

TIANLUTONG Antenna Test Report

Customer: 阳华
Project : X14M1
VERSIONS: WB 版

Testing Date: 2025-9-25

Shenzhen TIANLUTONG Technology Co., Ltd.

1.TheEquipmentofActiveTest

1. ETS Chamber $7 \times 4 \times 3$ (m)

2. 8960/8820C

3. Network analyzer-R&S ZVL

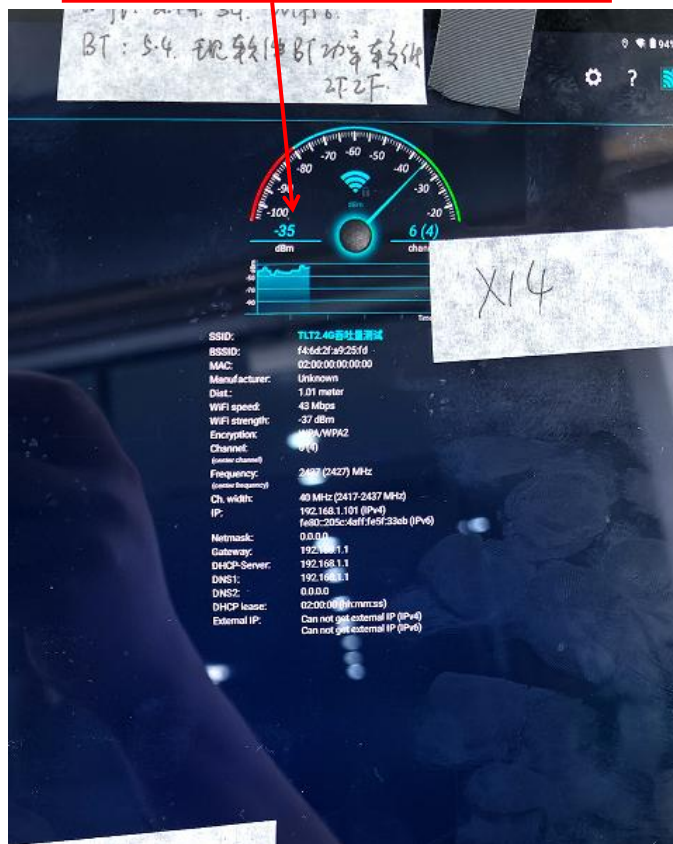


2 WIFI graphs and test data:

2.1WIFI field test: Test environment: open environment, 15 meters away from our company's router, test as follows:



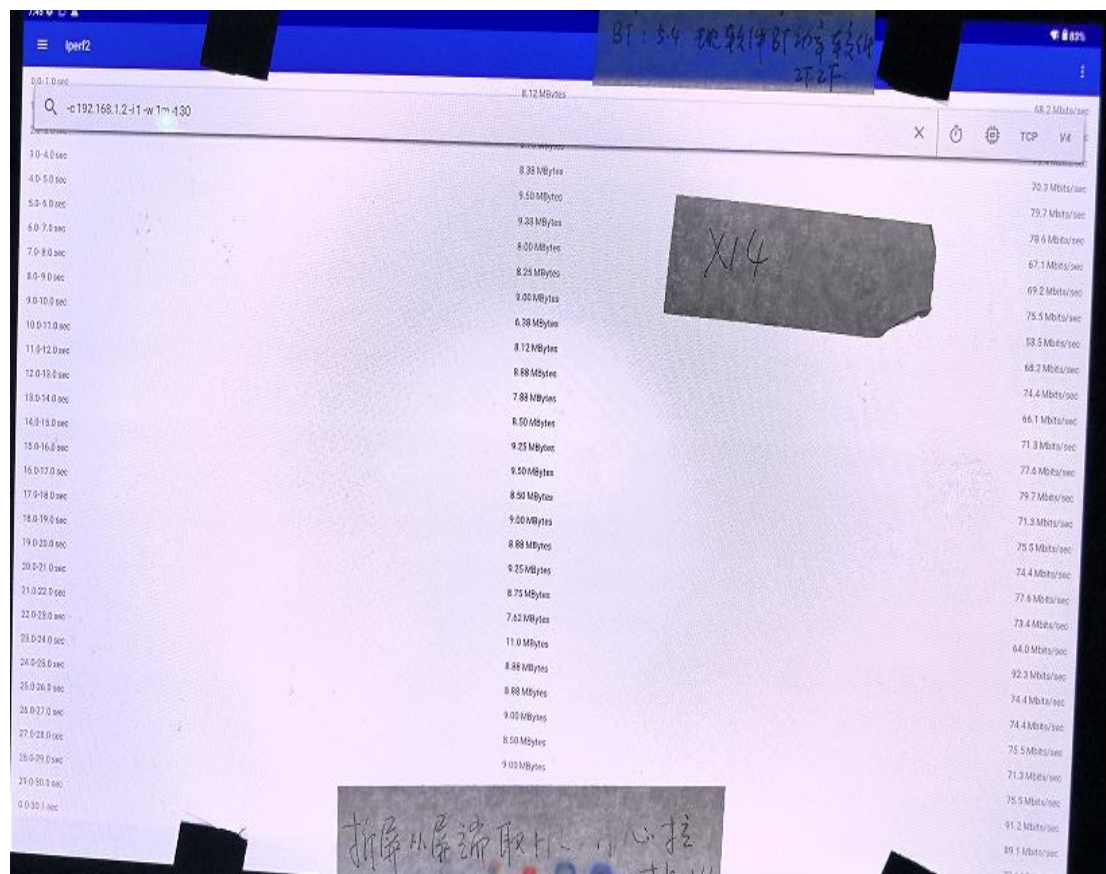
2.4G-WIFI:-35db Full signal



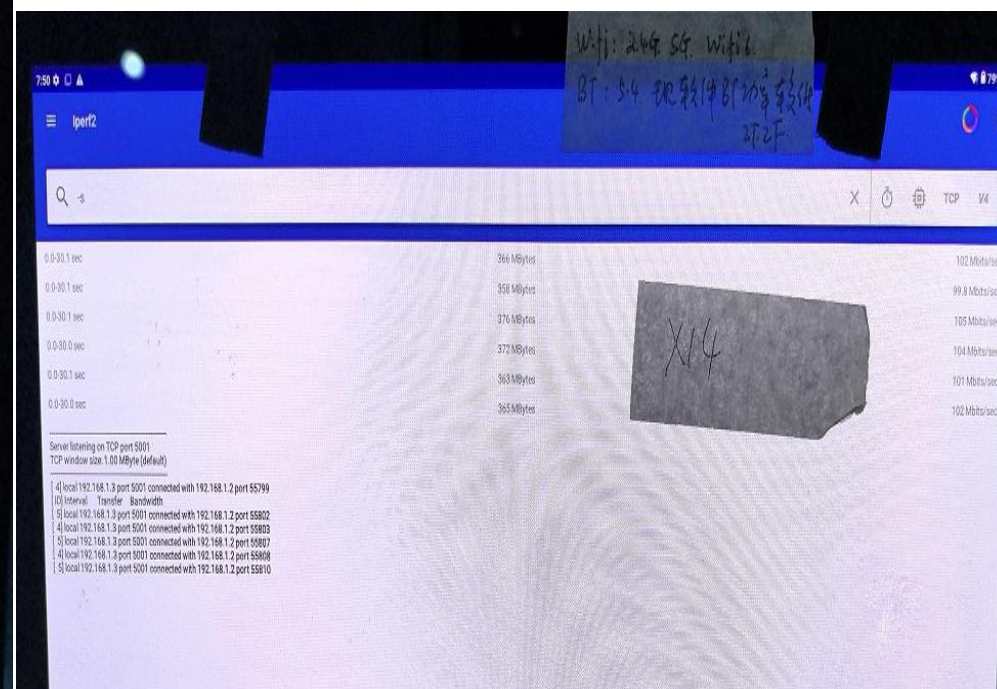
5.0G-WIFI:-38db Full signal



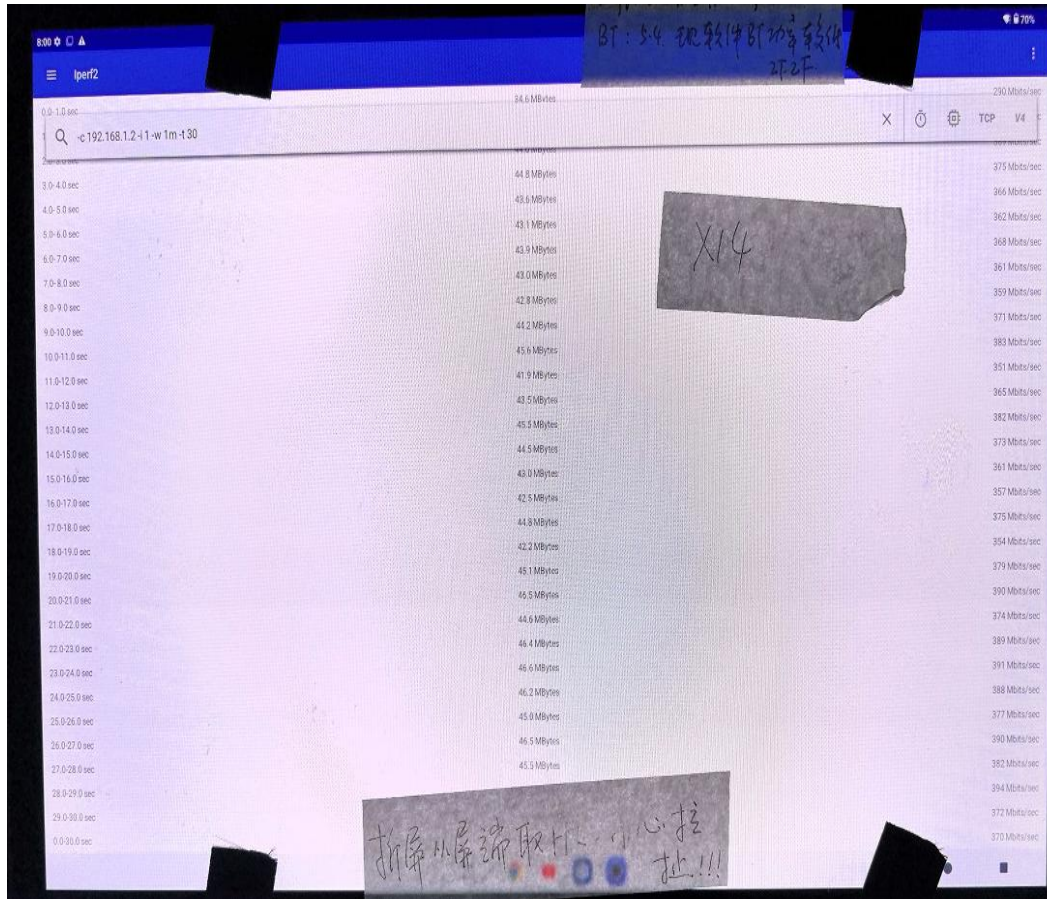
2.2WIFI throughput test:



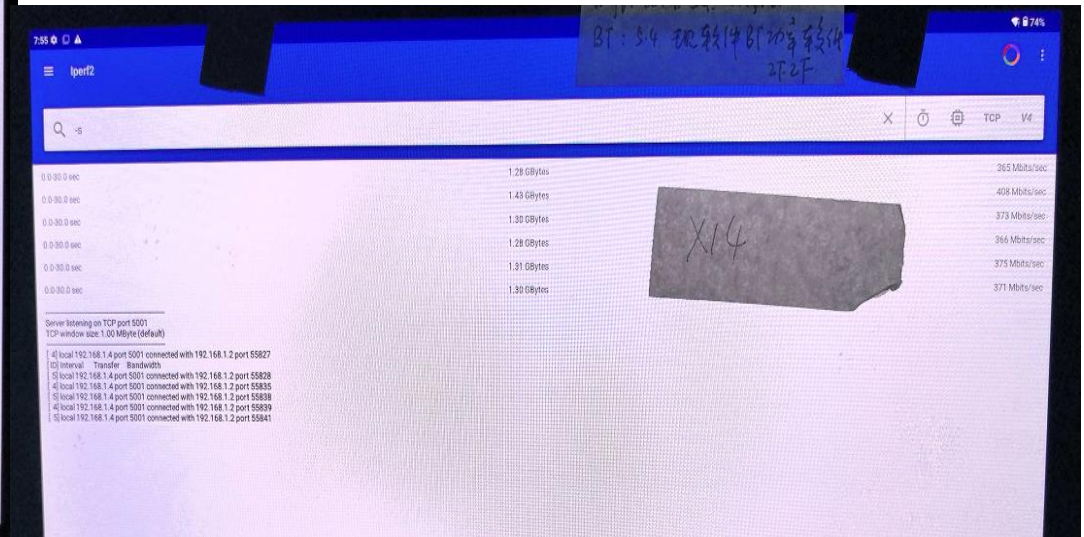
2.4G TX:73.6M



2.4G RX:102M



5G TX:370M



5G RX:371M

2.3 WIFI OTA test data

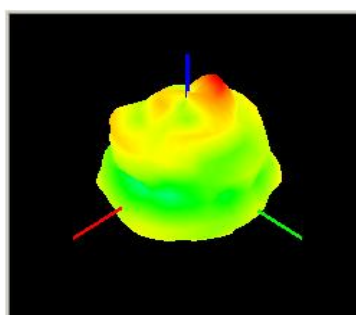
WIFI 2.4G RF Testing		11B(11Mbps)		
Channel		TCH 1	TCH 6	TCH 11
Frequency(Mhz)		2412	2437	2462
	TRP(dBm)	7.13	8.59	8.01
	TIS(dBm)	-75	-74	-74

WIFI 5G RF Testing		11A(6Mbps)		
Channel		TCH 36	TCH 100	TCH 157
Frequency(Mhz)		5180	5500	5785
	TRP(dBm)	12.45	13.49	13.46
	TIS(dBm)	-82	-81	-81

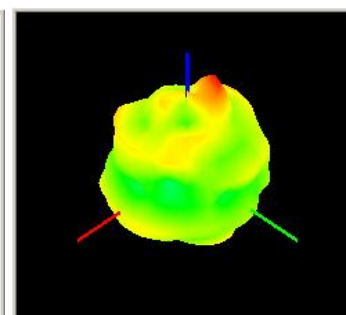
3. Efficiency and gain:

3.1 WIFI efficiency and gain:

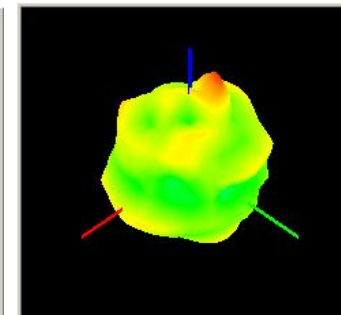
Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Efficiency (%)	Efficiency (dB)
1	2400.0	2400.00	2.40	27.2%	-5.66
2	2405.0	2405.00	0.35	17.4%	-7.58
3	2410.0	2410.00	1.09	20.9%	-6.79
4	2415.0	2415.00	2.55	29.1%	-5.36
5	2420.0	2420.00	2.76	30.3%	-5.19
6	2425.0	2425.00	2.31	27.8%	-5.56
7	2430.0	2430.00	2.11	26.9%	-5.70
8	2435.0	2435.00	1.70	24.4%	-6.13
9	2440.0	2440.00	2.01	25.8%	-5.88
10	2445.0	2445.00	2.78	30.9%	-5.11
11	2450.0	2450.00	1.86	25.8%	-5.89
12	2455.0	2455.00	1.38	23.3%	-6.32
13	2460.0	2460.00	2.42	29.1%	-5.36
14	2465.0	2465.00	2.38	28.8%	-5.41
15	2470.0	2470.00	2.07	27.6%	-5.59
16	2475.0	2475.00	1.98	27.4%	-5.62
17	2480.0	2480.00	1.47	24.1%	-6.18
18	2485.0	2485.00	1.44	23.5%	-6.29
19	2490.0	2490.00	2.28	28.7%	-5.43
20	2495.0	2495.00	3.15	35.5%	-4.50
21	2500.0	2500.00	2.35	29.0%	-5.37
22	5150.0	5150.00	-1.31	28.5%	-5.46
23	5200.0	5200.00	0.51	25.2%	-5.99
24	5250.0	5250.00	-1.15	24.9%	-6.27
25	5300.0	5300.00	0.39	32.7%	-4.86
26	5350.0	5350.00	-2.73	24.3%	-6.46
27	5400.0	5400.00	0.56	24.3%	-6.15
28	5450.0	5450.00	-1.17	21.3%	-6.72
29	5500.0	5500.00	-2.39	29.1%	-5.18
30	5550.0	5550.00	-0.64	34.4%	-4.63
31	5600.0	5600.00	-3.76	25.7%	-5.90
32	5650.0	5650.00	-4.31	27.8%	-5.56
33	5700.0	5700.00	-2.99	24.8%	-6.06
34	5750.0	5750.00	-2.07	21.6%	-6.65
35	5800.0	5800.00	-0.90	37.4%	-4.27
36	5850.0	5850.00	-2.58	24.2%	-6.16



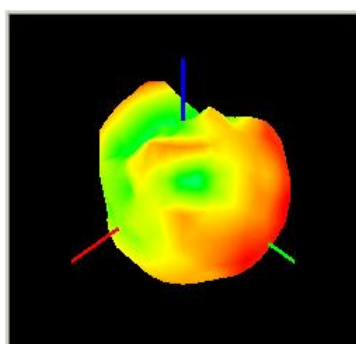
2.4G



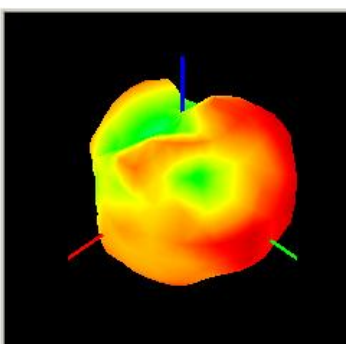
2.45G



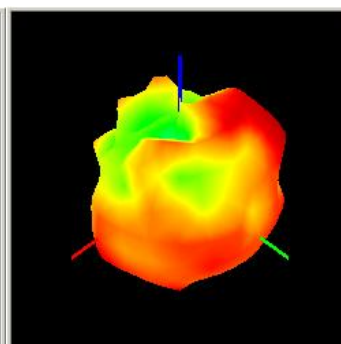
2.48G



5.2G



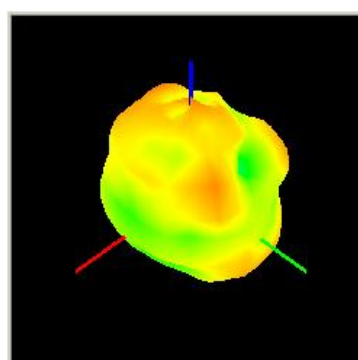
5.5G



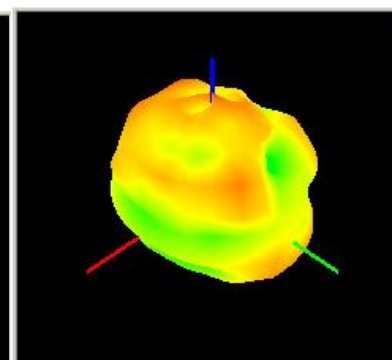
5.8G

3.2 BT efficiency and gain:

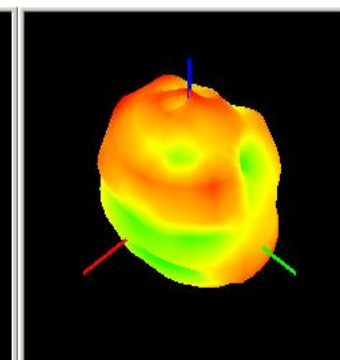
Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Efficiency (%)	Efficiency (dB)
1	2400.0	2400.00	-0.09	37.7%	-4.24
2	2405.0	2405.00	-1.12	29.4%	-5.31
3	2410.0	2410.00	-0.21	36.1%	-4.43
4	2415.0	2415.00	0.50	41.9%	-3.77
5	2420.0	2420.00	0.36	39.8%	-4.01
6	2425.0	2425.00	0.60	41.4%	-3.83
7	2430.0	2430.00	0.83	43.3%	-3.64
8	2435.0	2435.00	0.24	37.6%	-4.25
9	2440.0	2440.00	0.13	36.2%	-4.41
10	2445.0	2445.00	0.86	42.4%	-3.73
11	2450.0	2450.00	0.40	37.9%	-4.21
12	2455.0	2455.00	0.11	35.5%	-4.50
13	2460.0	2460.00	1.01	43.7%	-3.59
14	2465.0	2465.00	0.97	42.5%	-3.72
15	2470.0	2470.00	0.83	40.4%	-3.93
16	2475.0	2475.00	0.77	40.2%	-3.96
17	2480.0	2480.00	0.43	37.0%	-4.32
18	2485.0	2485.00	0.68	39.0%	-4.09
19	2490.0	2490.00	1.68	38.5%	-4.14
20	2495.0	2495.00	2.29	35.5%	-4.56
21	2500.0	2500.00	1.26	34.4%	-5.53



2.4G



2.45G



2.48G

4. Antenna assembly and processing drawing documents:



WIFI Antenna

BT Antenna



