
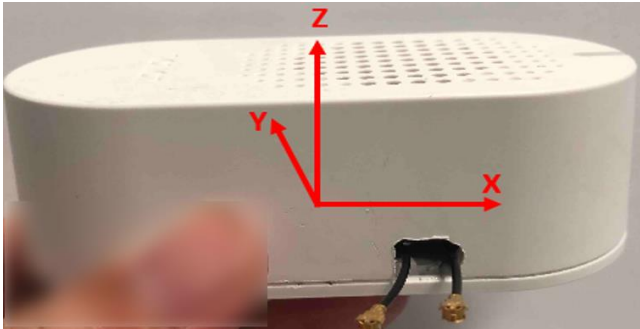


Antenna Specification

Antenna picture	
Antenna Type	IFA PCB antenna (Wi-Fi) & IFA PCB+ metal antenna (subG)
Antenna Peak Gain	Wi-Fi: 2.04 dBi subG: -1.49 dBi
Operating Band	Wi-Fi: 2400 MHz ~ 2483.5 MHz subG: 900~930MHz
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	Chime
DUT photo	
Test Equipment & Calibration Date	SY-16 OTA System 2023-02-06
Test Engineer	Ouyanglongji
Test Date	2023-03-20

Test Standard

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

Equipment List:

Kind of Equipment	Manufacturer	Type No.	Last Cal.	Due Date
Network Analyzer	R&S	ZND	2023.7.8	2024.7.7
RF Choke	LEEDARSON RF LAB.	/	2023.9.1	2024.8.30

Test Software: EMQuest

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:

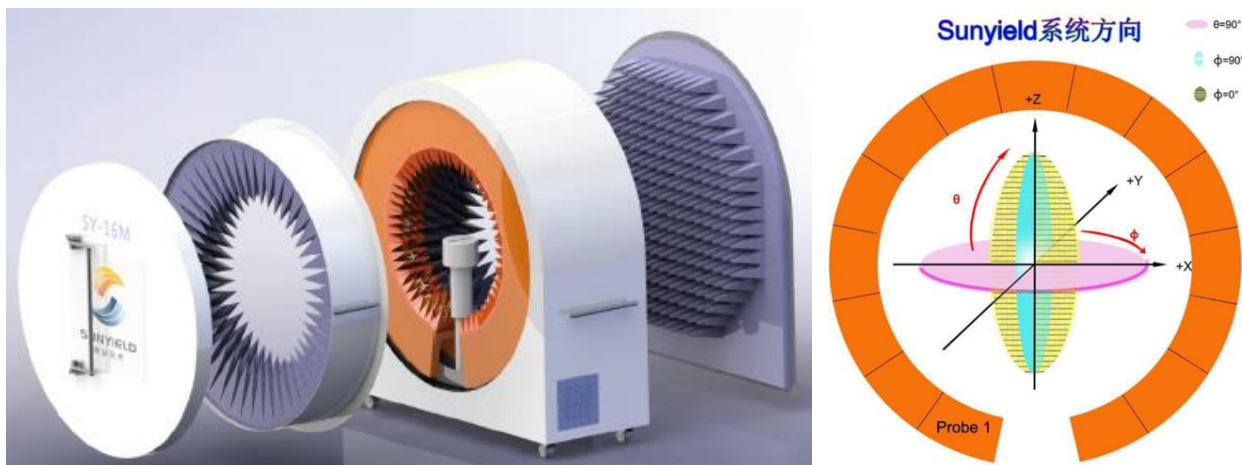


Figure 1 SY-16 OTA system

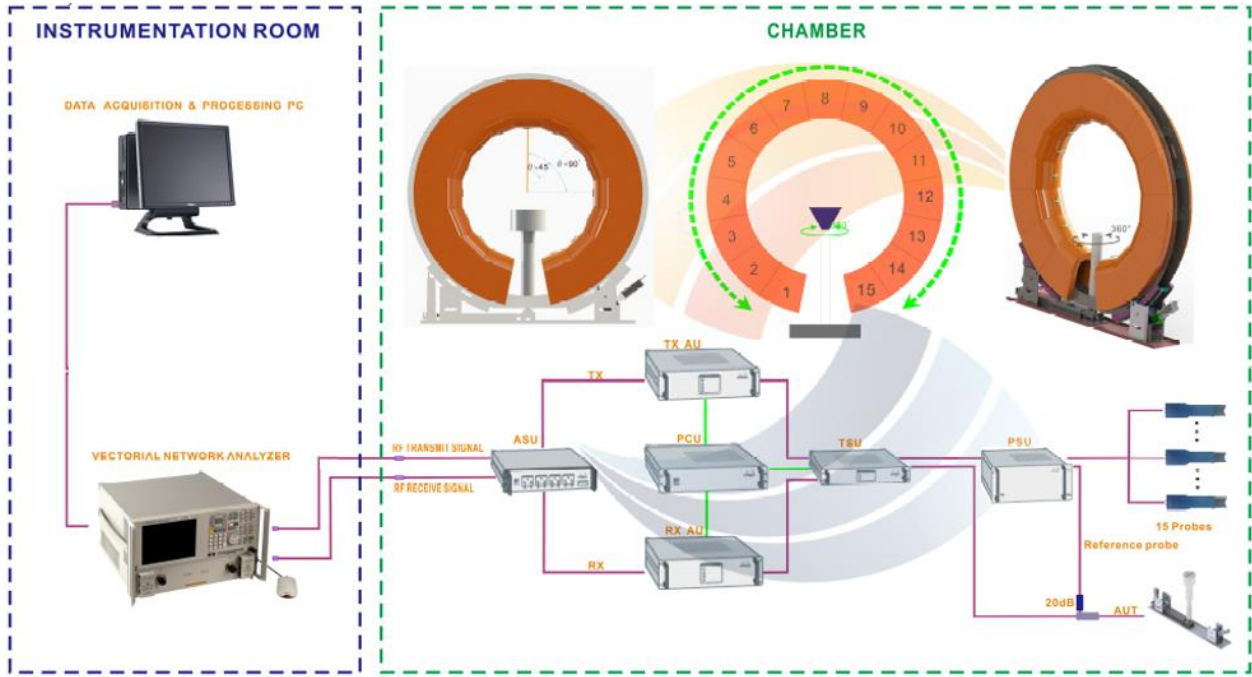


Figure 2 OTA measurement topology

Test Result

Efficiency and Gain

Table 1 Antenna Efficiency and Gain (Wi-Fi)

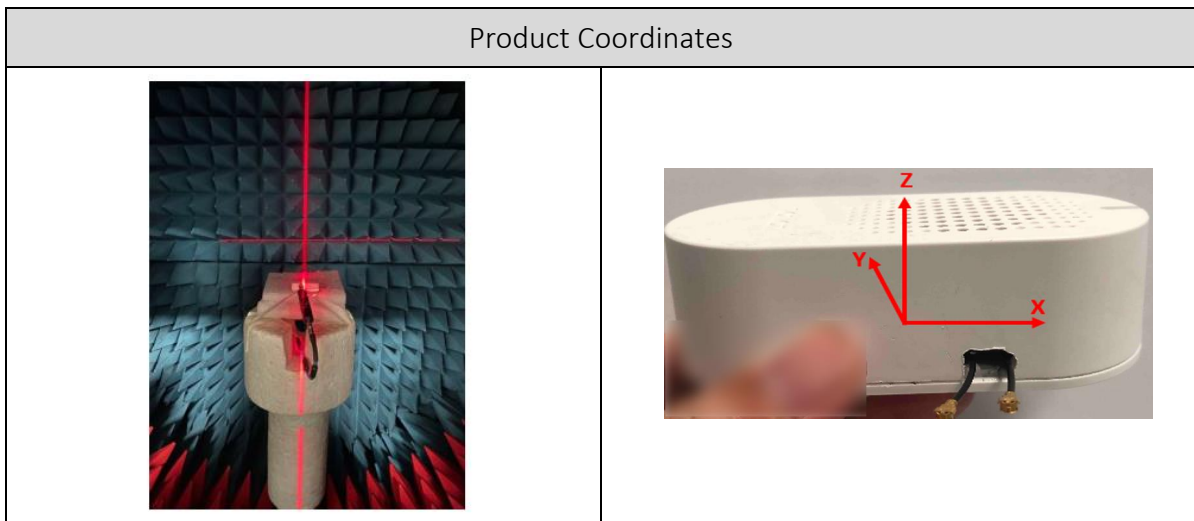
Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
2400	0.98	-2.39	57.74
2410	1.22	-2.20	60.31
2420	1.46	-1.85	65.26
2430	1.31	-2.05	62.31
2440	1.24	-2.17	60.70
2450	1.66	-1.95	63.86
2460	2.04	-1.68	67.87
2470	1.76	-1.92	64.30
2480	1.68	-2.12	61.31
2490	1.95	-1.90	64.55
2500	1.96	-1.87	65.03

Table 1 Antenna Efficiency and Gain (subG)

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
900	-2.03	-5.72	26.82
902	-1.87	-5.58	27.64
904	-1.71	-5.45	28.50
906	-1.65	-5.40	28.84
908	-1.67	-5.44	28.60
910	-1.70	-5.48	28.31
912	-1.85	-5.66	27.17
914	-1.91	-5.76	26.54
916	-1.87	-5.75	26.63
918	-1.83	-5.68	27.02
920	-1.83	-5.64	27.31
922	-1.75	-5.56	27.77
924	-1.68	-5.49	28.22
926	-1.58	-5.40	28.82
928	-1.49	-5.30	29.50
930	-1.49	-5.27	29.72

Radiation Pattern

Table 2 Product coordinates



Wi-Fi :

Table 3 3D radiation pattern

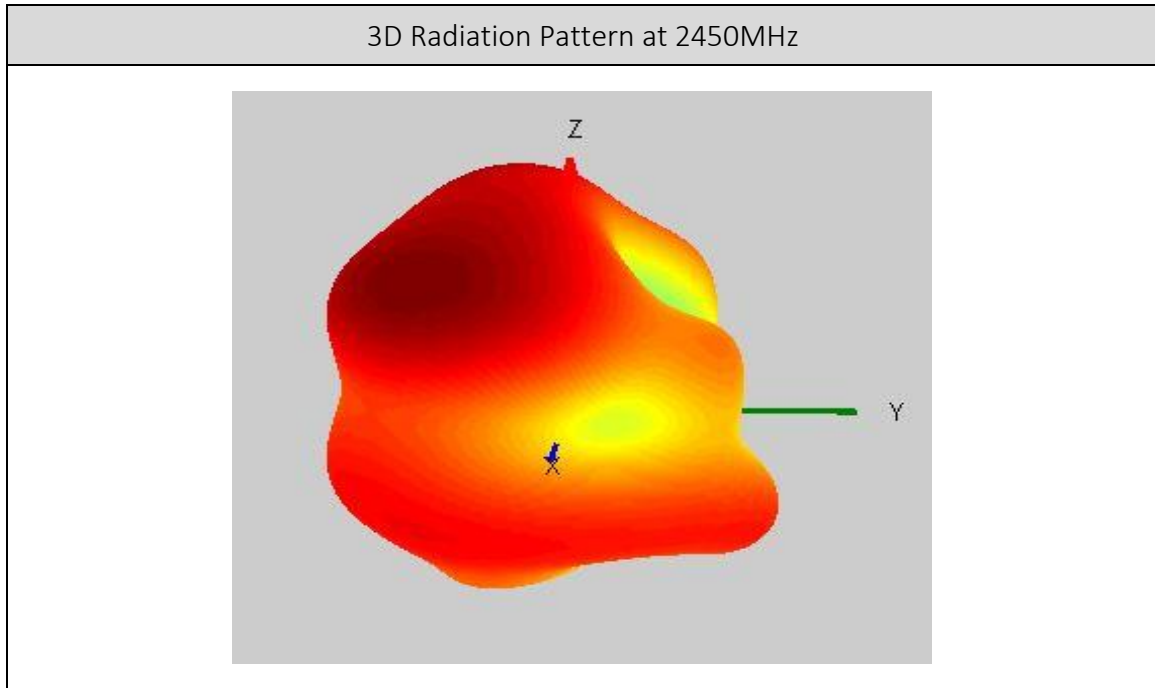


Table 4 Radiation pattern in XY Plane

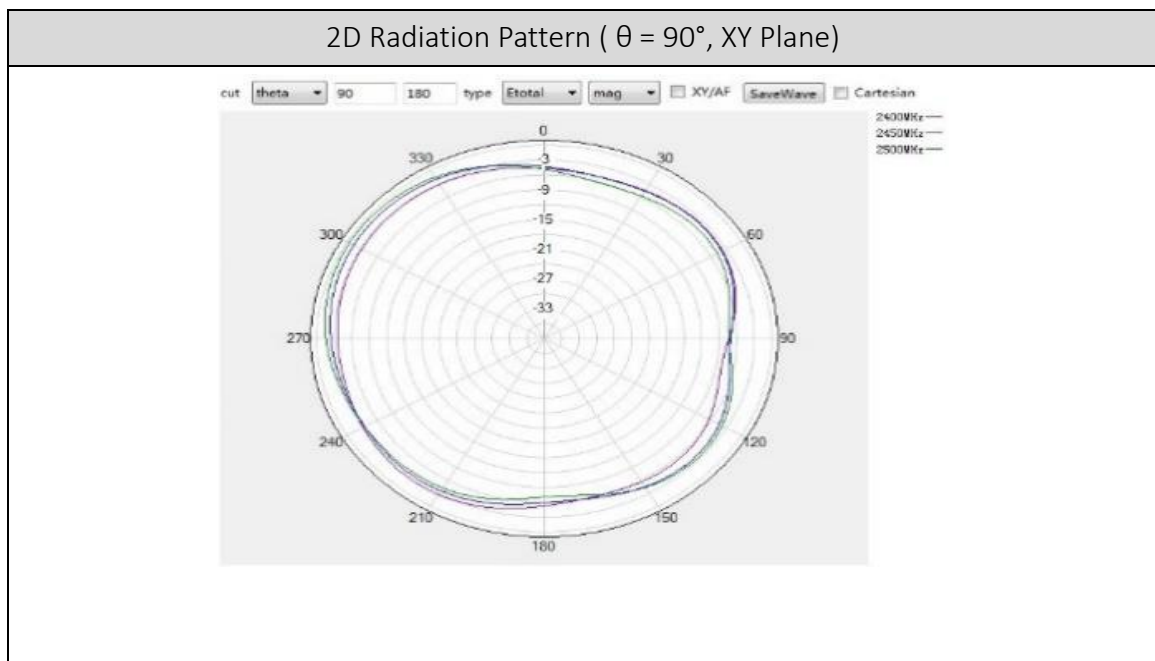
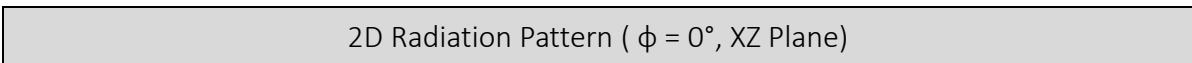


Table 5 Radiation pattern in XZ Plane



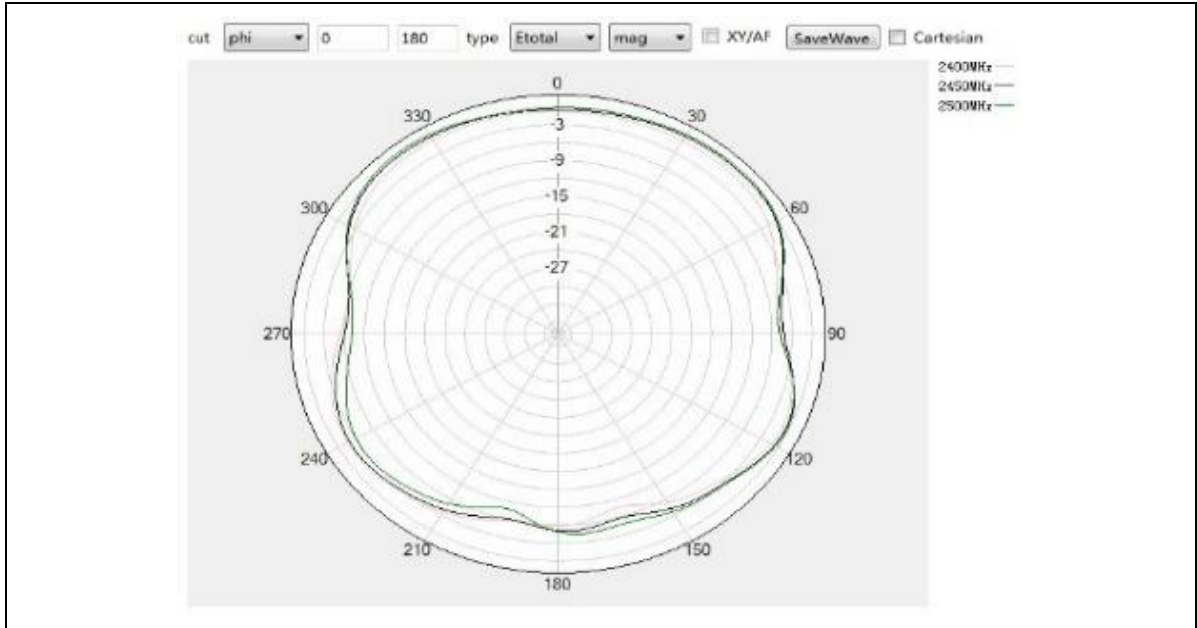
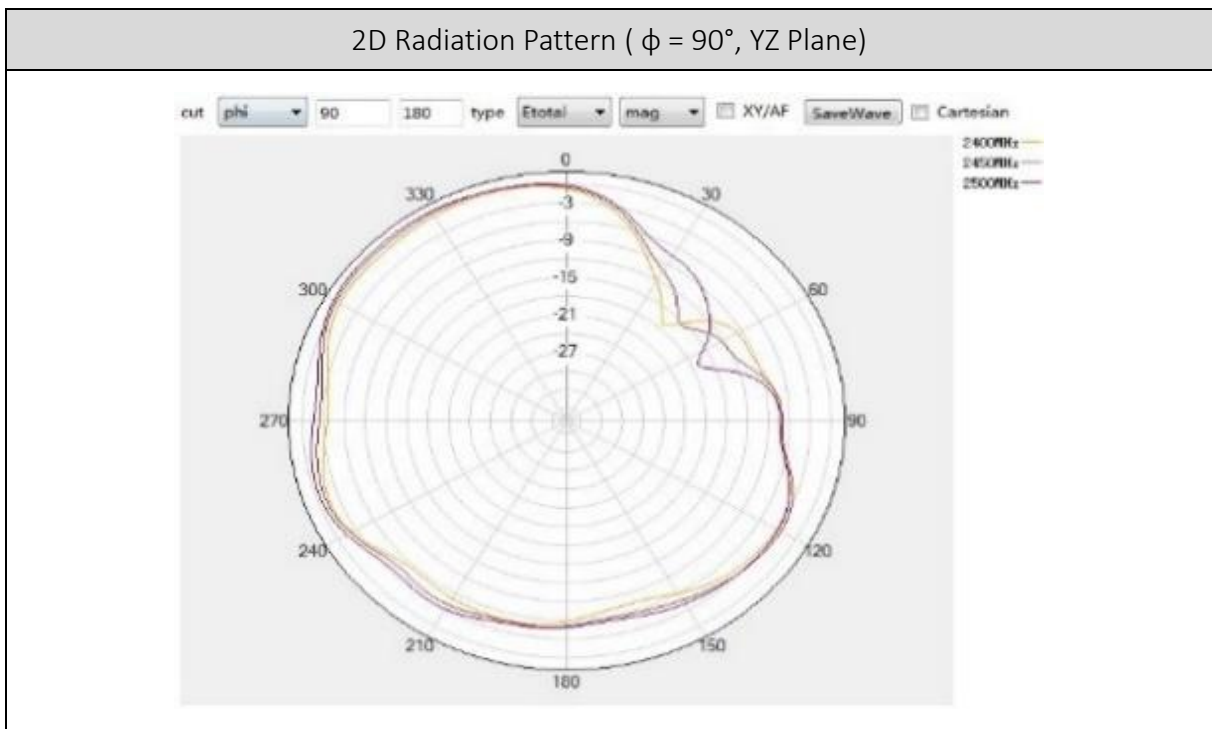


Table 6 Radiation pattern in YZ Plane



Sub-G :

Table 3 3D radiation pattern

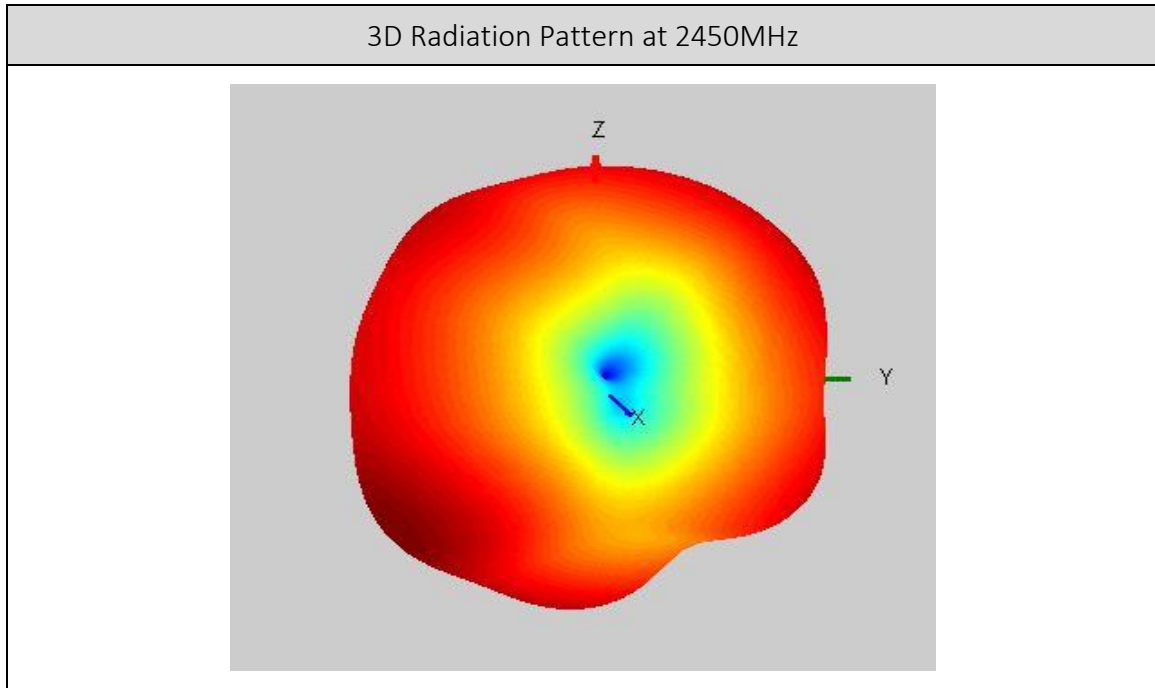


Table 4 Radiation pattern in XY Plane

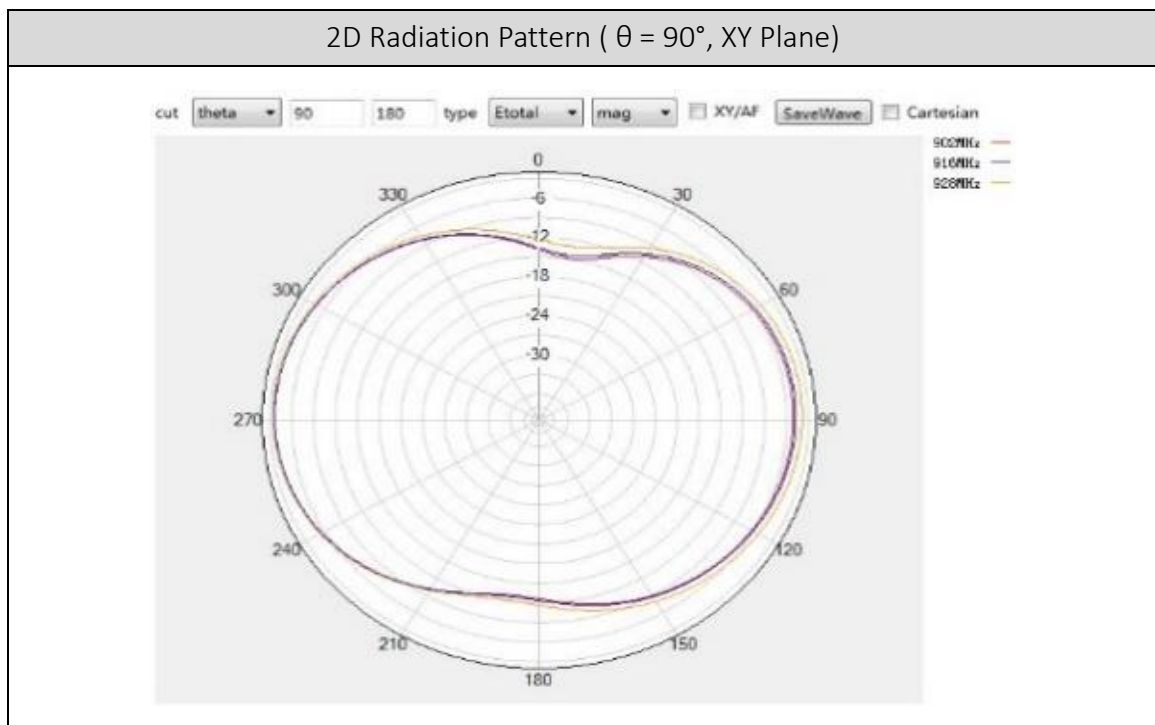


Table 5 Radiation pattern in XZ Plane

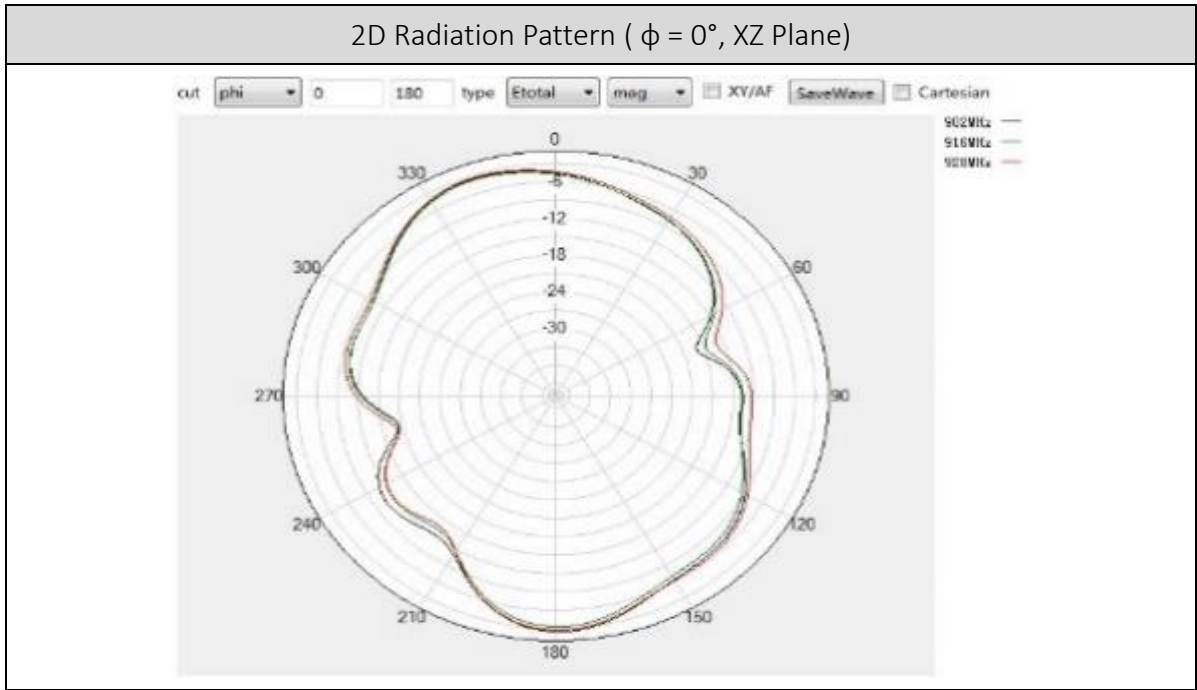


Table 6 Radiation pattern in YZ Plane

