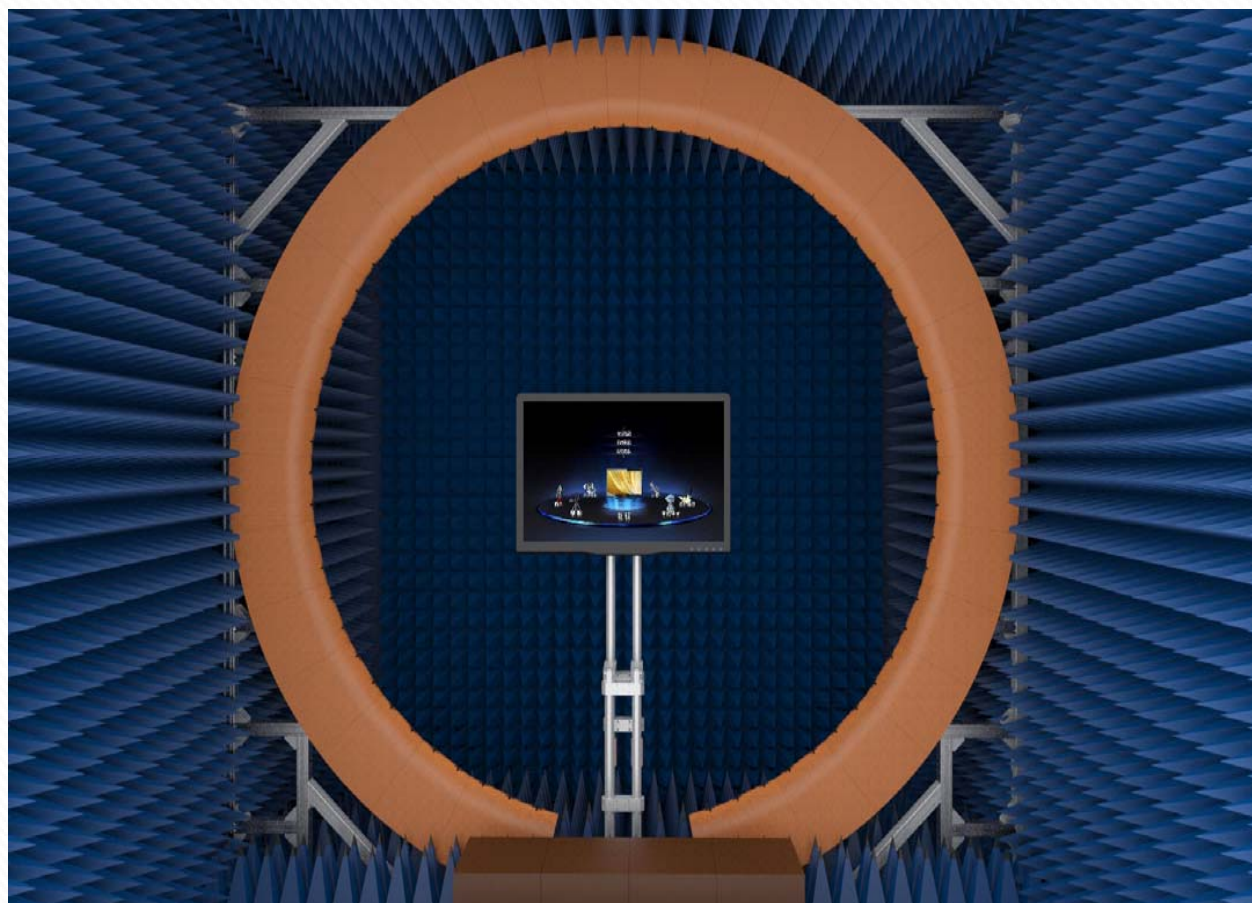


Antenna Report

Report version:
2024.06.18 A1

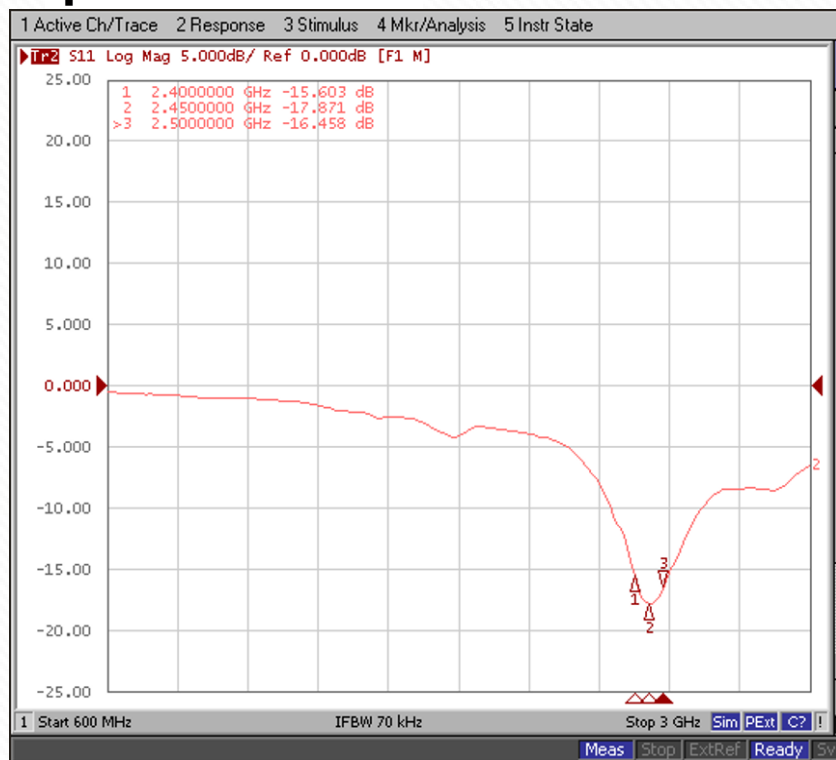
Equipment list



Industry top OTA darkroom:64 probe; 6 meters in length/width/height; The size of the item to be tested can be up to 2 meters

Device name	Total quantity	Number of R&D centers in Shanghai	Number of R&D centers in Shenzhen	Number of R&D centers in Shenzhen
OTA lab	10	4	5	1
5G integrated measuring instrument (SP9500-CTS)	3	1	1	1
R&S Integrated Measuring Instrument (High quality CMW500)	7	3	3	1
Anritsu Integrated Meter (Dual Channel 8820)	4	2	2	—
NB-IoT Integrated Measuring Instrument (SP8315)	3	1	1	1
Agilent Integrated Measuring Instrument (8960)	9	4	4	1
Agilent Network Analyzer (E5062A)	7	3	3	1
Agilent Network Analyzer (E5071C 8.5GHZ)	11	5	5	1
Agilent Network Analyzer (E5071B 8.5GHZ)	10	5	5	1
R&S Network Analyzer (ZND)	10	5	4	1
R&S Network Analyzer (ZVB)	3	1	1	1
OTA head hand/cochlea/arm	5	2	2	1
GPS/WIFI active test equipment	5	2	2	1

Antenna S11 parameters

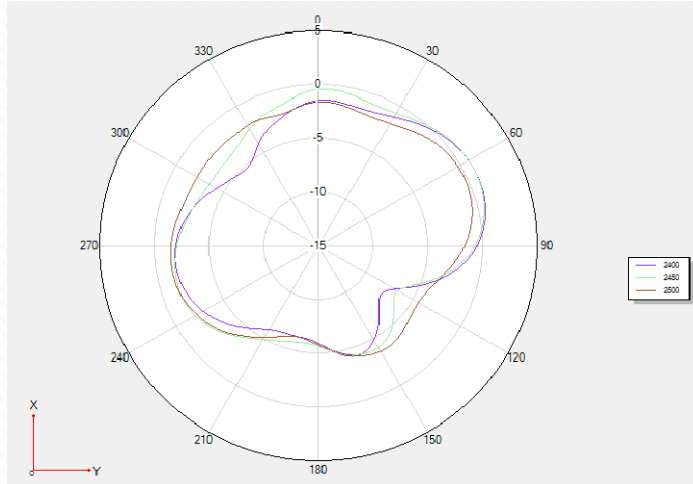
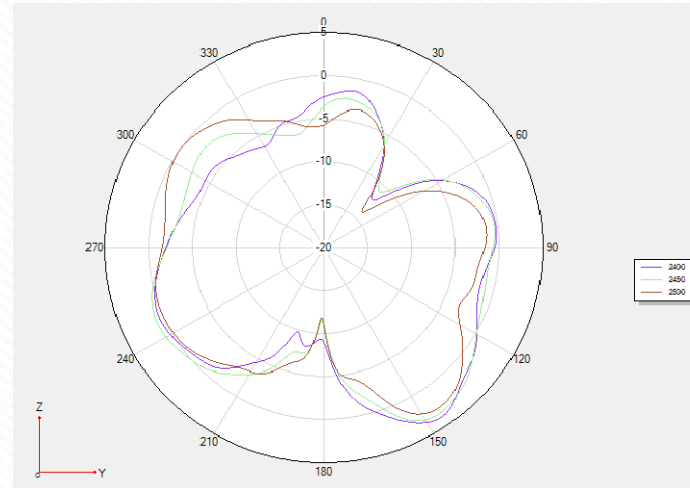
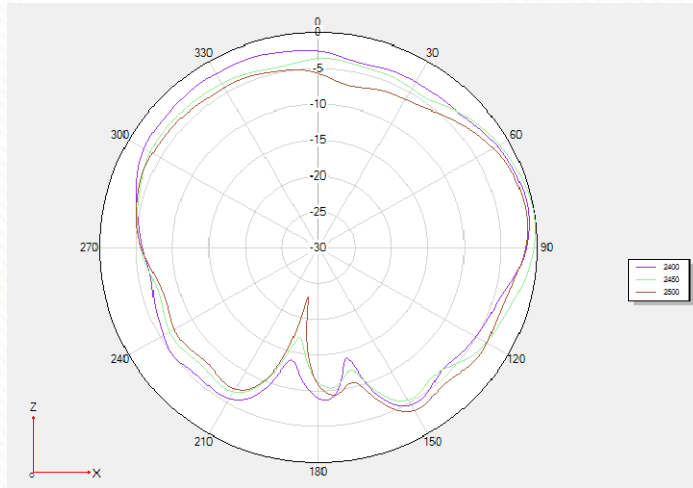


	Sheet steel antenna
Frequency (MHz)	Return loss
2400	-15.6
2450	-17.87
2500	-16.46

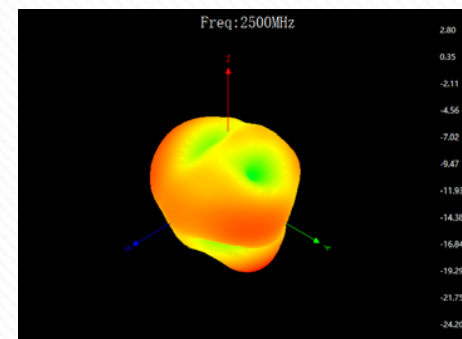
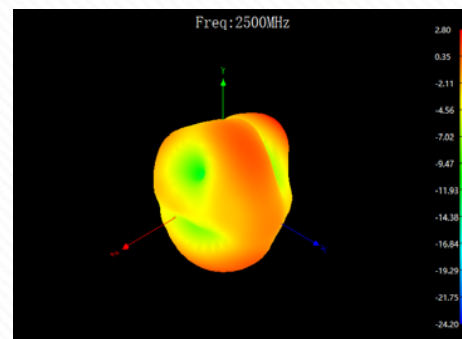
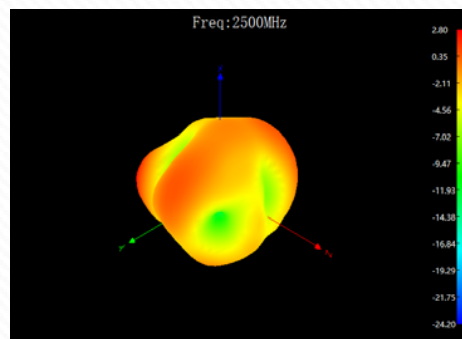
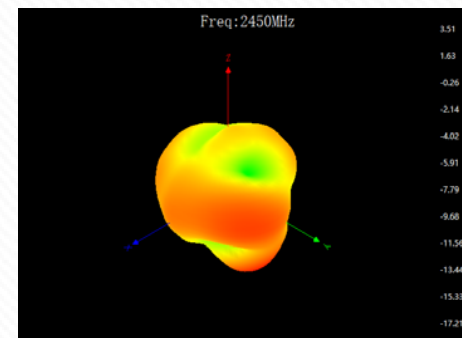
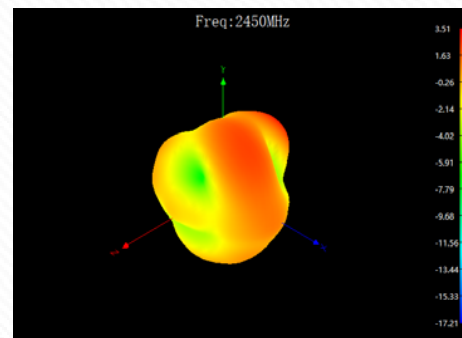
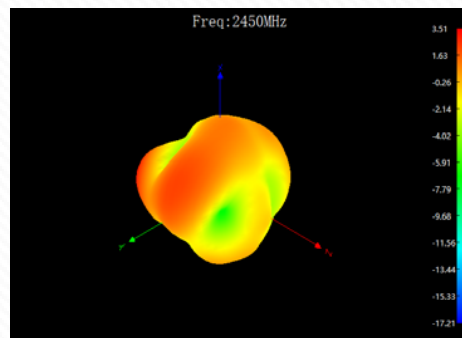
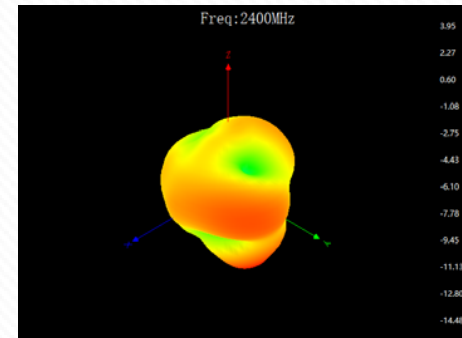
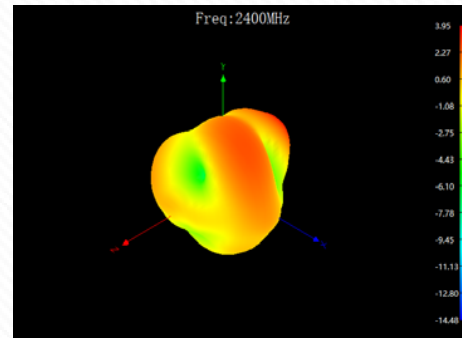
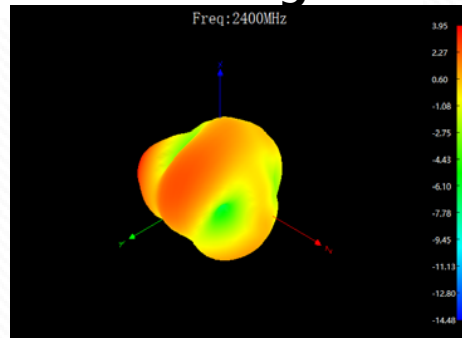
Passive efficiency of WiFi antenna

Frequency/Mhz	Efficiency / %	Efficiency / dB	MaxGain/dBi
2400	52.48	-2.8	3.95
2410	56.23	-2.5	3.38
2420	61.66	-2.1	3.96
2430	58.48	-2.33	4.18
2440	57.68	-2.39	2.95
2450	59.7	-2.24	3.51
2460	55.46	-2.56	3.36
2470	54.2	-2.66	2.39
2480	52.72	-2.78	2.97
2490	52.24	-2.82	2.67
2500	54.95	-2.6	2.8

2D direction diagram of WiFi



WiFi antenna 3D direction diagram



WiFi antenna OTA active data

Band	Channel	TRP	TIS	TRP	TIS	TRP	TIS
wifi_G	L	17.77	-87.1	17.94	-82.44	16.16	-87.65
	M	17.99	-87.36	18.15	-85.31	16.63	-87.48
	H	17.38	-86.92	17.47	-85.87	16.46	-87.04
wifi_G	L	15.66	-68.25	15.89	-65.32	14.25	-67.29
	M	15.28	-68.42	15.48	-66.36	14.2	-68.73
	H	15.55	-70.22	15.59	-69.53	14.77	-70.07
wifi_N	L	14.74	-72.12				
	M	15.33	-71.59				
	H	13.13	-71.3				

Thank You

www.sunnyway-iot.com