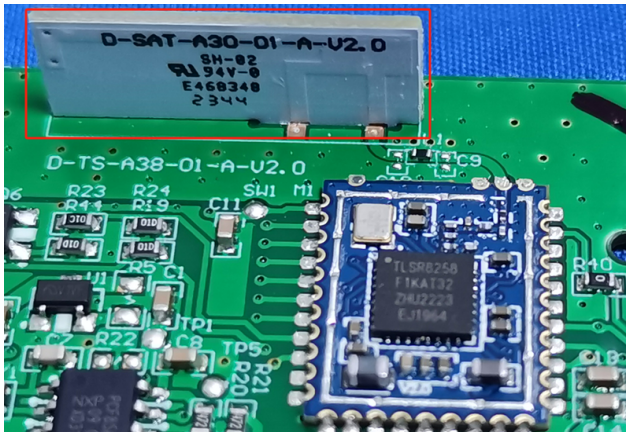
Antenna Specification

Antenna picture	
Antenna Type	Internal inverted F PCB antenna
Antenna Peak Gain	BLE: 1.05 dBi
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 name	BLE 太阳能插地灯
DUT photo	
Test Equipment & Calibration Date	SY-16 OTA System 2023-02-06
Test Engineer	Ouyanglongji
Test Date	2023-03-20

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:

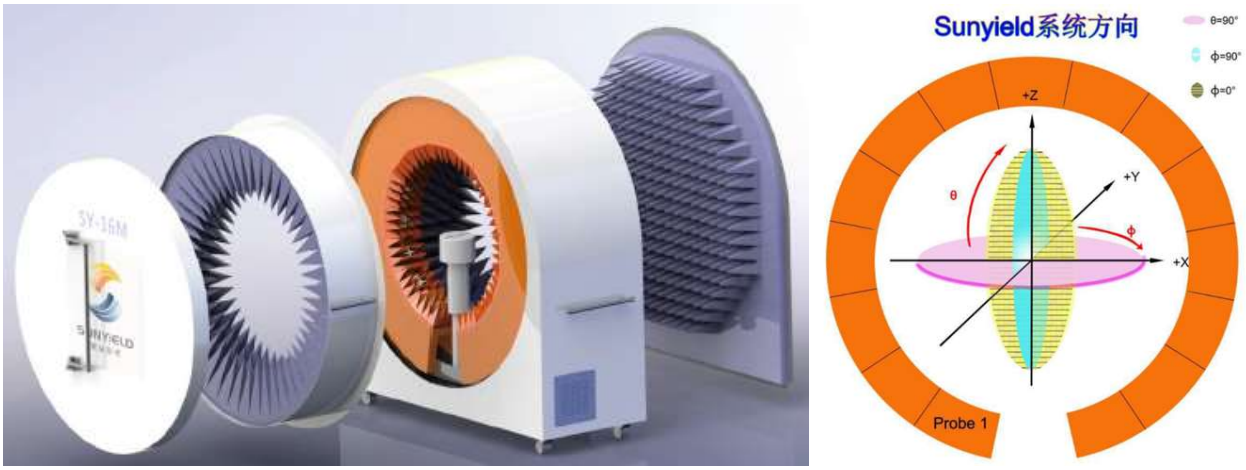


Figure 1 SY-16 OTA system

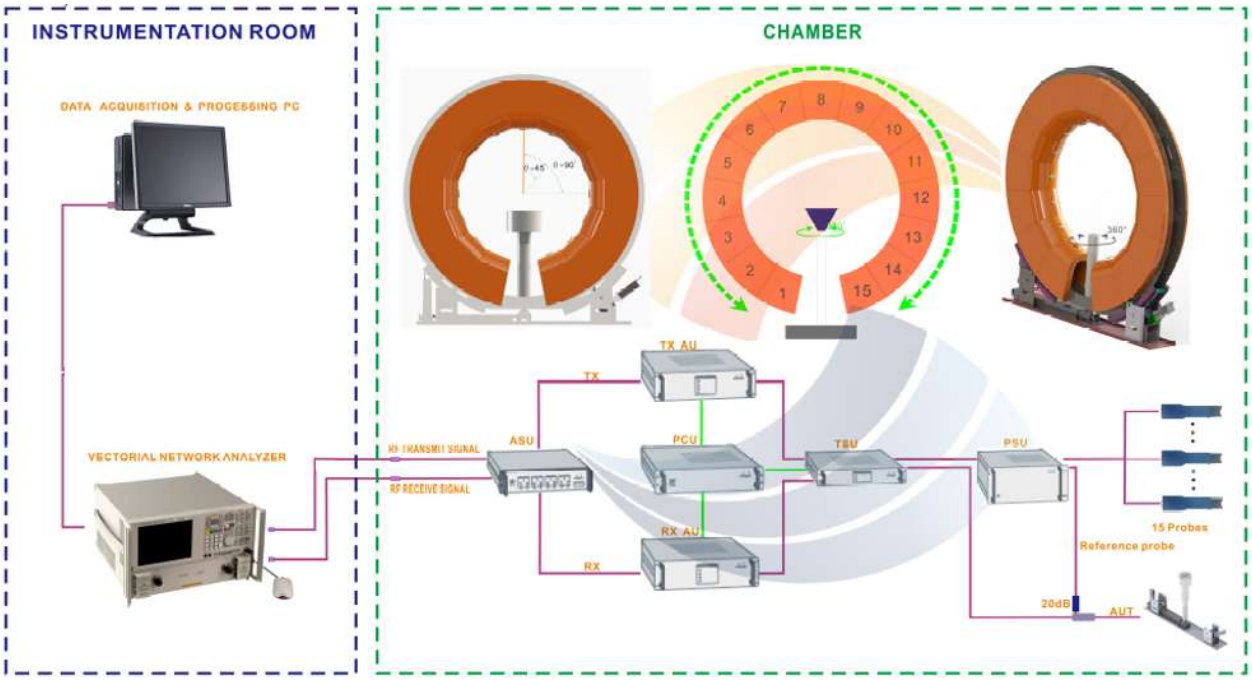


Figure 2 OTA measurement topology

Test Result

Efficiency and Gain

Table 1 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	0.23	-3.04	49.71
2410	0.55	-2.84	51.98
2420	0.61	-2.79	52.64
2430	0.60	-2.80	52.50
2440	0.84	-2.58	55.26
2450	1.05	-2.51	56.08
2460	0.93	-2.65	54.32
2470	0.57	-2.90	51.24
2480	0.71	-2.77	52.83
2490	0.75	-2.71	53.60
2500	0.40	-3.06	49.46

Radiation Pattern

Table 2 Product coordinates

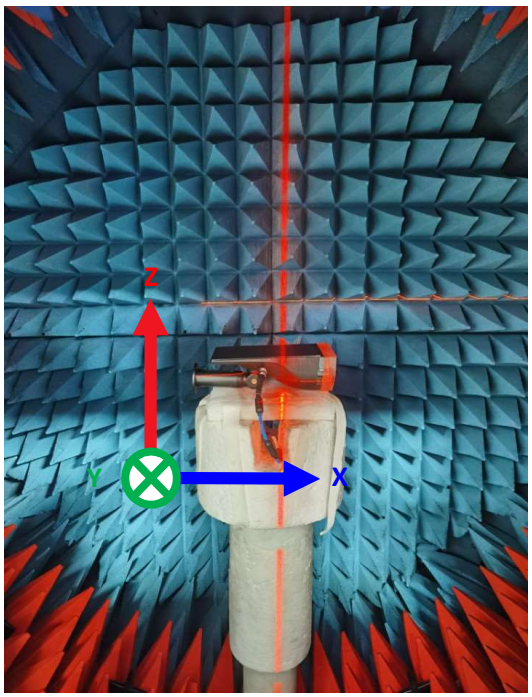
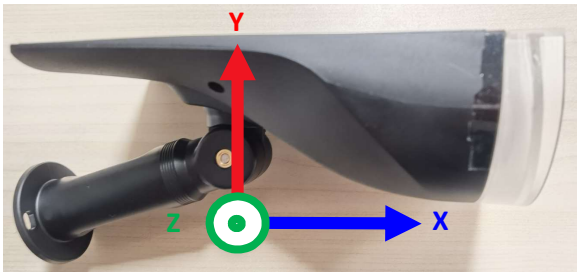
Product Coordinates	
	

Table 3 3D radiation pattern

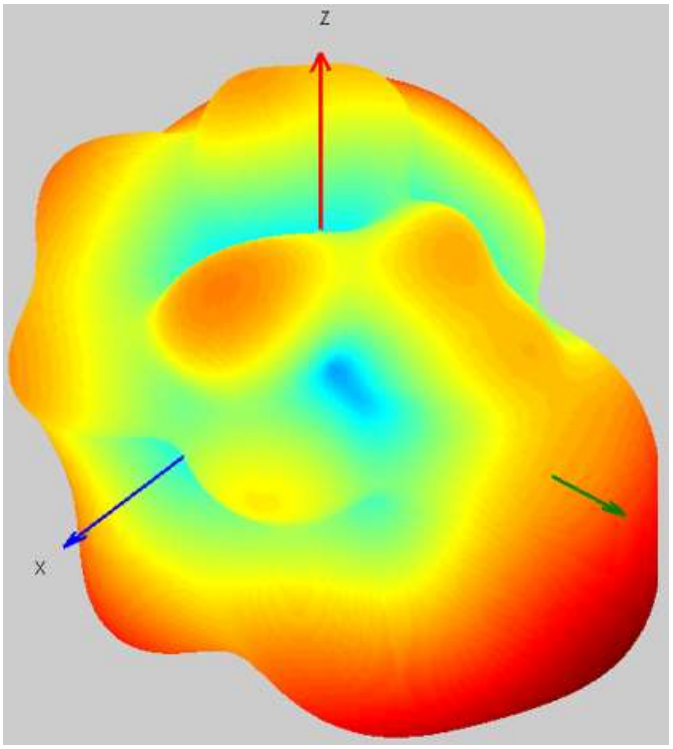
3D Radiation Pattern at 2450MHz


Table 4 Radiation pattern in XY Plane

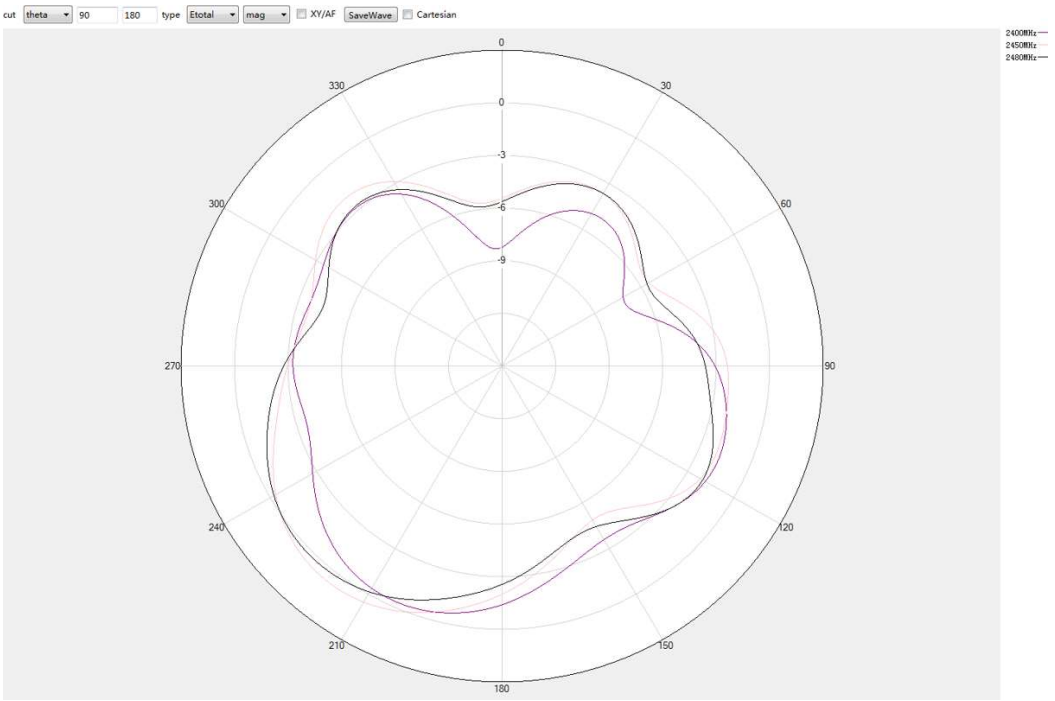
2D Radiation Pattern (θ = 90°, XY Plane)


Table 5 Radiation pattern in XZ Plane

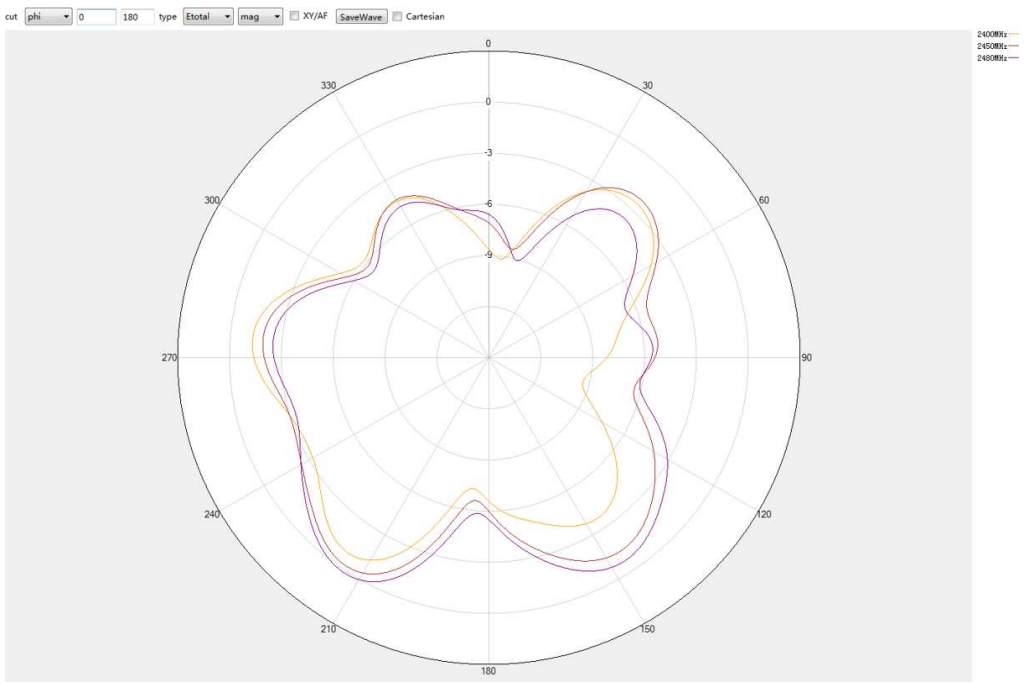
2D Radiation Pattern (ϕ = 0°, XZ Plane)


Table 6 Radiation pattern in YZ Plane

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