

# 深圳市八方达通信有限公司

## Z6018天线测试报告

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工程：毛宇峥

测试日期：2023-06-19

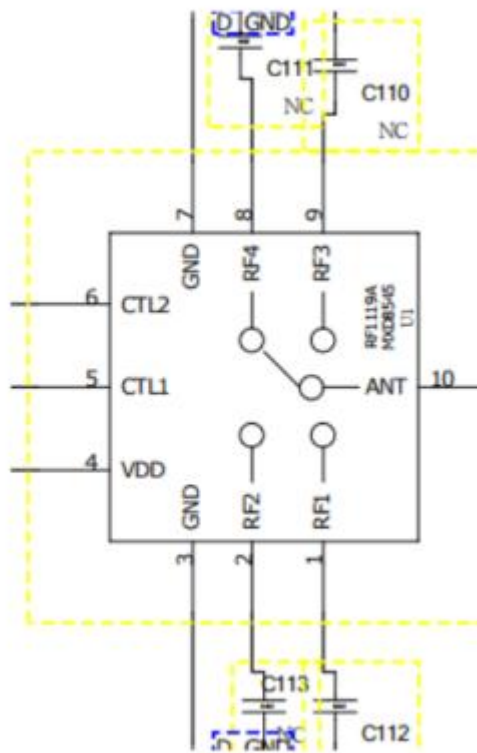
工程电话:13424326585

# 天线频段设计

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|    |        |                                                                                  |             |
|----|--------|----------------------------------------------------------------------------------|-------------|
| 射频 | 网络模式   | GSM+W+LTE+BT+WIFI+GPS                                                            |             |
|    | 频段要求   | GSM: B2 B3 B5 B8<br>WCDMA: B2 B4 B5<br>LTE: B2 B4 B5 B12 B13 B25 B26 B41 B66 B71 |             |
|    | 通讯天线数量 | 主天线                                                                              | GSM+W+LTE   |
|    |        | 分集天线                                                                             | 分集          |
|    |        | 三合一天线                                                                            | GPS+WIFI+BT |

# 开关逻辑说明

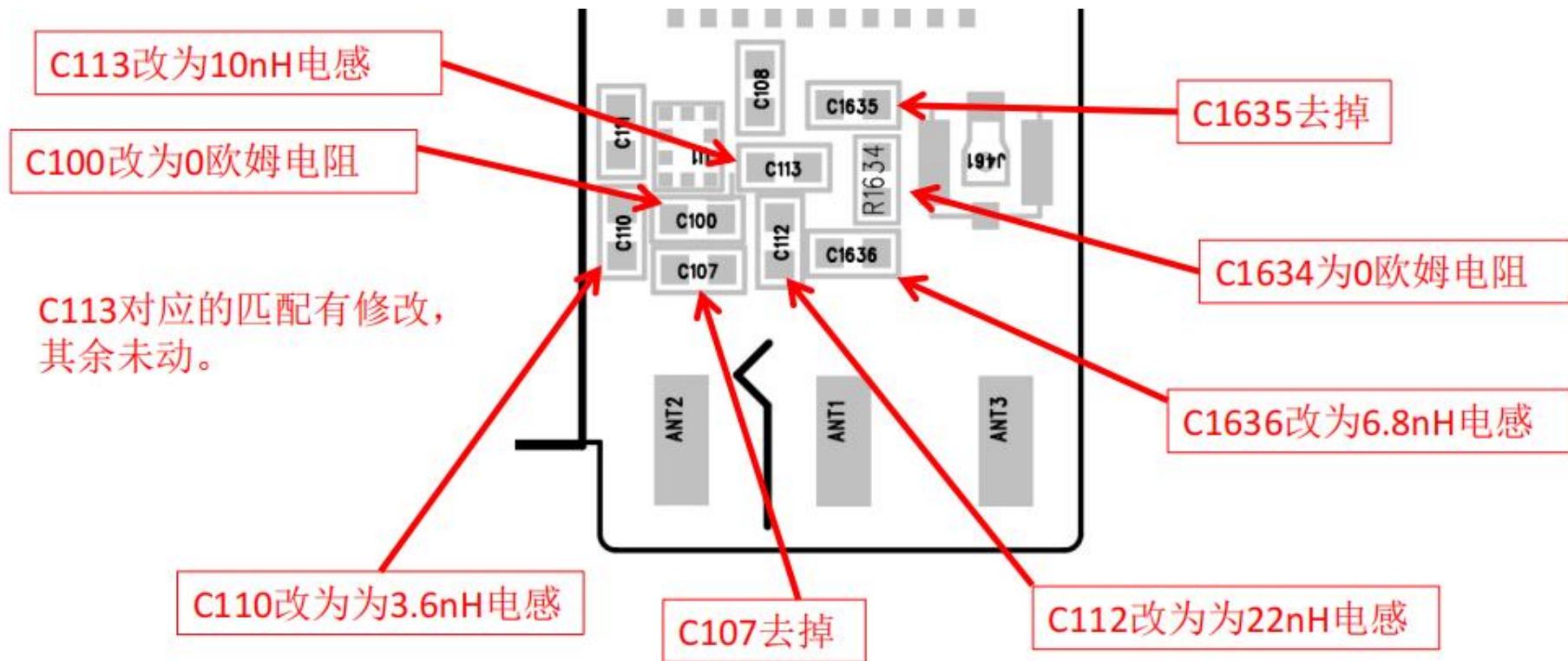


RF1: LTE(B12/B13/B71)

RF2: GSM850 WCDMA-B5 LTE(B5/B26)

RF3: GSM900/DCS/PCS WCDMA-(B2/B4) LTE(B2/B4/B25/B41/B66)

# 天线匹配电路说明



# 天线数据

| Modulation | GSM 850  |         |         | GSM 900 |         |         | DCS 1800 |         |         | PCS 1900 |         |         |
|------------|----------|---------|---------|---------|---------|---------|----------|---------|---------|----------|---------|---------|
| Channel    | Low      | Medium  | High    | Low     | Medium  | High    | Low      | Medium  | High    | Low      | Medium  | High    |
| TRP        | 25.26    | 26.02   | 25.11   | 25.29   | 25.24   | 25.03   | 25.12    | 25.36   | 25.32   | 25.42    | 25.53   | 25.09   |
| TIS        | -102.02  | -101.21 | -101.17 | -100.28 | -100.13 | -98.24  | -103.02  | -103.48 | -103.07 | -103.23  | -104.42 | -104.29 |
| Modulation | WCDMA B2 |         |         | WCDMAB4 |         |         | WCDMAB5  |         |         |          |         |         |
| Channel    | Low      | Medium  | High    | Low     | Medium  | High    | Low      | Medium  | High    |          |         |         |
| TRP        | 19.42    | 18.12   | 18.14   | 18.37   | 18.28   | 18.21   | 17.36    | 18.02   | 17.42   |          |         |         |
| TIS        |          |         | -103.09 |         |         | -102.83 |          |         | -105.53 |          |         |         |

# 天线数据

| Modulation | LTE B2  |        |        | LTE B4  |        |        | LTE B5  |        |        | LTE B12 |        |        |
|------------|---------|--------|--------|---------|--------|--------|---------|--------|--------|---------|--------|--------|
| Channel    | Low     | Medium | High   | Low     | Medium | High   | Low     | Medium | High   | Low     | Medium | High   |
| TRP        | 19.68   | 19.51  | 19.32  | 18.34   | 18.50  | 18.69  | 17.30   | 17.38  | 17.12  | 16.29   | 16.84  | 16.85  |
| TIS        |         |        | -91.14 |         |        | -90.76 |         |        | -90.73 |         |        | -90.36 |
| Modulation | LTE B13 |        |        | LTE B25 |        |        | LTE B26 |        |        | LTE B41 |        |        |
| Channel    | Low     | Medium | High   | Low     | Medium | High   | Low     | Medium | High   | Low     | Medium | High   |
| TRP        | 16.31   | 16.42  | 16.45  | 18.21   | 18.26  | 18.37  | 17.07   | 17.06  | 17.11  | 22.48   | 23.02  | 22.51  |
| TIS        |         |        | -90.21 |         |        | -91.34 |         |        | -90.53 |         |        | -90.34 |
| Modulation | LTE B66 |        |        | LTE B71 |        |        |         |        |        |         |        |        |
| Channel    | Low     | Medium | High   | Low     | Medium | High   |         |        |        |         |        |        |
| TRP        | 18.12   | 18.80  | 18.85  | 15.13   | 15.05  | 15.08  |         |        |        |         |        |        |
| TIS        |         |        | -91.06 |         |        | -88.32 |         |        |        |         |        | .      |

# GPS实际测试

# YGPS

SATELLITES  
CNR

SATELLITES  
LOC

INFO  
MATIO  
N

NMEA  
LOG

GPS  
TEST

MPE S  
TATUS

G:GPS R:GLN B:BD E:GAL Q:QZS L:L1S I:IRNSS S:SBAS

## Average CNR

G:38.9 R:34.3 B:0.0 E:32.5 Q:37.0 L:37.0 I:0.0 S:27.0

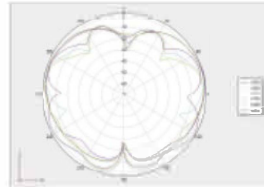
☐ Show in single page

| SVID  | Fq   | CNR   | Elevation | Azimuth |
|-------|------|-------|-----------|---------|
| 5 L1  | 41.6 | 50.00 | 354.00    |         |
| 6 L1  | 0.0  | 15.00 | 113.00    |         |
| 11 L1 | 34.7 | 50.00 | 80.00     |         |
| 13 L1 | 40.1 | 76.00 | 138.00    |         |
| 15 L1 | 42.6 | 52.00 | 221.00    |         |
| 29 L1 | 35.3 | 41.00 | 306.00    |         |
| 30 L1 | 0.0  | 13.00 | 72.00     |         |
| 70 L1 | 25.0 | 61.00 | 276.00    |         |
| 84 L1 | 40.0 | 0.00  | 0.00      |         |
| 85 L1 | 37.8 | 30.00 | 339.00    |         |
| 7 L1  | 35.9 | 47.00 | 212.00    |         |
| 8 L1  | 29.1 | 75.00 | 51.00     |         |
| 13 L1 | 0.0  | 54.00 | 352.00    |         |
| 3 L1  | 37.0 | 66.00 | 117.00    |         |
| 45 L1 | 27.0 | 54.00 | 224.00    |         |

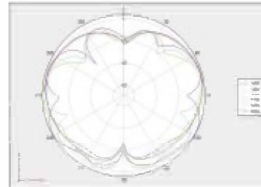
# BT/2.4G WiFi/5G WiFi

| Frequency | Efficiency(%) | Gain.(dBi) |
|-----------|---------------|------------|
| 2400MHz   | 46.83         | 1.07       |
| 2450MHz   | 48.71         | 1.08       |
| 2500MHz   | 48.82         | 1.09       |
| 5100MHz   | 45.81         | 1.09       |
| 5450MHz   | 45.52         | 1.07       |
| 5850MHz   | 44.92         | 1.06       |

Phi 0 2D 图



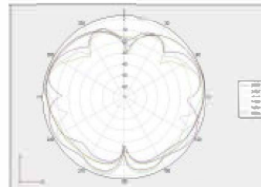
Phi 90 2D 图



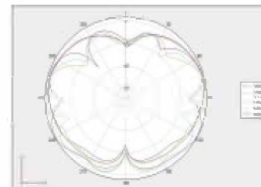
Theta 90 2D 图



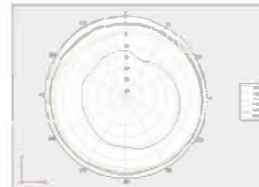
Phi 0 2D 图:



Phi 90 2D 图



Theta 90 2D 图



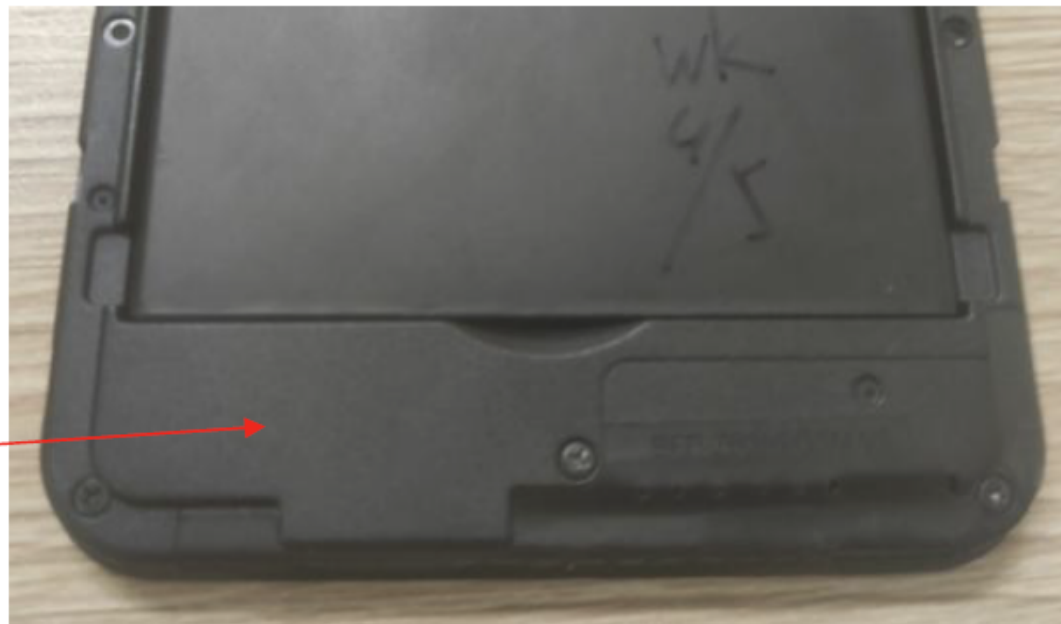
# 天线增益值

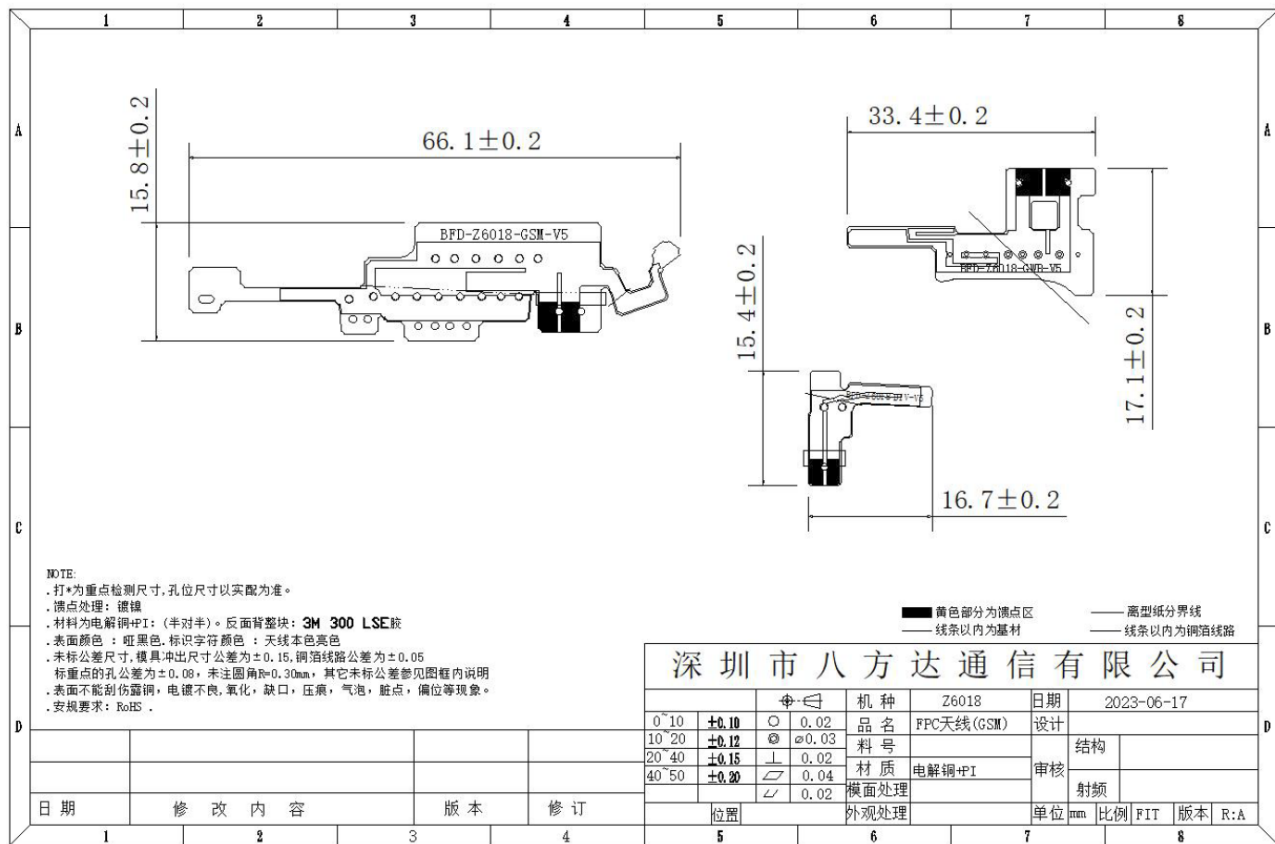
| BAND      | Gain (MAX) |
|-----------|------------|
| GSM850    | 0.62       |
| GSM900    | 0.47       |
| DCS1800   | 0.53       |
| PCS1900   | 0.54       |
| WCDMA850  | 0.62       |
| WCDMA1700 | 0.53       |
| WCDMA1900 | 0.54       |
| LTE B2    | 0.54       |
| LTE B4    | 0.53       |
| LTE B5    | 0.62       |
| LTE B12   | 0.56       |
| LTE B13   | 0.56       |
| LTE B25   | 0.54       |
| LTE B26   | 0.62       |
| LTE B41   | 0.75       |
| LTE B66   | 0.53       |
| LTE B71   | 0.52       |
| GPS       | 1.08       |
| WIFI/BT   | 1.09       |

# 天线照片

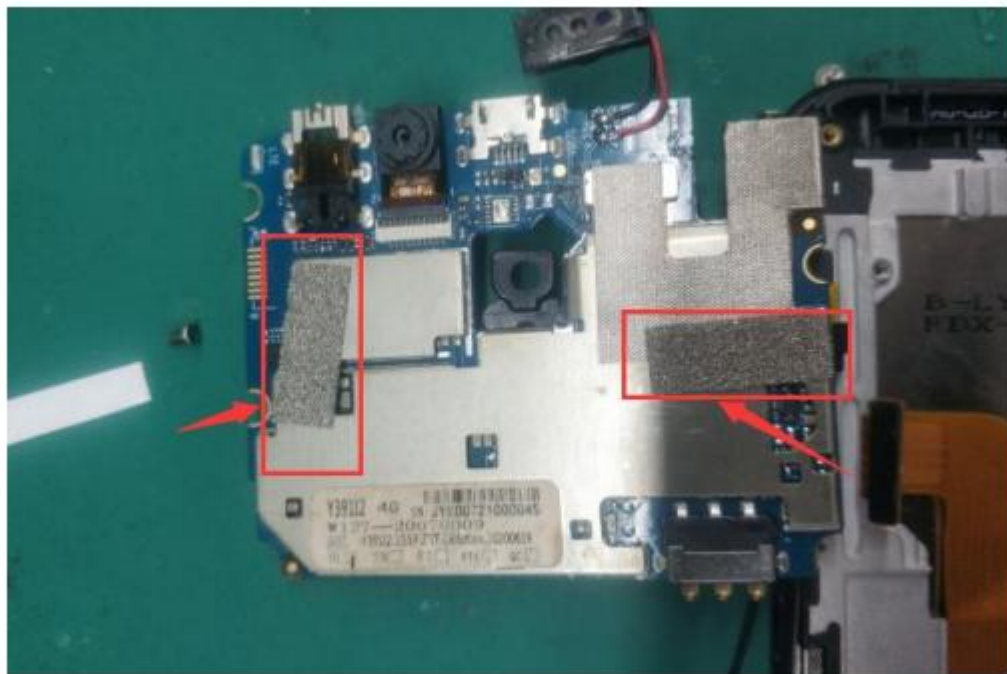
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**Main antenna**





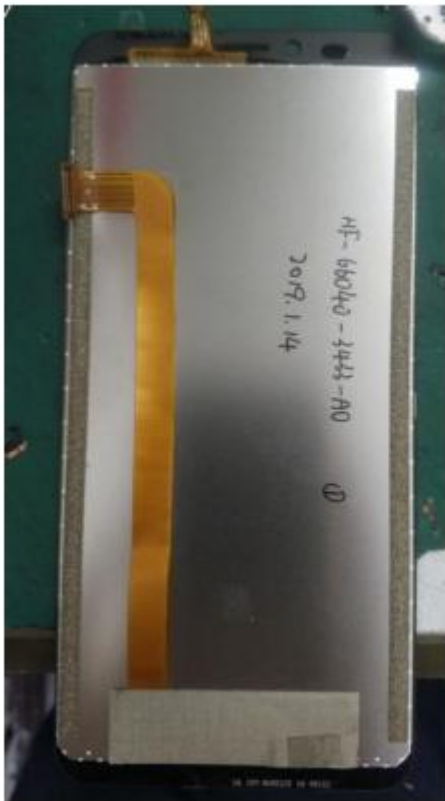
# 天线环境处理及说明



## 文字说明

- 1、主板如图所示做好接地处理
- 2、摄像头贴导电布接地

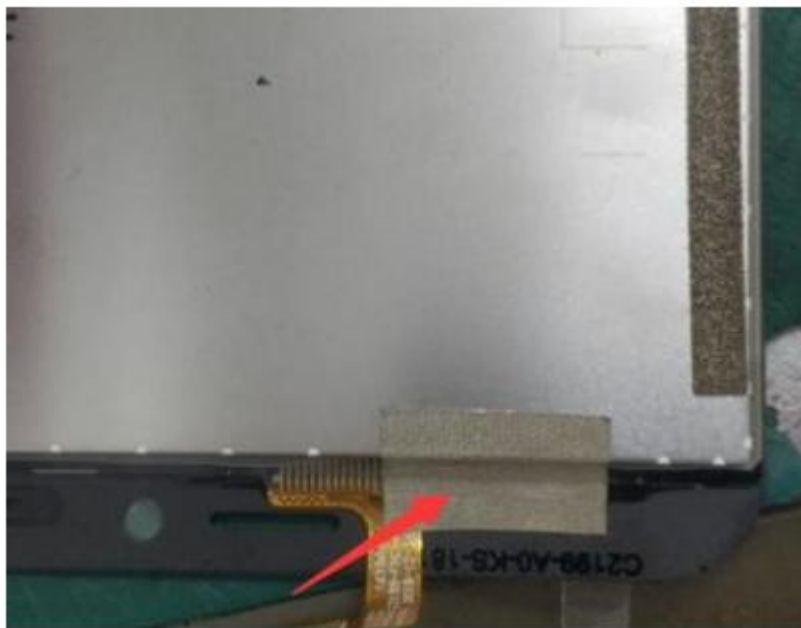
# 天线环境处理及说明



## 文字说明

- 1、屏两侧贴导电泡棉
- 2、屏FPC包导电布接地

# 天线环境处理及说明



文字说明

TPC出口贴导电布

# 环境处理及说明



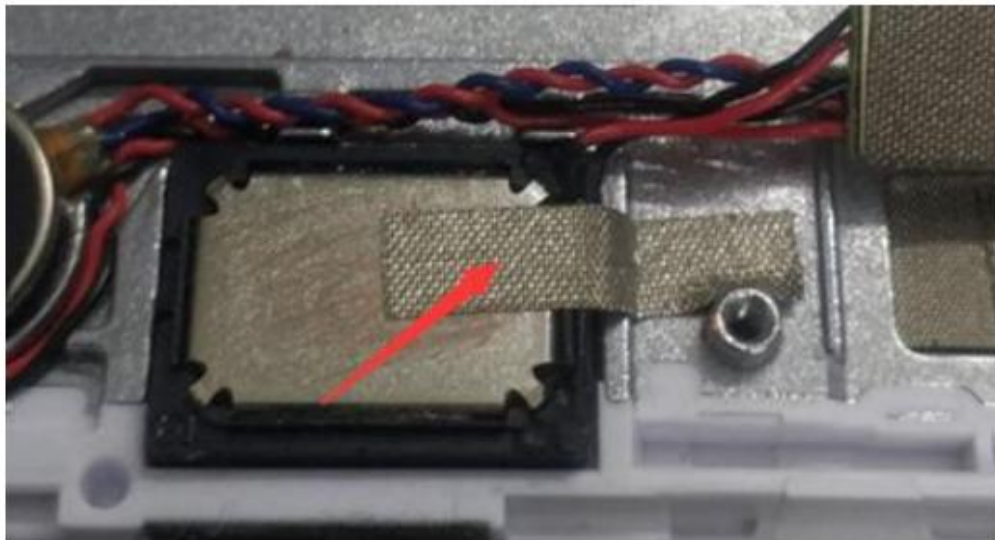
## 文字说明

如图所示:

红框处排线按之前的导电布是外露的, 建议导电布加长一点覆盖这里。

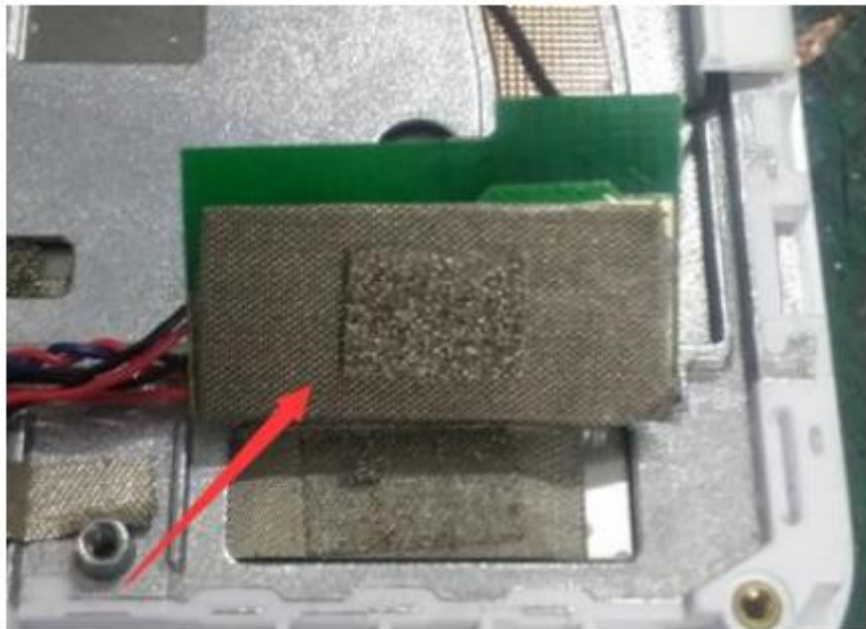
# 天线环境处理及说明

文字说明



喇叭磁钢做好接地处理

# 天线环境处理及说明



## 文字说明

小板如图所示做好接地处理，  
连接小板背面和屏导电布的导电  
海绵适当加厚，需要有一定硬度。

# 深圳市八方达通信有限公司

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