

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): 深圳市普耐尔电子有限公司

物料代码 (客户填写):

规格型号 (客户填写): A1119D(8786)-LTE

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): WIFI+GPS:SLK-PNE-2921N13 V1-R-30IV-G

4G MAIN:SLK-PNE-6812H V1-L-85IV-B

4G AUX:SLK-PNE-2004-L-85IV-B

承认签章

供应商承认 (SLK 填写栏)

深圳普耐尔电子有限公司

工程师

审核

批准

工程师

审核

批准

陈仕联

黄震

林美财

盖章签署

盖章签署

日期

2025-11-15

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, Shenzhen Qianwan Hard Technology Industrial Park, Bao'an District, Shenzhen

电话: 18025305599 电话: 18666299104

WIFI+GPS Antenna (2921N13 V1)

1. Explanation of Product number :

S L K - P N E - 2 9 2 1 N 1 3 V 1 - R - 3 0 I V - G

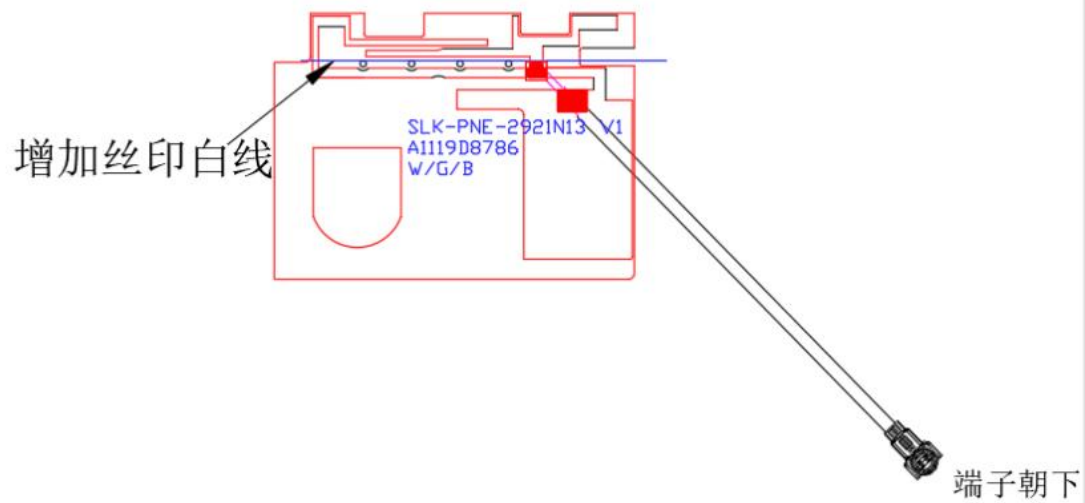
1

2

3

4

5



Product Code:

(1) Customer:

PNE:普耐尔

(2) Project:

2921N13 V1: SLK-2921N13 V1 (WiFi+GPS antenna)

(3) Welding Position

R:Right

(4) Cable Length:

30IV: 30*0.81MM四代端子

(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 WIFI (802.11a/b/g/n)GPS functions are needed

4. Description

Holy bond’s FPC antenna series are specially designed for WIFI (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

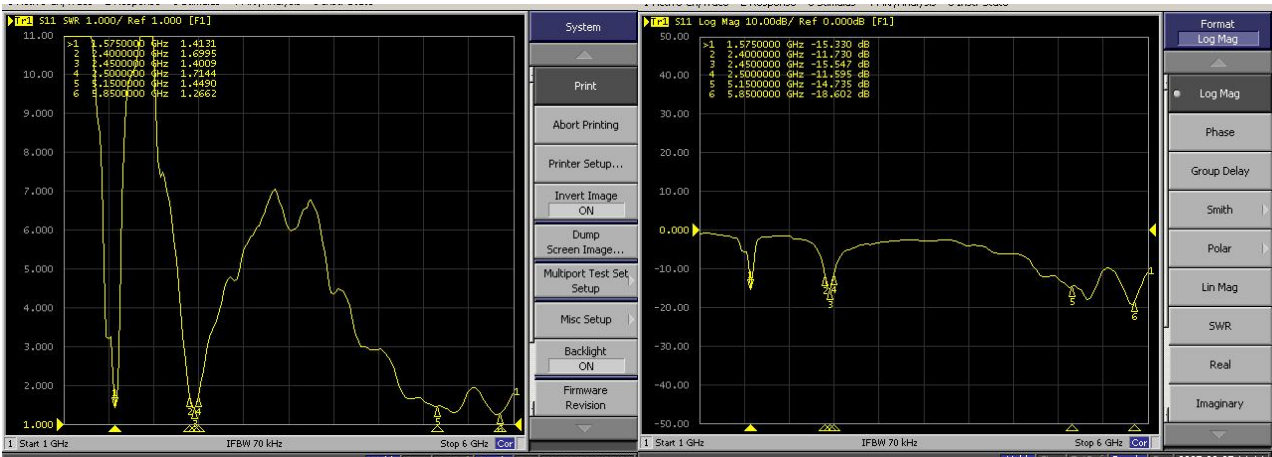
5-1

Characteristics	Specifications	Unit
Outline Dimensions	29.7x 21.92x0.12	mm
Center Frequency	1.575+2.4-2.5+5.15-5.85	GHz
Bandwidth(under-10dB return loss)	130min	MHz
VSWR	3max	

5-2.

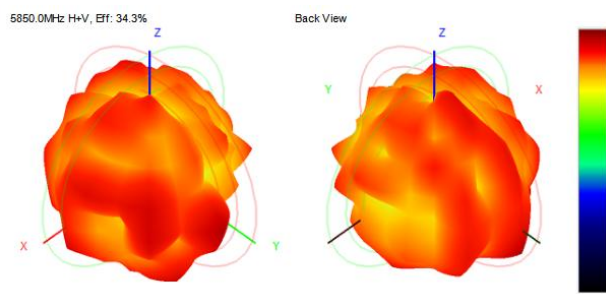
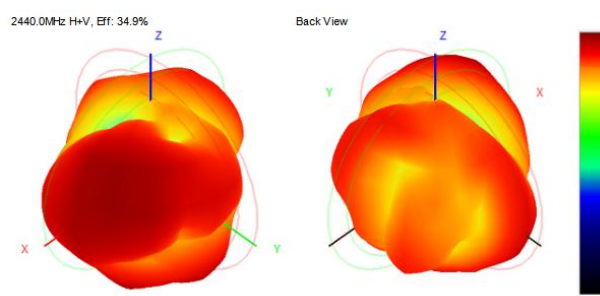
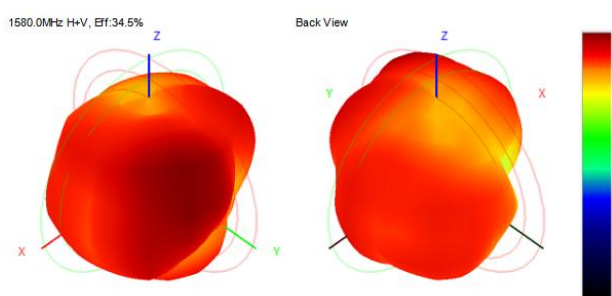
VSWR

S11



5-3.WIFI +GPS Antenna Gain/Efficiency/Radiation Pattern of 3D

Frequency (MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)	天线增益 (dbi)
1570.0	-4.78	0.61	33.25	0.82
1575.0	-4.68	0.73	34.08	
1580.0	-4.63	0.82	34.46	
2400.0	-4.78	0.89	33.23	1.27
2410.0	-4.76	1.19	33.44	
2420.0	-4.68	1.13	34.01	
2430.0	-4.60	1.12	34.65	
2440.0	-4.58	1.27	34.86	
2450.0	-4.77	0.85	33.34	
2460.0	-4.67	1.16	34.15	
2470.0	-4.75	1.13	33.51	
2480.0	-4.60	0.74	34.64	
2490.0	-4.68	1.02	34.04	
2500.0	-4.70	0.97	33.91	
5150.0	-4.94	1.57	32.03	1.57
5250.0	-4.72	2.07	33.74	2.07
5350.0	-4.86	1.61	32.69	1.61
5550.0	-4.66	1.72	34.21	1.72
5750.0	-4.53	1.51	35.23	1.51
5850.0	-4.65	1.44	34.31	1.44

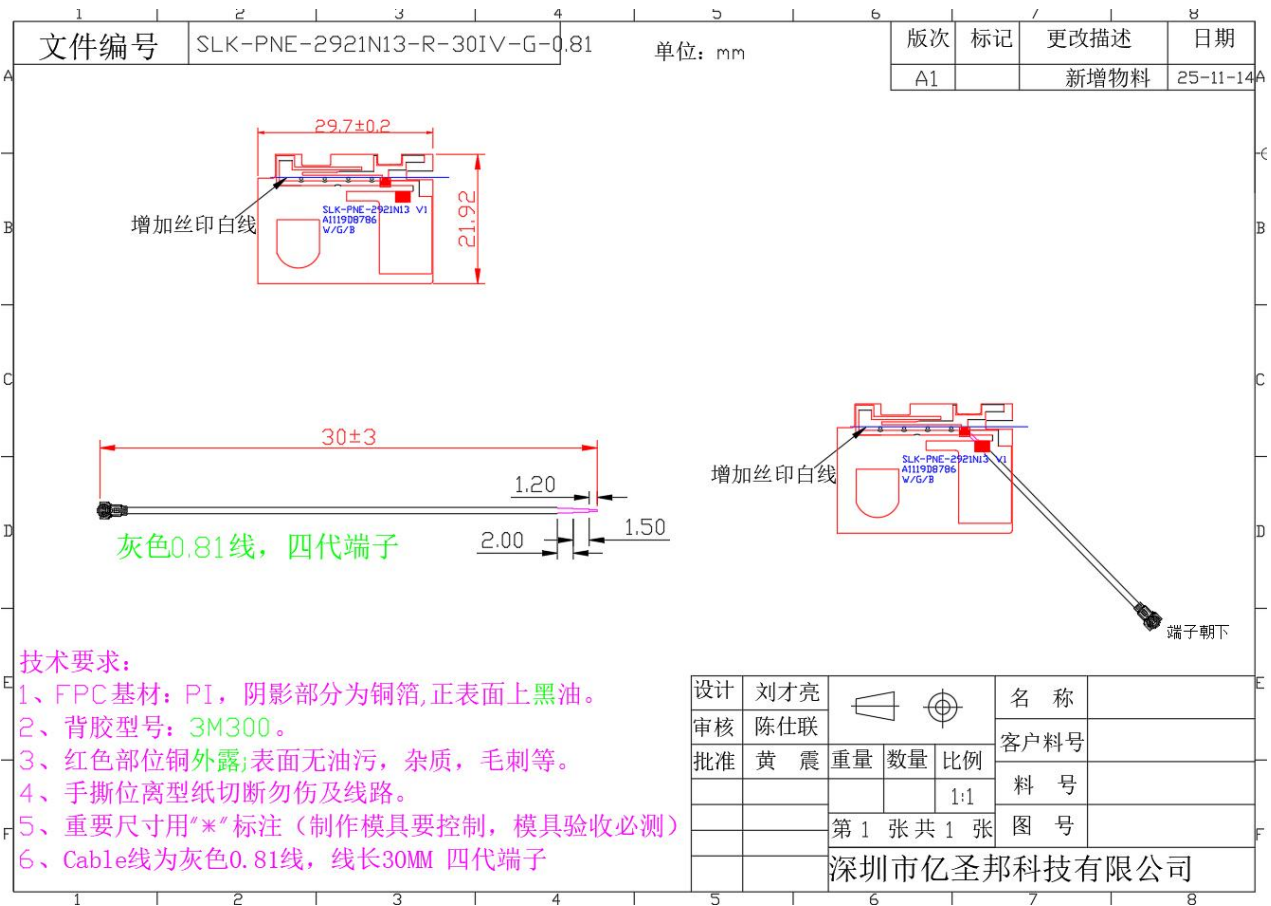


WIFI 有源测试			
频段	1	6	11
B-TRP-11MBps	14. 26	14. 64	14. 56
B-TIS-11MBps	-81. 54	-81. 09	-81. 24
G-TRP-54MBps	11.26	11.57	11.82
G-TIS-54MBps	-70.34	-70.59	70.71
N-TRP-MCS7	11.48	11.67	11.93
N-TIS-MCS7	-64.48	-64.79	-65.05
频段	36	149	165
A-TRP-54MBps	10. 29	10. 18	10. 57
A-TIS-54MBps	-69. 46	-69. 57	-69. 42

GPS test



6. Antenna Dimensions (unit: mm)

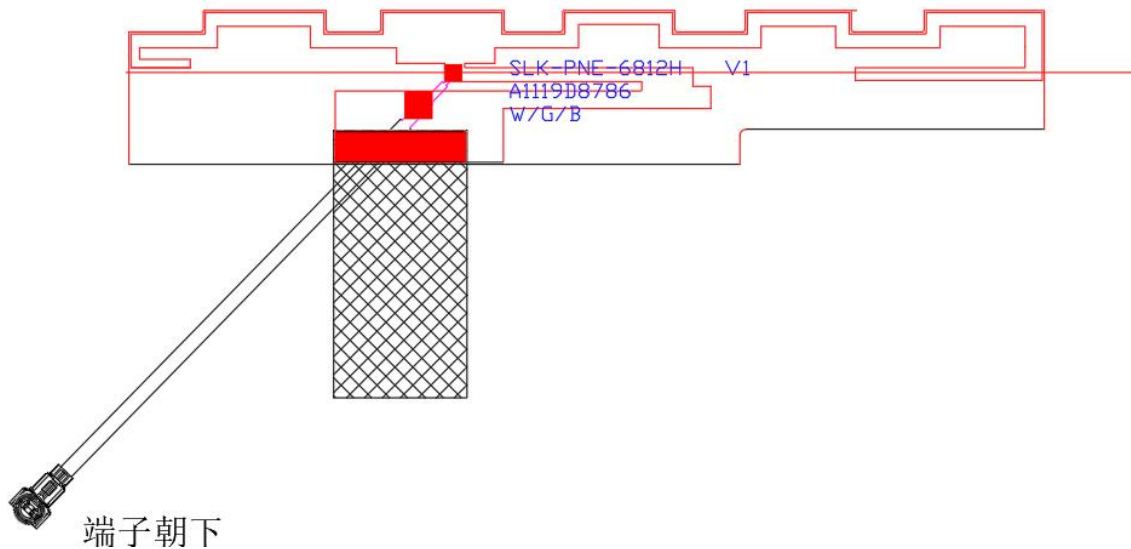


4G MAIN Antenna (6812H V1)

1. Explanation of Product number :

S L K - P N E - 6 8 1 2 H V 1 - L - 8 5 I V - B

1 2 3 4 5



Product Code:

(1) Customer:

PNE:普耐尔

(2) Project:

6812H V1: SLK-6812H V1 (4G MAIN antenna)

(3) Welding Position

L: Left

(4) Cable Length:

85IV:85*0.81MM四代端子

(5)Cable Color

B: Black

2. Features

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

3. Description

Holy bond’s FPC antenna series are specially designed for 4G 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.

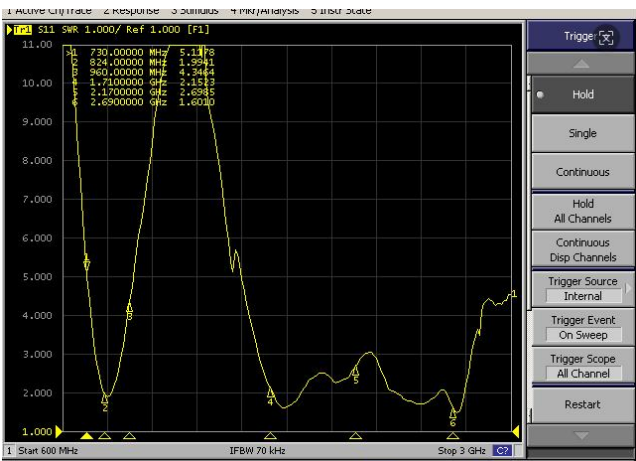
4. Electrical Specifications

4-1

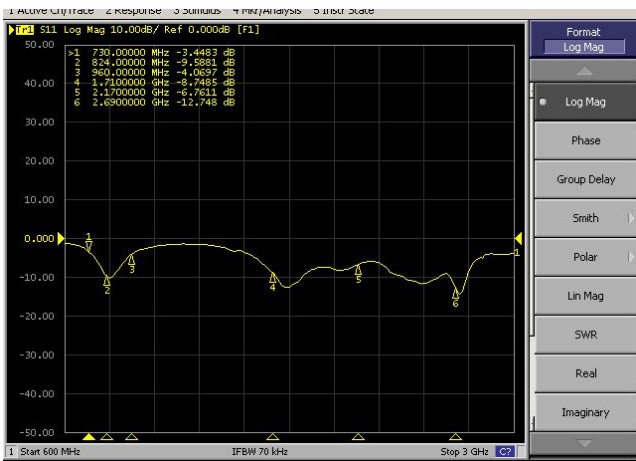
Characteristics	Specifications	Unit
Outline Dimensions	68.66x 11.51x 0.12	mm
Bandwidth(under-10dB return loss)	130min	MHz
VSWR	5max	

4-2

VSWR



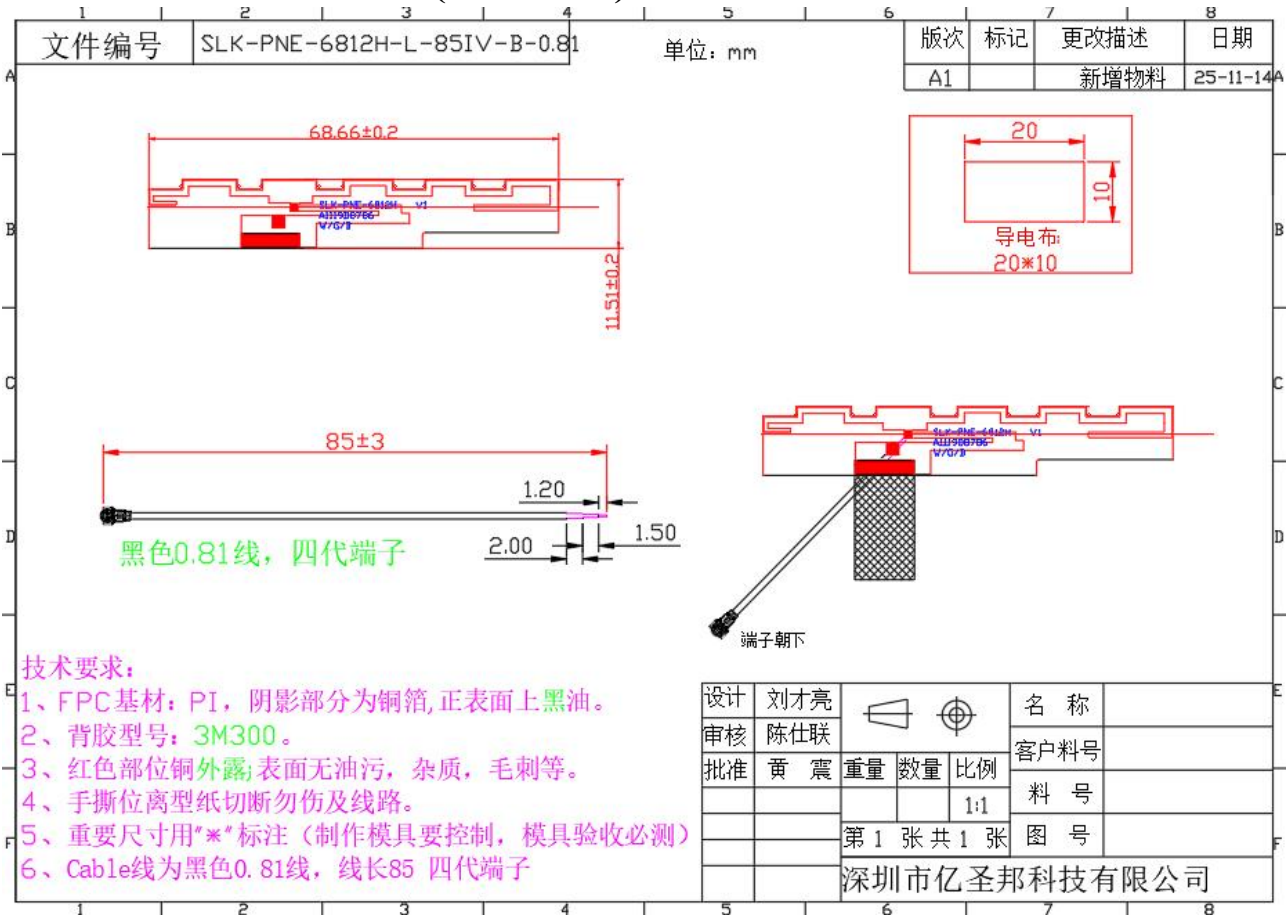
S11



4-3. 2G/3G/4G Antenna TRP/TIS

2G 频段	LTE-L	LTE-M	LTE-R	TIS	增益(dbi)
GSM850	27.11	26.83	26.59	-102.36	0.8
GSM900	26.86	26.75	26.48	-102.45	0.9
GSM1800	24.08	24.21	24.37	-102.26	1.1
GSM1900	24.25	24.47	24.38	-102.19	1.2
3G 频段	LTE-L	LTE-M	LTE-R	TIS	增益(dbi)
WCDMA-B1	19.64	19.79	19.82	-103.38	1.1
WCDMA-B8	17.02	16.82	17.13	-102.56	0.9
4G 频段	LTE-L	LTE-M	LTE-R	TIS	增益(dbi)
LTE-1	19.65	19.27	19.02	-91.97	1.1
LTE-3	19.01	19.03	19.3	-92	1
LTE-4	19.28	19.15	19.5	-90.79	0.8
LTE-7	17.89	17.49	17.35	-88.27	1.6
LTE-66	19.59	19.15	19.49	-89.67	1

5. Antenna Dimensions (unit: mm)



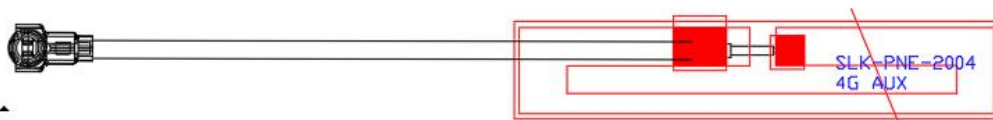
4G AUX Antenna (2004)

1. Explanation of Product number:

S L K - P N E - 2 0 0 4 - L - 8 5 I V - B

1 2 3 4 5

端子朝下



Product Code:

(1) Customer:

PNE:普耐尔

(2) Project:

2004: SLK-2004 (4G AUX antenna)

(3) Welding Position

L:Left

(4) Cable Length:

85IV:85*0.81MM四代端子

(5)Cable Color

B: Black

2. Features

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

3. Description

Holy bond’s FPC antenna series are specially designed for 4G 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.

4. Electrical Specifications

4-1

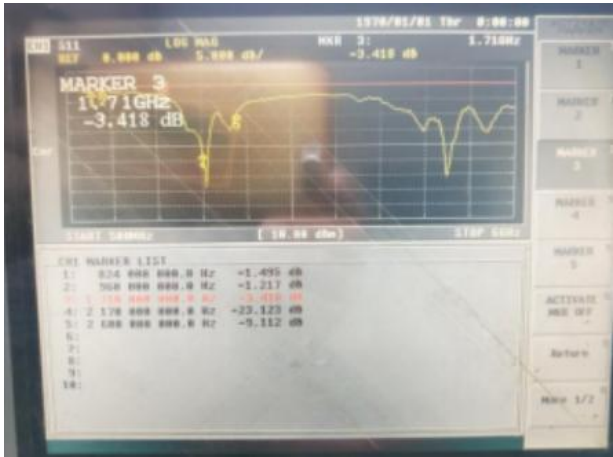
Characteristics	Specifications	Unit
Outline Dimensions	20x 4x 0.12	mm
Bandwidth(under-10dB return loss)	130min	MHz
VSWR	5max	

4-2

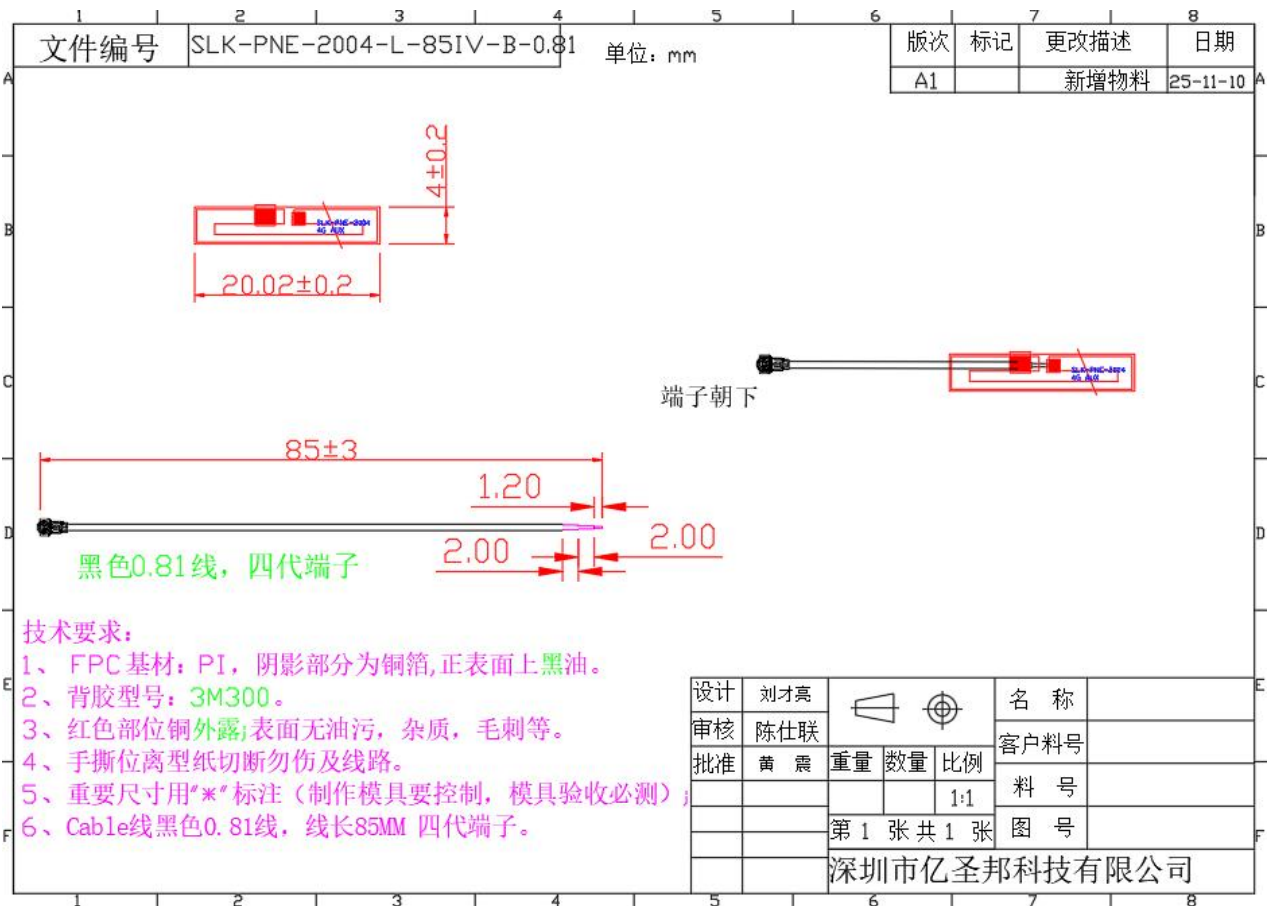
VSWR



S11



5. Antenna Dimensions (unit: mm)

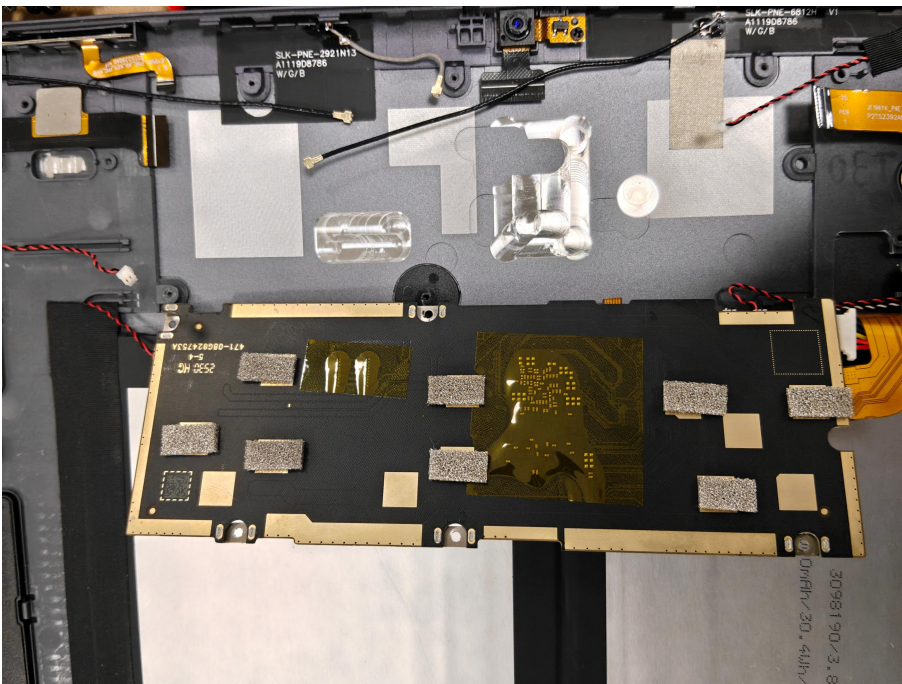


6. Antenna Picture



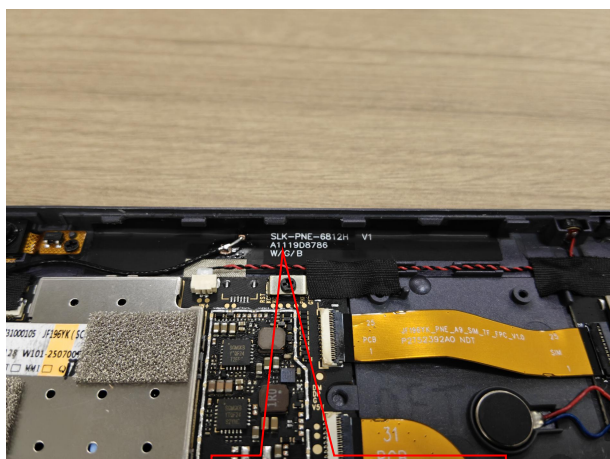
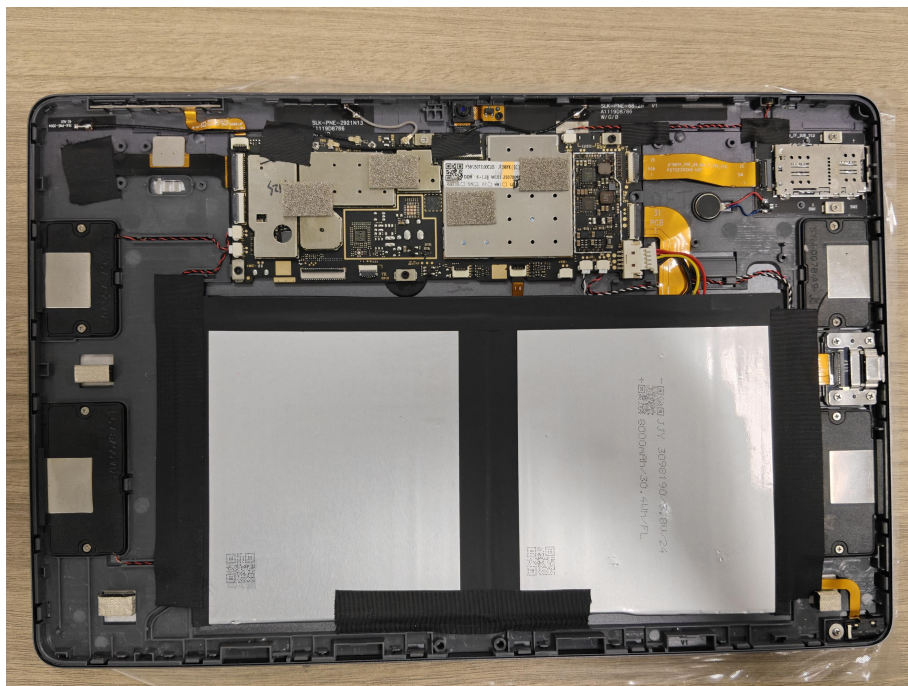
如图所示：

1.在主板屏蔽罩
贴四块导电海绵
与屏接地处理



如图所示：

1.主板底部环境
处理，主板漏铜
区贴 8 块导电海
绵与底壳接地处
理



4G 主天线



WIFI/GPS 天线



4G 分集天线