

Manufacturer: Shenzhen Yishengbang Technology Co., Ltd.
Address: Building 101, Block C, Shenzhen Qianwan High-tech Industrial Park,
Nanchang Community, Xixiang Subdistrict, Bao'an District, Shenzhen City

Antenna Specification

Customer:

Project: ANB15

Product: WIFI/BT

Report date: 2025.8.21

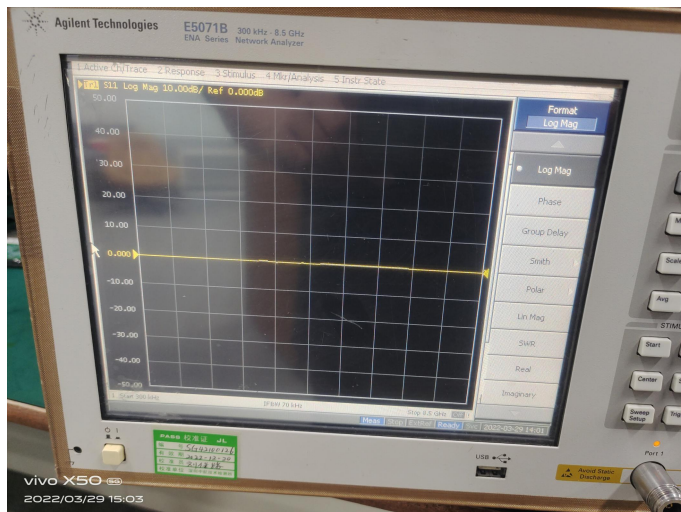
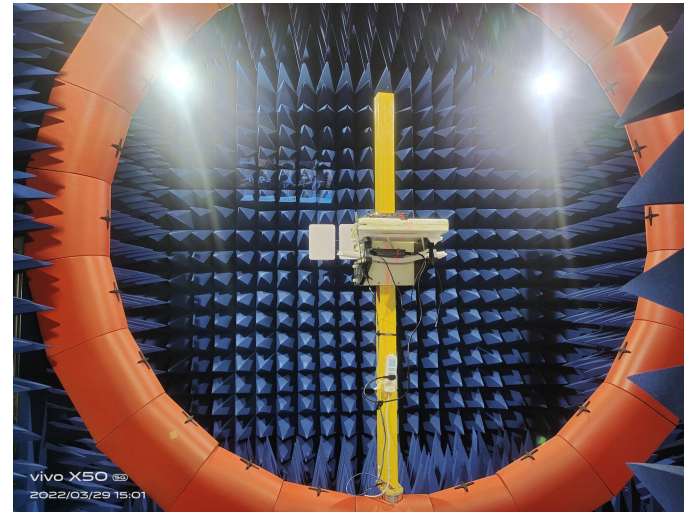
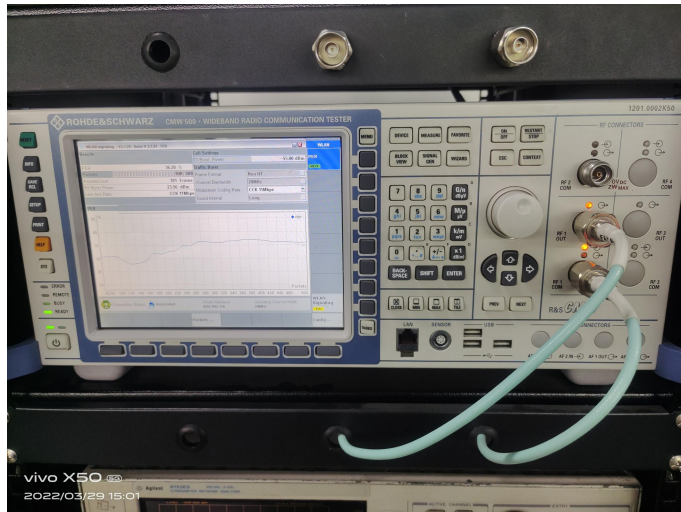
Purpose

This report is to measure the performance of SLK for Master Antenna on 卓创. All measure data are showed below.

Content

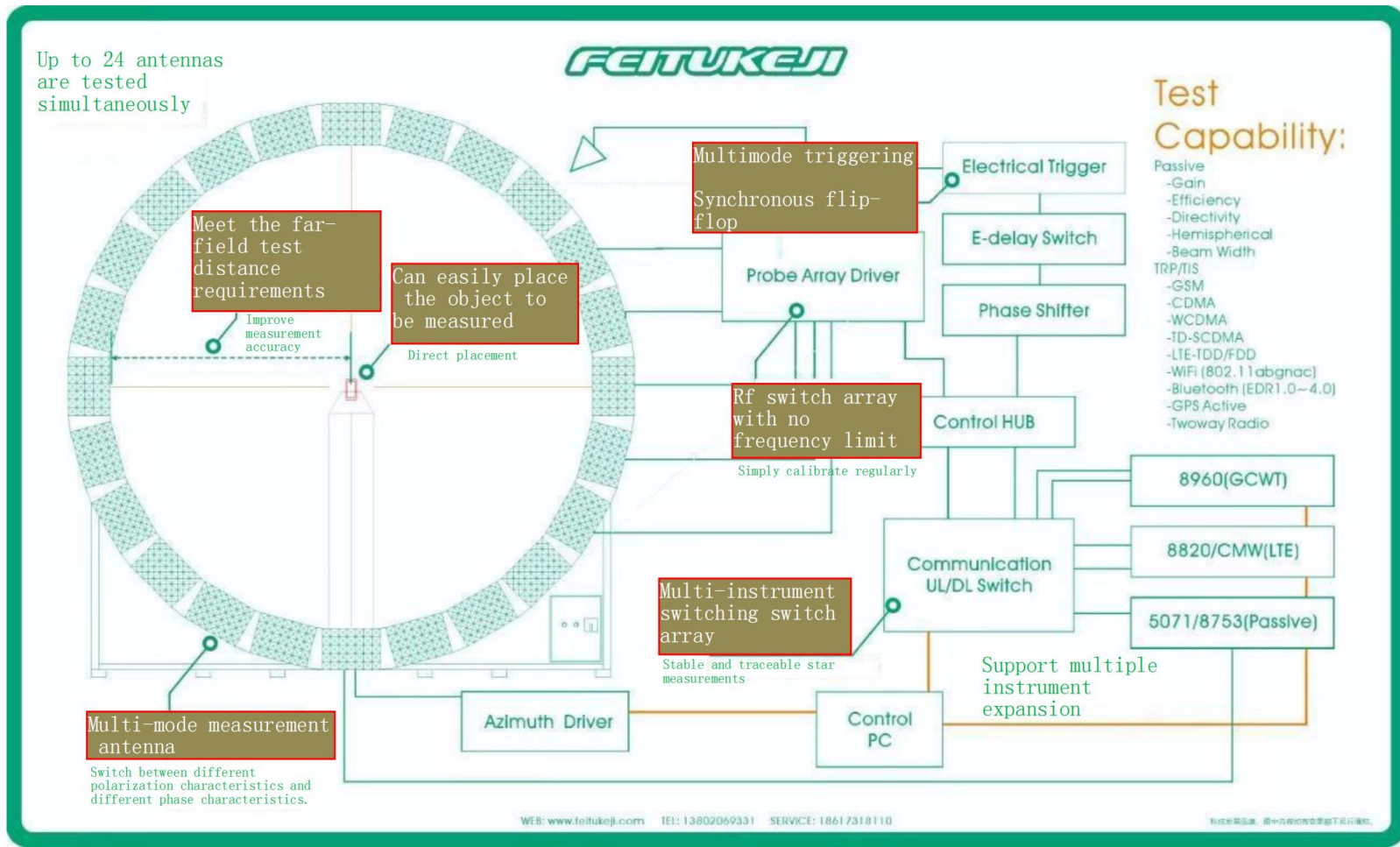
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1. Test equipment



Test equipment	Test content
network analyzer: 5071B	1.VSWR 2.Return loss 3.Smith
network analyzer: 5071B chamber: 4*4*4M24 probe anechoic chamber	1.Antenna efficiency 2.Antenna gain 3.3D field pattern of antenna
Comprehensive measuring instrument: CMW500 chamber: 4*4*4M 24 probe anechoic chamber	1.TRP 2.TIS

2. Test setup



3. Test site

Test site: Shenzhen Yishengbang Technology Co., Ltd
101, Building C, Qianwan Hard Technology Industrial Park,
Xixiang Street, Bao'an District, Shenzhen City, Guangdong
Province, China
24 probe anechoic chamber.

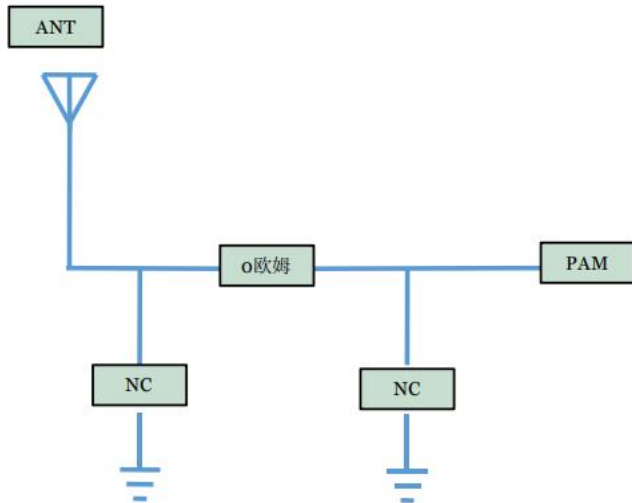
4. Test equipment list

	Test equipment	Equipment model	Manufacturer	Calibration time	Remarks
1	network analyzer	agilent E5071B	Agilent	2022-11-9	
2	anechoic chamber	4*4*4M 24 probe anechoic chamber	FEITUKEJI	2022-11-9	
3	computer	Lenovo desktop computer	Lenovo	2022-11-9	

5. Measurement procedure

	Procedure	Remarks
1	Calibrate network analyzer	
2	Analyze the overall situation of the machine and select a suitable location for antenna debugging	
3	Optimize antenna standing wave ratio to ensure meeting customer needs	
4	Testing items such as passive efficiency and gain of antennas	
5	Provide antenna samples to customers based on debugging specifications	

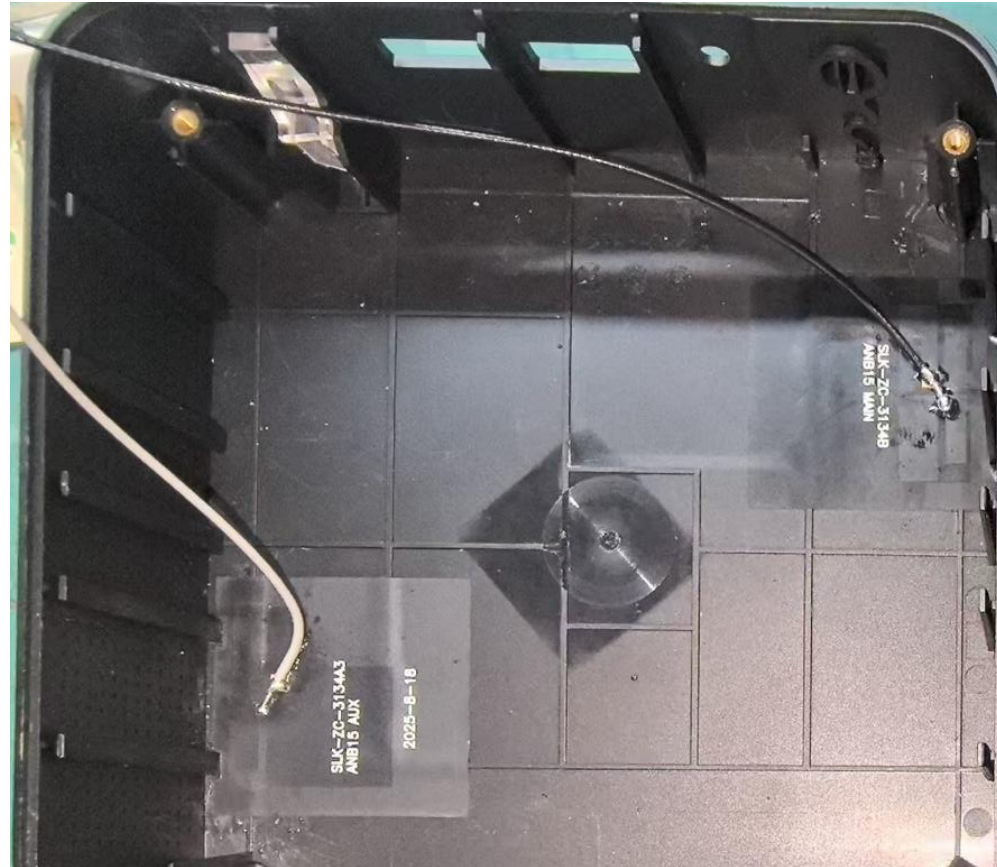
6. Matching Circuit



remark:

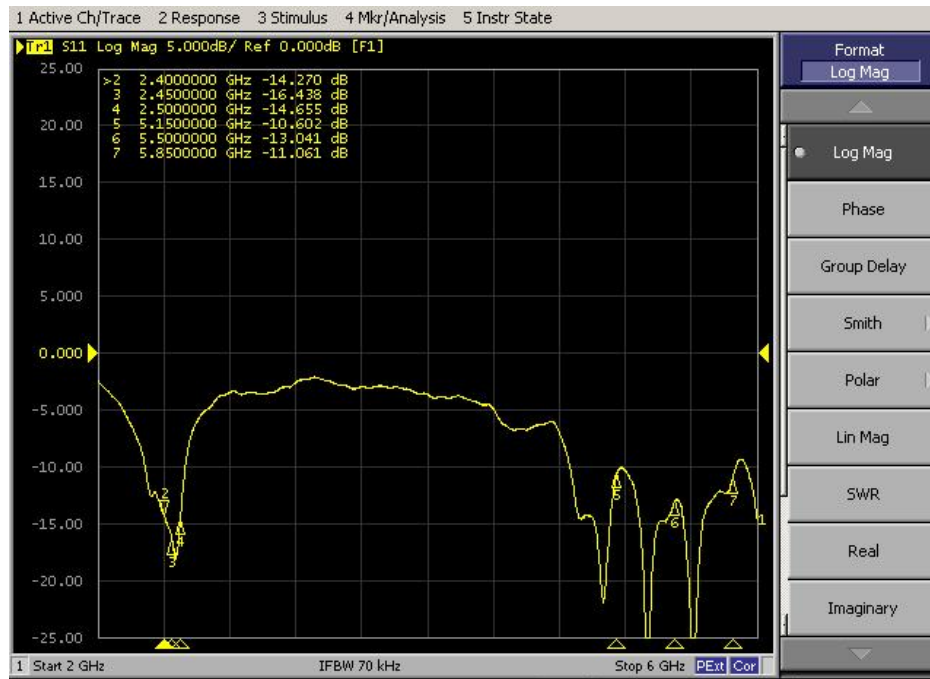
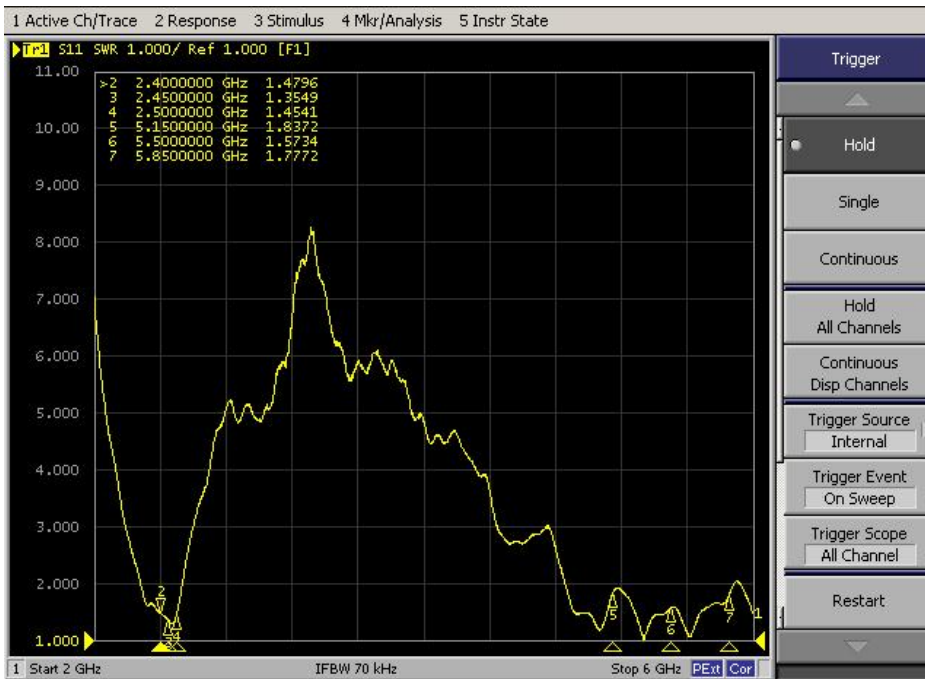
No changes have been made to the motherboard matching

7. Product Overview



8. Test Result

8.1 WIFI MAIN VSWR/S11



Note: Use the network analyzer E5071B to connect the connector on the antennaRF line to test the passive standing wave ratio and return loss of the antenna.

8. Test Result

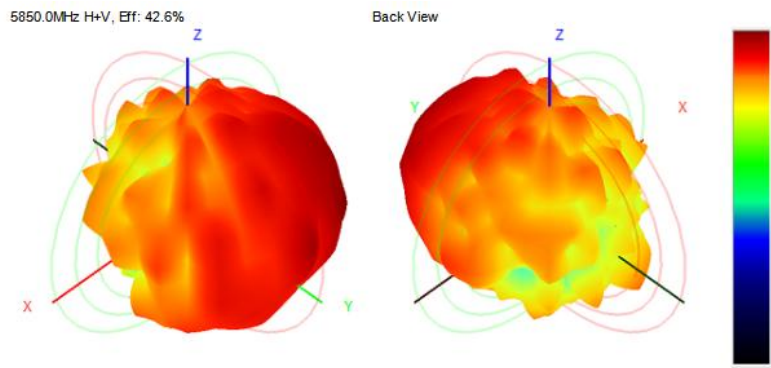
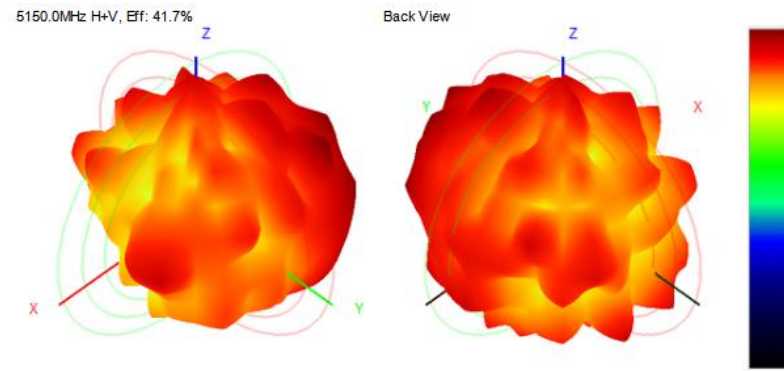
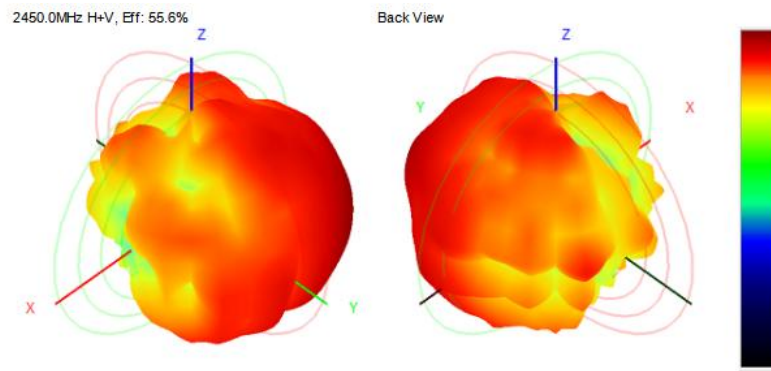
8.2 WIFI MAIN Gain/Efficiency/2D/3D DATA

Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400.0	-3.27	2.13	47.08
2410.0	-3.10	2.39	48.99
2420.0	-2.92	2.58	51.05
2430.0	-2.72	2.56	53.51
2440.0	-2.64	2.65	54.48
2450.0	-2.55	2.63	55.64
2460.0	-2.62	3.44	54.66
2470.0	-2.58	2.40	55.15
2480.0	-2.79	3.06	52.66
2490.0	-3.00	2.67	50.13
2500.0	-3.09	2.45	49.08
5150.0	-3.79	3.72	41.74
5200.0	-3.91	2.22	40.68
5250.0	-3.76	2.08	42.05
5300.0	-3.70	2.55	42.64
5350.0	-3.93	2.27	40.43
5400.0	-3.95	2.37	40.30
5450.0	-3.61	2.09	43.51
5500.0	-3.39	2.31	45.79
5550.0	-3.47	2.24	44.93
5600.0	-3.72	2.33	42.51
5650.0	-3.58	2.32	43.90
5700.0	-3.56	2.12	44.06
5750.0	-3.77	2.99	42.02
5800.0	-3.79	2.58	41.74
5850.0	-3.71	2.21	42.60

Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

8. Test Result

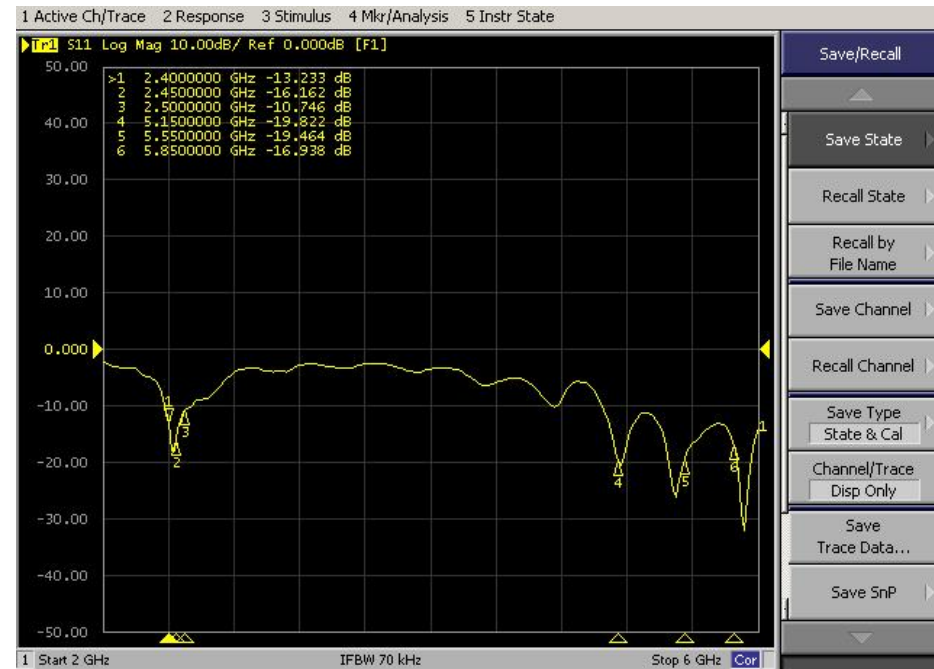
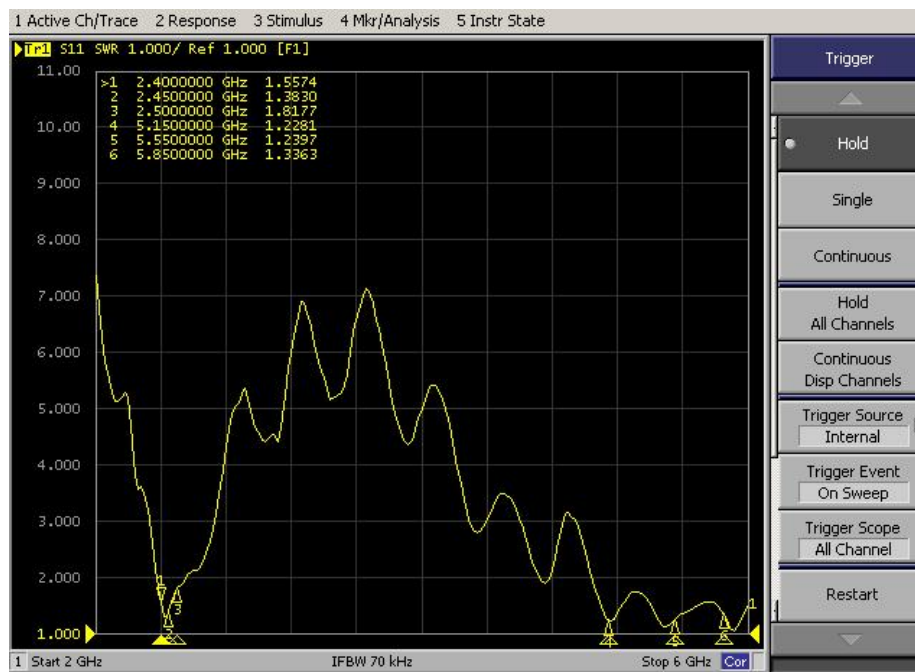
8.2 WIFI MAIN Gain/Efficiency/2D/3D DATA



Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

8. Test Result

8.3 WIFI AUX VSWR/S11



Note: Use the network analyzer E5071B to connect the connector on the antennaRF line to test the passive standing wave ratio and return loss of the antenna.

8. Test Result

8.4 WIFI AUX Gain/Efficiency/2D/3D DATA

Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400.0	-3.45	2.27	45.20
2410.0	-3.42	2.25	45.47
2420.0	-3.41	2.03	45.62
2430.0	-3.46	2.04	45.09
2440.0	-3.45	2.22	45.14
2450.0	-3.27	2.80	47.13
2460.0	-3.51	2.43	44.55
2470.0	-3.42	2.31	45.50
2480.0	-3.57	2.45	43.99
2490.0	-3.39	2.39	45.81
2500.0	-3.67	2.37	42.97
5150.0	-3.73	2.15	42.35
5200.0	-3.57	3.33	43.96
5250.0	-3.70	2.51	42.64
5300.0	-3.48	2.45	44.88
5350.0	-3.47	2.23	44.98
5400.0	-3.22	2.53	47.62
5450.0	-3.28	2.70	46.97
5500.0	-3.40	2.33	45.73
5550.0	-3.38	2.38	45.89
5600.0	-3.64	2.83	43.23
5650.0	-3.33	2.58	46.44
5700.0	-3.39	2.48	45.84
5750.0	-3.49	3.00	44.80
5800.0	-3.61	2.35	43.54
5850.0	-3.71	2.39	42.58

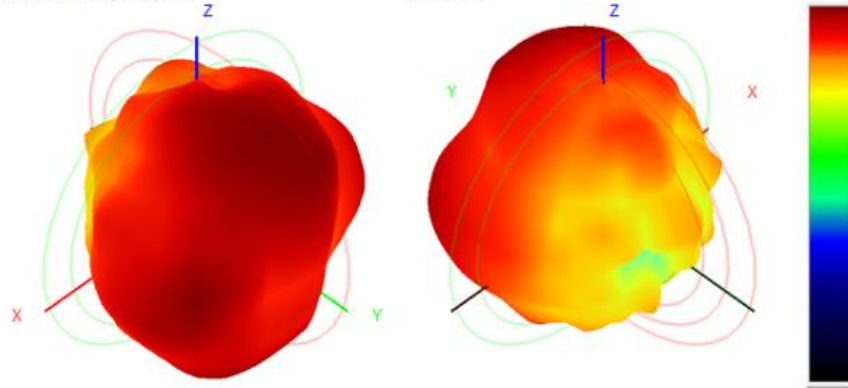
Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

8. Test Result

8.4 WIFI AUX Gain/Efficiency/2D/3D DATA

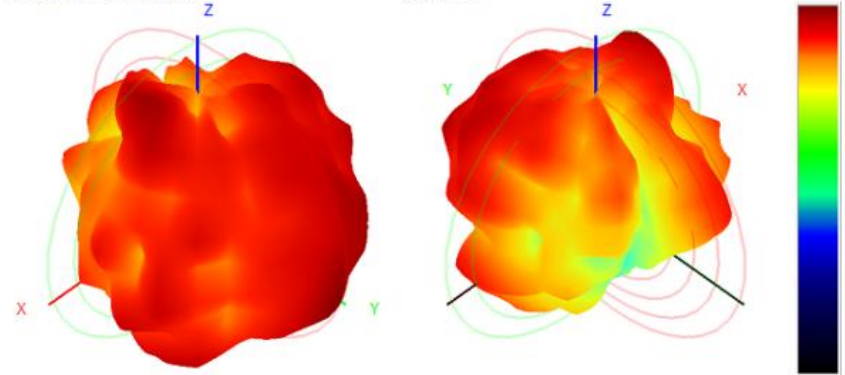
2450.0MHz H+V, Eff: 47.1%

Back View



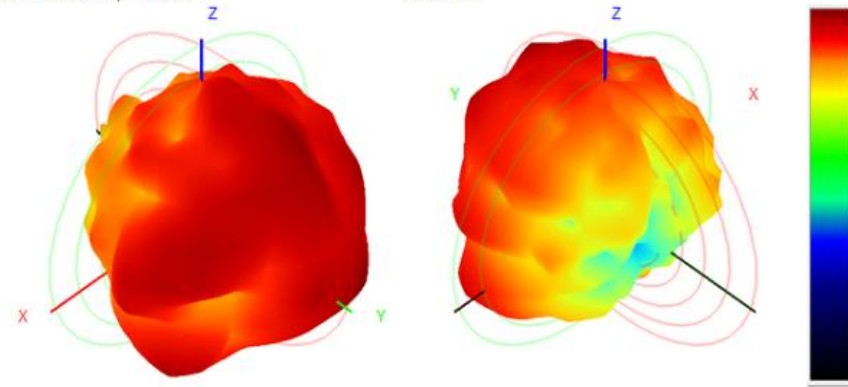
5150.0MHz H+V, Eff: 42.4%

Back View



5850.0MHz H+V, Eff: 42.6%

Back View



Note: Use the network analyzer E5071B and microwave anechoic chamber to test the passive efficiency, gain, and 3D field pattern of the antenna.

8. Test Result

8.5 WIFI Antenna TRP/TIS

WIFI Active Testing			
Frequency band	1	6	11
B-TRP-11MBps	13.89	14.03	14.00
B-TIS-11MBps	-80.67	-81.12	-80.28
G-TRP-54MBps	13.94	14.20	13.86
G-TIS-54MBps	-69.89	-70.06	-70.10
N-TRP-MCS7	13.99	14.41	14.12
N-TIS-MCS7	-64.98	-65.01	-65.10
Frequency band	36	149	165
A-TRP-54MBps	11.87	12.64	12.29
A-TIS-54MBps	-70.82	-71.06	-71.25
AC-TRP-MCS7	11.80	11.67	11.89
AC-TIS-MCS7	-68.74	-68.13	-68.22
AX-TRP-MCS8	11.58	12.01	12.00
AX-TIS-MCS8	-64.18	-64.19	-64.55

8. Test Result

8.6 WIFI throughput test

```
9] 29.00-30.00 sec 5.00 MBytes 41.9 Mbits/sec
1] 29.00-30.00 sec 5.12 MBytes 42.9 Mbits/sec
3] 29.00-30.00 sec 5.00 MBytes 41.9 Mbits/sec
M] 29.00-30.00 sec 5.25 MBytes 44.0 Mbits/sec
   25.5 MBytes 213 Mbits/sec
-----
5] 30.00-30.21 sec 1.07 MBytes 43.1 Mbits/sec
7] 30.00-30.21 sec 1.00 MBytes 40.3 Mbits/sec
9] 30.00-30.21 sec 1.00 MBytes 40.3 Mbits/sec
1] 30.00-30.21 sec 1.00 MBytes 40.3 Mbits/sec
3] 30.00-30.21 sec 1.10 MBytes 44.4 Mbits/sec
UM] 30.00-30.21 sec 5.17 MBytes 208 Mbits/sec
-----
ID] Interval Transfer Bandwidth
5] 0.00-30.21 sec 0.00 Bytes 0.00 bits/sec
5] 0.00-30.21 sec 141 MBytes 39.2 Mbits/sec
7] 0.00-30.21 sec 0.00 Bytes 0.00 bits/sec
7] 0.00-30.21 sec 160 MBytes 44.5 Mbits/sec
9] 0.00-30.21 sec 0.00 Bytes 0.00 bits/sec
9] 0.00-30.21 sec 160 MBytes 44.3 Mbits/sec
11] 0.00-30.21 sec 0.00 Bytes 0.00 bits/sec
11] 0.00-30.21 sec 137 MBytes 38.0 Mbits/sec
13] 0.00-30.21 sec 0.00 Bytes 0.00 bits/sec
13] 0.00-30.21 sec 140 MBytes 38.9 Mbits/sec
SUM] 0.00-30.21 sec 0.00 Bytes 0.00 bits/sec
SUM] 0.00-30.21 sec 737 MBytes 205 Mbits/sec
-----
server listening on 5201
```

```
29.01-30.01 sec 4.62 MBytes 38.5 Mbits/sec
29.01-30.01 sec 4.62 MBytes 38.5 Mbits/sec
29.01-30.01 sec 4.38 MBytes 36.4 Mbits/sec
29.01-30.01 sec 4.25 MBytes 35.4 Mbits/sec
29.01-30.01 sec 22.5 MBytes 187 Mbits/sec
-----
30.01-30.03 sec 0.00 Bytes 0.00 bits/sec
30.01-30.03 sec 0.00 Bytes 0.00 bits/sec
30.01-30.03 sec 0.00 Bytes 0.00 bits/sec
30.01-30.03 sec 0.00 Bytes 0.00 bits/sec
30.01-30.03 sec 0.00 Bytes 0.00 bits/sec
30.01-30.03 sec 0.00 Bytes 0.00 bits/sec
-----
Interval Transfer Bandwidth
5] 0.00-30.03 sec 154 MBytes 43.0 Mbits/sec
5] 0.00-30.03 sec 0.00 Bytes 0.00 bits/sec
7] 0.00-30.03 sec 152 MBytes 42.4 Mbits/sec
7] 0.00-30.03 sec 0.00 Bytes 0.00 bits/sec
9] 0.00-30.03 sec 151 MBytes 42.2 Mbits/sec
9] 0.00-30.03 sec 0.00 Bytes 0.00 bits/sec
11] 0.00-30.03 sec 147 MBytes 41.2 Mbits/sec
11] 0.00-30.03 sec 0.00 Bytes 0.00 bits/sec
13] 0.00-30.03 sec 144 MBytes 40.1 Mbits/sec
13] 0.00-30.03 sec 0.00 Bytes 0.00 bits/sec
SUM] 0.00-30.03 sec 748 MBytes 209 Mbits/sec
SUM] 0.00-30.03 sec 0.00 Bytes 0.00 bits/sec
-----
server listening on 5201
```

8. Test Result

8.6 WIFI throughput test

0.00-30.00	sec	11.2 MBytes	94.2 Mbits/sec
0.00-30.00	sec	11.4 MBytes	95.3 Mbits/sec
0.00-30.00	sec	11.7 MBytes	97.7 Mbits/sec
0.00-30.00	sec	11.3 MBytes	94.3 Mbits/sec
0.00-30.00	sec	57.4 MBytes	481 Mbits/sec

30.00-30.09	sec	1.00 MBytes	93.6 Mbits/sec
30.00-30.09	sec	1.00 MBytes	93.6 Mbits/sec
30.00-30.09	sec	1.00 MBytes	93.6 Mbits/sec
30.00-30.09	sec	979 KBytes	89.4 Mbits/sec
30.00-30.09	sec	1013 KBytes	92.5 Mbits/sec
30.00-30.09	sec	4.94 MBytes	463 Mbits/sec

Interval Transfer Bandwidth			
0.00-30.09	sec	0.00 Bytes	0.00 bits/sec
0.00-30.09	sec	325 MBytes	90.5 Mbits/sec
0.00-30.09	sec	0.00 Bytes	0.00 bits/sec
0.00-30.09	sec	400 MBytes	111 Mbits/sec
0.00-30.09	sec	0.00 Bytes	0.00 bits/sec
0.00-30.09	sec	387 MBytes	108 Mbits/sec
0.00-30.09	sec	0.00 Bytes	0.00 bits/sec
0.00-30.09	sec	332 MBytes	92.7 Mbits/sec
0.00-30.09	sec	0.00 Bytes	0.00 bits/sec
0.00-30.09	sec	337 MBytes	94.0 Mbits/sec
0.00-30.09	sec	0.00 Bytes	0.00 bits/sec
0.00-30.09	sec	0.00 Bytes	0.00 bits/sec
[SUM]	0.00-30.09	0.00 Bytes	0.00 bits/sec
[SUM]	0.00-30.09	1.74 GBytes	496 Mbits/sec

Server listening on 5201			

IPv4 DNS servers: 192.168.1.1			
Physical address (MAC): 48-BD-00-00-00-00			

28.00-29.02	sec	13.8 MBytes	113 Mbits/sec
28.00-29.02	sec	13.0 MBytes	107 Mbits/sec
28.00-29.02	sec	11.8 MBytes	96.8 Mbits/sec
28.00-29.02	sec	11.5 MBytes	94.8 Mbits/sec
28.00-29.02	sec	10.8 MBytes	88.6 Mbits/sec
28.00-29.02	sec	60.8 MBytes	501 Mbits/sec

29.02-30.02	sec	13.0 MBytes	109 Mbits/sec
29.02-30.02	sec	12.6 MBytes	106 Mbits/sec
29.02-30.02	sec	11.6 MBytes	97.3 Mbits/sec
29.02-30.02	sec	12.0 MBytes	100 Mbits/sec
29.02-30.02	sec	10.9 MBytes	91.0 Mbits/sec
29.02-30.02	sec	60.1 MBytes	503 Mbits/sec

Interval Transfer Bandwidth			
0.00-30.02	sec	380 MBytes	106 Mbits/sec
0.00-30.02	sec	0.00 Bytes	0.00 bits/sec
0.00-30.02	sec	367 MBytes	102 Mbits/sec
0.00-30.02	sec	0.00 Bytes	0.00 bits/sec
0.00-30.02	sec	353 MBytes	98.6 Mbits/sec
0.00-30.02	sec	0.00 Bytes	0.00 bits/sec
0.00-30.02	sec	346 MBytes	96.6 Mbits/sec
0.00-30.02	sec	0.00 Bytes	0.00 bits/sec
0.00-30.02	sec	328 MBytes	91.6 Mbits/sec
0.00-30.02	sec	0.00 Bytes	0.00 bits/sec
0.00-30.02	sec	1.73 GBytes	495 Mbits/sec
0.00-30.02	sec	0.00 Bytes	0.00 bits/sec

Server listening on 5201			