



**ONE PLUS ONE**  
Wireless Communication

**深圳市一加一无线通讯技术有限公司**

Shenzhen Feiyufei Digital Technology Co., Ltd

## Antenna Approval Certificate

|                   |                     |                                                                      |                        |
|-------------------|---------------------|----------------------------------------------------------------------|------------------------|
| Applicable models | B5S South America   |                                                                      |                        |
| client            | Shenzhen OnePlusOne |                                                                      |                        |
| Specifications    |                     |                                                                      |                        |
|                   | Product Content     | Specification                                                        | Customer material code |
| Specifications    | 4G antenna          | FPC/Black/Silkscreen B5S-EW18-MAIN-V2.0 + Order Date                 |                        |
|                   | Three-in-one line   | FPC/Black/Silkscreen B5S-EW18-GWB-V2.0 +Date of this batch of orders |                        |
| Change resume     |                     |                                                                      |                        |
| Serial Number     | date                | Version                                                              | Brief description of   |

|   |            |      |                    |
|---|------------|------|--------------------|
|   |            |      | <b>the changes</b> |
| 1 | 2026-05-27 | V2.0 | New project        |
| 2 |            |      |                    |
| 3 |            |      |                    |

|                                            |                  |                |                 |                                                                           |               |
|--------------------------------------------|------------------|----------------|-----------------|---------------------------------------------------------------------------|---------------|
| Supplier Sample Confirmation               |                  |                |                 |                                                                           |               |
| <b>Research and development</b>            | <b>structure</b> | <b>Review</b>  |                 | <b>determination</b>                                                      |               |
|                                            |                  |                |                 | PASS <input checked="" type="checkbox"/><br>FAIL <input type="checkbox"/> |               |
| Customer sample confirmation               |                  |                |                 |                                                                           |               |
| <b>electronic</b>                          | <b>structure</b> | <b>project</b> | <b>purchase</b> | <b>quality</b>                                                            | <b>Review</b> |
|                                            |                  |                |                 |                                                                           |               |
| Reasons for refusal or other precautions : |                  |                |                 |                                                                           |               |

# 1. Main Antenna Electrical Performance Test Report

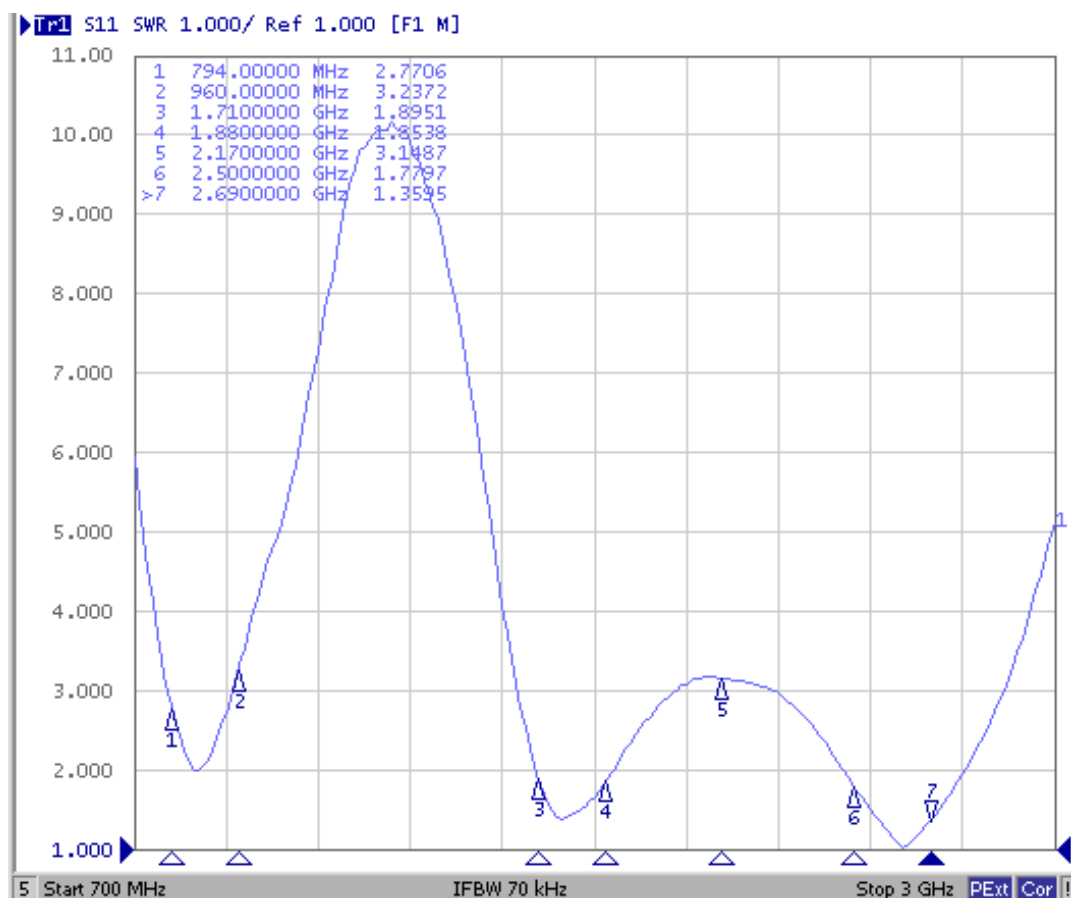
## 1.1 Test Items and Equipment

|                 | Test Project                                                  | equipment                                                                                                                   |
|-----------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Passive testing | ① VSWR parameters<br>② Return loss parameters                 | Network Analyzer: HP8753D<br>3D Anechoic Chamber Antenna Test System (ETS Test System, Network Analyzer, Integrated Tester) |
| Active testing  | ① Transmit power<br>② Receive level<br>③ Receiver sensitivity | Integrated Test System: Agilent E5515C<br>3D Anechoic Chamber Antenna Test System (ETS Test System, Integrated Test System) |

## 1.2 GSM Passive Test Report

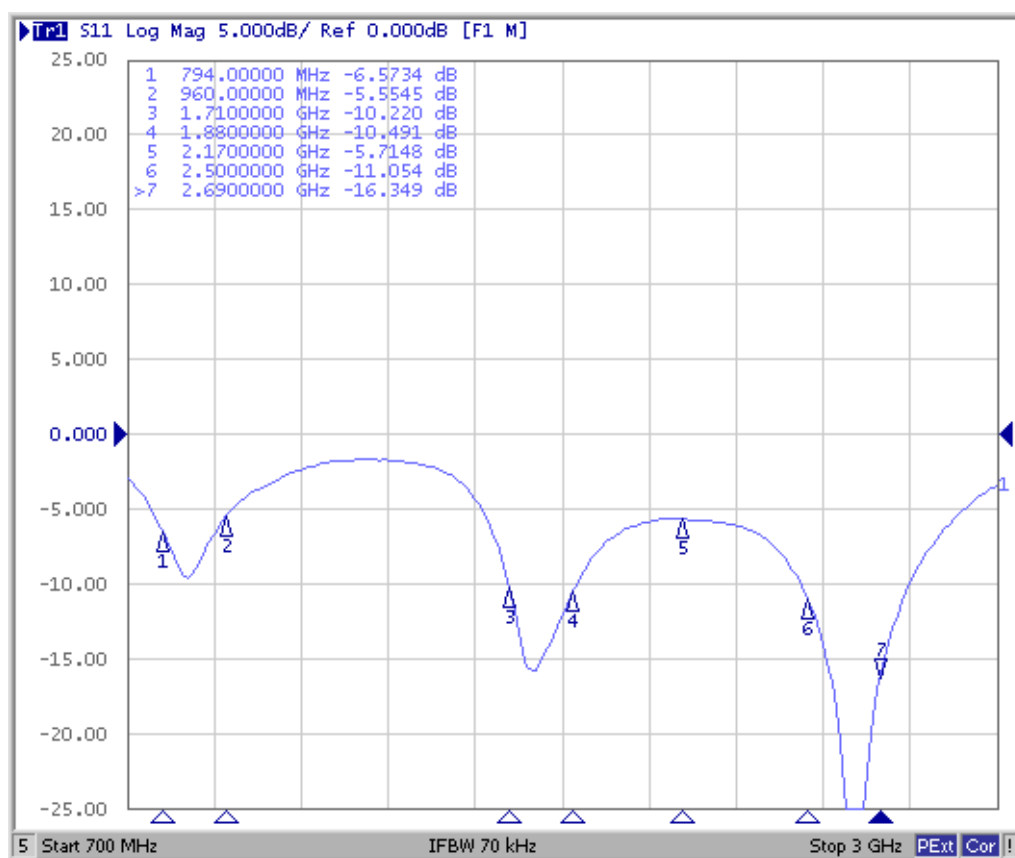
VSWR parameter value

| Frequency (MHz) | 794 | 960 | 1710 | 1880 | 2170 | 2500 | 2690 |
|-----------------|-----|-----|------|------|------|------|------|
| RL              | 2.7 | 3.2 | 1.8  | 1.8  | 3.1  | 1.7  | 1.3  |



# Return loss parameter values

| Frequency<br>(MHz) | 794  | 960  | 1710  | 1880  | 2170 | 2500 | 2690  |
|--------------------|------|------|-------|-------|------|------|-------|
| RL                 | -6.5 | -5.5 | -10.2 | -10.4 | -5.7 | -11  | -16.3 |



## 2. Matching Circuit Description

Your company's original matching circuit has not been modified in any way .

## 3、Test Report

|         |        |       |         |  |         |            |       |         |
|---------|--------|-------|---------|--|---------|------------|-------|---------|
|         | GSM850 |       |         |  |         | WCDMA_I    |       |         |
| Channel | 128    | 190   | 251     |  | Channel | 9612       | 9750  | 9888    |
| TRP     | 17.37  | 17.52 | 17.8    |  | TRP     | 15.12      | 15.24 | 15.03   |
| TIS     |        |       | -96.16  |  | TIS     |            |       | -102.11 |
|         | EGSM   |       |         |  |         | WCDMA_II   |       |         |
| Channel | 1      | 62    | 124     |  | Channel | 9400       | 9262  | 9538    |
| TRP     | 15.86  | 15.6  | 15.66   |  | TRP     | 15.66      | 15.39 | 15.15   |
| TIS     |        |       | -95.24  |  | TIS     |            |       | -102.36 |
|         | DCS    |       |         |  |         | WCDMA_V    |       |         |
| Channel | 512    | 698   | 885     |  | Channel | 4132       | 4185  | 4233    |
| TRP     | 21.94  | 22.09 | 22.14   |  | TRP     | 2.72       | 2.09  | 2.63    |
| TIS     |        |       | -100.16 |  | TIS     |            |       | -99.9   |
|         | PCS    |       |         |  |         | WCDMA_VIII |       |         |
| Channel | 512    | 661   | 810     |  | Channel | 2712       | 2788  | 2863    |
| TRP     | 21.32  | 21.79 | 22.06   |  | TRP     | 2.24       | 2.21  | 2.04    |
| TIS     |        |       | -101.32 |  | TIS     |            |       | -98.15  |

|          |        |        |        |
|----------|--------|--------|--------|
|          | LTE1   |        |        |
| Channel1 | 18050  | 18300  | 18550  |
| TRP      | 12.1   | 13.85  | 12.44  |
| TIS      |        |        | -86.25 |
|          | LTE2   |        |        |
| Channel1 | 18650  | 18900  | 19150  |
| TRP      | 13.18  | 13.42  | 13.72  |
| TIS      |        |        | -86.4  |
|          | LTE3   |        |        |
| Channel1 | 19250  | 19350  | 19575  |
| TRP      | 12.42  | 12.63  | 12.12  |
| TIS      |        |        | -85.25 |
|          | LTE4   |        |        |
| Channel1 | 20000  | 20175  | 20350  |
| TRP      | 12.72  | 12.2   | 12.49  |
| TIS      |        |        | -85.96 |
|          | LTE5   |        |        |
| Channel1 | 20450  | 20500  | 20525  |
| TRP      | 4.53   | 4.51   | 4.5    |
| TIS      |        |        | -76.8  |
|          | LTE66  |        |        |
| Channel1 | 132022 | 132322 | 132622 |
| TRP      | 14.38  | 14.72  | 14.11  |
| TIS      |        |        | -87.25 |

|          |       |       |        |
|----------|-------|-------|--------|
|          | LTE7  |       |        |
| Channel1 | 20800 | 21100 | 21400  |
| TRP      | 13.42 | 13.8  | 13.14  |
| TIS      |       |       | -87.07 |
|          | LTE12 |       |        |
| Channel1 | 21500 | 21625 | 21750  |
| TRP      | 7.5   | 7.41  | 7.34   |
| TIS      |       |       | -76.51 |
|          | LTE17 |       |        |
| Channel1 | 23060 | 23095 | 23130  |
| TRP      | 2.25  | 2.31  | 2.51   |
| TIS      |       |       | -74.42 |
|          | LTE20 |       |        |
| Channel1 | 24200 | 24300 | 24400  |
| TRP      | 4.6   | 4.58  | 4.61   |
| TIS      |       |       | -75.46 |
|          | LTE28 |       |        |
| Channel1 | 27260 | 27435 | 27610  |
| TRP      | 2.42  | 2.38  | 2.47   |
| TIS      |       |       | -73.53 |

|         |       |       |        |
|---------|-------|-------|--------|
|         | LTE38 |       |        |
| Channel | 37850 | 38000 | 38150  |
| TRP     | 14.25 | 14.57 | 15.48  |
| TIS     |       |       | -87.72 |

|         |       |       |        |
|---------|-------|-------|--------|
|         | LTE39 |       |        |
| Channel | 38350 | 38450 | 38550  |
| TRP     | 14.73 | 14.39 | 14.49  |
| TIS     |       |       | -86.61 |

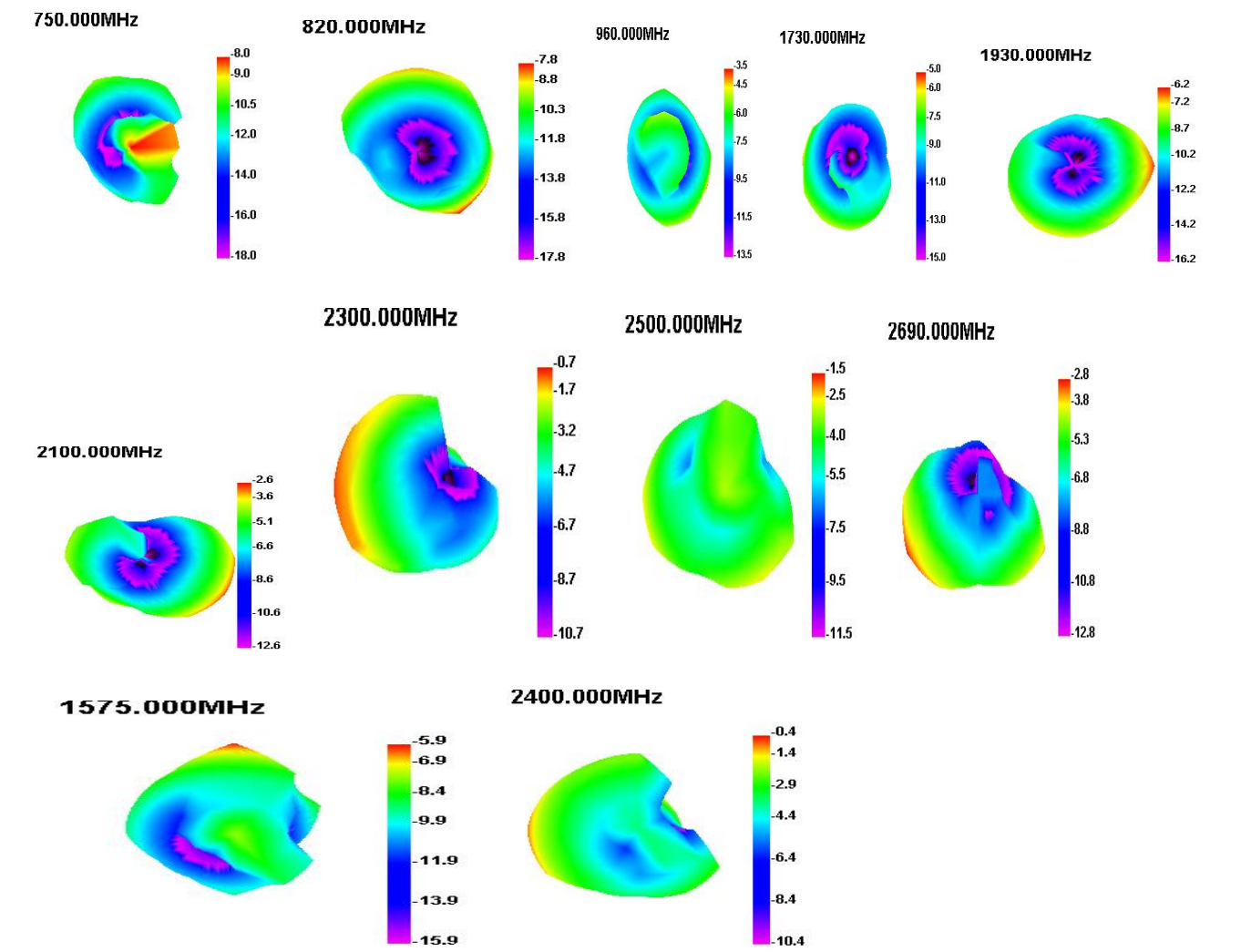
|         |       |       |        |
|---------|-------|-------|--------|
|         | LTE40 |       |        |
| Channel | 38750 | 39150 | 39550  |
| TRP     | 14.61 | 14.61 | 14.28  |
| TIS     |       |       | -86.38 |

|         |       |       |        |
|---------|-------|-------|--------|
|         | LTE41 |       |        |
| Channel | 40340 | 40620 | 41140  |
| TRP     | 14.28 | 14.49 | 14.42  |
| TIS     |       |       | -87.59 |

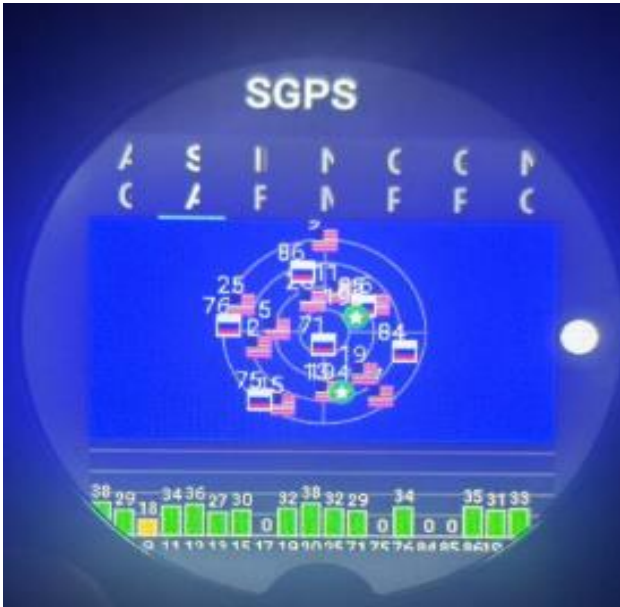
4 、 A n t e n n a   g a i n

| 主天线 | 频率段          | 增益值 (dbi) | 小天线  | 频率段          | 增益值 (dbi) |
|-----|--------------|-----------|------|--------------|-----------|
| B1  | 1910-1980MHZ | -6.2      | WIFI | 2400-2500MHZ | -0.4      |
| B2  | 1850-1910MHZ | -6.2      | GPS  | 1575.42MHZ   | -5.9      |
| B3  | 1710-1785MHZ | -5        |      |              |           |
| B4  | 1710-1755MHZ | -5        |      |              |           |
| B5  | 824-894MHZ   | -7.8      |      |              |           |
| B7  | 2500-2690MHZ | -1.5      |      |              |           |
| B8  | 880-960MHZ   | -3.5      |      |              |           |
| B12 | 699-746MHZ   | -8        |      |              |           |
| B17 | 704-746MHZ   | -8        |      |              |           |
| B20 | 832-862MHZ   | 7.8       |      |              |           |
| B28 | 703-803MHZ   | -8        |      |              |           |
| B38 | 2570-2620MHZ | -1.5      |      |              |           |
| B39 | 1880-1920MHZ | -6.2      |      |              |           |
| B40 | 2300-2400MHZ | -0.7      |      |              |           |
| B41 | 2496-2690MHZ | -1.5      |      |              |           |
| B66 | 1710-1780MHZ | -5        |      |              |           |

5 、 D i r e c t i o n a l   c h a r t



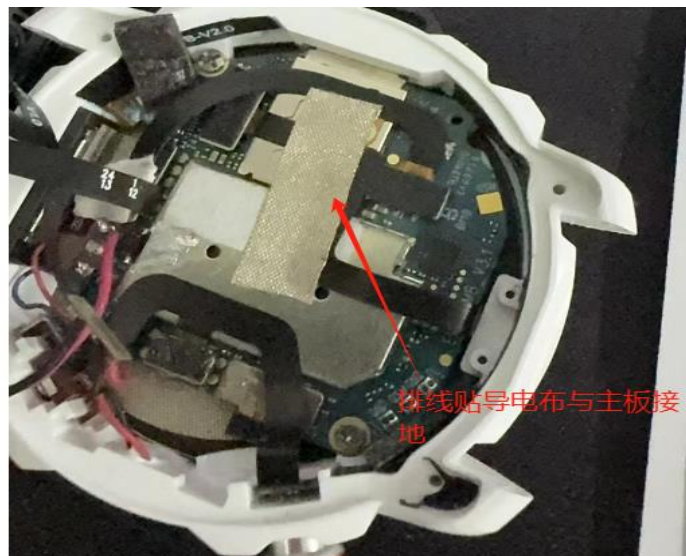
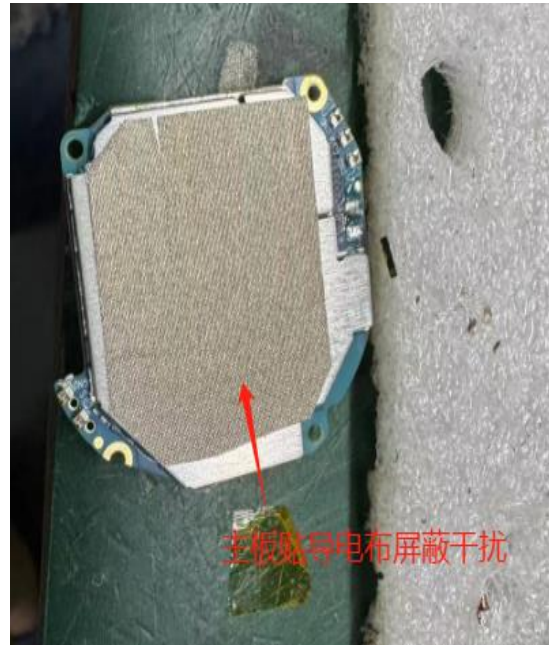
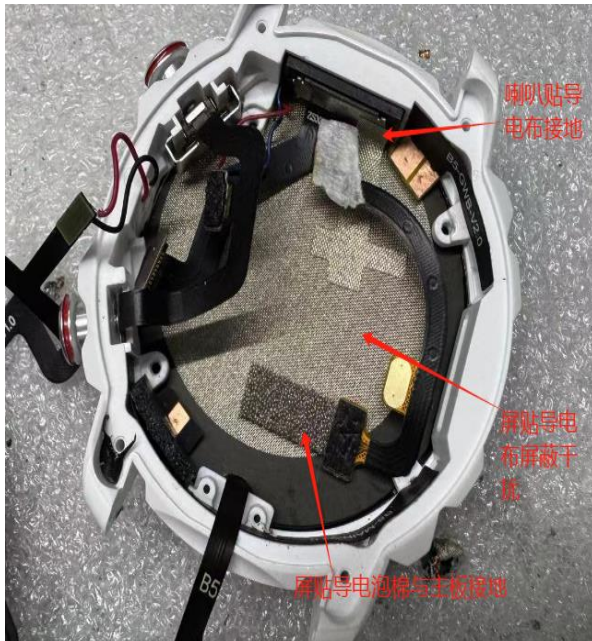
7. GPS and WiFi testing



| Wifi 2G TRP |      |      | Wifi 2G TIS |
|-------------|------|------|-------------|
| 1           | 6    | 11   | 11          |
| 2412        | 2437 | 2462 | 2462        |
| 5.11        | 5.65 | 5.43 | -75.28      |

GPS real-world test: Positioning within one minute of cold start, four satellites with CN values above 34.

## 8. Environmental treatment instructions and antenna placement instructions



9. E n g i n e e r i n g   d r a w i n g s

