

Antenna Specification

Antenna Type	PCB IFA antenna
Antenna Peak Gain	0.41 dBi @ Sub-G; 2.9 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	7AFYA6
Test Date	2025-09-26
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	-0.34	-5.15	30.57
904	-0.07	-4.89	32.41
906	0.04	-4.77	33.34
908	0.09	-4.66	34.23
910	0.24	-4.43	36.08
912	0.35	-4.27	37.38
914	0.41	-4.2	38.03
916	0.32	-4.27	37.4
918	0.14	-4.39	36.38
920	0.04	-4.36	36.63
922	0.05	-4.34	36.85

924	0.13	-4.32	37.01
926	0.09	-4.46	35.81
928	-0.13	-4.77	33.38
2400	2.86	-2.01	63.01
2410	2.73	-2.18	60.58
2420	2.81	-2.12	61.31
2430	2.85	-2.08	61.97
2440	2.78	-2.13	61.26
2450	2.7	-2.36	58.05
2460	2.81	-2.31	58.74
2470	2.9	-2.18	60.48
2480	2.85	-2.28	59.13
2490	2.66	-2.44	57
2500	2.86	-2.24	59.74

Radiation Pattern

Table 5 3D radiation pattern @ 915 MHz

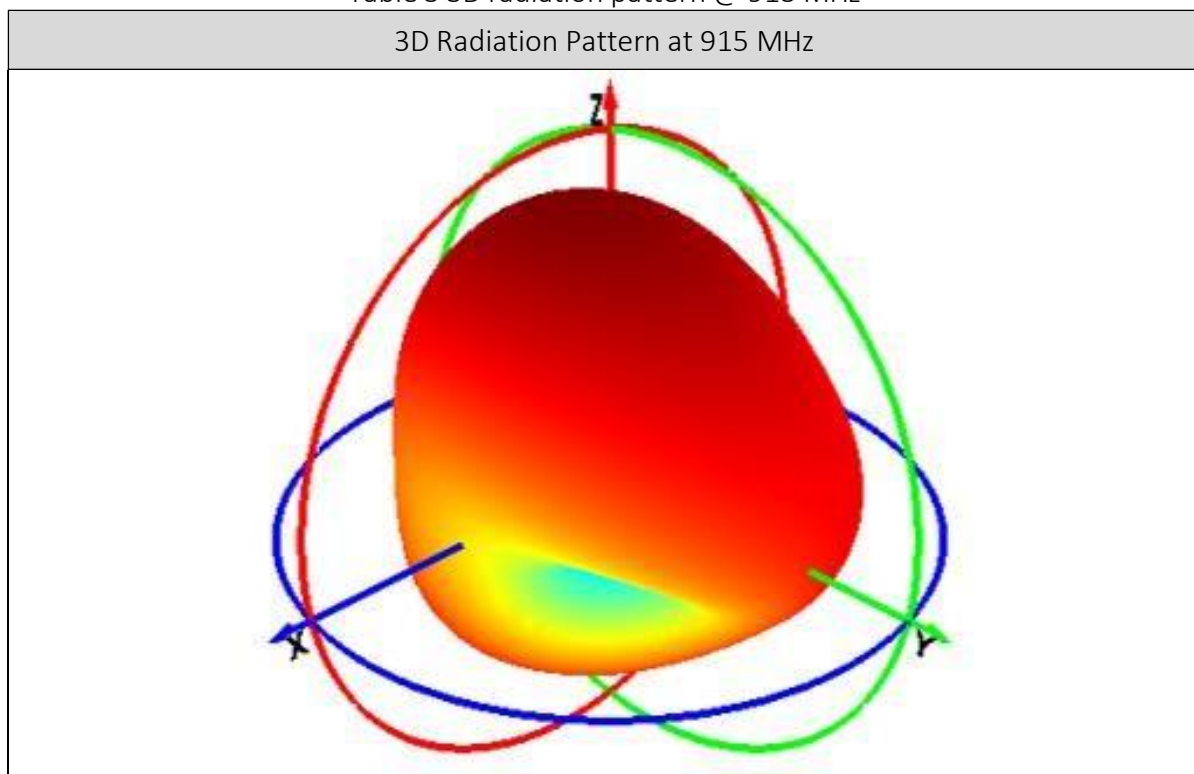


Table 6 Radiation pattern in XY Plane

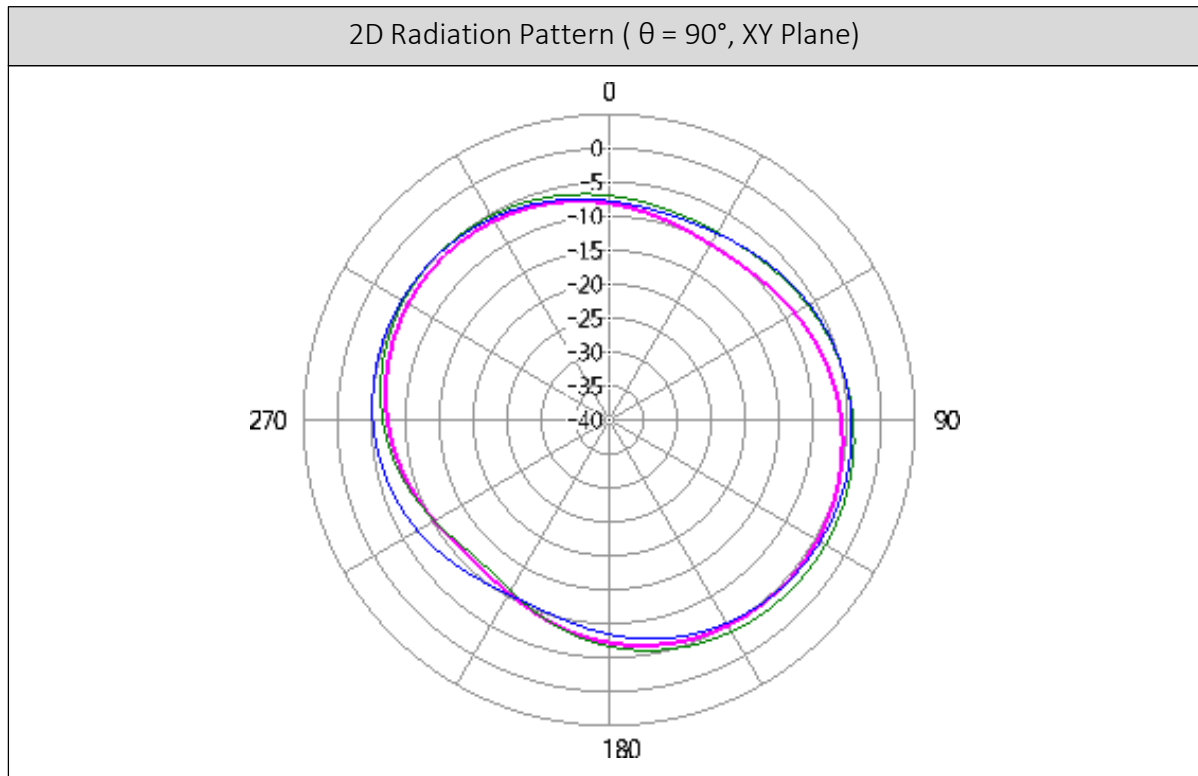


Table 7 Radiation pattern in XZ Plane

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

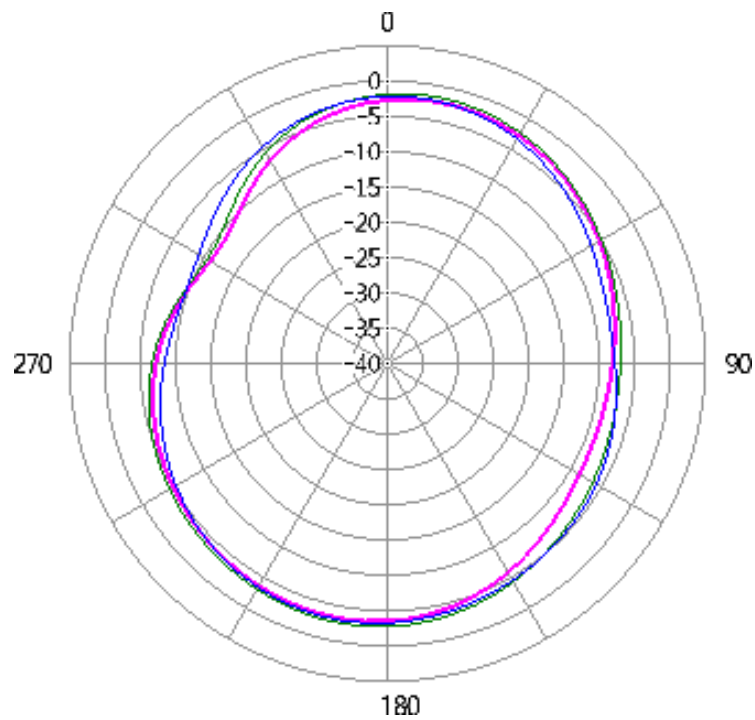


Table 8 Radiation pattern in YZ Plane

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

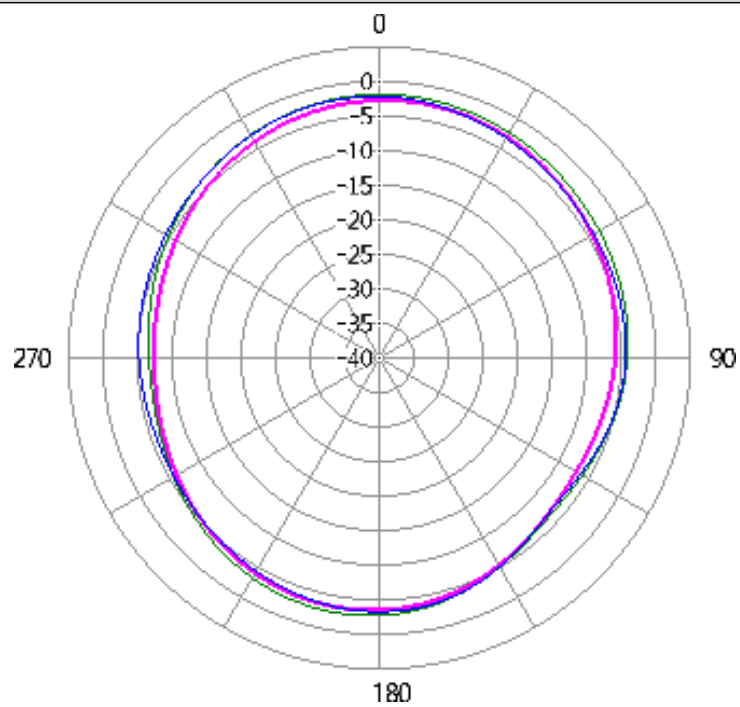


Table 9 3D radiation pattern @ 2450 MHz

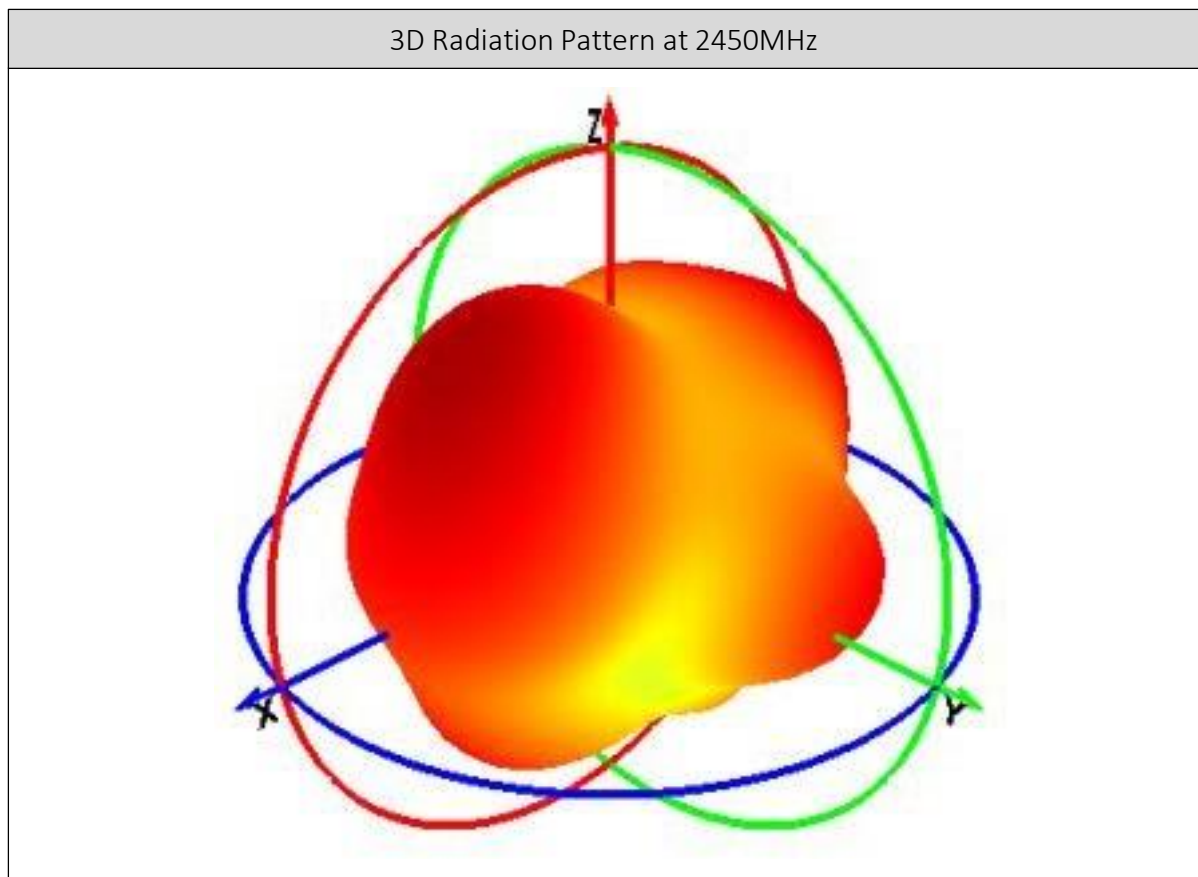


Table 10 Radiation pattern in XY Plane

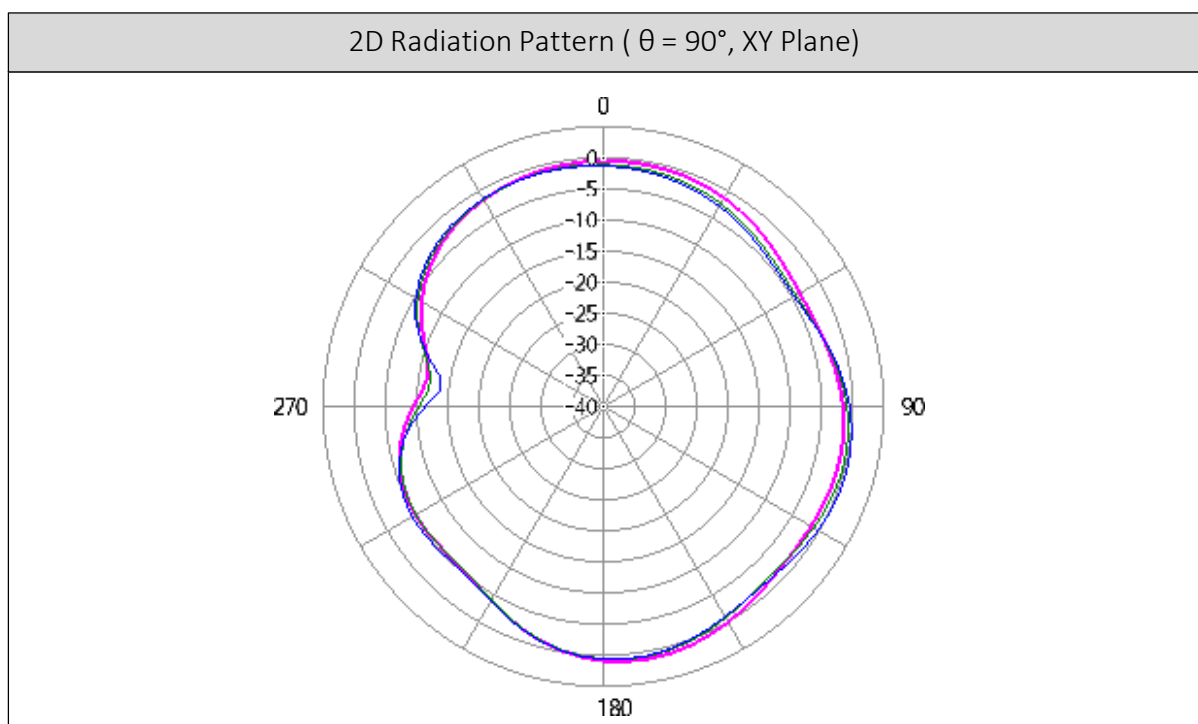


Table 11 Radiation pattern in XZ Plane

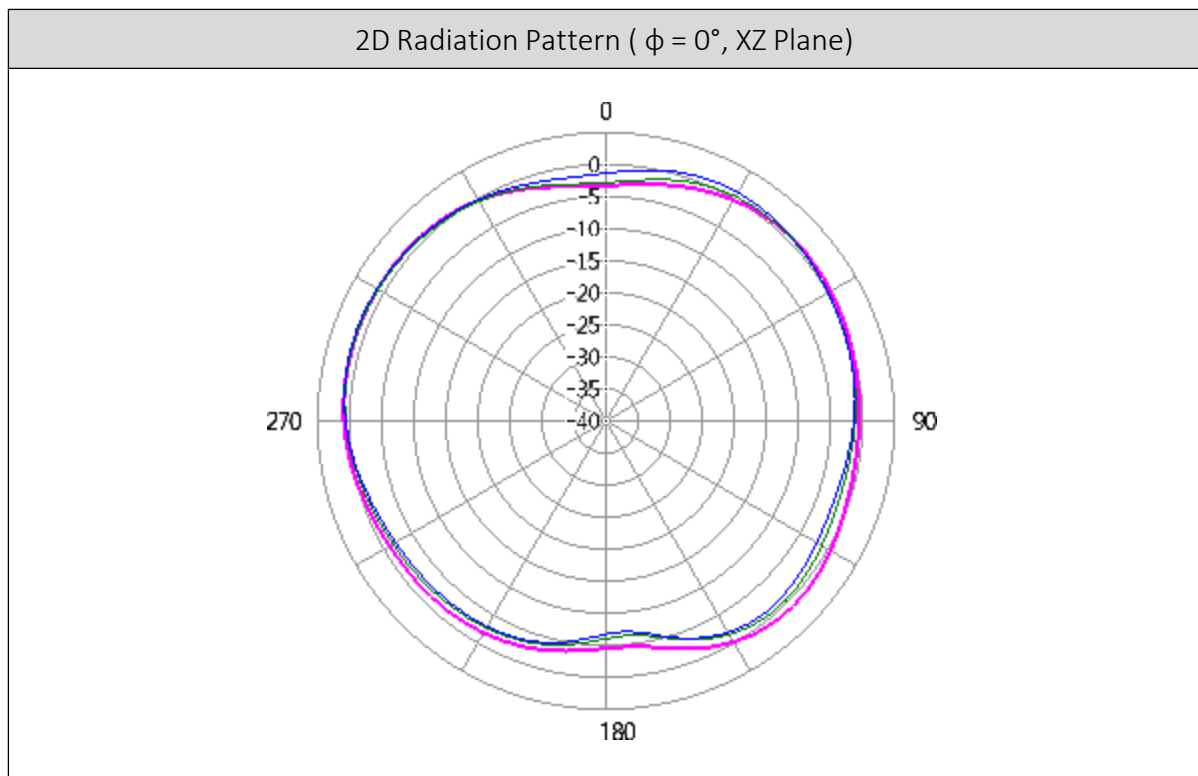


Table 12 Radiation pattern in YZ Plane

