

Testing Report

Customer Name: vivo

Product Name: Y17S

Sample Model: V2310

Reference Standard: *ANSI/IEEE Std 149-2021*

Issue Date: 2023.07.26

Engineer: 张文字	Date: 2023.7.26
Auditor: 韦万冠	Date: 2023.7.26
Approver: 戴向霖	Date: 2023.7.26

Version

Version No.	Date	Description	Formulate	Approval
A0	2023.07.26	For the first time, formulate	Zhangwenyu	Weiwanguan

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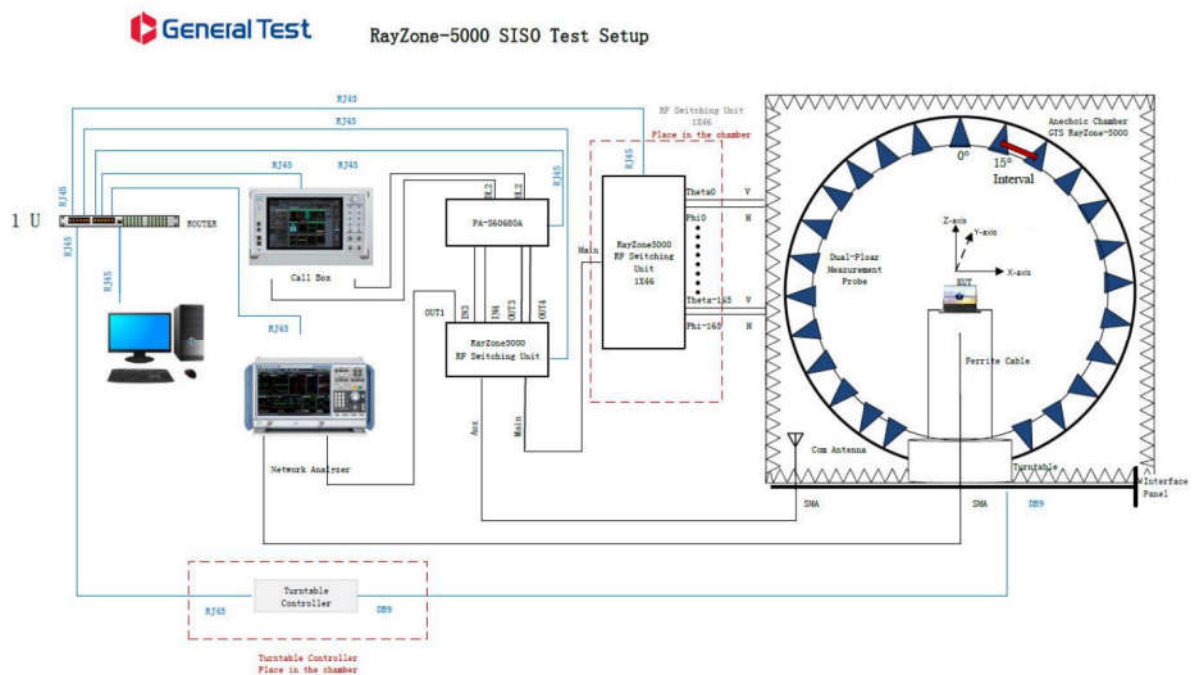
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1. General Information

1.1 General information of testing institutions

Name	Sunway Communication
Address	1013, Xihuan Rd., Shajing Town, Bao'an District, Shenzhen
Tel	/
E-mail	/
Equipment	All the equipment used in the report is fixed in 1013, Xihuan Rd., Shajing Town, Bao'an District, Shenzhen

1.2 Testing principle



1.3 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
OTA Test System	RayZone-5000	Sunway-LAB-RF-D00	GTS	2023.4.12	2025.4.11
Network Analyzer	E5071C	Sunway-LAB-R-D01	KEYSIGHT	2022.9.17	2023.9.16

1.4 Test environment

Temperature	22.8 °C
Humidity	58% RH
Pressure	100.23 kPa

2. Sample Information

2.1 Client information

Name	vivo
Address	No.1 Weiwo Road, Chang'an Town, Dongguan City
Contacts	/
Tel	/
E-mail	/
Manufacturer	/

2.2 Description of AUT(S)

Product Name	Y17S
Sample Model	V2310
Antenna Size	/
Serial No.	/
Antenna Type	PIFA
Test Item	Antenna gain; Efficiency; Radiation pattern
Frequency Range	2400-2500MHz&5150-5850MHz
Received Date	2023.07.26
Test Date	2023.07.26
Remark	/

3. Test Results

3.1 Test standard

Name	Parameter	Method	Standard no.
Antenna	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-2021
	Gain and directivity		

3.2 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO, using the inclusion factor of $K=2$ and the 95% confidence level to express the extended uncertainty.

Item	Uncertainty
Antenna gain	$\pm 1\text{dB}$
Radiation efficiency	$\pm 10\%$

3.3 Test data

3.3.1 Typical free space efficiency and gain

Frequency/MHz	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain/dBi	-2.7	-2.6	-2.5	-2.5	-2.2	-2.0	-2.0	-2.1	-2.3	-2.6	-2.9
Efficiency/%	33.2	33.6	36.3	37.3	38.3	38.4	38.1	37.5	36.3	33.7	32.4

Frequency/MHz	5150	5170	5190	5210	5230	5250	5270	5290	5310	5330	5350
Peak Gain/dBi	-1.2	-0.7	-0.5	-0.8	-1.1	-2.6	-2.5	-2.5	-3.1	-2.8	-2.6
Efficiency/%	32.6	34.7	35.4	36.5	36.2	38.2	39.8	39.2	40.1	39.5	40.9

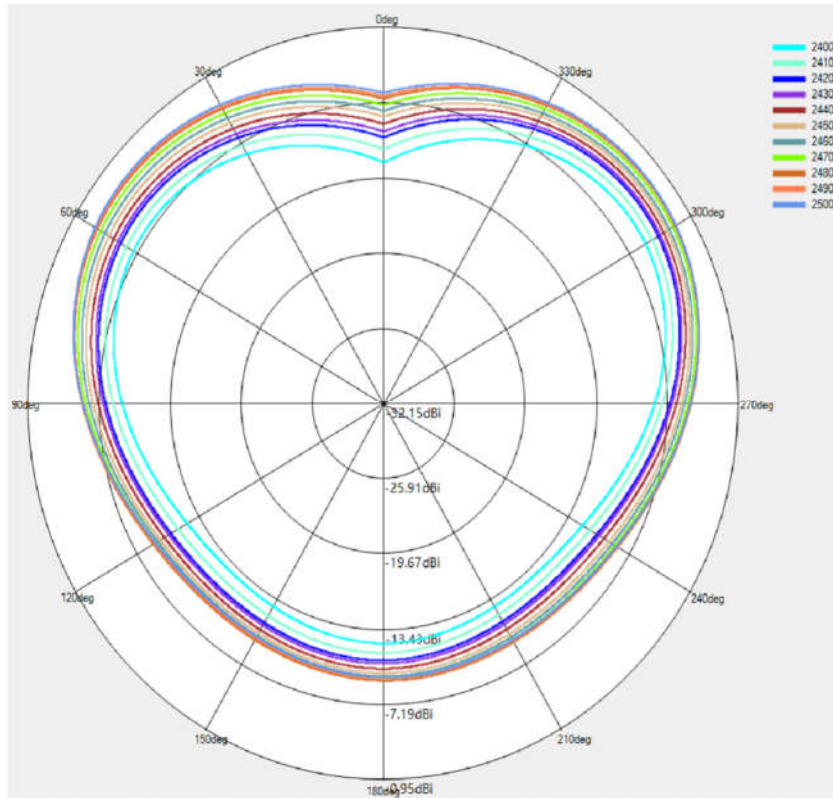
Frequency/MHz	5370	5390	5410	5430	5450	5470	5490	5510	5530	5550	5570
Peak Gain/dBi	-2.8	-2.7	-2.6	-2.8	-3.1	-3.0	-3.0	-2.5	-2.7	-2.5	-3.5
Efficiency/%	40.2	40.1	39.4	36.5	37.2	36.7	34.6	34.6	34.7	31.2	30.2

Frequency/MHz	5590	5610	5630	5650	5670	5690	5710	5730	5750	5770	5790
Peak Gain/dBi	-3.5	-3.8	-3.4	-3.6	-3.8	-3.4	-3.2	-3.2	-3.4	-3.0	-3.0
Efficiency/%	29.8	29.5	28.5	28.4	28.5	30.3	31.8	32.6	33.4	35.8	37.2

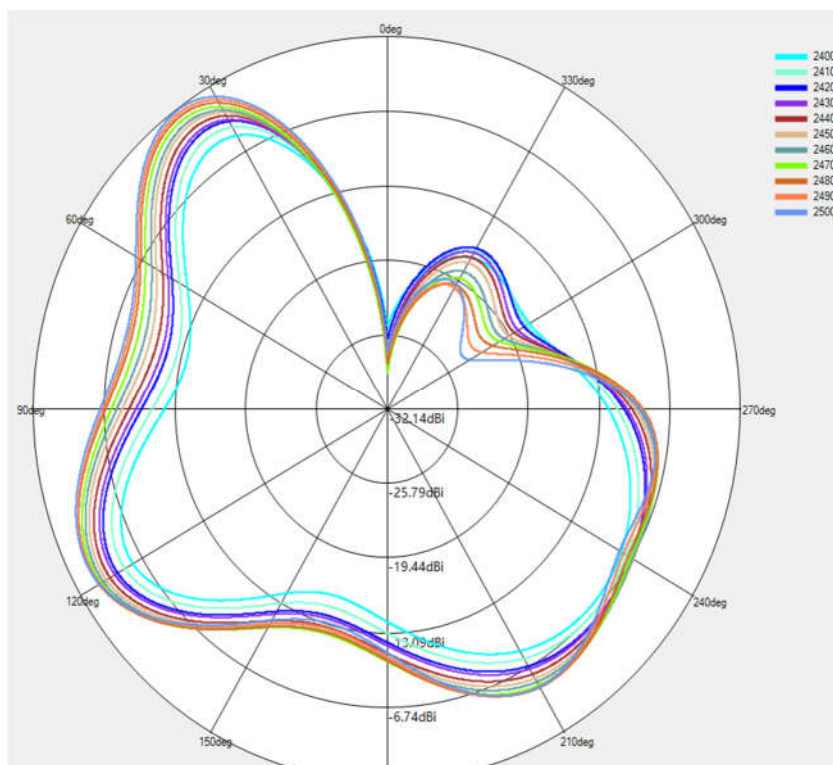
Frequency/MHz	5810	5830	5850
Peak Gain/dBi	-3.4	-3.7	-3.5
Efficiency/%	38.3	36.5	36.8

3.3.2 Typical free space radiation pattern

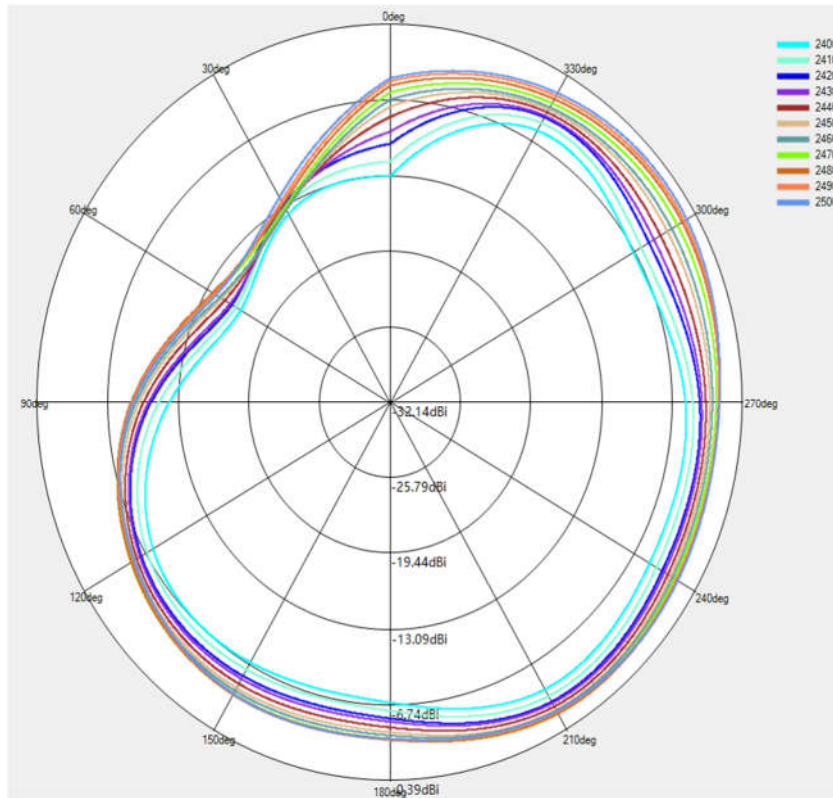
(1) X-Y Plane(unit:dBi):



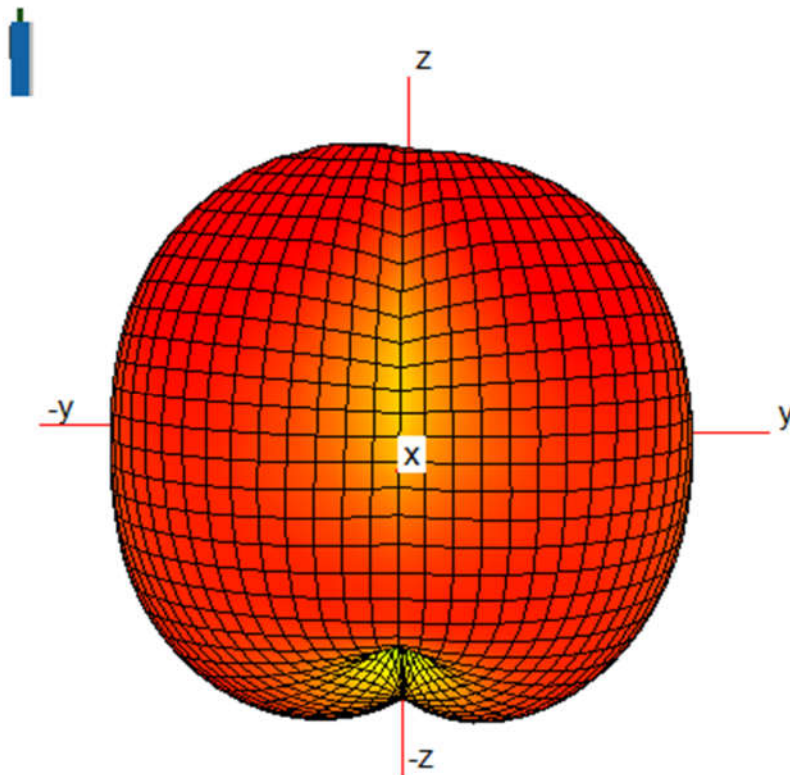
(2) X-Z Plane(unit:dBi):



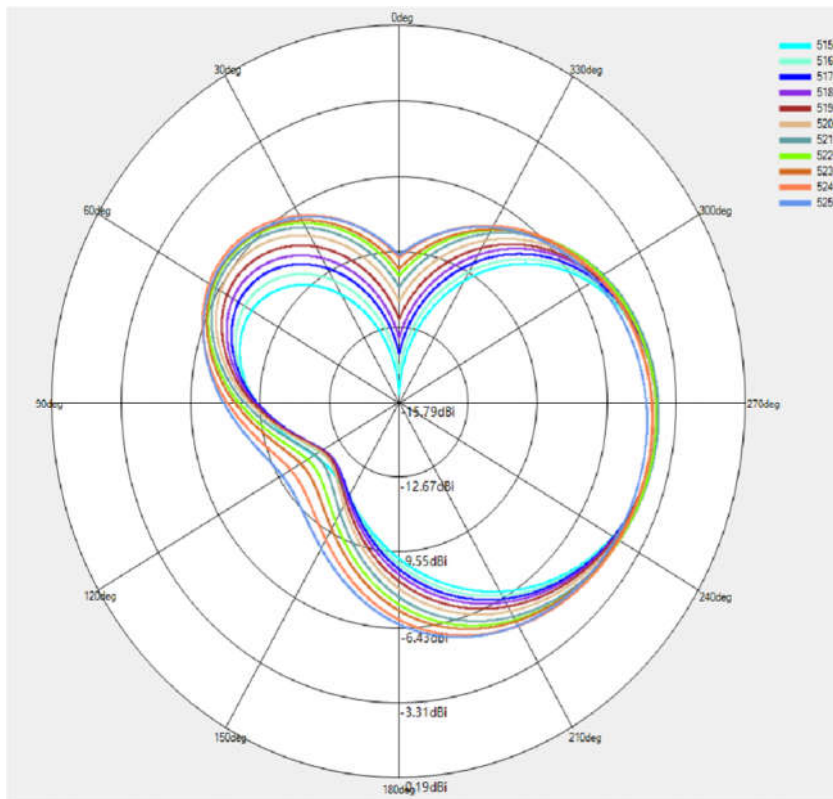
(3) Y-Z Plane(unit:dBi):



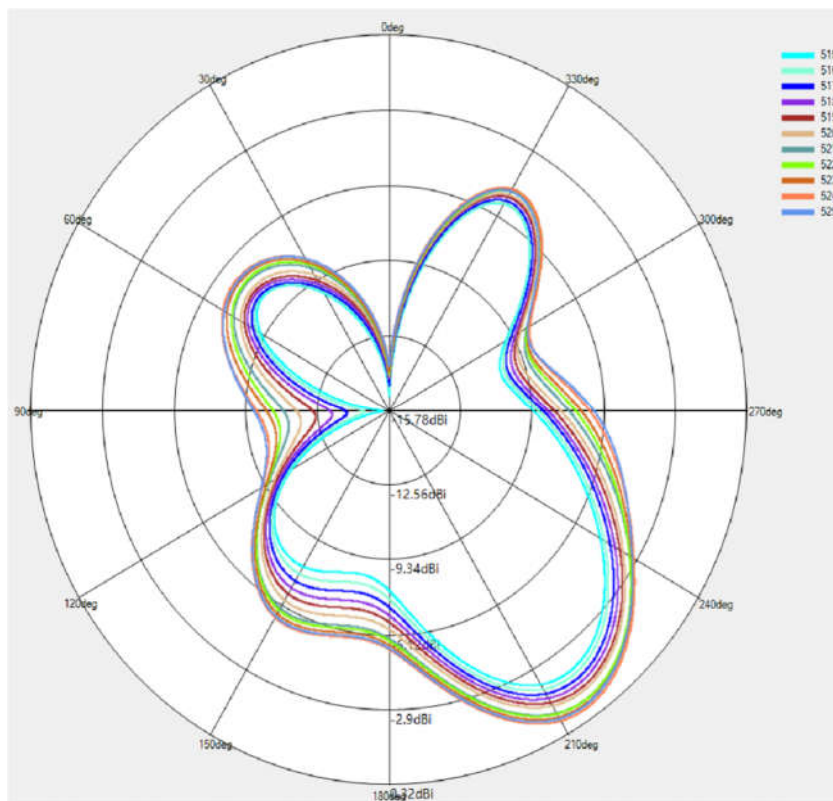
(4) Typical Free Space 3D Radiation Pattern at 2.45GHz(unit:dBi):



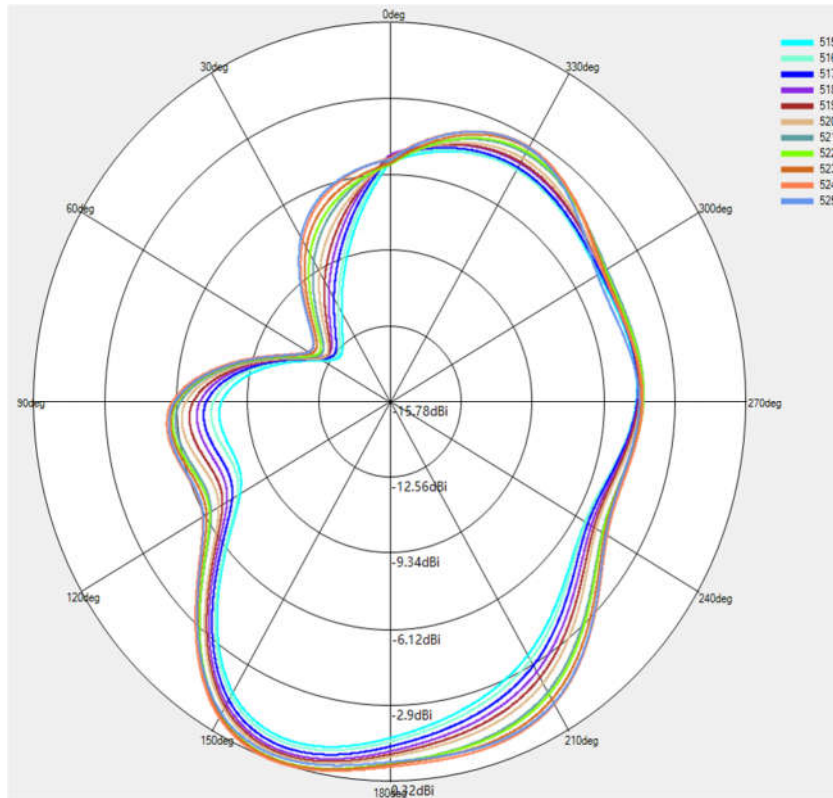
(5) X-Y Plane(unit:dBi)



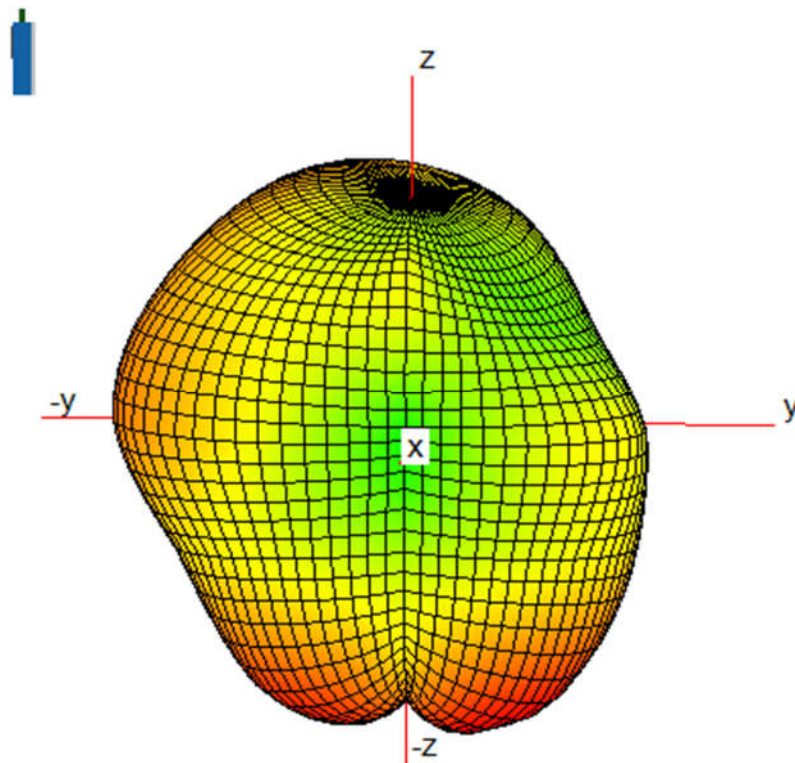
(6) X-Z Plane(unit:dBi):



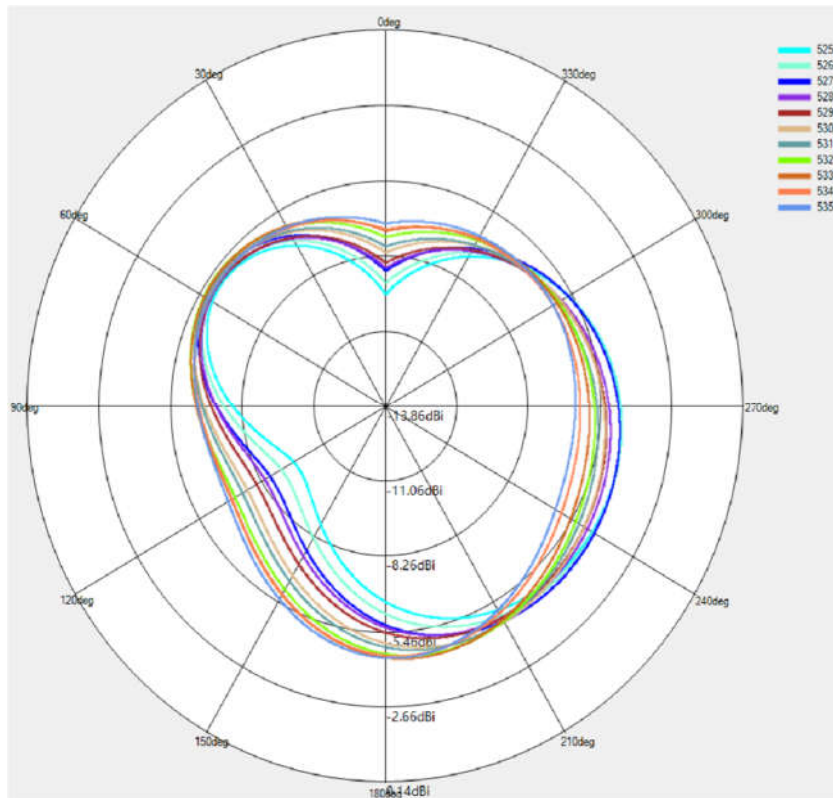
(7) Y-Z Plane(unit:dBi):



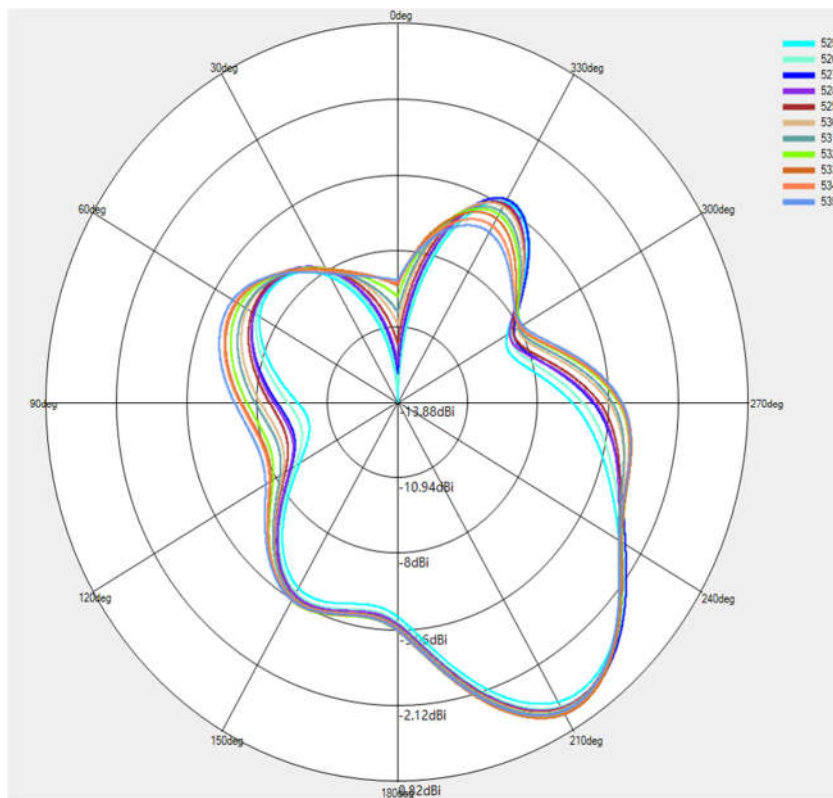
(8) Typical Free Space 3D Radiation Pattern at 5.21GHz(unit:dBi):



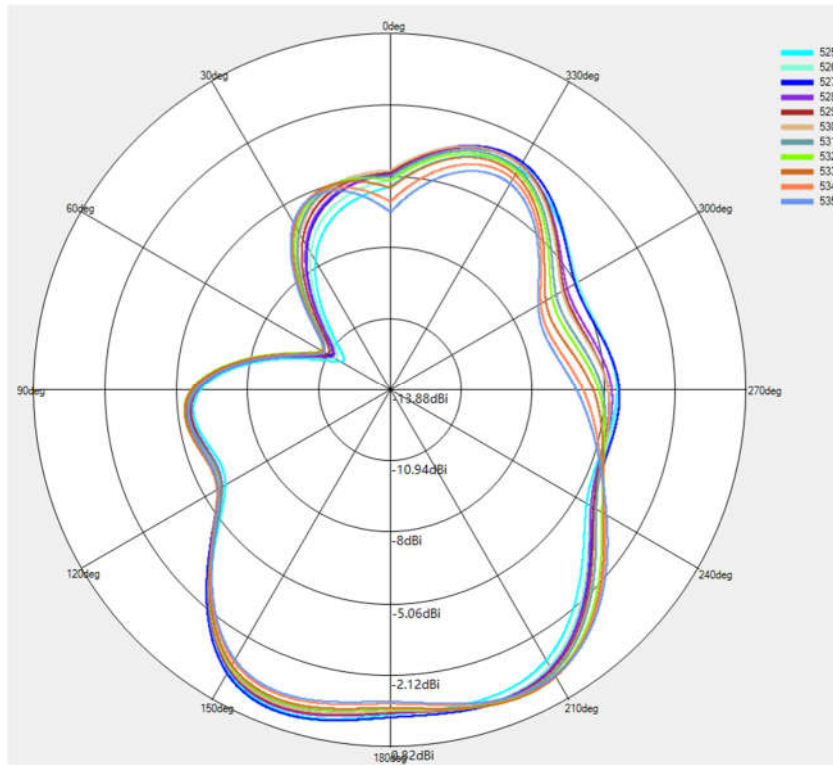
(9) X-Y Plane(unit:dBi):



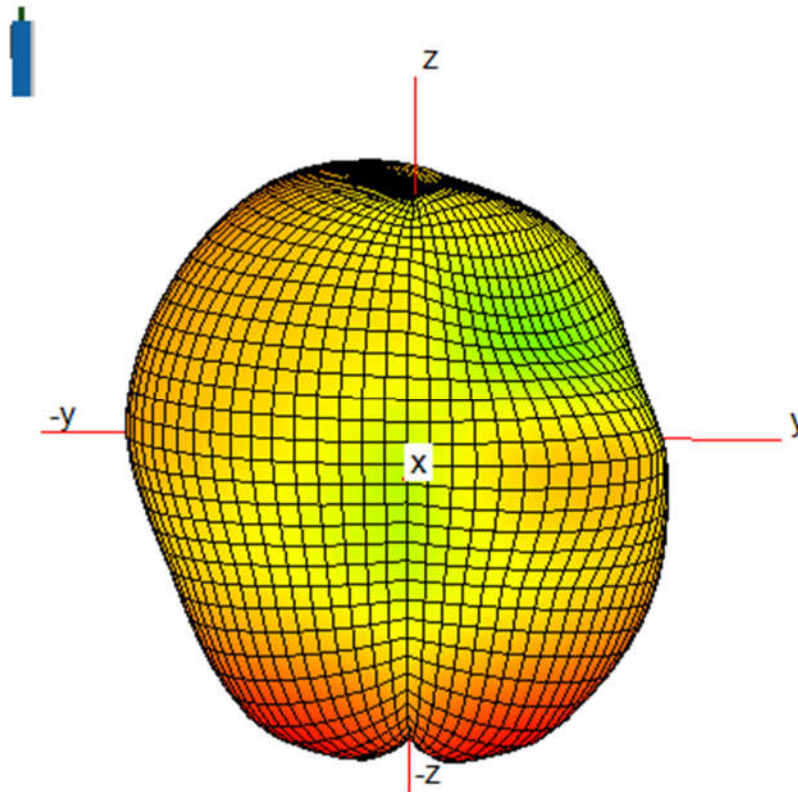
(10) X-Z Plane(unit:dBi):



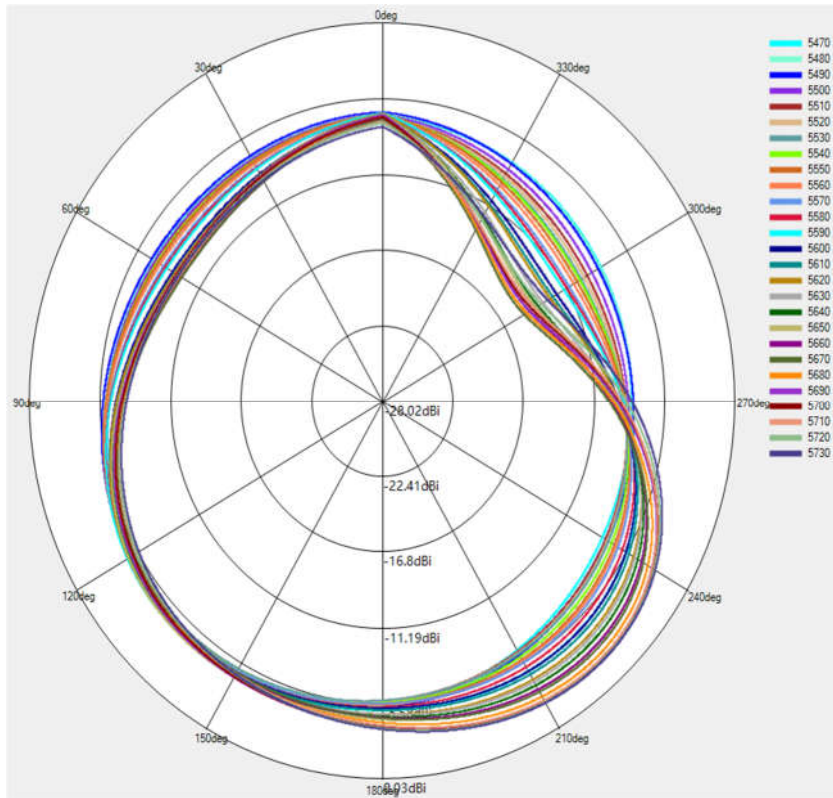
(11) Y-Z Plane(unit:dBi):



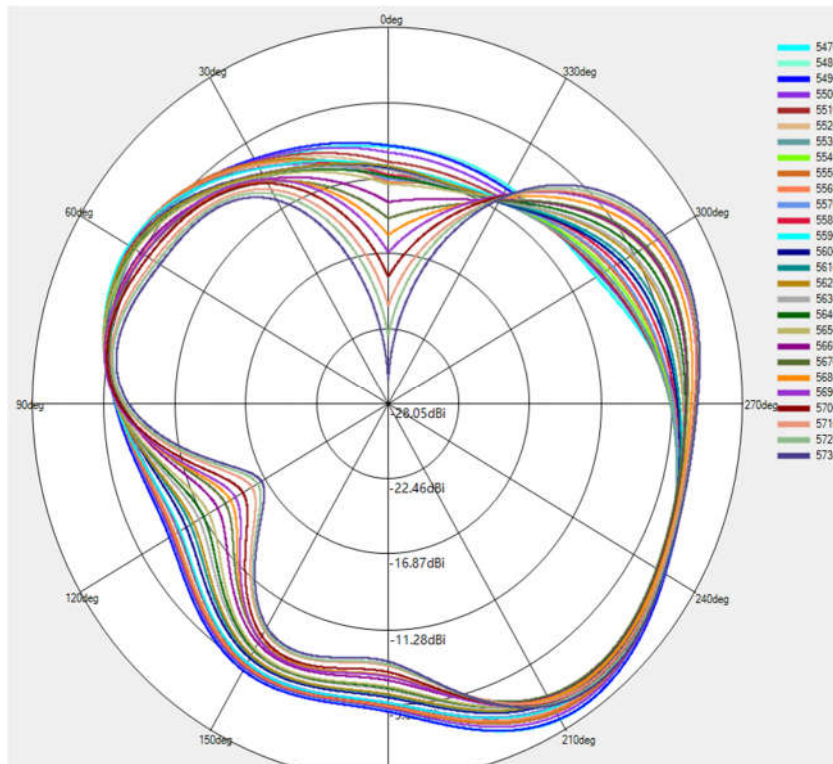
(12) Typical Free Space 3D Radiation Pattern at 5.28GHz(unit:dBi):



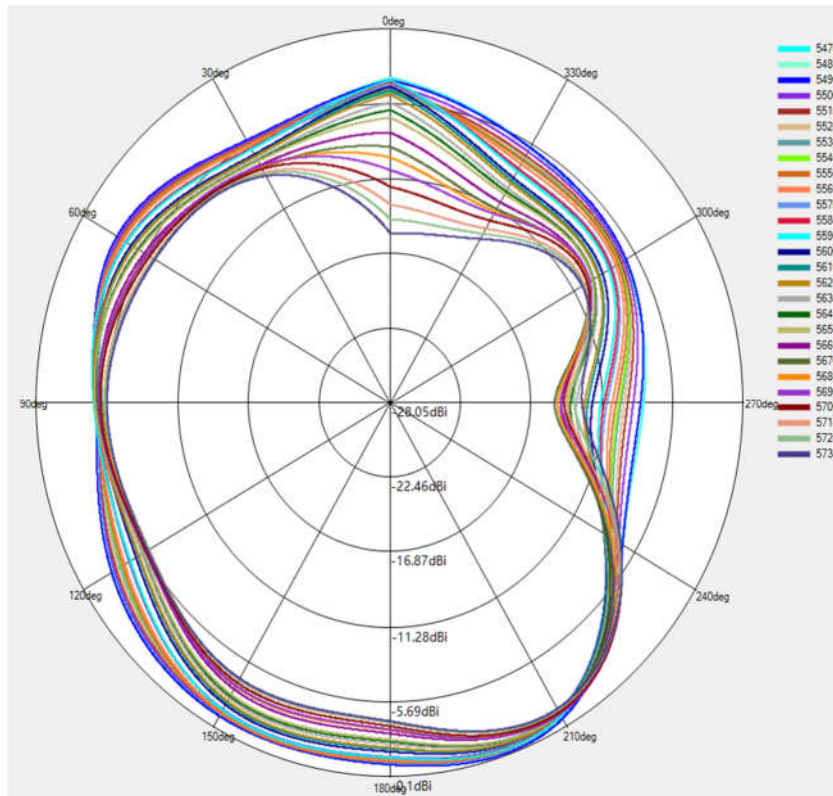
(13) X-Y Plane(unit:dBi)



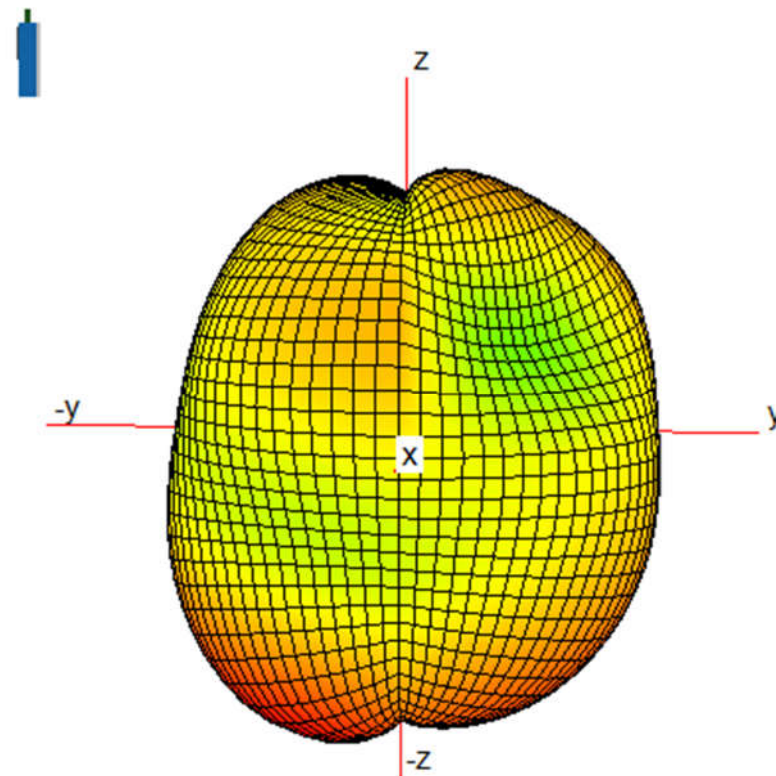
(14) X-Z Plane(unit:dBi):



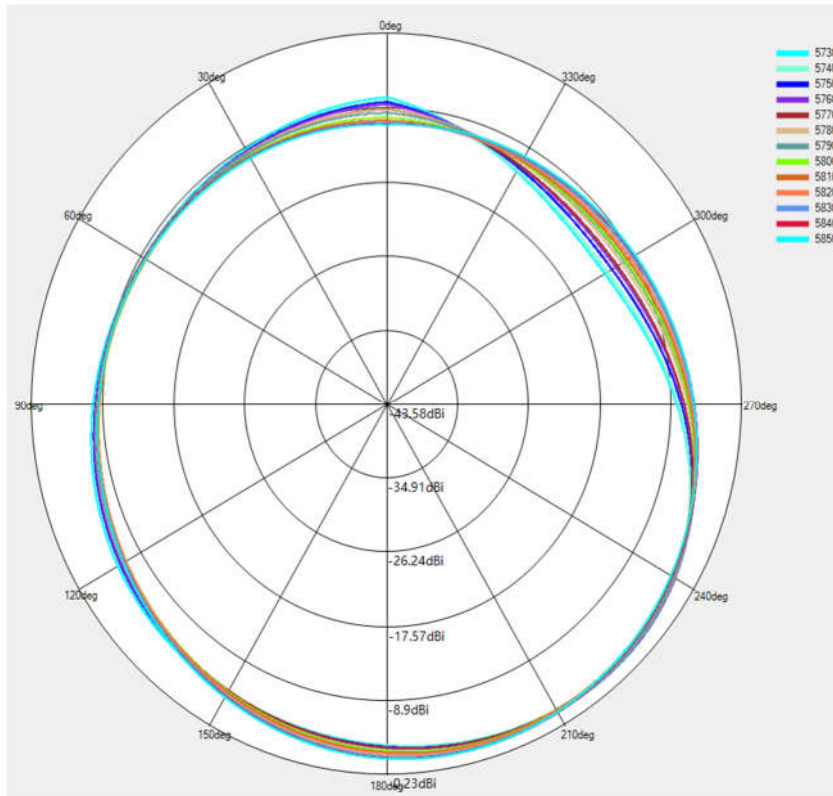
(15) Y-Z Plane(unit:dBi):



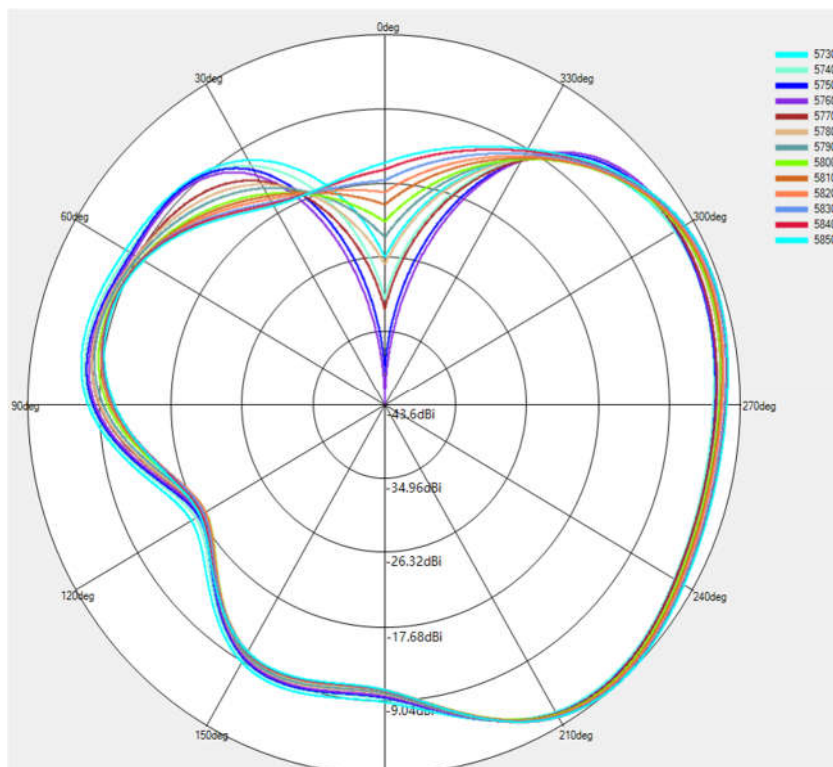
(16) Typical Free Space 3D Radiation Pattern at 5.55GHz(unit:dBi):



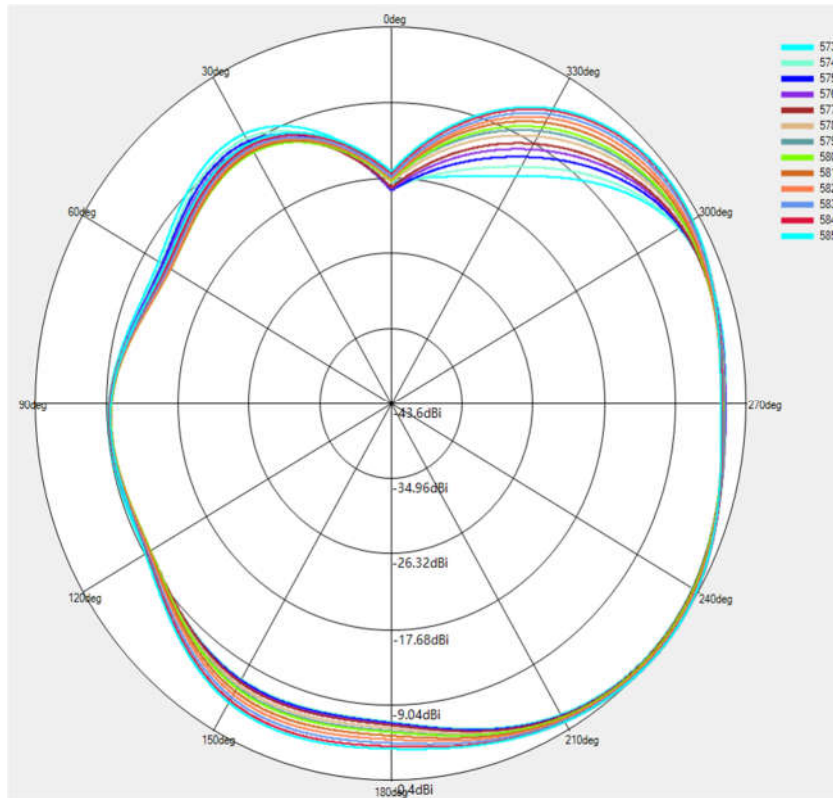
(17) X-Y Plane(unit:dBi)



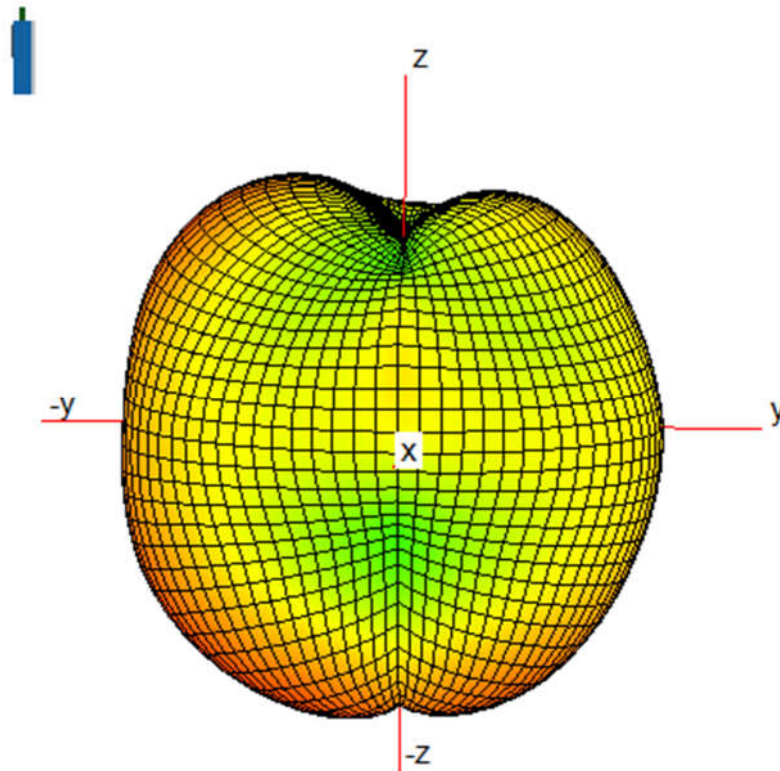
(18) X-Z Plane(unit:dBi):



(19) Y-Z Plane(unit:dBi):



(20) Typical Free Space 3D Radiation Pattern at 5.82GHz(unit:dBi):



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