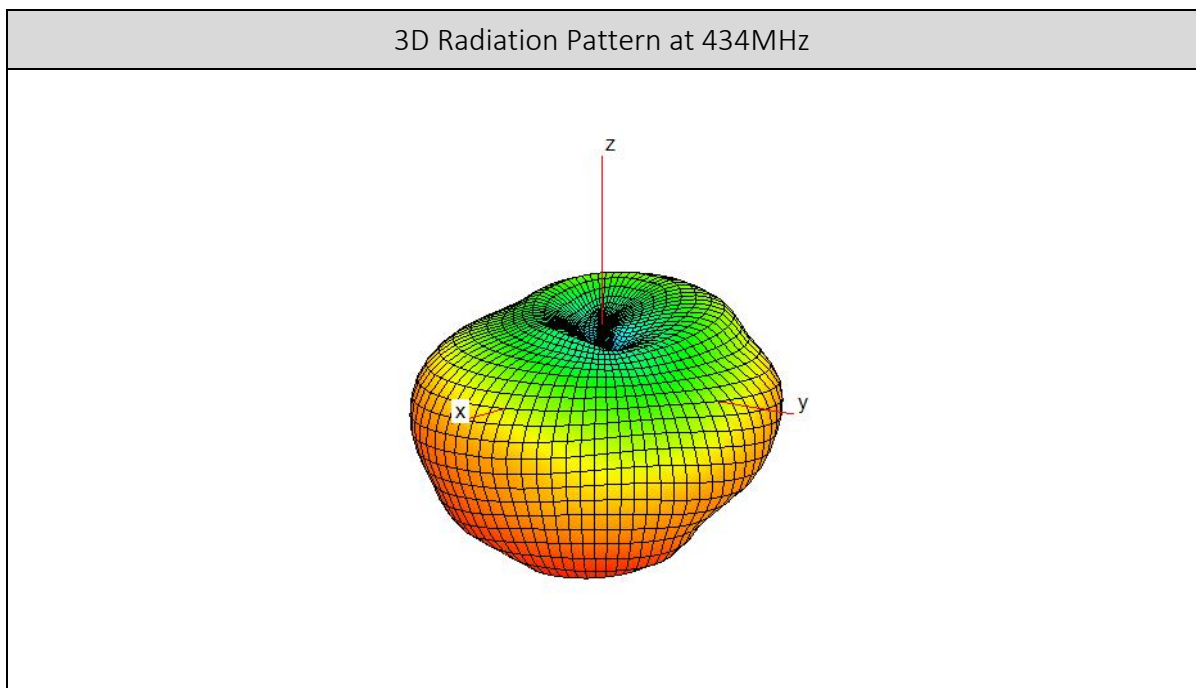
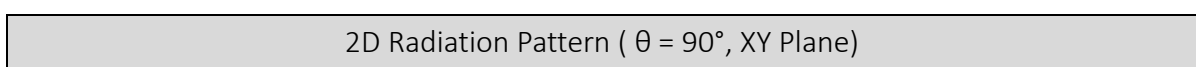


Table 6 Radiation pattern in XY Plane



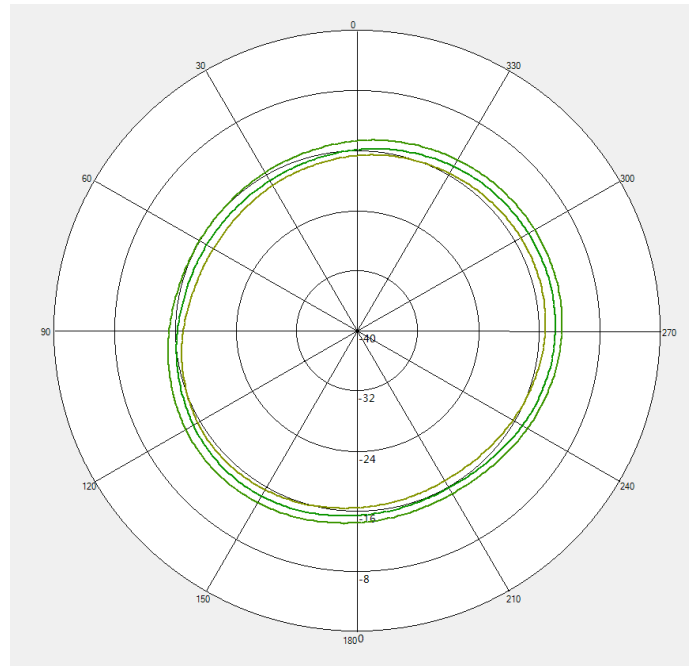


Table 7 Radiation pattern in XZ Plane

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

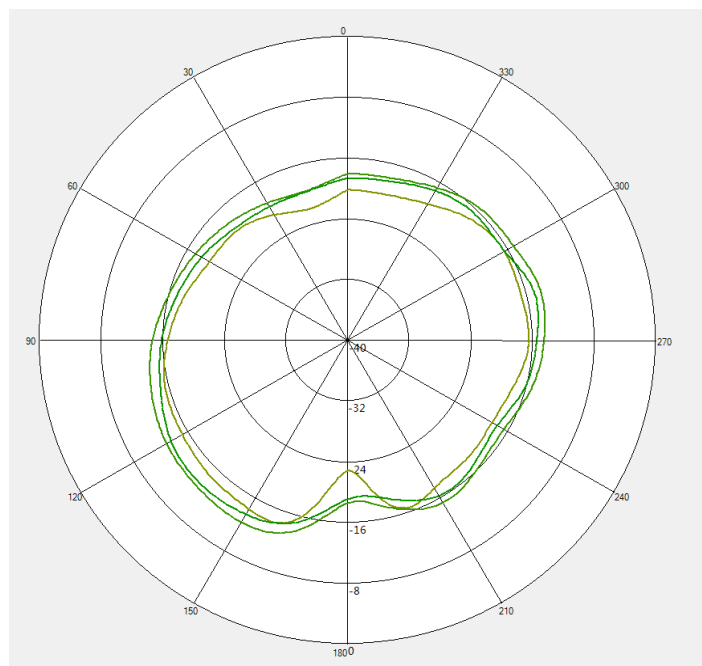


Table 8 Radiation pattern in YZ Plane

