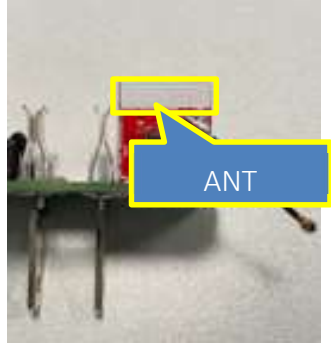


Antenna Information

Antenna Picture	
Antenna Type	Internal antenna
Antenna Peak Gain	0 dBi
Operating Band	2405 MHz ~ 2480 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.
Address	Xingtai Industrial Park, Changtai Economic Development Zone, Zhangzhou, 363900, China
Model Name	HPP-A21X-Z-XC/HPP-A11X-Z-XC
DUT Photo	
Report Date	2023-8-8

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

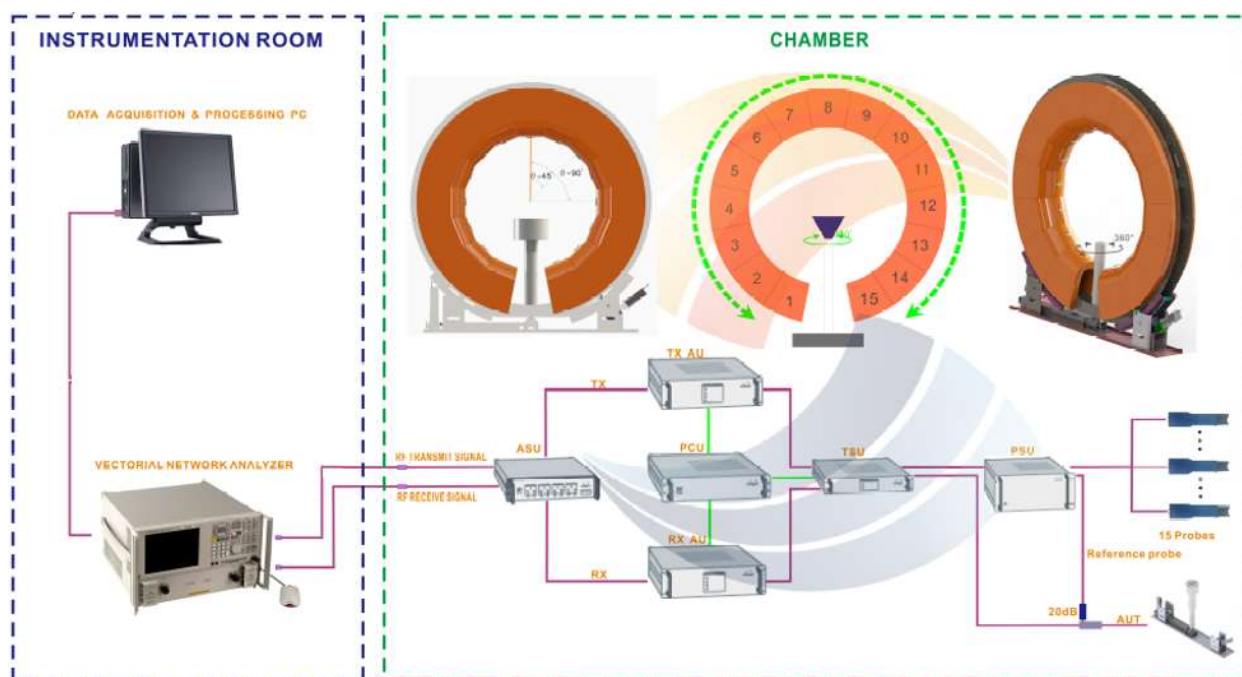


Figure 2 OTA measurement topology

Test Result

Efficiency and Gain

Table 1 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-1.75	-6.28	23.53
2410	-1.17	-6.00	25.15
2420	-0.66	-5.73	26.70
2430	-0.90	-6.09	24.58
2440	-0.60	-5.90	25.71
2450	-0.00	-5.45	28.53
2460	-0.15	-5.59	27.58
2470	-0.47	-6.04	24.91
2480	-0.12	-5.71	26.87
2490	-0.13	-5.44	28.61
2500	-0.15	-5.83	26.10

Radiation Pattern

Table 2 Product coordinates

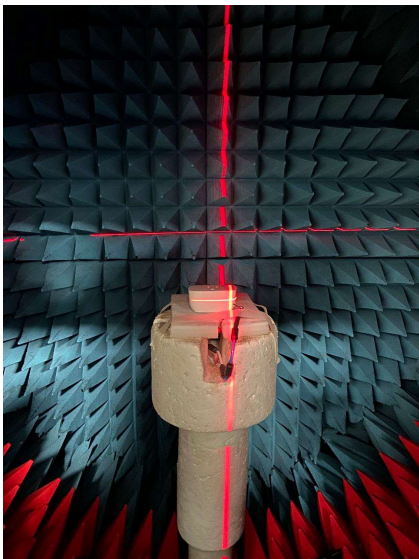
Product Coordinates	
	

Table 3 3D radiation pattern

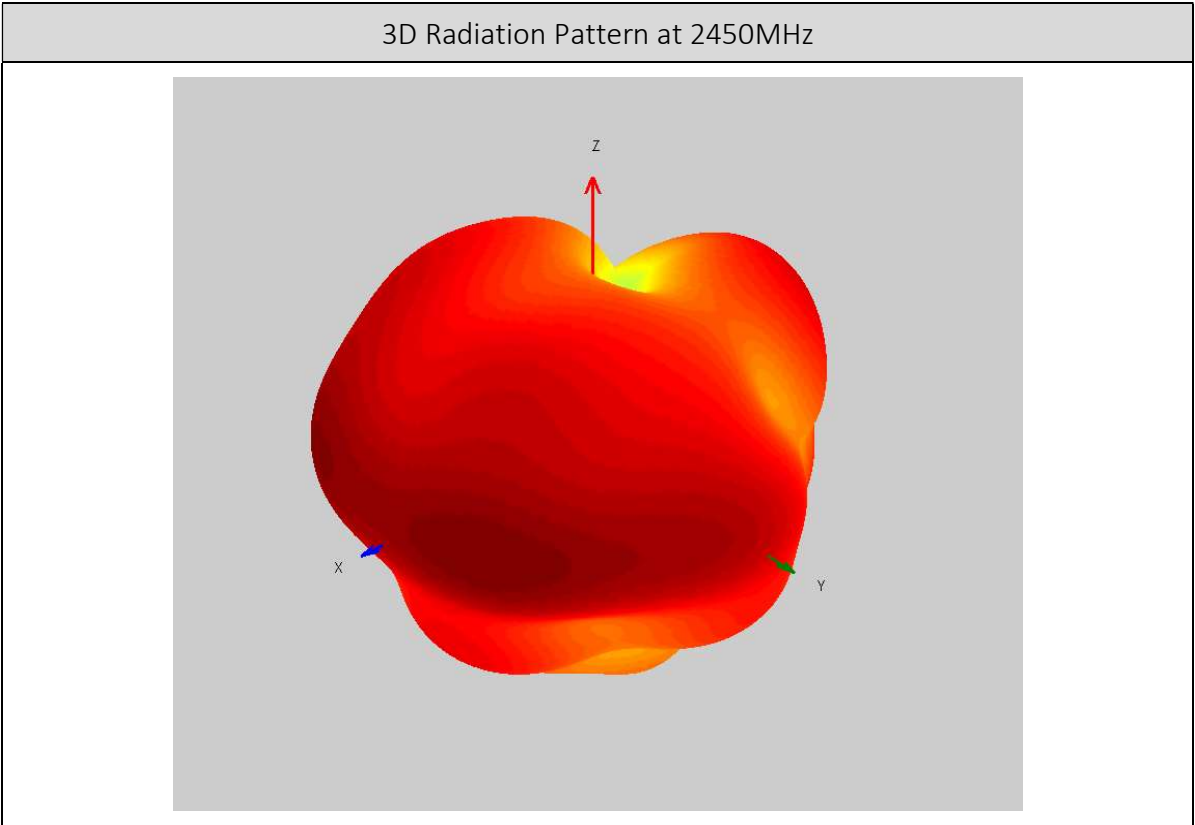


Table 4 Radiation pattern in XY Plane

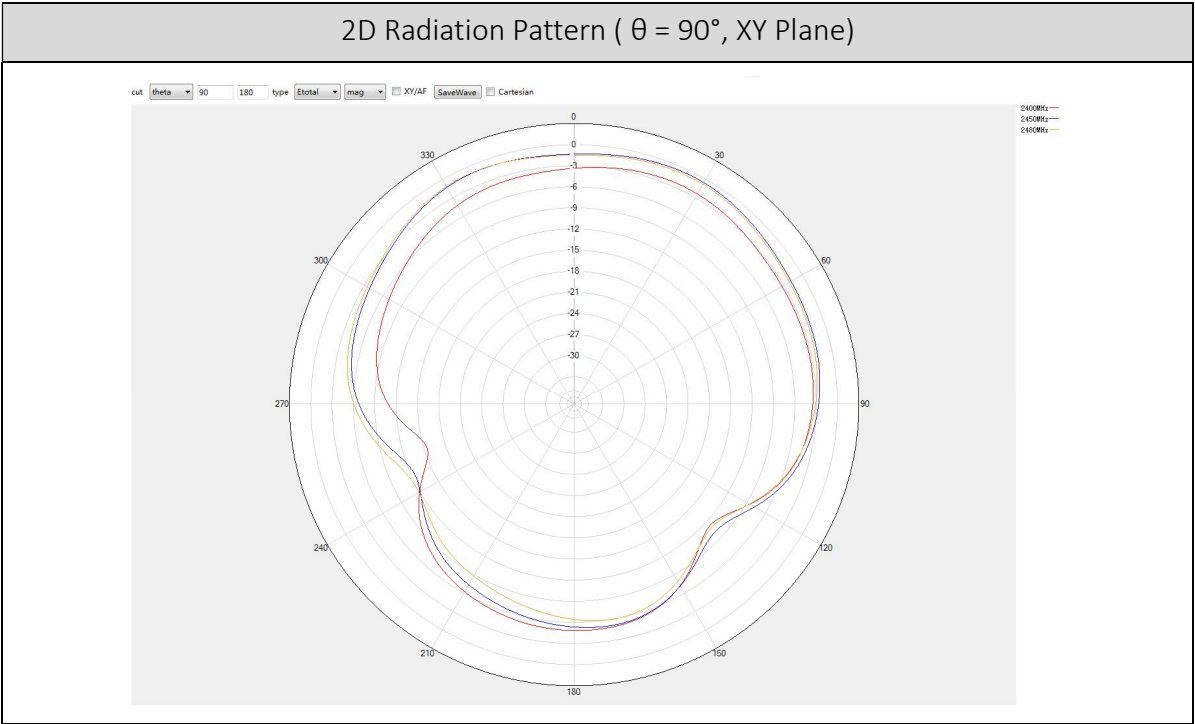


Table 5 Radiation pattern in XZ Plane

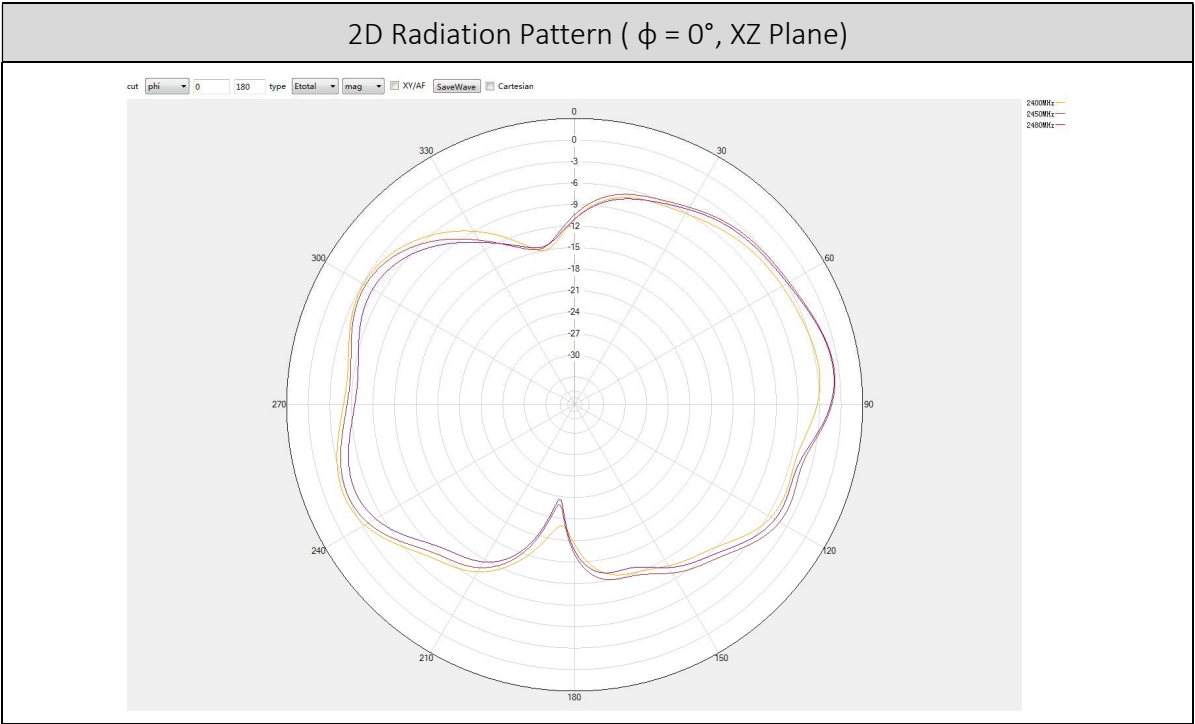


Table 6 Radiation pattern in YZ Plane

