Antenna test report

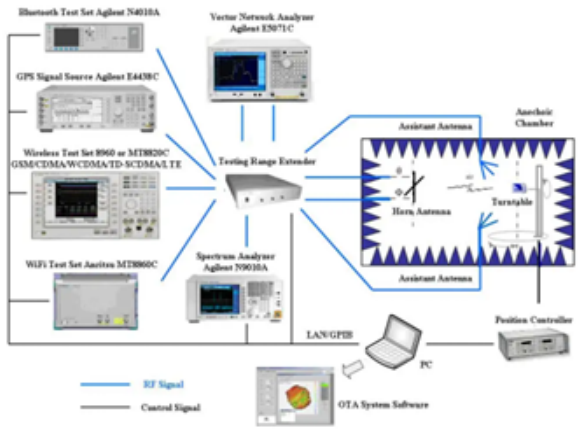
Test standard：

Antenna performance	Radiation efficiency	IEEE Standard Test Procedures for Antennas	ANSI/IEEE Std 149-1979

Equipment list and calibration date

Equipment	Manufacturer	Model No.	Last Cal.	Due Date
Network Analyzer	Agilent	E5071C	2025.01.20	2027.01.19

Test configuration diagram



Test Procedure

Test Step Flow
1. Maintain the test ambient temperature of 23t2 C, the instrument is powered on and preheated for more than 30 minutes
2. Tum on the darkroom power supply, connect the test cable, and set up the sample according to the standard
3. Outline sets the test content objectives and conducts calibration tests
4. Run the EMQuest OTA software, the test is complete, export the corresponding test diagram and test data, and save to the corresponding directory

Test Principle
The test principle can be seen in accordance with the standard ANSI/IEEE std 149-2021

Test Conditions
1.The analyte, the network analyzer for testing, the test equipment and the test cable connector should have good reliability, stability, dynamic range and measurement accuracy to ensure the correctness of the measurement accuracy
2. The measuring instrument should have a certificate of conformity and be within the effective calibration period
3. The analyte should be complete and undamaged, and the test environment should be kept clean

Test Engineer: Liu Deng
Software name and version:GTS_MAX SIGN Libra1.2.7

Test data

#1-BT			
Freq	Efficiency_dB	Gain	Efficiency_Pcent
2400	-10.93	-5.07	8.08
2410	-10.80	-4.55	8.32
2420	-10.48	-4.4	8.95
2430	-10.23	-4.29	9.49
2440	-9.57	-3.8	11.03
2450	-9.46	-3.41	11.32
2460	-9.80	-3.28	10.48
2470	-9.85	-3.35	10.35
2480	-10.00	-3.59	9.99
2490	-10.22	-3.72	9.5
2500	-10.03	-3.87	9.94

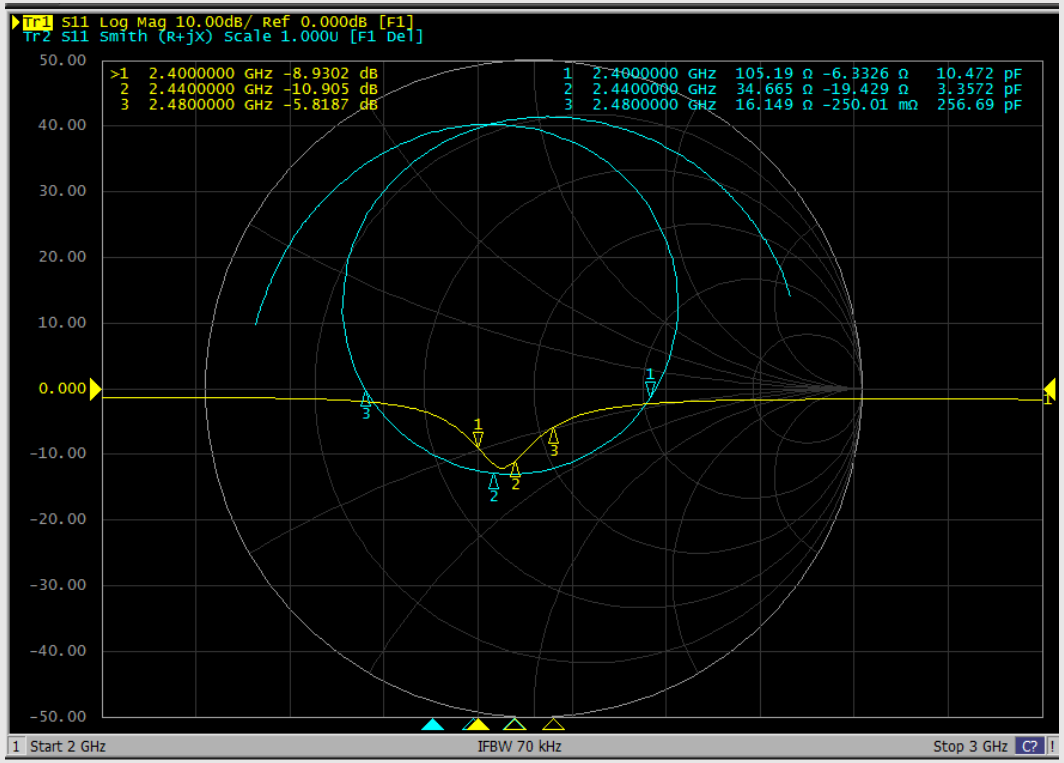
#1-WF0			
Freq	Efficiency_dB	Gain	Efficiency_Pcent
2400	-3.92	0.95	40.54
2410	-3.77	1.13	41.98
2420	-3.65	1.28	43.18
2430	-3.66	1.3	43.01
2440	-3.76	1.29	42.11
2450	-3.79	1.27	41.77
2460	-3.84	1.2	41.31
2470	-3.9	1.13	40.77
2480	-4.01	0.91	39.68
2490	-4.21	0.71	37.95
2500	-4.31	0.53	37.09
5150	-4.34	0.83	36.84
5200	-4.11	1.21	38.78
5250	-4.04	1.34	39.47
5300	-4.14	1.08	38.51
5350	-3.73	1.23	42.35
5400	-3.31	1.77	46.65
5450	-3.23	1.87	47.59
5500	-3.48	1.36	44.83
5550	-3.51	0.66	44.54
5600	-3.2	0.29	47.87
5650	-2.9	0.35	51.3
5700	-3.2	0.03	47.83
5750	-3.64	-0.32	43.28
5800	-3.93	0.19	40.45
5850	-3.86	0.61	41.07
5900	-3.47	1.22	45.01
5950	-3.43	1.46	45.42
6000	-3.82	1.56	41.49

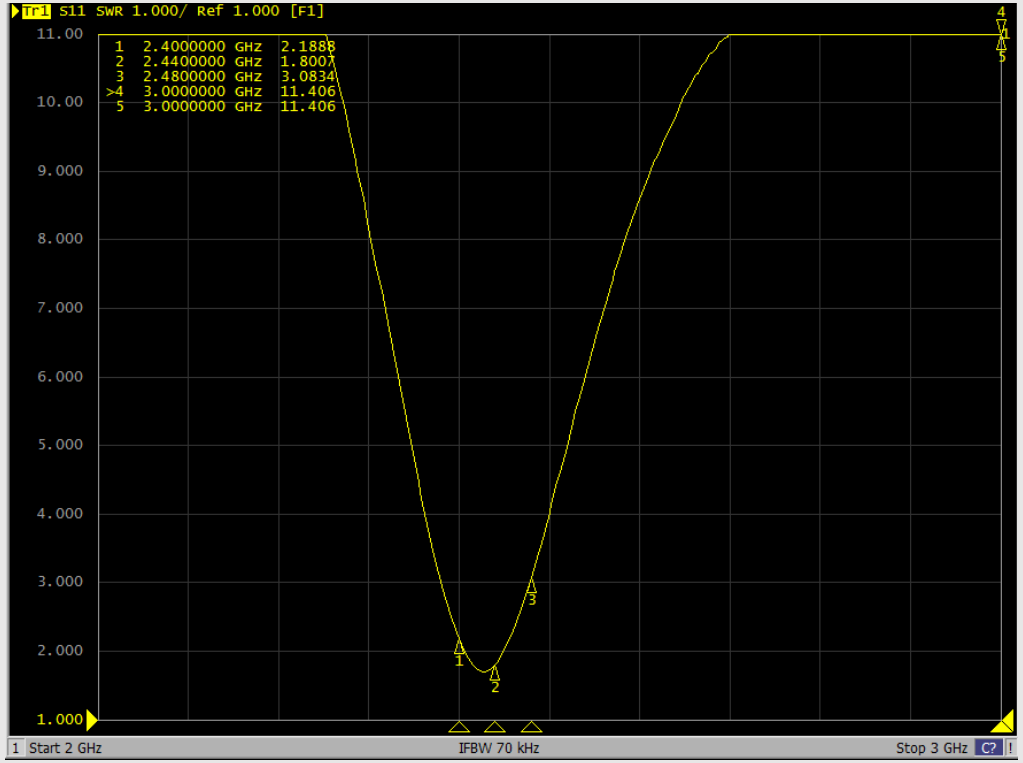
#1-WF1			
Freq	Efficiency_dB	Gain	Efficiency_Pcent
2400	-2.56	3.65	55.42
2410	-2.49	3.88	56.35
2420	-2.47	3.95	56.66
2430	-2.5	4.01	56.24
2440	-2.58	4	55.21
2450	-2.68	4.02	53.9
2460	-2.78	3.99	52.71
2470	-2.88	3.96	51.58
2480	-3.05	3.9	49.51
2490	-3.28	3.76	47.02
2500	-3.48	3.67	44.91
5150	-3.28	2.19	47.02
5200	-3.08	2.41	49.16
5250	-3.04	2.48	49.65
5300	-3.38	1.79	45.91
5350	-3.11	1.91	48.9
5400	-2.97	2.27	50.52
5450	-3.13	1.83	48.62
5500	-3.7	0.86	42.67
5550	-3.87	0.35	41.06
5600	-3.43	0.6	45.37
5650	-3.21	0.61	47.79
5700	-3.6	0.15	43.69
5750	-4.03	0.46	39.51
5800	-4.1	0.83	38.86
5850	-3.76	0.91	42.11
5900	-3.44	1.31	45.24
5950	-3.47	1.48	44.97
6000	-3.89	1.3	40.84

#1-BT-Antenna standing wave diagram

Log Mag- Smith & SWR

BT-2.4G

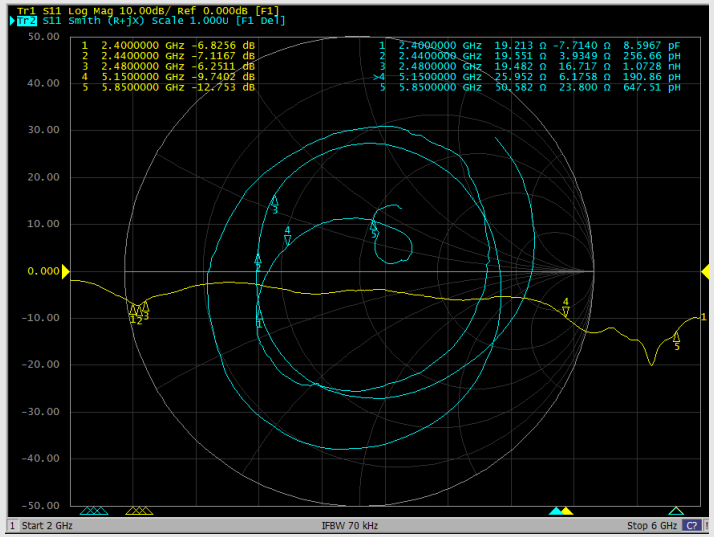


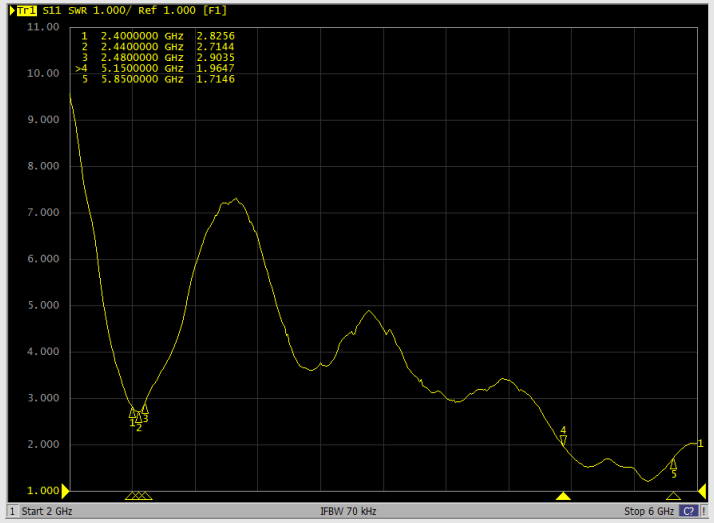


#1-WIFI-Antenna standing wave diagram

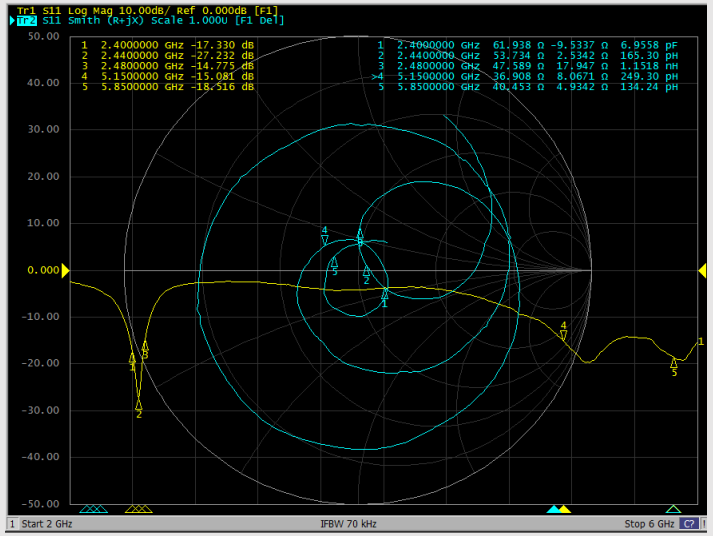
Log Mag- Smith & SWR

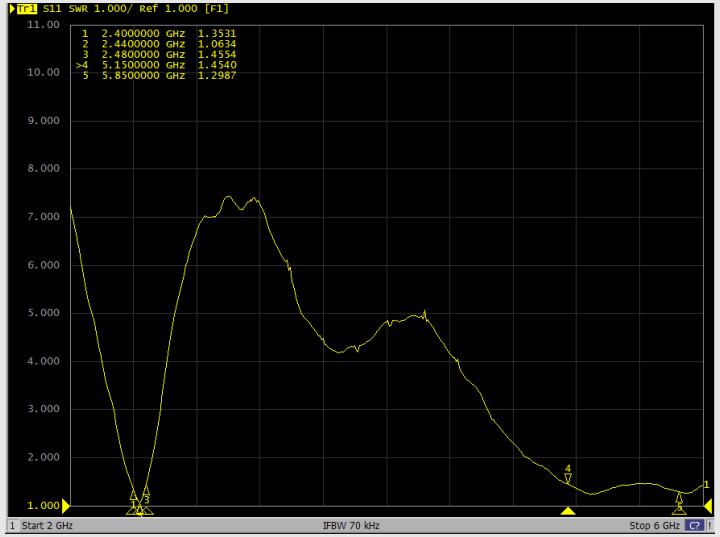
WIFI 0-2.4G-5G



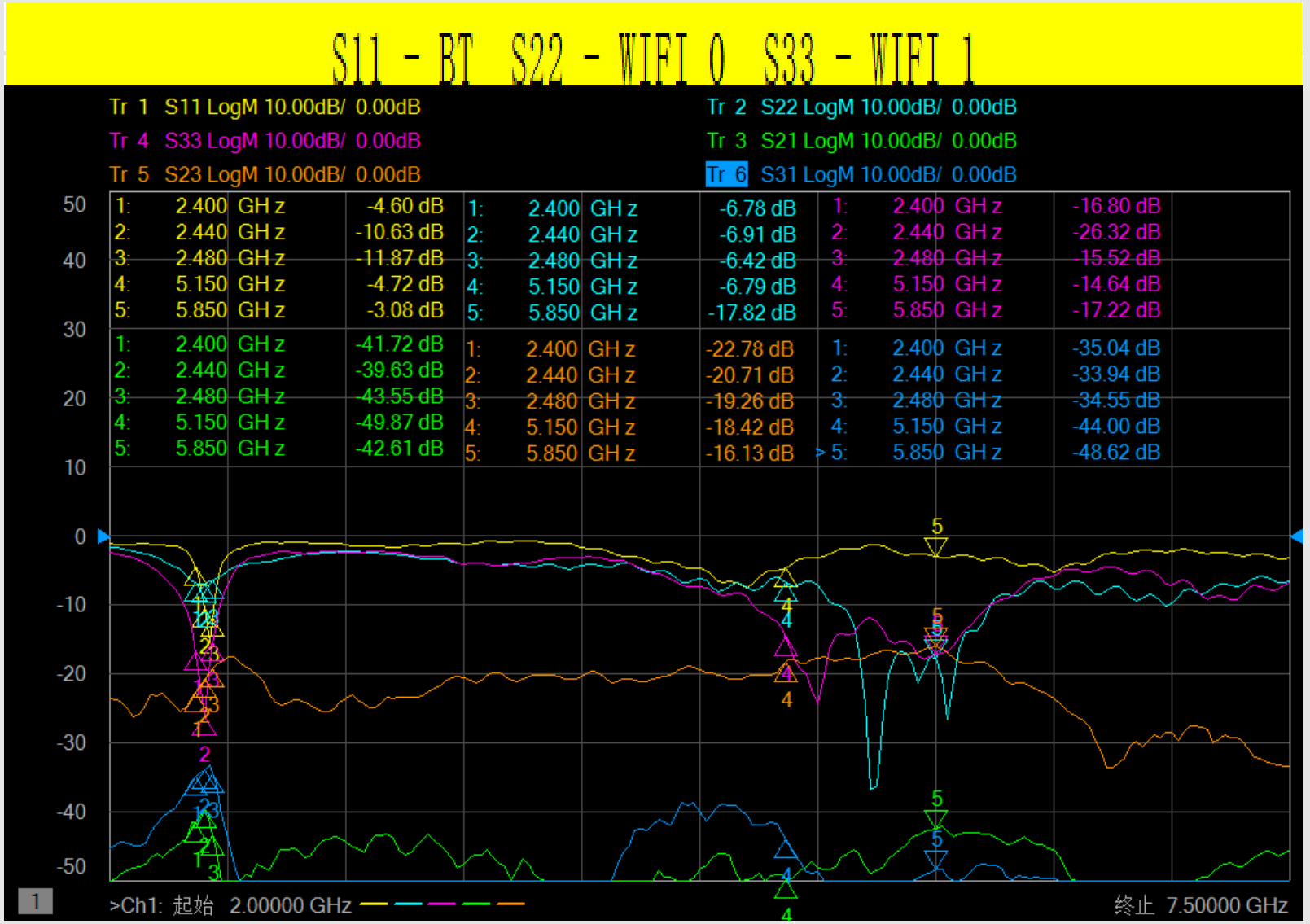


WIFI 1-2.4G-5G



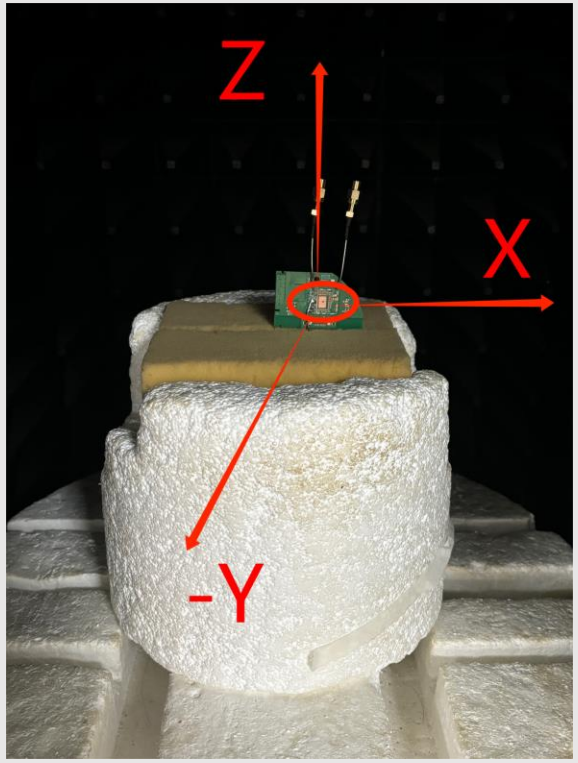


#1-antenna isolation

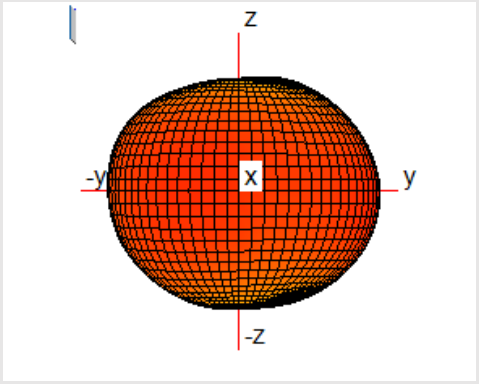


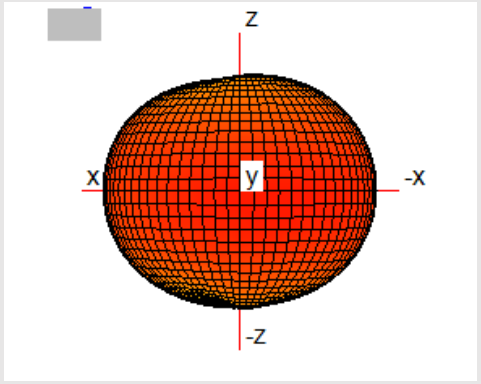
#1-3D image of antenna

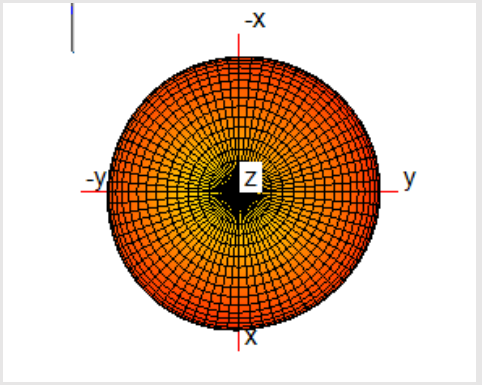
BT



2450MHZ

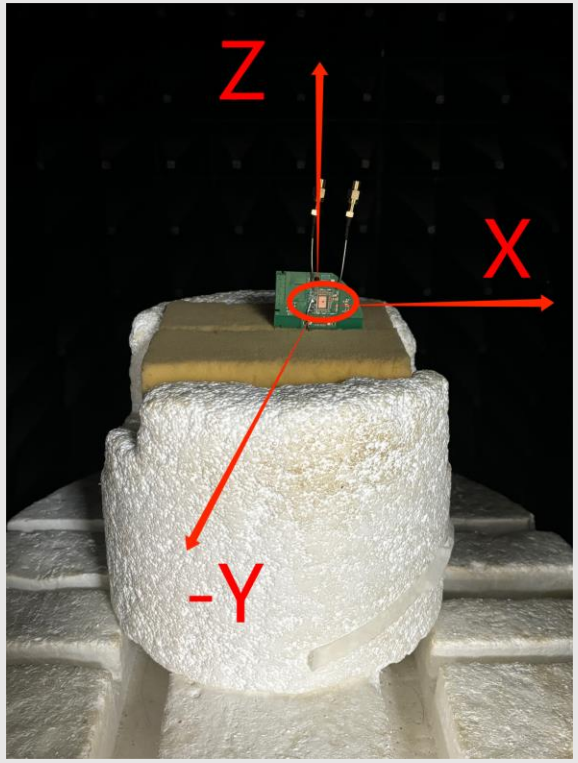






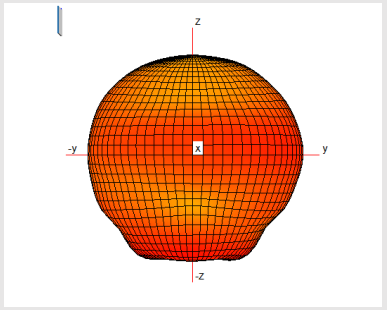
#1-3D image of antenna

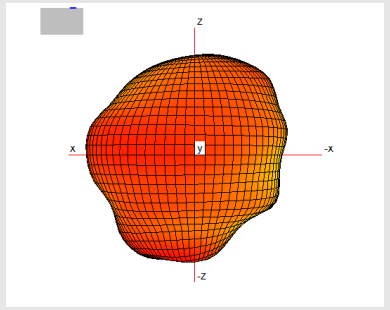
WIFI 0-2.4G-5G

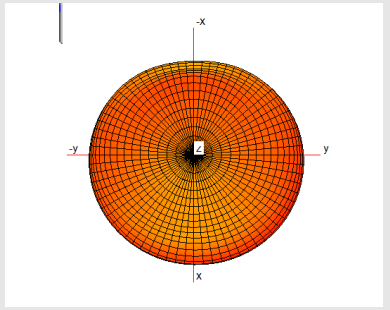


Z轴为天线正上方

2450MHZ







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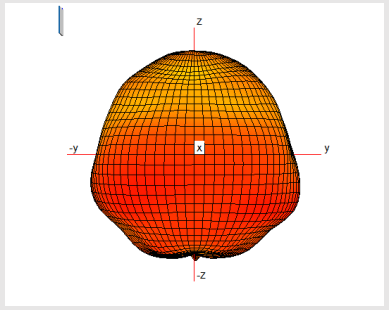
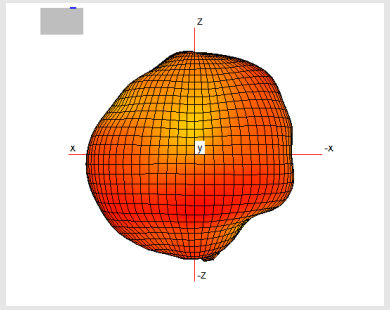
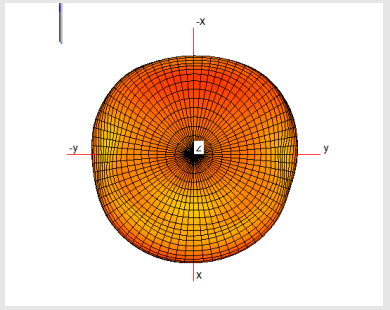
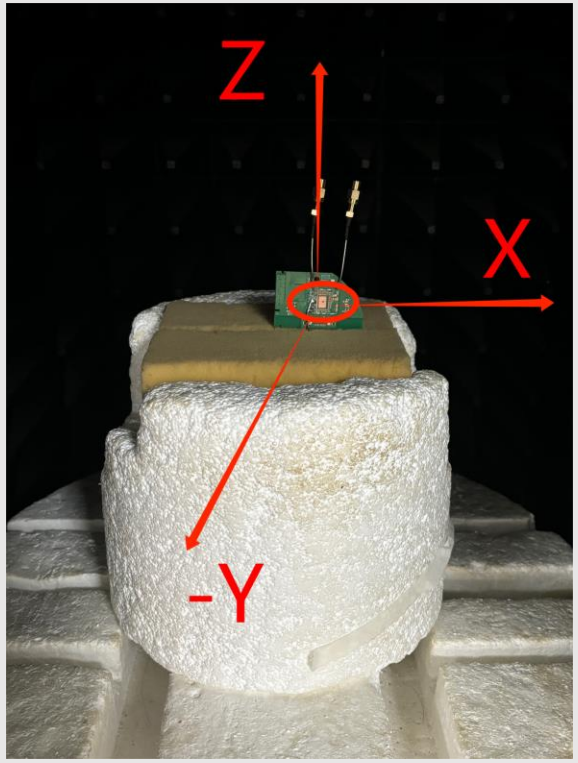






#1-天线3D图

WIFI 1-2.4G-5G 3D辐射图



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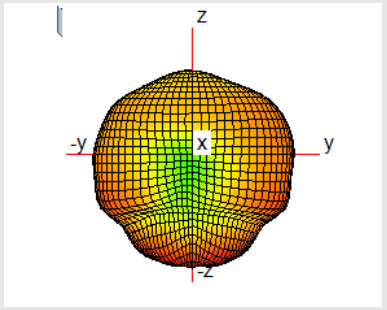

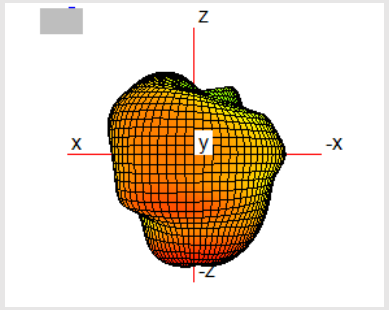

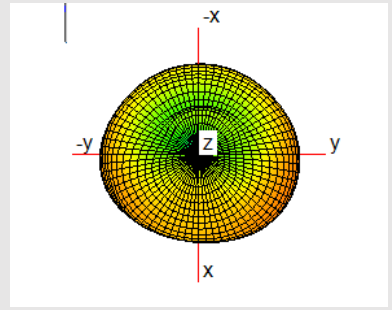

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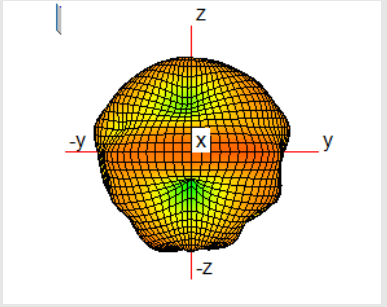

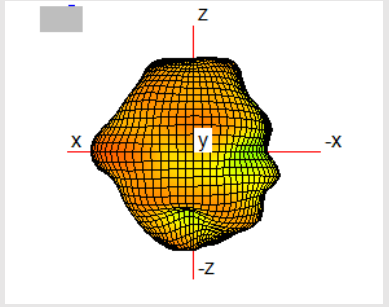

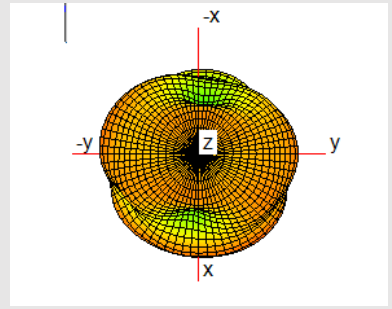

Thank You!