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# Approval Sheet

客户名称 CWELL

(Customer Name)

产品名称 W555 Antenna (GSM /GPS+WIFI+BT/LTE)

(Specification)

客户料号 \_\_\_\_\_

(Customer P/N)

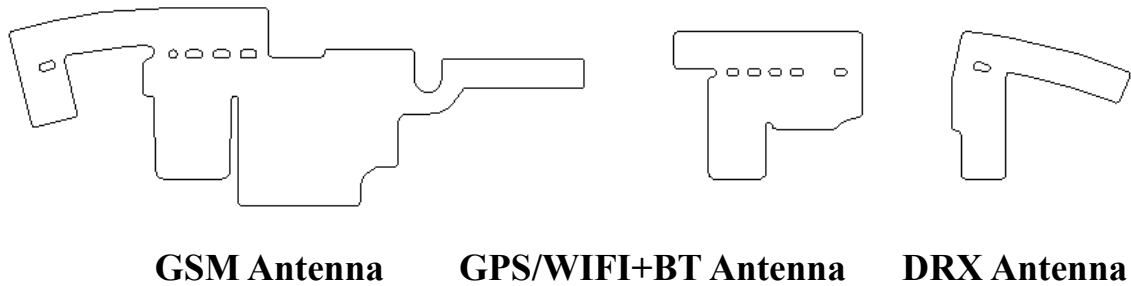
产品料号 \_\_\_\_\_

(O/I)

送样日期 2022-9-14

(Date)

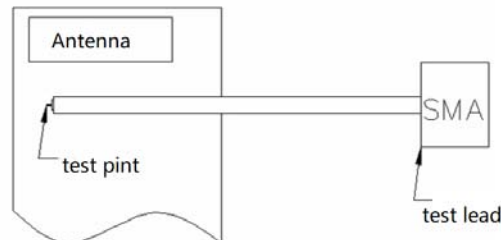
## 1. Project pictures (for reference only)



## 2. Passive testing

**Purpose:** To test the passive parameters of the antenna as accurately as possible.

**Method:** This fixture uses a 50 ohm coaxial cable, one end is connected to the test point at the back end of the matching circuit of the mobile phone motherboard (front part of the RF test hole), and the other end is connected to the SMA connector. The details are as follows:

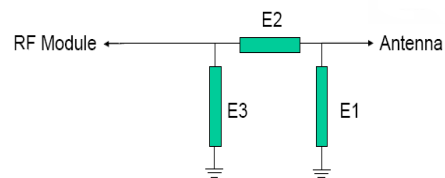


The following table is the test index for the performance of the W555 mass-produced antenna:

| MT90C-S_MAIN_V1.0 |                 |            |                 |            |
|-------------------|-----------------|------------|-----------------|------------|
| frequency band    | frequency (MHz) | VSWR       | frequency (MHz) | VSWR       |
|                   | TX              |            | RX              |            |
| GSM850            | 824-849         | $\leq 3.5$ | 869-894         | $\leq 3.0$ |
| GSM900            | 880-915         | $\leq 3.5$ | 925-960         | $\leq 3.5$ |
| DCS1800           | 1710-1785       | $\leq 3.0$ | 1805-1880       | $\leq 2.5$ |
| PCS1900           | 1850-1910       | $\leq 2.8$ | 1930-1990       | $\leq 3.2$ |
| WCDMA-850         | 824-849         | $\leq 3.5$ | 869-894         | $\leq 3.5$ |
| WCDMA-900         | 880-915         | $\leq 3.5$ | 925-960         | $\leq 3.5$ |
| WCDMA-1700        | 1710-1785       | $\leq 3.0$ | 1805-1880       | $\leq 2.5$ |
| WCDMA-1900        | 1850-1910       | $\leq 2.8$ | 1930-1990       | $\leq 3.2$ |
| WCDMA-2100        | 1710-1755       | $\leq 3.5$ | 2110-2155       | $\leq 3.5$ |

|             |           |            |           |            |
|-------------|-----------|------------|-----------|------------|
| LTE-FDD-B1  | 1920-1980 | $\leq 2.0$ | 2110-2170 | $\leq 2.0$ |
| LTE-FDD-B2  | 1850-1910 | $\leq 2.8$ | 1930-1990 | $\leq 3.2$ |
| LTE-FDD-B3  | 1710-1785 | $\leq 2.5$ | 1805-1880 | $\leq 2.5$ |
| LTE-FDD-B4  | 1710-1785 | $\leq 2.5$ | 1805-1880 | $\leq 2.5$ |
| LTE-FDD-B5  | 824-849   | $\leq 3.5$ | 869-894   | $\leq 3.0$ |
| LTE-FDD-B7  | 2505-2565 | $\leq 2.0$ | 2625-2685 | $\leq 2.0$ |
| LTE-FDD-B8  | 880-913   | $\leq 2.0$ | 930-955   | $\leq 2.0$ |
| LTE-FDD-B12 | 703-706   | $\leq 2.0$ | 733-740   | $\leq 2.0$ |
| LTE-FDD-B17 | 709-711   | $\leq 2.0$ | 739-741   | $\leq 2.0$ |
| LTE-FDD-B18 | 824-849   | $\leq 3.5$ | 869-894   | $\leq 3.0$ |
| LTE-FDD-B19 | 824-849   | $\leq 3.5$ | 869-894   | $\leq 3.0$ |
| LTE-FDD-B20 | 837-857   | $\leq 3.0$ | 796-816   | $\leq 3.0$ |
| LTE-FDD-B25 | 880-913   | $\leq 2.0$ | 930-955   | $\leq 2.0$ |
| LTE-FDD-B26 | 1710-1785 | $\leq 2.5$ | 1805-1880 | $\leq 2.5$ |
| LTE-FDD-B28 | 708-743   | $\leq 2.0$ | 763-798   | $\leq 2.0$ |
| LTE-TDD-B38 | 2570-2620 | $\leq 2.0$ | 2570-2620 | $\leq 2.0$ |
| LTE-TDD-B40 | 2310-2390 | $\leq 2.0$ | 2310-2390 | $\leq 2.0$ |
| LTE-TDD-B41 | 2550-2660 | $\leq 2.0$ | 2550-2660 | $\leq 2.0$ |
| LTE-FDD-B66 | 1710-1785 | $\leq 2.5$ | 1805-1880 | $\leq 2.5$ |

### 3. Matching circuit



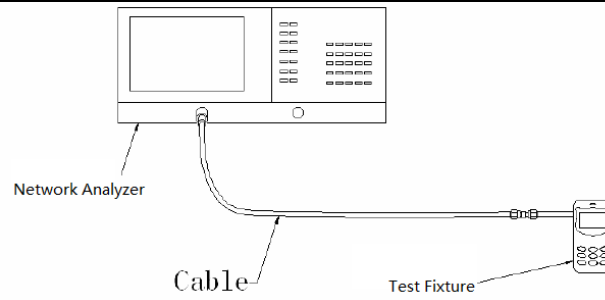
| Element   | match value |
|-----------|-------------|
| E1 (0201) |             |
| E2 (0201) | 0 ohm       |
| E3 (0201) |             |

### 4. S11 test

#### 4.1 S11 Test Method Description Specification Standard

The sequential connections of the VSWR test set are: HW555753ESNetwork Analyzer → 50 Ohm Coaxial Cable → 120mm long copper pipe → Test Fixture.

Handling of the test fixture: Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the mobile phone PCB, connect it to the copper tube with the choke coil, and then connect to other devices in turn.



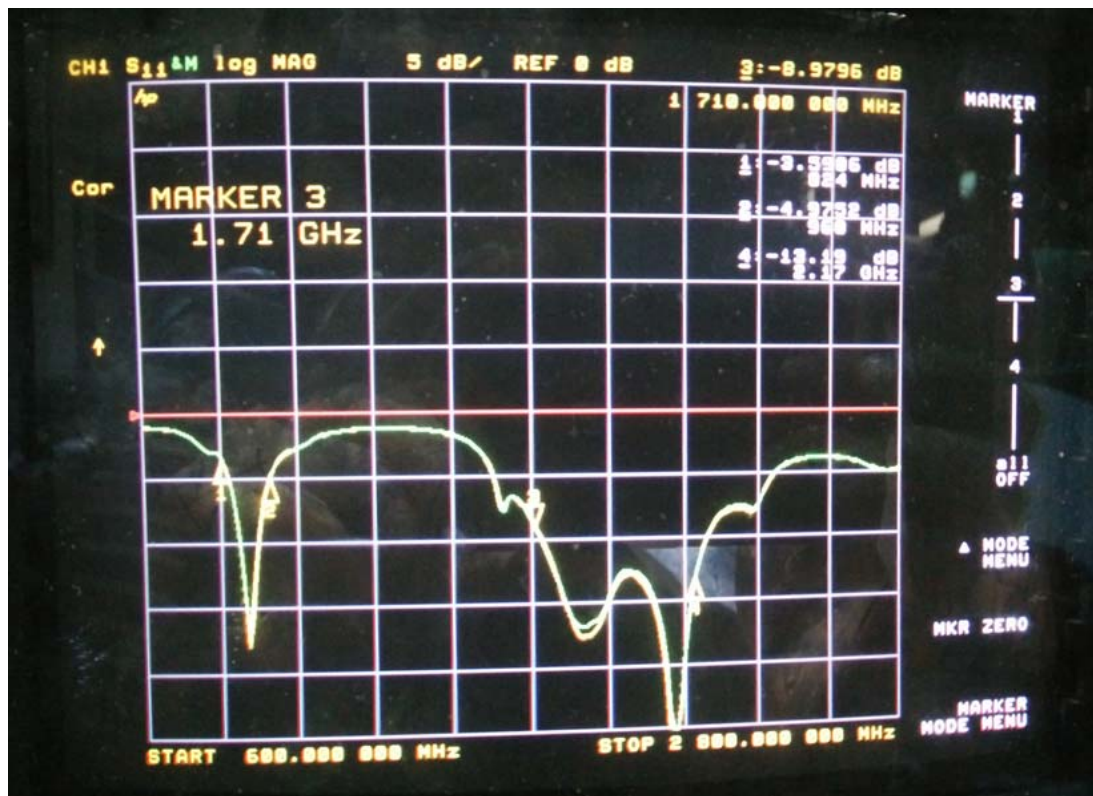
Test schematic

## 4.2 S11 parameters

The table below shows the VSWR values at the edge frequency points of the W555 antenna's operating frequency band. The related waveforms of Return Loss and VSWR obtained from the test are shown in the attachment.

|                 | W555Antenna |     |      |      |      |
|-----------------|-------------|-----|------|------|------|
| frequency (MHz) | 824         | 960 | 1710 | 1990 | 2170 |
| free space      | 9.1         | 2.2 | 6.0  | 5.7  | 3.6  |

## 4.3 S11



驻波比(VSWR)

## 5. Power and Sensitivity Testing

### 5.1 Test Data

| channel | GSM850     |         |         | GSM900     |        |         | DCS1800    |        |         | PCS1900   |        |         |
|---------|------------|---------|---------|------------|--------|---------|------------|--------|---------|-----------|--------|---------|
|         | CH128      | CH192   | CH251   | CH1        | CH62   | CH124   | CH512      | CH698  | CH885   | CH512     | CH661  | CH810   |
| TRP     | 26.04      | 26.37   | 26.39   | 26.18      | 26.59  | 27.03   | 23.43      | 2379   | 24.12   | 24.08     | 24.13  | 24.18   |
| TIS     |            |         | -101.03 |            |        | -101.16 |            |        | -102.42 |           |        | -102.44 |
| channel | WCDMA-2100 |         |         | WCDMA-1900 |        |         | WCDMA-1700 |        |         | WCDMA-850 |        |         |
|         | CH10562    | CH10700 | CH10838 | CH9938     | CH9662 | CH9800  | CH1537     | CH1637 | CH1738  | CH4357    | CH4408 | CH4458  |
| TRP     | 16.89      | 17.03   | 17.09   | 17.18      | 17.29  | 17.3    | 17.12      | 17.23  | 17.25   | 15.89     | 16.13  | 16.29   |
| TIS     |            |         | -101.24 |            |        | -103.09 |            |        | -102.45 |           |        | -102.28 |
| channel | WCDMA-900  |         |         |            |        |         |            |        |         |           |        |         |
|         | CH2937     | CH3012  | CH3083  |            |        |         |            |        |         |           |        |         |
| TRP     | 15.92      | 16.19   | 16.46   |            |        |         |            |        |         |           |        |         |
| TIS     |            |         | -101.29 |            |        |         |            |        |         |           |        |         |

| channel | LTE-FDD-B1   |          |          | LTE-FDD-B2  |         |         | LTE-FDD-B3  |         |         | LTE-FDD-B4   |         |         |
|---------|--------------|----------|----------|-------------|---------|---------|-------------|---------|---------|--------------|---------|---------|
|         | CH18050      | CH18300  | CH18550  | CH18650     | CH18900 | CH19150 | CH19250     | CH19575 | CH19900 | CH20000      | CH20175 | CH20350 |
| TRP     | 16.98        | 17.26    | 17.39    | 17.03       | 16.93   | 16.87   | 16.85       | 16.93   | 17.57   | 17.05        | 17.11   | 17.26   |
| TIS     |              |          | -89.25   |             |         | -90.24  |             |         | -90.02  |              |         | -90.27  |
| channel | LTE-FDD-B5   |          |          | LTE-FDD-B7  |         |         | LTE-FDD-B8  |         |         | LTE-FDD-B12  |         |         |
|         | CH20450      | CH20525  | CH20600  | CH20800     | CH21100 | CH21400 | CH21500     | CH21625 | CH21750 | CH23060      | CH23095 | CH23130 |
| TRP     | 15.86        | 16.01    | 16.32    | 16.34       | 15.48   | 15.42   | 15.16       | 15.78   | 16.03   | 15.03        | 15.14   | 15.28   |
| TIS     |              |          | -89.23   |             |         | -88.07  |             |         | -89.75  |              |         | -88.76  |
| channel | LTE-FDD-B13  |          |          | LTE-FDD-B17 |         |         | LTE-FDD-B18 |         |         | LTE-FDD-B19  |         |         |
|         | CH23230      | CH23230  | CH23230  | CH23780     | CH23790 | CH23800 | CH23900     | CH23925 | CH23950 | CH24050      | CH24075 | CH24100 |
| TRP     |              | 16.03    |          | 15.36       | 15.78   | 16.12   | 15.89       | 15.93   | 16.55   | 16.42        | 16.23   | 15.78   |
| TIS     |              | -88.26   |          |             |         | -89.12  |             |         | -89.23  |              |         | -88.34  |
| channel | LTE-FDD-B20  |          |          | LTE-FDD-B25 |         |         | LTE-FDD-B26 |         |         | LTE-FDD-B28A |         |         |
|         | CH24200      | CH24300  | CH24400  | CH26090     | CH26365 | CH06640 | CH26740     | CH26865 | CH26990 | CH27300      | CH27370 | CH27300 |
| TRP     | 16.25        | 16.54    | 16.03    | 17.02       | 16.83   | 16.78   | 16.78       | 17.06   | 17.25   | 15.13        | 15.22   | 15.44   |
| TIS     |              |          | -90.24   |             |         | -90.05  |             |         | -89.47  |              |         | -89.28  |
| channel | LTE-TDD-B28B |          |          | LTE-TDD-B38 |         |         | LTE-TDD-B40 |         |         | LTE-TDD-66   |         |         |
|         | CH21500      | CH21625  | CH21750  | CH37850     | CH38000 | CH38150 | CH38750     | CH39150 | CH39550 | CH40340      | CH40260 | CH41140 |
| TRP     | 15.03        | 15.14    | 15.36    | 16.14       | 15.74   | 15.58   | 15.23       | 15.49   | 15.65   | 16.02        | 15.48   | 15.39   |
| TIS     |              |          | -88.17   |             |         | -88.23  |             |         | -88.43  |              |         | -87.89  |
| channel | LTE-TDD-66   |          |          |             |         |         |             |         |         |              |         |         |
|         | CH132022     | CH132322 | CH132622 |             |         |         |             |         |         |              |         |         |
| TRP     | 16.78        | 16.86    | 17.1     |             |         |         |             |         |         |              |         |         |
| TIS     |              |          | -89.25   |             |         |         |             |         |         |              |         |         |

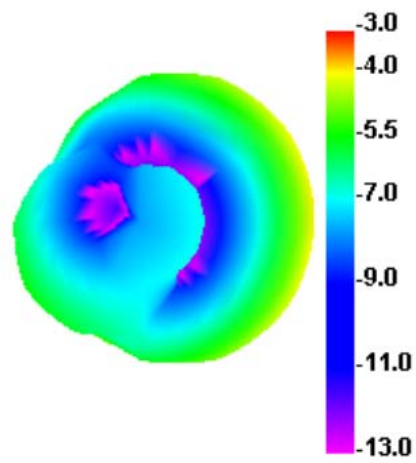
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**Antenna Gain:**

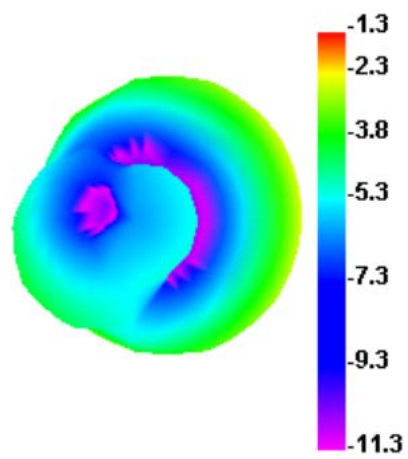
| Frequency: | Gain    |
|------------|---------|
| 708MHZ     | -0.5dBi |
| 824 MHZ    | -0.4dBi |
| 960 MHZ    | -0.3dBi |
| 1.71GHZ    | -0.3dBi |
| 1.98 GHZ   | -0.4dBi |
| 2.17GHZ    | -0.3dBi |
| 2.31GHZ    | -0.1dBi |
| 2.68GHZ    | -0.2dBi |

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3Dphi  
708MHZ

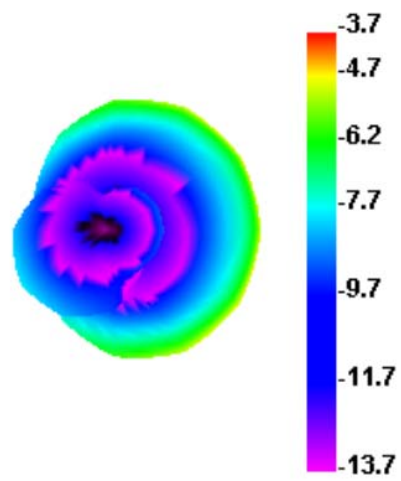


824 MHZ

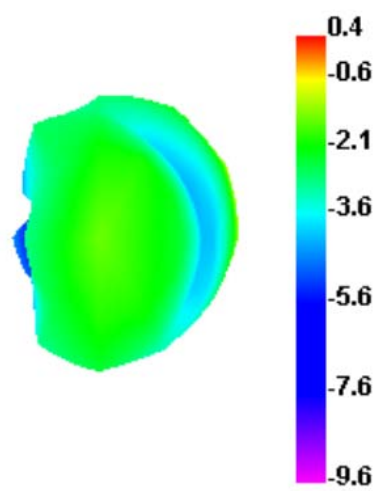


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960 MHZ

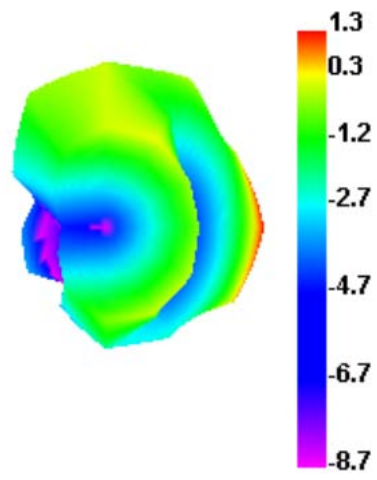


1.71GHZ

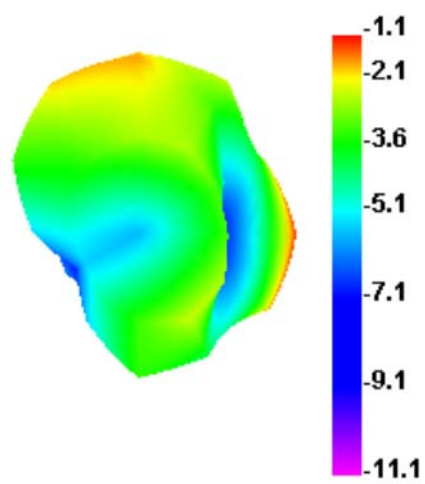


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1.98 GHZ

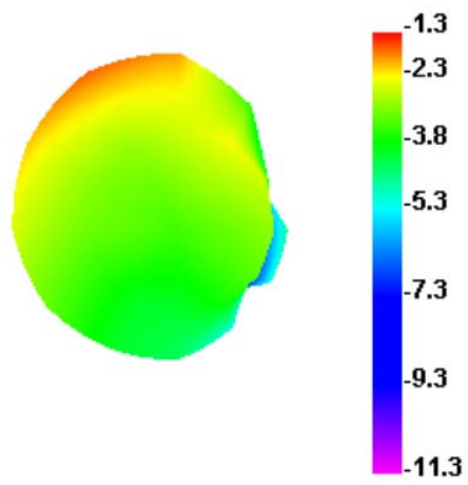


2.17GHZ

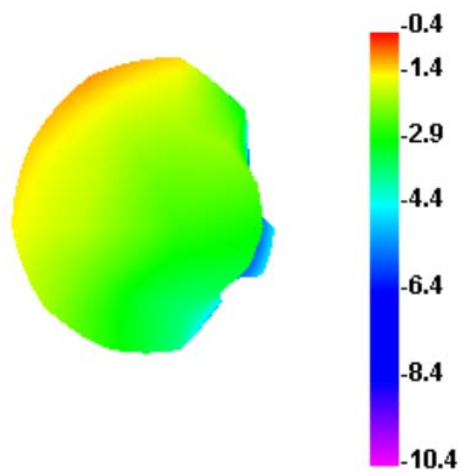


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2.31GHZ



2.68GHZ



## BT/WIFI: Passive parameter diagram:



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**BT/WIFI:  
Passive efficiency**

| Freq<br>(MHz) | Effi<br>(%) |
|---------------|-------------|
| 2400          | 35. 32      |
| 2440          | 36. 22      |
| 2480          | 36. 64      |

**BT/2.4WIFI**

| Freq<br>(MHz) | Effi<br>(%) |
|---------------|-------------|
| 5150          | 32. 22      |
| 5450          | 32. 61      |
| 5850          | 33. 42      |

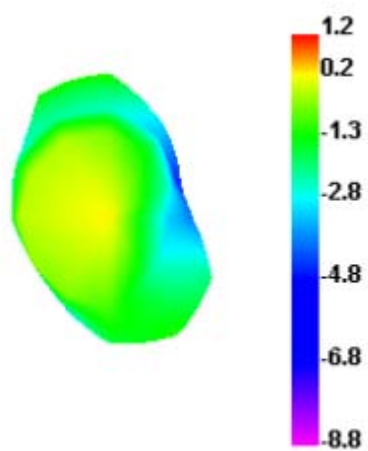
**5.8WIFI**

**BT/2.4/5.8WIFI:Gain**

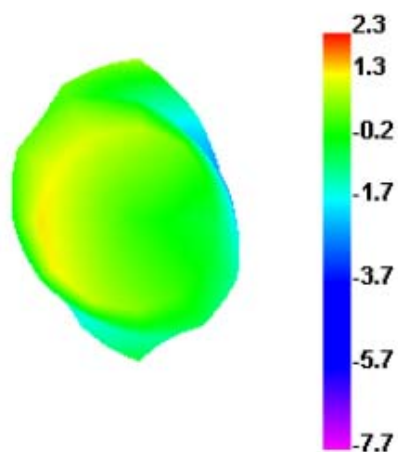
| Frequence:     | Gain          |
|----------------|---------------|
| <b>2.4GHZ</b>  | <b>0.7dBi</b> |
| <b>2.44GHZ</b> | <b>0.8dBi</b> |
| <b>2.48GHZ</b> | <b>0.8dBi</b> |
| <b>5.15GHZ</b> | <b>0.5dBi</b> |
| <b>5.45GHZ</b> | <b>0.6dBi</b> |
| <b>5.85GHZ</b> | <b>0.6dBi</b> |

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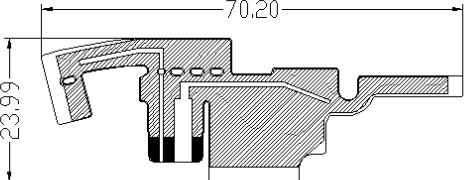
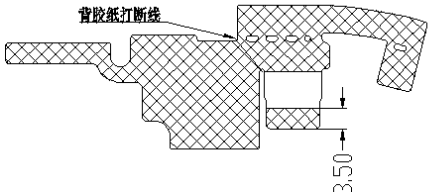
3Dphi  
BT/2.4WIFI



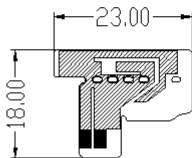
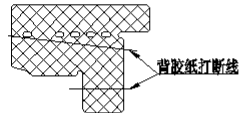
5.8WIFI



## 7. Structural drawings

| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2            | 3   | 4          | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6     | 7 | 8 |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---|---|-----|------|----|------------|----|-------|------|-------|--|--|--|--|------|--------------|--|------|--|--|------|-----|--|--|--|--|-----|----|-----|--|--|--|------|--|----|----|----|-----|--|--|----|-----|--|--|
| 料号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 颜色           | 色号  | 供应颜色号      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>注:</p> <ol style="list-style-type: none"> <li>1. "*"为重点尺寸, 孔位以适配为准;</li> <li>2. FPC材料: 电解铜, 半对三分之一;</li> <li>3. 反面背胶 (3M300LSE);</li> <li>4. 未标公差尺寸, 模具冲出尺寸公差为<math>\pm 0.2</math>, 铜箔线条尺寸公差为<math>\pm 0.05</math>, 标重点的孔公差为<math>\pm 0.08</math>;</li> <li>5. 实心部分为镀金区, 画斜线的为铜箔区, 画交叉线的为背胶区;</li> <li>6. 表面涂黑油亚光磨砂;</li> <li>7. Pb、Hg、Cr+6、PBBs、PBDEs各项小于500PPM, Cd小于50PPM.</li> </ol> |              |     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| <b>深圳市德仕勤科技有限公司</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |     |            | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>机 型</td> <td>W555</td> <td>日期</td> <td>2022-07-29</td> <td>页码</td> <td>1 / 1</td> </tr> <tr> <td>项目编号</td> <td colspan="2">结构部设计</td> <td colspan="3"></td> </tr> <tr> <td>零件名称</td> <td colspan="2">GSM FPC(主天线)</td> <td colspan="3">射频设计</td> </tr> <tr> <td>零件料号</td> <td colspan="2">审 核</td> <td colspan="3"></td> </tr> <tr> <td>材 质</td> <td>PI</td> <td>确 认</td> <td colspan="3"></td> </tr> <tr> <td>外观处理</td> <td></td> <td>单位</td> <td>mm</td> <td>比例</td> <td>1:1</td> </tr> <tr> <td></td> <td></td> <td>版本</td> <td colspan="3">T:A</td> </tr> </table> |       |   |   | 机 型 | W555 | 日期 | 2022-07-29 | 页码 | 1 / 1 | 项目编号 | 结构部设计 |  |  |  |  | 零件名称 | GSM FPC(主天线) |  | 射频设计 |  |  | 零件料号 | 审 核 |  |  |  |  | 材 质 | PI | 确 认 |  |  |  | 外观处理 |  | 单位 | mm | 比例 | 1:1 |  |  | 版本 | T:A |  |  |
| 机 型                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | W555         | 日期  | 2022-07-29 | 页码                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 / 1 |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 项目编号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 结构部设计        |     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 零件名称                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | GSM FPC(主天线) |     | 射频设计       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 零件料号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 审 核          |     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 材 质                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PI           | 确 认 |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 外观处理                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              | 单位  | mm         | 比例                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1:1   |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              | 版本  | T:A        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 日期                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 修 改 内 容      | 版 本 | 备 注        | 图纸保存路径                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |              |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |

| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2           | 3   | 4          | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6     | 7 | 8 |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---|---|-----|------|----|------------|----|-------|------|-------|--|--|--|--|------|-------------|--|------|--|--|------|-----|--|--|--|--|-----|----|-----|--|--|--|------|--|----|----|----|-----|--|--|----|-----|--|--|
| 料号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 颜色          | 色号  | 供应颜色号      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>注:</p> <ol style="list-style-type: none"> <li>1. "*"为重点尺寸, 孔位以适配为准;</li> <li>2. FPC材料: 电解铜, 半对三分之一;</li> <li>3. 反面背胶 (3M300LSE);</li> <li>4. 未标公差尺寸, 模具冲出尺寸公差为<math>\pm 0.2</math>, 铜箔线条尺寸公差为<math>\pm 0.05</math>, 标重点的孔公差为<math>\pm 0.08</math>;</li> <li>5. 实心部分为镀金区, 画斜线的为铜箔区, 画交叉线的为背胶区;</li> <li>6. 表面涂黑油亚光磨砂;</li> <li>7. Pb、Hg、Cr+6、PBBs、PBDEs各项小于500PPM, Cd小于50PPM.</li> </ol> |             |     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| <b>深圳市德仕勤科技有限公司</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |     |            | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>机 型</td> <td>W555</td> <td>日期</td> <td>2022-07-29</td> <td>页码</td> <td>1 / 1</td> </tr> <tr> <td>项目编号</td> <td colspan="2">结构部设计</td> <td colspan="3"></td> </tr> <tr> <td>零件名称</td> <td colspan="2">GPS FPC(天线)</td> <td colspan="3">射频设计</td> </tr> <tr> <td>零件料号</td> <td colspan="2">审 核</td> <td colspan="3"></td> </tr> <tr> <td>材 质</td> <td>PI</td> <td>确 认</td> <td colspan="3"></td> </tr> <tr> <td>外观处理</td> <td></td> <td>单位</td> <td>mm</td> <td>比例</td> <td>1:1</td> </tr> <tr> <td></td> <td></td> <td>版本</td> <td colspan="3">T:A</td> </tr> </table> |       |   |   | 机 型 | W555 | 日期 | 2022-07-29 | 页码 | 1 / 1 | 项目编号 | 结构部设计 |  |  |  |  | 零件名称 | GPS FPC(天线) |  | 射频设计 |  |  | 零件料号 | 审 核 |  |  |  |  | 材 质 | PI | 确 认 |  |  |  | 外观处理 |  | 单位 | mm | 比例 | 1:1 |  |  | 版本 | T:A |  |  |
| 机 型                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | W555        | 日期  | 2022-07-29 | 页码                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 / 1 |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 项目编号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 结构部设计       |     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 零件名称                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | GPS FPC(天线) |     | 射频设计       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 零件料号                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 审 核         |     |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 材 质                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | PI          | 确 认 |            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 外观处理                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             | 单位  | mm         | 比例                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1:1   |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |             | 版本  | T:A        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |
| 日期                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 修 改 内 容     | 版 本 | 备 注        | 图纸保存路径                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |   |   |     |      |    |            |    |       |      |       |  |  |  |  |      |             |  |      |  |  |      |     |  |  |  |  |     |    |     |  |  |  |      |  |    |    |    |     |  |  |    |     |  |  |



## Antenna assembly picture

