

Antenna Specification

Antenna Type	Metal Monopole antenna
Antenna Peak Gain	3.32 dBi @ Sub-G; -0.41 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	7PFYAB
Test Date	2025-11-12
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 (%)
902	3.25	-5.09	31.00
904	3.21	-5.06	31.17
906	3.15	-5.02	31.45
908	3.15	-4.99	31.69
910	3.19	-4.95	31.99
912	3.24	-4.92	32.23
914	3.30	-4.90	32.35
916	3.32	-4.91	32.26
918	3.29	-4.96	31.95
920	3.22	-5.02	31.48
922	3.06	-5.11	30.81

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924	2.84	-5.21	30.11
926	2.57	-5.31	29.45
928	2.34	-5.39	28.90
2400	-0.57	-4.50	35.50
2410	-0.97	-4.53	35.28
2420	-1.26	-4.54	35.13
2430	-1.44	-4.55	35.04
2440	-1.34	-4.43	36.05
2450	-0.81	-4.26	37.54
2460	-0.81	-4.14	38.54
2470	-0.76	-4.00	39.82
2480	-0.85	-3.89	40.81
2490	-0.41	-3.77	42.02
2500	-0.58	-3.69	42.76

Table 5 3D radiation pattern @ 915 MHz

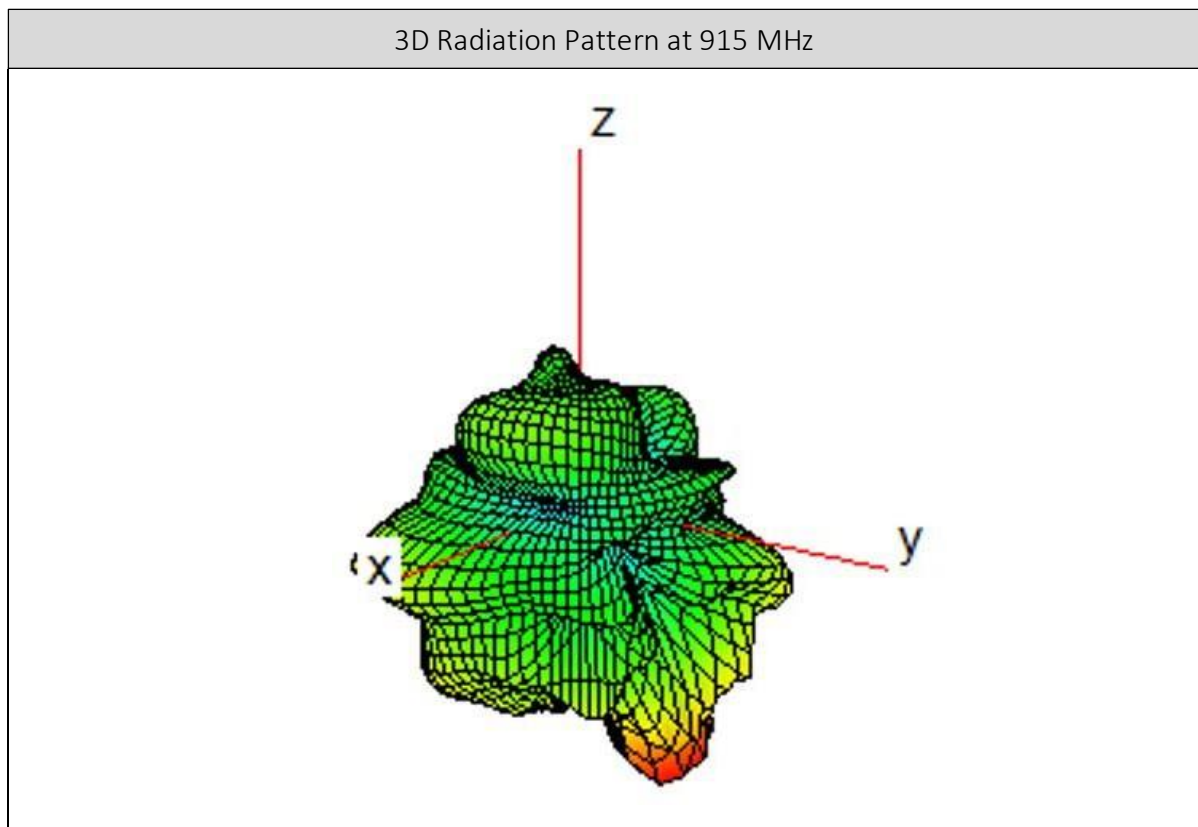


Table 6 Radiation pattern in XY Plane

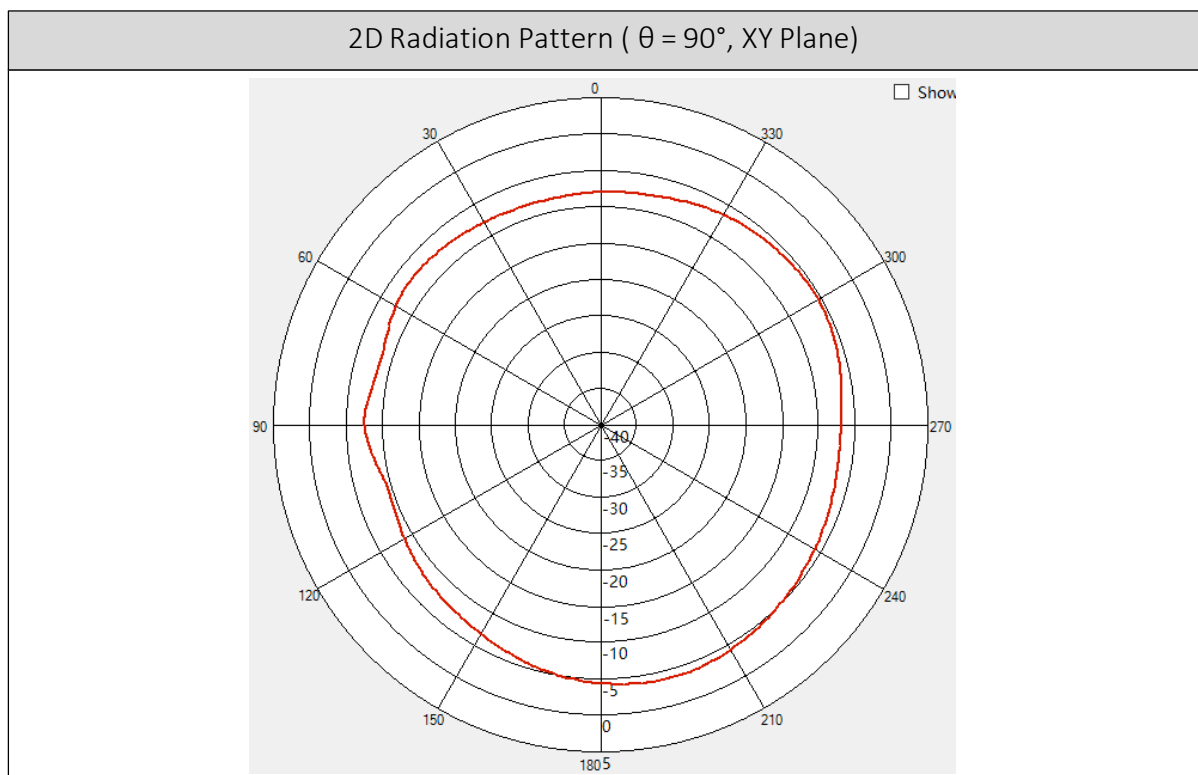


Table 7 Radiation pattern in XZ Plane

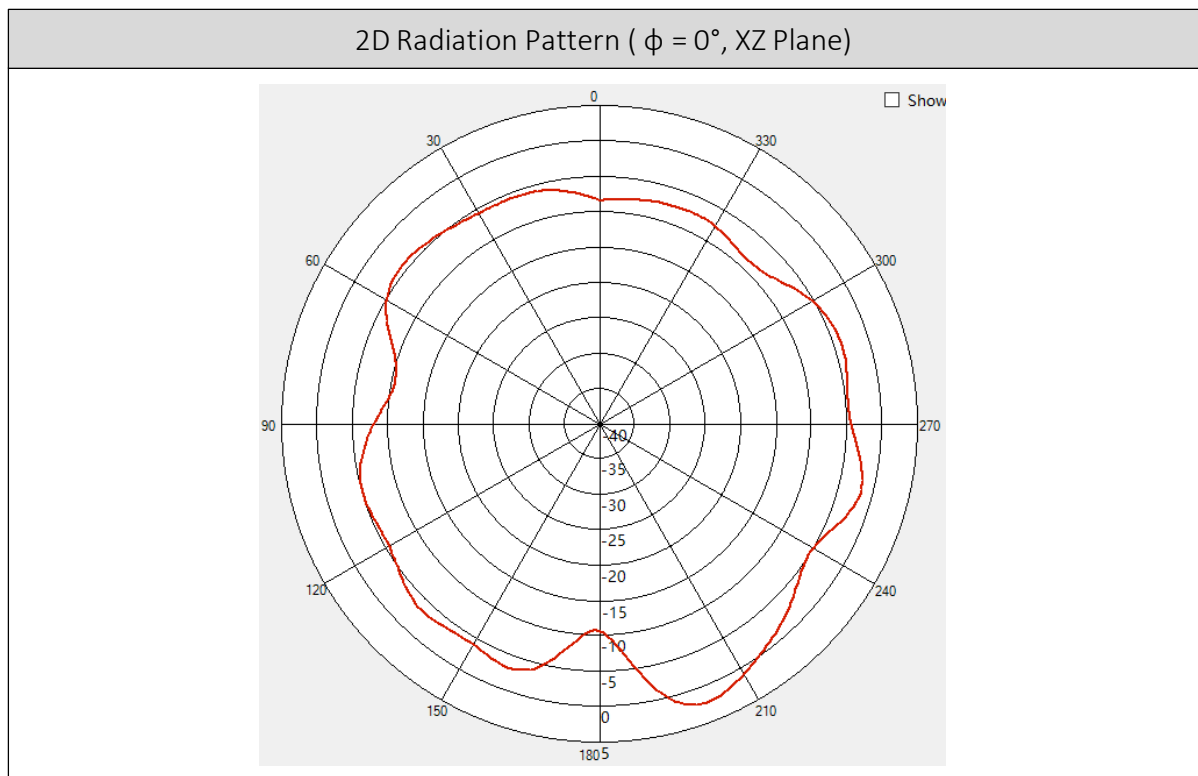


Table 8 Radiation pattern in YZ Plane

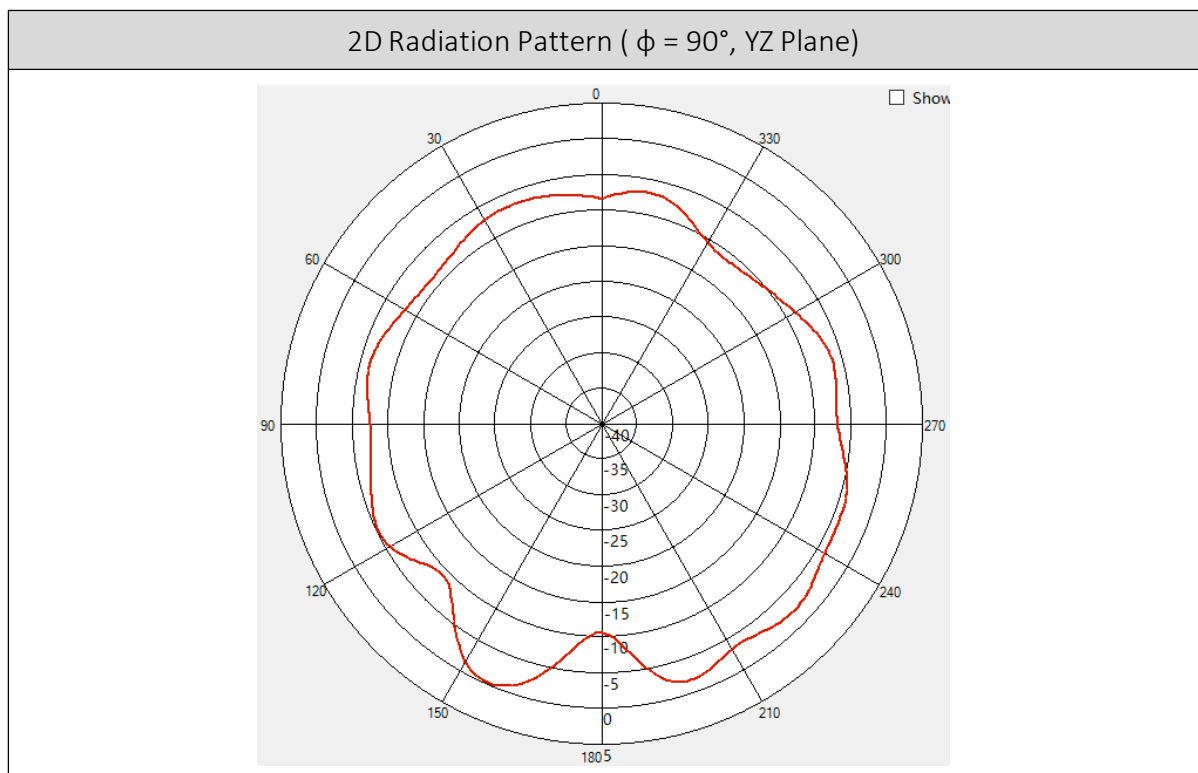


Table 9 3D radiation pattern @ 2450 MHz

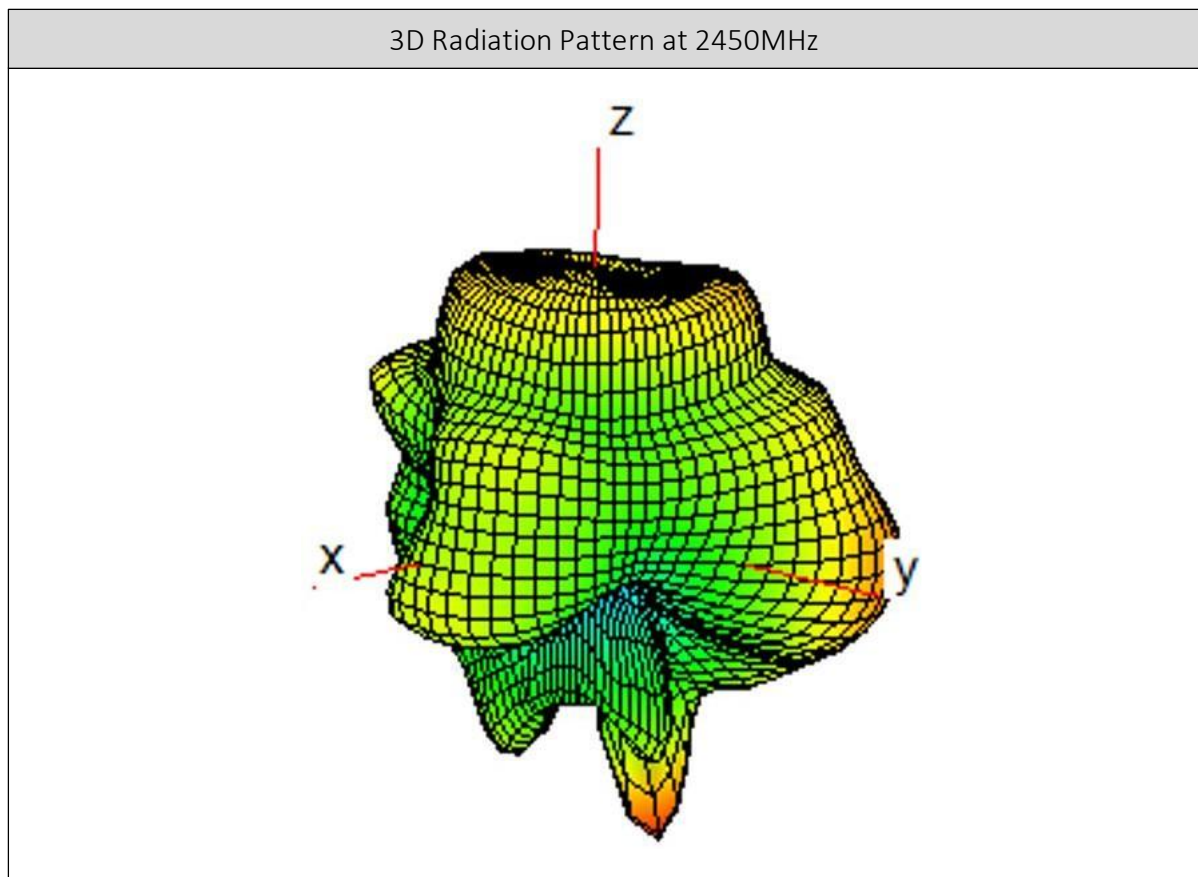


Table 10 Radiation pattern in XY Plane

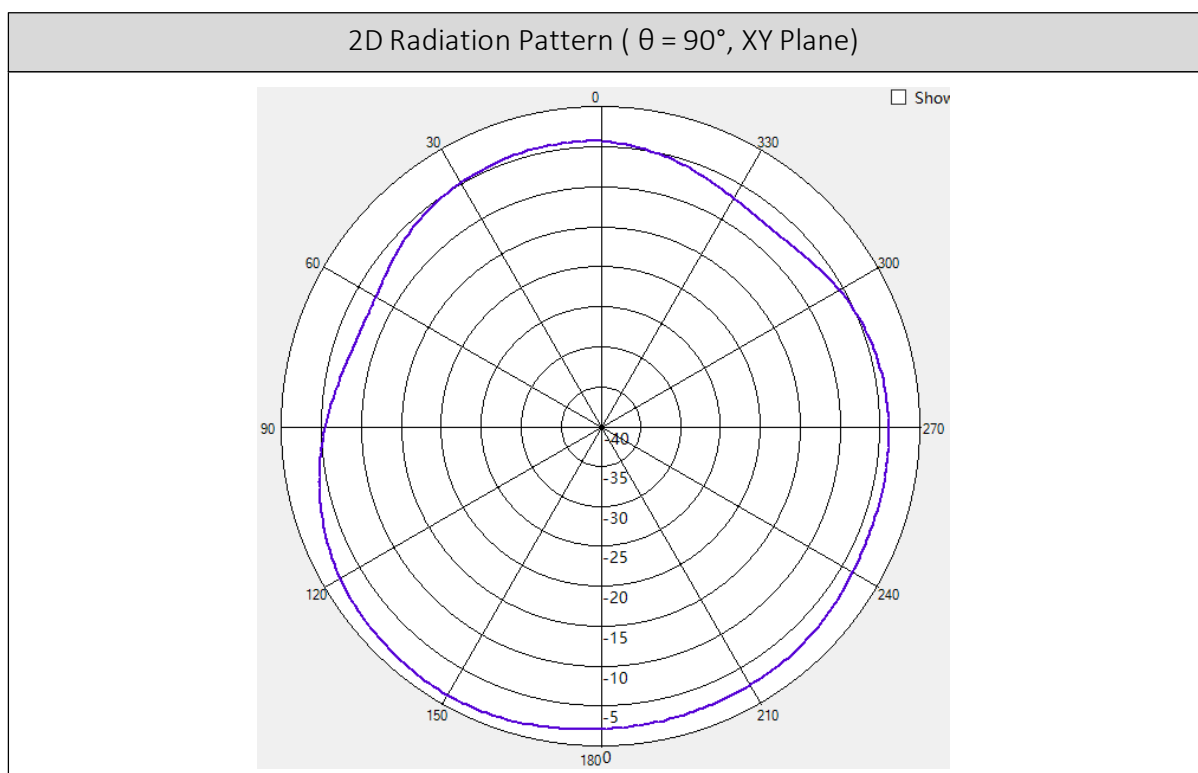


Table 11 Radiation pattern in XZ Plane

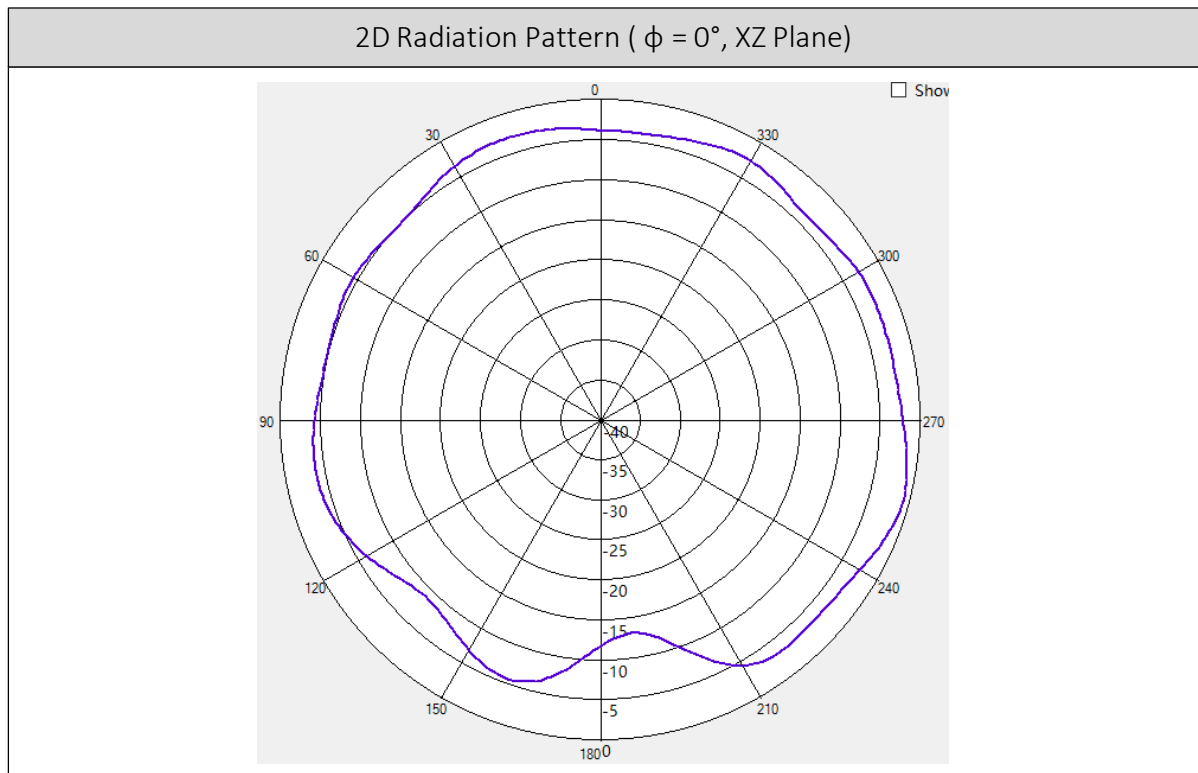


Table 12 Radiation pattern in YZ Plane

