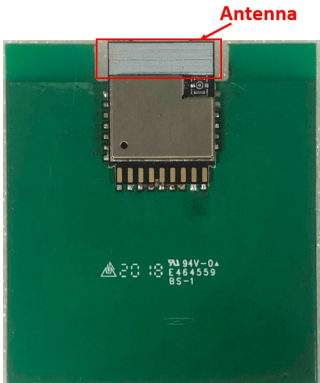


Antenna Information

Antenna Picture	
Antenna Type	PCB Antenna
Antenna Peak Gain	4dBi
Operating Band	2400 MHz ~ 2483.5 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 No.	LA66701, LDE42FX11A
Model name	Wi-Fi and Bluetooth Module
Report Date	2023-07-06

Test Standard

Antenna Performance	Radiation Efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-2021
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Equipment List:

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Network Analyzer	Keysight	E5071C	MY46527808	2023/1/9	2024/1/8
Anechoic Chamber	Sunyield	SY-16	SI1727	2023/5/10	2024/5/9

Test Software: EMQuest

OTA measurement

Test System

The SY-16 OTA system is an anechoic chamber, which can measure antenna passive data such as antenna efficiency, antenna gain, and 2D&3D pattern. The coordinates and topology are shown as follows:

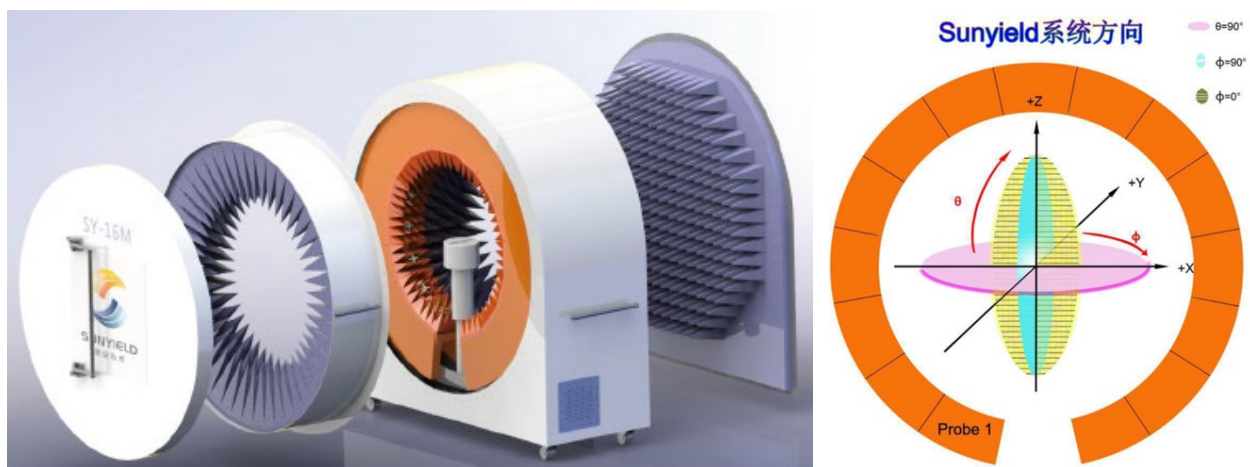


Figure 1 SY-16 OTA system

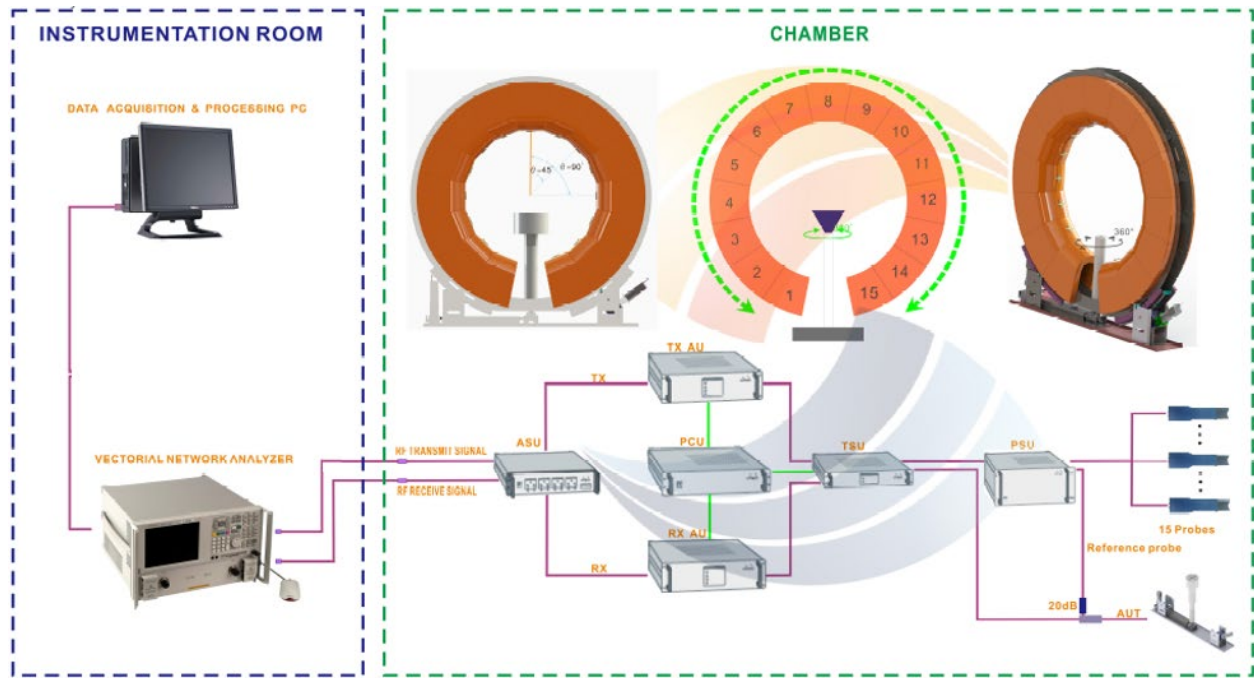


Figure 2 OTA measurement topology

Test Information

Test Conductor(s)	Fenghuijuan
Antenna Performance	Radiation Efficiency
Test Method	IEEE Standard Test Procedures for Antennas
Standard No.	ANSI/IEEE Std 149-2021
Test Software Being Used	PMS
Software Version	V2.8.5

Test Result

Efficiency and Gain

Table 1 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	3.52	-2.38	57.77
2410	3.78	-2.13	61.29
2420	3.87	-2.00	63.05
2430	3.92	-1.97	63.5
2440	4	-1.84	65.52

2450	3.8	-2.01	62.91
2460	3.72	-2.02	62.81
2470	3.83	-1.94	63.99
2480	3.73	-2.01	62.96
2490	3.79	-1.93	64.13
2500	3.95	-1.81	65.95

Radiation Pattern

Table 2 Product coordinates

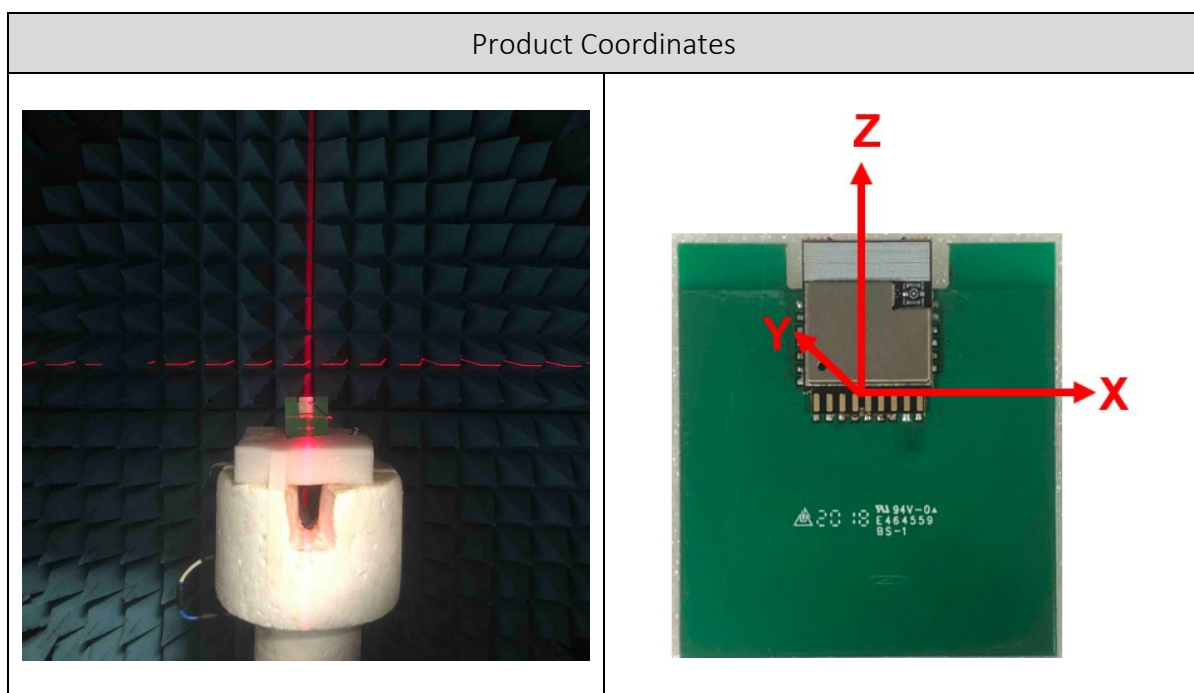


Table 3 3D radiation pattern

3D Radiation Pattern at 2450MHz

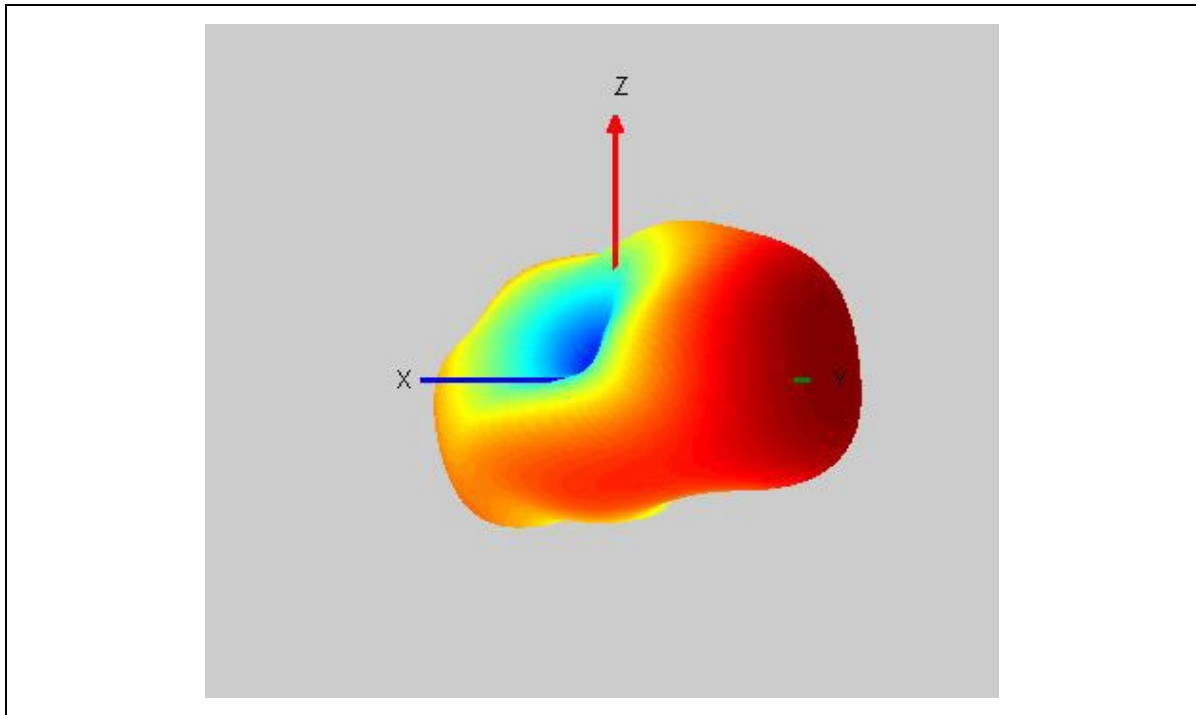


Table 4 Radiation pattern in XY Plane

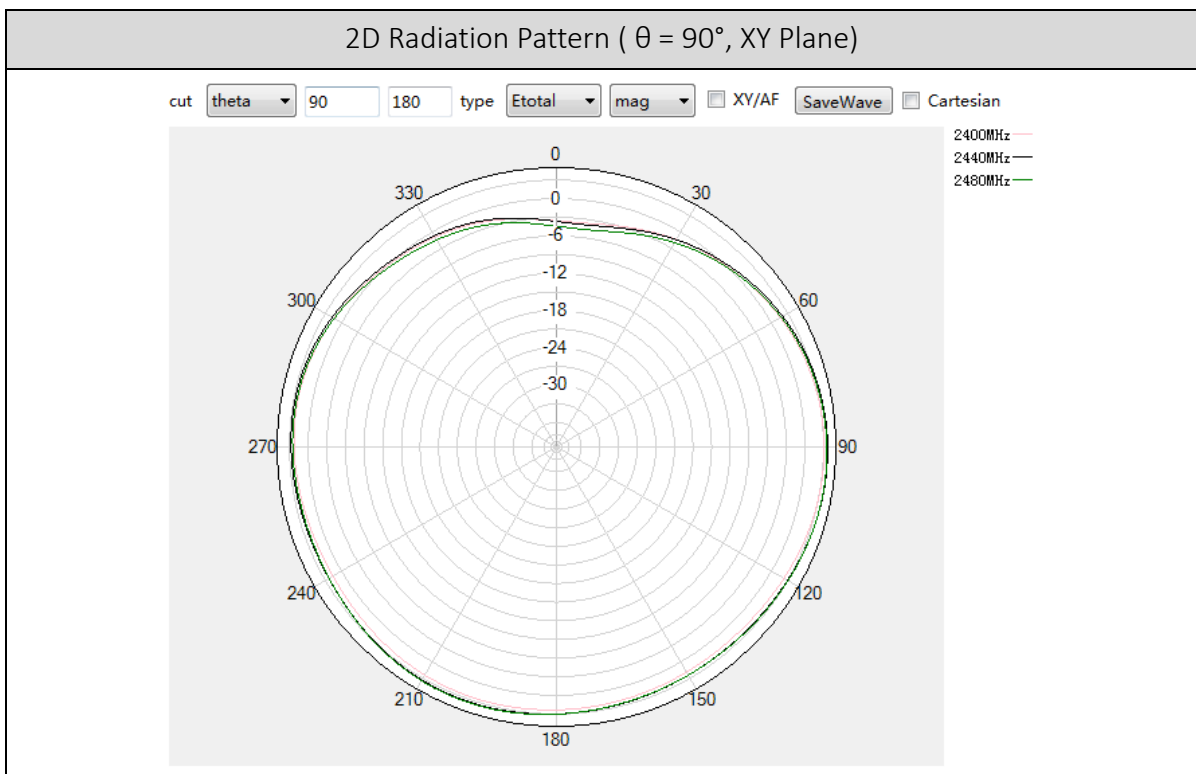
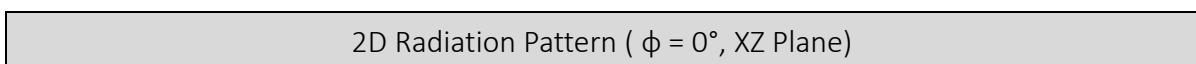


Table 5 Radiation pattern in XZ Plane



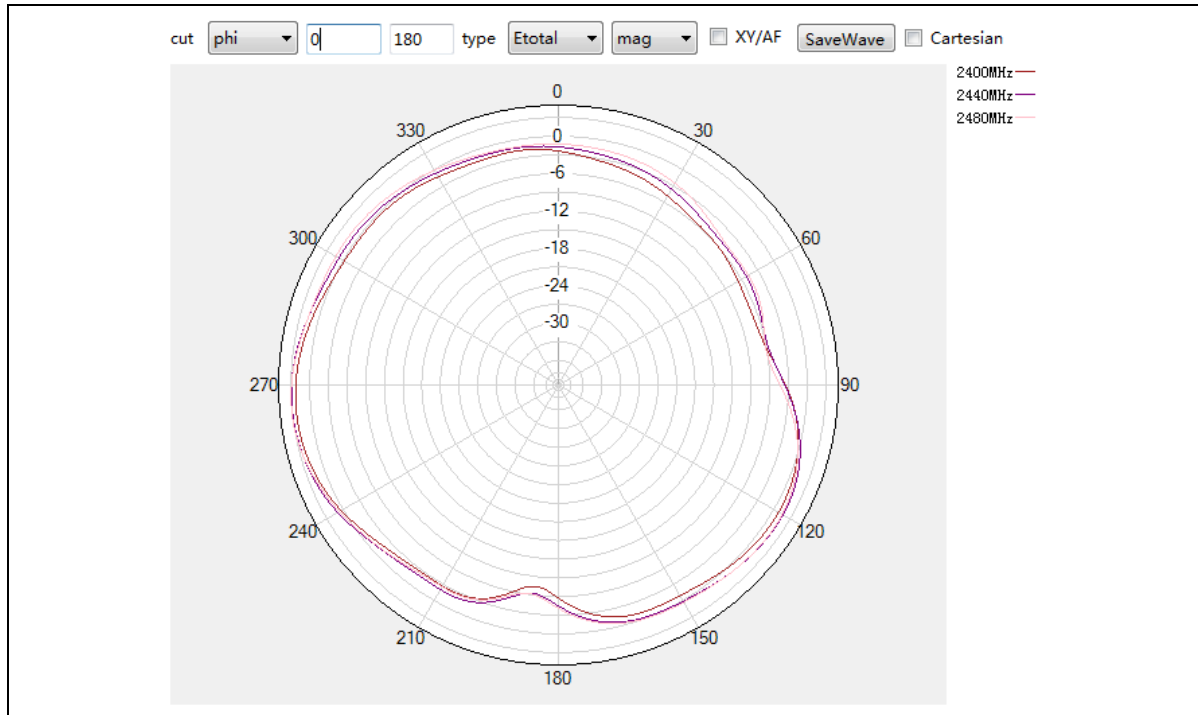


Table 6 Radiation pattern in YZ Plane

