DV6112GAntPassiveTest Report

SDMC-GJRD-SOP-006

Record for version modification

Date	Revision	Modify Content	Author
2023-3-21	V1.0	1st Version	Leon_Wu

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Table of Contents

1 Test Summary

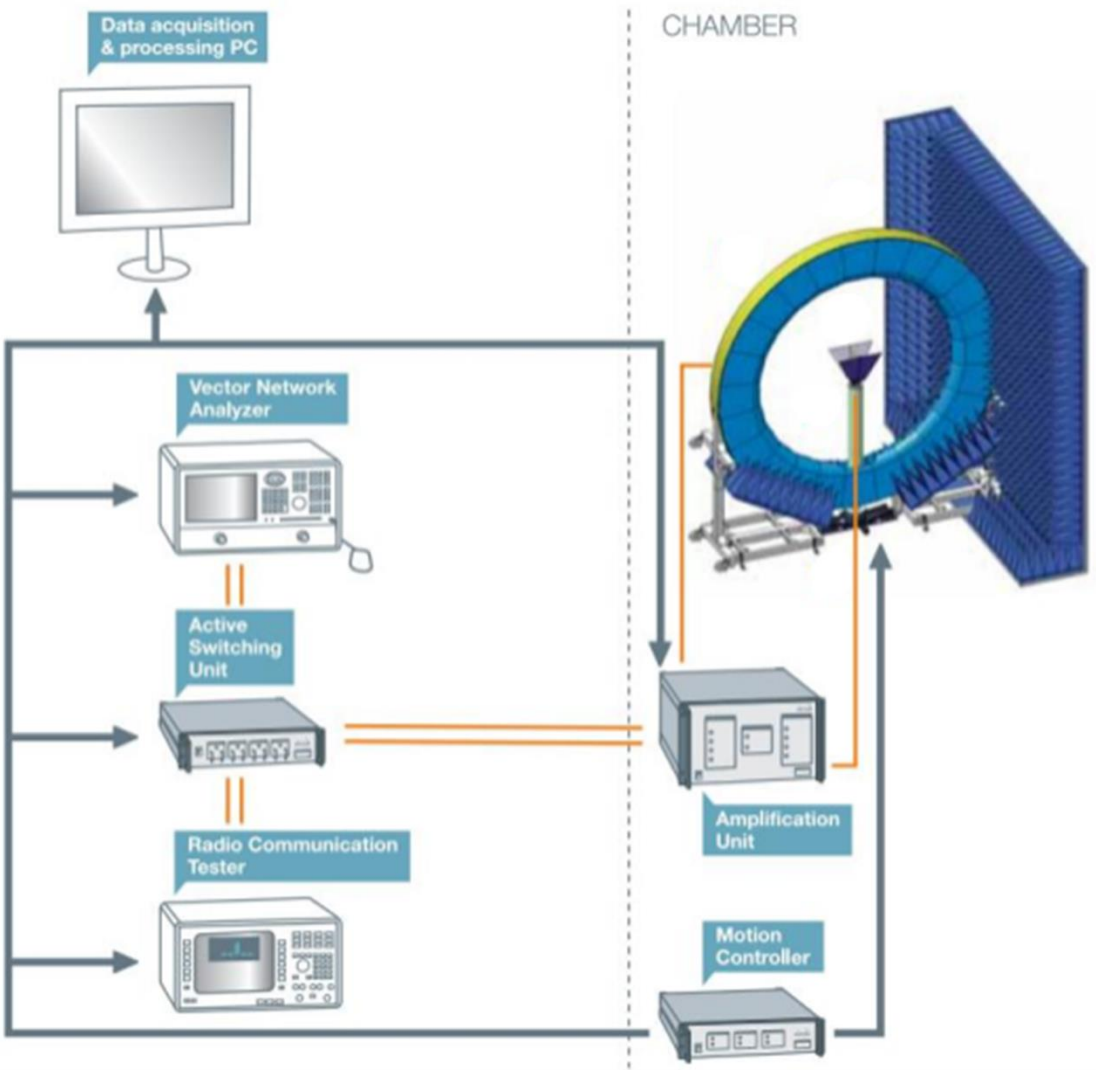
No.	Sample Name	Test item	Conclusion
1	DV6112G	VSWR	Pass
2		Isolation	Pass
3		Efficiency & Gain	Pass
4		2D&3D Radiation Pattern	Pass

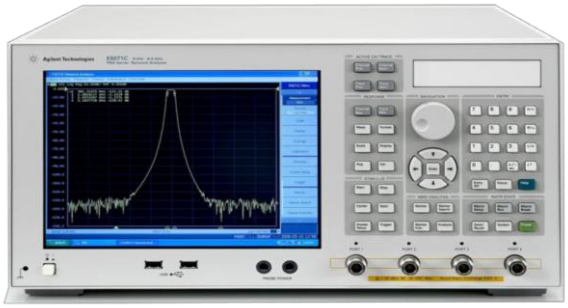
2 Test Information

Model No.	DV6112G
HW Version	MB.XXX.X
SW Version	BaseLine-v11.1.1.1
CPU	Amlogic XXXX
DDR	XXXXXXXXX
Wi-Fi Module	XXXX/Manufacturer
Tester	XXX
Reviewer	XXX
Approver	XXX
Date	2024.04.03

3 Testing Environment

Chamber	XH Chamber
Wireless Communication Tester	R&S CMW500
Vector Network Analyzer	KEYSIGHT E5071C
Temperature	25±2℃
Humidity	50±20%Rh





R&S CMW500

Wireless Communication Tester

●GSM/3G/4G

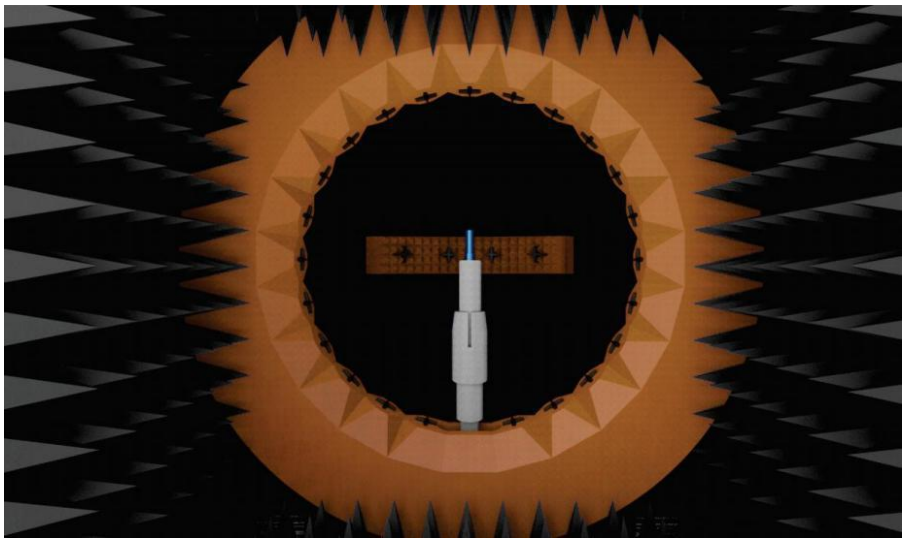
●Wi-Fi/BT

●NB-IoT

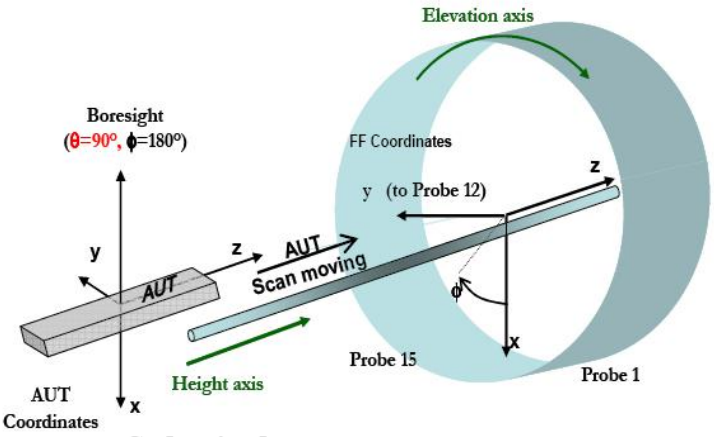
KEYSIGHT E5071C

Vector Network Analyzer

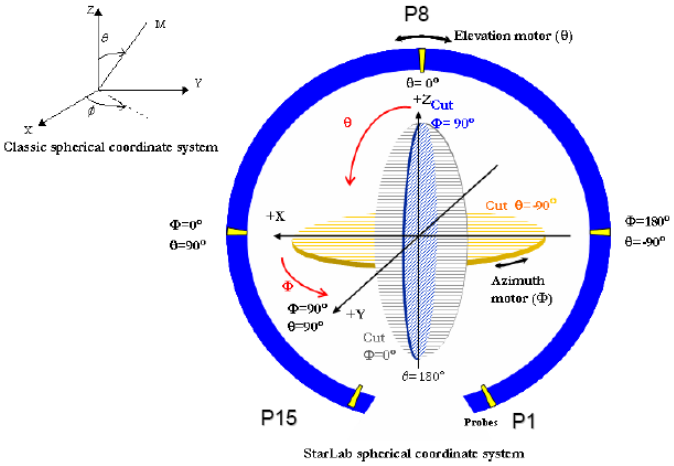
●Frequency:100kHz~8.5GHz



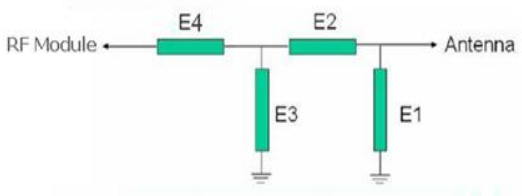
Coordinate system – Cylindrical geometry



Coordinate system – Spherical geometry



4 Matching Circuit Description



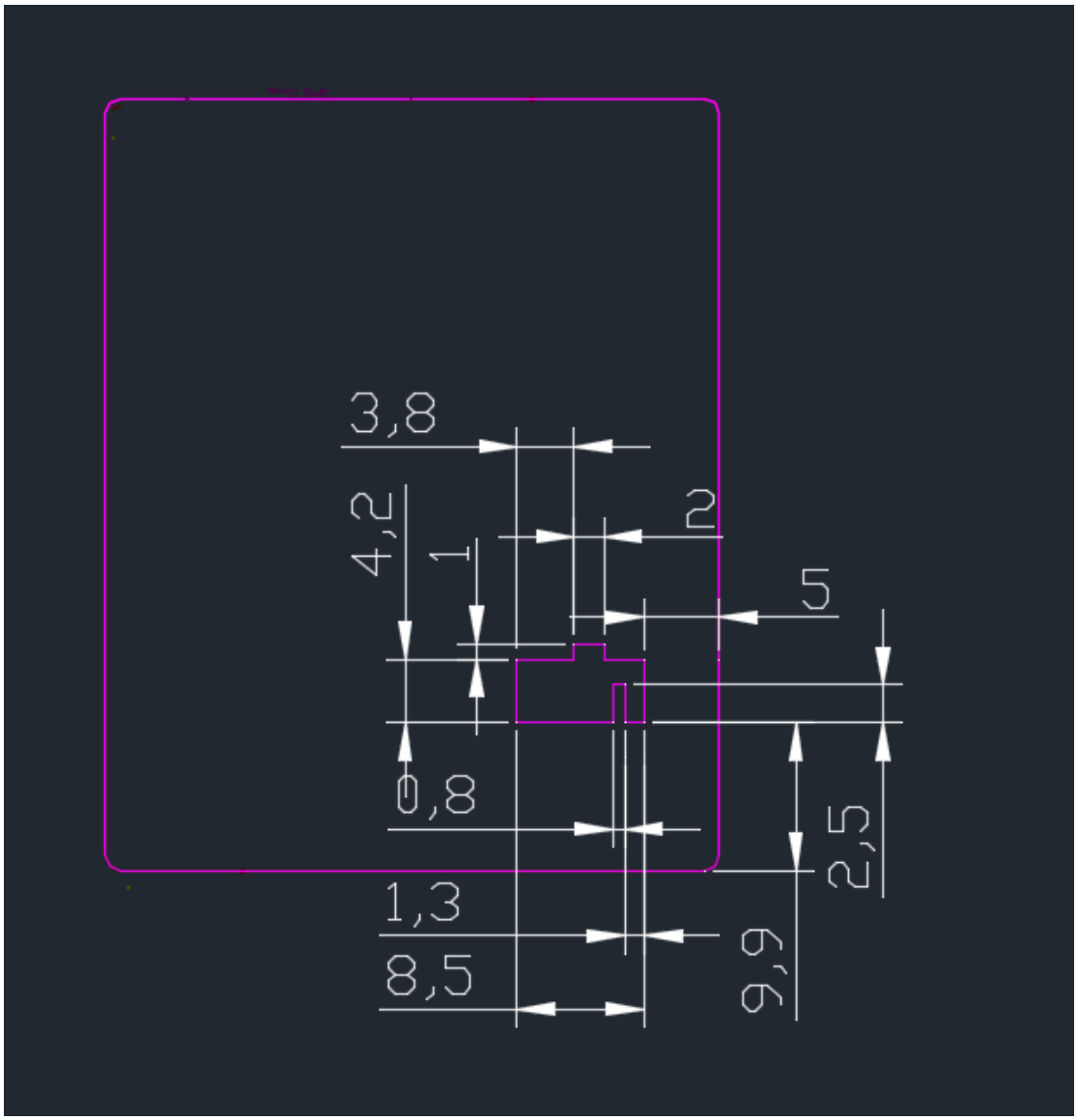
Element	Value
E1	N/A
E2	N/A
E3	N/A
E4	N/A

5 Antenna Technical Parameter

Electrical Technical Parameter				
Electrical Spec				
Frequency Range	2400 ~2500/5150~5850MHz			
VSWR	⩽2.0			
	Remark: VSWR of ceramic & on-board layout Antenna⩽3.0			
Input Impedance	50 Ω			
Direction	Omnidirectional			
Efficiency	⩾50%			
	Remark: Efficiency of ceramic & on-board layout Antenna⩾30%			
Gain	Wi-Fi⩽-1.26dBi			
	BT⩽-6.62dBi			
Isolation	⩽-15			
	Remark: Isolation of Dongle & Sticker similar products⩽-10			
Mechanical Specifications				
Material Type	Metal ☐	FPC ☐	PCB ☐	Layout ☑
Working Temperature	-20℃~+70℃			
Working Humidity	20%~80%			

6 Assembly Description

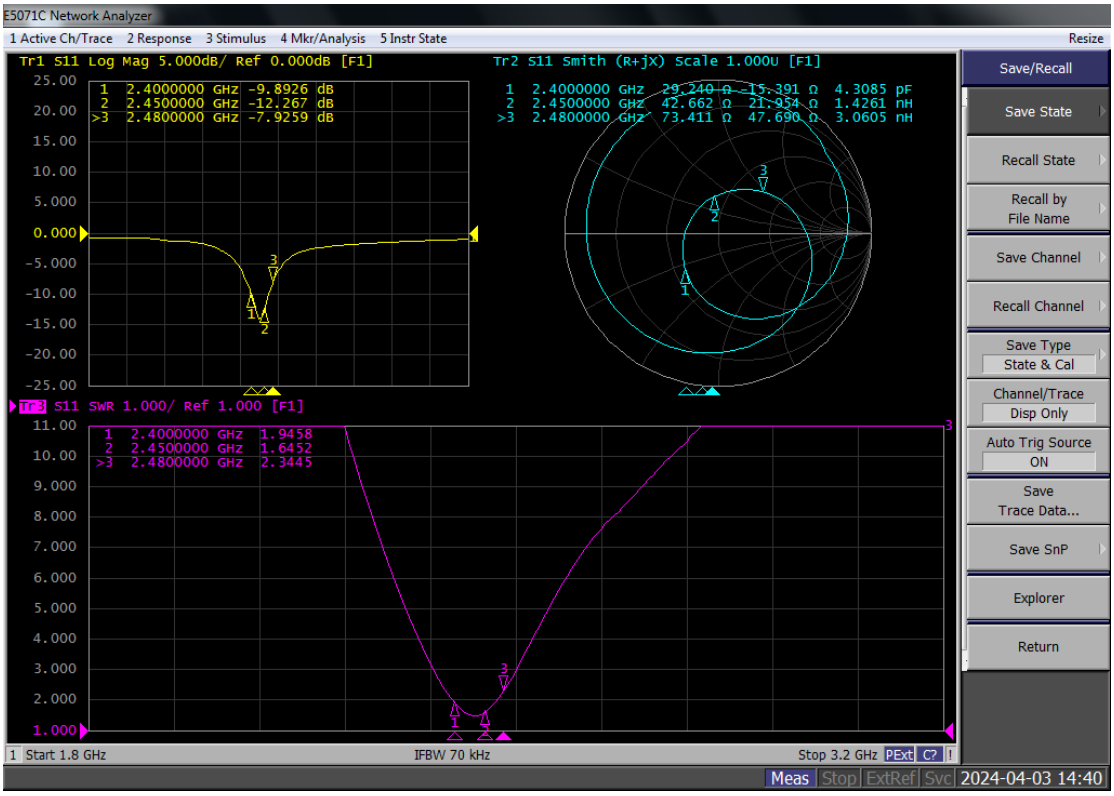
Antenna Attachment Position



7 Passive Parameter Test

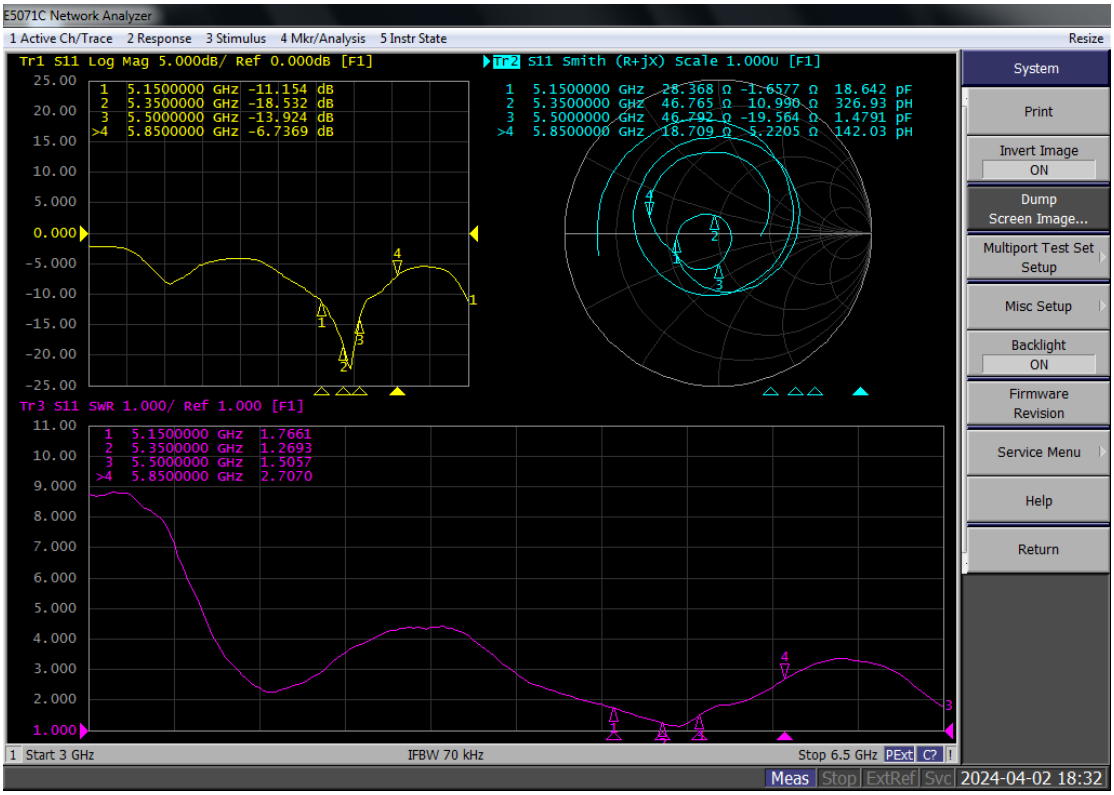
7.1 VSWR

7.1.1 2.4G



Freq/GHz	2.4	2.45	2.5
VSWR	1.9	1.6	2.3

7.1.2 5G

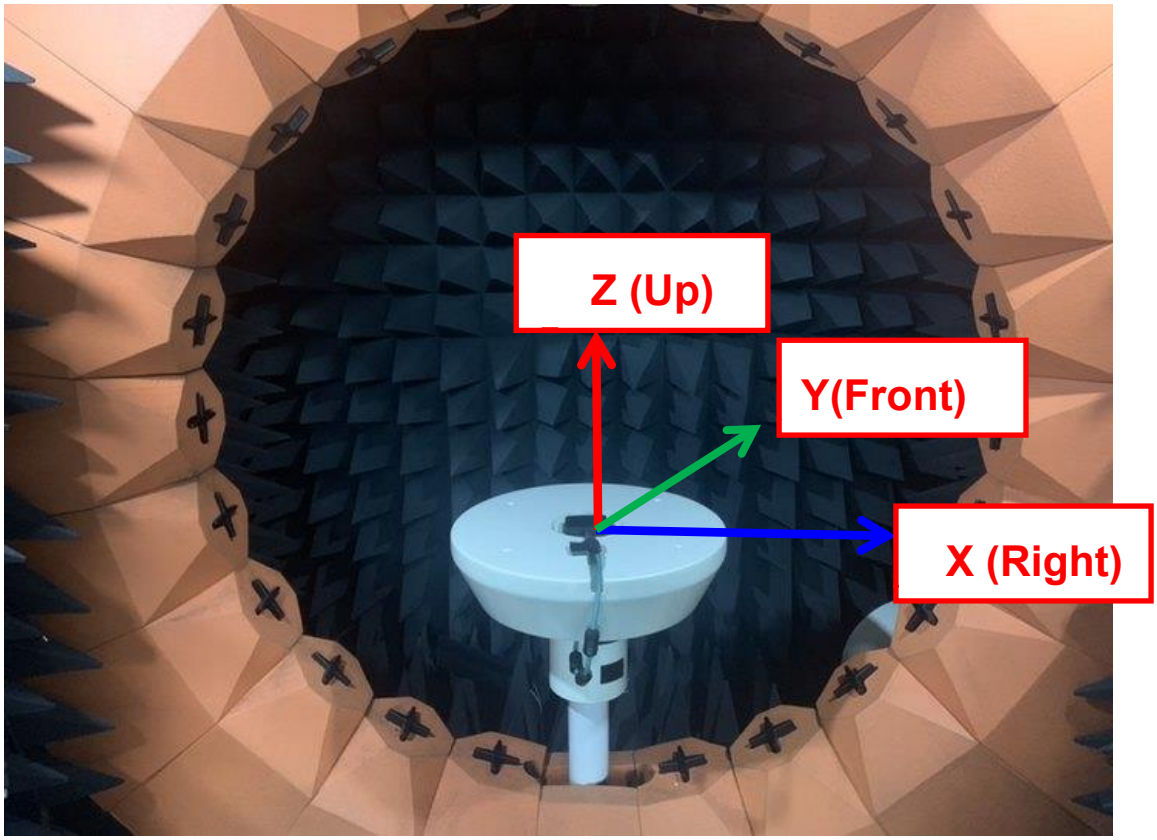


Freq/GHz	5.15	5.35	5.50	5.85
VSWR	1.7	1.2	1.5	2.7

7.2. Efficiency & Gain of 2.4G and 5G

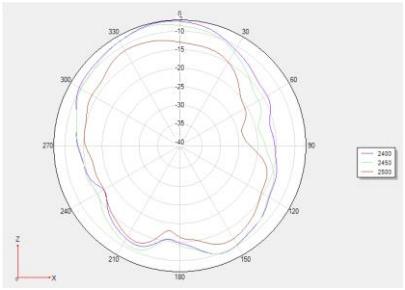
Gain&Efficiency of Ant					
2.4G			5G		
Frequency (MHz)	Gain (dBi)	Efficiency (%)	Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400	-7.05	14	5150	-1.8	66.07
2410	-6.77	14.32	5200	-2.02	62.81
2420	-6.62	14.89	5250	-2.03	62.66
2430	-7.15	14.19	5300	-1.7	67.61
2440	-7.19	13.84	5350	-1.27	74.64
2450	-7.52	13.34	5400	-1.26	74.82
2460	-7.64	12.36	5450	-1.62	68.87
2470	-8.15	11.19	5500	-1.64	68.55
2480	-8.32	9.89	5550	-1.89	64.71
2490	-9.31	8.26	5600	-1.95	63.83
2500	-9.81	6.61	5650	-1.3	74.13
			5700	-1.4	72.44
			5750	-1.32	73.79
			5800	-1.44	71.78
			5850	-1.7	67.61

7.3 Reference Coordinate System

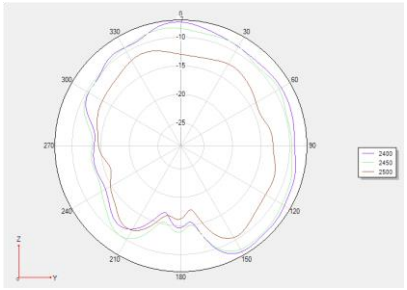


	XY	XZ	YZ
0°	Right	Up	Up
90°	Front	Right	Front
180°	Left	Down	Down
270°	Back	Left	Back

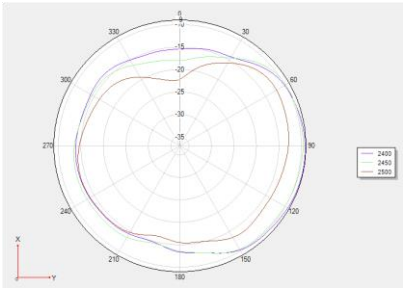
7.4 2D &3D Radiation Pattern



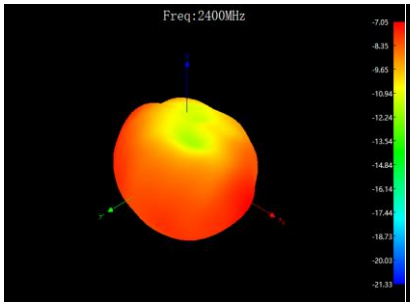
Phi =0 freq@2.4G



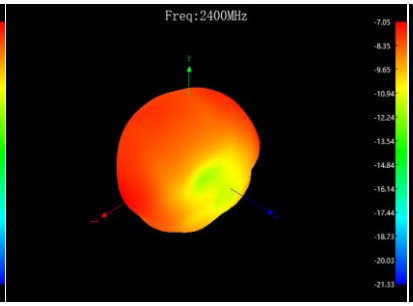
Phi =90 freq@2.4G



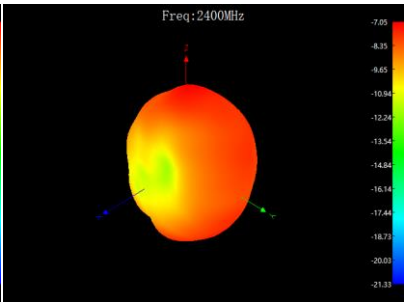
Theta =90 freq@2.4G



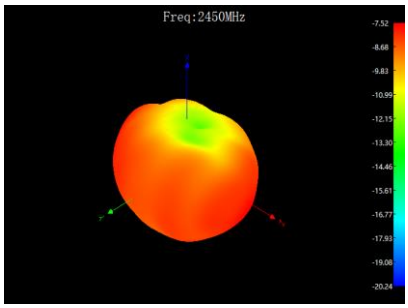
ZXY face @2400MHz



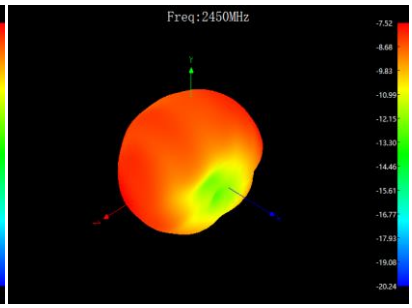
XYZ face @2400MHz



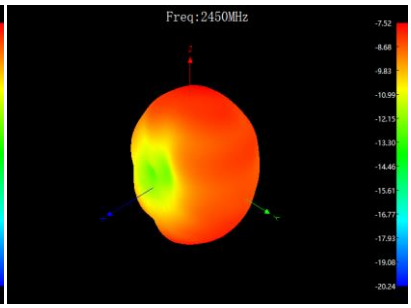
YZX face @2400MHz



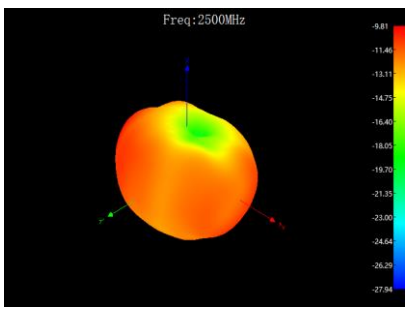
ZXY face @2450MHz



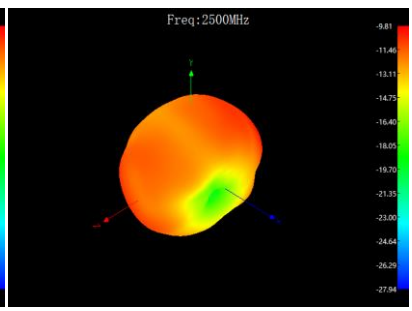
XYZ face @2450MHz



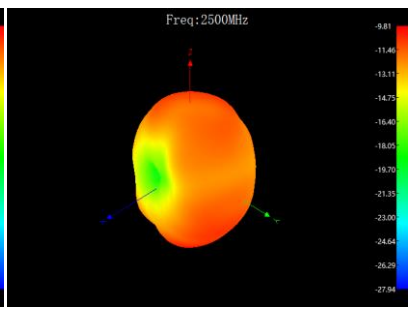
YZX face @2450MHz



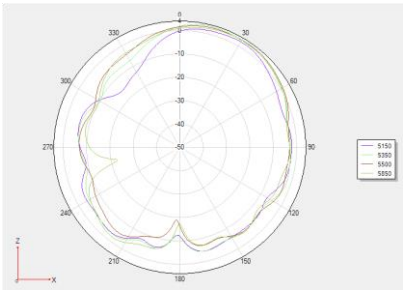
ZXY face @2500MHz

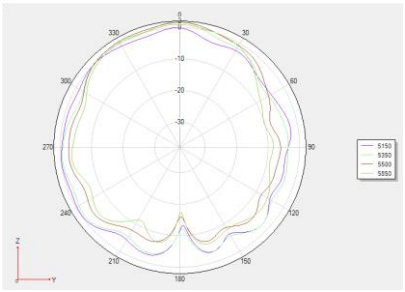


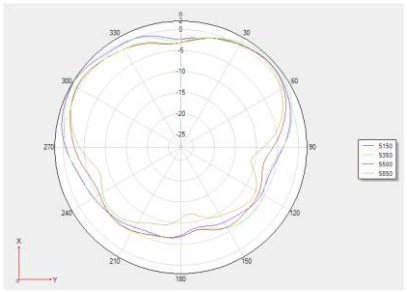
XYZ face @2500MHz



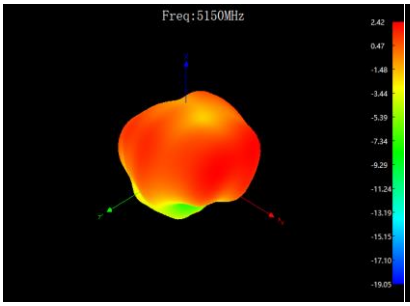
YZX face @2500MHz

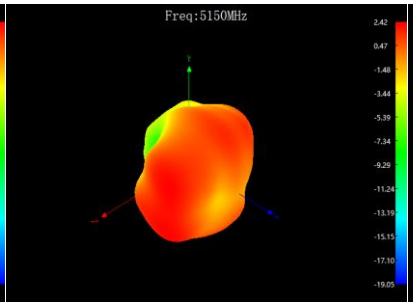


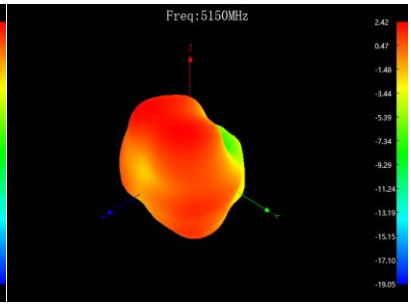




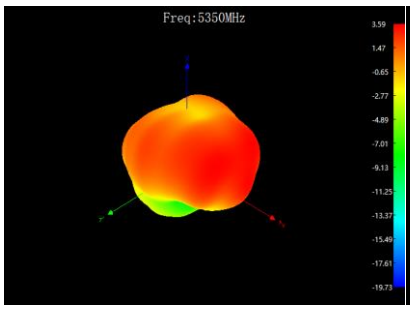
Phi =0 freq@5GPhi =90 freq@5G Theta =90 freq@5G

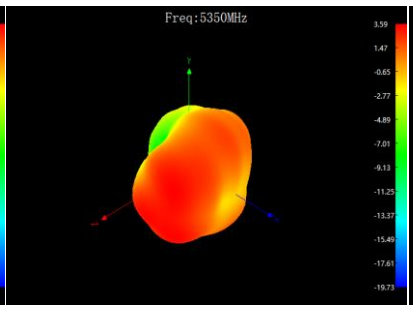


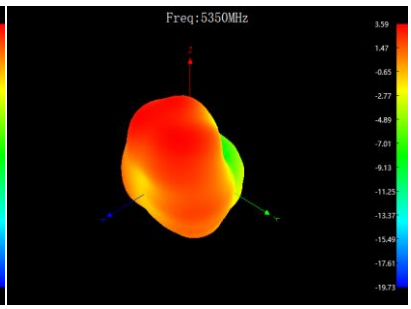




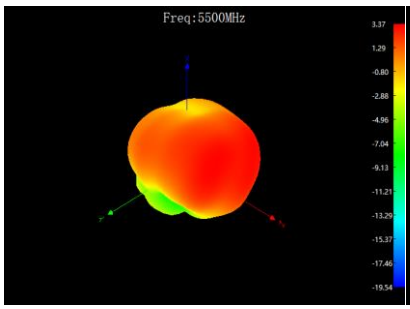
ZXY face @5150MHz XYZ face @5150MHz YZX face @5150MHz

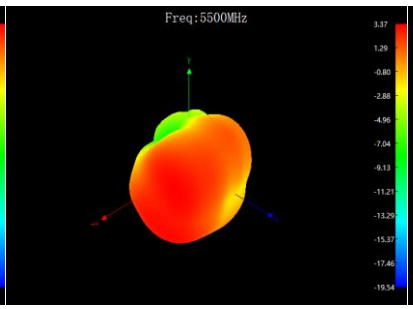


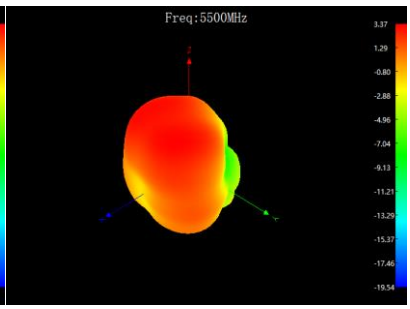




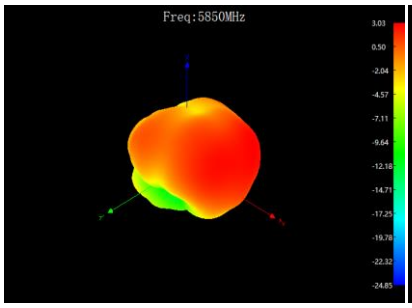
ZXY face @5350MHz XYZ face @5350MHz YZX face @5350MHz



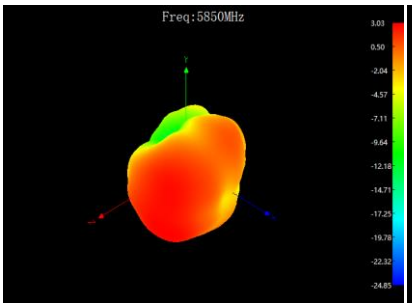




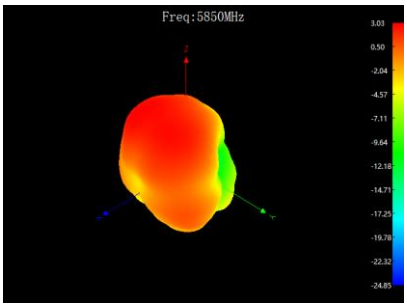
ZXY face @5500MHz XYZ face @5500MHz YZX face @5500MHz



ZXY face @5850MHz



XYZ face @5850MHz



YZX face @5850MHz