Antenna Test Report

Client: Qishimai

Project: HM1006

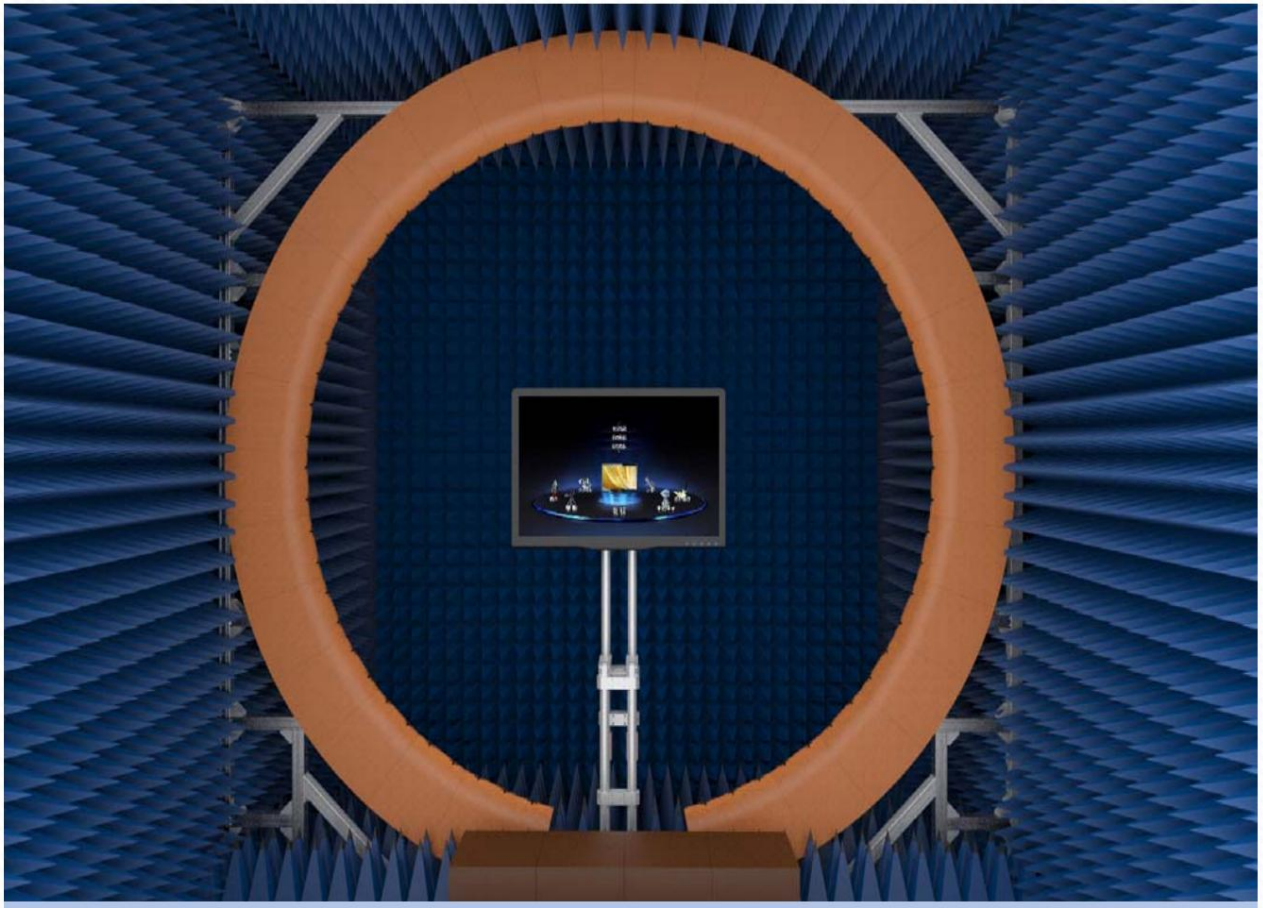
Report version: 2024.07.24 A1

Research and development: Liu Bin

Resume

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

Equipment List

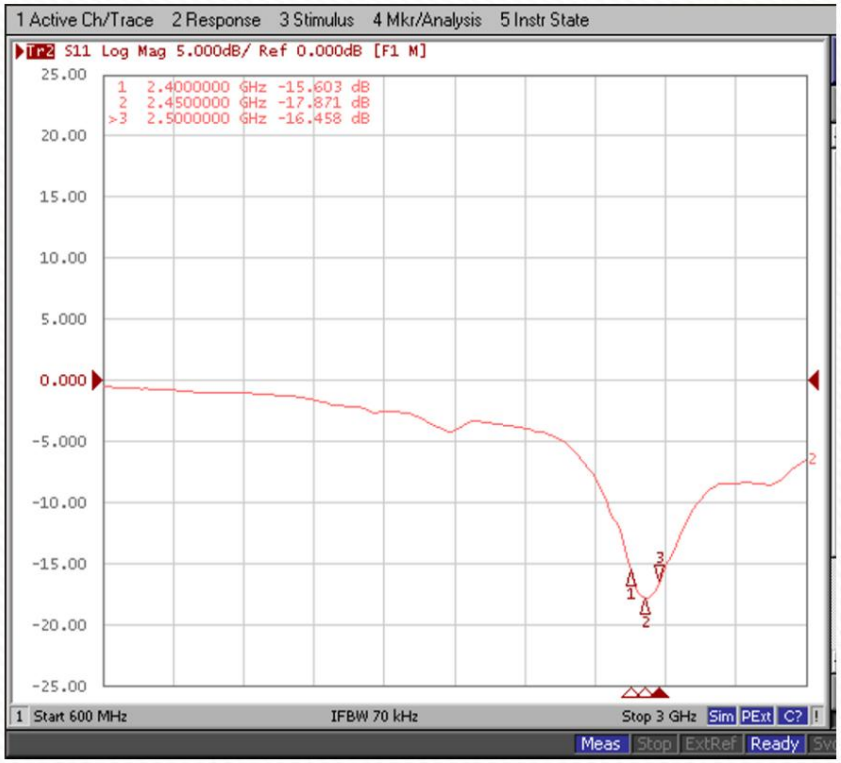


Industry-leading OTA darkroom:

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 Hair Center quantity	Shenzhen Research Hair Center quantity	Chongqing Research 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

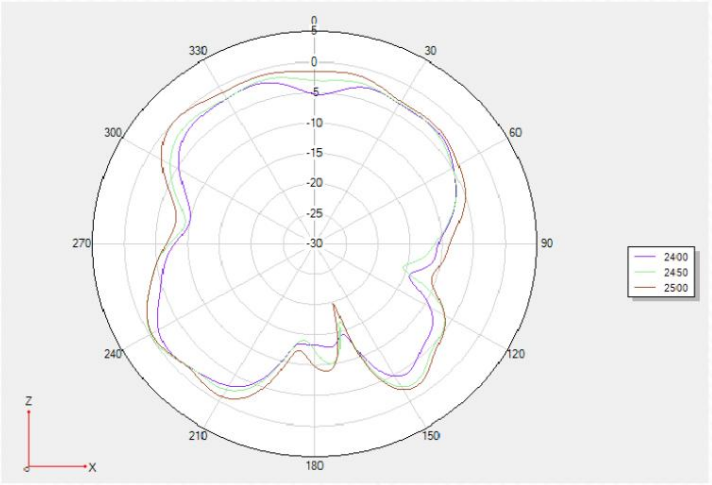


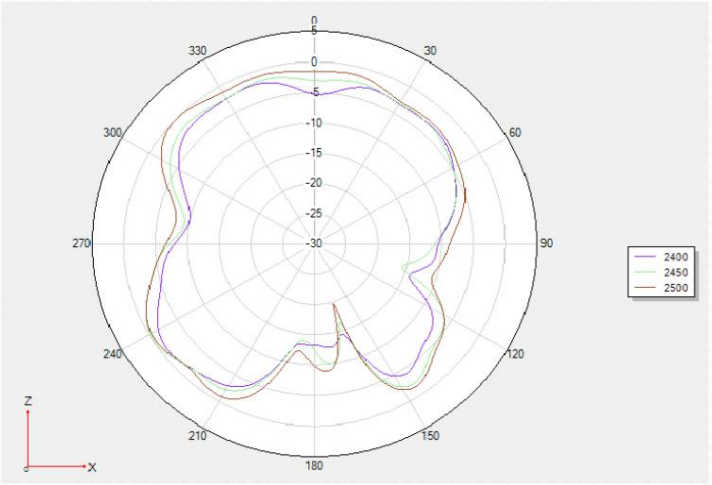
	Steel antenna
Frequency (MHz)	Return Loss
2400	-15.6
2450	-17.87
2500	-16.46

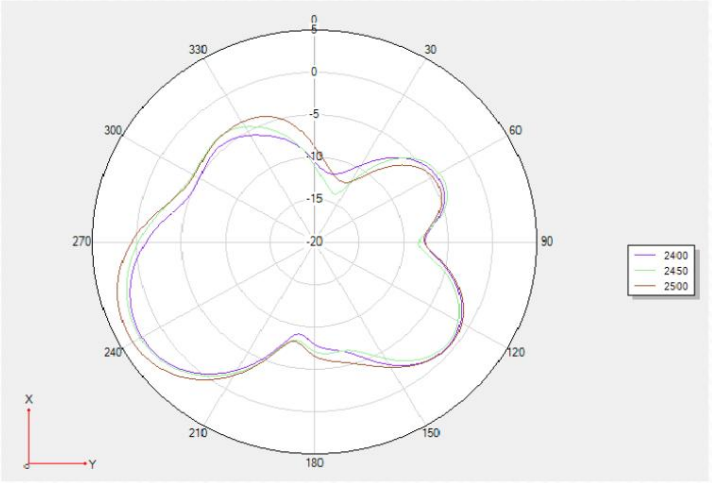
WiFi Antenna Passive Efficiency

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

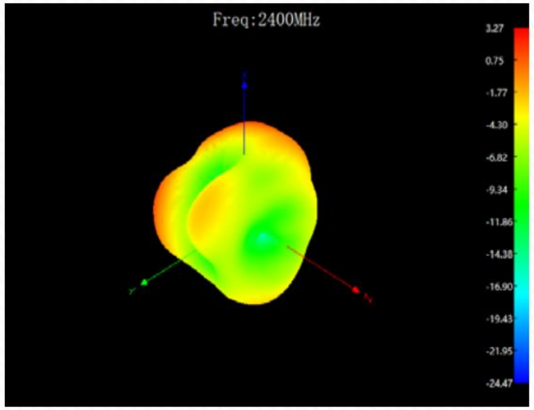
WiFi Antenna 2D Pattern

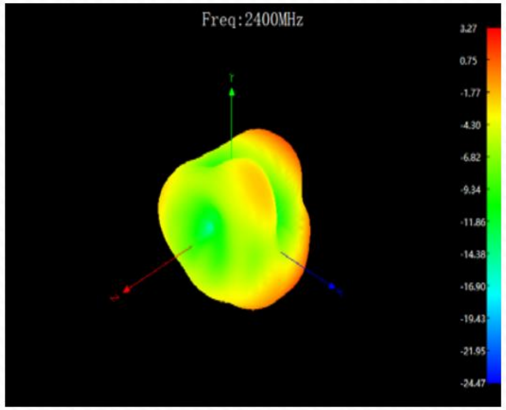


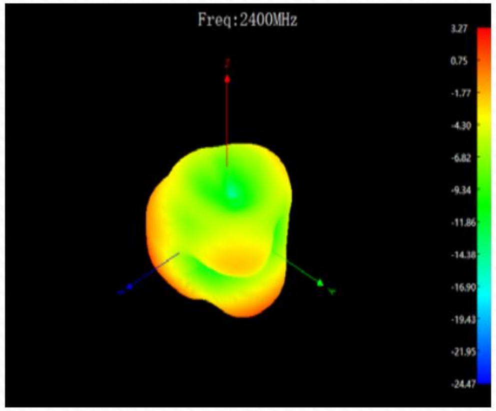


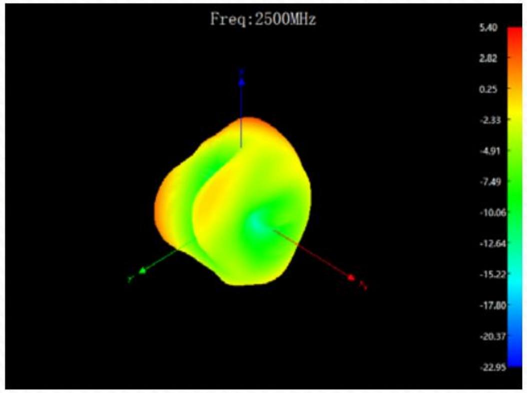


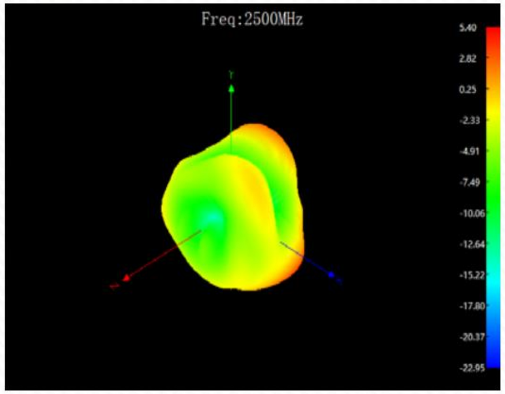
WiFi Antenna 3D Direction Pattern

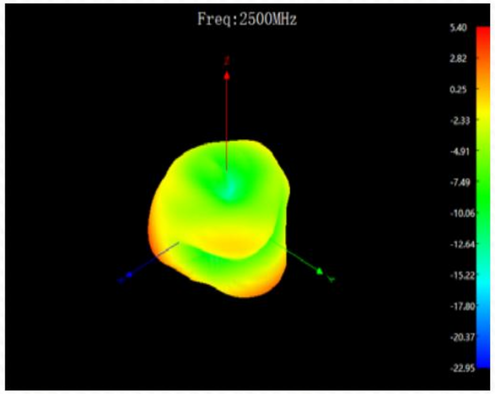












	1#				3#			
Darkroom No. 3	Original state		Replacement lamp board		Original state		Replacement lamp board	
WiFiB	18.69	-82.5	18.03	-83.72	18.59	-87.09	19.02	-89.3
	18.64	-77	18.04	-83.34	18.82	-85.18	18.95	-87.05
	17.77	-82.97	17.16	-85.63	18.25	-86.83	18.22	-76.73
WiFi	16.49	-69.53	15.78	-71.75	16.48	-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

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