

深圳市亿圣邦科技有限公司

样品承认书

SPECIFICATION FOR APPROVAL

公司名称 (客户填写): 深圳艾普达科技有限公司

物料代码 (客户填写):

规格型号 (客户填写):

承认日期 (客户填写):

供应商名称 (SLK 填写): 深圳市亿圣邦科技有限公司

供应商名称 (SLK 填写): 4G MAIN:SLK-APD-9812C-R-210III-G-0.81

4G AUX:SLK-APD-1710E

W/G/B :SLK-APD-2509A

承认签章

供应商承认 (SLK 填写栏)

深圳艾普达科技有限公司

工程师

审核

批准

工程师

审核

批准

胡雪文

黄震

林美财

盖章签署

盖章签署

日期

2025-3-24

日期

批示: ☐接受 ☐有条件接受

备注 (客户填写):

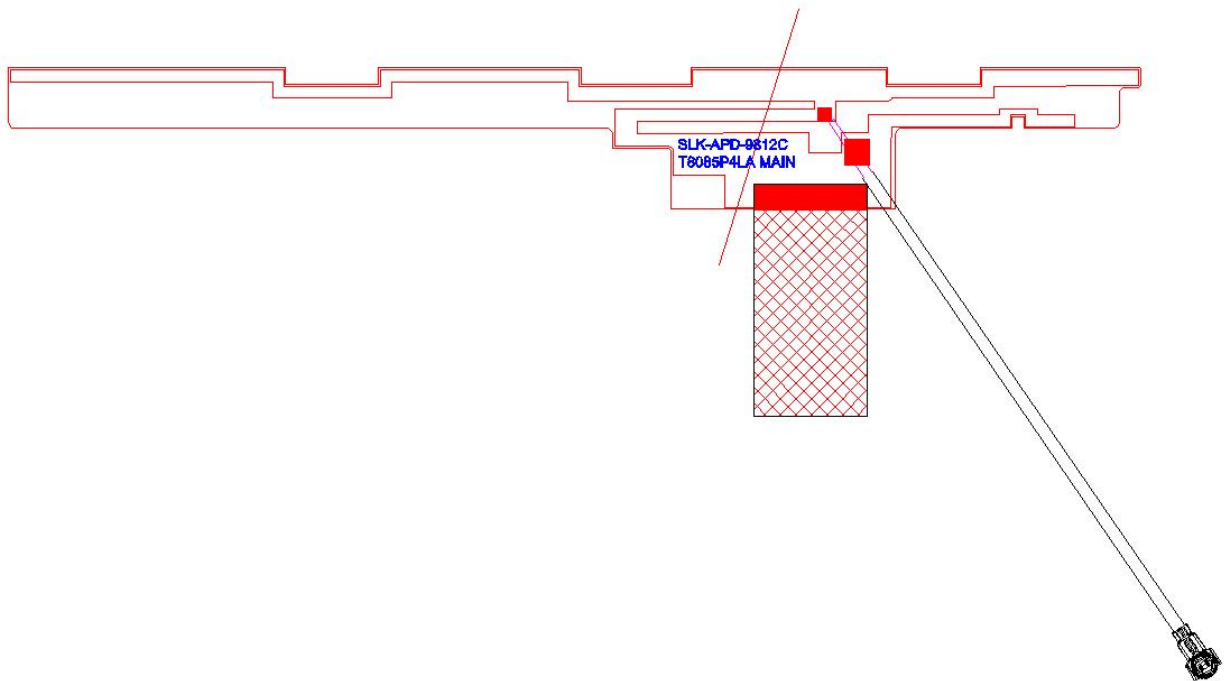
Manufacturer: Shenzhen Yishengbang Technology Co., Ltd
Address: Room 101, Building C, Qianwan Hard Technology Industrial Park,
Bao'an District, Shenzhen, China

4G Antenna (9812C)

1. Explanation of Product number :

S L K - A P D - 9 8 1 2 C - R - 2 1 0 I I I - G

1 2 3 4 5



Product Code:

(1) Customer:

APD: 艾普达

(2) Project:

9812C: SLK-APD-9812C (4G antenna)

(3) Welding Position

R: Right

(4) Cable Length:

210III: 210*0.81MM三代端子

(5) Cable Color

G: Gray

2. Features

- *Stable and reliable in performances
- *Compact size
- *RoHS compliance

3. Applications

- * IEEE802.11 (a/b/g/n)
- * Hand-held devices when 4G (802.11a/b/g/n)GPS functions are needed

4. Description

Holy bond's FPC antenna series are specially designed for 4G (802.11 a/b/g/n) GPS applications. Based on Holy bond's proprietary design and processes, this FPC antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

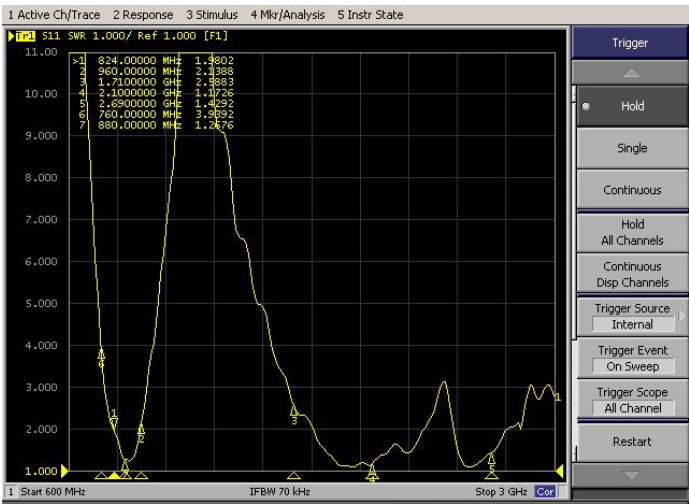
5. Electrical Specifications

5-1

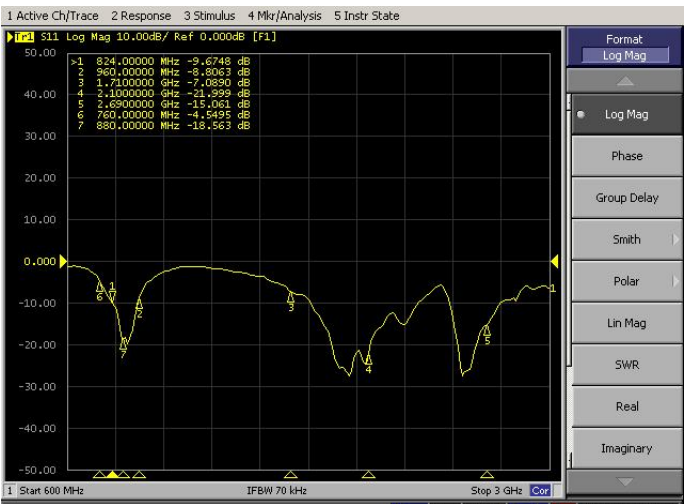
Characteristics	Specifications	Unit
Outline Dimensions	97.8x12.23x 0.12	mm
Center Frequency	0.7-0.96/1.71-2.69	GHz
Bandwidth(under-10dB return loss)	50min	MHz
VSWR	2max	

5-2.

VSWR



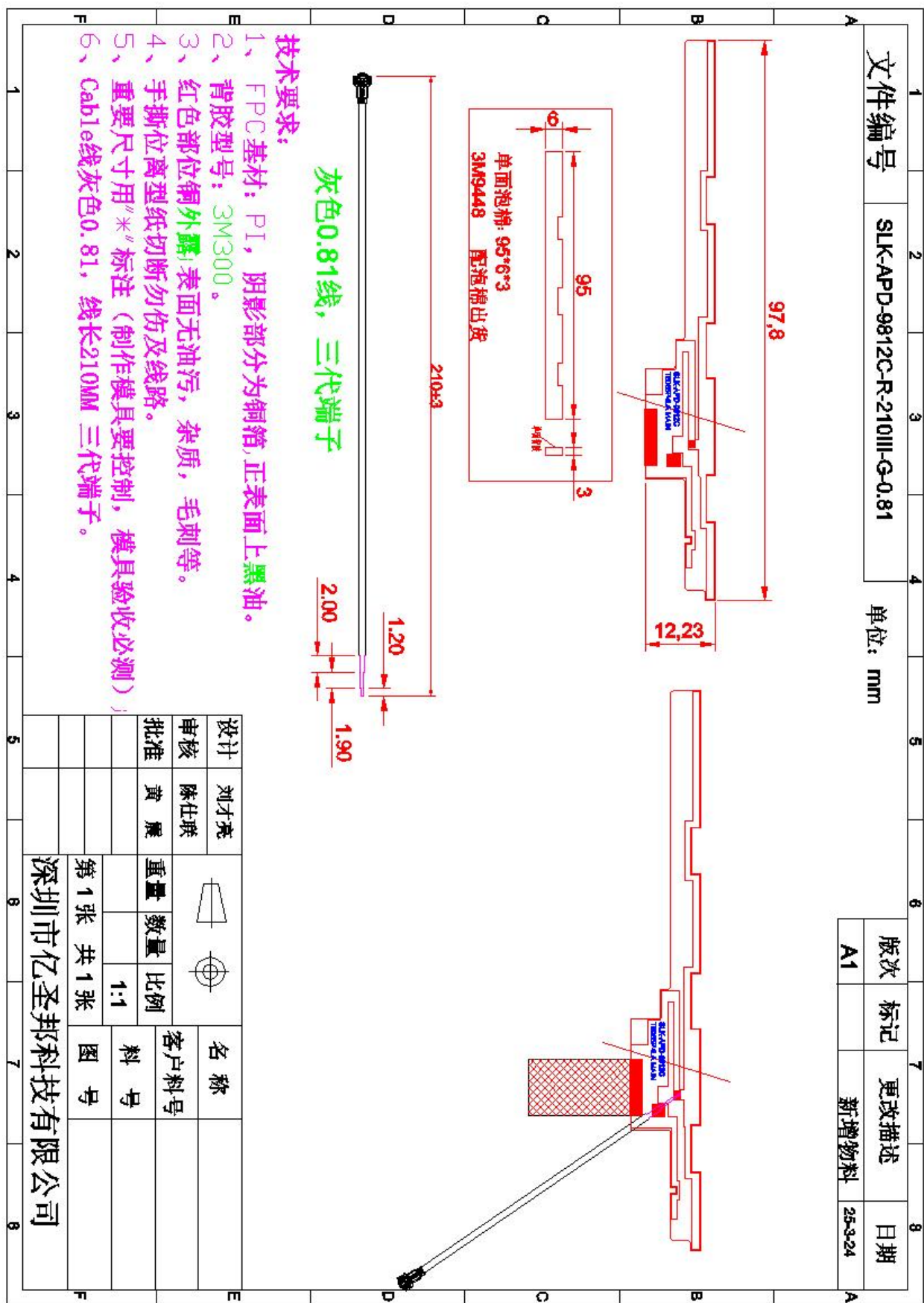
S11



LTE MAIN Antenna TIS/TRP

2G 频段	LTE-L	LTE-M	LTE-R	TIS
GSM850	24.78	24.70	24.81	-101.59
GSM900	24.61	24.18	23.67	-100.43
GSM1800	24.13	24.19	25.06	-104.25
GSM1900	24.66	25.19	24.37	-103.76
3G 频段	LTE-L	LTE-M	LTE-R	TIS
WCDMA-B2	16.78	16.46	16.83	-101.49
WCDMA-B5	16.58	16.21	16.54	-104.17
4G 频段	LTE-L	LTE-M	LTE-R	TIS
LTE-4	17.27	17.06	17.83	-89.44
LTE-5	16.05	16.13	16.25	-87.11

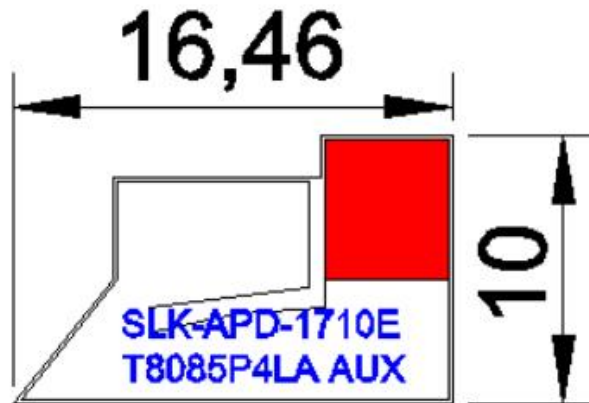
6. Antenna Dimensions (unit: mm)



4G Antenna (1710E)

2. Explanation of Product number :

S L K - A P D - 1 7 1 0 E
1 2



Product Code:

(1) Customer:

APD: 艾普达

(2) Project:

1710E: SLK-APD-1710E (4G antenna)

2. Features

- *Stable and reliable in performances
- *Compact size
- *RoHS compliance

3. Applications

- * IEEE802.11 (a/b/g/n)
- * Hand-held devices when 4G (802.11a/b/g/n)GPS functions are needed

4. Description

Holy bond’s FPC antenna series are specially designed for 4G (802.11 a/b/g/n) GPS applications. Based on Holy bond’s proprietary design and processes, this FPC antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications

5-1

Characteristics	Specifications	Unit
Outline Dimensions	16.46x10x 0.12	mm
Center Frequency	0.7-1.71+2.1-2.69	GHz
Bandwidth(under-10dB return loss)	50min	MHz
VSWR	2max	

6. Antenna Dimensions (unit: mm)

文件编号	SLK-APD-1710E	单位: mm	版次	标记	更改描述	日期
			A1		新增物料	26-3-24

技术要求:

- 1、FPC 基材: PI, 阴影部分为铜箔, 正表面上绿油。
- 2、背胶型号: 3M300。
- 3、红色部位铜外露; 表面无油污, 杂质, 毛刺等。
- 4、手撕位离型纸切断勿伤及线路。
- 5、重要尺寸用“*”标注 (制作模具要控制, 模具验收必测);

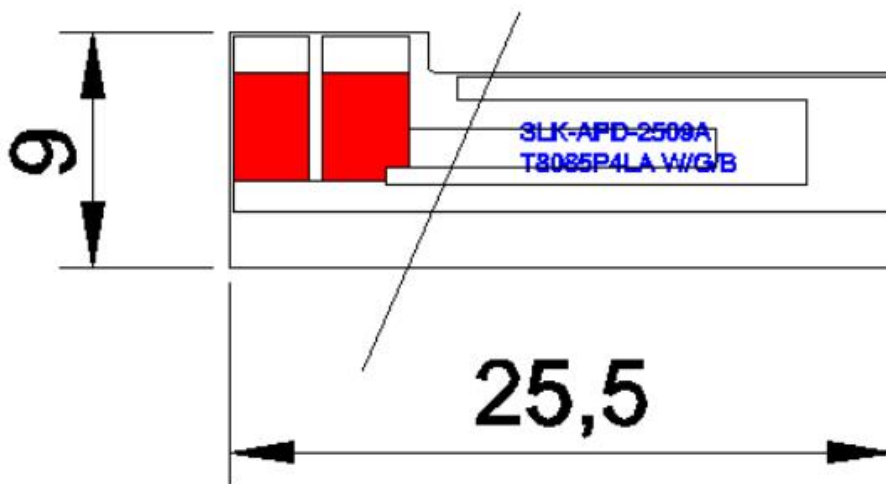
设计	刘才亮			名称	
审核	陈仕联	重量	数量	客户料号	
批准	黄 震				比例 1:1
				料 号	
		第 1 张 共 1 张		图 号	
		深圳市亿圣邦科技有限公司			

W/G/B Antenna (2509A)

3. Explanation of Product number :

S L K - A P D - 2 5 0 9 A

1 2



Product Code:

(1) Customer:

APD: 艾普达

(2) Project:

2509A: SLK-APD-2509A (W/G/B antenna)

2. Features

- *Stable and reliable in performances
- *Compact size
- *RoHS compliance

3. Applications

- * IEEE802.11 (b/g/n)
- * Hand-held devices when W/G/B (802.11b/g/n)GPS functions are needed

4. Description

Holy bond's FPC antenna series are specially designed for W/G/B (802.11 b/g/n) GPS applications. Based on Holy bond's proprietary design and processes, this FPC antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

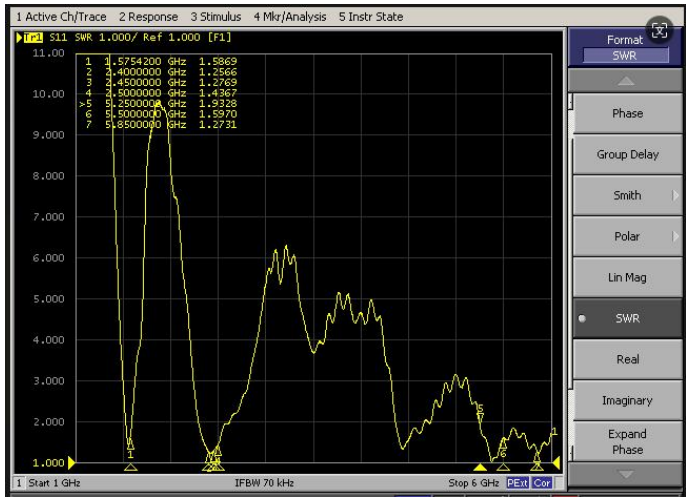
5. Electrical Specifications

5-1

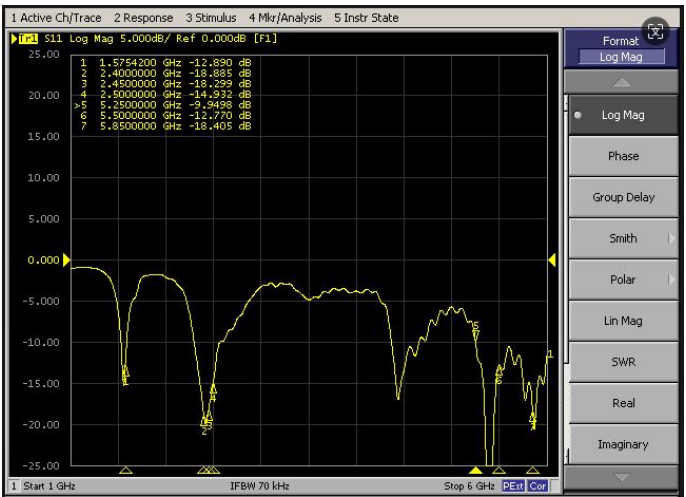
Characteristics	Specifications	Unit
Outline Dimensions	25.5x9x 0.12	mm
Center Frequency	1.575/2.4-2.5/5.15-5.85	GHz
Bandwidth(under-10dB return loss)	50min	MHz
VSWR	1max	

5-2.

VSWR

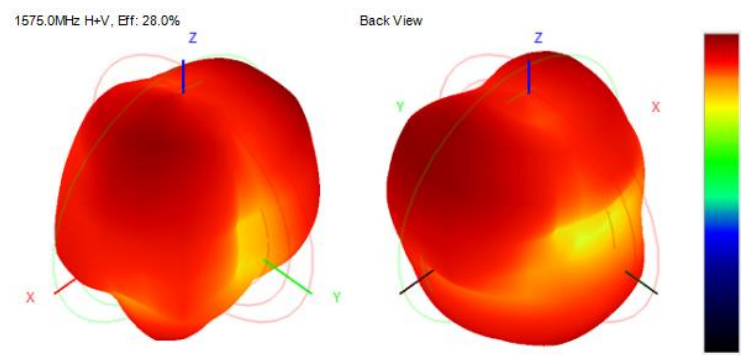


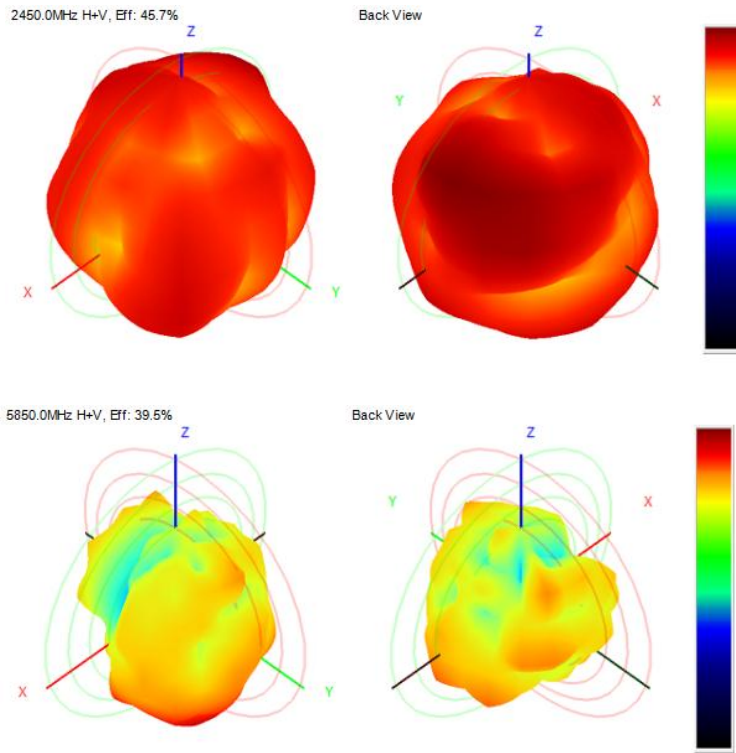
S11



5-3.WIFI+GPS Antenna Gain/Efficiency/3D DATE

Frequency	Efficiency	Gain	Efficiency
(MHz)	(dBi)	(dBi)	(%)
1570.0	-5.34	1.05	29.27
1575.0	-5.54	1.06	27.95
1580.0	-5.47	0.92	28.39
2400.0	-3.91	0.81	40.66
2410.0	-3.69	0.94	42.80
2420.0	-3.25	1.55	47.32
2430.0	-3.33	1.53	46.49
2440.0	-3.34	1.57	46.39
2450.0	-3.40	1.56	45.72
2460.0	-3.17	1.63	48.17
2470.0	-3.45	1.41	45.21
2480.0	-3.38	1.36	45.91
2490.0	-3.32	1.34	46.55
2500.0	-3.46	1.18	45.05
5150.0	-6.16	1.27	34.20
5350.0	-4.30	2.11	37.17
5550.0	-4.45	2.68	35.87
5750.0	-4.10	2.58	38.87
5850.0	-4.04	2.10	39.45





5-4.WIFI Active Test

					A级标准		B级标准		C级标准		实测值	
	Mode	Channel	Frequency (MHz)	Date rate (Mbps)	TRP (dbm)	TIS (dbm)	TRP (dbm)	TIS (dbm)			TRP (dbm)	TIS (dbm)
WIFI 2.4GHz	b	1	2412	11	≥ 12	≤ -78	≥ 10	≤ -72	≥ 9	≤ -68	11.51	-80.15
		6	2437	11							12.05	-80.22
		11	2462	11							12.40	-80.75
	g	1	2412	54	≥ 11	≤ -63	≥ 8	≤ -61	≥ 7	≤ -59	10.22	-69.68
		6	2437	54							11.64	-69.97
		11	2462	54							11.59	-69.35
	n	1	2412	65	≥ 10	≤ -63	≥ 8	≤ -58	≥ 6	≤ -56	10.55	-65.72
		6	2437	65							11.17	-66.19
		11	2462	65							11.22	-66.02
WIFI 5.8GHz	a	36	5180	54	≥ 10	≤ -63	≥ 8	≤ -59	≥ 6	≤ -57	11.44	-70.04
		149	5745	54							13.52	-71.35
		165	5825	54							12.73	-70.92

5-5.WIFI Throughput Test

[5]	8.00-9.00	sec	7.25 MBytes	60.8 Mbits/sec
[5]	9.00-10.00	sec	6.75 MBytes	56.7 Mbits/sec
[5]	10.00-11.01	sec	6.88 MBytes	57.1 Mbits/sec
[5]	11.01-12.01	sec	6.50 MBytes	54.9 Mbits/sec
[5]	12.01-13.01	sec	6.62 MBytes	55.4 Mbits/sec
[5]	13.01-14.00	sec	6.75 MBytes	56.9 Mbits/sec
[5]	14.00-15.00	sec	6.88 MBytes	57.6 Mbits/sec
[5]	15.00-16.00	sec	7.62 MBytes	64.1 Mbits/sec
[5]	16.00-17.00	sec	7.00 MBytes	58.7 Mbits/sec
[5]	17.00-18.00	sec	6.50 MBytes	54.5 Mbits/sec
[5]	18.00-19.00	sec	6.50 MBytes	54.5 Mbits/sec
[5]	19.00-20.00	sec	6.62 MBytes	55.7 Mbits/sec
[5]	20.00-21.00	sec	6.50 MBytes	54.6 Mbits/sec
[5]	21.00-22.01	sec	6.75 MBytes	55.9 Mbits/sec
[5]	22.01-23.01	sec	7.12 MBytes	60.0 Mbits/sec
[5]	23.01-24.00	sec	7.38 MBytes	62.4 Mbits/sec
[5]	24.00-25.00	sec	7.38 MBytes	61.7 Mbits/sec
[5]	25.00-26.00	sec	7.25 MBytes	61.0 Mbits/sec
[5]	26.00-27.00	sec	7.00 MBytes	58.6 Mbits/sec
[5]	27.00-28.00	sec	6.75 MBytes	56.7 Mbits/sec
[5]	28.00-29.00	sec	6.88 MBytes	57.6 Mbits/sec
[5]	29.00-30.01	sec	7.25 MBytes	60.4 Mbits/sec

[ID]	Interval		Transfer	Bitrate
[5]	0.00-30.01	sec	210 MBytes	58.8 Mbits/sec
[5]	0.00-30.15	sec	210 MBytes	58.5 Mbits/sec

2.4G下载

[5]	8.00-9.00	sec	5.94 MBytes	49.8 Mbits/sec
[5]	9.00-10.00	sec	5.84 MBytes	48.9 Mbits/sec
[5]	10.00-11.01	sec	5.71 MBytes	47.6 Mbits/sec
[5]	11.01-12.00	sec	6.05 MBytes	51.1 Mbits/sec
[5]	12.00-13.00	sec	6.09 MBytes	51.2 Mbits/sec
[5]	13.00-14.00	sec	5.85 MBytes	49.0 Mbits/sec
[5]	14.00-15.00	sec	5.72 MBytes	47.9 Mbits/sec
[5]	15.00-16.00	sec	5.71 MBytes	48.0 Mbits/sec
[5]	16.00-17.00	sec	5.74 MBytes	48.2 Mbits/sec
[5]	17.00-18.00	sec	5.76 MBytes	48.3 Mbits/sec
[5]	18.00-19.01	sec	5.21 MBytes	43.4 Mbits/sec
[5]	19.01-20.00	sec	5.88 MBytes	49.7 Mbits/sec
[5]	20.00-21.00	sec	5.54 MBytes	46.5 Mbits/sec
[5]	21.00-22.00	sec	5.90 MBytes	49.4 Mbits/sec
[5]	22.00-23.00	sec	5.80 MBytes	48.7 Mbits/sec
[5]	23.00-24.00	sec	5.73 MBytes	48.0 Mbits/sec
[5]	24.00-25.00	sec	5.80 MBytes	48.7 Mbits/sec
[5]	25.00-26.00	sec	5.95 MBytes	50.0 Mbits/sec
[5]	26.00-27.00	sec	5.81 MBytes	48.8 Mbits/sec
[5]	27.00-28.00	sec	5.91 MBytes	49.6 Mbits/sec
[5]	28.00-29.00	sec	6.09 MBytes	51.1 Mbits/sec
[5]	29.00-30.00	sec	6.39 MBytes	53.6 Mbits/sec

[ID]	Interval		Transfer	Bitrate
[5]	0.00-30.15	sec	173 MBytes	48.2 Mbits/sec
[5]	0.00-30.00	sec	172 MBytes	48.0 Mbits/sec

2.4G上传

[5]	38.00-39.00	sec	41.4 MBytes	348 Mbits/sec
[5]	39.00-40.00	sec	41.0 MBytes	344 Mbits/sec
[5]	40.00-41.01	sec	29.0 MBytes	242 Mbits/sec
[5]	41.01-42.01	sec	25.2 MBytes	212 Mbits/sec
[5]	42.01-43.01	sec	40.8 MBytes	342 Mbits/sec
[5]	43.01-44.01	sec	41.1 MBytes	346 Mbits/sec
[5]	44.01-45.00	sec	40.2 MBytes	339 Mbits/sec
[5]	45.00-46.00	sec	40.5 MBytes	339 Mbits/sec
[5]	46.00-47.00	sec	40.8 MBytes	341 Mbits/sec
[5]	47.00-48.00	sec	39.8 MBytes	334 Mbits/sec
[5]	48.00-49.01	sec	39.5 MBytes	330 Mbits/sec
[5]	49.01-50.01	sec	40.9 MBytes	343 Mbits/sec
[5]	50.01-51.01	sec	31.4 MBytes	262 Mbits/sec
[5]	51.01-52.00	sec	24.9 MBytes	210 Mbits/sec
[5]	52.00-53.01	sec	38.6 MBytes	323 Mbits/sec
[5]	53.01-54.01	sec	40.1 MBytes	337 Mbits/sec
[5]	54.01-55.01	sec	41.2 MBytes	346 Mbits/sec
[5]	55.01-56.00	sec	41.8 MBytes	351 Mbits/sec
[5]	56.00-57.00	sec	41.1 MBytes	345 Mbits/sec
[5]	57.00-58.01	sec	42.0 MBytes	352 Mbits/sec
[5]	58.01-59.01	sec	41.6 MBytes	349 Mbits/sec
[5]	59.01-60.01	sec	41.4 MBytes	347 Mbits/sec

[ID]	Interval		Transfer	Bitrate
[5]	0.00-60.01	sec	2.20 GBytes	315 Mbits/sec
[5]	0.00-60.07	sec	2.20 GBytes	315 Mbits/sec

5G下载

[5]	8.00-9.00	sec	29.2 MBytes	244 Mbits/sec
[5]	9.00-10.00	sec	30.0 MBytes	252 Mbits/sec
[5]	10.00-11.00	sec	31.0 MBytes	260 Mbits/sec
[5]	11.00-12.01	sec	20.9 MBytes	175 Mbits/sec
[5]	12.01-13.00	sec	26.2 MBytes	220 Mbits/sec
[5]	13.00-14.00	sec	31.4 MBytes	263 Mbits/sec
[5]	14.00-15.00	sec	31.3 MBytes	263 Mbits/sec
[5]	15.00-16.00	sec	33.3 MBytes	279 Mbits/sec
[5]	16.00-17.00	sec	33.1 MBytes	277 Mbits/sec
[5]	17.00-18.00	sec	32.4 MBytes	272 Mbits/sec
[5]	18.00-19.00	sec	31.7 MBytes	266 Mbits/sec
[5]	19.00-20.00	sec	31.7 MBytes	266 Mbits/sec
[5]	20.00-21.00	sec	33.3 MBytes	279 Mbits/sec
[5]	21.00-22.00	sec	23.8 MBytes	199 Mbits/sec
[5]	22.00-23.00	sec	24.0 MBytes	202 Mbits/sec
[5]	23.00-24.00	sec	32.0 MBytes	268 Mbits/sec
[5]	24.00-25.00	sec	32.6 MBytes	273 Mbits/sec
[5]	25.00-26.00	sec	32.5 MBytes	273 Mbits/sec
[5]	26.00-27.00	sec	32.0 MBytes	268 Mbits/sec
[5]	27.00-28.00	sec	32.0 MBytes	268 Mbits/sec
[5]	28.00-29.00	sec	33.3 MBytes	279 Mbits/sec
[5]	29.00-30.00	sec	32.3 MBytes	271 Mbits/sec

[ID]	Interval		Transfer	Bitrate
[5]	0.00-30.06	sec	893 MBytes	249 Mbits/sec
[5]	0.00-30.00	sec	891 MBytes	249 Mbits/sec

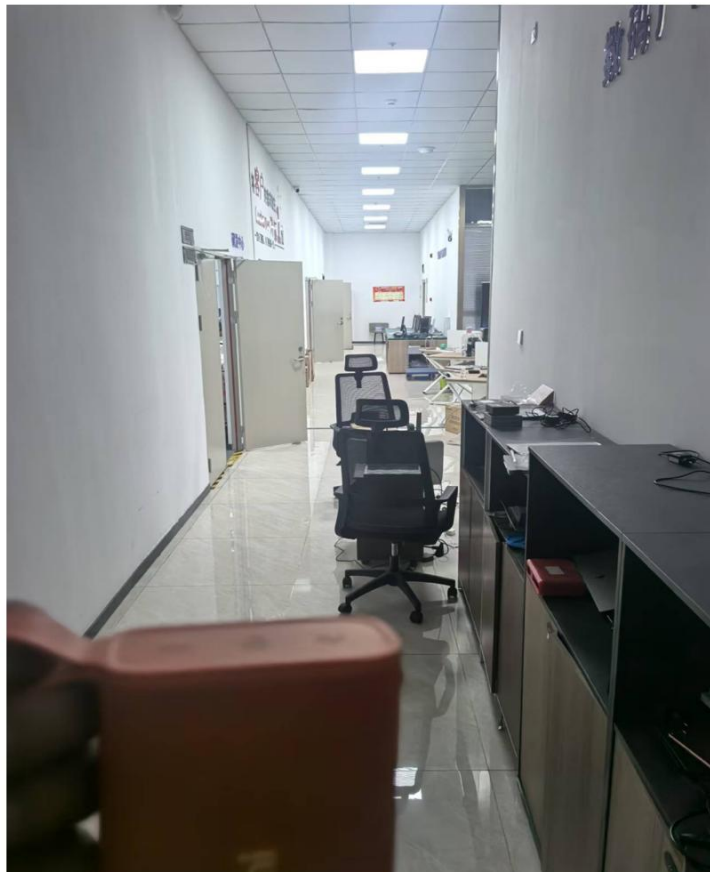
5G上传

5-6.GPS practical Test

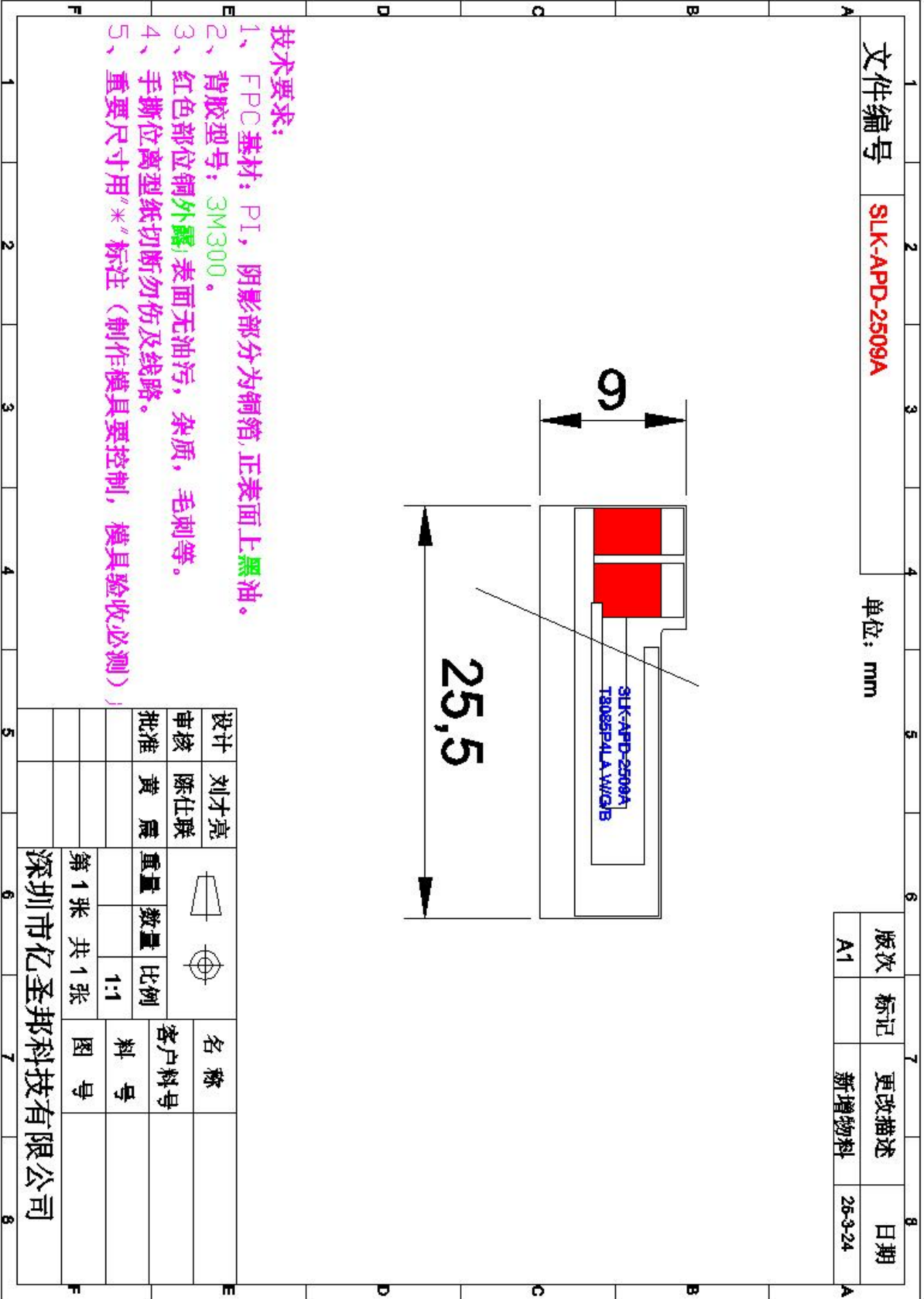


5-7 BT measurement Test

蓝牙播放音乐实测办
公室距离大于25M



6. Antenna Dimensions (unit: mm)



7. Antenna Picture



