

# SPECIFICATION

Shenzhen Guandetong Electronic Limited

*Shenzhen Guandetong Electronic Co., Ltd.*

FPC antenna T23 single frequency double antenna for 2.4G 1.13 black  
line length 70MM

## Product Specification

|                          |                     |                        |                              |
|--------------------------|---------------------|------------------------|------------------------------|
| connection               |                     | frequency range        | 2400-2500MHZ<br>5150-5800MHZ |
| Frequency band wire name |                     | edition                | A1                           |
| Customer part number     | 3. 26. 003. 1000024 | Guandetong part number | GDT-2.4G/5.8G-70             |
| Guandeton g No           |                     |                        |                              |
| R F design               | XIAO                | RF Manager             | LILI                         |
| Structural design        | WAN                 | Structure Manager      | HUAN                         |
| Technical Director       | ADD                 | Date                   | 2025-12-29                   |

Customer confirmation:

Does the assembly meet your company's requirements: ☐OK ☐NG

# **catalogue**

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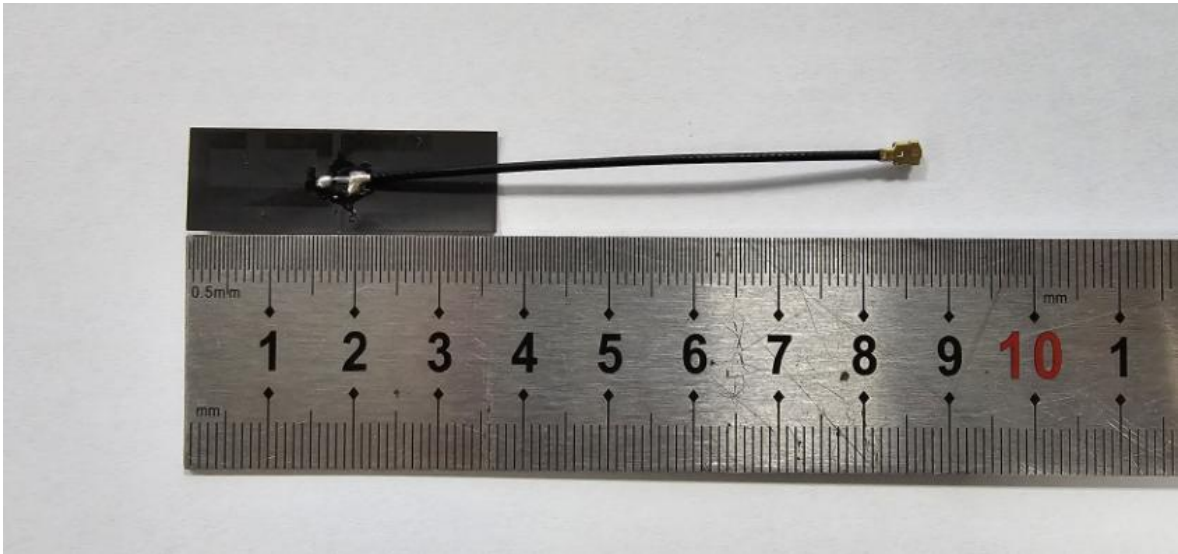
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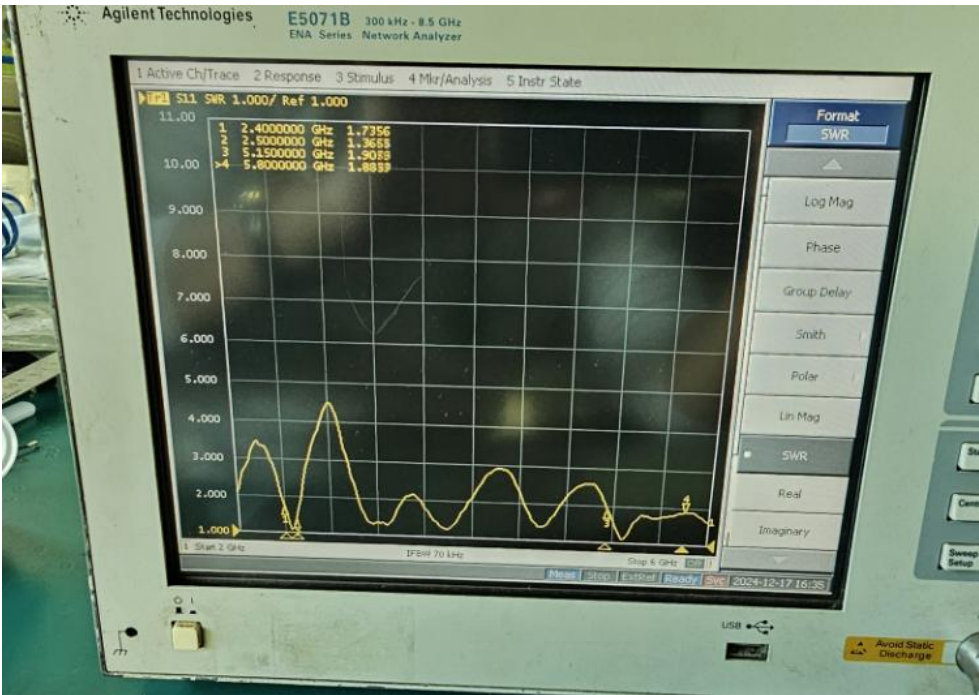
一、 Product pictures



二、 Product parameters

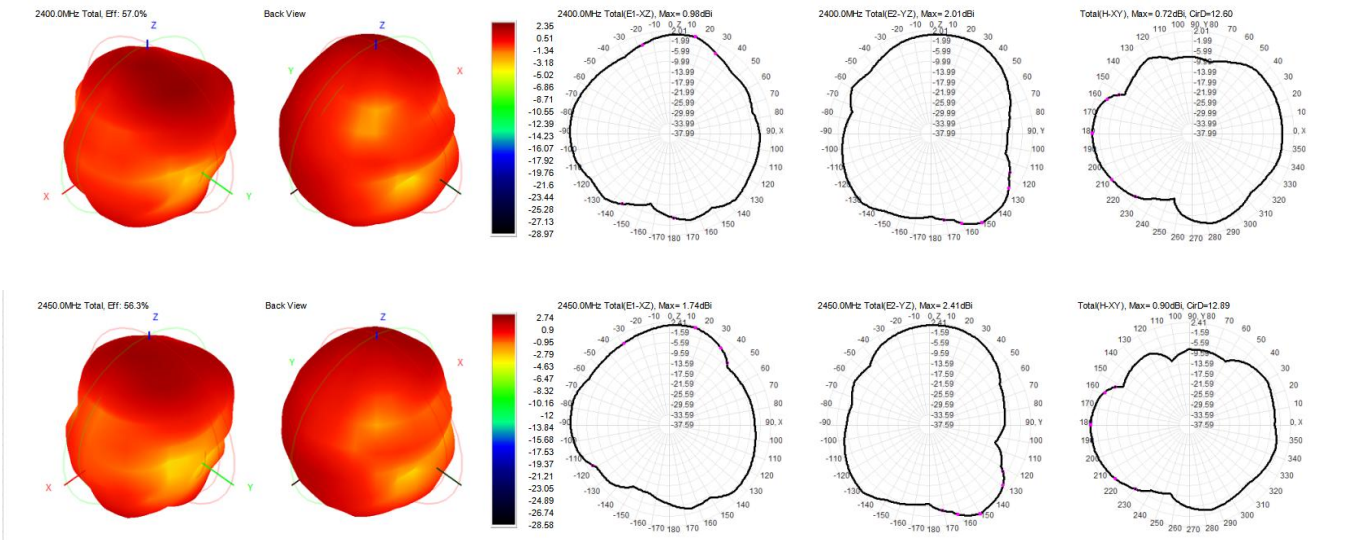
| Product testing parameters  |                                    |                     |               |
|-----------------------------|------------------------------------|---------------------|---------------|
| Product name                | 2.4G/5.8G Antenna                  | (Model Type)        |               |
| (Electrical Specifications) |                                    |                     |               |
| (Frenquency Range)          | 2400MHZ-2500MHZ<br>5150MHZ-5800MHZ | (Polarization)      | perpendicular |
| (Impedance)                 | 50Ω                                | Radiation           | QXCOMM        |
| (VSWR)                      | ≤2.0                               | (Power)             | 50W           |
| (Gain)                      | 2.35-6.42dBi                       | (Bandwidth          | 100M          |
| (Mechanical Specifications) |                                    |                     |               |
| (Dimensions)                | 36*12±1mm                          | (Chassis Color)     | Black         |
| (Connector)                 | IPEX                               | (Cable Length)      | 70±2MM        |
| (Chassis Material)          | FPC                                | Wire color          | 1.13 Black    |
| (Working Temperature)       | -40℃-+85℃                          | (Limit Temperature) | -40℃-+85℃     |

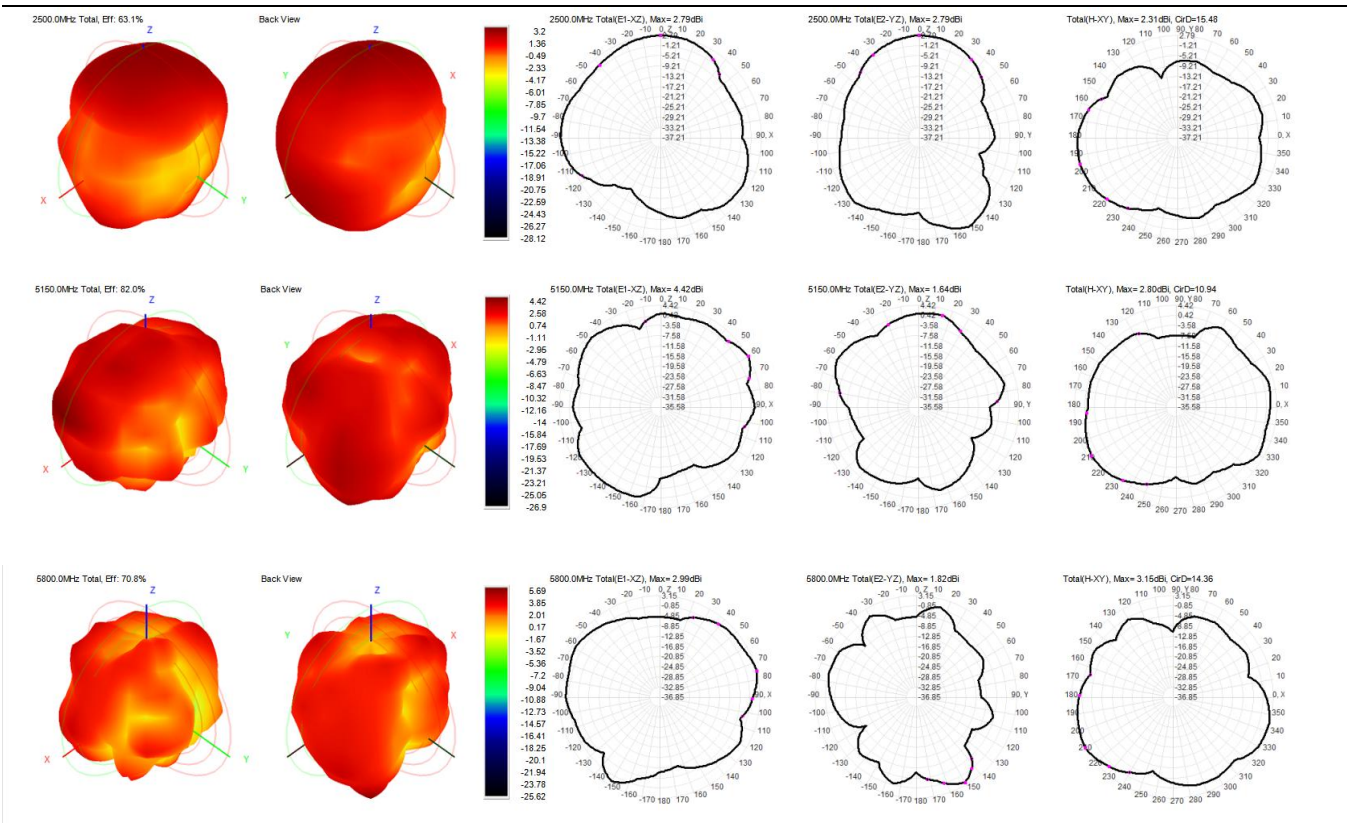
三、S11(VSWR、Return、Smith)



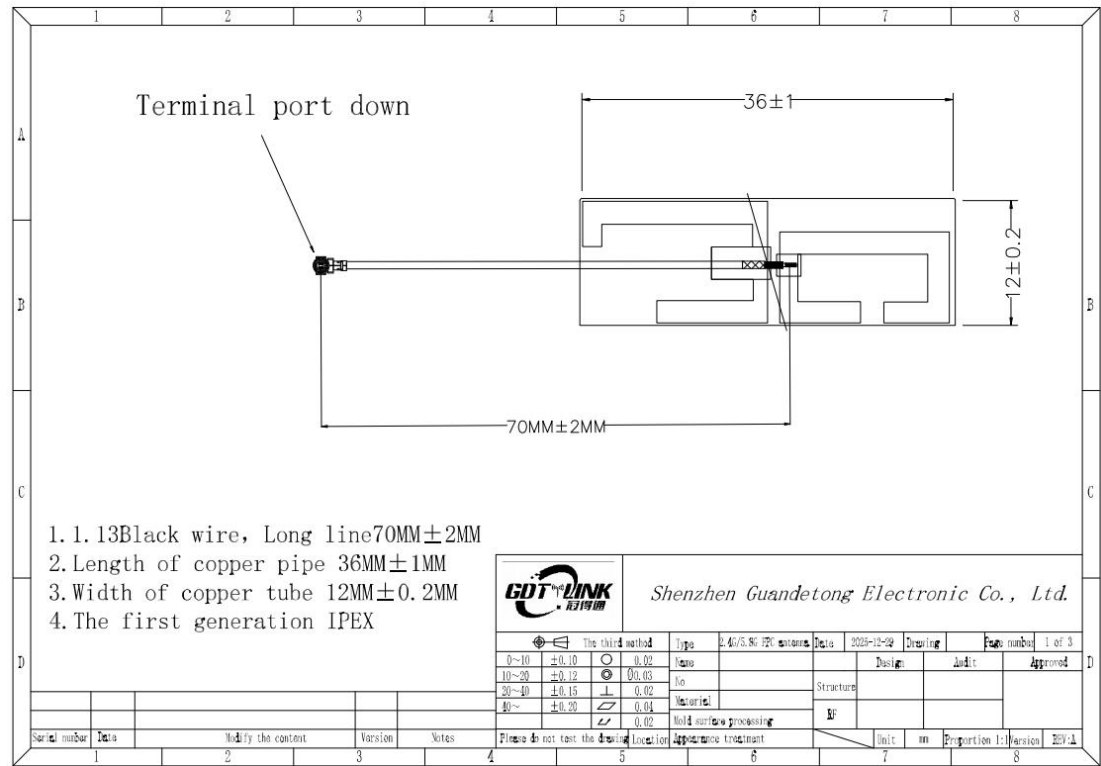
四、Antenna gain and efficiency&Apple in 3D

| 序号            | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     | 23     | 24     | 25     |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 频率(MHz)       | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 | 5150.0 | 5200.0 | 5250.0 | 5300.0 | 5350.0 | 5400.0 | 5450.0 | 5500.0 | 5550.0 | 5600.0 | 5650.0 | 5700.0 | 5750.0 | 5800.0 |
| 效率(dB)        | -2.44  | -2.44  | -2.47  | -2.30  | -2.53  | -2.50  | -2.33  | -2.28  | -1.91  | -2.15  | -2.00  | -0.86  | -1.14  | -1.85  | -1.27  | -0.89  | -1.29  | -1.27  | -1.32  | -1.26  | -1.43  | -1.09  | -1.20  | -1.33  | -1.50  |
| 增益(dB)        | 2.35   | 2.42   | 2.46   | 2.74   | 2.63   | 2.74   | 2.94   | 3.05   | 3.37   | 3.10   | 3.20   | 4.42   | 4.54   | 4.08   | 4.97   | 5.51   | 5.06   | 5.24   | 4.96   | 5.57   | 6.22   | 6.42   | 5.86   | 5.78   | 5.69   |
| 效率(%)         | 57.05  | 56.99  | 56.58  | 58.91  | 55.91  | 56.27  | 58.45  | 59.21  | 64.41  | 60.95  | 63.13  | 81.96  | 76.84  | 65.29  | 74.72  | 81.40  | 74.37  | 74.63  | 73.84  | 74.82  | 71.91  | 77.89  | 75.87  | 73.63  | 70.78  |
| 方向性(dB)       | 4.79   | 4.86   | 4.94   | 5.03   | 5.15   | 5.23   | 5.28   | 5.32   | 5.28   | 5.25   | 5.20   | 5.28   | 5.68   | 5.93   | 6.23   | 6.41   | 6.34   | 6.51   | 6.28   | 6.83   | 7.65   | 7.51   | 7.06   | 7.11   | 7.20   |
| 最大增益位置(theta) | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 60.00  | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 | 120.00 |
| 最大增益位置(phi)   | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 105.00 | 0.00   | 210.00 | 210.00 | 210.00 | 210.00 | 210.00 | 210.00 | 210.00 | 225.00 | 225.00 | 225.00 | 225.00 | 225.00 | 225.00 |
| 垂直极化效率(%)     | 22.19  | 22.24  | 22.16  | 23.22  | 22.45  | 23.14  | 24.79  | 25.87  | 29.15  | 28.47  | 30.46  | 58.87  | 54.81  | 45.50  | 53.45  | 58.21  | 52.94  | 53.20  | 51.91  | 52.47  | 48.44  | 53.15  | 52.29  | 51.14  | 49.06  |
| 上半球效率(%)      | 28.98  | 29.06  | 29.11  | 30.66  | 29.48  | 29.93  | 31.35  | 32.06  | 35.21  | 33.72  | 35.29  | 47.82  | 44.69  | 37.50  | 42.28  | 45.50  | 40.71  | 40.18  | 38.43  | 39.10  | 37.45  | 41.60  | 41.19  | 40.46  | 39.22  |
| 下半球效率(%)      | 28.07  | 27.92  | 27.47  | 28.25  | 26.43  | 26.34  | 27.11  | 27.14  | 29.19  | 27.23  | 27.85  | 34.14  | 32.15  | 27.79  | 32.44  | 35.91  | 33.66  | 34.45  | 35.41  | 35.72  | 34.46  | 36.29  | 34.67  | 33.16  | 31.56  |





五、Structural drawings



## 六、 Environmental performance test

| project                            | Project test conditions                                                                                                                                                                                                                                                                                                                      | Specifications                                                                               |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Storage environment                | <p>The test temperature, humidity and air pressure are as follows when there is no specific condition:</p> <ol style="list-style-type: none"> <li>1. The temperature is <math>-30^{\circ}\text{C}\sim+80^{\circ}\text{C}</math></li> <li>2. Relative humidity: 45% - 85%</li> <li>3. The air pressure is 86kpa-106kpa</li> </ol>             | Normal electrical and mechanical performance                                                 |
| High and low temperature test      | 5 cycles between $70^{\circ}\text{C}$ and $40^{\circ}\text{C}$ , then under normal conditions 1-2H, check the appearance quality.                                                                                                                                                                                                            | <p>The size shall meet the requirements and</p> <p>Mechanical and electrical performance</p> |
| Constant damp heat resistance test | <p>Relative humidity: <math>95 \pm 3\%</math>, test temperature: <math>40^{\circ}\text{C}</math>.<br/>After lasting for 2h,</p> <p>The electrical performance shall be measured within 5 minutes after the test object is taken out, and the test object shall be within the normal range</p> <p>Part 1-2H, check the appearance quality</p> | <p>The size shall meet the requirements and</p> <p>Mechanical and electrical performance</p> |
| vibration test                     | <p>Vibration frequency range: 10-55HZ, displacement amplitude: 0.35MM, acceleration amplitude:</p> <p>50.0M/s, frequency sweep cycles: 30 times</p>                                                                                                                                                                                          | Normal electrical and mechanical performance                                                 |
| Drop test                          | Free fall for 3times in the direction of mutually perpendicular axes at a height of 1M                                                                                                                                                                                                                                                       | Normal electrical and mechanical performance                                                 |