



SPECIFICATION FOR APPROVAL

承認書

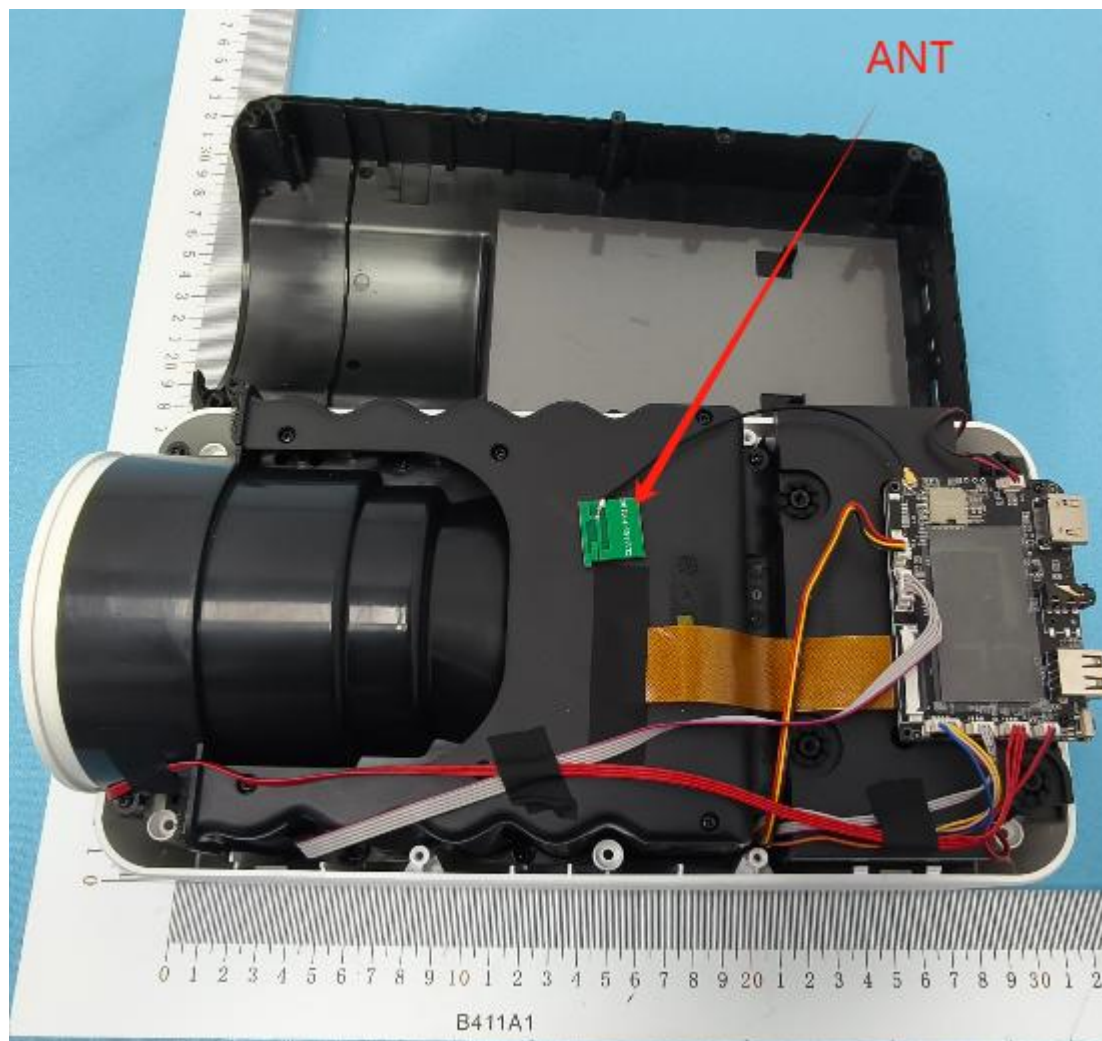
|                |                                           |
|----------------|-------------------------------------------|
| Customer Name  | GuangDong SINOY Smart Technology CO., LTD |
| Product name   | BT+WIFI ANT                               |
| Product number | 05WIFIPCB800004                           |
| Prepared By    | Tony-Men                                  |
| Checked By     |                                           |
| Approved By    |                                           |
| Apply Date     | 2024 年 11 月 2 日                           |

| CUSTOMER SIGNATURE                                                                          |            |             |
|---------------------------------------------------------------------------------------------|------------|-------------|
| Prepared By                                                                                 | Checked By | Approved By |
|                                                                                             |            |             |
| PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVED SIGNATURES. |            |             |



|                      |                                                             |
|----------------------|-------------------------------------------------------------|
| 频率范围 Frequency range | 2400 ~ 2500 MHz<br>5150 ~ 5850 MHz                          |
| 增益 Gain              | 3.75 dBi/Max@2400 ~ 2500 MHz<br>6.79dBi/Max@5150 ~ 5850 MHz |
| 驻波比系数 VSWR           | 2.0/Max@2400 ~ 2500 MHz<br>2.0/Max@5150 ~ 5850 MHz          |
| 输入阻抗 Input Impedance | $50 \pm 5 (\Omega)$                                         |
| 极化方式 Polarization    | 垂直极化 Vertical Polarization                                  |
| 半功率波束 (3dB) HPW      | 180° H-plane 120° E-plane                                   |

Antenna location





## Revision History

| Date      | Revision | Description of Changes                           |
|-----------|----------|--------------------------------------------------|
| 2024-11-2 | RA       | Measured with WIFI 2.4GHz/5.8GHZ antenna sample. |

## 1 Technical Summary

This report summarizes the electrical results of the proposed antenna to support the WIFI 2.4GHz/5.8GHZ antenna program. We test the antenna with the latest version handset. And it seems to be acceptable.

## 2 General Description

### 2.1 Components/Part revisions

VSWR: Voltage Standing Wave Rate.

## 3 Mechanical Description

## 4 Electrical Performance

### 4.1 Set-up

#### 4.1.1 VSWR

VSWR measurements (S11) were performed using an Agilent 8753D 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.

#### 4.1.2 Gain & Radiation Patterns

The gain of the antenna was measured in the Lxc's anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 300 MHz through 6 GHz and an 18" diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

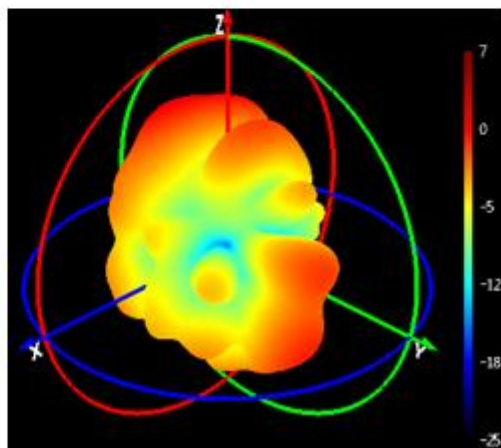
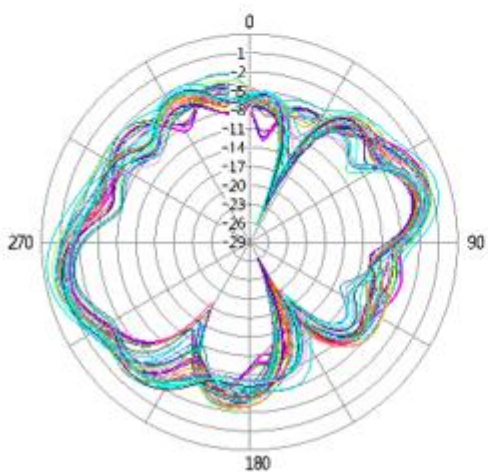
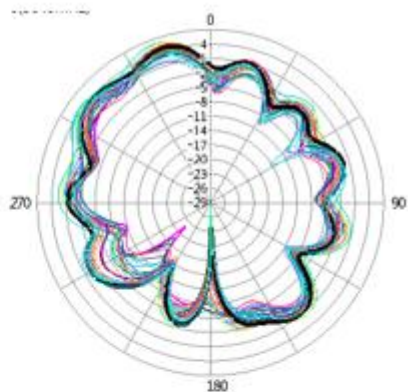
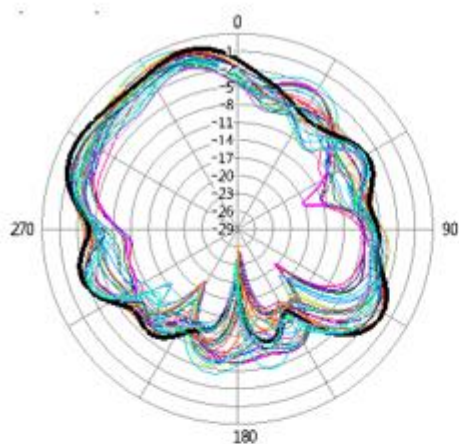
#### 4.1.3 Matching Circuit Description

No changed..



## 4 Antenna - Radiation Pattern Test Data

| 频率(MHz) | 增益(dBi) | 效率(dB) | 效率(%) |
|---------|---------|--------|-------|
| 2400    | 3.43    | -3.04  | 49.61 |
| 2410    | 3.75    | -2.82  | 52.24 |
| 2420    | 2.98    | -3.12  | 48.72 |
| 2430    | 2.53    | -3.42  | 45.50 |
| 2440    | 2.71    | -3.21  | 47.72 |
| 2450    | 2.95    | -3.03  | 49.75 |
| 2460    | 2.78    | -3.03  | 49.81 |
| 2470    | 2.51    | -3.30  | 46.75 |
| 2480    | 2.01    | -3.59  | 43.72 |
| 2490    | 2.30    | -3.45  | 45.14 |
| 2500    | 2.48    | -3.20  | 47.90 |
| 5150    | 4.63    | -2.97  | 50.41 |
| 5220    | 4.70    | -2.90  | 51.26 |
| 5240    | 4.07    | -3.54  | 44.24 |
| 5260    | 3.95    | -3.52  | 44.50 |
| 5280    | 3.12    | -4.16  | 38.36 |
| 5300    | 4.80    | -2.37  | 57.90 |
| 5320    | 6.32    | -0.89  | 81.50 |
| 5340    | 4.51    | -2.61  | 54.84 |
| 5360    | 5.58    | -1.75  | 66.77 |
| 5380    | 6.33    | -1.07  | 78.20 |
| 5400    | 5.74    | -1.73  | 67.13 |
| 5420    | 5.75    | -1.88  | 64.88 |
| 5440    | 4.54    | -3.05  | 49.53 |
| 5460    | 4.01    | -3.35  | 46.28 |
| 5480    | 4.20    | -3.38  | 45.91 |
| 5500    | 3.99    | -3.74  | 42.24 |
| 5520    | 5.05    | -2.70  | 53.76 |
| 5540    | 4.77    | -2.88  | 51.52 |
| 5560    | 4.91    | -2.92  | 51.00 |
| 5580    | 6.21    | -1.69  | 67.70 |
| 5600    | 5.52    | -2.64  | 54.42 |
| 5620    | 5.56    | -2.60  | 54.94 |
| 5640    | 6.61    | -1.96  | 63.62 |
| 5660    | 5.52    | -2.63  | 54.58 |
| 5680    | 5.69    | -2.63  | 54.64 |
| 5700    | 6.00    | -2.36  | 58.11 |
| 5720    | 5.87    | -2.48  | 56.48 |
| 5740    | 5.37    | -3.04  | 49.62 |
| 5760    | 5.18    | -3.25  | 47.35 |
| 5780    | 5.30    | -3.12  | 48.78 |
| 5850    | 6.79    | -2.05  | 62.34 |







## 5.Plots

### VSWR

注：1 驻波系数的标准值

2 回损的标准值



| 序号 | 频率      | 驻波     | 回损      |
|----|---------|--------|---------|
| 1  | 2.4GHz  | 1.9065 | -9.1742 |
| 2  | 2.45GHz | 1.8546 | -10.126 |
| 3  | 2.5GHz  | 1.3755 | -16.423 |
| 4  | 5.2GHz  | 1.6008 | -12.622 |
| 5  | 5.84GHz | 1.5088 | -14.010 |



## 6.Mechanical drawing

