



ONE PLUS ONE
Wireless Communication

**Shenzhen Yijia Yi Wireless Communication Technology Co.,
LTD**

**规格书
APPROVAL SHEET**

客户 Customer	众智
项目名 Project	B29C
料号 Part NO.	
规格 Specification	MAIN+GPS/WIFI/BT Antennas

APPROVAL			
OnePlusOne:			
RF Check	ME Check	QC Check	Confirm By
Customer:			
EE Check	PM Check	QC Check	Confirm By

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Date:	Revision:	Updates and changes:		Issued by:
2025-07-11	A	Initial sheet		Haiou.Zhu

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1 Antenna description

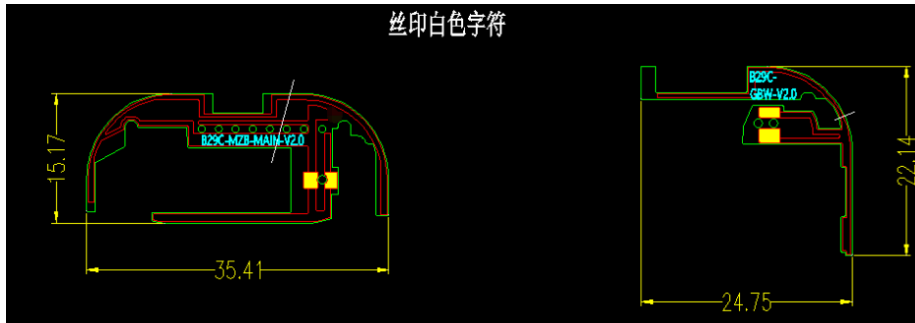
It summarize **Main and** , **GPS/WIFI/BT** antennas for project **B29C MAIN** antenna's frequency band is **824-960MHz&1710-2690MHZ**, Main antenna's type is **IFA**. **GPS/WIFI/BT** antenna's frequency band is **1575.42MHz&2400-2500MHz**. **GPS/WIFI/BT** antenna's type is **IFA**.

Part number of antenna: **FPC** Antenna pictures

1.1 Part number

Part number of antenna: **B29C-MAIN, B29C-G/W/B.**

1.2 Antenna pictures



2 Electrical Performance

2.1 Specificatio

Main		
Frequency Range	824MHz~960MH Z	1710MHz~2690MH Z
Return Loss	<-4	<-5
Efficiency	>10%	>20%

GPS/WIFI/BT		
Frequency Range	1575.42MHz	2400MHz~2500MH Z
Return Loss	<-5	<-5
Efficiency	>25%	>25%

2.2 Measurement Set-u

2.2.1 VSWR and Return Loss

VSWR measurements (S_{11}) were performed using an Agilent ENA series Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

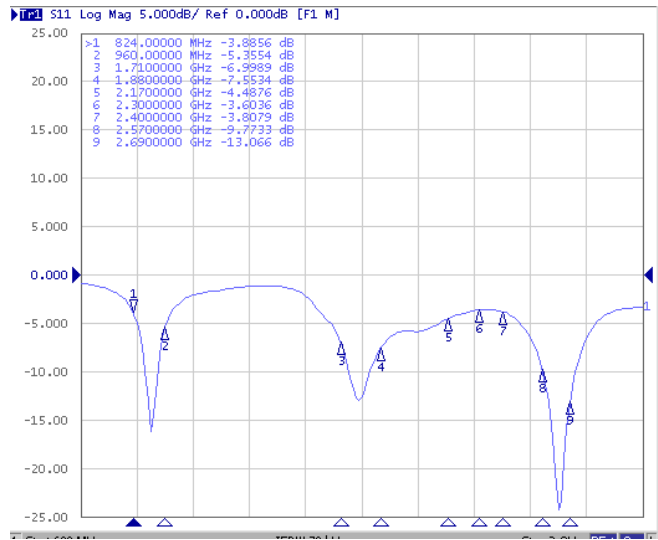
2.2.2 Efficiency and Gain

The gain of the antenna was measured in OPO's 3D anechoic chamber in Shenzhen, China. The chamber is a ETS system capable of doing tests from 380MHz to 6GHz. Coaxial chokes on the feed cable were used to mitigate surface currents during passive tests. The measurement results are calibrated using dipole standards. For TRP and TIS the chamber uses a 8960 / MT8820C to establish the connection with the mobile device and read the power.

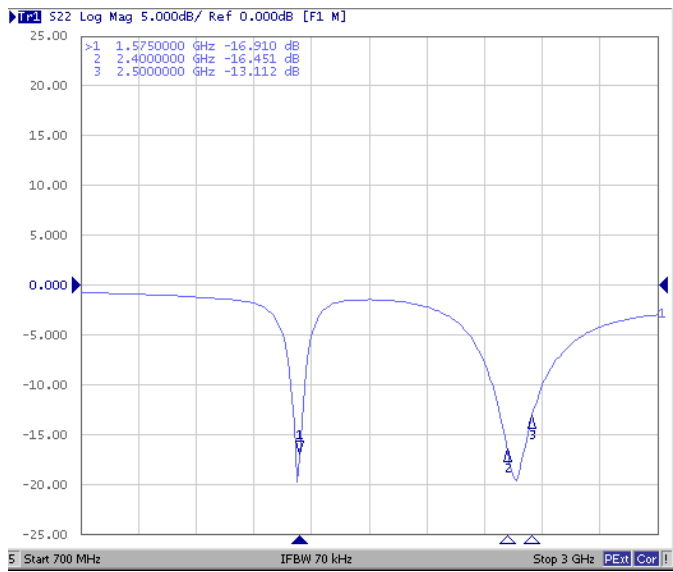
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3 Reference measurement data

3.1 Passive



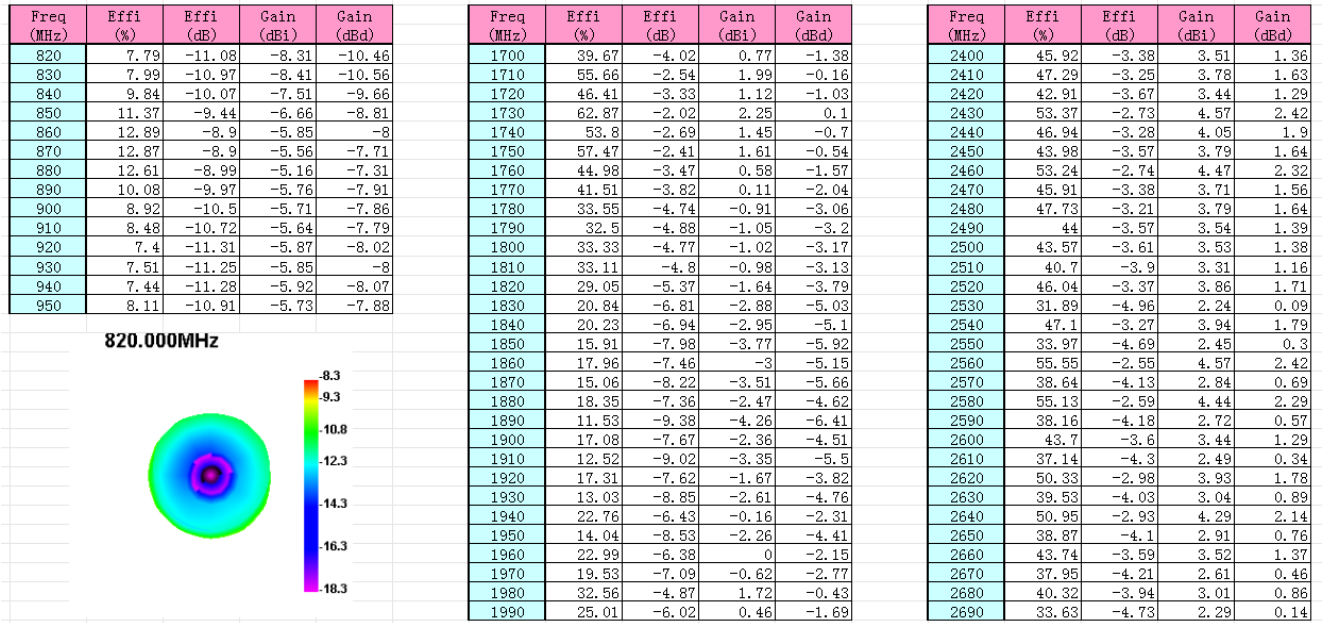
MAIN Return Loss



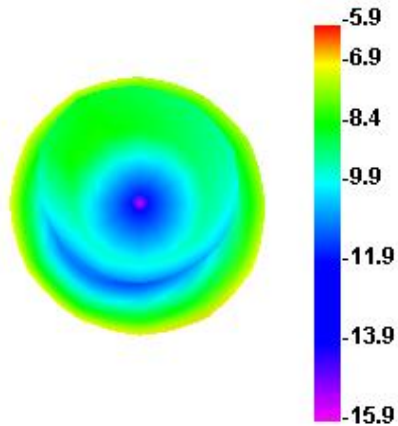
GPS&WIFI/BT Return Loss

3.2 Active

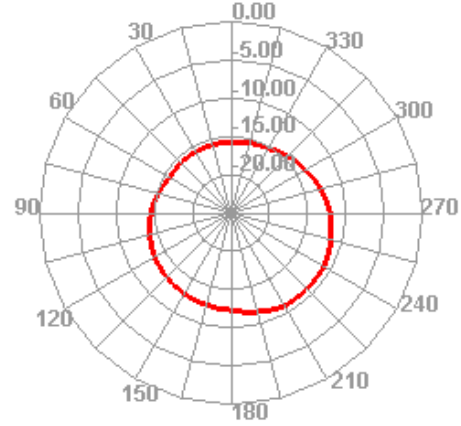
LTE2 TRP			LTE2 TIS	LTE12 TRP			LTE12 TIS
18650	18900	19150	1150	23060	23095	23130	5130
1855	1880	1905	1985	703	706.5	710	740
15.35	15.43	15.45	-87.18	3.16	3.47	4.21	-73.98
LTE4 TRP			LTE4 TIS	LTE17 TRP			LTE17 TIS
20000	20175	20350	2350	23780	23790	23800	5800
1715	1732.5	1750	2150	709	710	711	741
14.87	14.92	15.36	-87.06	3.38	3.61	4.39	-74.25
LTE5 TRP			LTE5 TIS	LTE28 TRP			LTE28 TIS
20450	20525	20600	2600	27260	27435	27610	9610
829	836.5	844	889	708	725.5	743	798
3.25	3.09	3.03	-73.17	3.19	3.74	4.48	-74.16
LTE7 TRP			LTE7 TIS	LTE66 TRP			LTE66 TIS
20800	21100	21400	3400	132022	132322	132622	67086
2505	2535	2565	2685	1715	1745	1775	2175
15.17	15.22	15.45	-86.56	15.09	15.11	15.28	-87.28



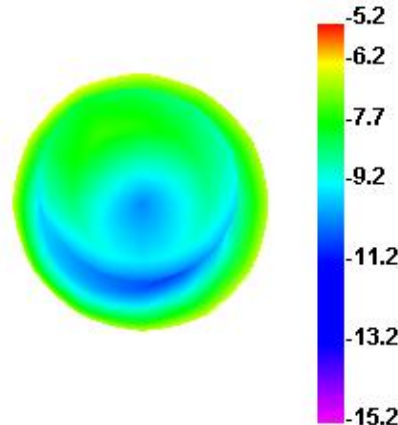
860.000MHz



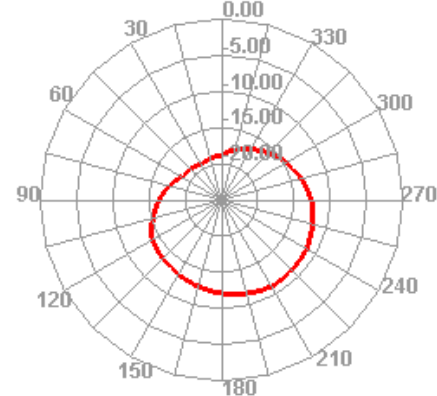
860.000MHz H



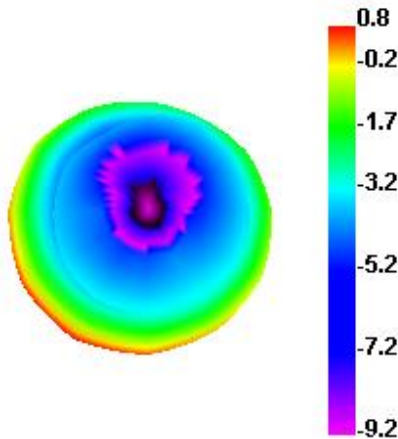
880.000MHz



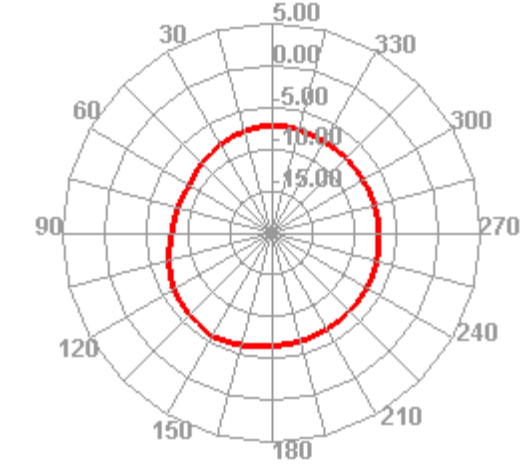
880.000MHz H



1700.000MHz



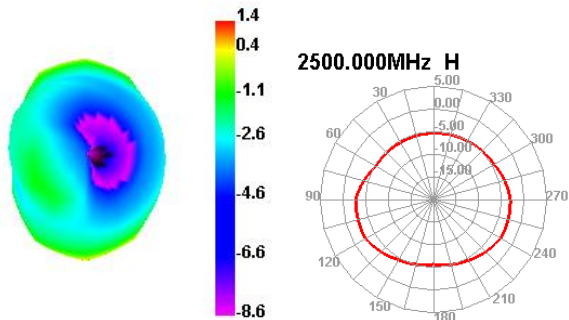
1700.000MHz H



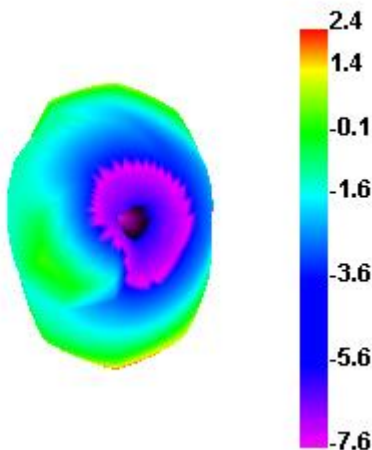
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Passive Test For WIFI			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	39.22	-4.07	1.35
2410	38.81	-4.11	1.28
2420	43.57	-3.61	1.72
2430	43.35	-3.63	1.67
2440	50.88	-2.93	2.28
2450	52.55	-2.79	2.39
2460	48.67	-3.13	1.95
2470	49.57	-3.05	1.94
2480	58.83	-2.3	2.54
2490	53.99	-2.68	2.08
2500	53.96	-2.68	1.94

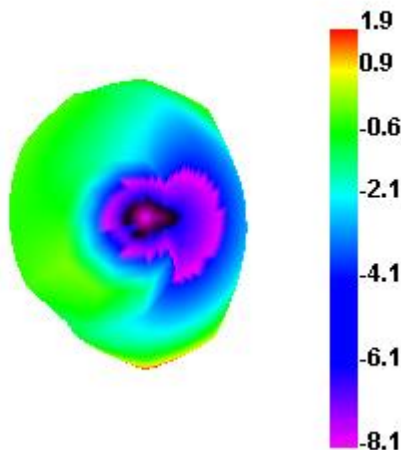
2400.000MHz



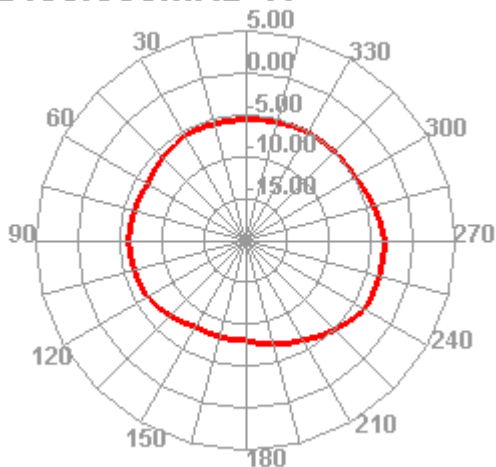
2450.000MHz



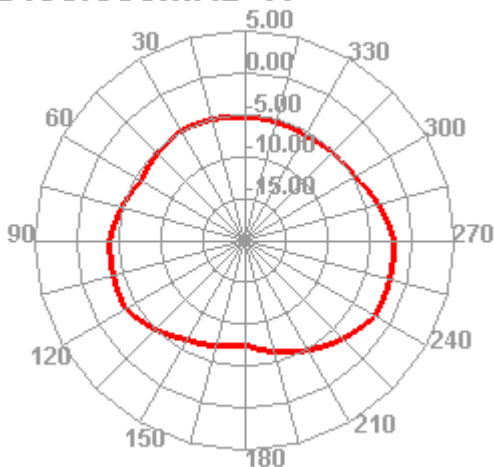
2500.000MHz



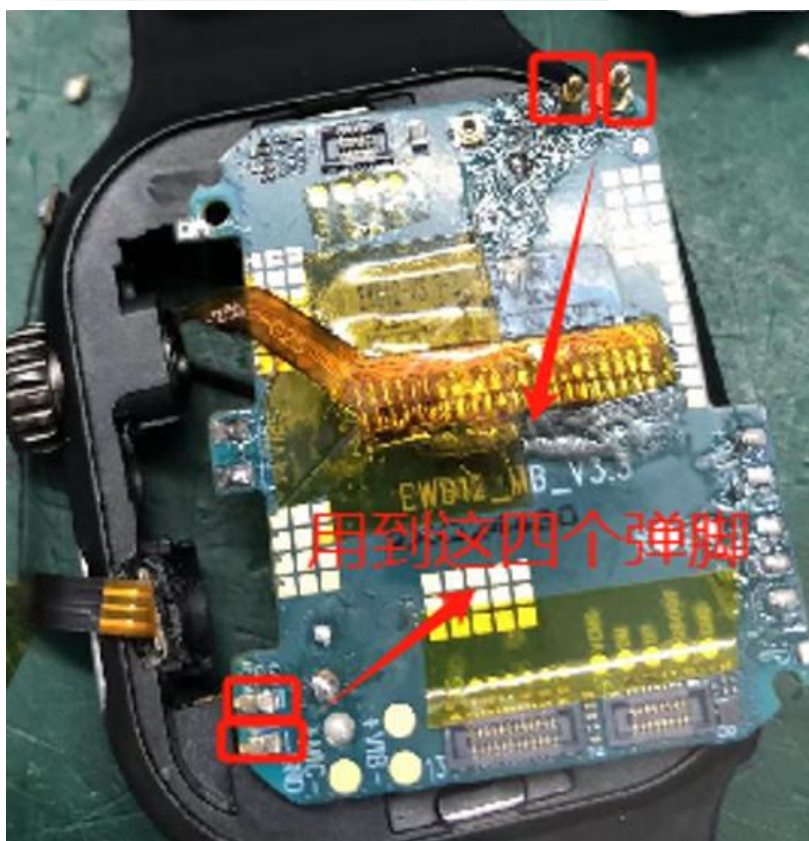
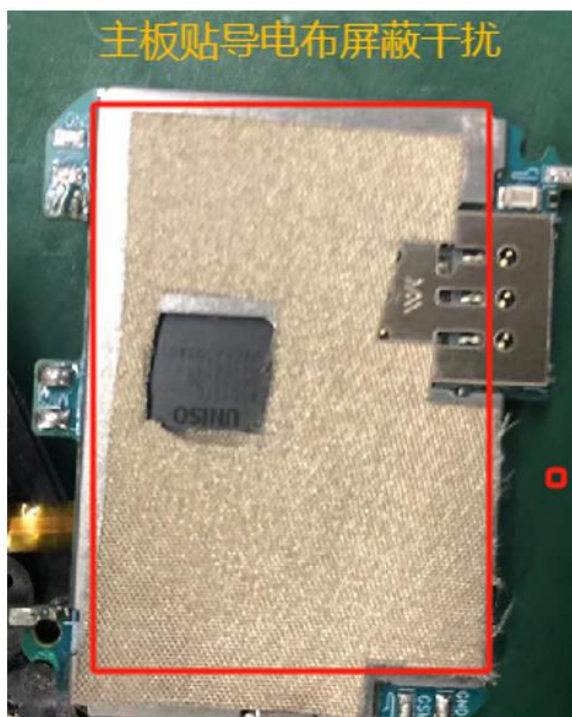
2400.000MHz H



2450.000MHz H



3.3 Matching Circuit Description.



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3.4 GPS&WIFI/BT 、 Performance Descriptions

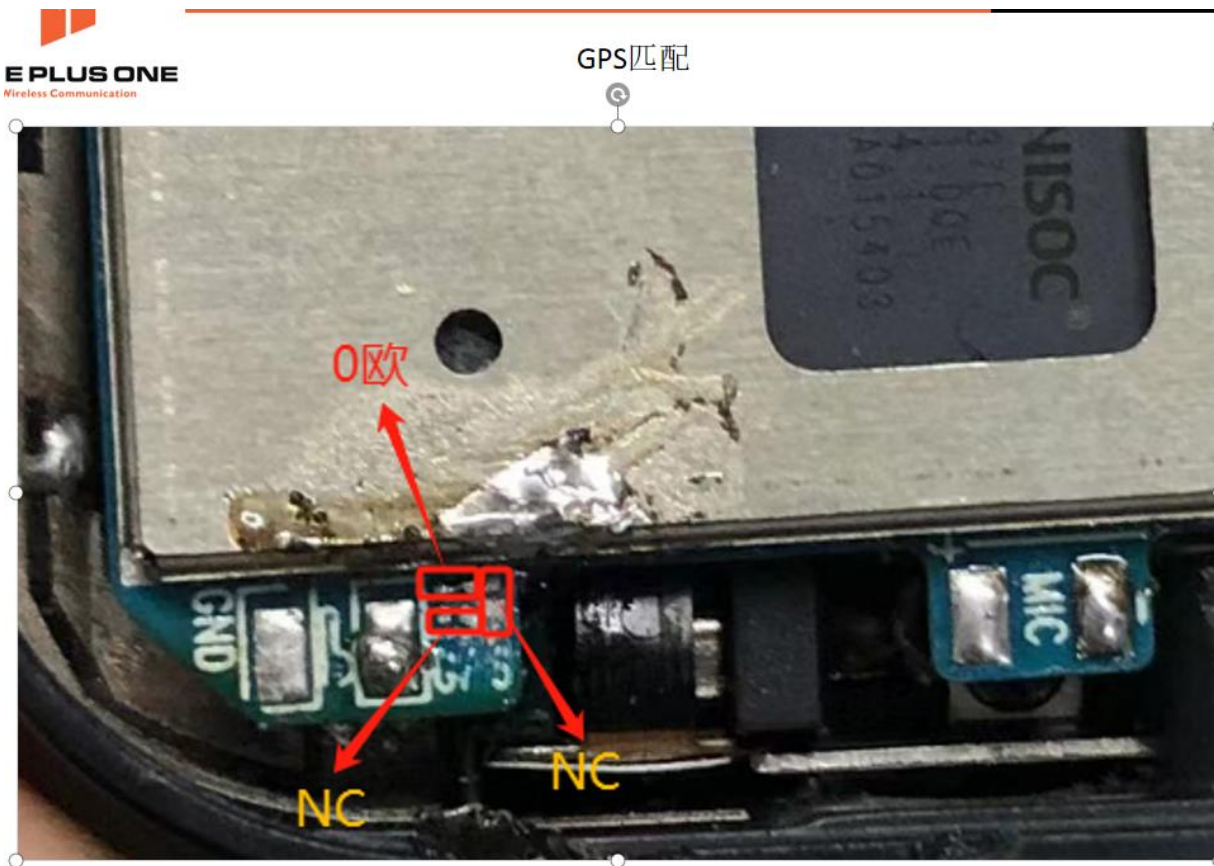
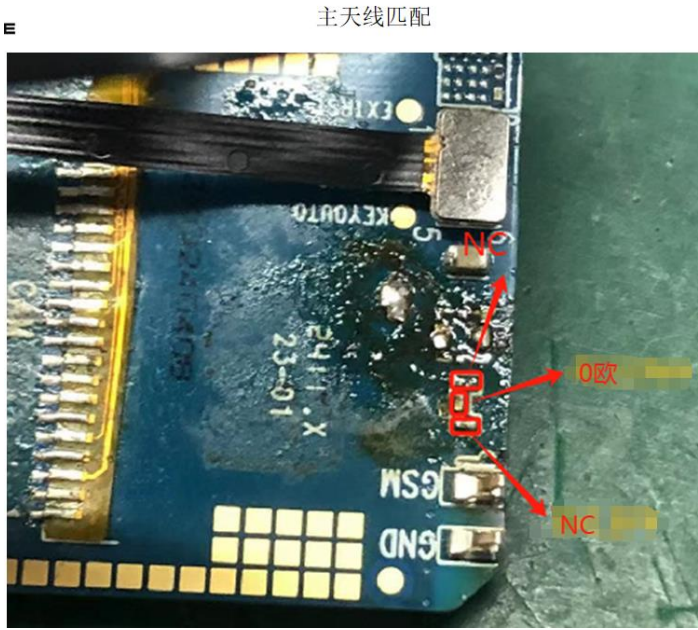
GPS实测



WiFi 有源测试

Wifi 2G TRP			ifi 2G TIS
1	6	11	11
2412	2437	2462	2462
8.57	8.41	8.28	-74.92

天线匹配



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4 Mechanical description

4.1 Drawings

