

Antenna Specification

Antenna picture	
Antenna Type	PCB antenna (BLE) & PCB antenna (UWB)
Antenna Peak Gain	BLE: 1 dBi UWB: 1.7 dBi
Operating Band	BLE: 2400 MHz ~ 2483.5 MHz UWB: 3990~4000MHz&4490~4500 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	A2B Tag
DUT photo	
Test Engineer	Ouyang Longji
Test Date	2024-2-27

1.1 Test Standard

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

1.2 Equipment List:

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Network Analyzer	Keysight	E5071C	MY46527808	2024/1/9	2025/1/8
Anechoic Chamber	Sunyield	SY-16	SI1727	2023/5/10	2024/5/9

1.3 Test Software: EMQuest

1.4 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:

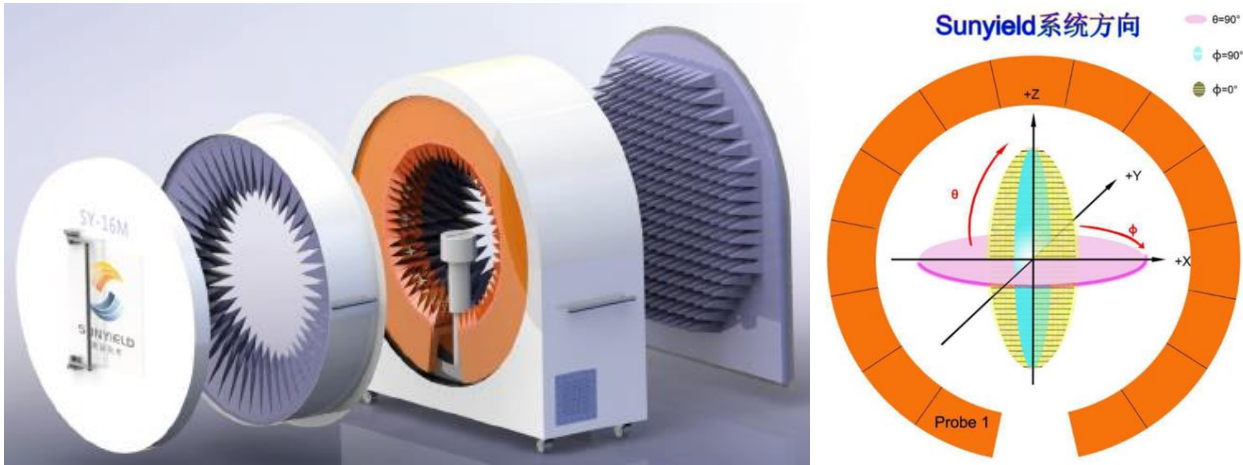


Figure 1 SY-16 OTA system

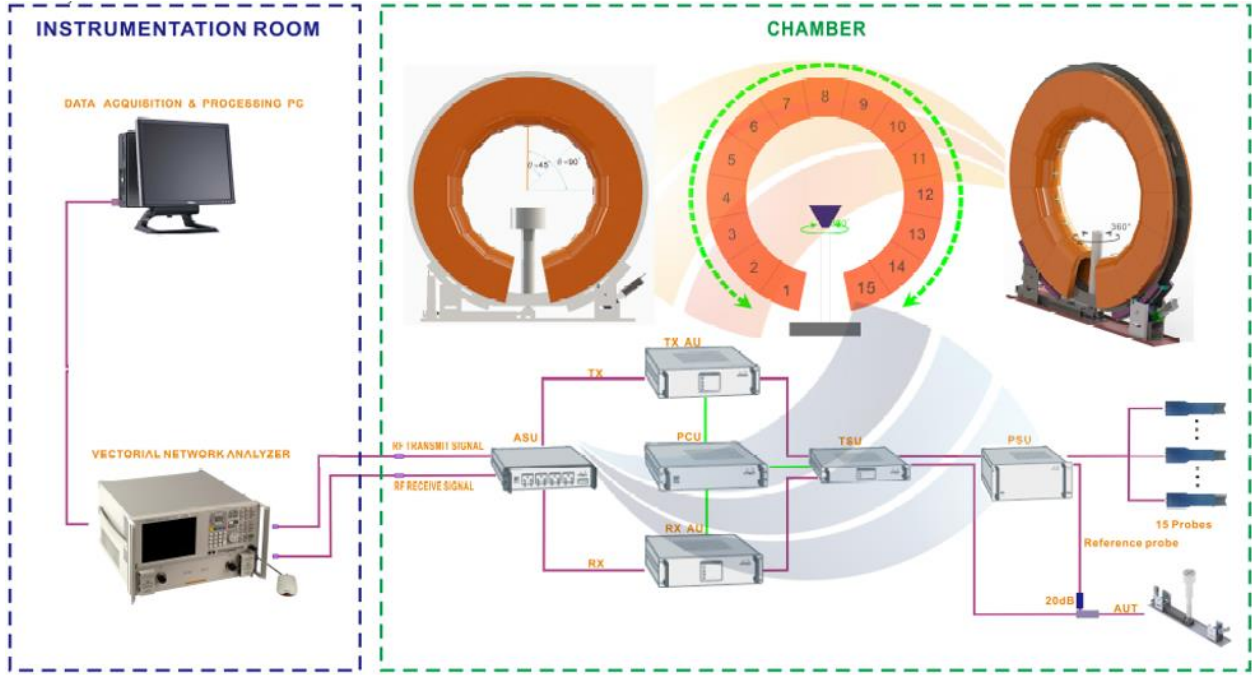


Figure 2 OTA measurement topology

1.5 Test Result

Efficiency and Gain

Table 1 Antenna Efficiency and Gain (BLE)

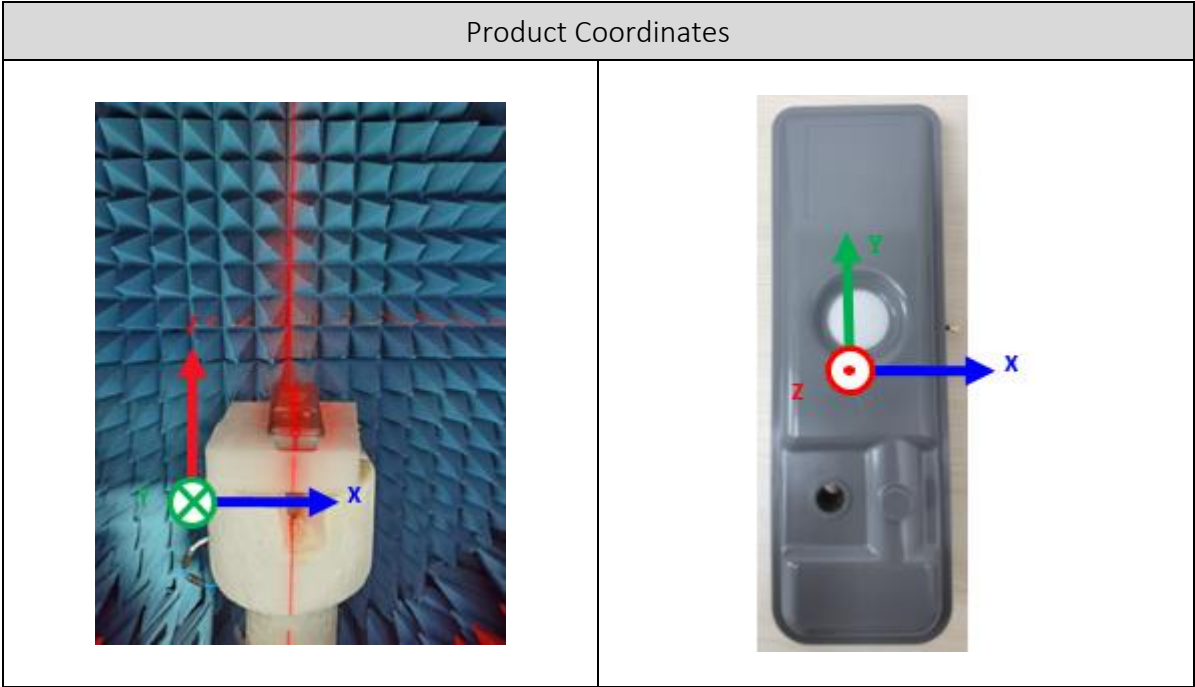
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	0.98	-3.47	44.97
2410	0.95	-3.13	48.69
2420	0.72	-3.42	45.49
2430	0.85	-3.28	47.03
2440	1.00	-2.81	52.38
2450	0.89	-3.24	47.40
2460	0.71	-3.63	43.37
2470	0.93	-3.28	46.95
2480	0.99	-3.11	48.85
2490	0.88	-3.48	44.88
2500	0.92	-3.32	46.57

Table 1 Antenna Efficiency and Gain (UWB)

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
3990	1.67	-1.15	76.74
4000	1.70	-1.28	74.43
4490	1.63	-1.05	78.50
4500	1.70	-1.03	78.97

1.6 Radiation Pattern

Table 2 Product coordinates



BLW :

Table 3 3D radiation pattern

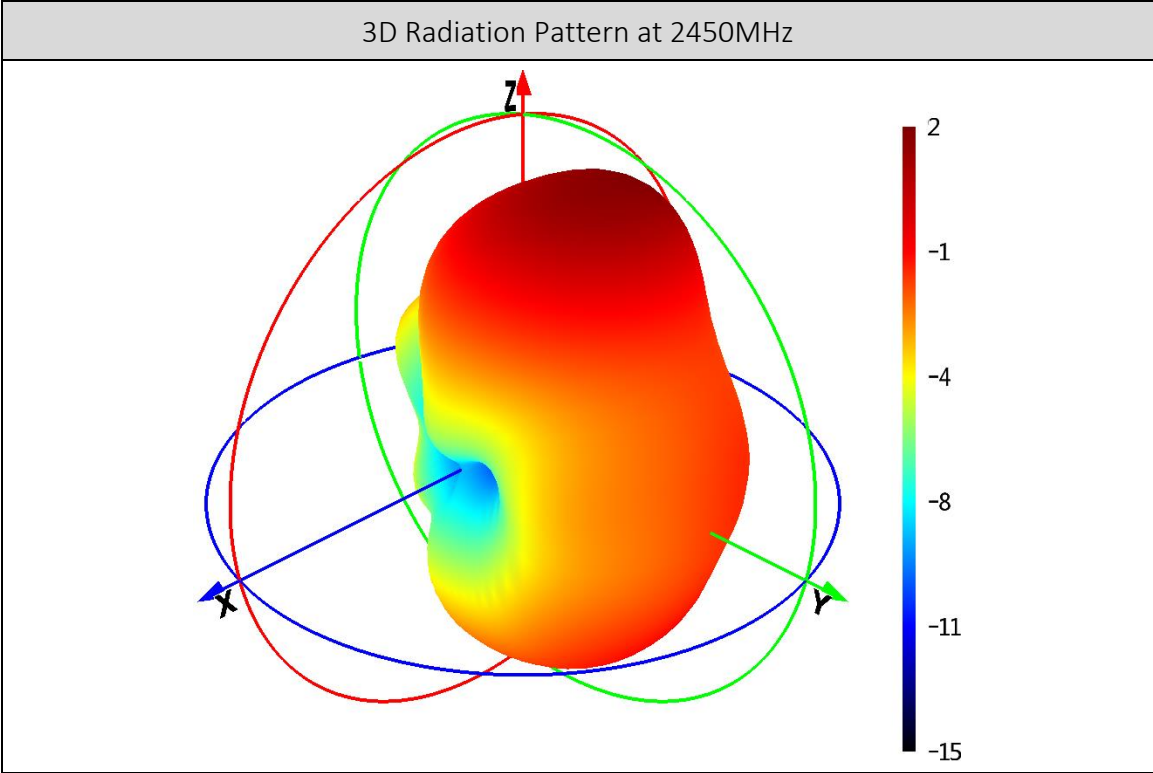


Table 4 Radiation pattern in XY Plane

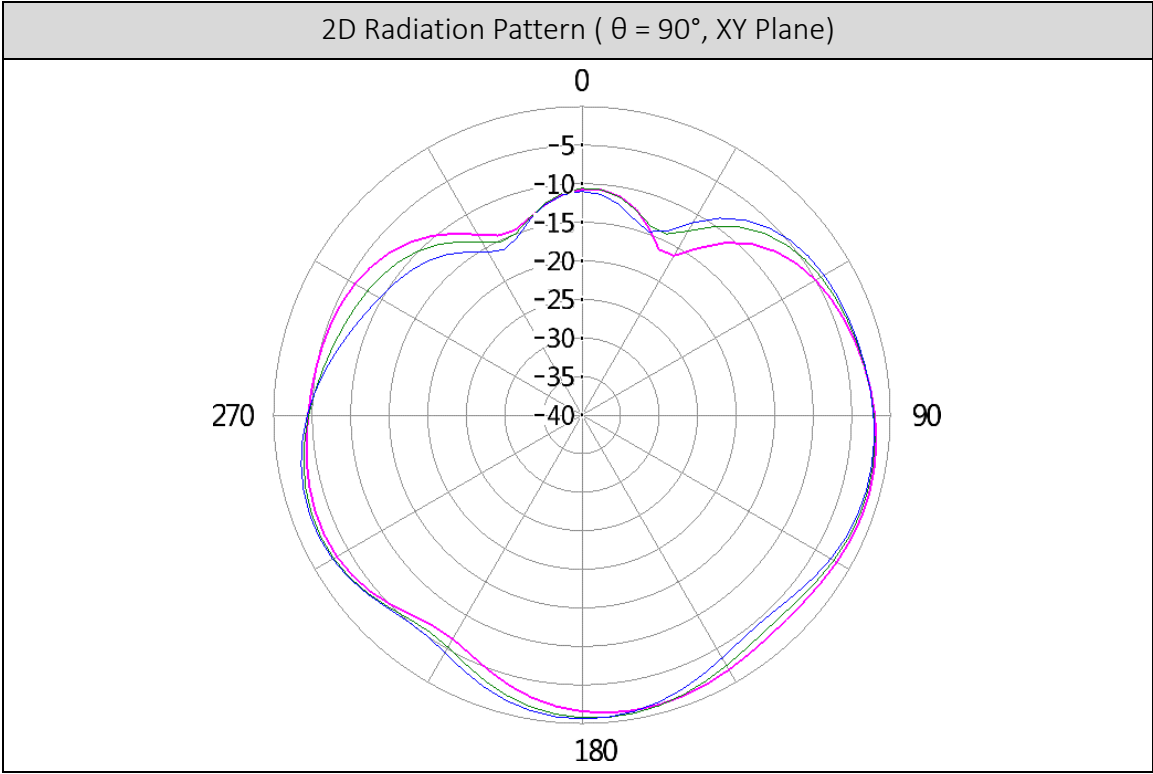


Table 5 Radiation pattern in XZ Plane

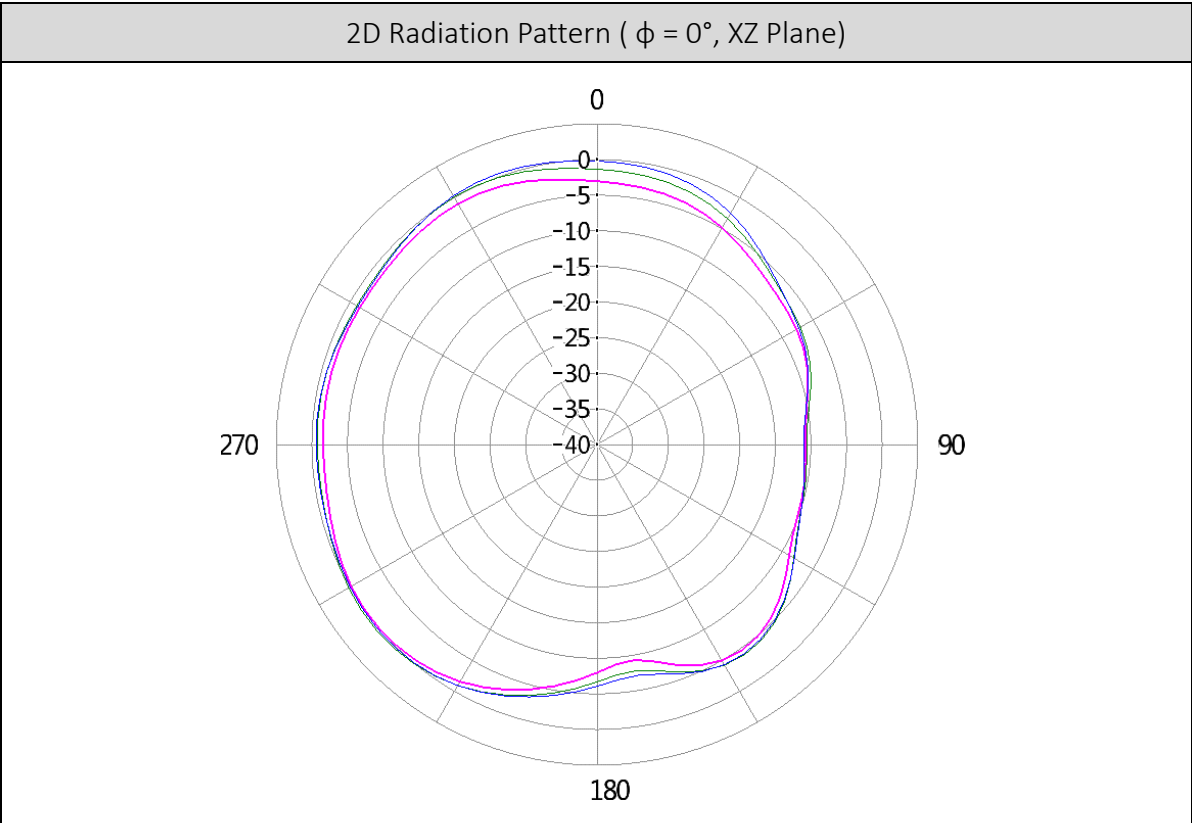
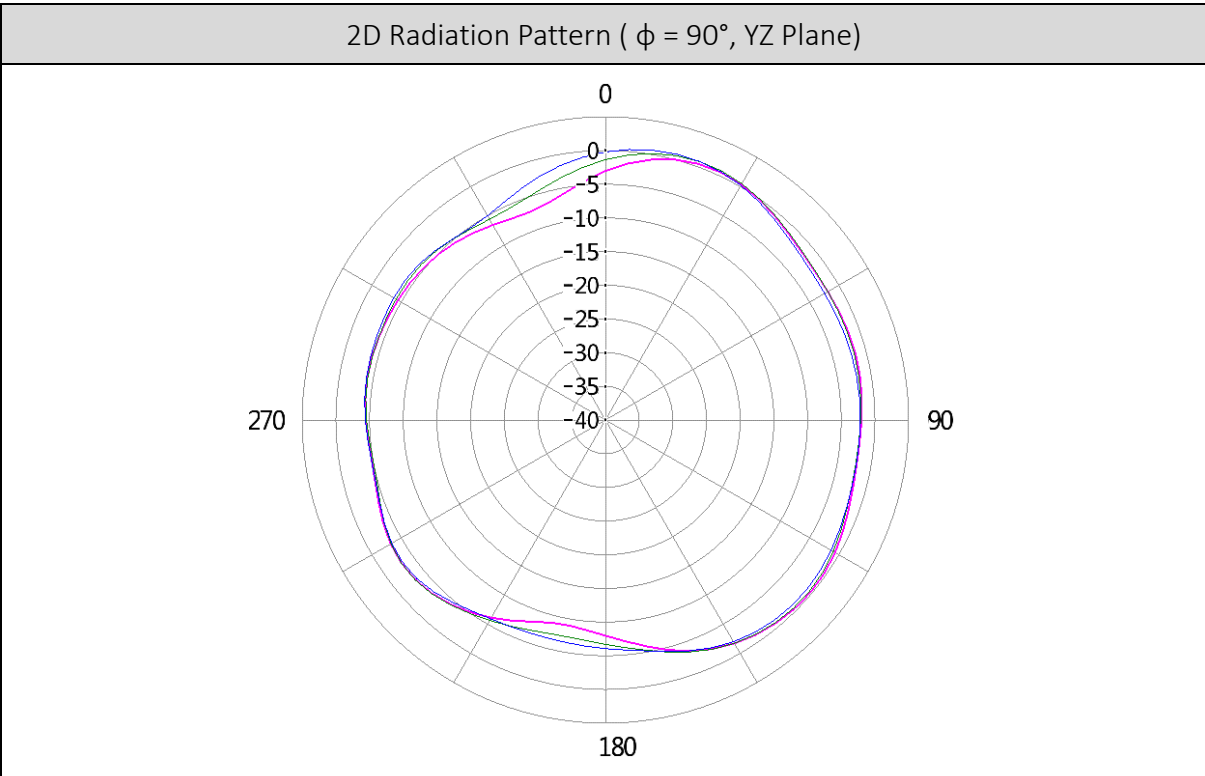


Table 6 Radiation pattern in YZ Plane



UWB :

Table 3 3D radiation pattern

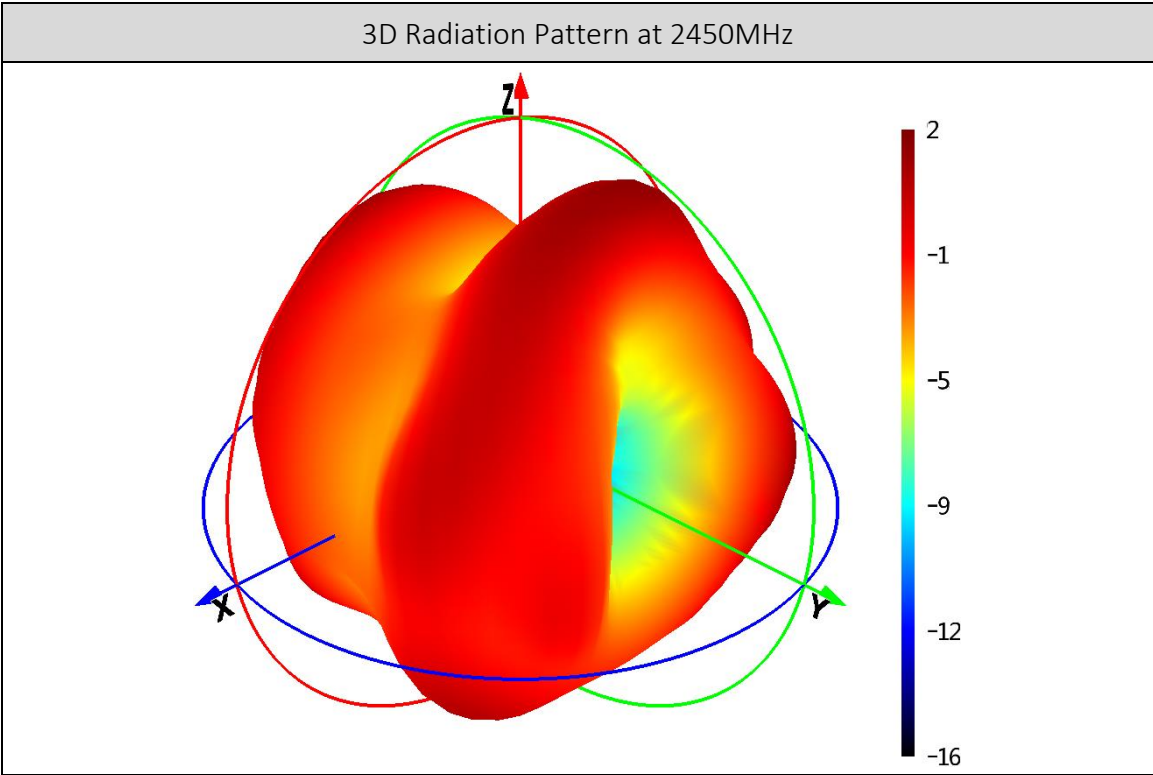


Table 4 Radiation pattern in XY Plane

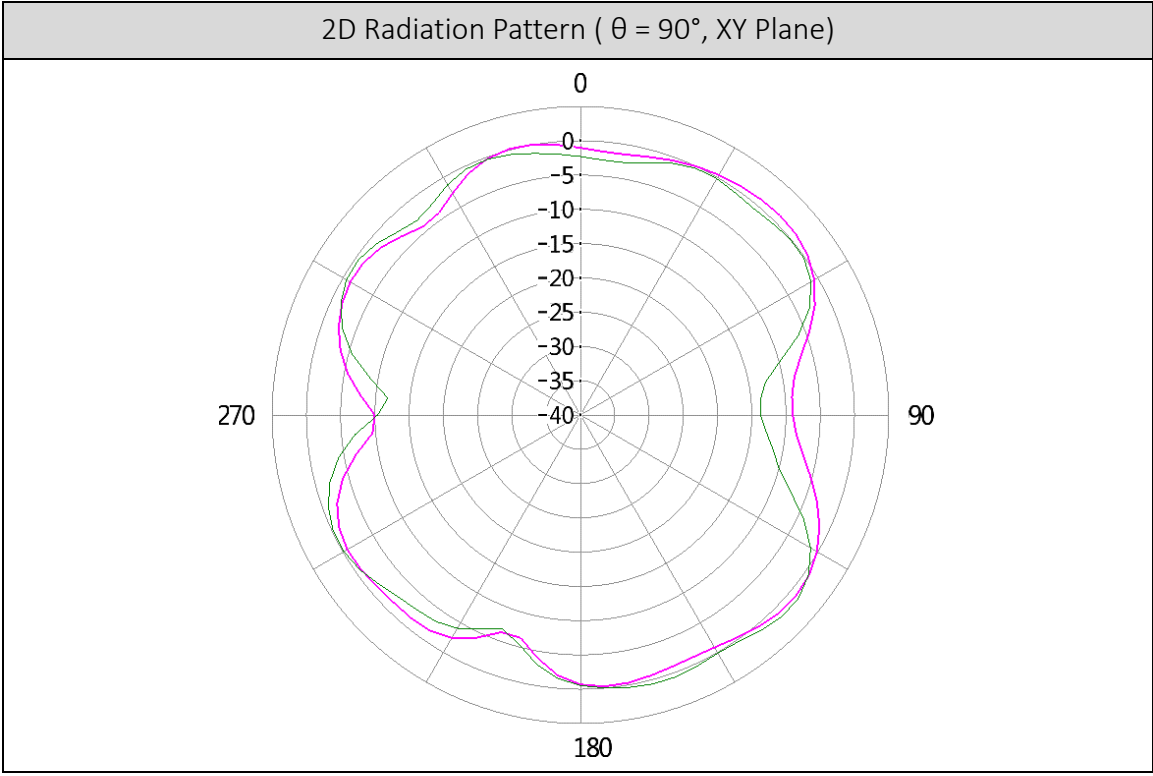


Table 5 Radiation pattern in XZ Plane

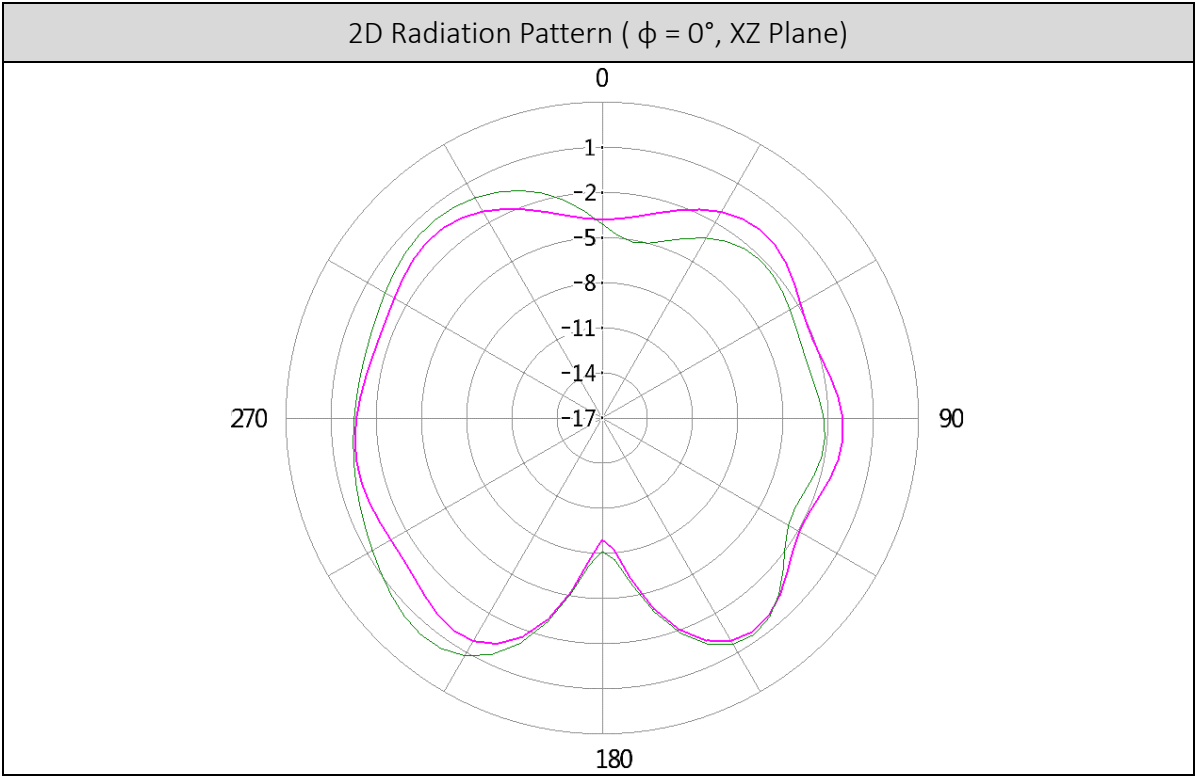


Table 6 Radiation pattern in YZ Plane

