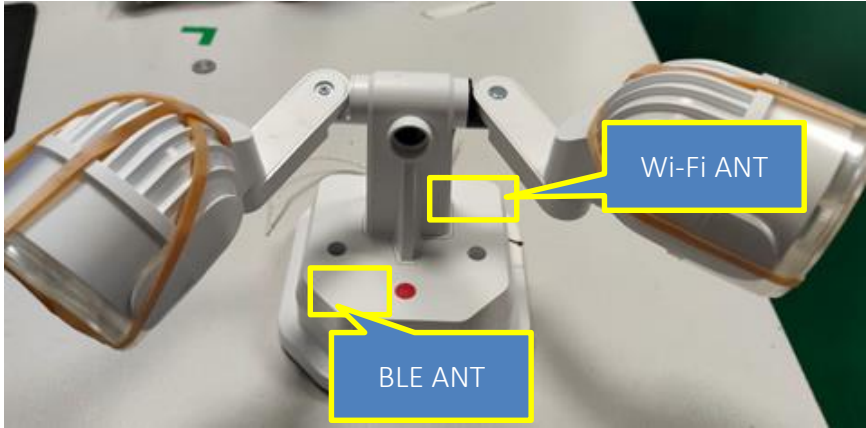


Antenna Information

Antenna Picture	
Antenna Type	Internal inverted F PCB antenna
Antenna Peak Gain	BLE: 0.86 dBi; Wi-Fi: 0.19 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	M071-LZ_SFI-IS05b-1500-UNC-11
DUT Photo	
Report Date	2023-06-16

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

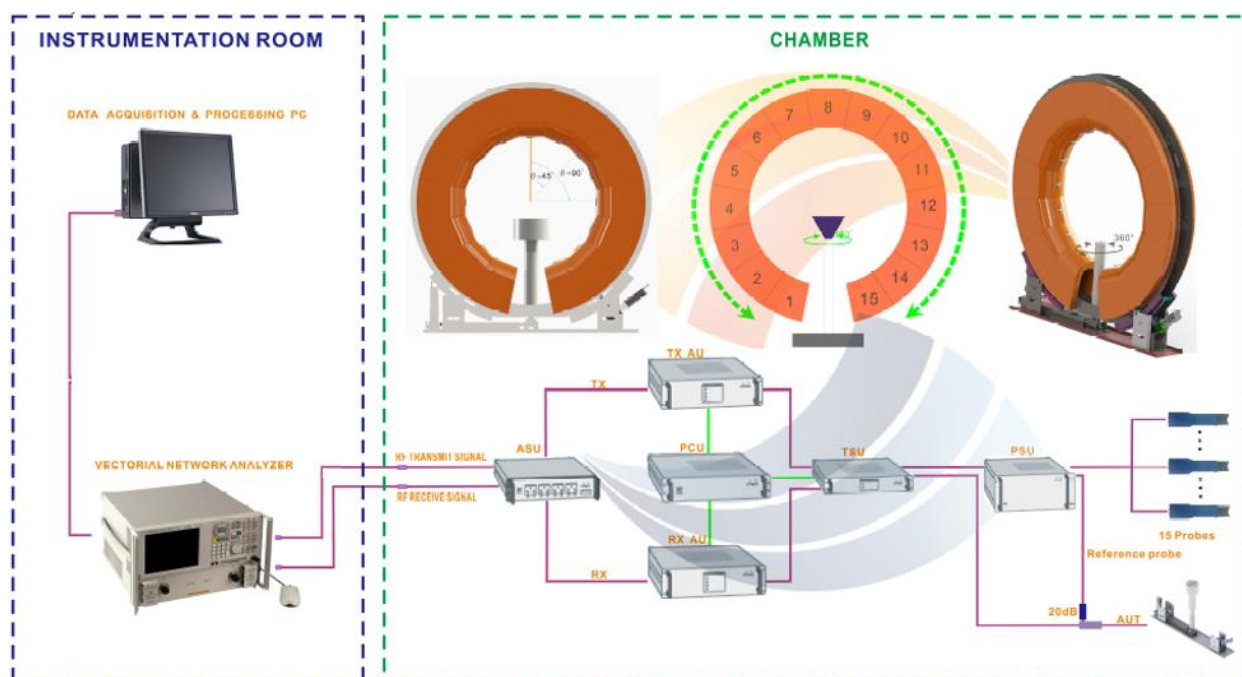


Figure 2 OTA measurement topology

Test Result

BLE Antenna

Efficiency and Gain

Table 1 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	0.67	-3.77	41.96
2410	0.86	-3.88	40.91
2420	0.78	-3.97	40.07
2430	0.77	-4.10	38.94
2440	0.83	-4.17	38.31
2450	0.85	-4.25	37.56
2460	0.86	-4.36	36.62
2470	0.86	-4.44	35.98
2480	0.84	-4.56	35.02
2490	0.77	-4.63	34.45
2500	0.70	-4.86	32.63

Radiation Pattern

Table 2 Product coordinates

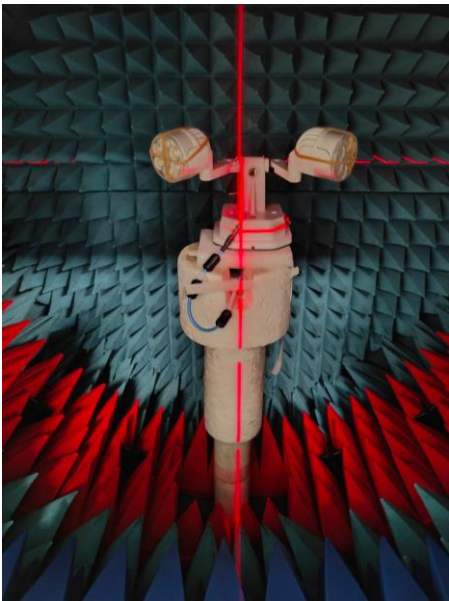
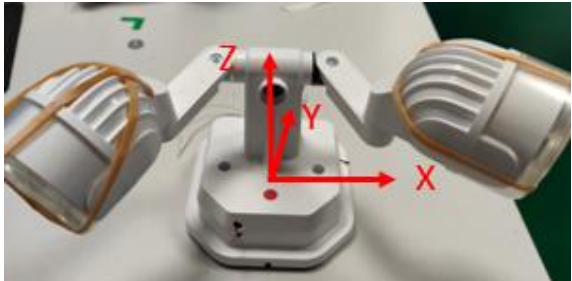
Product Coordinates	
	

Table 3 3D radiation pattern

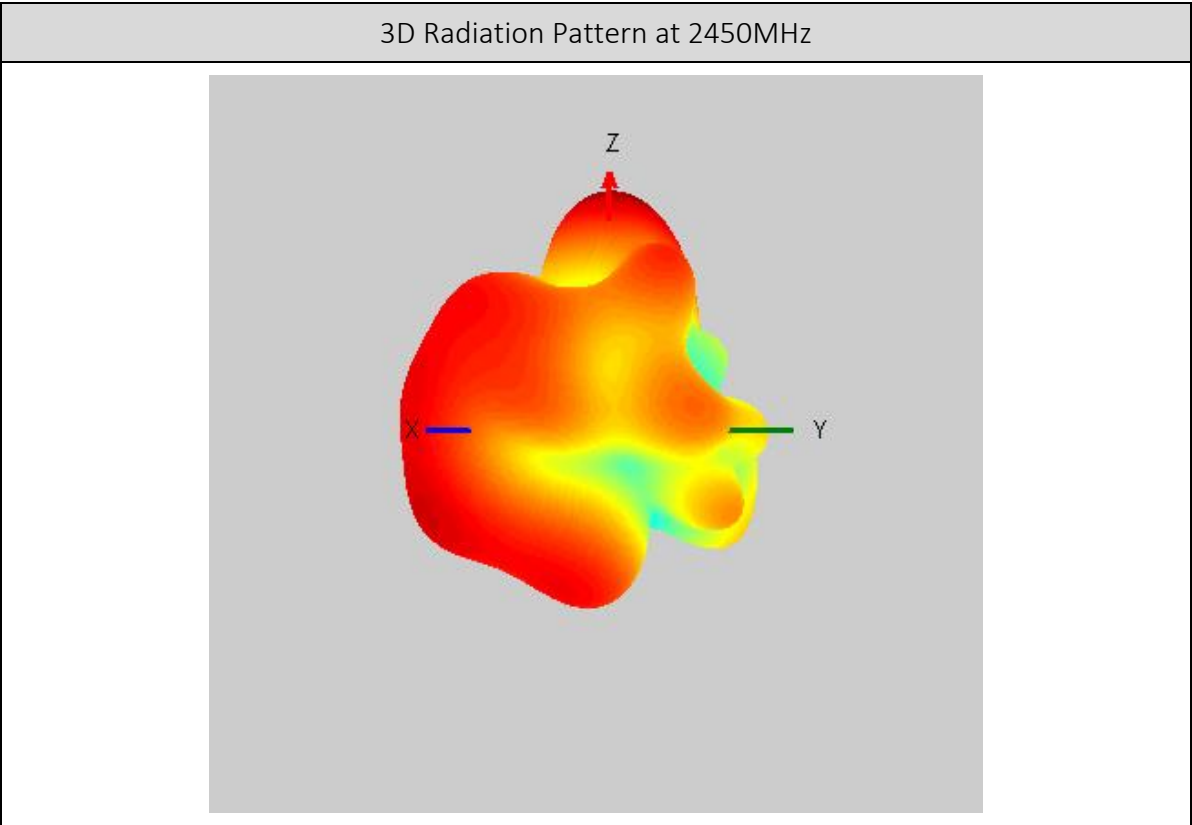


Table 4 Radiation pattern in XY Plane

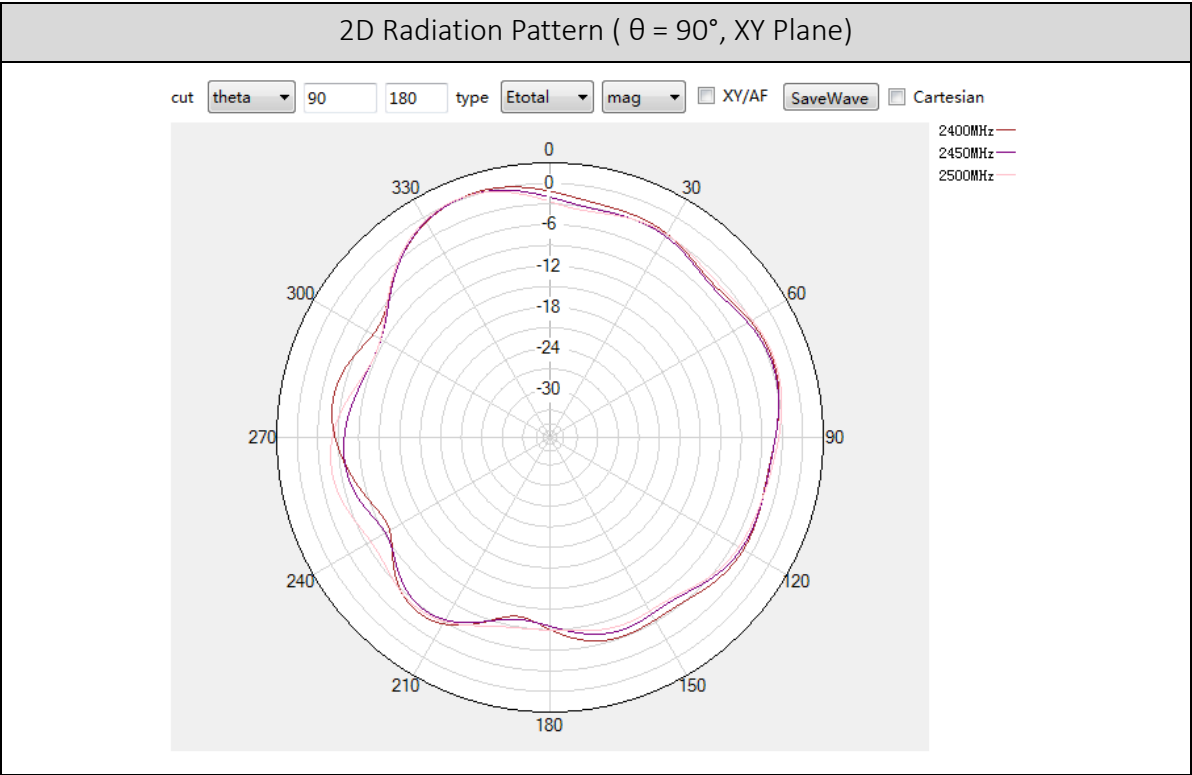


Table 5 Radiation pattern in XZ Plane

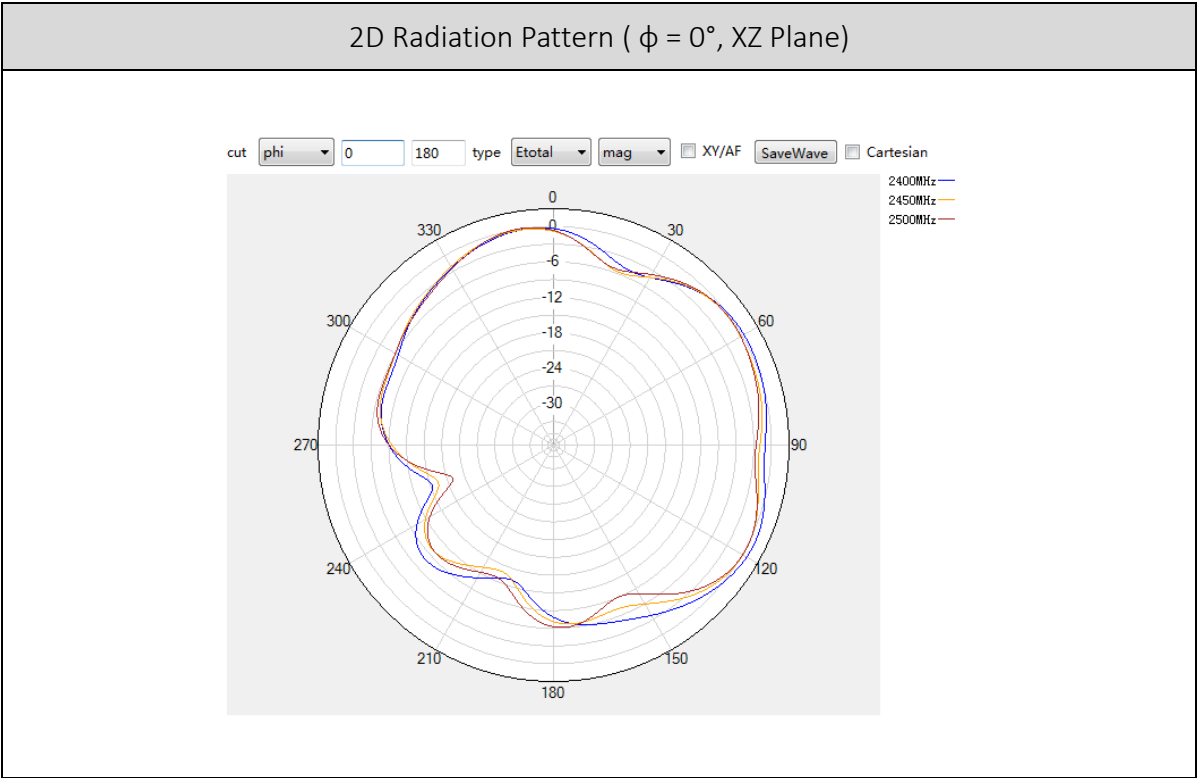
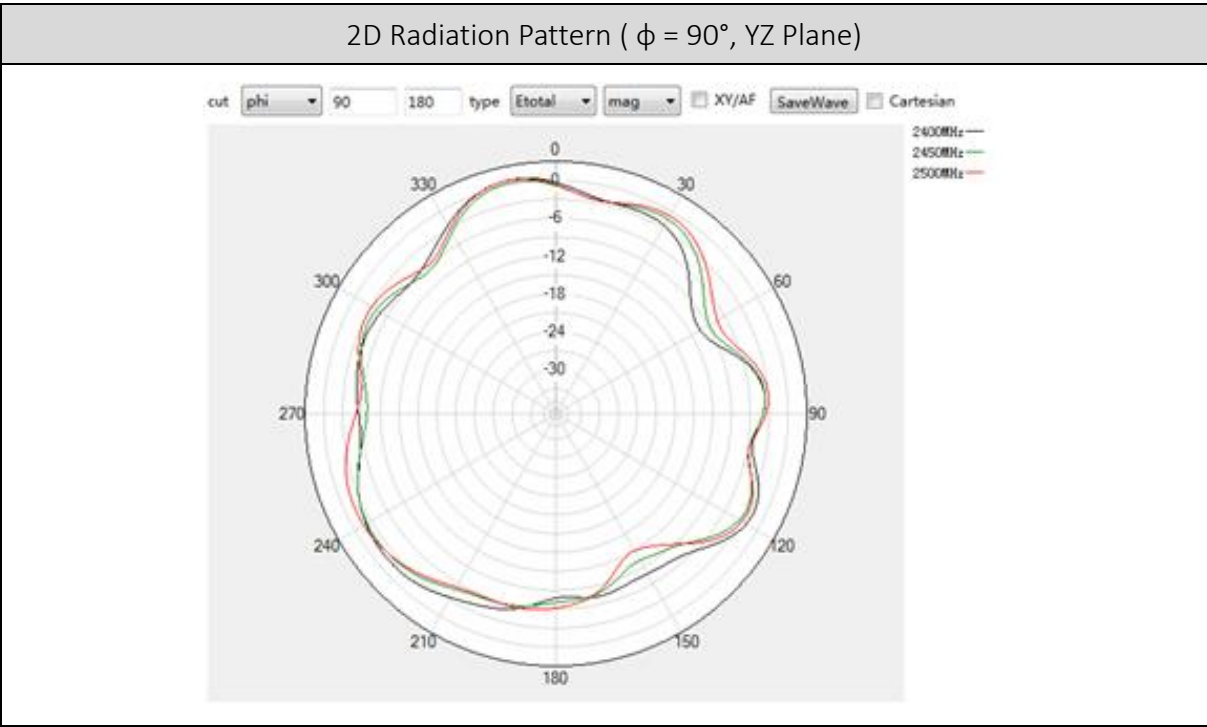


Table 6 Radiation pattern in YZ Plane



Wi-Fi Antennna

Efficiency and Gain

Table 7 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	-0.04	-3.91	40.61
2410	-0.12	-3.97	40.06
2420	-0.08	-4.02	39.66
2430	-0.13	-4.10	38.91
2440	0.02	-4.12	38.74
2450	0.12	-4.11	38.78
2460	0.19	-4.12	38.74
2470	0.17	-4.11	38.79
2480	0.11	-4.12	38.73
2490	0.14	-4.12	38.77
2500	0.01	-4.25	37.54

Radiation Pattern

Table 8 Product coordinates

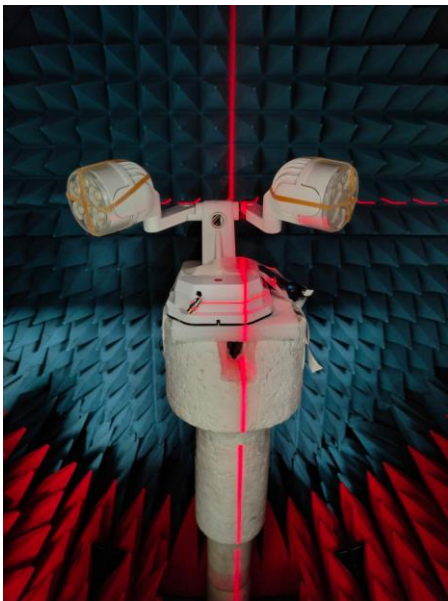
Product Coordinates	
	

Table 9 3D radiation pattern

3D Radiation Pattern at 2450MHz

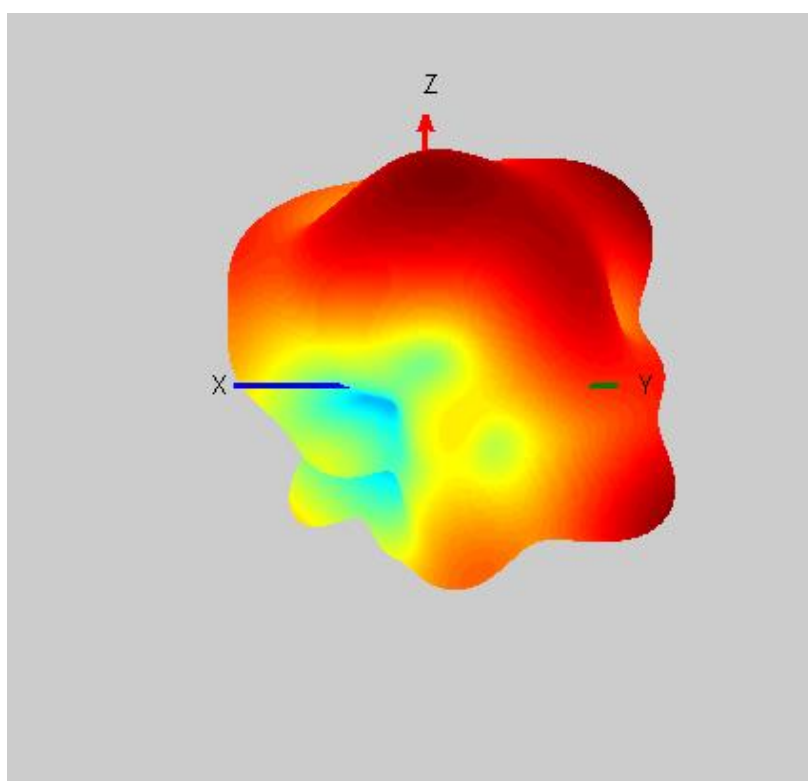


Table 10 Radiation pattern in XY Plane

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

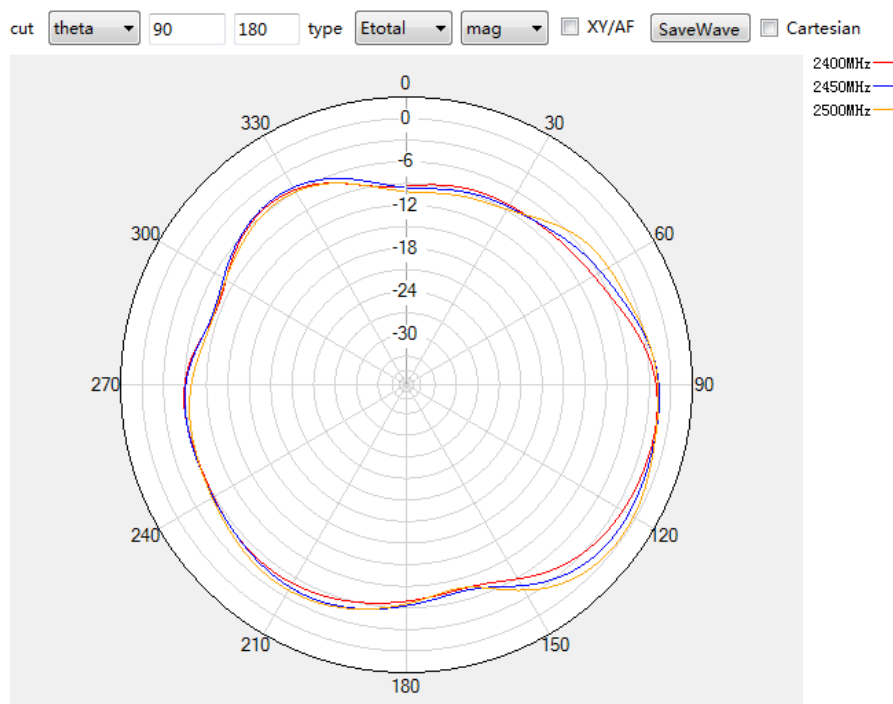


Table 11 Radiation pattern in XZ Plane

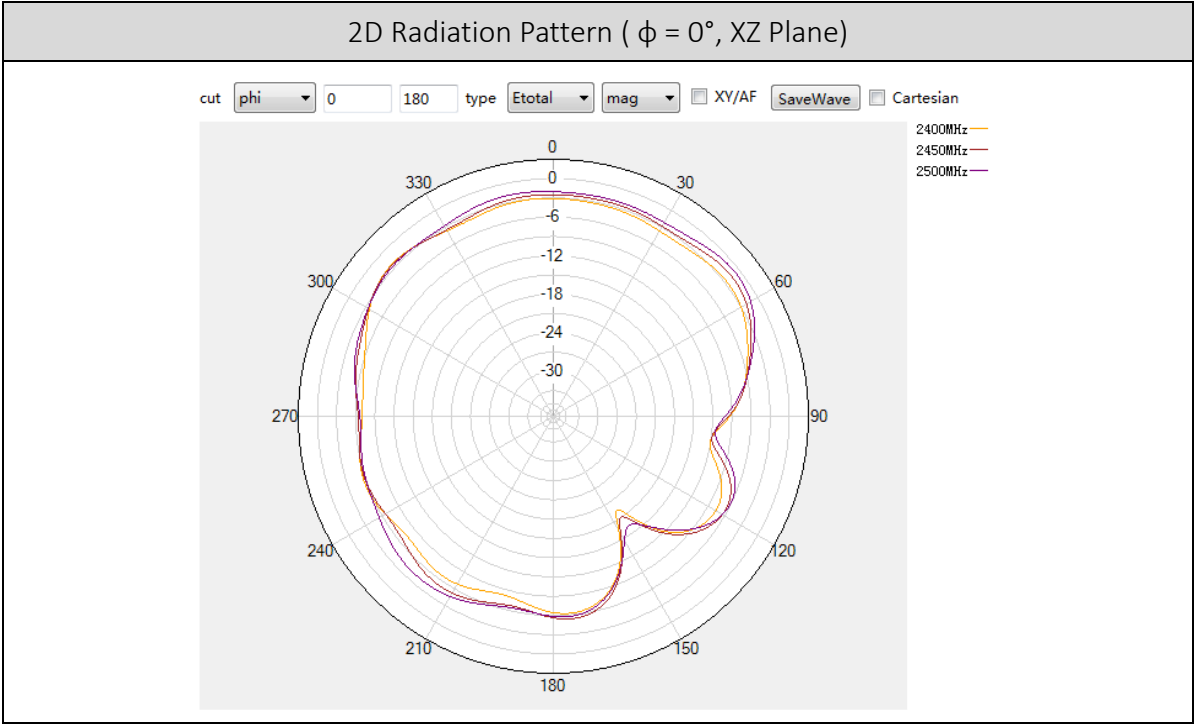


Table 12 Radiation pattern in YZ Plane

