



Wireless connectivity creates endless possibilities

Antenna Test Report

Client: Qishimai

Project: HM1006

Report version: 2024.07.24 A1

Research and development: Liu Bin

Version time		Release Notes
A1	2024.06.18 Test data	
A2		
A3		
A4		
A5		
A6		
A7		
A8		
A9		

1. Resume..... ...

2. Project Overview.....4

3. Equipment List..... ...

4. Project pictures and passive fixtures.....6

5. Version Information..... ...

6. Matching circuit

7. Passive parameters.....12

8. Passive efficiency..... ...

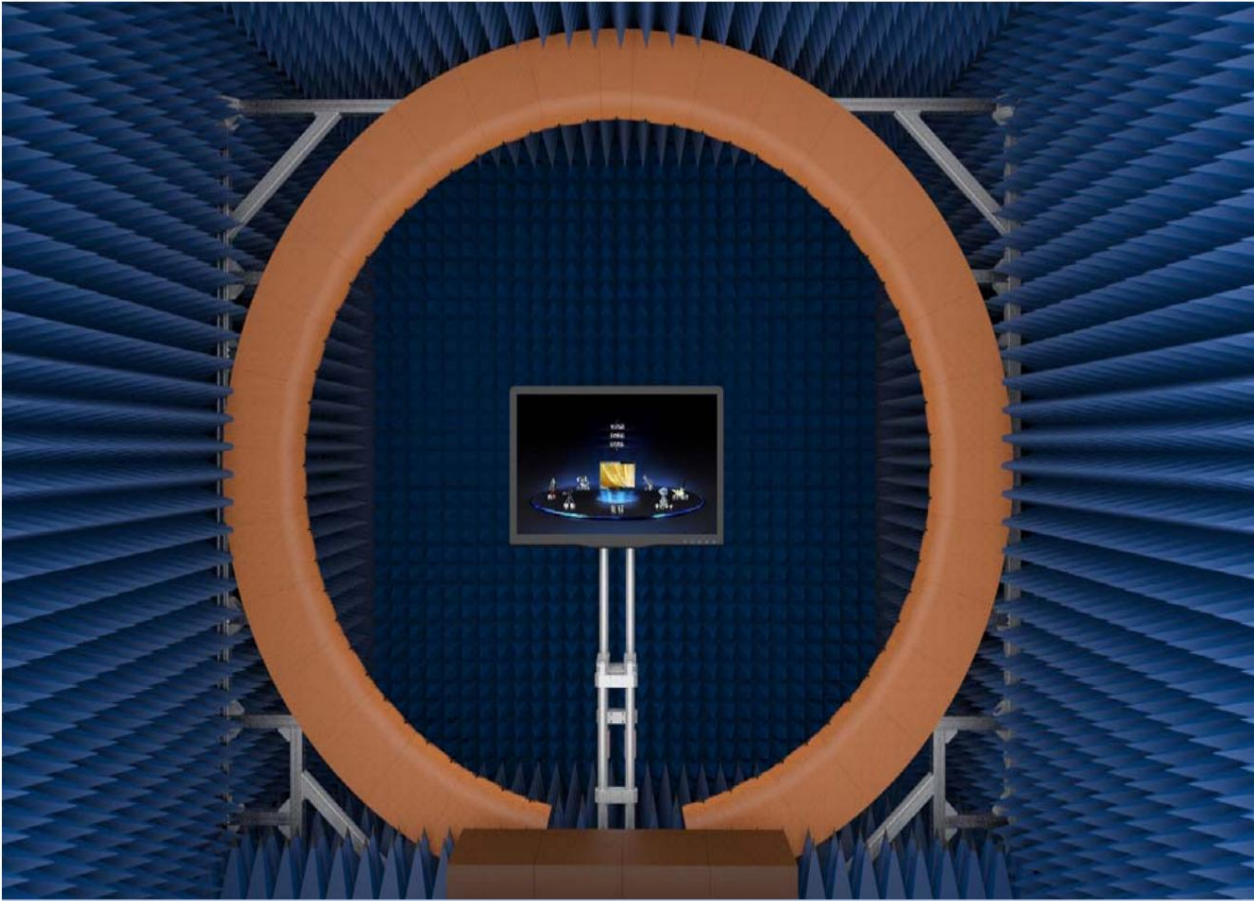
9. Source data..... ...

10. Environmental treatment..... ...

11. Direction diagram..... ...

12. Conclusion

Equipment List



Industry-leading OTA darkroom:

64 probes; length/width/height are all 6 meters; the size of the item to be tested can be up to 2 meters

Device Name	The total amount	Shanghai Research	Shenzhen Research	Chongqing Research
		Hair Center quantity	Hair Center quantity	Hair Center quantity
OTA Lab	10 seats	4 seats	5 seats	1 seat
5G Comprehensive Tester (SP9500-CTS)	3 units	1 unit	1 unit	1 unit
R&S comprehensive tester (CMW500 with high configuration)	7 units	3 units	3 units	1 unit
Japan Anritsu comprehensive tester (dual channel 8820)	4 units	2 units	2 units	--
NB-IoT comprehensive tester (SP8315)	3 units	1 unit	1 unit	1 unit
Agilent comprehensive tester (8960)	9 units	4 units	4 units	1 unit
Agilent Network Analyzer (E5062A)	7 units	3 units	3 units	1 unit
Agilent Network Analyzer (E5071C 8.5GHZ)	11 units	5 units	5 units	1 unit
Agilent Network Analyzer (E5071B 8.5GHZ)	10 units	5 units	5 units	1 unit
R&S Network Analyzer (ZND)	10 units	5 units	4 units	1 unit
R&S Network Analyzer (ZVB)	3 units	1 unit	1 unit	1 unit
OTA head hand/cochlear implant/arm	5 sets	2 sets	2 sets	1 set
GPS/WIFI active test equipment	5 sets	2 sets	2 sets	1 set

Antenna S11 parameters



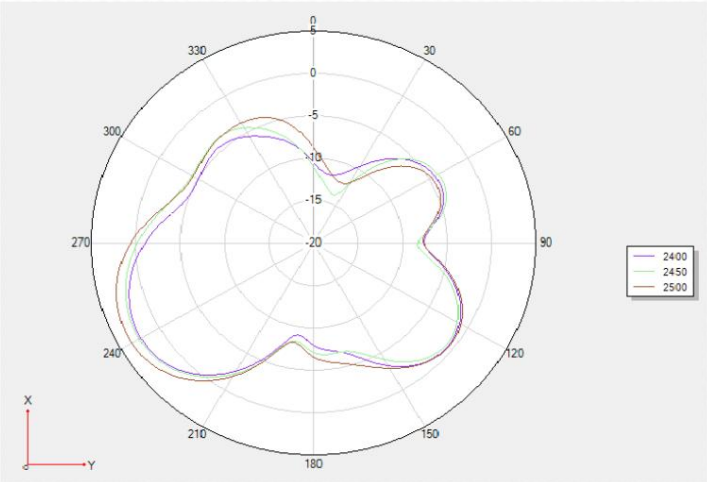
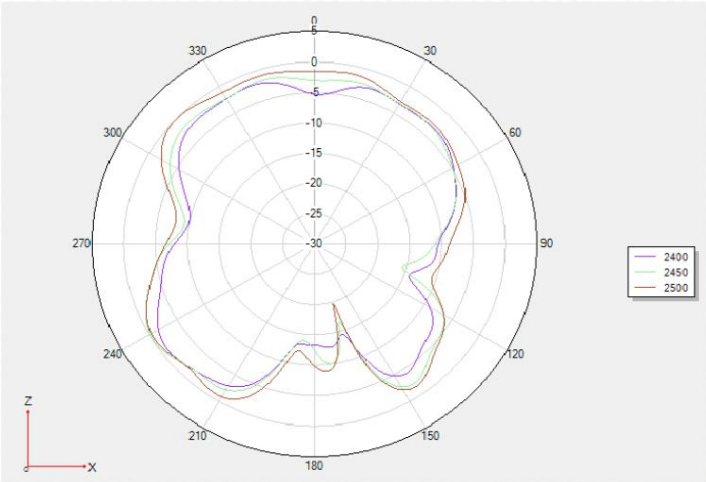
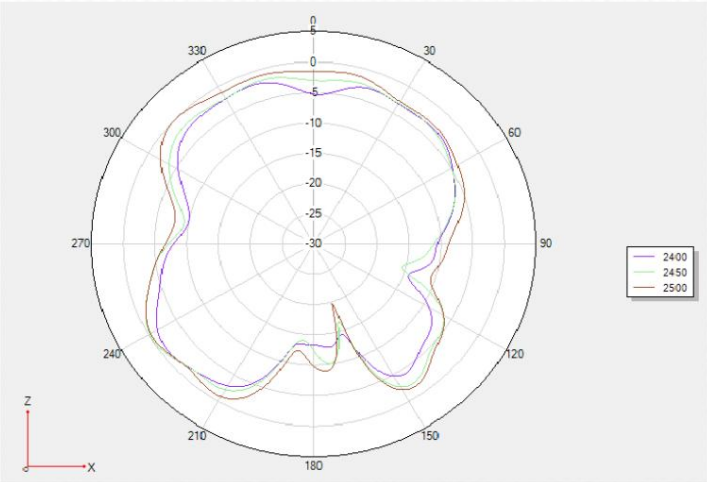
	Steel antenna
Frequency (MHz)	Return Loss
2400	-15.6
2450	-17.87
2500	-16.46

WiFi Antenna Passive Efficiency

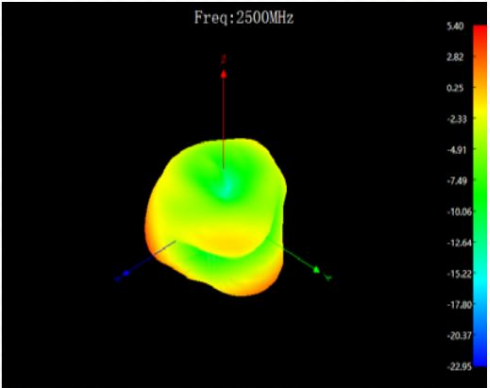
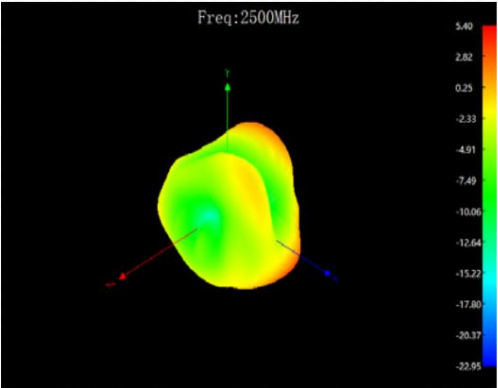
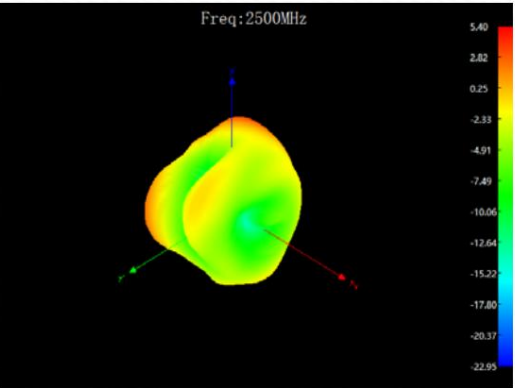
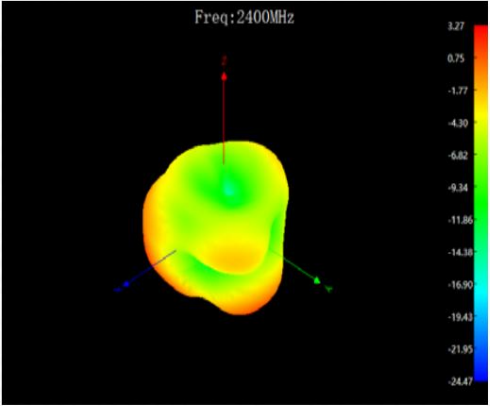
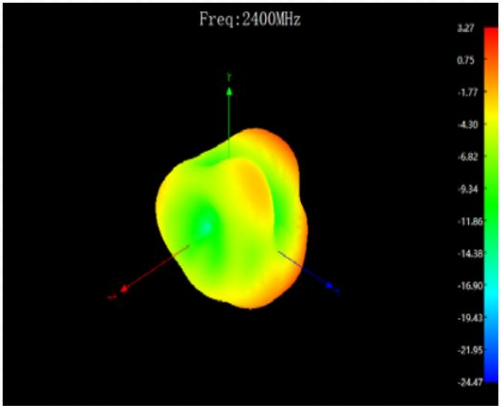
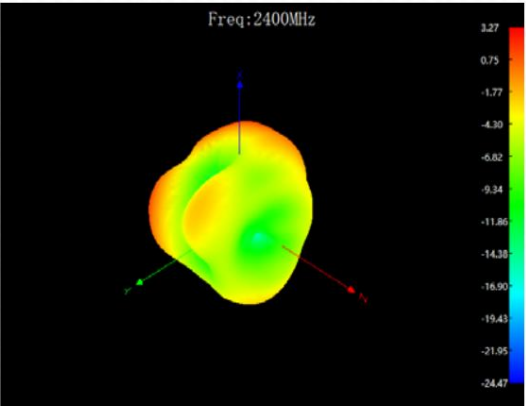


Frequency/Mhz	Efficiency / %	Efficiency / db	MaxGain/dBi
2400	53.98	-2.68	3.27
2410	55.75	-2.54	3.26
2420	56.38	-2.49	4.11
2430	57.44	-2.41	4.37
2440	58.24	-2.35	4.27
2450	59.73	-2.24	5
2460	59.05	-2.29	4.8
2470	58.19	-2.35	4.36
2480	57.09	-2.43	4.98

WiFi Antenna 2D Pattern



WiFi Antenna 3D Direction Pattern



WiFi Antenna OTA Active Data



	1#				3#			
Darkroom No. 3	Original state		Replacement lamp board		Original state		Replacement lamp board	
WiFiB	18.69	-82.5	18.03	-83.72	18.59	-87.09	19.02	-89.3
	18.64	-77	18.04	-83.34	18.82	-85.18	18.95	-87.05
	17.77	-82.97	17.16	-85.63	18.25	-86.83	18.22	-76.73
WiFi	16.49	-69.53	15.78	-71.75	16.48	-75.36	15.97	-75.29
	16.85	-66.9	16.13	-69.79	17.08	-71.92	17	-72.81
	14.48	-69.78	13.49	-72.84	14.35	-73.15	14.55	-74.28

1#Retest	
WiFiB	-88.66
	-87.17
	-86.95
WiFi	
	-73.25

Thank You

Shanghai R&D Center: 1st Floor, Building 4, No. 99, Lane 215, Gaoguang Road, Qingpu District, Shanghai

Shenzhen R&D Center: 6th Floor, Building 5, Nantai Cloud Innovation Valley Center, Guangming District, Shenzhen

Chongqing R&D Center: 1F, ARM Ecological Industrial Park, No. 19, Xiantao Data Valley East Road, Yubei District, Chongqing

Huizhou Factory Address: 4th-5th Floor, No. 1, Zhongxincun Road, Longhu Industrial Zone, Shuikou Town, Huicheng District, Huizhou City



Scan the QR code to follow our WeChat official account



Scan the QR code to follow the official website