

Specification For Approval

Data: 2025.04.14

Version: v1.0

Customer: /

Customer P/N: /

Supplier P/N: F00100010096

XGimi P/N: 409-00236-001

Description:

Silk Screen Printing: 409-00236-001

XGimi Checked By: 席小凡

Customer Approved By:

Product Number: 409-00236-001
Prodict Name: Antenna

Revision Record

Data	person	Content	State	Version
2025.04.14	席小凡	初始发布	Released	1.0

Contents

- 1. Specification4
- 2. Characteristics and Reliability Test5
- 3. Antenna S-parameter Test Data6
- 4. Antenna Radiation Pattern Test Data7
 - 4.1. Peak Gain and Efficiency7
 - 4.2. Radiation Pattern8

Product Number: 409-00236-001

Product Name: Antenna

1. Specification

Sample Photo	
	
A.Electrical Characteristics	
Frequency	☐ 2400~2500Mhz ☐ 433Mhz ☐ 5150~5850Mhz ☒ 2400~2500Mhz&5150~5850Mhz
Impedance	50 Ohm
S.W.R.	≤2.0
Antenna Type	Dipole
Peak Gain	2.4G: 1.16dBi 5G: 8.03dBi
Size	32*13*136mm
Max Input Power	2W
Polarization	Linear
Radiation pattern	Omni-Directional
B.Material&Mechanical Characteristics	
Material of Radiator	Cu
Cable Type	O.D.1.13mm(White)
Cable Length	136mm
Connector Type	I-pex (the first Generation)
Connector Pull Test	0.5Kg
C.Environmental	
Operation Temperature	- 40℃~ + 80℃
Storage Temperature	- 40℃~ + 80℃

Product Number: 409-00236-001

Product Name: Antenna

2. Characteristics and Reliability Test

Test items		Test Condition and Procedure	Requirements
T1	S.W.R	Set DUT on Network Analyzer and make individual calibration to test	Meet XGIMI Antenna specification
T2	Antenna Gain	Set DUT on Antenna Chamber and make individual calibration to test	Meet XGIMI Antenna specification
M1	Terminal- Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Meet XGIMI Antenna specification 2. Frequency Tol.<=5%
M2	Welding Spot-Pull Test	Normal temperature and humidity force applied to axis of terminal Pulling force=3kg, keep 3 seconds	1. welding Spot has no damaged
E1	Salt Spray	Temp:35℃;RH:93%±3%; NaCl solution proportion:1.026~1.041; Time:12hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.≤5%
E2	Thermal Shock	One Cycle: -40℃ (30 minutes)to +80℃ (30 minutes) Cycles: 24.	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.≤5%
E3	Life(High Temp.)	MIL-STD-202G, 108A,cond. A Temp: 80℃; Time: 8 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<=5%

3. Antenna S-parameter Test Data

Testing Equipment		Keysight E5071c																																																																																																																																																
Test Data		2025/04/14																																																																																																																																																
E5071C Network Analyzer 1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State Tr1 S11 Log Mag 10.00dB/ Ref 0.000d <table><tr><td>1</td><td>2.4000000</td><td>GHz</td><td>-15.390</td></tr><tr><td>2</td><td>2.5000000</td><td>GHz</td><td>-14.526</td></tr><tr><td>3</td><td>5.1500000</td><td>GHz</td><td>-0.5225</td></tr><tr><td>4</td><td>5.2500000</td><td>GHz</td><td>-1.7392</td></tr><tr><td>5</td><td>5.7250000</td><td>GHz</td><td>-0.3717</td></tr><tr><td>>6</td><td>5.8250000</td><td>GHz</td><td>-1.0117</td></tr></table> Tr2 S22 Log Mag 10.00dB/ Ref 0.000d <table><tr><td>1</td><td>2.4000000</td><td>GHz</td><td>-12.806</td></tr><tr><td>2</td><td>2.5000000</td><td>GHz</td><td>-13.874</td></tr><tr><td>3</td><td>5.1500000</td><td>GHz</td><td>-12.950</td></tr><tr><td>4</td><td>5.2500000</td><td>GHz</td><td>-14.634</td></tr><tr><td>5</td><td>5.7250000</td><td>GHz</td><td>-13.567</td></tr><tr><td>>6</td><td>5.8250000</td><td>GHz</td><td>-13.438</td></tr></table> Tr3 S33 Log Mag 10.00dB/ Ref 0.000d <table><tr><td>1</td><td>2.4000000</td><td>GHz</td><td>-36.514</td></tr><tr><td>2</td><td>2.5000000</td><td>GHz</td><td>-8.4299</td></tr><tr><td>3</td><td>5.1500000</td><td>GHz</td><td>-24.043</td></tr><tr><td>4</td><td>5.2500000</td><td>GHz</td><td>-15.831</td></tr><tr><td>5</td><td>5.7250000</td><td>GHz</td><td>-11.424</td></tr><tr><td>>6</td><td>5.8250000</td><td>GHz</td><td>-12.130</td></tr></table> Tr4 S21 Log Mag 10.00dB/ Ref 0.000d <table><tr><td>1</td><td>2.4000000</td><td>GHz</td><td>-21.350</td></tr><tr><td>2</td><td>2.5000000</td><td>GHz</td><td>-24.804</td></tr><tr><td>3</td><td>5.1500000</td><td>GHz</td><td>-48.344</td></tr><tr><td>4</td><td>5.2500000</td><td>GHz</td><td>-42.303</td></tr><tr><td>5</td><td>5.7250000</td><td>GHz</td><td>-45.658</td></tr><tr><td>>6</td><td>5.8250000</td><td>GHz</td><td>-47.497</td></tr></table> Tr5 S31 Log Mag 10.00dB/ Ref 0.000d <table><tr><td>1</td><td>2.4000000</td><td>GHz</td><td>-24.148</td></tr><tr><td>2</td><td>2.5000000</td><td>GHz</td><td>-28.186</td></tr><tr><td>3</td><td>5.1500000</td><td>GHz</td><td>-40.375</td></tr><tr><td>4</td><td>5.2500000</td><td>GHz</td><td>-34.234</td></tr><tr><td>5</td><td>5.7250000</td><td>GHz</td><td>-47.078</td></tr><tr><td>>6</td><td>5.8250000</td><td>GHz</td><td>-45.249</td></tr></table> Tr6 S32 Log Mag 10.00dB/ Ref 0.000d <table><tr><td>1</td><td>2.4000000</td><td>GHz</td><td>-28.110</td></tr><tr><td>2</td><td>2.5000000</td><td>GHz</td><td>-29.603</td></tr><tr><td>3</td><td>5.1500000</td><td>GHz</td><td>-22.872</td></tr><tr><td>4</td><td>5.2500000</td><td>GHz</td><td>-23.477</td></tr><tr><td>5</td><td>5.7250000</td><td>GHz</td><td>-35.845</td></tr><tr><td>>6</td><td>5.8250000</td><td>GHz</td><td>-42.375</td></tr></table> 1 Start 100 MHz IFBW 70 kHz Stop 7 GHz Sim PExt Cor II		1	2.4000000	GHz	-15.390	2	2.5000000	GHz	-14.526	3	5.1500000	GHz	-0.5225	4	5.2500000	GHz	-1.7392	5	5.7250000	GHz	-0.3717	>6	5.8250000	GHz	-1.0117	1	2.4000000	GHz	-12.806	2	2.5000000	GHz	-13.874	3	5.1500000	GHz	-12.950	4	5.2500000	GHz	-14.634	5	5.7250000	GHz	-13.567	>6	5.8250000	GHz	-13.438	1	2.4000000	GHz	-36.514	2	2.5000000	GHz	-8.4299	3	5.1500000	GHz	-24.043	4	5.2500000	GHz	-15.831	5	5.7250000	GHz	-11.424	>6	5.8250000	GHz	-12.130	1	2.4000000	GHz	-21.350	2	2.5000000	GHz	-24.804	3	5.1500000	GHz	-48.344	4	5.2500000	GHz	-42.303	5	5.7250000	GHz	-45.658	>6	5.8250000	GHz	-47.497	1	2.4000000	GHz	-24.148	2	2.5000000	GHz	-28.186	3	5.1500000	GHz	-40.375	4	5.2500000	GHz	-34.234	5	5.7250000	GHz	-47.078	>6	5.8250000	GHz	-45.249	1	2.4000000	GHz	-28.110	2	2.5000000	GHz	-29.603	3	5.1500000	GHz	-22.872	4	5.2500000	GHz	-23.477	5	5.7250000	GHz	-35.845	>6	5.8250000	GHz	-42.375	
1	2.4000000	GHz	-15.390																																																																																																																																															
2	2.5000000	GHz	-14.526																																																																																																																																															
3	5.1500000	GHz	-0.5225																																																																																																																																															
4	5.2500000	GHz	-1.7392																																																																																																																																															
5	5.7250000	GHz	-0.3717																																																																																																																																															
>6	5.8250000	GHz	-1.0117																																																																																																																																															
1	2.4000000	GHz	-12.806																																																																																																																																															
2	2.5000000	GHz	-13.874																																																																																																																																															
3	5.1500000	GHz	-12.950																																																																																																																																															
4	5.2500000	GHz	-14.634																																																																																																																																															
5	5.7250000	GHz	-13.567																																																																																																																																															
>6	5.8250000	GHz	-13.438																																																																																																																																															
1	2.4000000	GHz	-36.514																																																																																																																																															
2	2.5000000	GHz	-8.4299																																																																																																																																															
3	5.1500000	GHz	-24.043																																																																																																																																															
4	5.2500000	GHz	-15.831																																																																																																																																															
5	5.7250000	GHz	-11.424																																																																																																																																															
>6	5.8250000	GHz	-12.130																																																																																																																																															
1	2.4000000	GHz	-21.350																																																																																																																																															
2	2.5000000	GHz	-24.804																																																																																																																																															
3	5.1500000	GHz	-48.344																																																																																																																																															
4	5.2500000	GHz	-42.303																																																																																																																																															
5	5.7250000	GHz	-45.658																																																																																																																																															
>6	5.8250000	GHz	-47.497																																																																																																																																															
1	2.4000000	GHz	-24.148																																																																																																																																															
2	2.5000000	GHz	-28.186																																																																																																																																															
3	5.1500000	GHz	-40.375																																																																																																																																															
4	5.2500000	GHz	-34.234																																																																																																																																															
5	5.7250000	GHz	-47.078																																																																																																																																															
>6	5.8250000	GHz	-45.249																																																																																																																																															
1	2.4000000	GHz	-28.110																																																																																																																																															
2	2.5000000	GHz	-29.603																																																																																																																																															
3	5.1500000	GHz	-22.872																																																																																																																																															
4	5.2500000	GHz	-23.477																																																																																																																																															
5	5.7250000	GHz	-35.845																																																																																																																																															
>6	5.8250000	GHz	-42.375																																																																																																																																															
Port1=BT	Port2=409-00236-001	Port3=409-00237-001																																																																																																																																																

Product Number: 409-00236-001

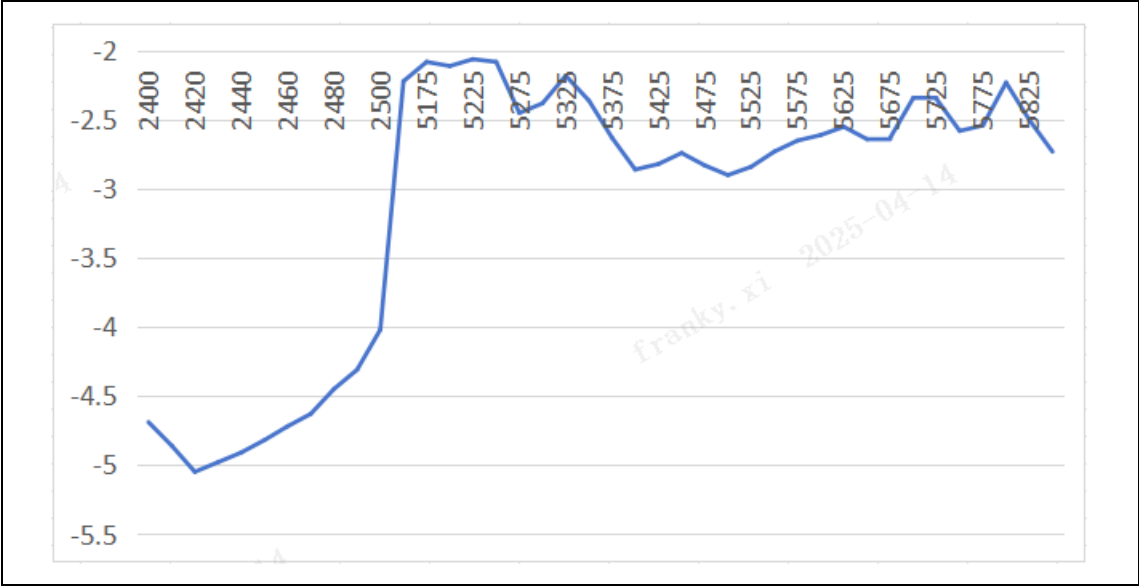
Product Name: Antenna

4. Antenna Radiation Pattern Test Data

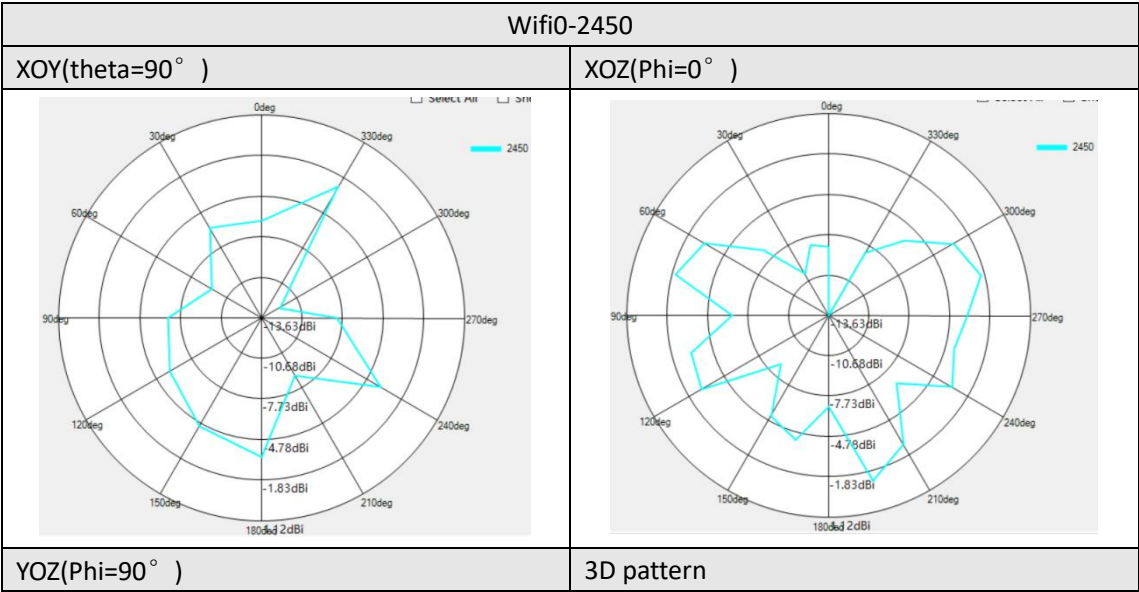
Chamber Specification	
Absorption Darkroom	GTS 2800
Testing Equipment(passive)	Keysight E5080b
Testing Equipment(active)	R&S CMW270
Testing Equipment(Throughput)	Asus RT-AX88U
	

4.1. Peak Gain and Efficiency

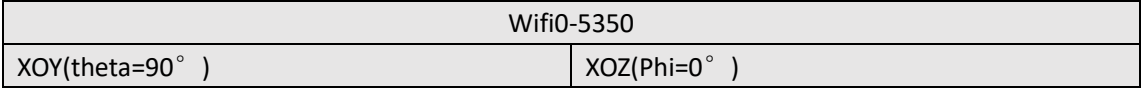
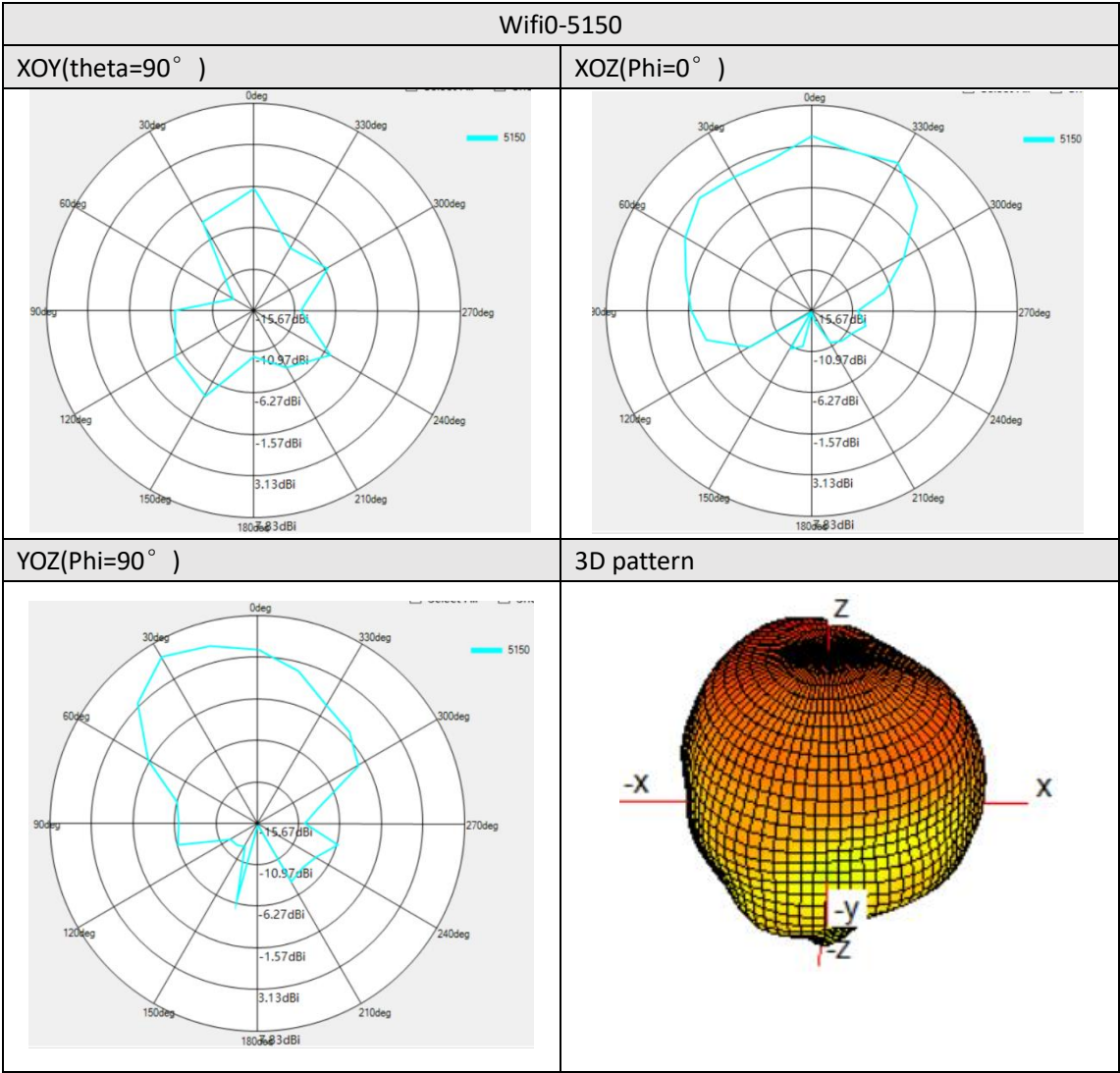
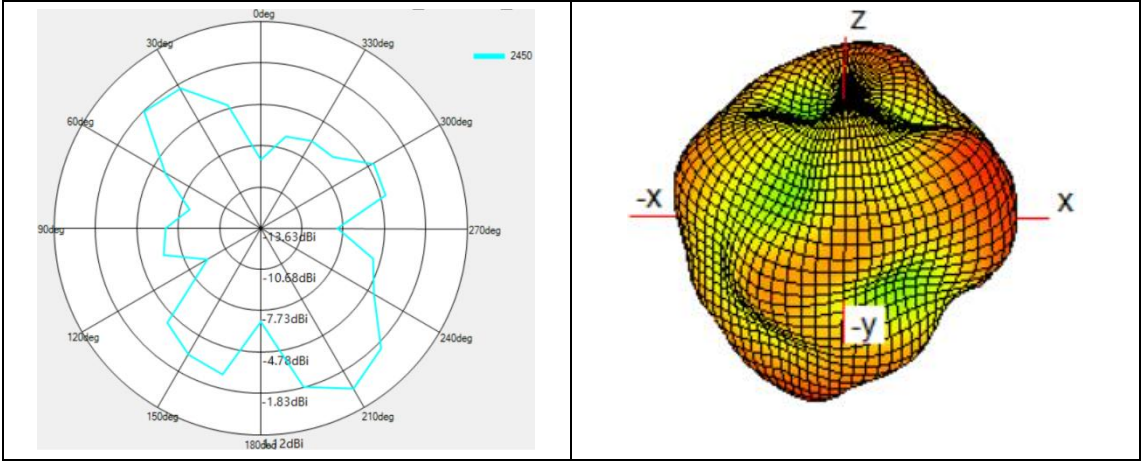
Freq.(Mhz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain(dB)	0.85	0.63	0.6	0.79	0.98	1.12	1.16	1.08	1.03	1.09	1.24
Efficiency(dB)	-4.69	-4.86	-5.05	-4.98	-4.91	-4.82	-4.72	-4.63	-4.45	-4.31	-4.02
Freq.(Mhz)	5150	5175	5200	5225	5250	5275	5300	5325	5350	5375	5400
Peak Gain(dB)	7.83	8.03	8.01	7.88	7.43	6.69	6.52	6.51	6.11	5.56	5.02
Efficiency(dB)	-2.22	-2.08	-2.11	-2.06	-2.08	-2.45	-2.38	-2.18	-2.36	-2.63	-2.86
Freq.(Mhz)	5425	5450	5475	5500	5525	5550	5575	5600	5625	5650	5675
Peak Gain(dB)	4.86	5.36	5.5	5.68	5.9	6.27	6.53	6.64	7.14	7.25	7.29
Efficiency(dB)	-2.82	-2.74	-2.83	-2.9	-2.84	-2.73	-2.65	-2.61	-2.55	-2.64	-2.63
Freq.(Mhz)	5700	5725	5750	5775	5800	5825	5850				
Peak Gain(dB)	7.55	7.55	7.32	7.39	7.83	7.59	7.26				
Efficiency(dB)	-2.34	-2.35	-2.58	-2.54	-2.23	-2.5	-2.73				



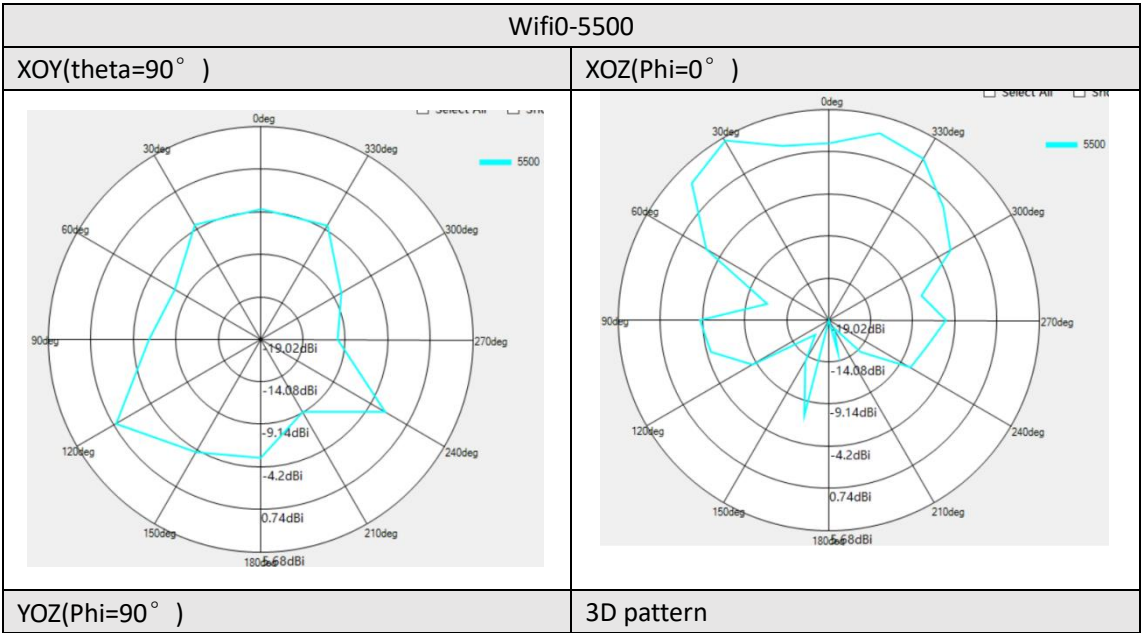
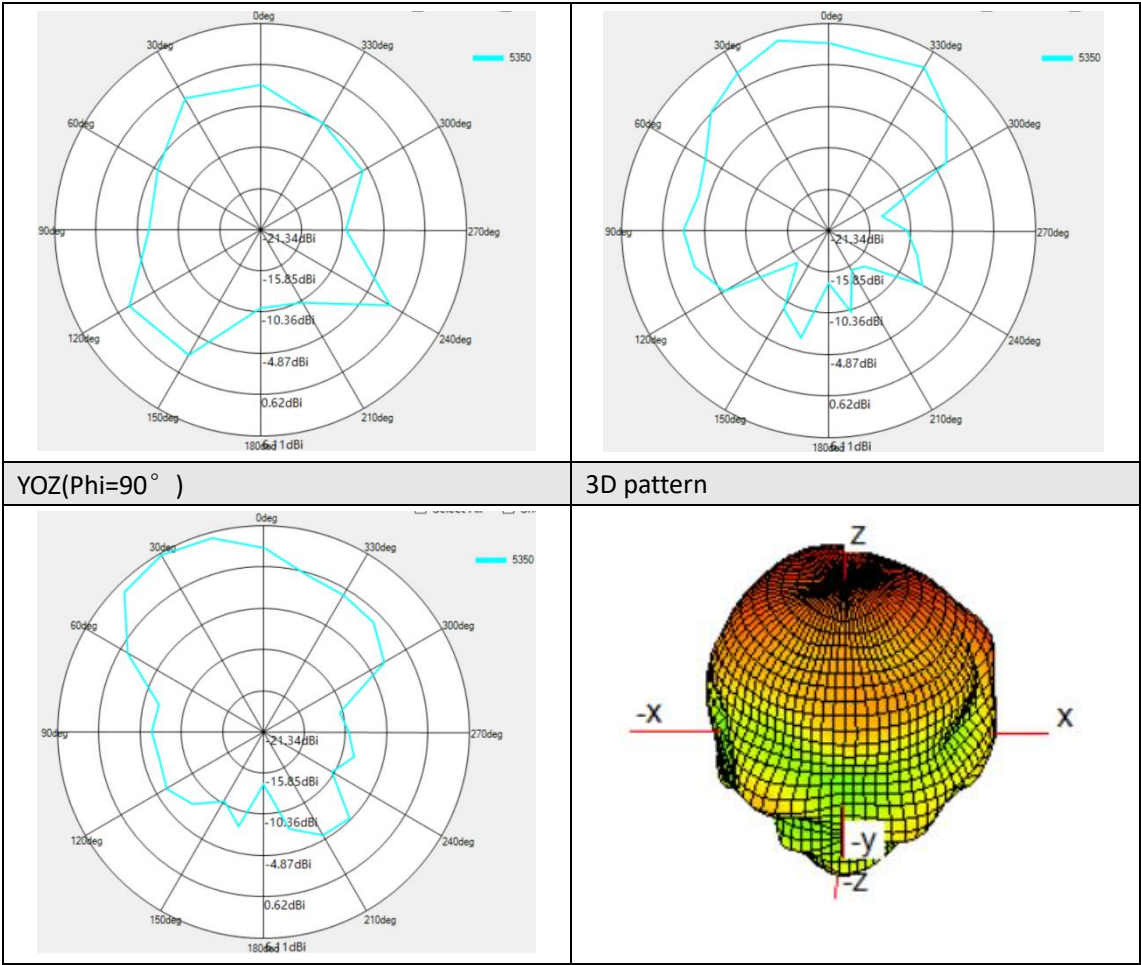
4.2. Radiation Pattern



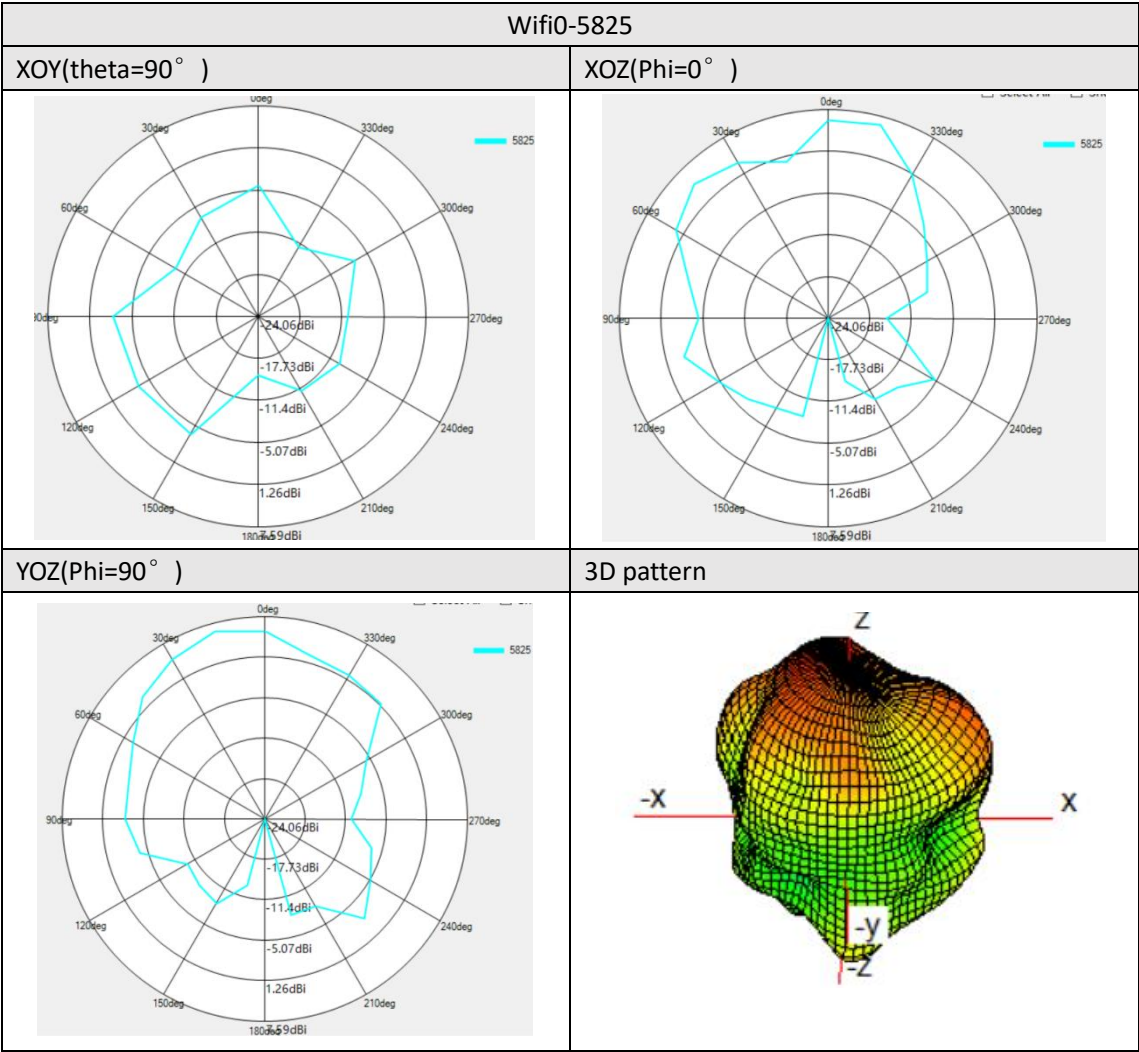
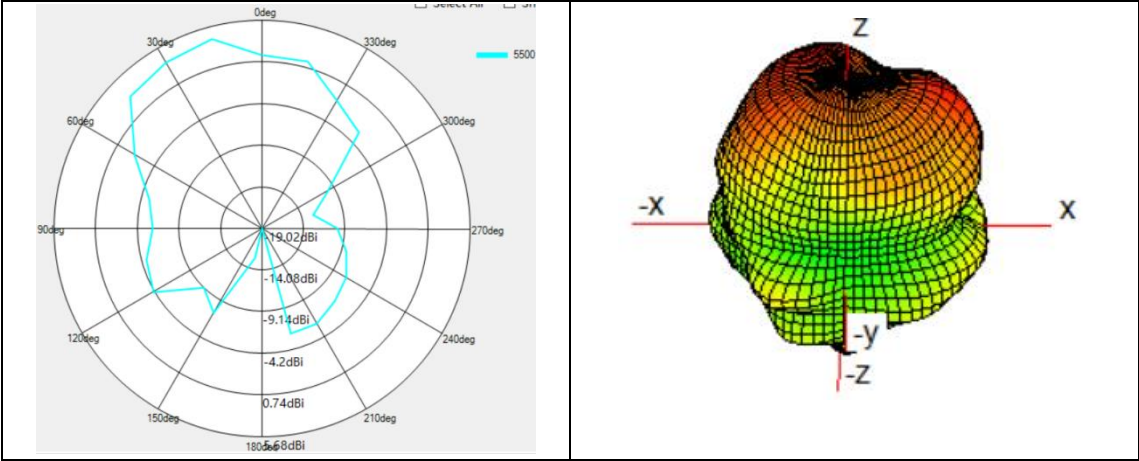
Product Number: 409-00236-001
Product Name: Antenna



Product Number: 409-00236-001
Product Name: Antenna



Product Number: 409-00236-001
Product Name: Antenna



Product Number: 409-00236-001

Product Name: Antenna

Product Number: 409-00236-001

Prodect Name: Antenna