

# Antenna Specification

|                                  |                                                                                                                                                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna picture                  |                                                                             |
| Antenna Type                     | Internal inverted F PCB antenna                                                                                                                               |
| Antenna Peak Gain                | 0.36dBi                                                                                                                                                       |
| Operating Band                   | 2400 MHz ~ 2483.5 MHz                                                                                                                                         |
| Test laboratory name and Address | IoT Antenna Test Laboratory, 11 / F, LEEDARSON LIGHTING CO., LTD.<br>Xingtai Industrial Park, Changtai Economic Development Zone,<br>Zhangzhou, 363900, China |
| Antenna Manufacturer             | LEEDARSON LIGHTING CO., LTD.                                                                                                                                  |
| Model name                       | A19 CCT T20                                                                                                                                                   |
| DUT photo                        |                                                                           |
| Test Date                        | 2024-10-25                                                                                                                                                    |
| Test Conductor                   | Xiaokun Lin                                                                                                                                                   |

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          | 2024/4/19 | 2025/4/18 |
| <input checked="" type="checkbox"/> | Anechoic Chamber | Sunyield            | SY-16       | SI1727              | 2024/4/28 | 2025/4/27 |
| <input type="checkbox"/>            | Anechoic Chamber | General Test System | RayZone2800 | CT10121244<br>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 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            | 0.00       | -5.55           | 27.86          |
| 2410            | 0.35       | -5.15           | 30.55          |
| 2420            | 0.22       | -5.22           | 30.08          |
| 2430            | 0.12       | -5.24           | 29.89          |
| 2440            | 0.36       | -4.91           | 32.27          |
| 2450            | 0.24       | -4.99           | 31.73          |
| 2460            | -0.05      | -5.24           | 29.89          |
| 2470            | -0.11      | -5.32           | 29.39          |
| 2480            | 0.00       | -5.21           | 30.13          |
| 2490            | -0.11      | -5.36           | 29.14          |
| 2500            | -0.33      | -5.63           | 27.35          |

## Radiation Pattern

Table 4 Product coordinates

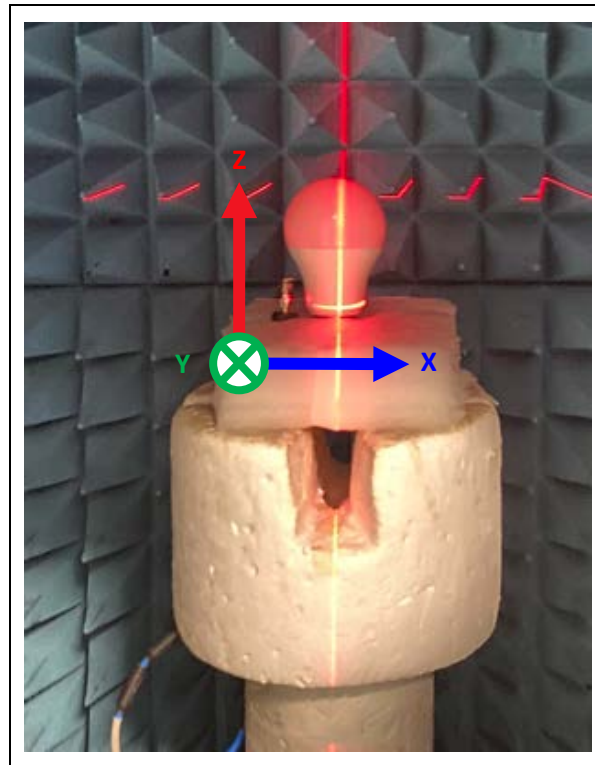


Table 5 3D radiation pattern

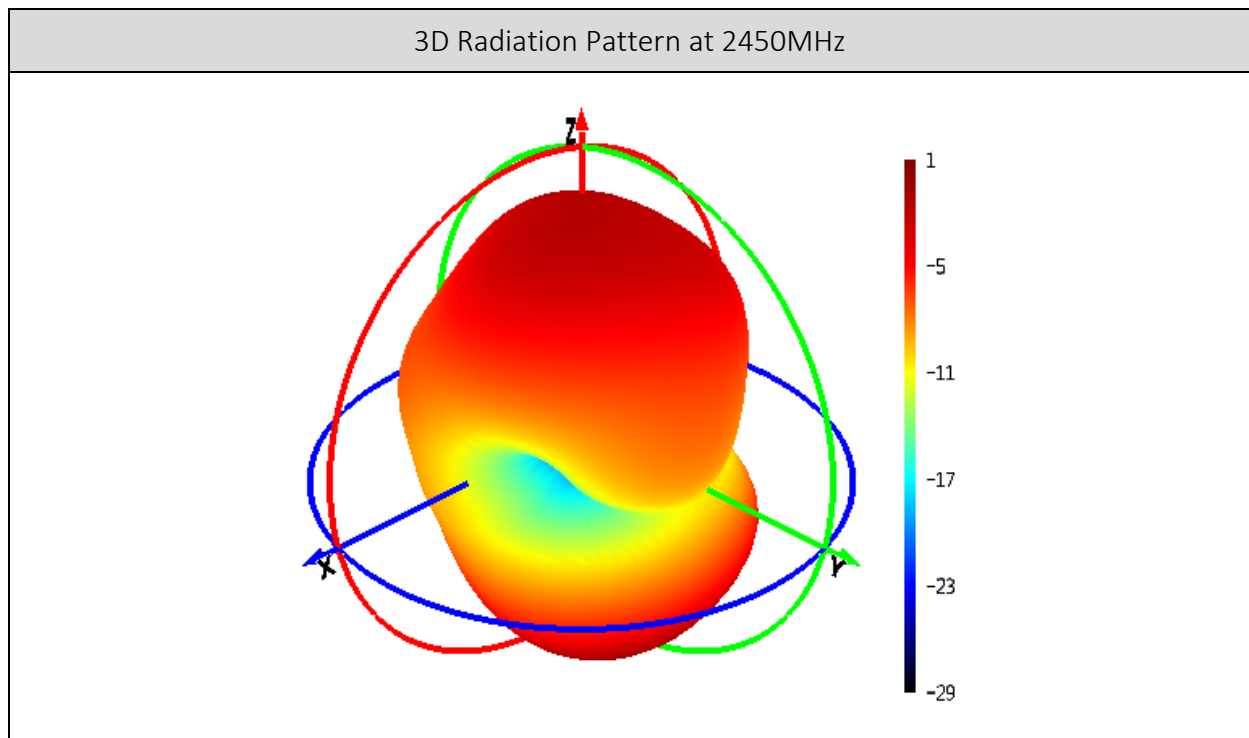


Table 6 Radiation pattern in XY Plane

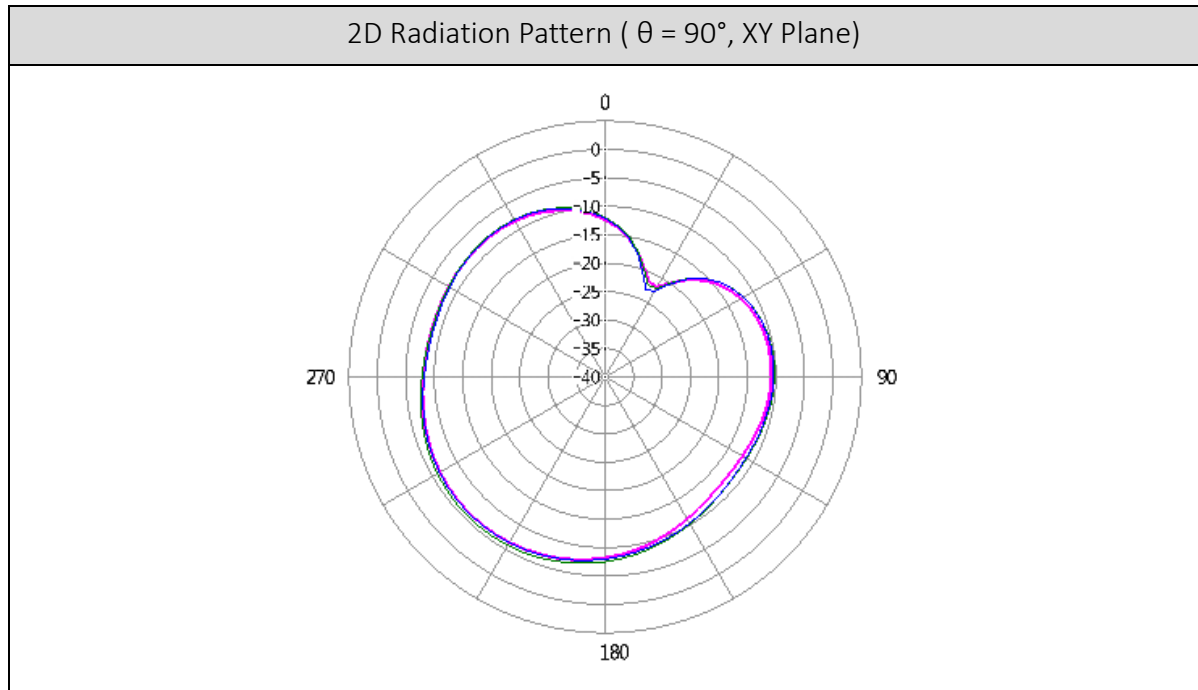


Table 7 Radiation pattern in XZ Plane

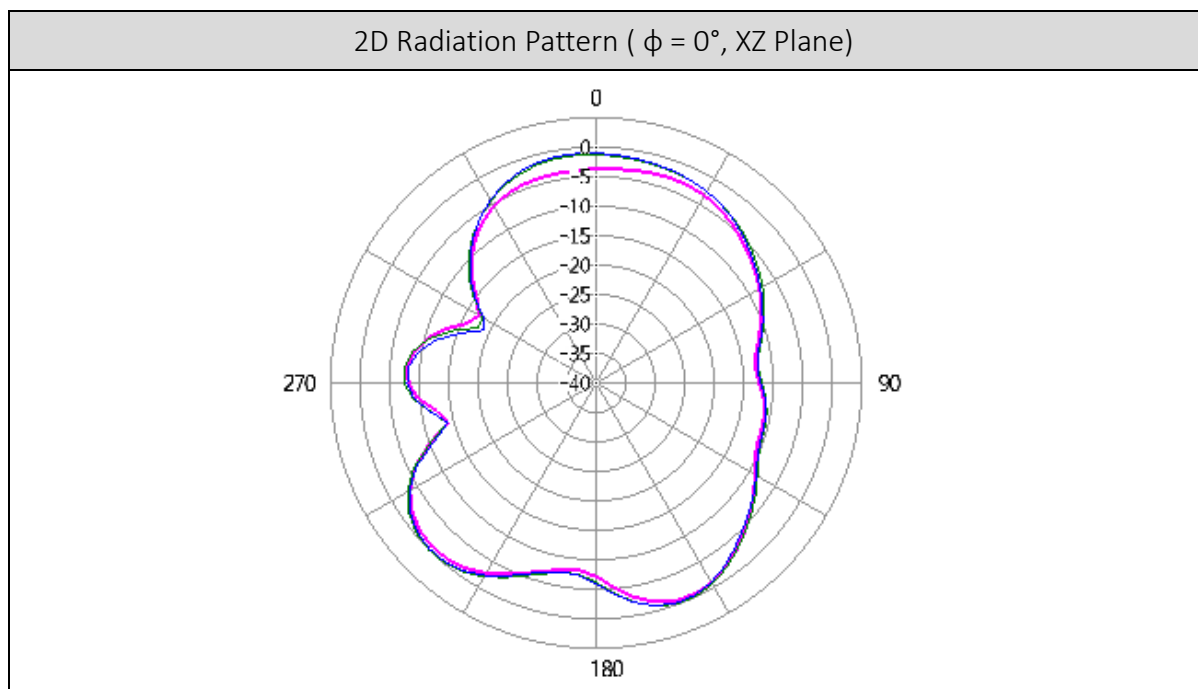


Table 8 Radiation pattern in YZ Plane

