

Antenna Specification

Antenna Type	Metal IFA antenna
Antenna Peak Gain	1.45 dBi @ Sub-G; 3.58 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	7ACEAB
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	-0.51	-6.07	24.71
904	-0.27	-5.78	26.42
906	-0.1	-5.6	27.54
908	0.12	-5.39	28.9
910	0.47	-5.07	31.1
912	0.71	-4.81	33
914	0.86	-4.63	34.41
916	0.91	-4.57	34.95
918	0.93	-4.54	35.12
920	1.05	-4.44	35.94
922	1.29	-4.26	37.47

924	1.45	-4.11	38.85
926	1.42	-4.11	38.84
928	1.27	-4.26	37.49
2400	3.58	-1.03	78.87
2410	3.58	-1.02	79.14
2420	3.51	-1.05	78.53
2430	3.38	-1.12	77.27
2440	3.34	-1.08	77.98
2450	3.26	-1.28	74.45
2460	3.27	-1.33	73.68
2470	3.26	-1.29	74.31
2480	3.25	-1.33	73.65
2490	3.16	-1.41	72.24
2500	3.36	-1.28	74.41

Radiation Pattern

Table 5 3D radiation pattern @ 915 MHz

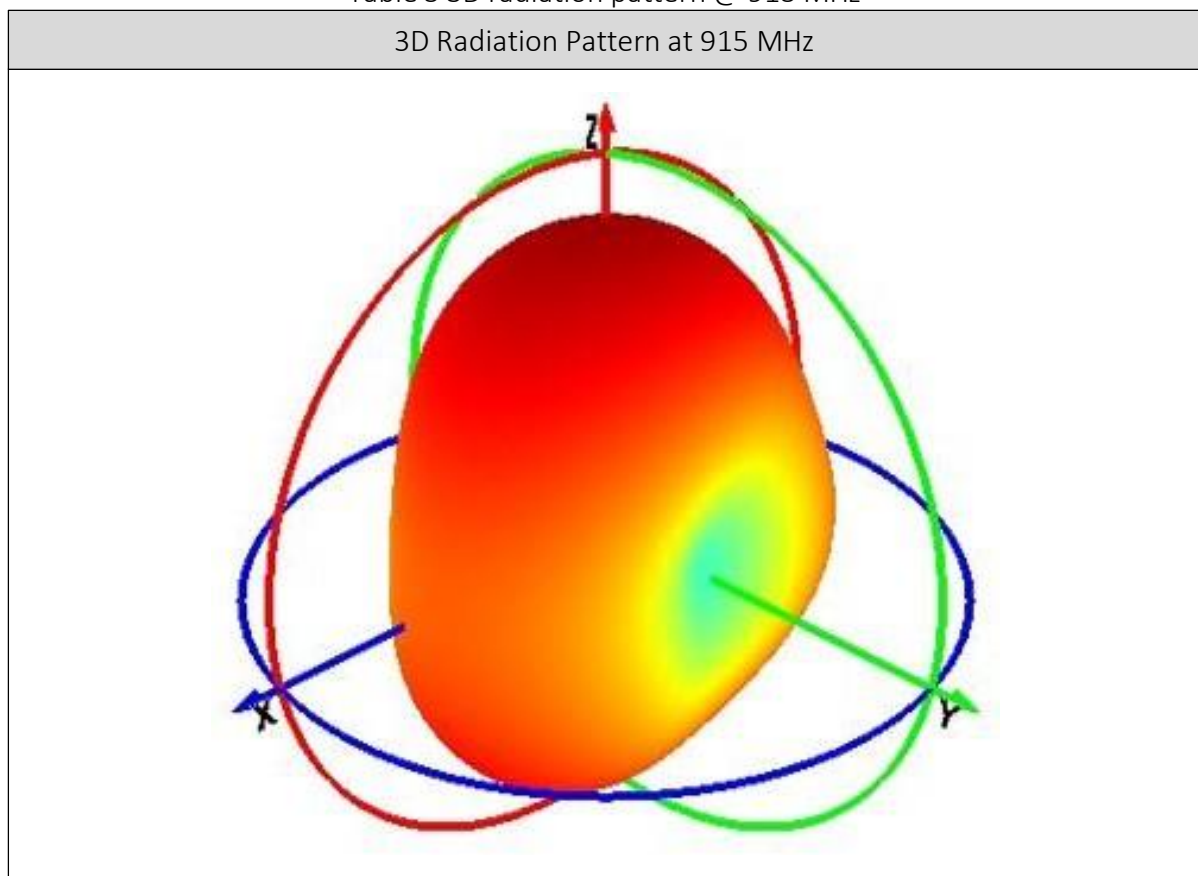


Table 6 Radiation pattern in XY Plane

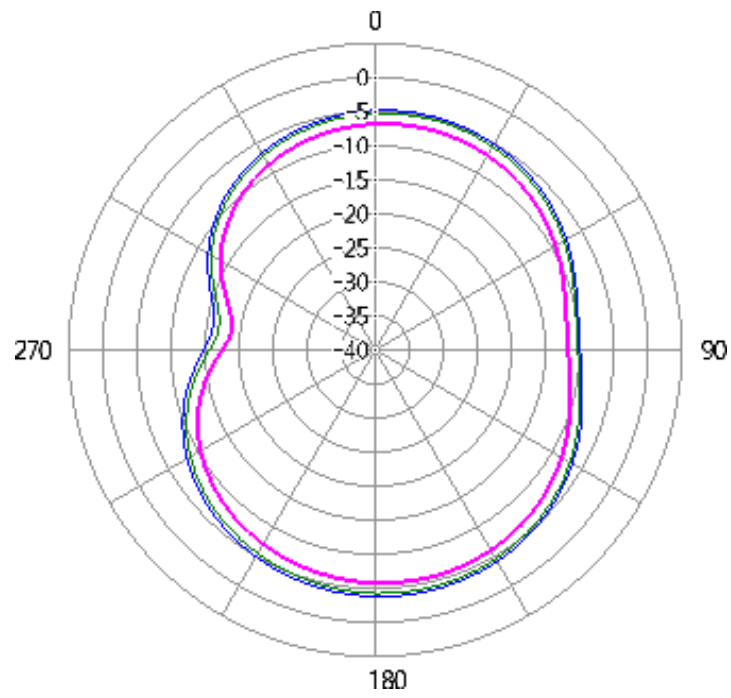
2D Radiation Pattern ($\theta = 90^\circ$, XY Plane)

Table 7 Radiation pattern in XZ Plane

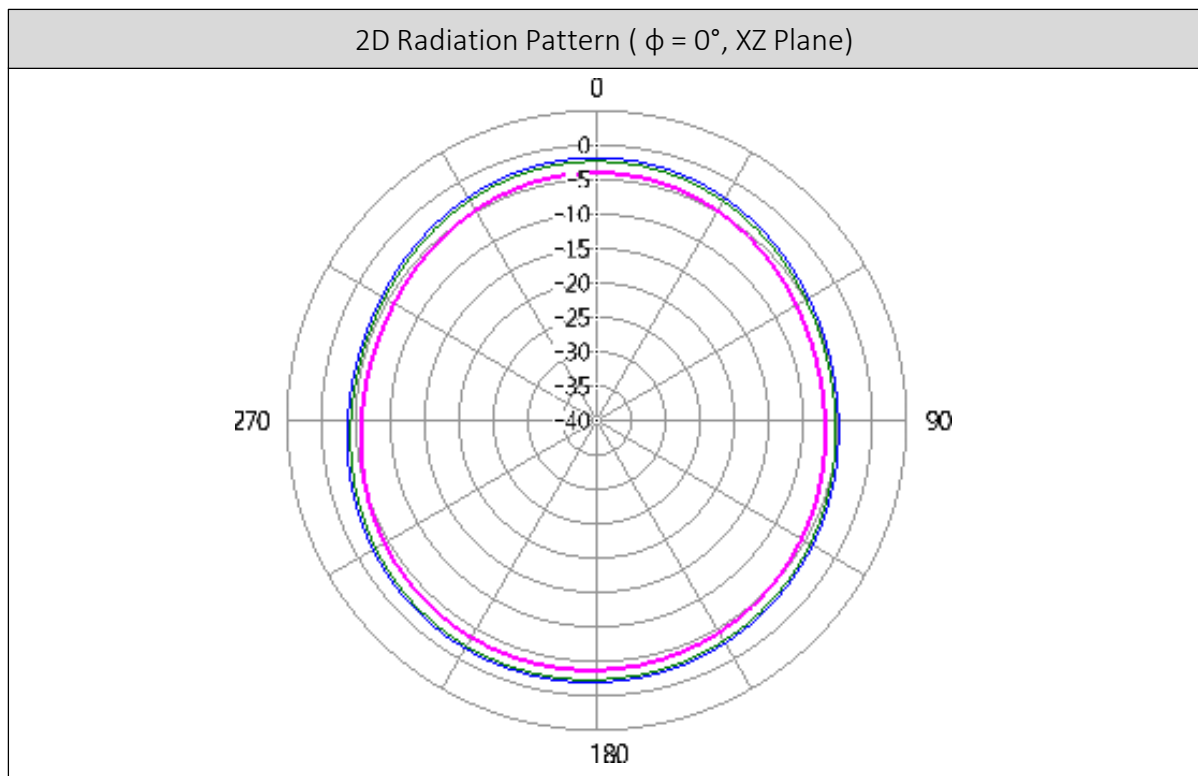


Table 8 Radiation pattern in YZ Plane

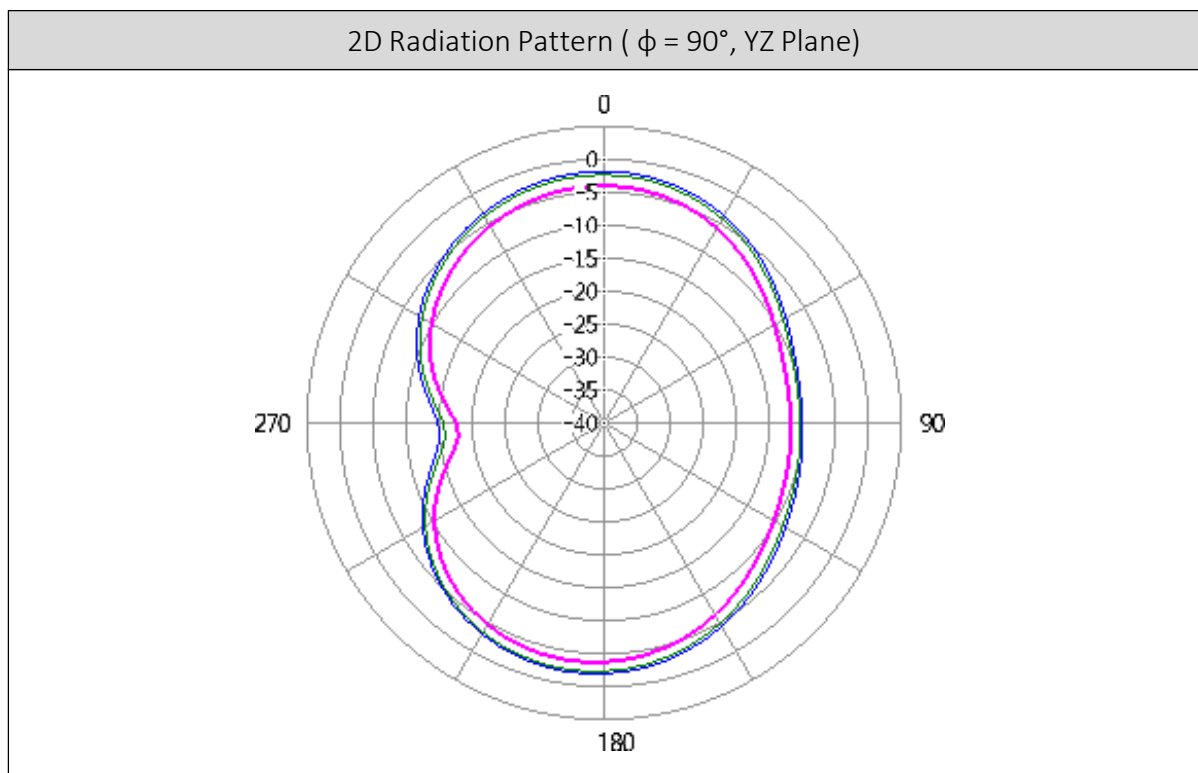


Table 9 3D radiation pattern @ 2450 MHz

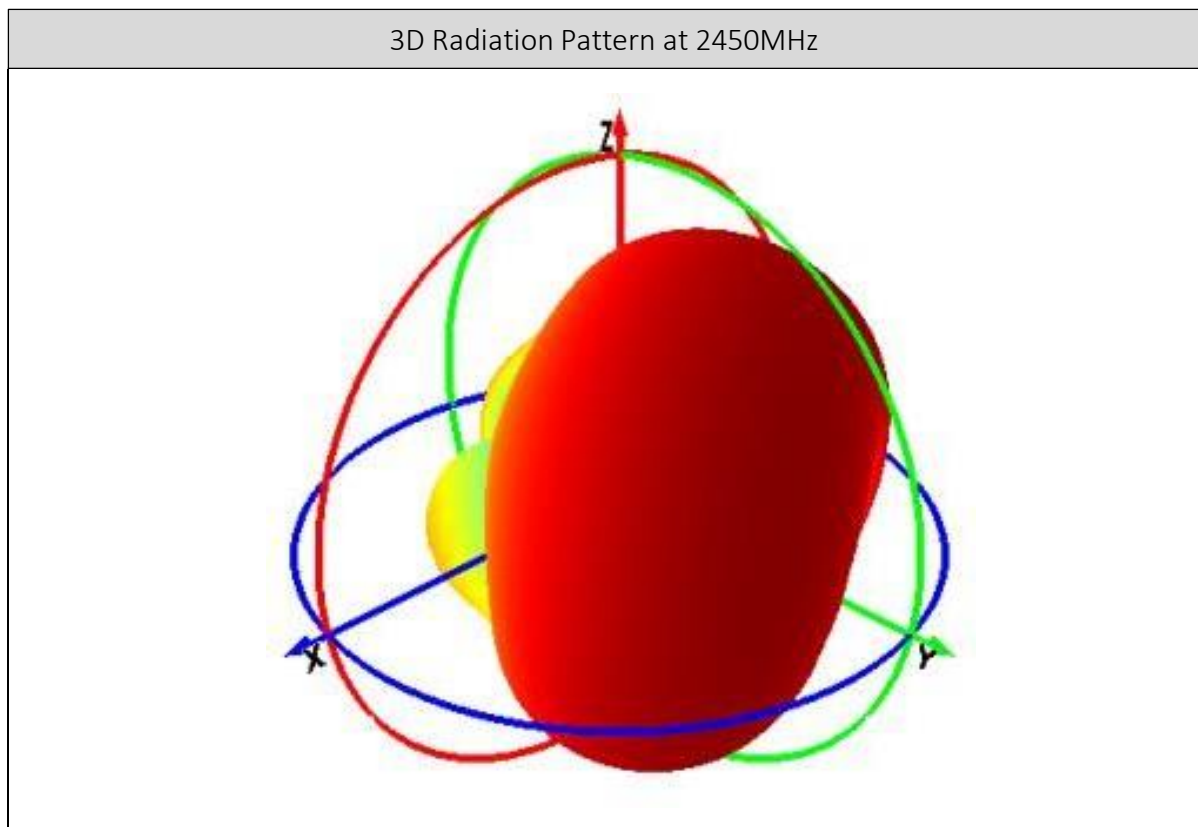


Table 10 Radiation pattern in XY Plane

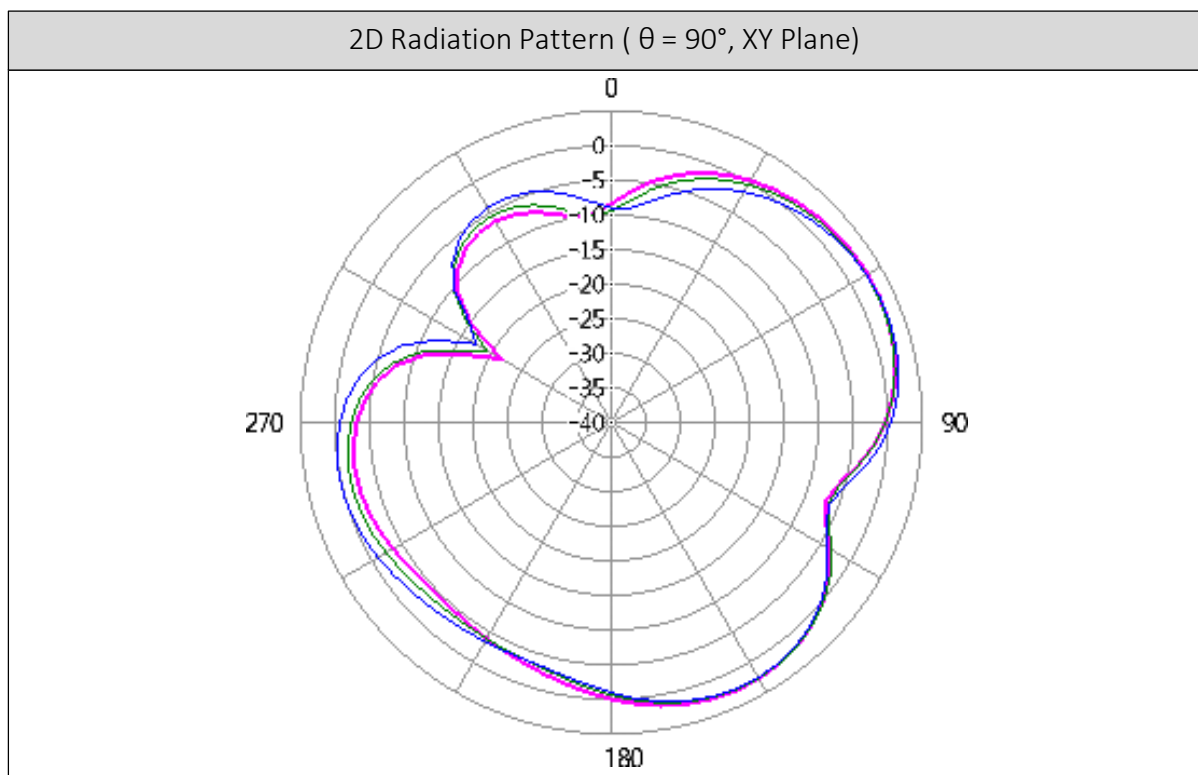


Table 11 Radiation pattern in XZ Plane

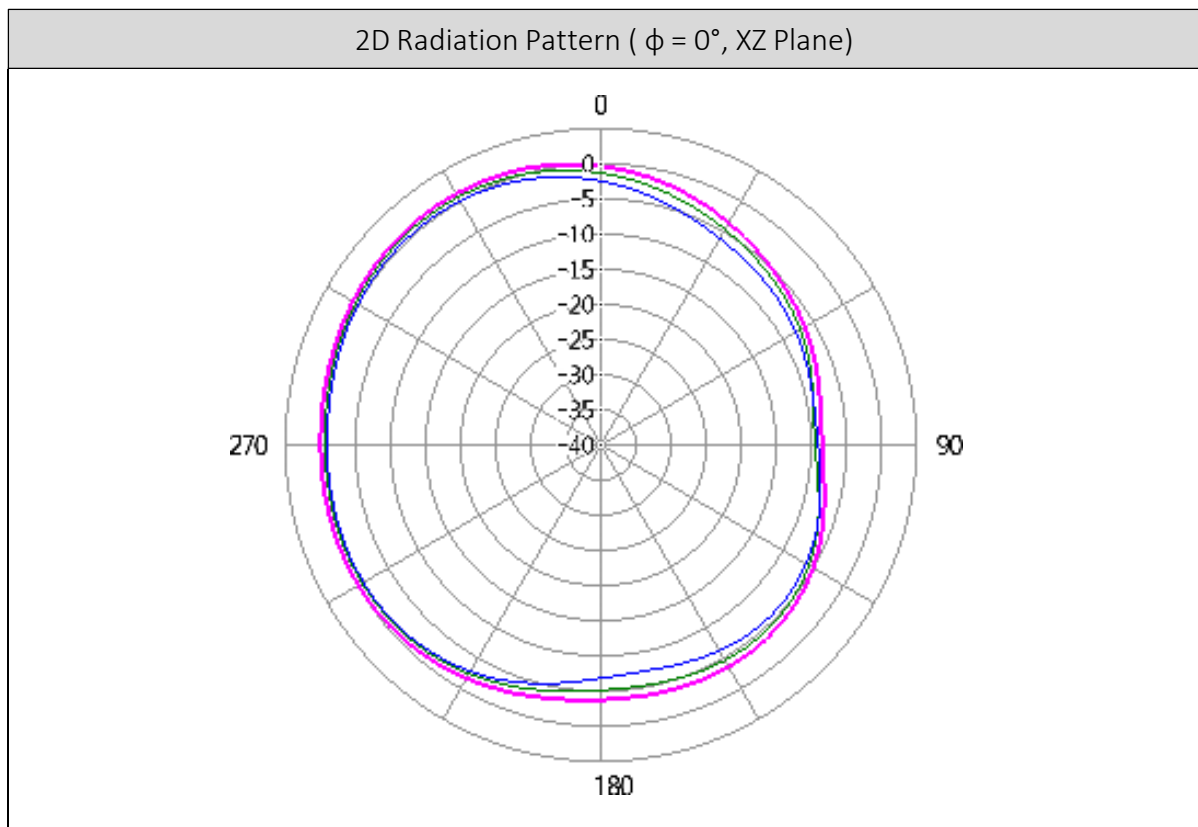


Table 12 Radiation pattern in YZ Plane

