

样品承认书



P/N		
样品适应机型		S15W1P-3200U
样品描述		
开发部	电子	确认结果： ☐ 合格 ☐ 不合格
	结构	确认结果： ☐ 合格 ☐ 不合格
开发承认		确认结果： ☐ 合格 ☐ 不合格
品质部		确认结果： ☐ 合格 ☐ 不合格
采购部		确认结果： ☐ 合格 ☐ 不合格
备注		

表格编号：QESP-023-F06C

深圳天路通电子科技有限公司



SHENZHEN TLT COMMUNICATION CO.,LTD.

S15W1P-3200U- WIFI 主天线 – B T – FPC 产品承认书

**S15W1P-3200U- WIFI Main Antenna and BT Antenna FPC Product
Warranty Card**

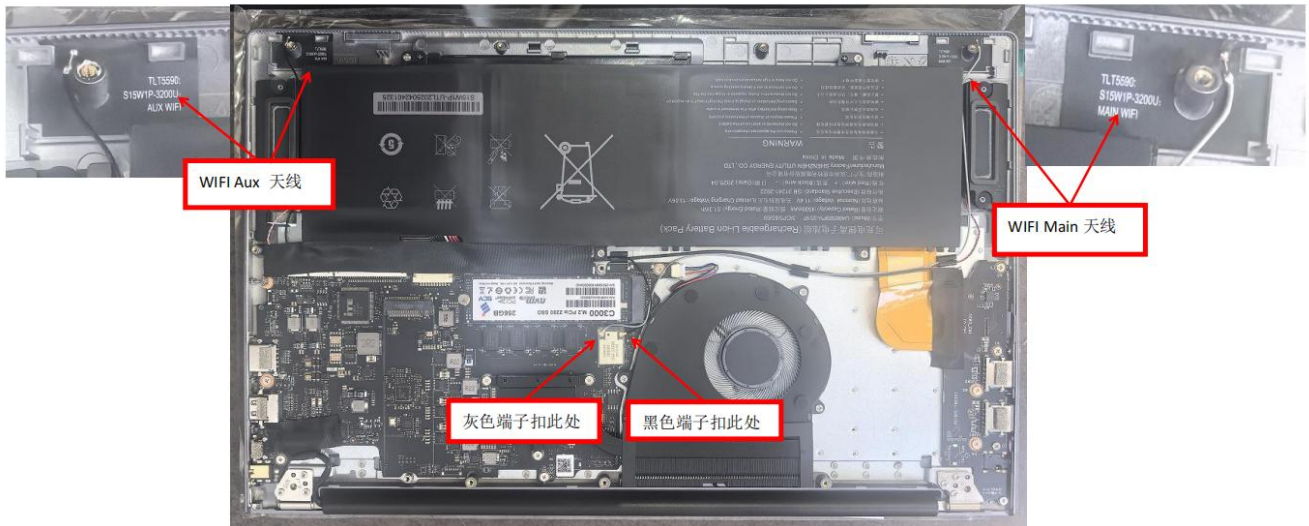


顾客 Customer	阳华数码	天线类型 Antenna type	2.4/5.8G
型号 Model	S15W1P-3200U	版本 Version	最新版本 Latest version
工程代号 Engineering code	TLT5590	批准 Approver	安青容
RF 设计人 RF designer	毛航洲	RD 设计人 RD designer	唐纯政
日期 Date	2025-4-29	日期 Date	2025-04-29

1.测试信息： (Test information)

天线测试信息 Antenna Test information	
项目 (Project)	TLT5590-S15W1P-3200-WIFI Main Antenna and BT Antenna
频段 (Frequency)	2.4G(2402~2483)Mhz/5G(5150~5850)Mhz
模块 (module)	6621C
驱动版本 (Driver version)	2024.10.139.200

2. 天线装配及处理图档 (Antenna assembly and environmental treatment) :



3.有源测试数据 (Active test data) : 3.1: WIFI/BT OTA

测试数据 (WIFI/BT OTA test data) :

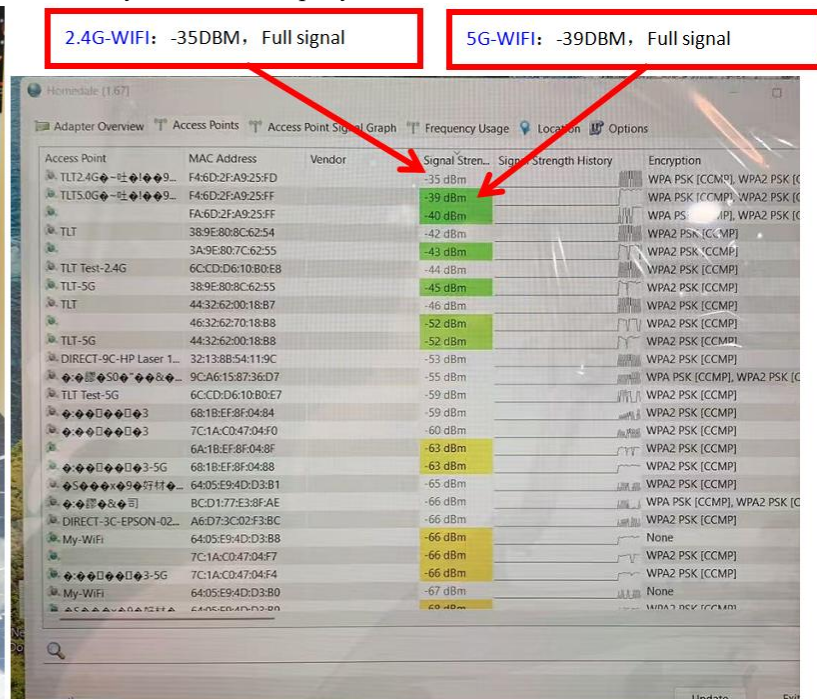
WIFI 2.4G RF Testing		11B(11Mbps)		
Channel		TCH 1	TCH 6	TCH 11
Frequency(Mhz)		2412	2437	2462
	TRP(dBm)	12. 23	12. 76	13. 48
	TIS(dBm)	-73	-74	-74

WIFI 5G RF Testing		11A(6Mbps)		
Channel		TCH 36	TCH 100	TCH 157
Frequency(Mhz)		5180	5500	5785
	TRP(dBm)	11. 13	11. 84	11. 16
	TIS(dBm)	-81	-82	-82

3.2: WIFI 场测 (WIFI field test) :

测试环境: 空旷环境, 距离我司路由器 15 米, 测试如下:

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



3.3 WIFI 吞吐量测试 (WiFi throughput test) :

```
C:\WINDOWS\system32\cmd. X + v
[ ID] Interval Transfer Bandwidth
[364] 17.0-18.0 sec 5.08 MBytes 42.6 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 18.0-19.0 sec 5.27 MBytes 44.2 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 19.0-20.0 sec 4.92 MBytes 41.3 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 20.0-21.0 sec 5.03 MBytes 42.2 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 21.0-22.0 sec 4.69 MBytes 39.3 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 22.0-23.0 sec 5.36 MBytes 45.0 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 23.0-24.0 sec 5.27 MBytes 44.2 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 24.0-25.0 sec 5.36 MBytes 45.0 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 25.0-26.0 sec 4.52 MBytes 37.9 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 26.0-27.0 sec 4.95 MBytes 41.5 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 27.0-28.0 sec 5.12 MBytes 42.9 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 28.0-29.0 sec 5.38 MBytes 45.2 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 29.0-30.0 sec 5.30 MBytes 44.4 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 0.0-30.0 sec 136 MBytes 38.1 Mbits/sec
C:\Users\A\Desktop\WIFI吞吐量测试方法及软件 - Copy\W
```

2.4G TX: 38.1M

```
Users\A\Desktop\WIFI吞吐量测试方法及软件 - Copy\WIFI吞吐量
Server listening on TCP port 5001
TCP window size: 64.0 KByte (default)
-----
[368] local 192.168.1.100 port 5001 connected with 192.168.1.1
[ ID] Interval Transfer Bandwidth
[368] 0.0-30.2 sec 182 MBytes 50.5 Mbits/sec
[400] local 192.168.1.100 port 5001 connected with 192.168.1.10
[ ID] Interval Transfer Bandwidth
[400] 0.0-30.2 sec 172 MBytes 47.9 Mbits/sec
[424] local 192.168.1.100 port 5001 connected with 192.168.1.101
[ ID] Interval Transfer Bandwidth
[424] 0.0-30.1 sec 210 MBytes 58.4 Mbits/sec
[416] local 192.168.1.100 port 5001 connected with 192.168.1.101
[ ID] Interval Transfer Bandwidth
[416] 0.0-30.1 sec 171 MBytes 47.7 Mbits/sec
[448] local 192.168.1.100 port 5001 connected with 192.168.1.101
[ ID] Interval Transfer Bandwidth
[448] 0.0-30.1 sec 171 MBytes 47.5 Mbits/sec
```

2.4G RX: 47.5M

```
C:\WINDOWS\system32\cmd. X + v
[ ID] Interval Transfer Bandwidth
[364] 17.0-18.0 sec 26.1 MBytes 219 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 18.0-19.0 sec 26.0 MBytes 218 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 19.0-20.0 sec 26.7 MBytes 224 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 20.0-21.0 sec 26.2 MBytes 219 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 21.0-22.0 sec 26.6 MBytes 224 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 22.0-23.0 sec 25.6 MBytes 214 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 23.0-24.0 sec 25.8 MBytes 216 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 24.0-25.0 sec 25.3 MBytes 212 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 25.0-26.0 sec 25.6 MBytes 215 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 26.0-27.0 sec 25.5 MBytes 214 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 27.0-28.0 sec 26.1 MBytes 219 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 28.0-29.0 sec 26.6 MBytes 224 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 29.0-30.0 sec 25.8 MBytes 217 Mbits/sec
[ ID] Interval Transfer Bandwidth
[364] 0.0-30.0 sec 769 MBytes 215 Mbits/sec
C:\Users\A\Desktop\WIFI吞吐量测试方法及软件 - Copy\W
```

5G TX: 215M

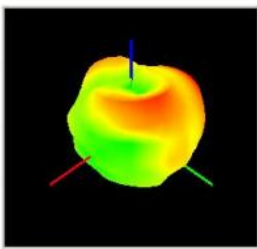
```
Server listening on TCP port 5001
TCP window size: 64.0 KByte (default)
-----
[376] local 192.168.1.4 port 5001 connected with 192.16
[ ID] Interval Transfer Bandwidth
[376] 0.0-30.0 sec 1.04 GBytes 296 Mbits/sec
[400] local 192.168.1.4 port 5001 connected with 192.16
[ ID] Interval Transfer Bandwidth
[400] 0.0-30.0 sec 1.01 GBytes 289 Mbits/sec
[416] local 192.168.1.4 port 5001 connected with 192.16
[ ID] Interval Transfer Bandwidth
[416] 0.0-30.0 sec 1.06 GBytes 304 Mbits/sec
[440] local 192.168.1.4 port 5001 connected with 192.16
[ ID] Interval Transfer Bandwidth
[440] 0.0-30.0 sec 1.02 GBytes 293 Mbits/sec
[456] local 192.168.1.4 port 5001 connected with 192.16
[ ID] Interval Transfer Bandwidth
[456] 0.0-30.0 sec 1.02 GBytes 292 Mbits/sec
```

5G RX: 292M

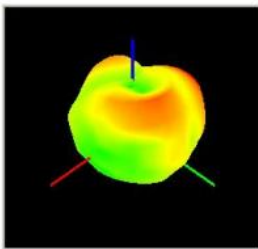
4. 无源测试数据 (Passive test data) :

Main 天线效率和增益 (Main antenna efficiency and gain) :

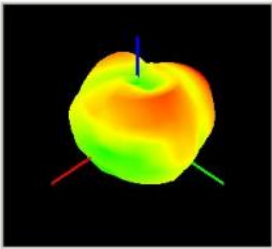
Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Efficiency (%)	Efficiency (dB)
1	2400.0	2400.00	1.31	36.4%	-4.39
2	2405.0	2405.00	0.01	27.0%	-5.69
3	2410.0	2410.00	1.24	35.8%	-4.46
4	2415.0	2415.00	2.34	45.5%	-3.42
5	2420.0	2420.00	1.85	40.5%	-3.93
6	2425.0	2425.00	1.81	40.1%	-3.97
7	2430.0	2430.00	2.27	45.0%	-3.47
8	2435.0	2435.00	2.08	42.9%	-3.67
9	2440.0	2440.00	1.86	40.6%	-3.91
10	2445.0	2445.00	2.07	42.8%	-3.68
11	2450.0	2450.00	1.64	39.2%	-4.07
12	2455.0	2455.00	1.98	42.7%	-3.69
13	2460.0	2460.00	3.01	53.9%	-2.68
14	2465.0	2465.00	2.14	44.1%	-3.56
15	2470.0	2470.00	1.49	38.5%	-4.14
16	2475.0	2475.00	2.17	45.5%	-3.42
17	2480.0	2480.00	2.31	47.0%	-3.28
18	2485.0	2485.00	1.94	43.4%	-3.63
19	2490.0	2490.00	2.14	45.9%	-3.38
20	2495.0	2495.00	2.91	55.5%	-2.56
21	2500.0	2500.00	2.82	55.0%	-2.60
22	5150.0	5150.00	1.41	38.8%	-4.11
23	5200.0	5200.00	1.72	39.8%	-4.00
24	5250.0	5250.00	1.64	35.3%	-4.52
25	5300.0	5300.00	1.80	40.1%	-3.97
26	5350.0	5350.00	1.29	36.1%	-4.42
27	5400.0	5400.00	1.29	38.7%	-4.12
28	5450.0	5450.00	1.90	40.8%	-3.89
29	5500.0	5500.00	2.88	41.2%	-3.85
30	5550.0	5550.00	1.11	35.6%	-4.49
31	5600.0	5600.00	1.15	37.8%	-4.23
32	5650.0	5650.00	1.93	40.2%	-3.96
33	5700.0	5700.00	2.02	39.1%	-4.08
34	5750.0	5750.00	1.52	38.7%	-4.12
35	5800.0	5800.00	0.19	40.1%	-3.97
36	5850.0	5850.00	2.38	38.5%	-4.15



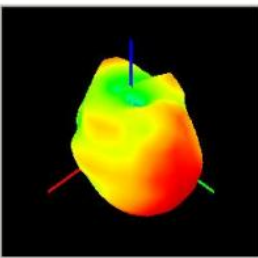
2.4G



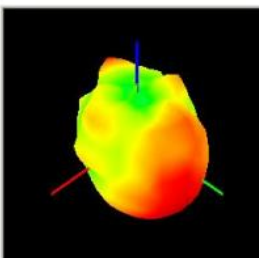
2.45G



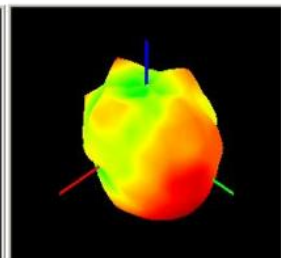
2.48G



5.2G



5.5G



5.8G

5.天线 2D 图档 (Antenna 2D drawing) :

