

深圳市亿圣邦科技有限公司

Shenzhen Yishengbang Technology Co., Ltd. Antenna Test Report

Customer: 艾普达

Project: N1769POYB

Product: WIFI Antenna—FPC

Report date: 2024-06-27

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Checked by : 黄震

Approved by : 林美财

Purpose

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

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2.4 WIFI AUX Antenna Gain/Efficiency/3D DATA

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2.7 WIFI signal strength test

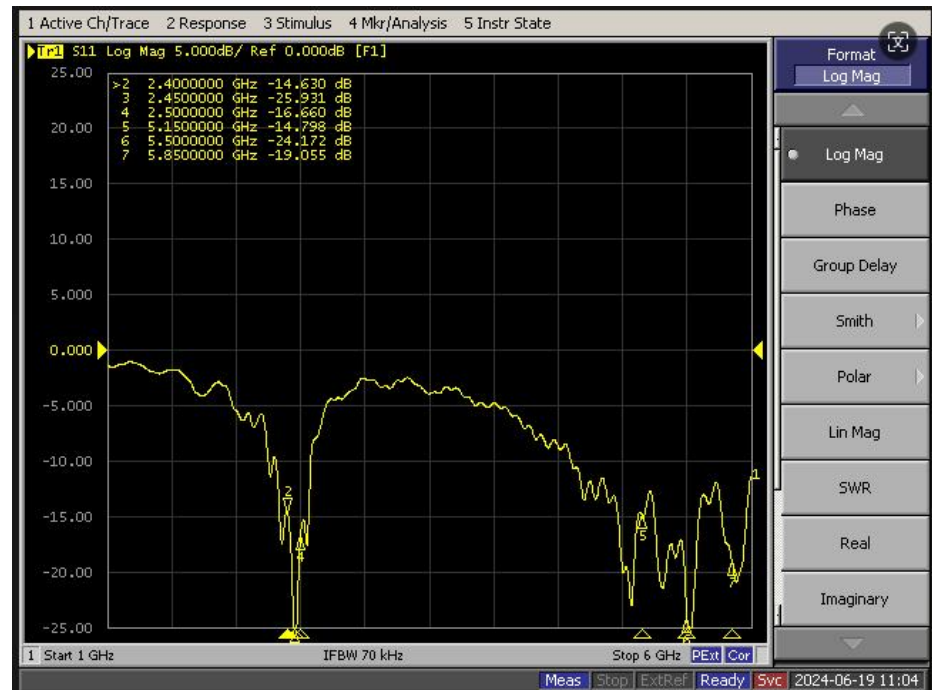
3. Conclusions

1. Product Overview



2. Test Result

2.1 WIFI MAIN Antenna VSWR/S11

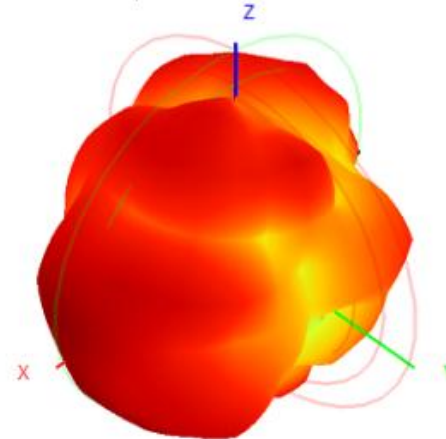


2. Test Result

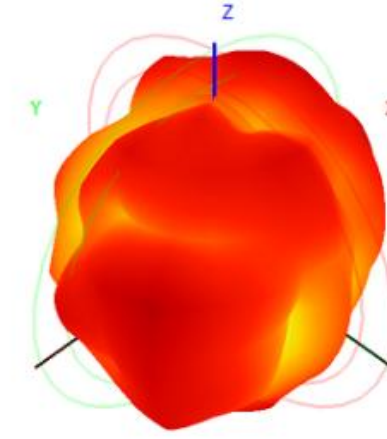
2.4 WIFI MAIN Antenna Gain/Efficiency/3D DATA

Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400	-2.99	1.43	50.23
2410	-2.99	1.34	50.29
2420	-2.75	1.43	53.12
2430	-2.73	1.27	53.28
2440	-2.77	1.23	52.84
2450	-2.85	1.90	51.93
2460	-2.66	1.21	54.23
2470	-2.91	1.78	51.20
2480	-2.85	1.12	51.92
2490	-2.75	1.35	53.14
2500	-2.81	1.32	52.32
5150	-4.57	0.58	44.89
5250	-4.54	0.92	45.14
5350	-4.25	1.81	47.59
5450	-3.85	2.85	51.19
5550	-4.60	2.27	44.66
5650	-4.21	1.35	47.95
5750	-4.22	2.02	47.84
5850	-4.58	1.91	44.85

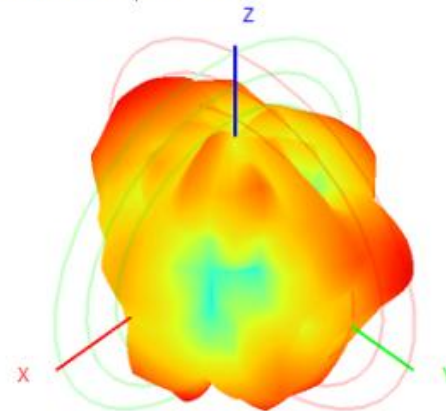
2450.0MHz H+V, Eff: 51.9%



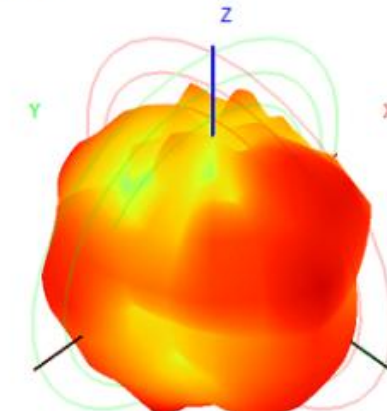
Back View



5850.0MHz H+V, Eff: 44.8%

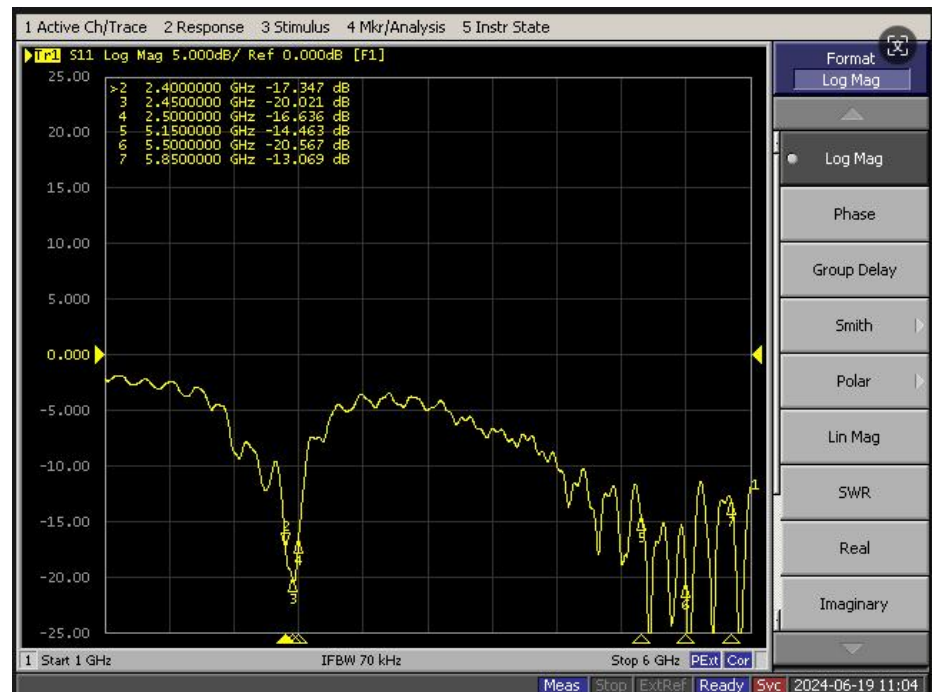


Back View



2. Test Result

2.3 WIFI AUX Antenna VSWR/S11

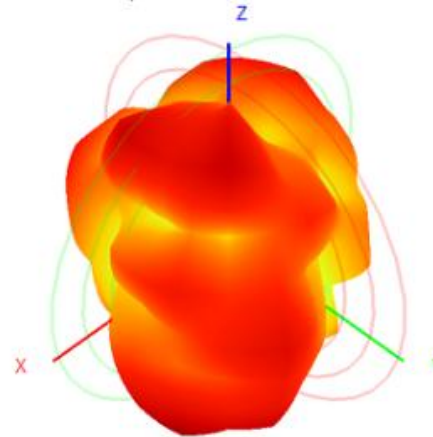


2. Test Result

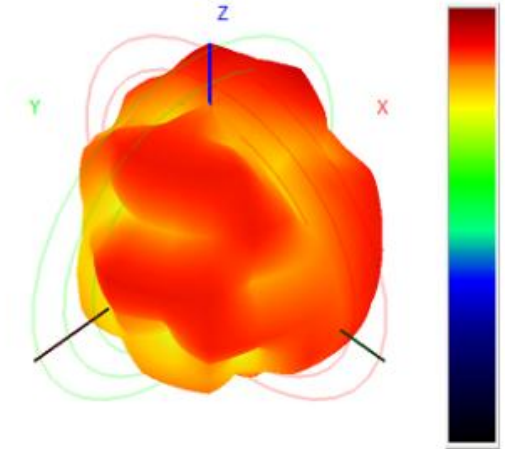
2.2 WIFI AUX Antenna Gain/Efficiency/3D DATA

Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400	-3.08	1.76	49.21
2410	-3.04	1.90	49.66
2420	-2.68	1.40	53.95
2430	-2.85	1.63	51.83
2440	-2.89	1.33	51.38
2450	-3.18	1.44	48.06
2460	-3.15	1.06	48.36
2470	-3.58	1.53	43.89
2480	-3.69	1.35	42.79
2490	-3.58	1.54	43.89
2500	-3.79	1.53	41.81
5150	-5.60	2.30	37.52
5250	-5.27	2.43	39.72
5350	-5.18	1.80	40.33
5450	-4.27	2.25	47.38
5550	-4.78	1.73	43.24
5650	-4.48	2.06	45.61
5750	-4.43	2.26	46.07
5850	-4.99	2.54	41.69

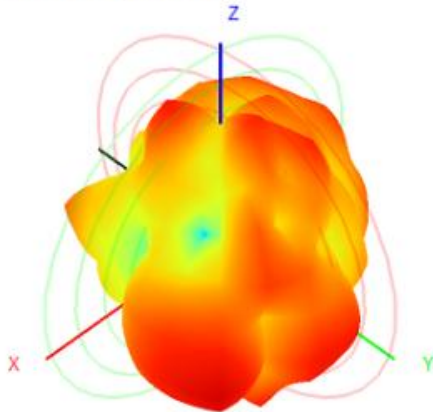
2450.0MHz H+V, Eff: 48.1%



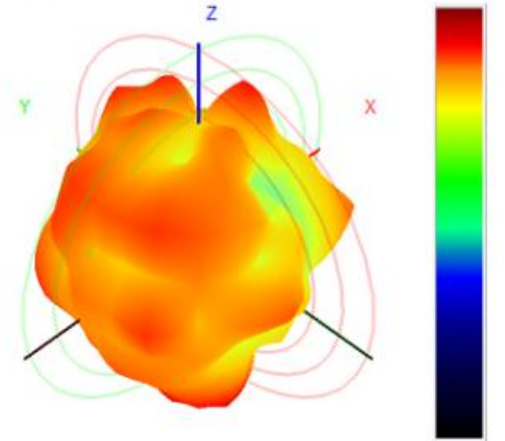
Back View



5850.0MHz H+V, Eff: 41.7%



Back View



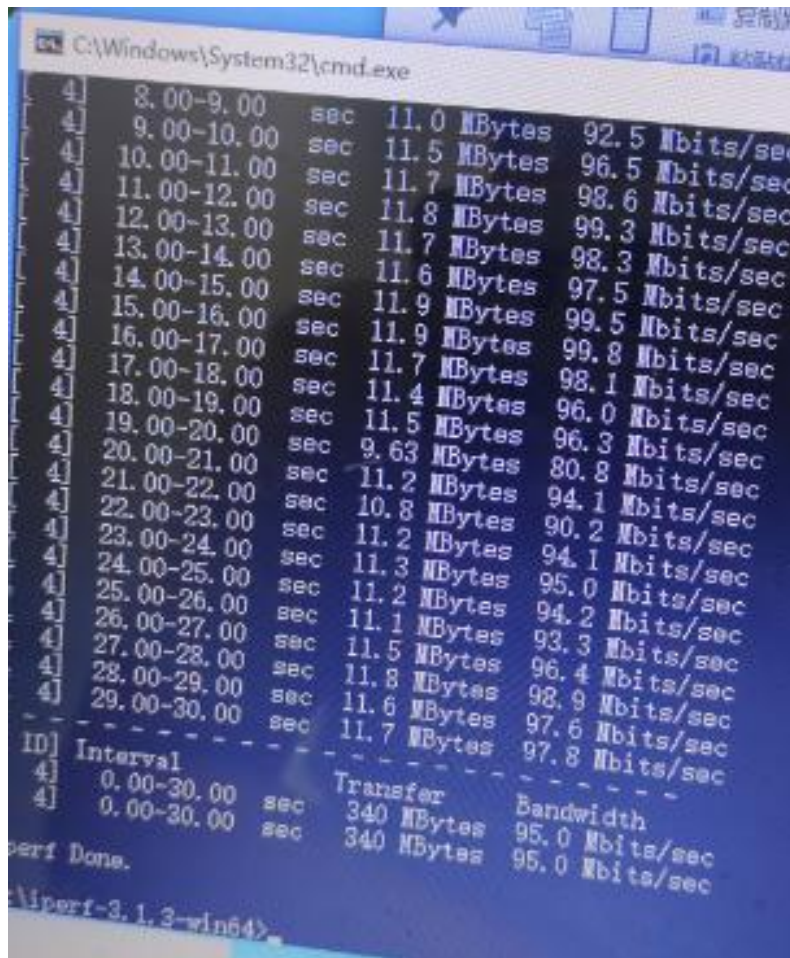
2. Test Result

2.5 WIFI active test

WIFI有源测试			
频段	1	6	11
B-TRP-11MBps	12.78	12.50	12.49
B-TIS-11MBps	-81.22	-81.69	81.45
G-TRP-54MBps	12.44	12.09	12.37
G-TIS-54MBps	-69.21	-69.88	-69.72
N-TRP-MCS7	12.06	12.00	12.37
N-TIS-MCS7	-65.22	-65.89	-66.18
频段	36	149	165
A-TRP-54MBps	10.55	10.88	11.09
A-TIS-54MBps	-70.42	-70.33	-70.19

2. Test Result

2.6 WIFI throughput test



C:\Windows\System32\cmd.exe

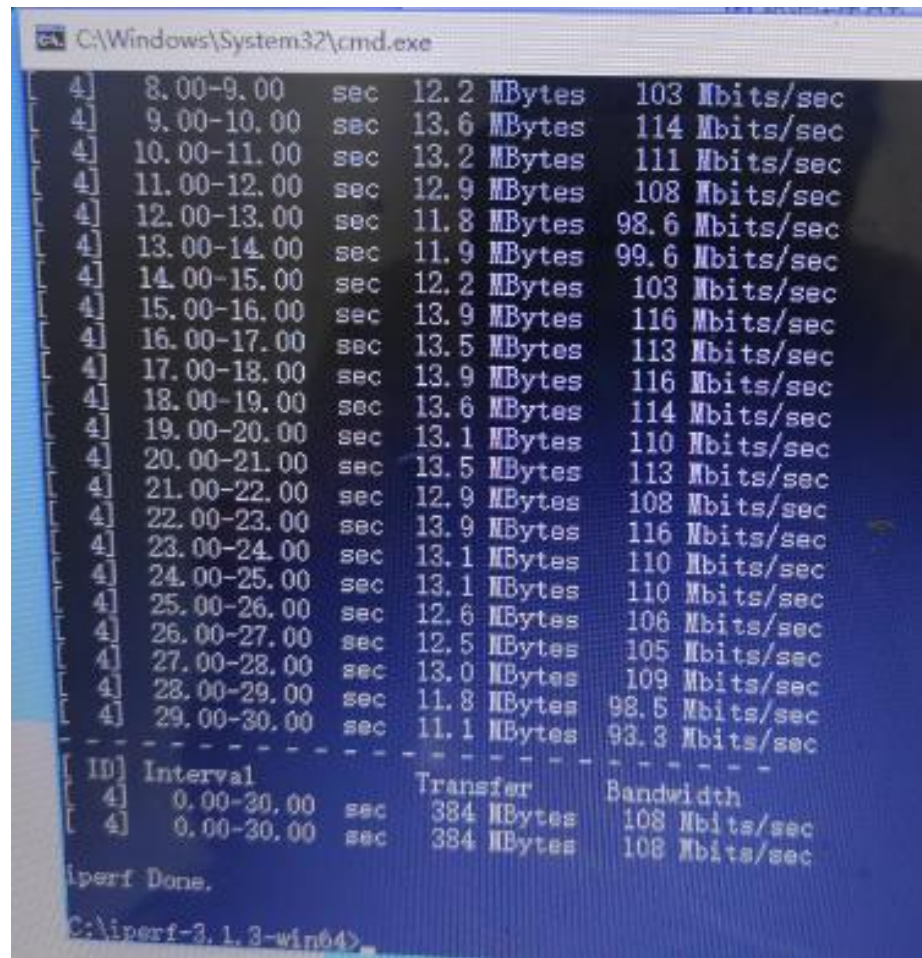
4]	8.00-9.00	sec	11.0 MBytes	92.5 Mbits/sec
4]	9.00-10.00	sec	11.5 MBytes	96.5 Mbits/sec
4]	10.00-11.00	sec	11.7 MBytes	98.6 Mbits/sec
4]	11.00-12.00	sec	11.8 MBytes	99.3 Mbits/sec
4]	12.00-13.00	sec	11.7 MBytes	98.3 Mbits/sec
4]	13.00-14.00	sec	11.6 MBytes	97.5 Mbits/sec
4]	14.00-15.00	sec	11.9 MBytes	99.5 Mbits/sec
4]	15.00-16.00	sec	11.9 MBytes	99.8 Mbits/sec
4]	16.00-17.00	sec	11.7 MBytes	98.1 Mbits/sec
4]	17.00-18.00	sec	11.4 MBytes	96.0 Mbits/sec
4]	18.00-19.00	sec	11.5 MBytes	96.3 Mbits/sec
4]	19.00-20.00	sec	9.63 MBytes	80.8 Mbits/sec
4]	20.00-21.00	sec	11.2 MBytes	94.1 Mbits/sec
4]	21.00-22.00	sec	10.8 MBytes	90.2 Mbits/sec
4]	22.00-23.00	sec	11.2 MBytes	94.1 Mbits/sec
4]	23.00-24.00	sec	11.3 MBytes	95.0 Mbits/sec
4]	24.00-25.00	sec	11.2 MBytes	94.2 Mbits/sec
4]	25.00-26.00	sec	11.1 MBytes	93.3 Mbits/sec
4]	26.00-27.00	sec	11.5 MBytes	96.4 Mbits/sec
4]	27.00-28.00	sec	11.8 MBytes	98.9 Mbits/sec
4]	28.00-29.00	sec	11.6 MBytes	97.6 Mbits/sec
4]	29.00-30.00	sec	11.7 MBytes	97.8 Mbits/sec

iperf Done.

C:\iperf-3.1.3-win64>

ID]	Interval		Transfer	Bandwidth
4]	0.00-30.00	sec	340 MBytes	95.0 Mbits/sec
4]	0.00-30.00	sec	340 MBytes	95.0 Mbits/sec

2.4G吞吐量 上传



C:\Windows\System32\cmd.exe

4]	8.00-9.00	sec	12.2 MBytes	103 Mbits/sec
4]	9.00-10.00	sec	13.6 MBytes	114 Mbits/sec
4]	10.00-11.00	sec	13.2 MBytes	111 Mbits/sec
4]	11.00-12.00	sec	12.9 MBytes	108 Mbits/sec
4]	12.00-13.00	sec	11.8 MBytes	98.6 Mbits/sec
4]	13.00-14.00	sec	11.9 MBytes	99.6 Mbits/sec
4]	14.00-15.00	sec	12.2 MBytes	103 Mbits/sec
4]	15.00-16.00	sec	13.9 MBytes	116 Mbits/sec
4]	16.00-17.00	sec	13.5 MBytes	113 Mbits/sec
4]	17.00-18.00	sec	13.9 MBytes	116 Mbits/sec
4]	18.00-19.00	sec	13.6 MBytes	114 Mbits/sec
4]	19.00-20.00	sec	13.1 MBytes	110 Mbits/sec
4]	20.00-21.00	sec	13.5 MBytes	113 Mbits/sec
4]	21.00-22.00	sec	12.9 MBytes	108 Mbits/sec
4]	22.00-23.00	sec	13.9 MBytes	116 Mbits/sec
4]	23.00-24.00	sec	13.1 MBytes	110 Mbits/sec
4]	24.00-25.00	sec	13.1 MBytes	110 Mbits/sec
4]	25.00-26.00	sec	12.6 MBytes	106 Mbits/sec
4]	26.00-27.00	sec	12.5 MBytes	105 Mbits/sec
4]	27.00-28.00	sec	13.0 MBytes	109 Mbits/sec
4]	28.00-29.00	sec	11.8 MBytes	98.5 Mbits/sec
4]	29.00-30.00	sec	11.1 MBytes	93.3 Mbits/sec

iperf Done.

C:\iperf-3.1.3-win64>

ID]	Interval		Transfer	Bandwidth
4]	0.00-30.00	sec	384 MBytes	108 Mbits/sec
4]	0.00-30.00	sec	384 MBytes	108 Mbits/sec

2.4G吞吐量 下载

2. Test Result

2.6 WIFI throughput test

C:\Windows\System32\cmd.exe

4]	8.00-9.00	sec	26.6 MBytes	223 Mbits/sec
4]	9.00-10.00	sec	25.4 MBytes	213 Mbits/sec
4]	10.00-11.00	sec	26.5 MBytes	222 Mbits/sec
4]	11.00-12.00	sec	26.0 MBytes	218 Mbits/sec
4]	12.00-13.00	sec	26.2 MBytes	220 Mbits/sec
4]	13.00-14.00	sec	26.0 MBytes	218 Mbits/sec
4]	14.00-15.00	sec	25.5 MBytes	214 Mbits/sec
4]	15.00-16.00	sec	26.1 MBytes	219 Mbits/sec
4]	16.00-17.00	sec	25.4 MBytes	213 Mbits/sec
4]	17.00-18.00	sec	26.1 MBytes	219 Mbits/sec
4]	18.00-19.00	sec	26.2 MBytes	220 Mbits/sec
4]	19.00-20.00	sec	25.1 MBytes	211 Mbits/sec
4]	20.00-21.00	sec	25.1 MBytes	211 Mbits/sec
4]	21.00-22.00	sec	26.1 MBytes	219 Mbits/sec
4]	22.00-23.00	sec	26.5 MBytes	222 Mbits/sec
4]	23.00-24.00	sec	26.0 MBytes	218 Mbits/sec
4]	24.00-25.00	sec	26.2 MBytes	220 Mbits/sec
4]	25.00-26.00	sec	25.6 MBytes	215 Mbits/sec
4]	26.00-27.00	sec	26.5 MBytes	222 Mbits/sec
4]	27.00-28.00	sec	26.9 MBytes	225 Mbits/sec
4]	28.00-29.00	sec	26.6 MBytes	223 Mbits/sec
4]	29.00-30.00	sec	26.2 MBytes	220 Mbits/sec
ID]	Interval		Transfer	Bandwidth
4]	0.00-30.00	sec	772 MBytes	216 Mbits/sec
4]	0.00-30.00	sec	772 MBytes	216 Mbits/sec

iperf Done.

5G吞吐量 上传

C:\Windows\System32\cmd.exe

4]	8.00-9.00	sec	26.2 MBytes	220 Mbits/sec
4]	9.00-10.00	sec	25.4 MBytes	213 Mbits/sec
4]	10.00-11.00	sec	26.3 MBytes	221 Mbits/sec
4]	11.00-12.00	sec	26.8 MBytes	225 Mbits/sec
4]	12.00-13.00	sec	26.8 MBytes	224 Mbits/sec
4]	13.00-14.00	sec	26.6 MBytes	224 Mbits/sec
4]	14.00-15.00	sec	26.5 MBytes	222 Mbits/sec
4]	15.00-16.00	sec	25.5 MBytes	214 Mbits/sec
4]	16.00-17.00	sec	24.8 MBytes	208 Mbits/sec
4]	17.00-18.00	sec	26.3 MBytes	221 Mbits/sec
4]	18.00-19.00	sec	25.2 MBytes	211 Mbits/sec
4]	19.00-20.00	sec	25.0 MBytes	210 Mbits/sec
4]	20.00-21.00	sec	26.0 MBytes	218 Mbits/sec
4]	21.00-22.00	sec	26.2 MBytes	220 Mbits/sec
4]	22.00-23.00	sec	26.3 MBytes	221 Mbits/sec
4]	23.00-24.00	sec	26.0 MBytes	218 Mbits/sec
4]	24.00-25.00	sec	24.7 MBytes	207 Mbits/sec
4]	25.00-26.00	sec	24.3 MBytes	204 Mbits/sec
4]	26.00-27.00	sec	24.4 MBytes	205 Mbits/sec
4]	27.00-28.00	sec	25.1 MBytes	210 Mbits/sec
4]	28.00-29.00	sec	25.4 MBytes	213 Mbits/sec
4]	29.00-30.00	sec	25.1 MBytes	210 Mbits/sec
ID]	Interval		Transfer	Bandwidth
4]	0.00-30.00	sec	770 MBytes	215 Mbits/sec
4]	0.00-30.00	sec	770 MBytes	215 Mbits/sec

iperf Done.

5G吞吐量 下载

2. Test Result

2.7 WIFI signal strength test



测试环境：室内10M，信号强度2.4G为-32dB,5G为-41dB



3. Conclusions

Thank you