

深圳市亿圣邦科技有限公司

The Holy bond Electronics Co., Ltd. Antenna Test Report

Customer: 茂现

Project: JB02

Product: WIFI Antenna—FPC

Report date: 2022.7.15

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Approved by :

Purpose

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

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3. Conclusions

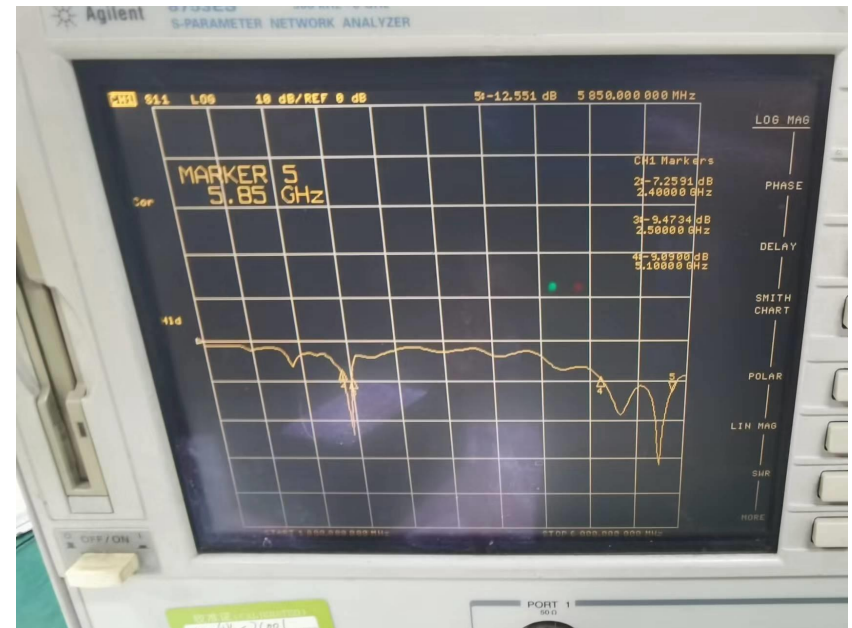
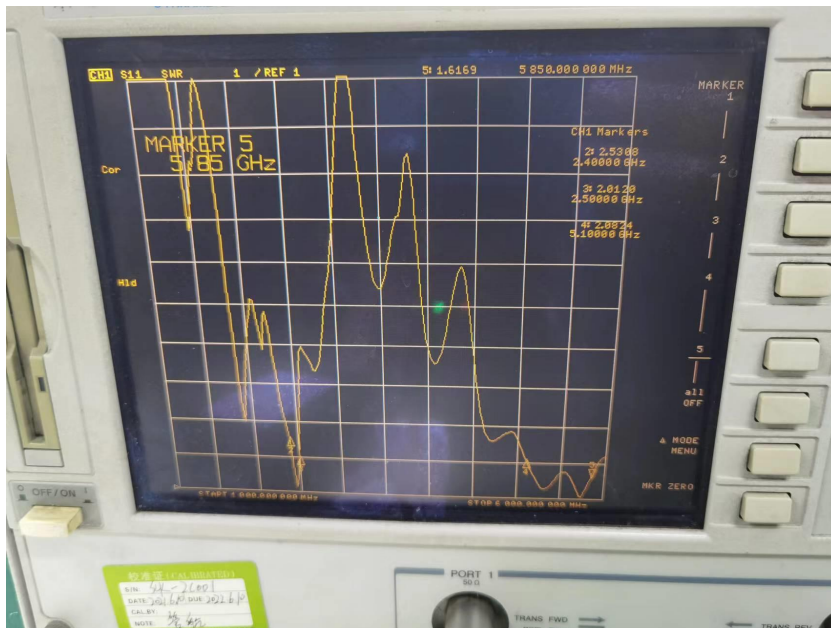
1. Product Overview



2. Test Result

2.1 WIFI Antenna VSWR/S11

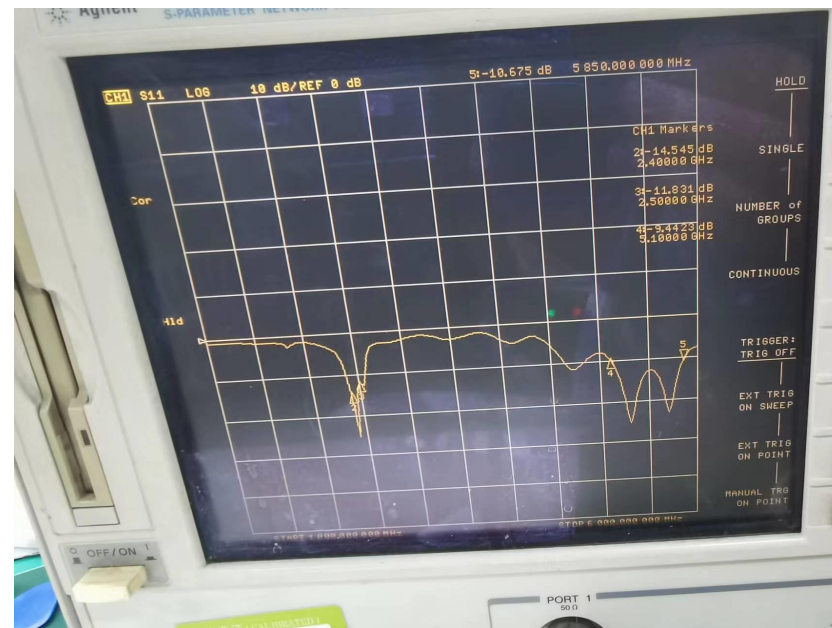
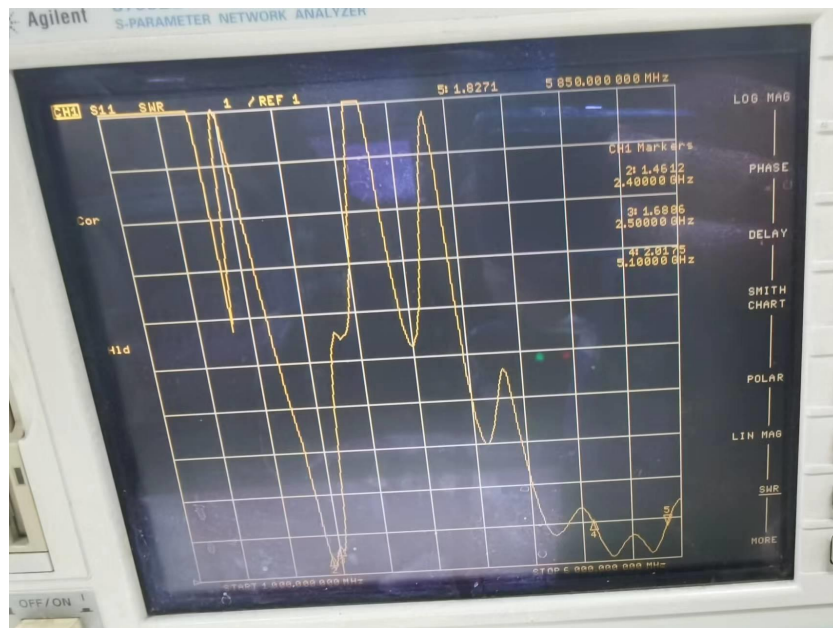
MAIN



2. Test Result

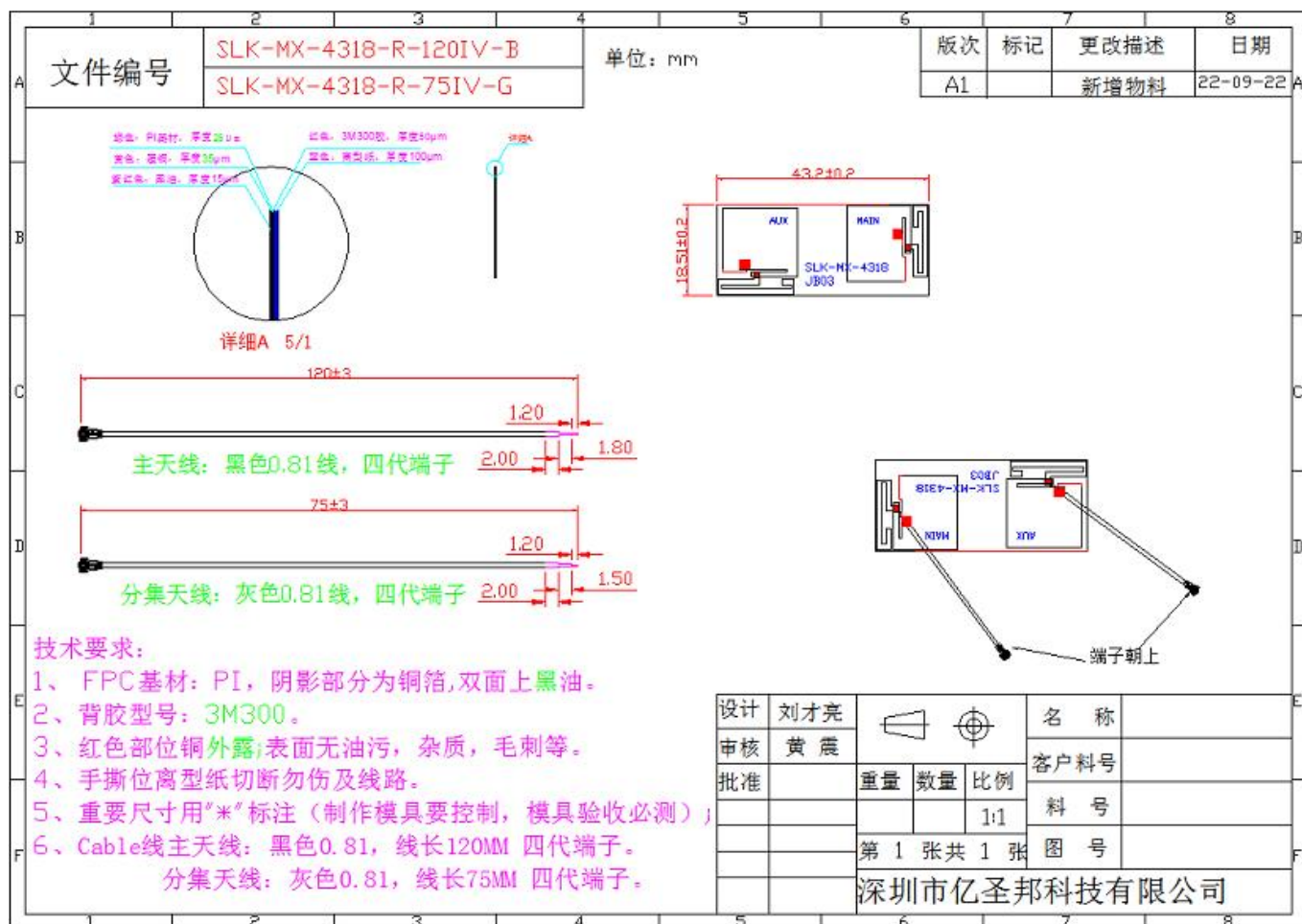
2.1 WIFI Antenna VSWR/S11

AUX



2. Test Result

2.2 Antenna Parameters



2. Test Result

2.3 WIFI Antenna TRP/TIS

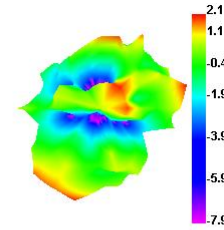
WIFI	CH	功率(54M)	灵敏度(54M)	WIFI	CH	功率(54M)	灵敏度(54M)
802.11a	36	13.39	-67.67	802.11g	1	9.85	-63.94
	149	12.69	-66.29		6	10.34	-63.79
	165	12.73	-67.51		11	10.64	-64.57
WIFI	CH	功率(11M)	灵敏度(11M)	WIFI	CH	功率(MCS7)	灵敏度(MCS7)
802.11b	1	8.64	-74.72	802.11n	1	8.49	-64.37
	6	8.51	-76.37		6	8.76	-63.71
	11	8.89	-77.33		11	8.41	-63.42

2. Test Result

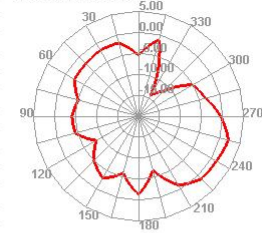
2.4 WIFI Antenna Gain/Efficiency/3D DATE

MAIN			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	36.06	-4.43	3.05
2410	30.83	-5.11	2.47
2420	34.51	-4.62	2.56
2430	31.83	-4.97	2.15
2440	33.4	-4.76	2.02
2450	31.34	-5.04	2.14
2460	31.03	-5.08	1.7
2470	31.94	-4.96	1.82
2480	34.74	-4.59	1.97
2490	33.7	-4.72	2.31
2500	36.95	-4.32	2.18
5150	36.38	-4.39	3.63
5350	37.18	-4.30	3.15
5500	40.29	-3.95	4.61
5750	33.86	-4.70	4.54
5850	33.84	-4.71	4.15

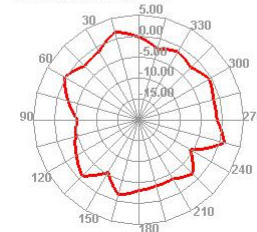
2450.000MHz



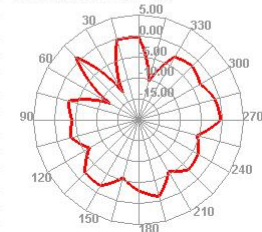
2450.000MHz H



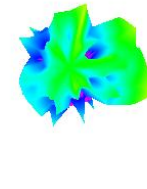
2450.000MHz E1



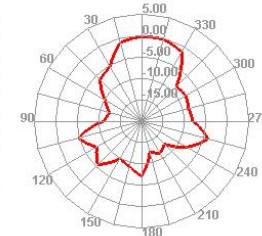
2450.000MHz E2



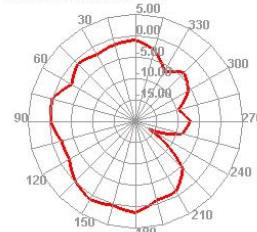
5850.000MHz



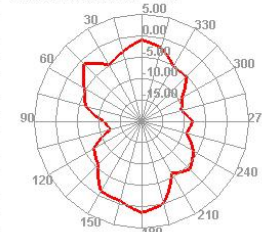
5850.000MHz H



5850.000MHz E1



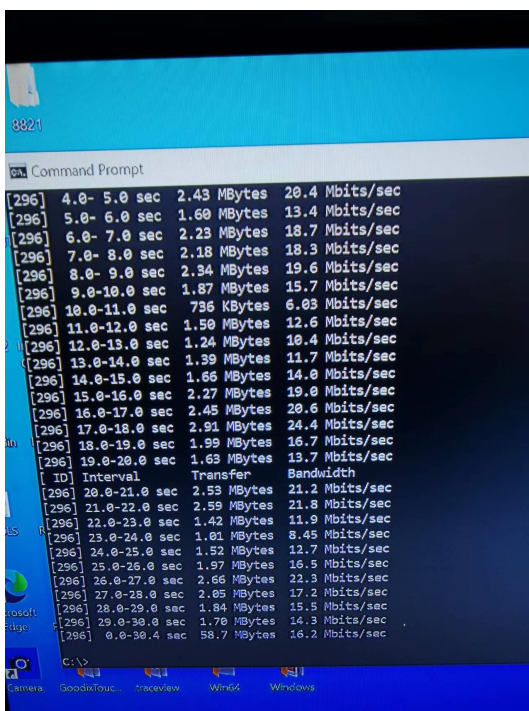
5850.000MHz E2



2. Test Result

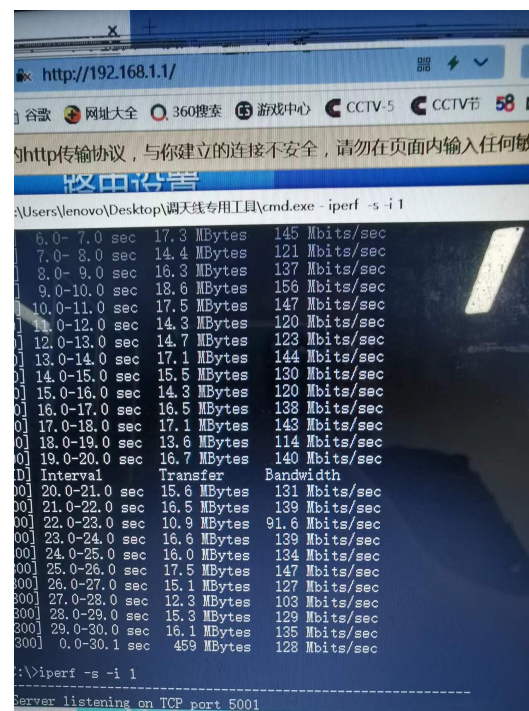
2.5 WIFI Antenna Throughput

2.4G上传



ID	Interval	Transfer	Bandwidth
[296]	4.0- 5.0 sec	2.43 MBytes	20.4 Mbits/sec
[296]	5.0- 6.0 sec	1.60 MBytes	13.4 Mbits/sec
[296]	6.0- 7.0 sec	2.23 MBytes	18.7 Mbits/sec
[296]	7.0- 8.0 sec	2.18 MBytes	18.3 Mbits/sec
[296]	8.0- 9.0 sec	2.34 MBytes	19.6 Mbits/sec
[296]	9.0-10.0 sec	1.87 MBytes	15.7 Mbits/sec
[296]	10.0-11.0 sec	796 KBytes	6.83 Mbits/sec
[296]	11.0-12.0 sec	1.50 MBytes	12.6 Mbits/sec
[296]	12.0-13.0 sec	1.24 MBytes	10.4 Mbits/sec
[296]	13.0-14.0 sec	1.39 MBytes	11.7 Mbits/sec
[296]	14.0-15.0 sec	1.66 MBytes	14.0 Mbits/sec
[296]	15.0-16.0 sec	2.27 MBytes	19.0 Mbits/sec
[296]	16.0-17.0 sec	2.45 MBytes	20.6 Mbits/sec
[296]	17.0-18.0 sec	2.81 MBytes	24.4 Mbits/sec
[296]	18.0-19.0 sec	1.99 MBytes	16.7 Mbits/sec
[296]	19.0-20.0 sec	1.63 MBytes	13.7 Mbits/sec
ID	Interval	Transfer	Bandwidth
[296]	20.0-21.0 sec	2.53 MBytes	21.2 Mbits/sec
[296]	21.0-22.0 sec	2.59 MBytes	21.8 Mbits/sec
[296]	22.0-23.0 sec	1.42 MBytes	11.9 Mbits/sec
[296]	23.0-24.0 sec	1.01 MBytes	8.45 Mbits/sec
[296]	24.0-25.0 sec	1.52 MBytes	12.7 Mbits/sec
[296]	25.0-26.0 sec	1.97 MBytes	16.5 Mbits/sec
[296]	26.0-27.0 sec	2.66 MBytes	22.3 Mbits/sec
[296]	27.0-28.0 sec	2.05 MBytes	17.2 Mbits/sec
[296]	28.0-29.0 sec	1.84 MBytes	15.5 Mbits/sec
[296]	29.0-30.0 sec	1.78 MBytes	14.3 Mbits/sec
[296]	0.0-30.4 sec	58.7 MBytes	16.2 Mbits/sec

2.4G下载



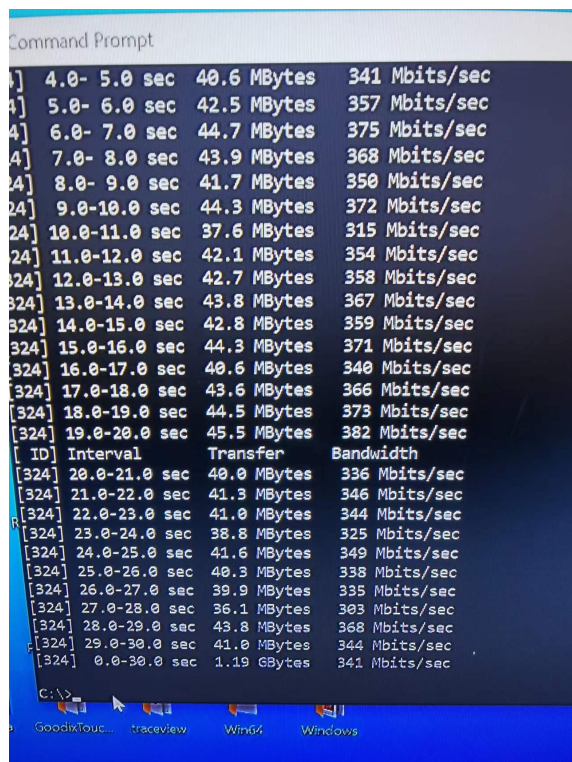
ID	Interval	Transfer	Bandwidth
[001]	6.0- 7.0 sec	17.3 MBytes	145 Mbits/sec
[001]	7.0- 8.0 sec	14.4 MBytes	121 Mbits/sec
[001]	8.0- 9.0 sec	16.3 MBytes	137 Mbits/sec
[001]	9.0-10.0 sec	18.6 MBytes	156 Mbits/sec
[001]	10.0-11.0 sec	17.5 MBytes	147 Mbits/sec
[001]	11.0-12.0 sec	14.3 MBytes	120 Mbits/sec
[001]	12.0-13.0 sec	14.7 MBytes	123 Mbits/sec
[001]	13.0-14.0 sec	17.1 MBytes	144 Mbits/sec
[001]	14.0-15.0 sec	15.5 MBytes	130 Mbits/sec
[001]	15.0-16.0 sec	14.3 MBytes	120 Mbits/sec
[001]	16.0-17.0 sec	16.5 MBytes	138 Mbits/sec
[001]	17.0-18.0 sec	17.1 MBytes	143 Mbits/sec
[001]	18.0-19.0 sec	13.6 MBytes	114 Mbits/sec
[001]	19.0-20.0 sec	16.7 MBytes	140 Mbits/sec
ID	Interval	Transfer	Bandwidth
[001]	20.0-21.0 sec	15.6 MBytes	131 Mbits/sec
[001]	21.0-22.0 sec	16.5 MBytes	139 Mbits/sec
[001]	22.0-23.0 sec	10.9 MBytes	91.6 Mbits/sec
[001]	23.0-24.0 sec	16.6 MBytes	139 Mbits/sec
[001]	24.0-25.0 sec	16.0 MBytes	134 Mbits/sec
[001]	25.0-26.0 sec	17.5 MBytes	147 Mbits/sec
[001]	26.0-27.0 sec	15.1 MBytes	127 Mbits/sec
[001]	27.0-28.0 sec	12.3 MBytes	103 Mbits/sec
[001]	28.0-29.0 sec	15.3 MBytes	129 Mbits/sec
[001]	29.0-30.0 sec	16.1 MBytes	135 Mbits/sec
[001]	0.0-30.1 sec	459 MBytes	128 Mbits/sec

测试环境：无障碍环境下，距离路由器10M；上传：16.2M，(用外置天线上传数据无明显提升)；下载：128M；

2. Test Result

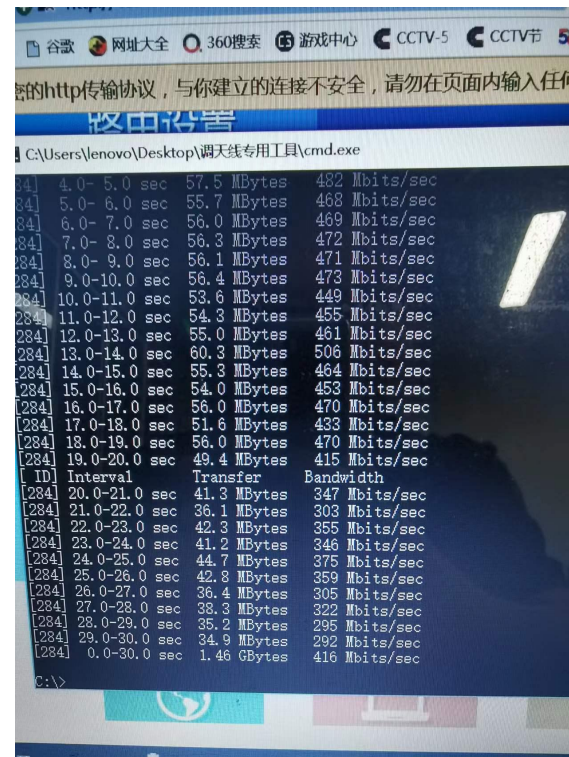
2.5 WIFI Antenna Throughput

5.8G上传



ID	Interval	Transfer	Bandwidth
[324]	4.0- 5.0 sec	40.6 MBytes	341 Mbits/sec
[324]	5.0- 6.0 sec	42.5 MBytes	357 Mbits/sec
[324]	6.0- 7.0 sec	44.7 MBytes	375 Mbits/sec
[324]	7.0- 8.0 sec	43.9 MBytes	368 Mbits/sec
[324]	8.0- 9.0 sec	41.7 MBytes	350 Mbits/sec
[324]	9.0-10.0 sec	44.3 MBytes	372 Mbits/sec
[324]	10.0-11.0 sec	37.6 MBytes	315 Mbits/sec
[324]	11.0-12.0 sec	42.1 MBytes	354 Mbits/sec
[324]	12.0-13.0 sec	42.7 MBytes	358 Mbits/sec
[324]	13.0-14.0 sec	43.8 MBytes	367 Mbits/sec
[324]	14.0-15.0 sec	42.8 MBytes	359 Mbits/sec
[324]	15.0-16.0 sec	44.3 MBytes	371 Mbits/sec
[324]	16.0-17.0 sec	40.6 MBytes	340 Mbits/sec
[324]	17.0-18.0 sec	43.6 MBytes	366 Mbits/sec
[324]	18.0-19.0 sec	44.5 MBytes	373 Mbits/sec
[324]	19.0-20.0 sec	45.5 MBytes	382 Mbits/sec
[324]	20.0-21.0 sec	40.0 MBytes	336 Mbits/sec
[324]	21.0-22.0 sec	41.3 MBytes	346 Mbits/sec
[324]	22.0-23.0 sec	41.0 MBytes	344 Mbits/sec
[324]	23.0-24.0 sec	38.8 MBytes	325 Mbits/sec
[324]	24.0-25.0 sec	41.6 MBytes	349 Mbits/sec
[324]	25.0-26.0 sec	40.3 MBytes	338 Mbits/sec
[324]	26.0-27.0 sec	39.9 MBytes	335 Mbits/sec
[324]	27.0-28.0 sec	36.1 MBytes	303 Mbits/sec
[324]	28.0-29.0 sec	43.8 MBytes	368 Mbits/sec
[324]	29.0-30.0 sec	41.0 MBytes	344 Mbits/sec
[324]	0.0-30.0 sec	1.19 GBytes	341 Mbits/sec

5.8G下载



ID	Interval	Transfer	Bandwidth
[284]	4.0- 5.0 sec	57.5 MBytes	482 Mbits/sec
[284]	5.0- 6.0 sec	55.7 MBytes	468 Mbits/sec
[284]	6.0- 7.0 sec	56.0 MBytes	469 Mbits/sec
[284]	7.0- 8.0 sec	56.3 MBytes	472 Mbits/sec
[284]	8.0- 9.0 sec	56.1 MBytes	471 Mbits/sec
[284]	9.0-10.0 sec	56.4 MBytes	473 Mbits/sec
[284]	10.0-11.0 sec	53.6 MBytes	449 Mbits/sec
[284]	11.0-12.0 sec	54.3 MBytes	455 Mbits/sec
[284]	12.0-13.0 sec	55.0 MBytes	461 Mbits/sec
[284]	13.0-14.0 sec	60.3 MBytes	506 Mbits/sec
[284]	14.0-15.0 sec	55.3 MBytes	464 Mbits/sec
[284]	15.0-16.0 sec	54.0 MBytes	453 Mbits/sec
[284]	16.0-17.0 sec	56.0 MBytes	470 Mbits/sec
[284]	17.0-18.0 sec	51.6 MBytes	433 Mbits/sec
[284]	18.0-19.0 sec	56.0 MBytes	470 Mbits/sec
[284]	19.0-20.0 sec	49.4 MBytes	415 Mbits/sec
[284]	20.0-21.0 sec	41.3 MBytes	347 Mbits/sec
[284]	21.0-22.0 sec	36.1 MBytes	303 Mbits/sec
[284]	22.0-23.0 sec	42.3 MBytes	355 Mbits/sec
[284]	23.0-24.0 sec	41.2 MBytes	346 Mbits/sec
[284]	24.0-25.0 sec	44.7 MBytes	375 Mbits/sec
[284]	25.0-26.0 sec	42.8 MBytes	359 Mbits/sec
[284]	26.0-27.0 sec	36.4 MBytes	305 Mbits/sec
[284]	27.0-28.0 sec	38.3 MBytes	322 Mbits/sec
[284]	28.0-29.0 sec	35.2 MBytes	295 Mbits/sec
[284]	29.0-30.0 sec	34.9 MBytes	292 Mbits/sec
[284]	0.0-30.0 sec	1.46 GBytes	416 Mbits/sec

测试环境：无障碍环境下，距离路由器10M；上传：341M，下载：416M；



3. Conclusions

Thank you