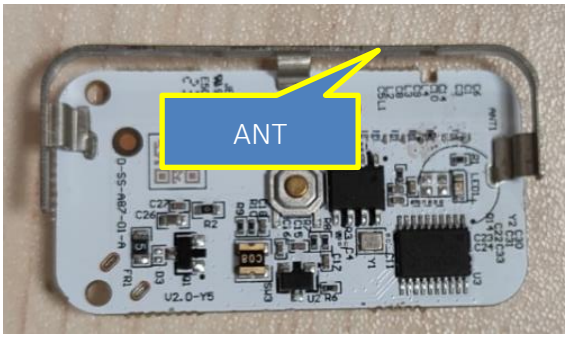
Antenna Specification

Antenna Picture	
Antenna Type	Internal metal antenna
Antenna Peak Gain	-1.05 dBi
Operating Band	Sub-G: 902-928MHz ,915MHz
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	Door/Window Sensor
DUT Photo	
Test System	SY-16 OTA System
Test Date	2023-10-18
Test Engineer	Huijuan Feng

OTA measurement

Test Standard

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

Equipment List:

Equipment	Manufacturer	Model No.	Last Cal.	Due Date
Network Analyzer	Agilent	E5071C	2023.10.8	2024.10.7

Test Software: EMQuest

Test System

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

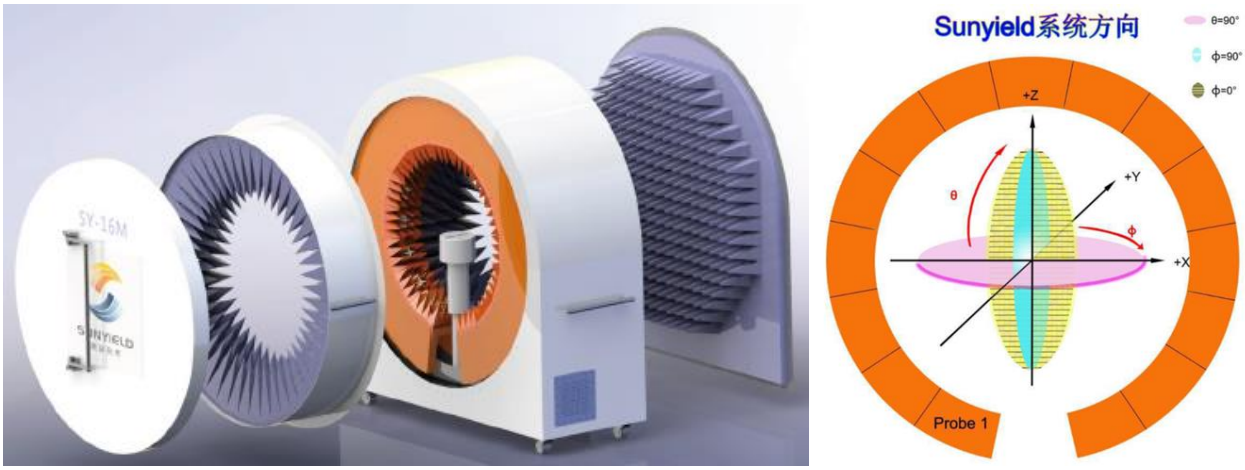


Figure 1 SY-16 OTA system

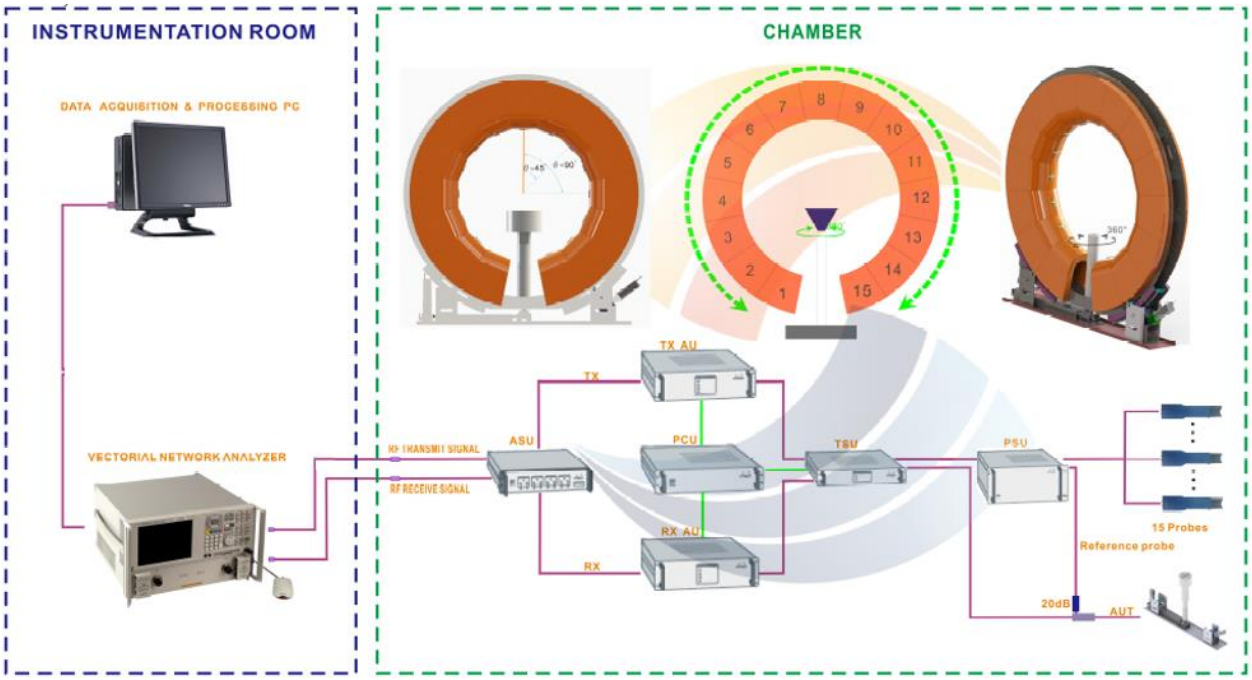


Figure 2 OTA measurement topology

Equipment List

Table 1 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 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 Being Used	PMS
Software Version	V2.8.5

Test Result

Efficiency and Gain

Table 3 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
915	-1.05	-6.5	22.4

Radiation Pattern

Table 4 Product coordinates

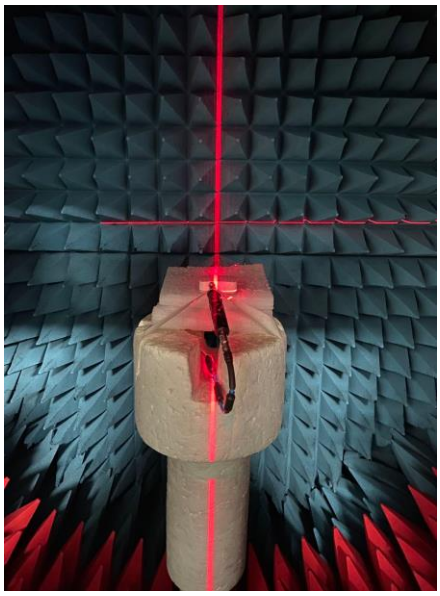
Product Coordinates	
	

Table 5 3D radiation pattern

3D Radiation Pattern at 915MHz

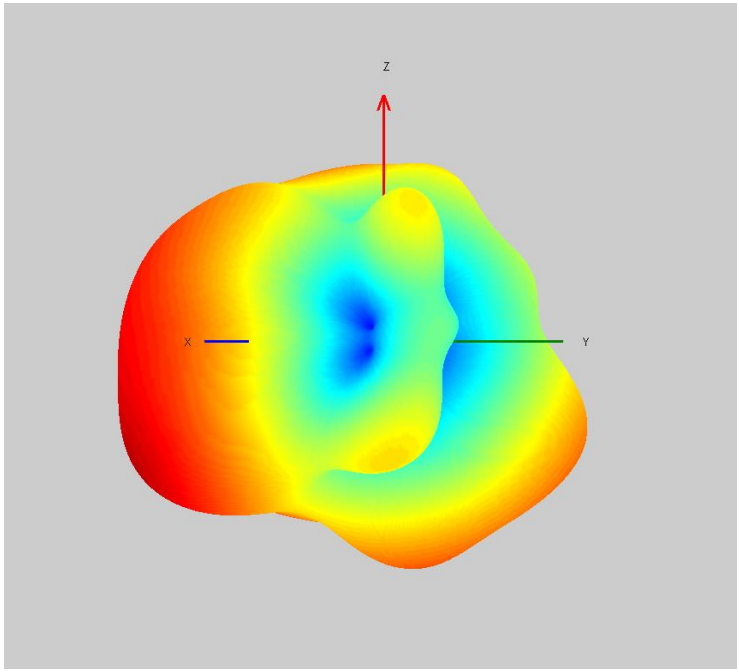


Table 6 Radiation pattern in XY Plane

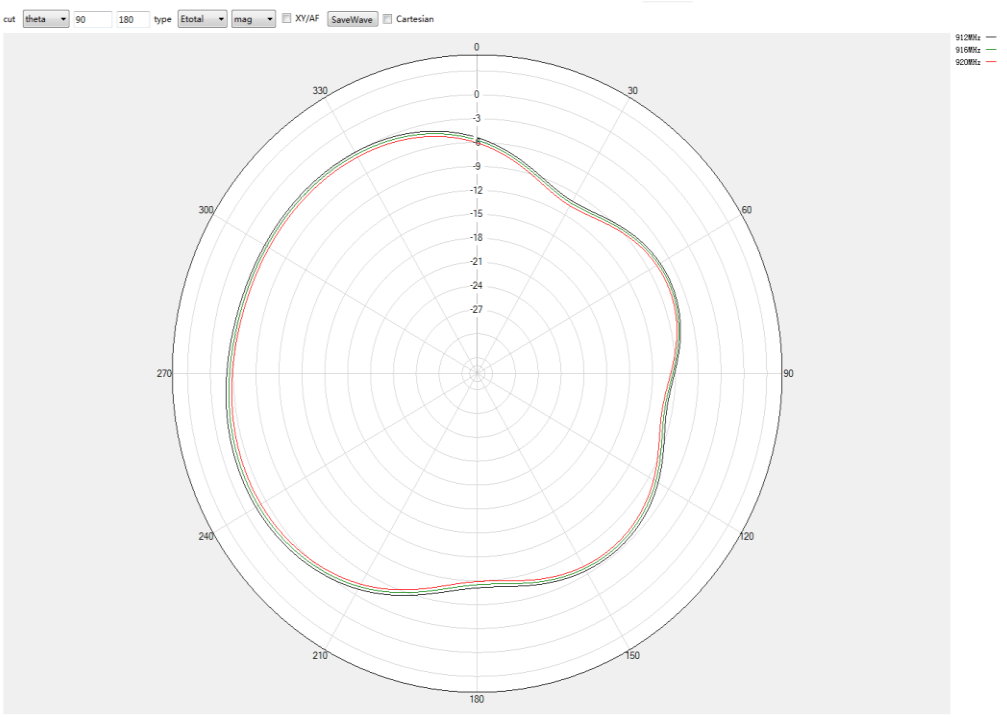
2D Radiation Pattern (θ = 90°, XY Plane)


Table 7 Radiation pattern in XZ Plane

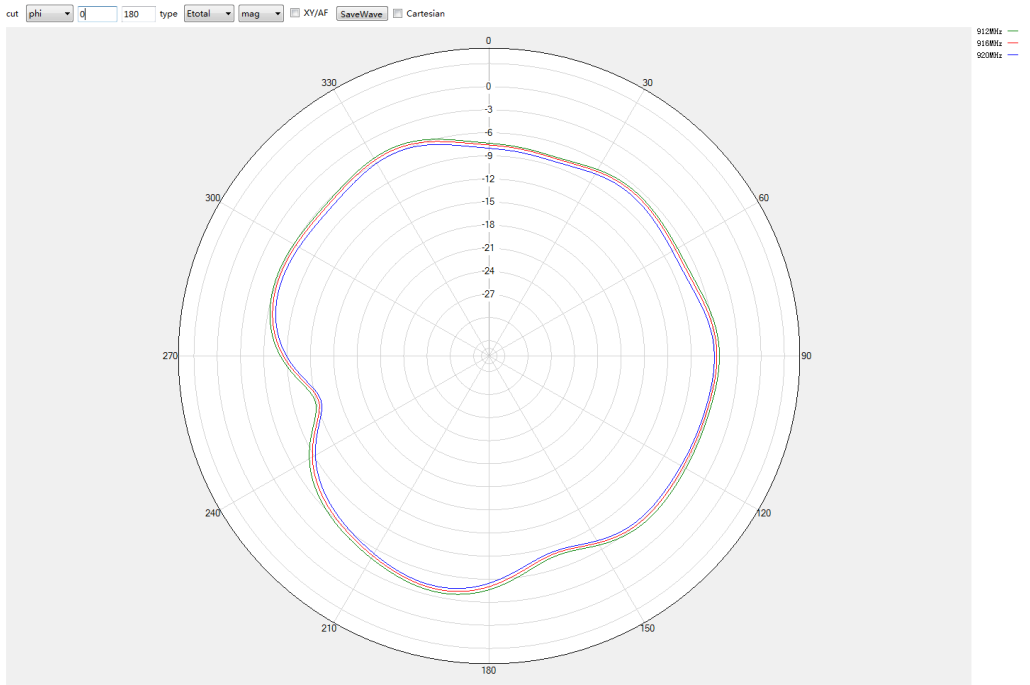
2D Radiation Pattern (ϕ = 0°, XZ Plane)


Table 8 Radiation pattern in YZ Plane

2D Radiation Pattern (ϕ = 90°, YZ Plane)