

Antenna Specification

Antenna Type	Metal Monopole antenna
Antenna Peak Gain	1.80 dBi @ Sub-G; 3.27 dBi @ BLE
Operating Band	902 ~ 928 MHz & 2400 MHz ~ 2500 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	7JFYAB
Test Date	2025-10-22
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
☐	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 (%)
902	0.48	-5.82	26.15
904	0.67	-5.65	27.24
906	0.82	-5.51	28.14
908	0.94	-5.41	28.79
910	1.07	-5.31	29.46
912	1.24	-5.20	30.18
914	1.42	-5.10	30.91
916	1.56	-5.02	31.49
918	1.65	-4.96	31.89
920	1.74	-4.92	32.18
922	1.80	-4.91	32.27

924	1.80	-4.91	32.25
926	1.79	-4.93	32.12
928	1.76	-4.95	32.01
2400	2.96	-0.87	81.87
2410	2.90	-0.92	80.98
2420	3.13	-0.91	81.03
2430	2.71	-0.86	81.97
2440	3.20	-0.78	83.54
2450	2.99	-0.72	84.73
2460	2.63	-0.80	83.25
2470	3.27	-0.81	83.00
2480	2.45	-0.83	82.63
2490	2.66	-0.85	82.25
2500	2.68	-0.81	82.99

Table 5 3D radiation pattern

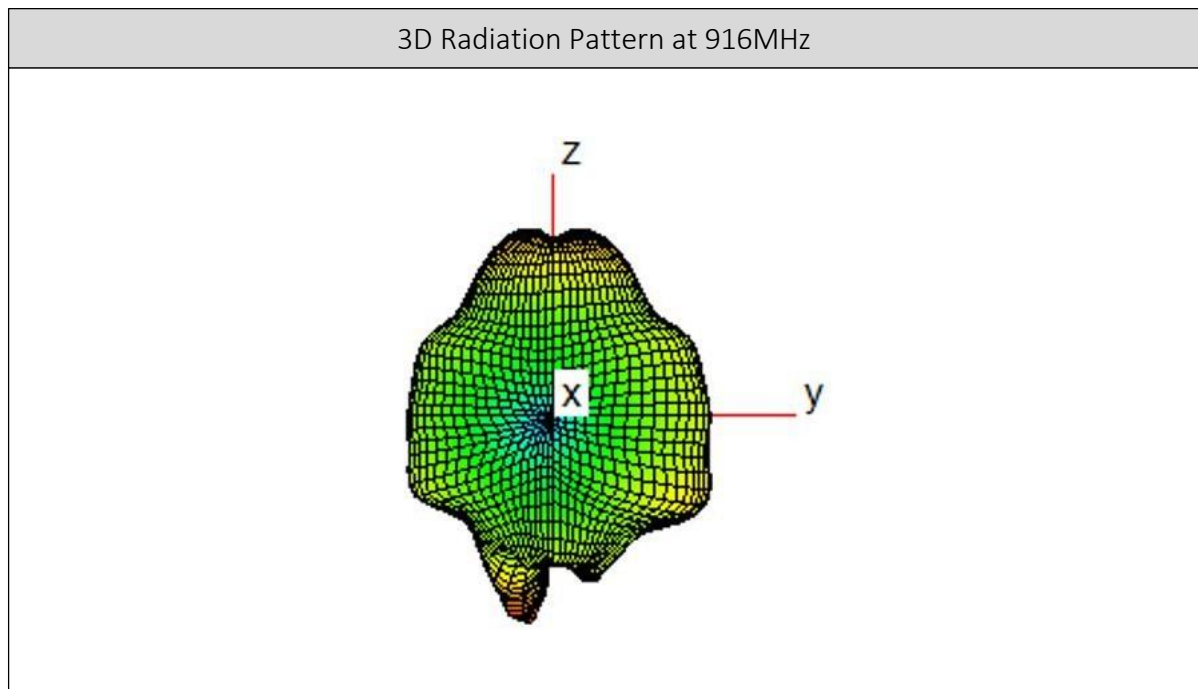


Table 6 Radiation pattern in XY Plane

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

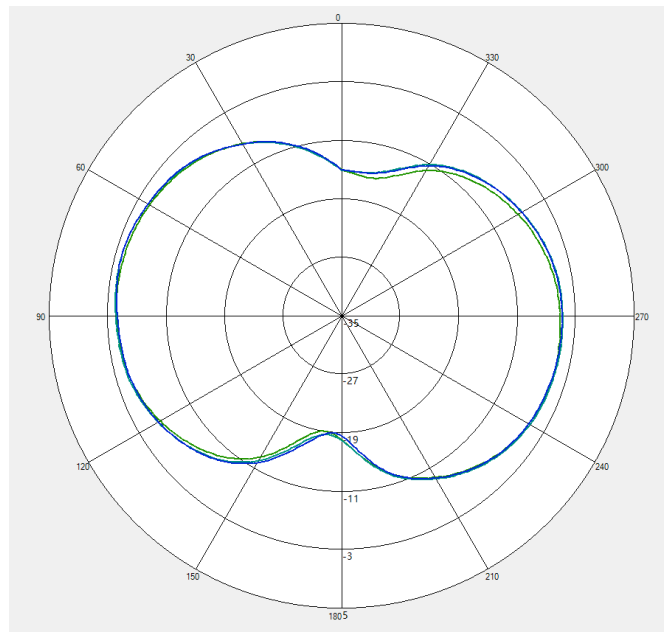


Table 7 Radiation pattern in XZ Plane

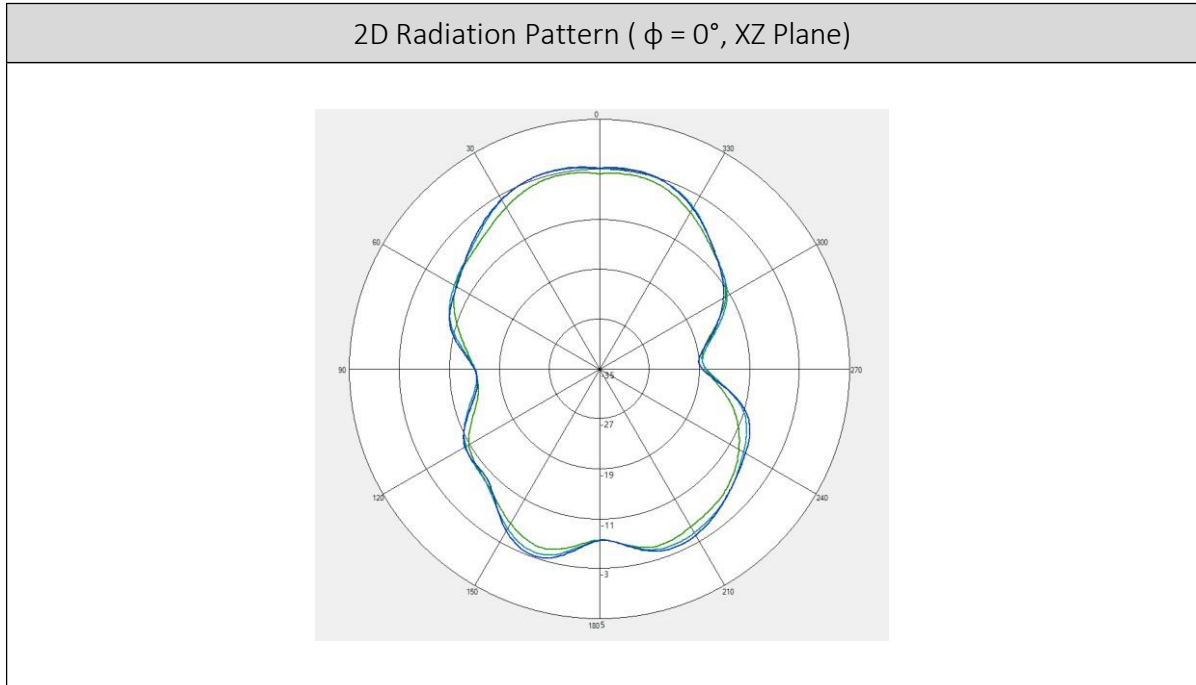


Table 8 Radiation pattern in YZ Plane

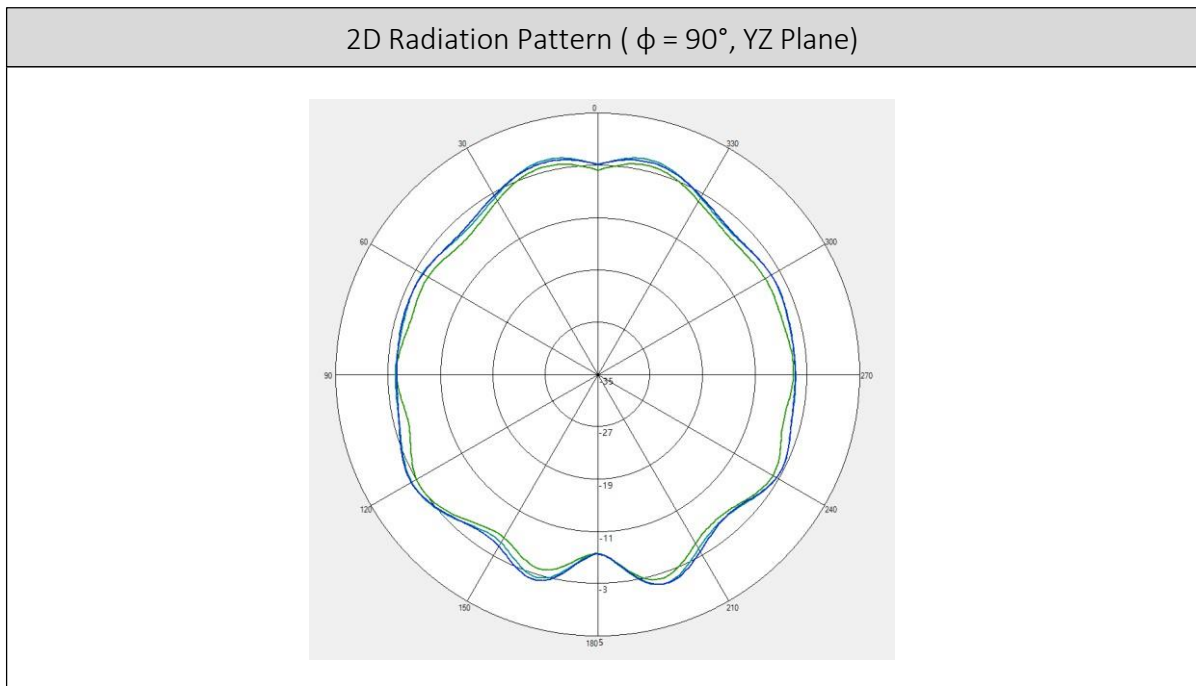


Table 5 3D radiation pattern

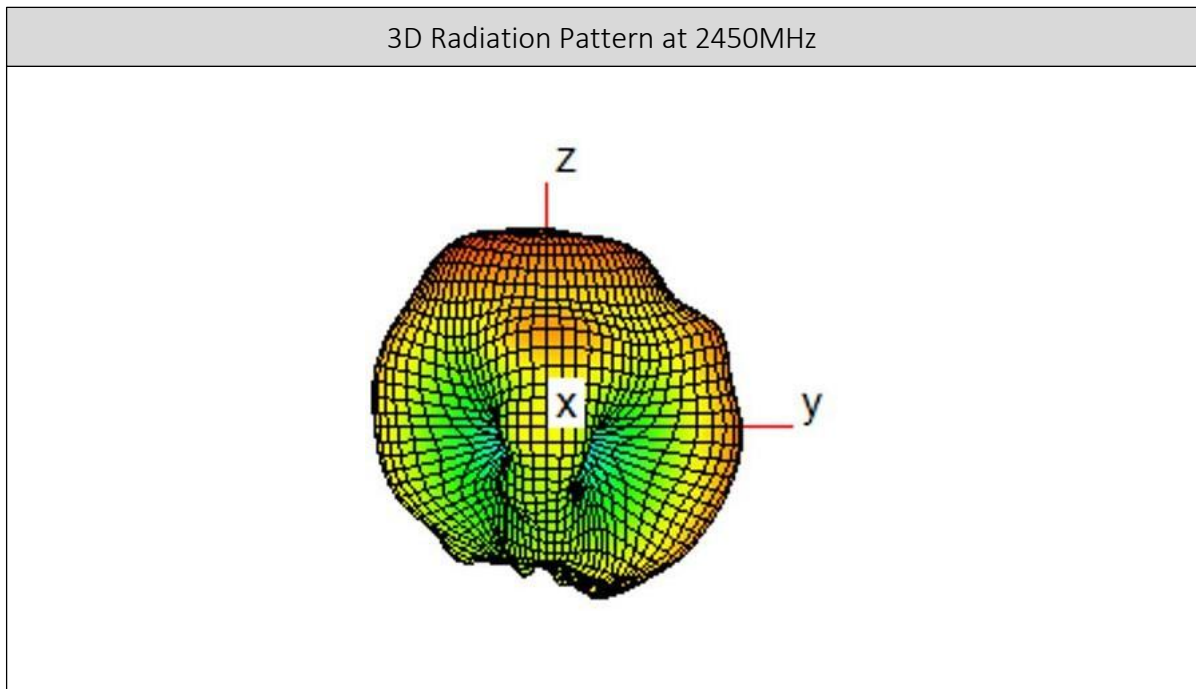


Table 6 Radiation pattern in XY Plane

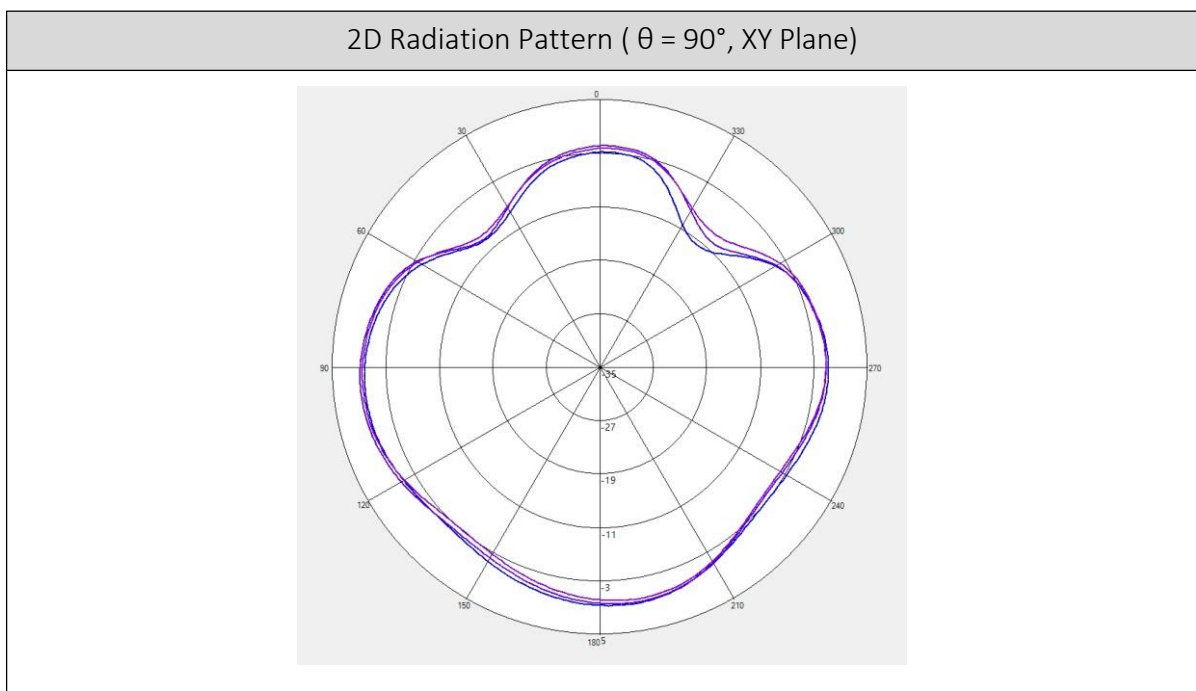


Table 7 Radiation pattern in XZ Plane

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

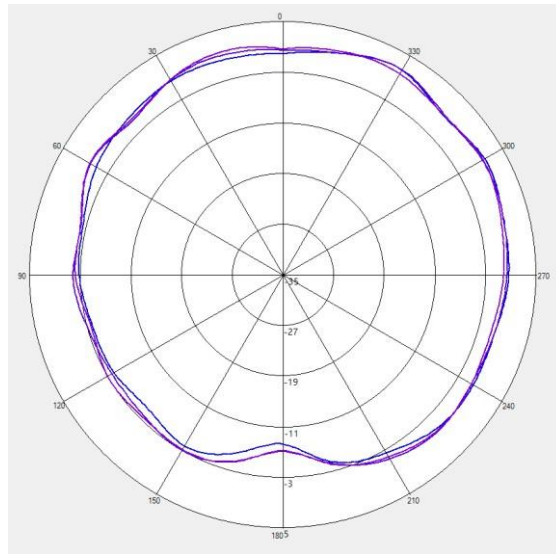


Table 8 Radiation pattern in YZ Plane

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

