

Antenna Specification

Antenna Type	Metal IFA antenna
Antenna Peak Gain	1.78 dBi @ Sub-G; 4.85 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	7MFYAB
Test Date	2025-09-30
Test Conductor	Ou Min

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	1.08	-5.51	28.13
904	1.23	-5.35	29.21
906	1.3	-5.23	29.99
908	1.41	-5.09	30.98
910	1.64	-4.83	32.92
912	1.78	-4.63	34.4
914	1.66	-4.55	35.1
916	1.57	-4.55	35.06
918	1.29	-4.69	33.94
920	1.3	-4.67	34.15
922	1.42	-4.56	34.99

924	1.48	-4.49	35.53
926	1.38	-4.59	34.79
928	1.34	-4.81	33.07
2400	4.54	-1.12	77.32
2410	4.6	-1.31	73.92
2420	4.82	-1.38	72.77
2430	4.81	-1.51	70.63
2440	4.72	-1.65	68.33
2450	4.59	-1.84	65.42
2460	4.81	-1.77	66.53
2470	4.85	-1.82	65.84
2480	4.69	-1.98	63.35
2490	4.49	-1.99	63.21
2500	4.48	-1.8	66.07

Radiation Pattern

Table 5 3D radiation pattern @ 915 MHz

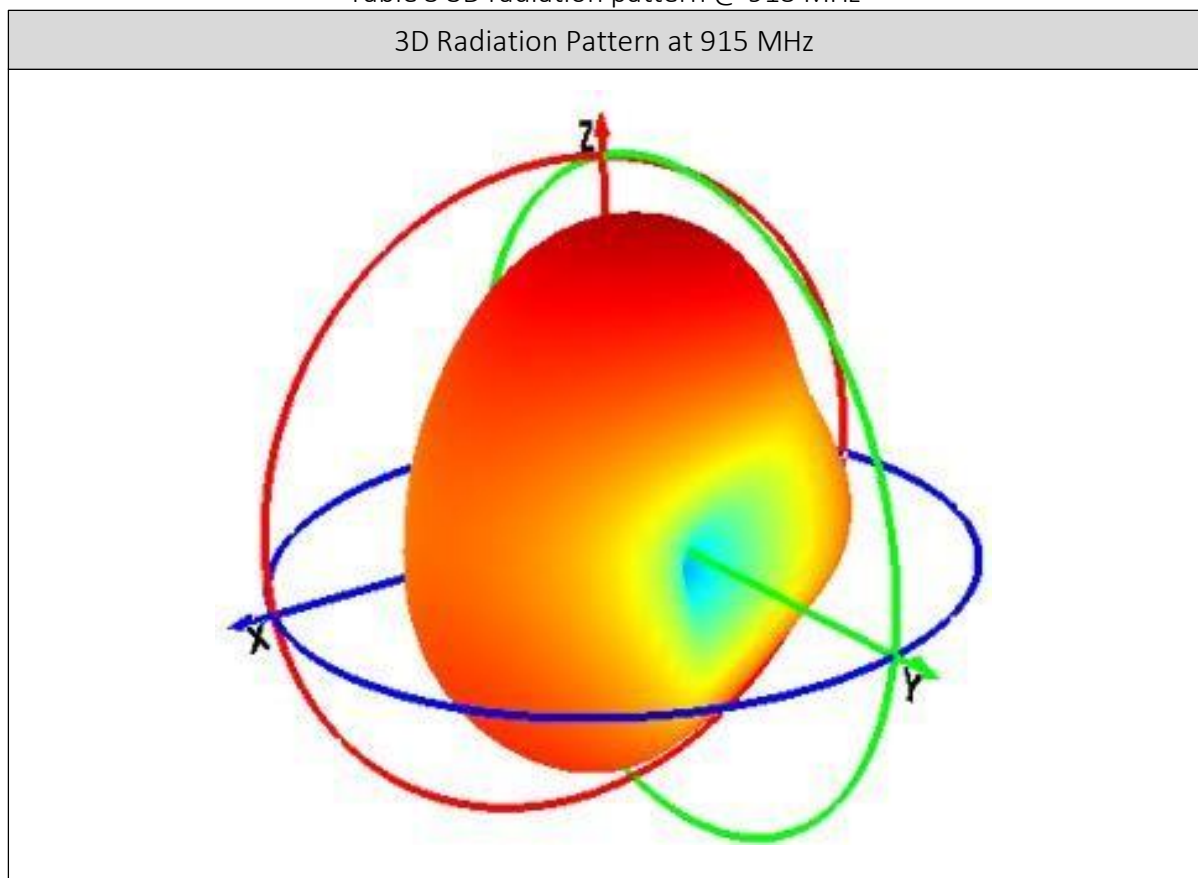


Table 6 Radiation pattern in XY Plane

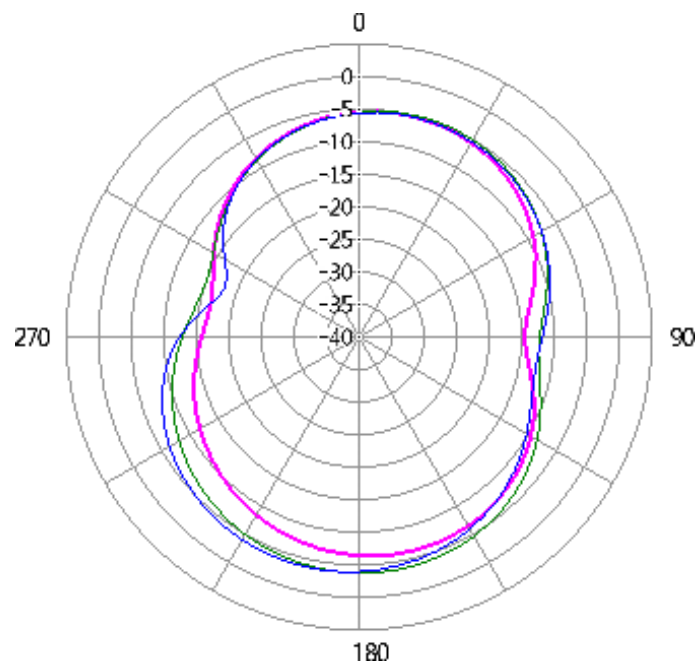
2D Radiation Pattern ($\theta = 90^\circ$, XY Plane)

Table 7 Radiation pattern in XZ Plane

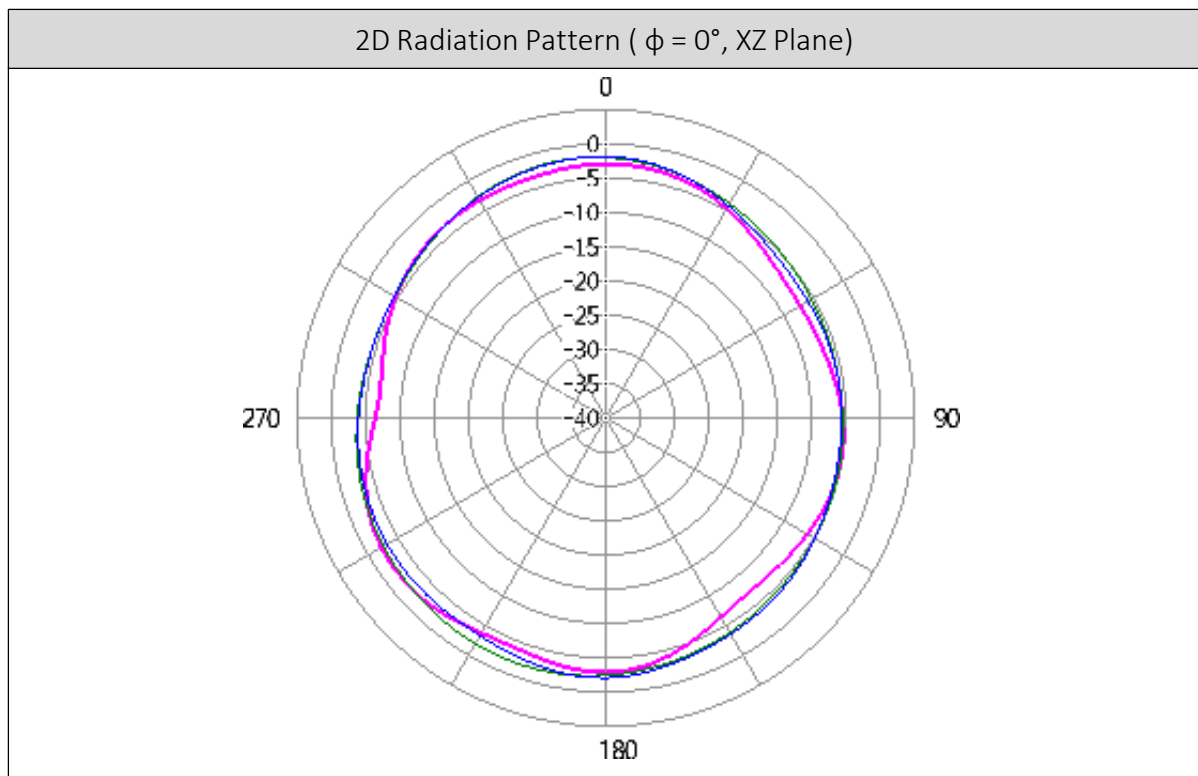


Table 8 Radiation pattern in YZ Plane

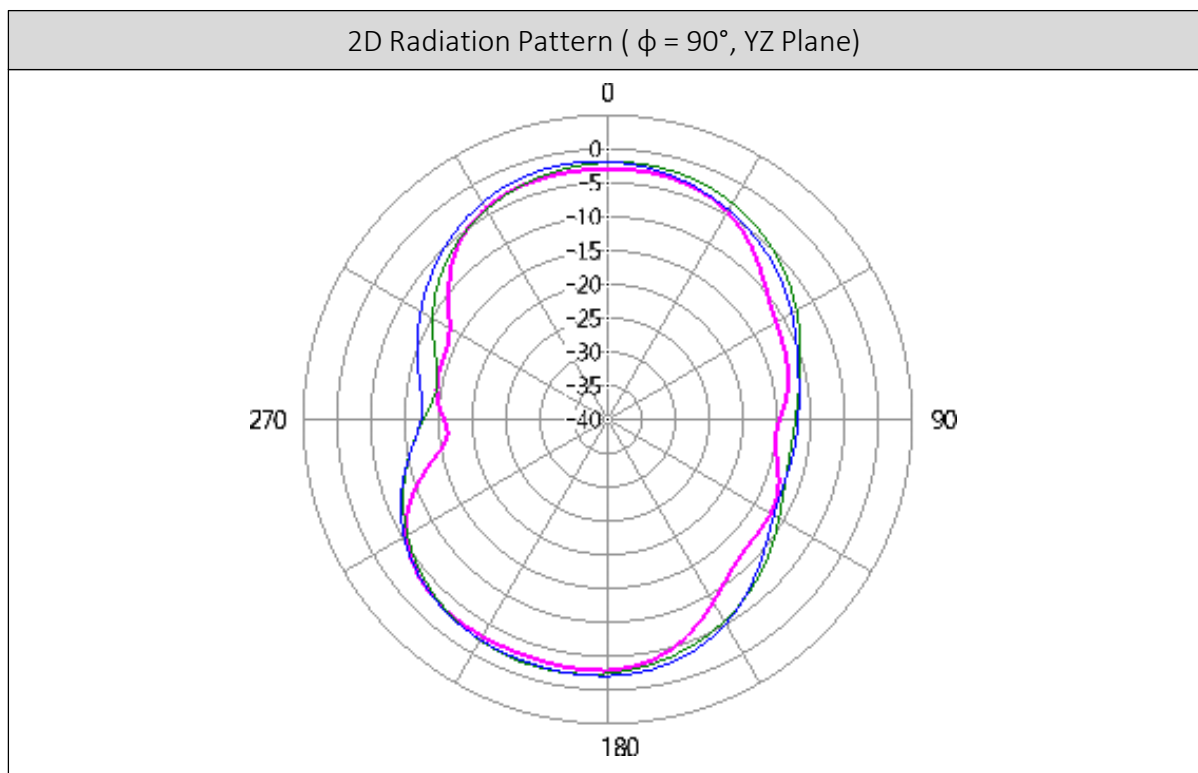


Table 9 3D radiation pattern @ 2450 MHz

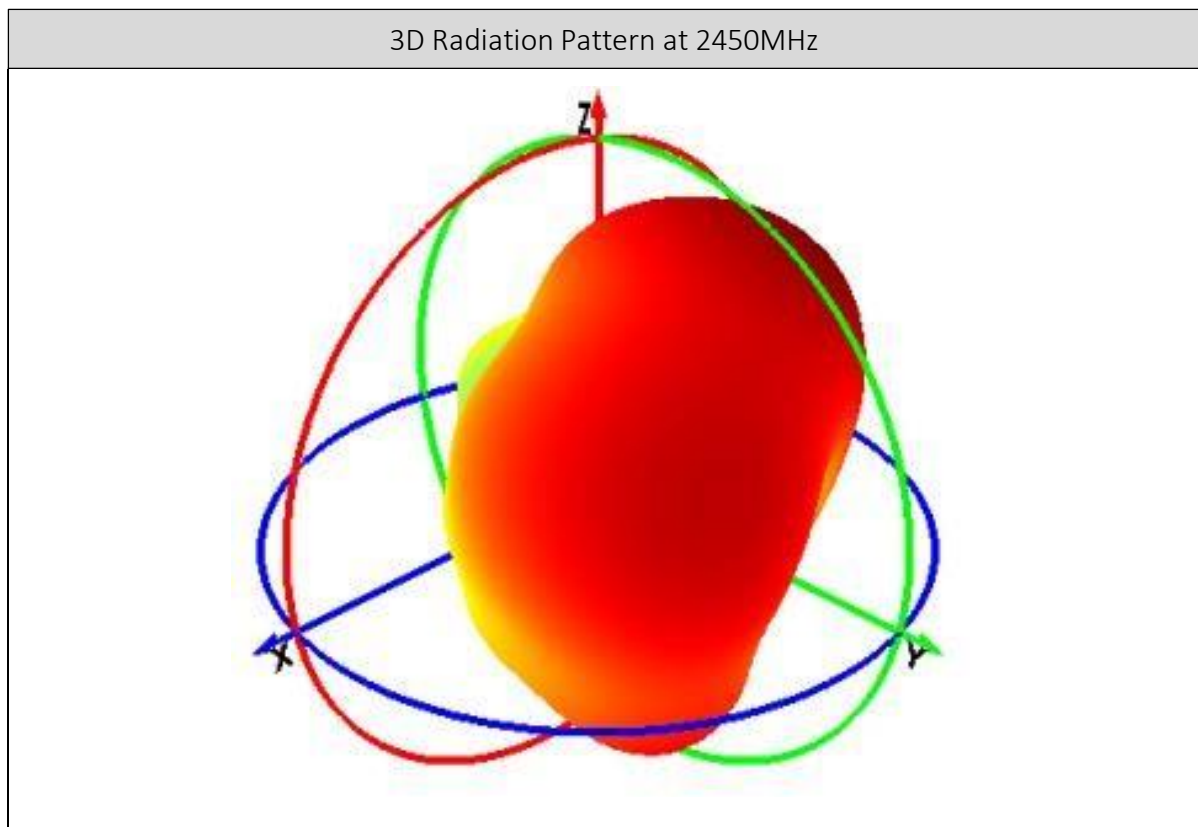


Table 10 Radiation pattern in XY Plane

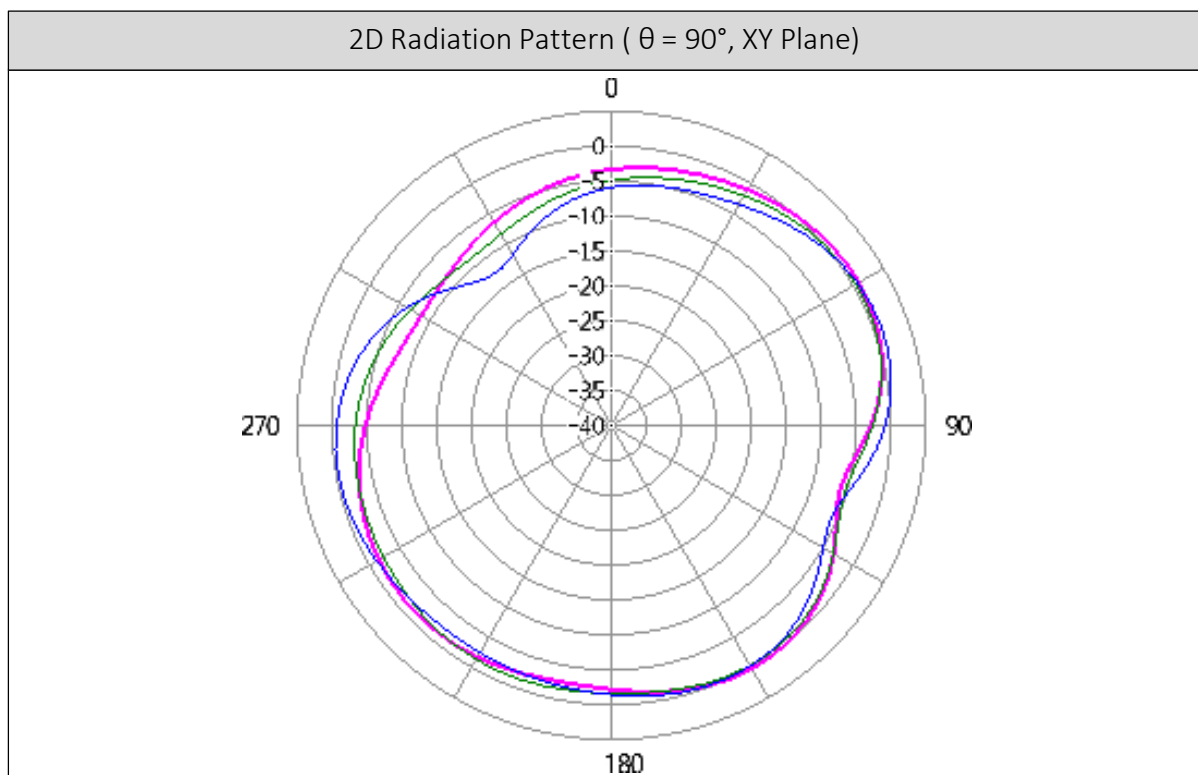


Table 11 Radiation pattern in XZ Plane

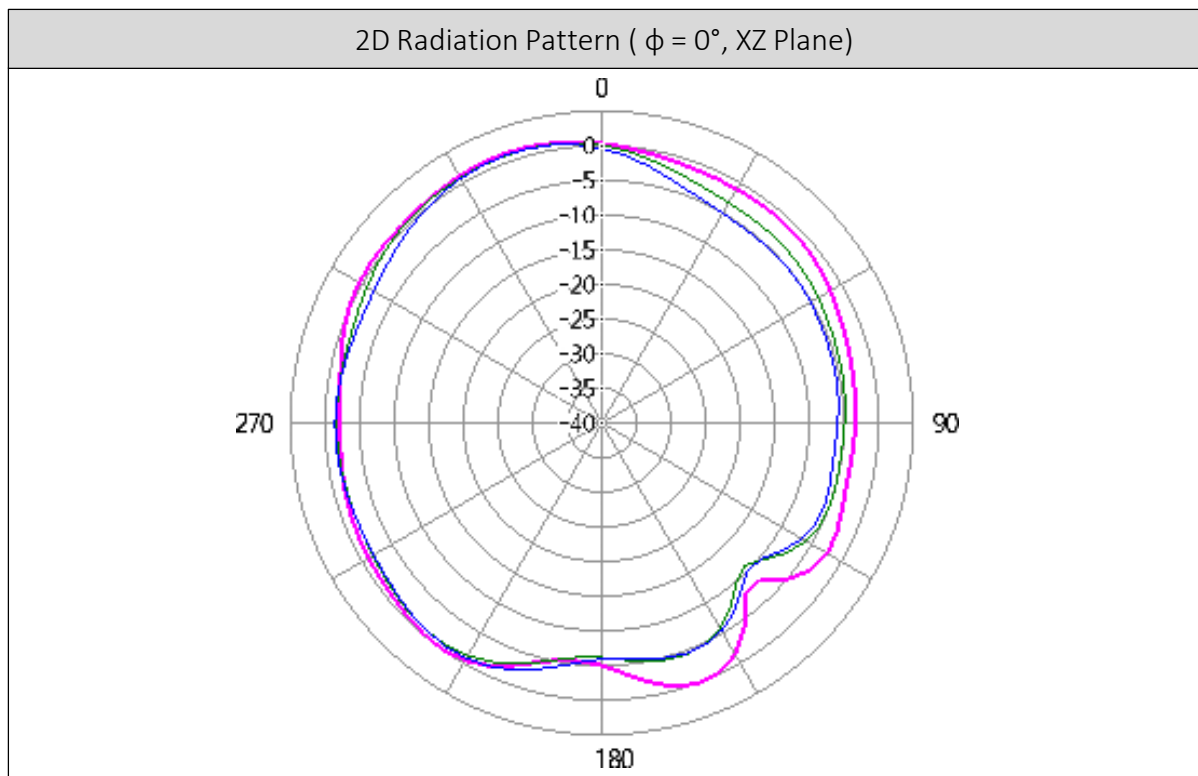


Table 12 Radiation pattern in YZ Plane

