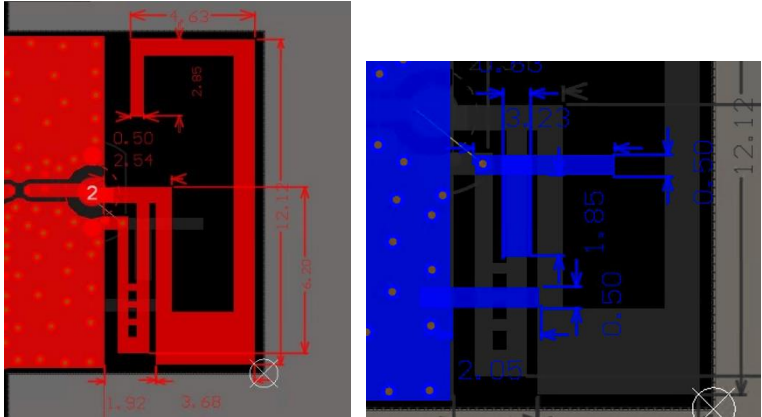


Antenna Specification

Antenna picture	
Antenna Type	Internal inverted F PCB antenna
Antenna Peak Gain	-1.83 dBi @ 2.4G; 3.78 dBi @ 5G
Operating Band	2400 MHz ~ 2500 MHz & 5180MHz ~ 5825 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	M071 A19 RGBTW T20 1100LM 高彩光
DUT photo	
Test Date	2025-11-03
Test Conductor	Shangqing 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

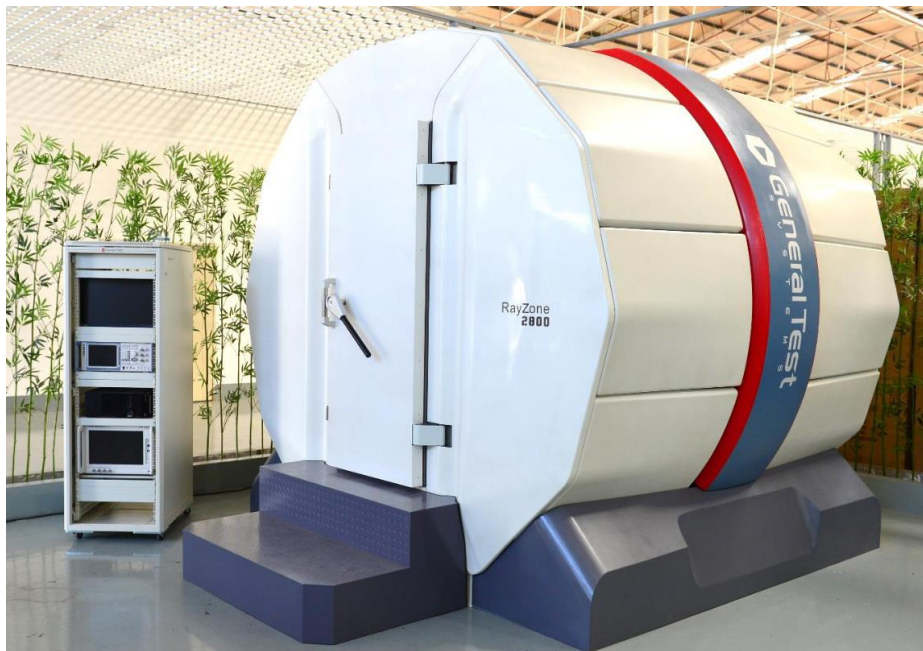


Figure 2 RayZone2800 OTA system

Equipment List

Table 1 Equipment List

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
☒	Network Analyzer	Keysight	E5071C	MY46527808	2025/1/9	2026/1/8
☐	Network Analyzer	Keysight	E5071C	MY46108051	2025/4/19	2026/4/18
☒	Anechoic Chamber	Sunyield	SY-16	SI1727	2025/4/28	2026/4/27
☐	Anechoic Chamber	General Test System	RayZone2800	CT10121244 B5079	2025/5/10	2026/5/9

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	☒	MaxSign-V1.4.3	☐	

Test Result

Efficiency and Gain

Table 3 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-2.99	-8.36	14.58
2410	-2.44	-7.82	16.52
2420	-2.55	-7.85	16.39
2430	-2.65	-7.84	16.45
2440	-2.22	-7.29	18.67
2450	-2.1	-7.24	18.89
2460	-2.31	-7.37	18.33
2470	-2.27	-7.17	19.17
2480	-1.95	-6.86	20.61
2490	-1.92	-6.83	20.75
2500	-1.83	-6.72	21.29

5180	0.34	-7.32	18.55
5250	1.47	-6.24	23.76
5320	2.26	-5.26	29.81
5390	3.52	-4.08	39.07
5460	3.56	-3.69	42.79
5530	3.61	-3.27	47.13
5600	3	-3.71	42.58
5670	2.62	-4.31	37.03
5740	1.58	-5.07	31.13
5830	0.67	-5.39	28.9

Radiation Pattern

Table 4 Product coordinates

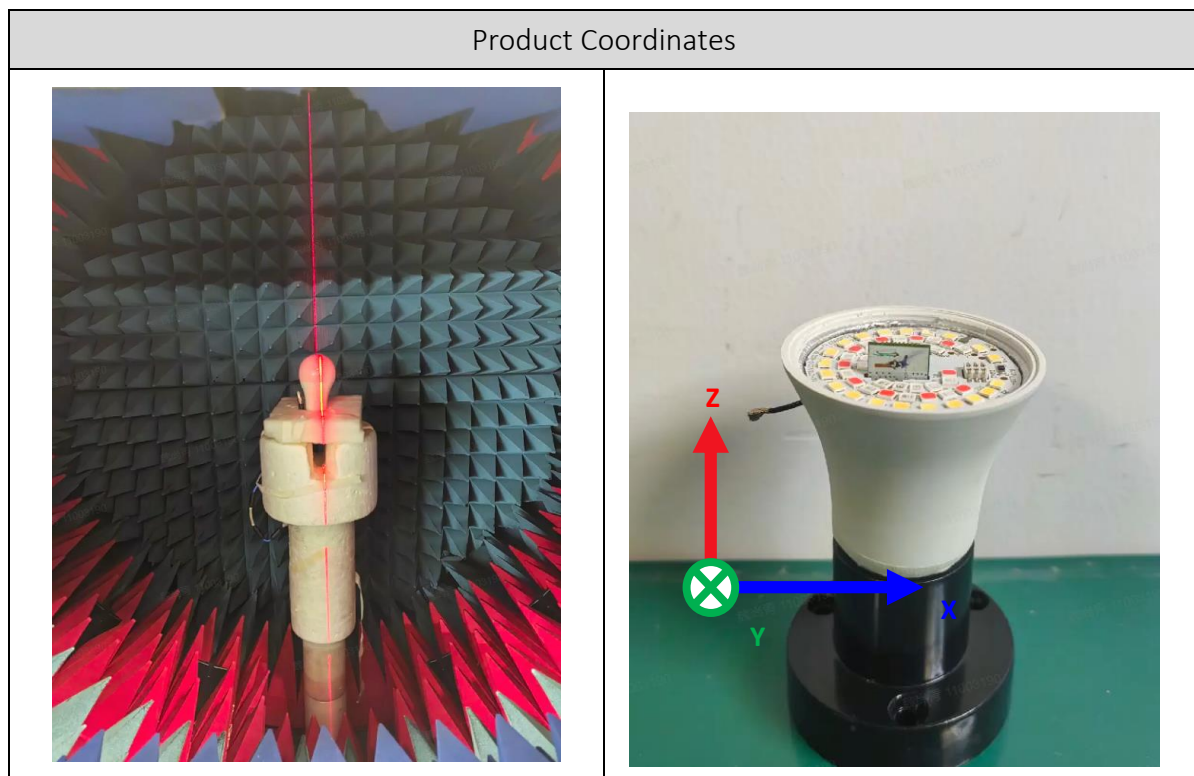


Table 5 3D radiation pattern @ 915 MHz

3D Radiation Pattern at 2450 MHz

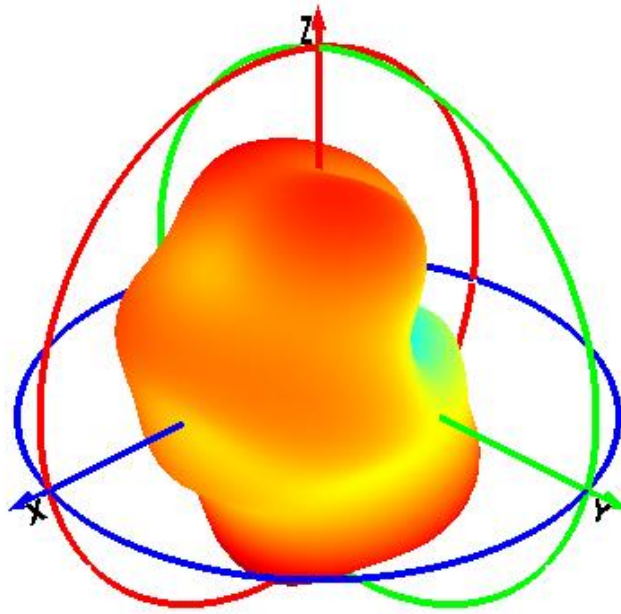


Table 6 Radiation pattern in XY Plane

2D Radiation Pattern ($\theta = 90^\circ$, XY Plane)

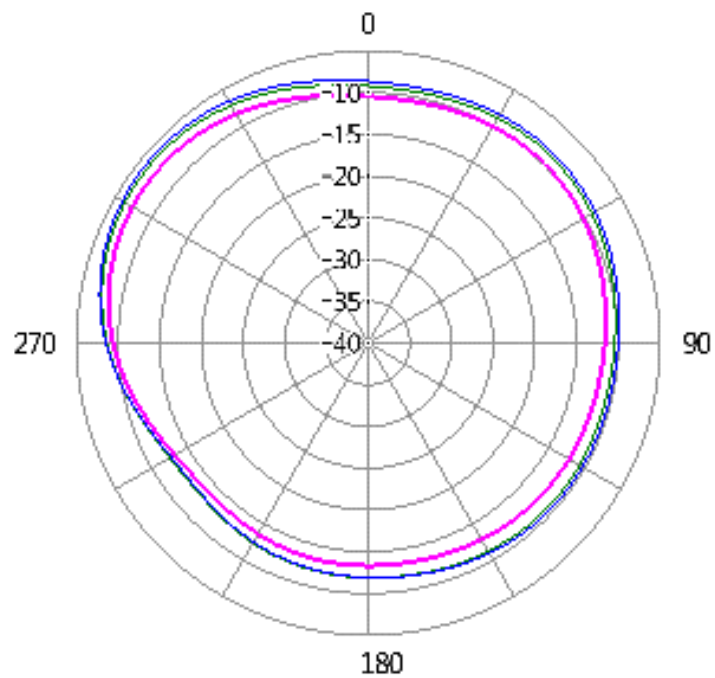


Table 7 Radiation pattern in XZ Plane

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

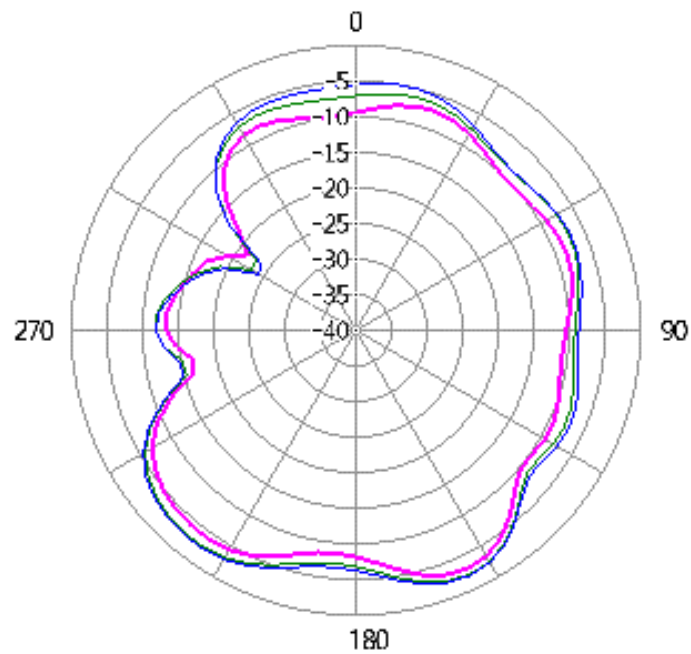


Table 8 Radiation pattern in YZ Plane

2D Radiation Pattern ($\phi = 90^\circ$, YZ Plane)

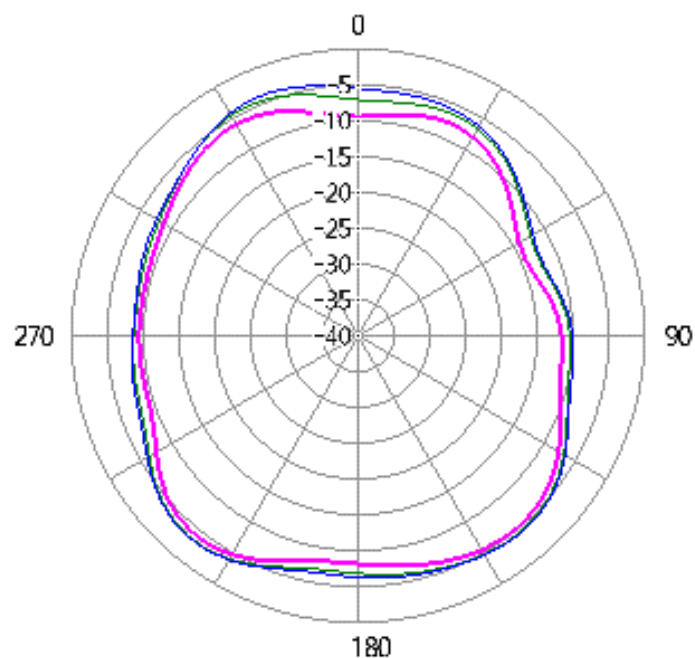


Table 9 3D radiation pattern @ 2450 MHz

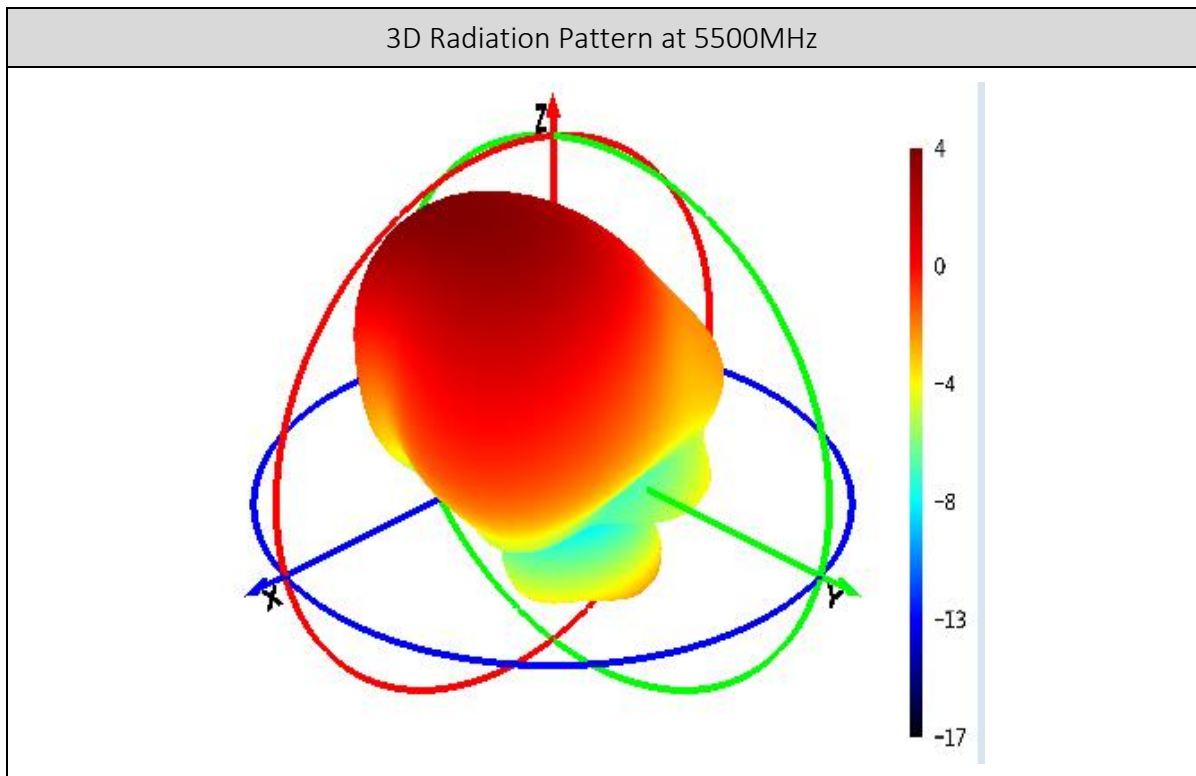


Table 10 Radiation pattern in XY Plane

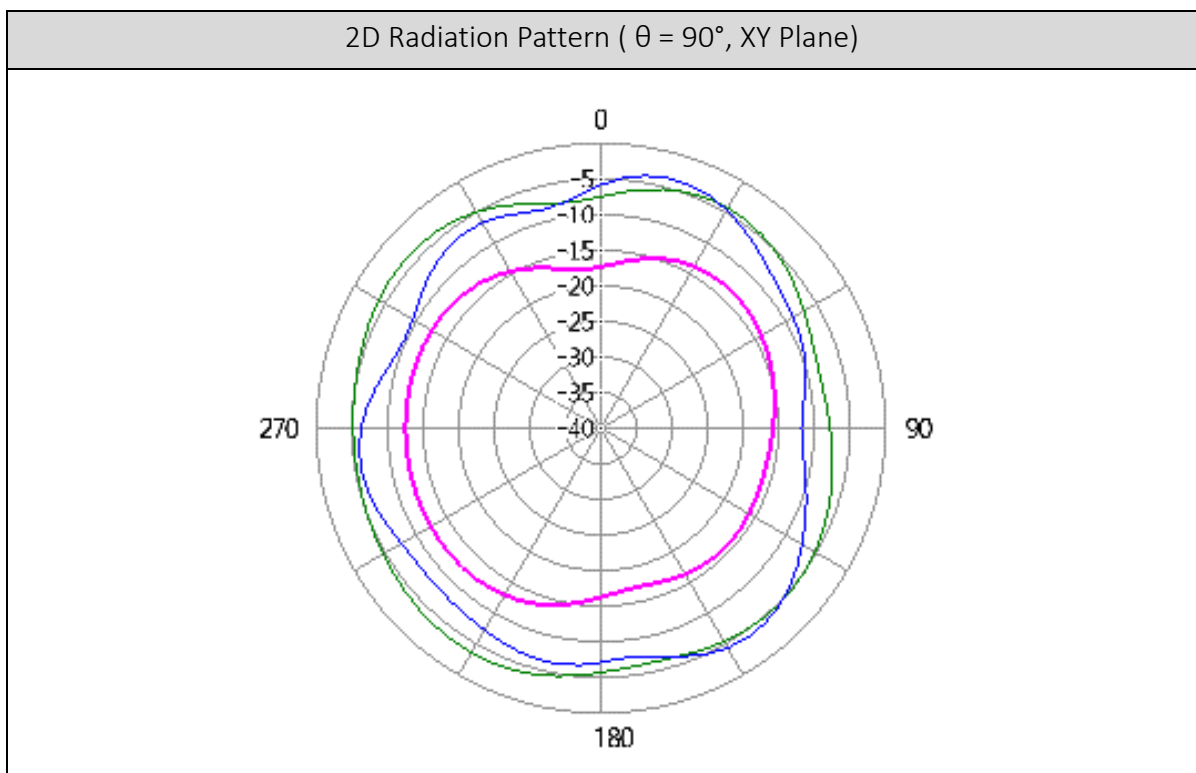


Table 11 Radiation pattern in XZ Plane

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

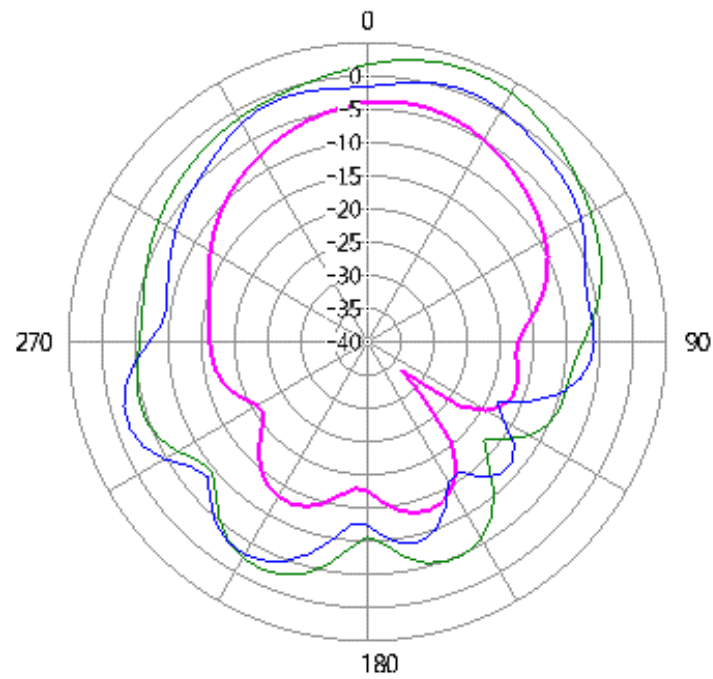


Table 12 Radiation pattern in YZ Plane

2D Radiation Pattern ($\phi = 90^\circ$, YZ Plane)

