

Shenzhen Yishengbang Technology Co. LTD

Fengmi Projector Project Antenna Performance Report

Customer: Fengmi

Project: C025FGN X2

Product: WIFI+BT Antenna—FPC

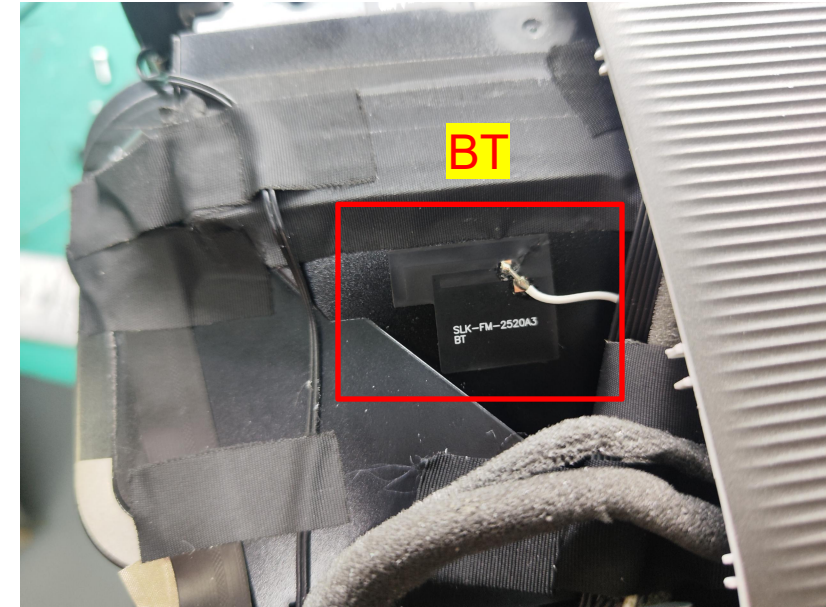
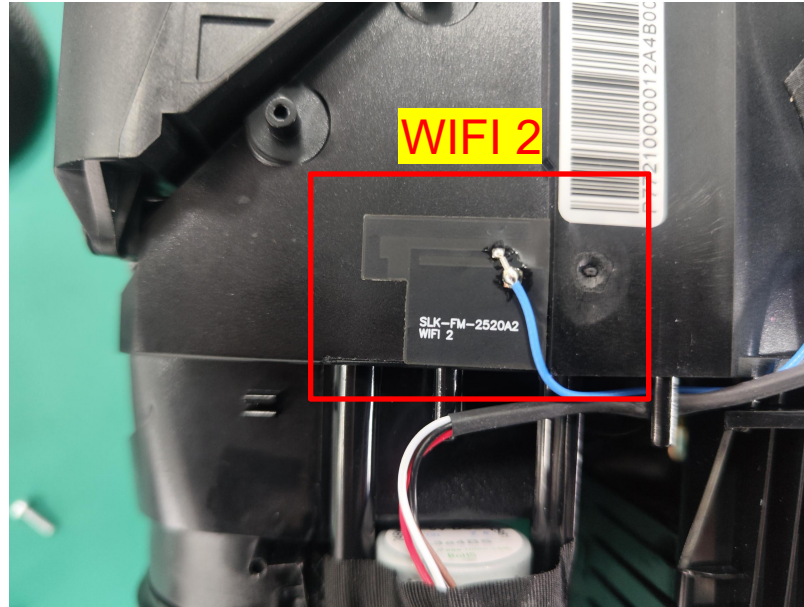
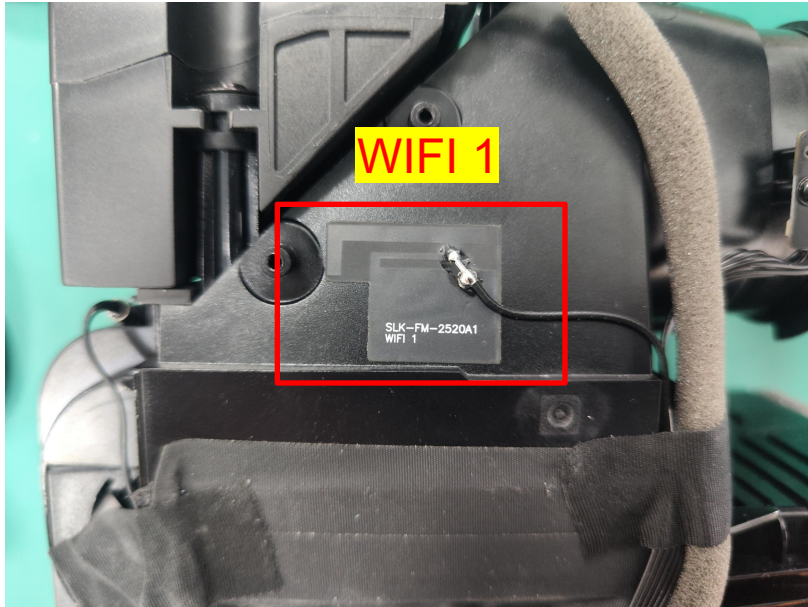
Report date: 2025.07.24

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Approved by :Lin mei cai 18025305599

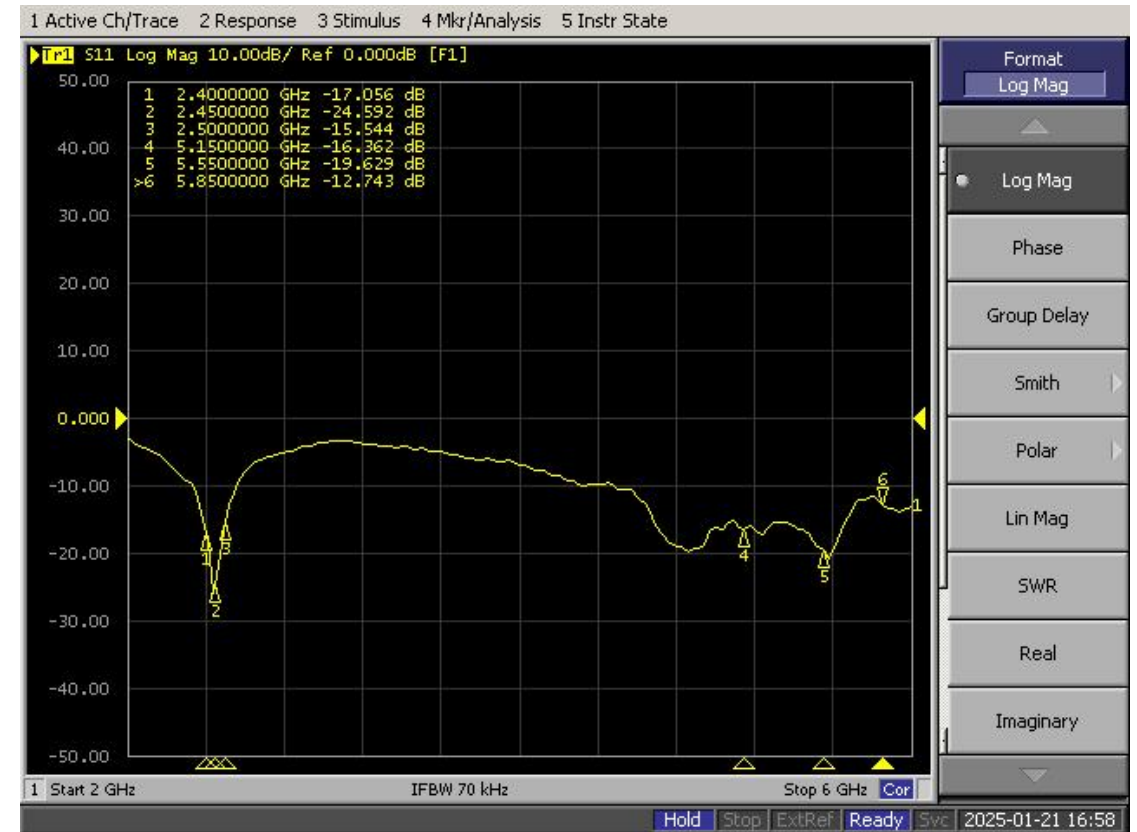
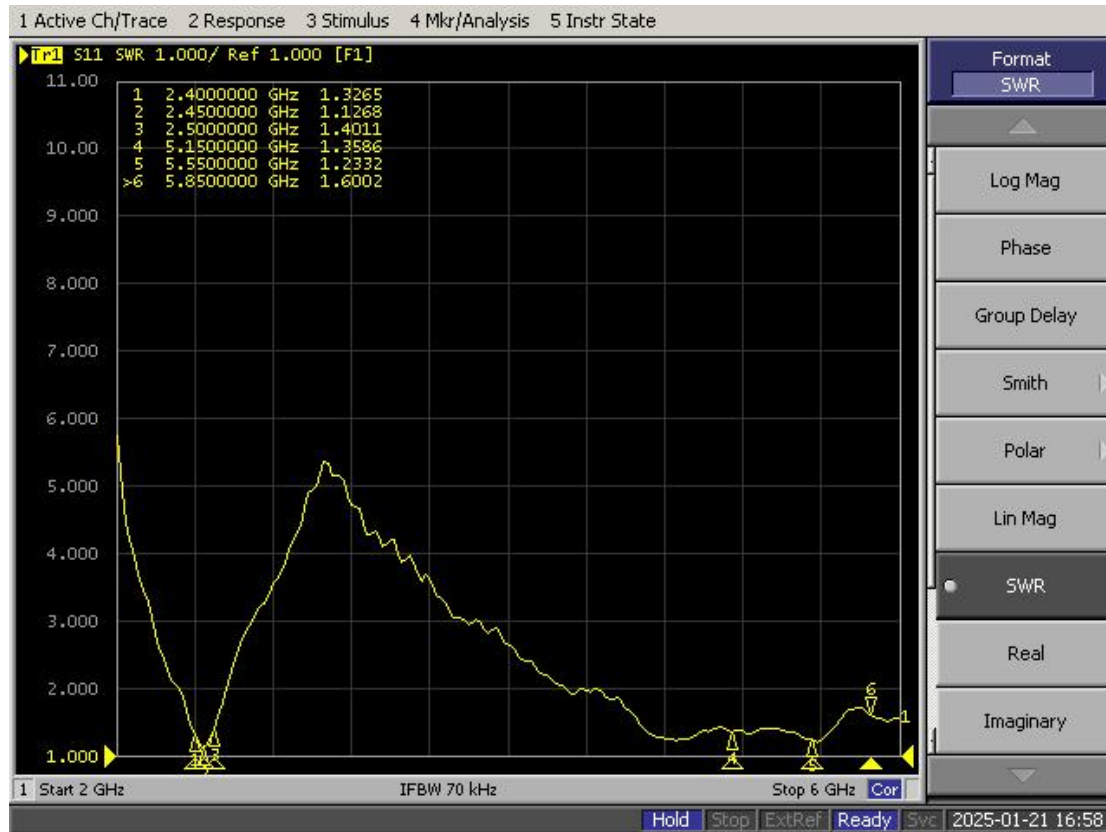
1. Antenna layout and antenna environment



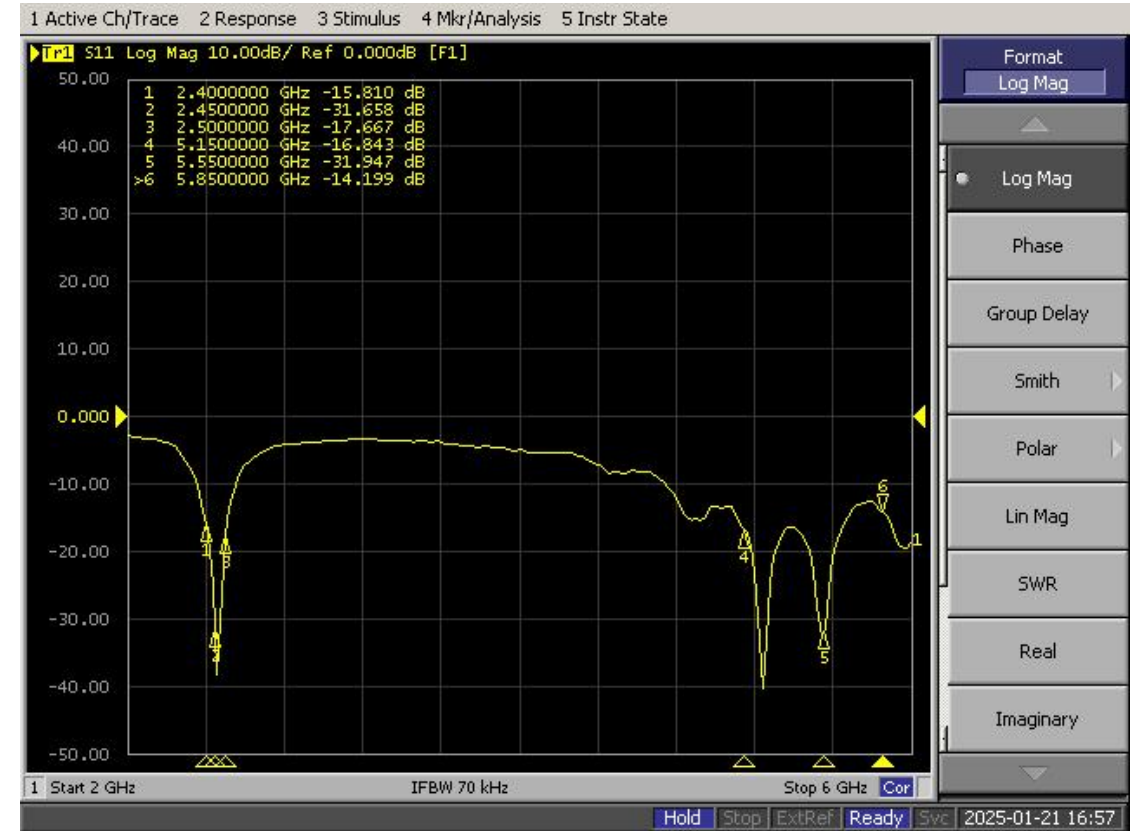
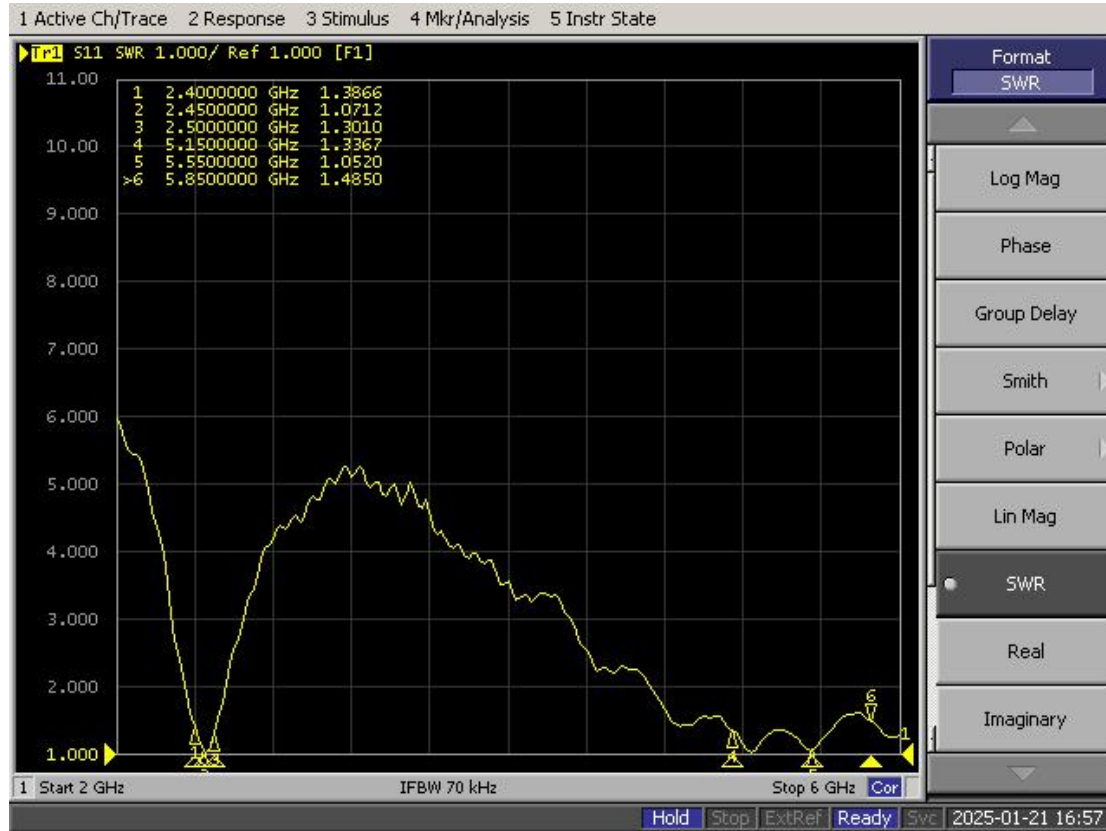
1. Antenna layout and antenna environment



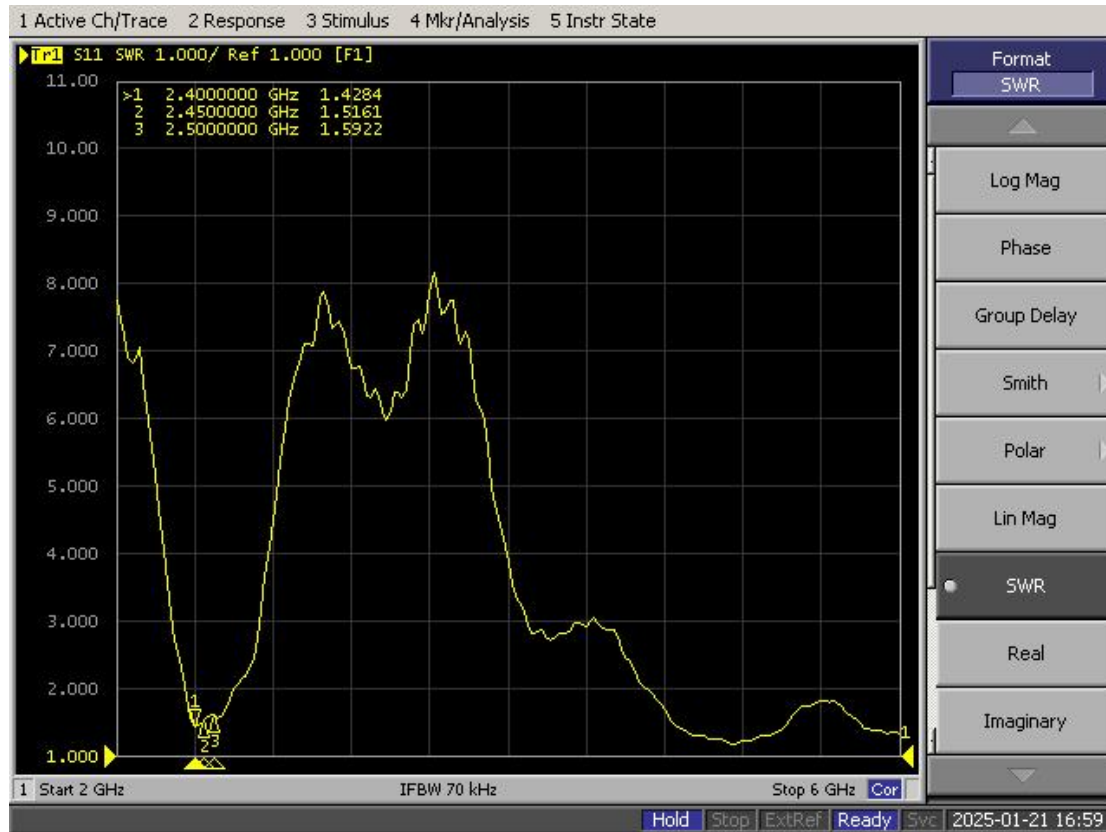
2. Passive performance of antennas (WIFI 1 Antenna S11)



2. Passive performance of antennas (WIFI 2 Antenna S11)

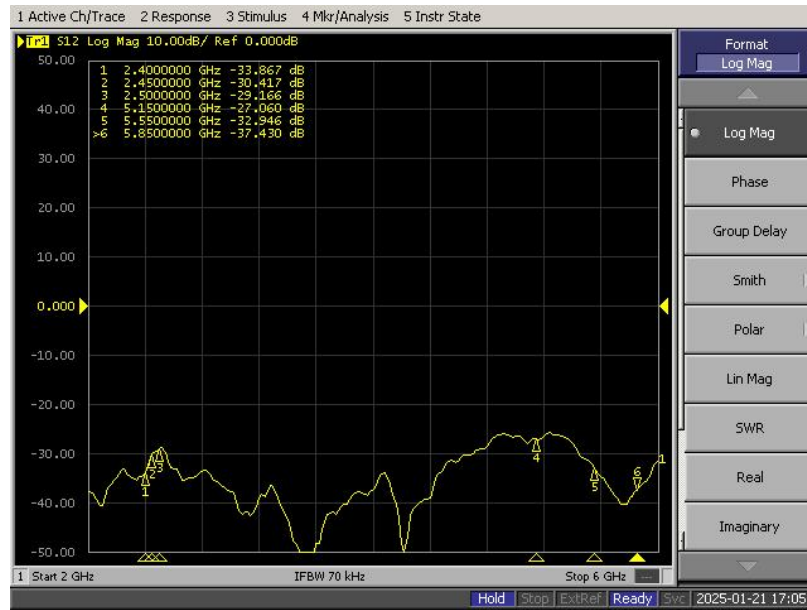


2. Passive performance of antennas (BT Antenna S11)

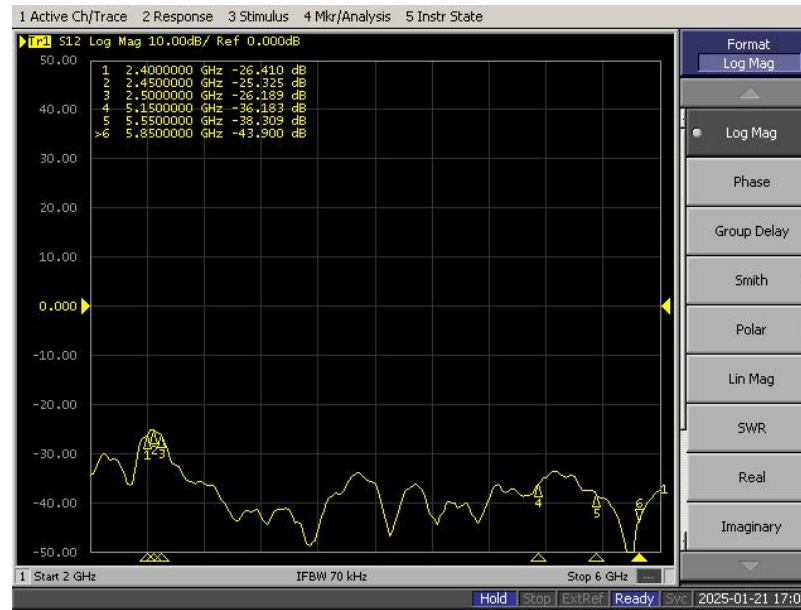


2. Passive performance of antennas (Antenna ISOLATION)

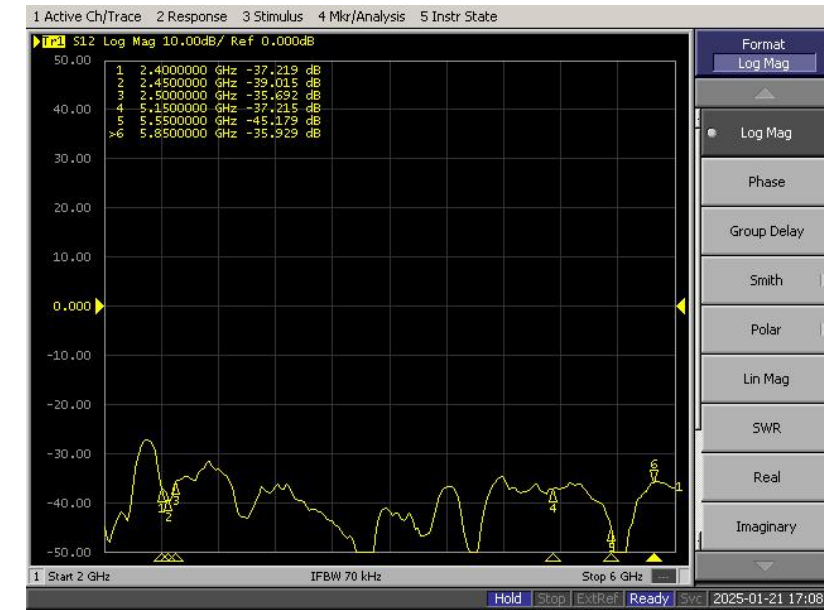
WIFI 1 and WIFI 2



WIFI 1 and BT



WIFI 2 and BT



3.Active antenna debugging and experimental results

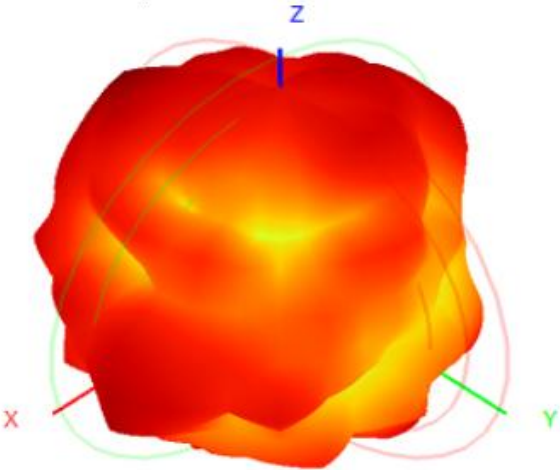
WIFI	CH	功率(11M)	灵敏度(11M)	标准值	WIFI	CH	功率(54M)	灵敏度(54M)	标准值	WIFI	CH	功率(MCS7)	灵敏度(MCS7)	标准值
802.11b	1 (2412MHz)	16.65	-82.76	≥9 ≤-77	802.11g	1 (2412MHz)	15.63	-70.83	≥9 ≤-64	802.11n	1 (2412MHz)	15.46	-67.13	≥8 ≤-60
	7 (2442MHz)	15.98	-82.33			7 (2442MHz)	16.26	-71.86			7 (2442MHz)	15.82	-68.24	
	11 (2462MHz)	16.76	-83.31			11 (2462MHz)	15.34	-71.43			11 (2462MHz)	15.28	-68.52	

WIFI	CH	功率(54M)	灵敏度(54M)	标准值	WIFI	CH	功率(MCS7)	灵敏度(MCS7)	标准值
802.11a	36 (5180MHz)	13.65	-72.74	≥7 ≤-65	802.11n	36 (5180MHz)	13.67	-72.58	≥8 ≤-59
	149 (5745MHz)	14.08	-72.25			149 (5745MHz)	14.07	-72.99	
	165 (5825MHz)	13.46	-72.5			165 (5825MHz)	13.55	-72.21	

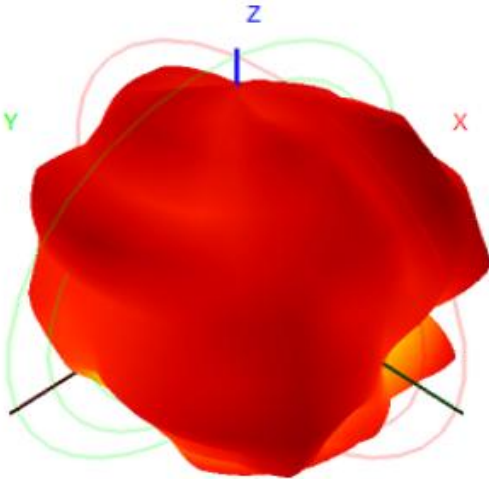
4. WIFI 1 Antenna Gain/Efficiency/3D DATA

Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0	5150.0	5350.0	5500.0	5650.0	5850.0
Efficiency (dBi)	-3.77	-3.81	-3.77	-3.55	-3.56	-3.61	-3.63	-3.60	-3.64	-3.68	-3.70	-3.90	-3.85	-3.47	-3.60	-3.73
Gain (dBi)	2.22	2.13	2.05	2.22	2.13	1.87	1.75	1.60	1.90	2.08	2.16	2.87	1.65	2.56	2.21	2.28
Efficiency (%)	41.96	41.55	41.92	44.09	44.01	43.45	43.33	43.60	43.20	42.84	42.61	40.76	41.12	44.93	43.64	42.39

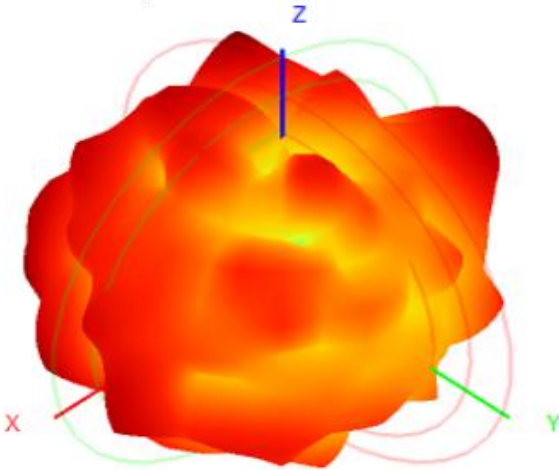
2450.0MHz H+V, Eff. 43.5%



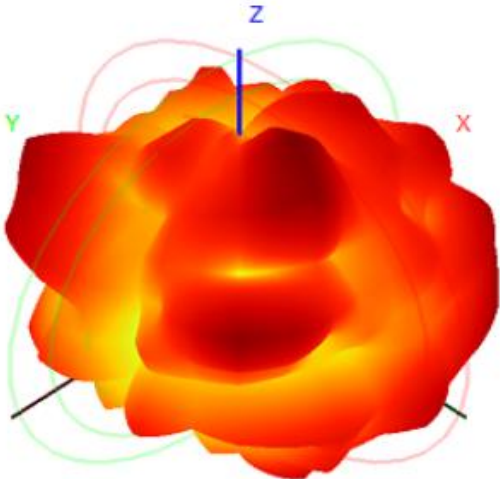
Back View



5850.0MHz H+V, Eff. 42.4%



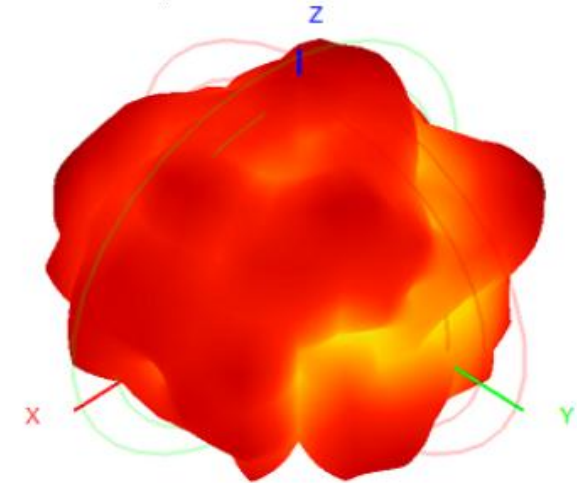
Back View



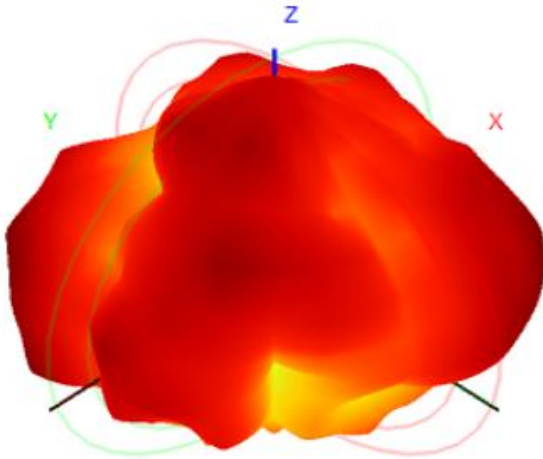
4. WIFI 2 Antenna Gain/Efficiency/3D DATA

Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0	5150.0	5350.0	5500.0	5650.0	5850.0
Efficiency (dBi)	-3.20	-3.18	-3.09	-2.88	-2.87	-2.88	-2.95	-2.87	-2.84	-2.77	-2.81	-3.64	-3.71	-3.24	-3.42	-3.97
Gain (dBi)	2.63	2.67	2.71	2.75	2.53	2.02	1.94	2.27	2.54	2.43	2.47	2.33	2.71	2.37	2.40	2.26
Efficiency (%)	47.88	48.04	49.10	51.57	51.68	51.58	50.71	51.63	51.94	52.81	52.35	43.25	42.60	47.38	45.51	40.07

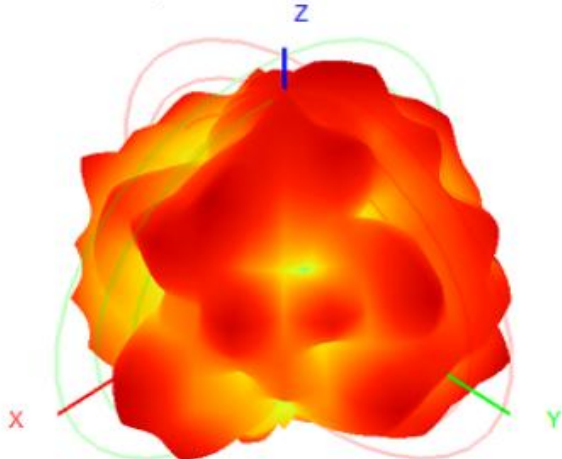
2450.0MHz H+V, Eff. 51.6%



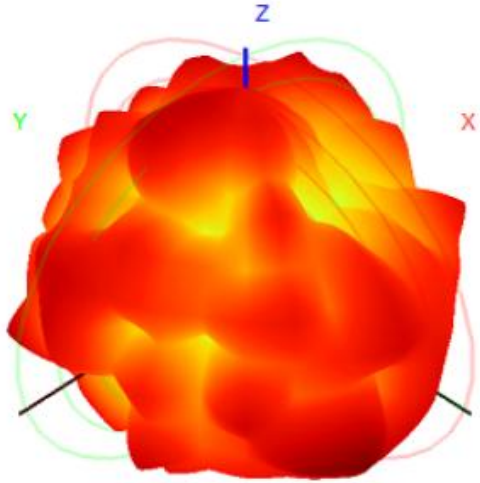
Back View



5850.0MHz H+V, Eff. 40.1%

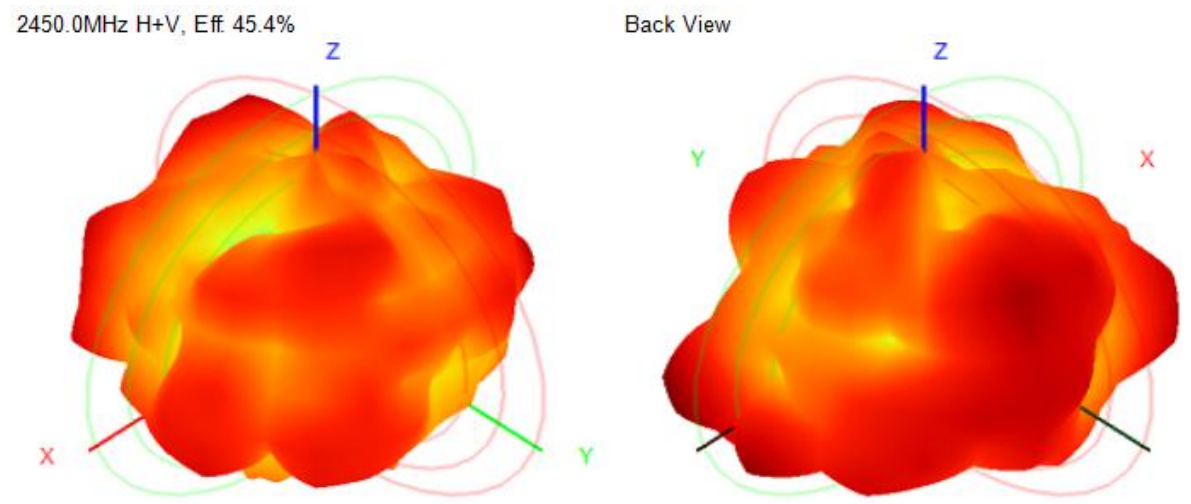


Back View



4. BT Antenna Gain/Efficiency/3D DATA

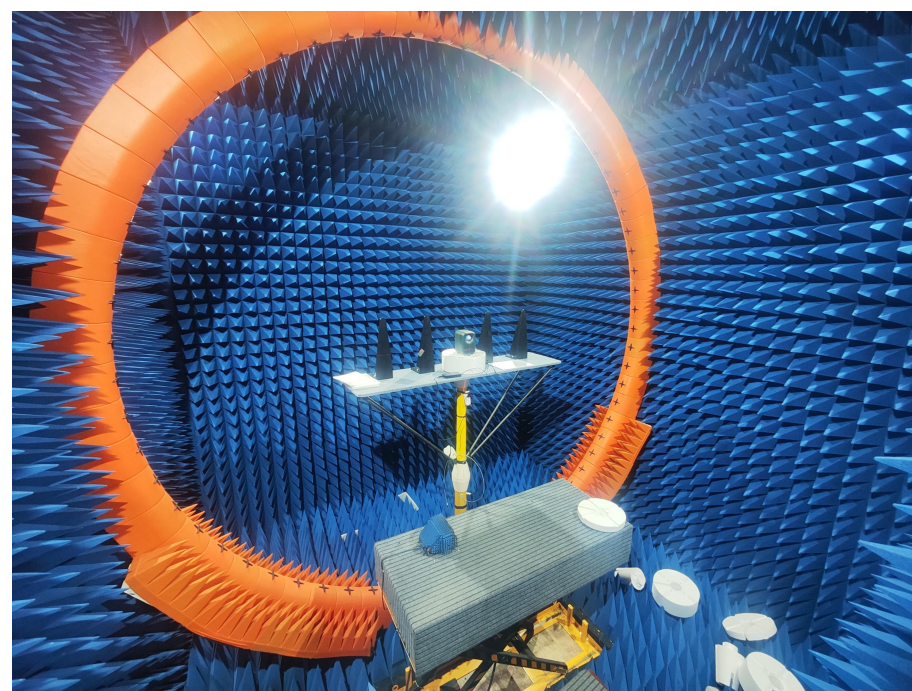
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-3.77	-3.75	-3.57	-3.49	-3.43	-3.43	-3.44	-3.38	-3.36	-3.29	-3.26
Gain (dBi)	2.52	2.41	2.22	2.25	2.37	2.56	2.62	2.80	2.20	2.34	2.29
Efficiency (%)	41.88	42.08	43.90	44.70	45.35	45.36	45.20	45.86	46.04	46.83	47.15



5. Conclusion

Bluetooth testing: When connected to WIFI, playing online videos, connecting to Bluetooth, using a Bluetooth speaker for 30 meters without stuttering, the overall performance is good.

Based on the above active, passive, and measured data, the overall performance is good. It is important to note the assembly position and the routing of various wires during assembly. Do not place them above the antenna and try to stay away from some antennas. thank you!



Note: The placement of the entire machine during the testing process.