

# SPECIFICATION

Shenzhen Guandetong Electronic Limited

*Shenzhen Guandetong Electronic Co., Ltd.*

Antenna; W12 true; GDT; White 2.4G5.5G ultrasonic antenna 1.13 gray,  
with; line length 150mm, with wifi logo, red 8\*1 gasket

## Product Specification

|                          |                     |                        |                              |
|--------------------------|---------------------|------------------------|------------------------------|
| connection               |                     | frequency range        | 2400-2500MHZ<br>5150-5800MHZ |
| Frequency band wire name |                     | edition                | A1                           |
| Customer part number     | 3. 26. 003. W120002 | Guandetong part number |                              |
| Guandeton g No           |                     |                        |                              |
| R F design               | XIAO                | RF Manager             | LILI                         |
| Structural design        | WAN                 | Structure Manager      | HUAN                         |
| Technical Director       | ADD                 | Date                   | 2025-11-13                   |

Customer confirmation:

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

**catalogue**

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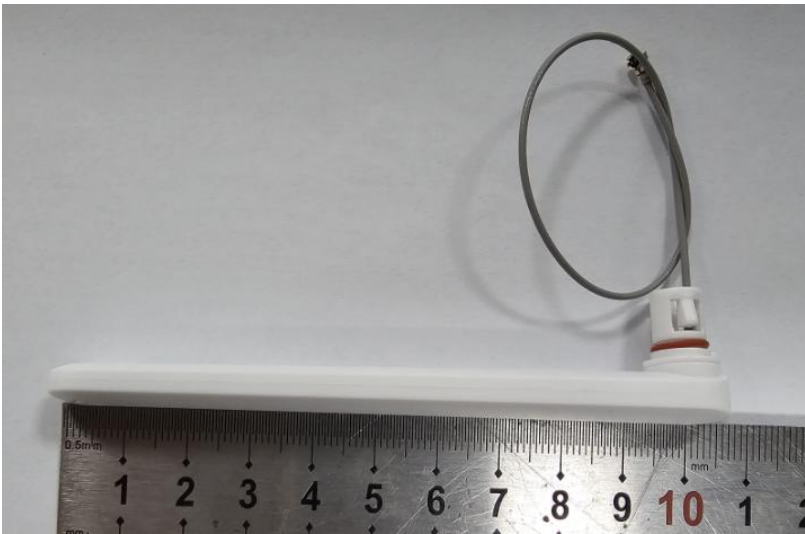
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一、 Product pictures



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)                      | 3dBi                               | (Bandwidth          | 100M          |
| (Mechanical Specifications) |                                    |                     |               |
| (Dimensions)                | 104.7*12.8-+0.3mm                  | (Chassis Color)     | white         |
| (Connector)                 | IPEX                               | (Cable Length)      | 150±5MM       |
| (Chassis Material)          | ABS                                | Wire color          | 1.13 Gray     |
| (Working Temperature)       | -40℃-+85℃                          | (Limit Temperature) | -40℃-+85℃     |

三、S11(VSWR、Return、Smith)



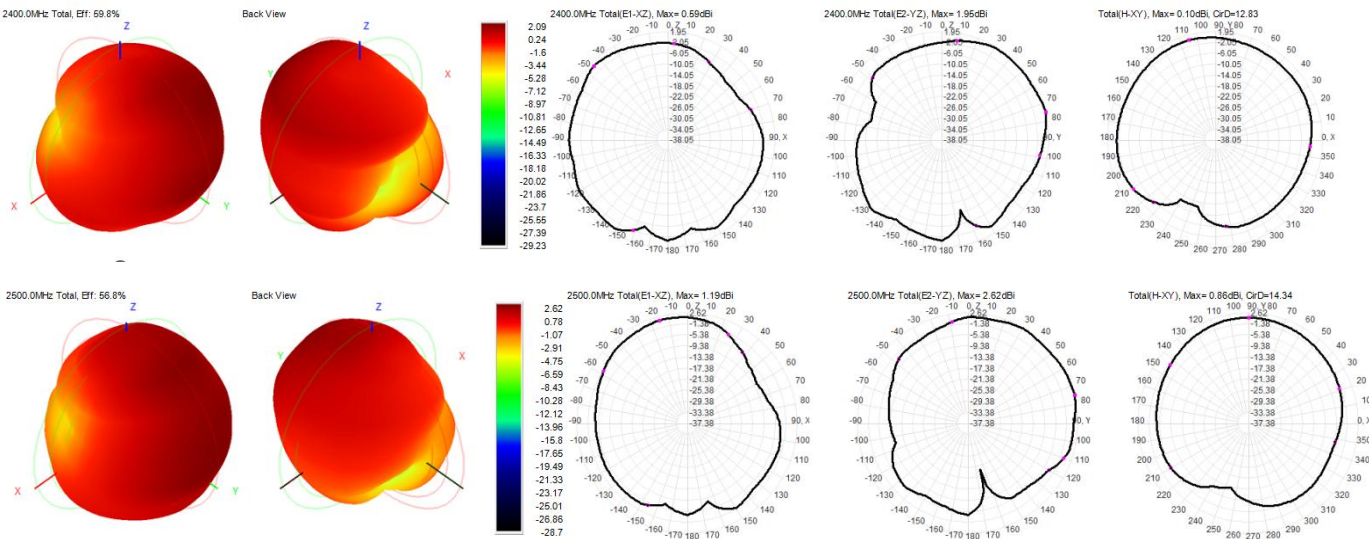
四、Antenna gain and efficiency&Apple in 3D

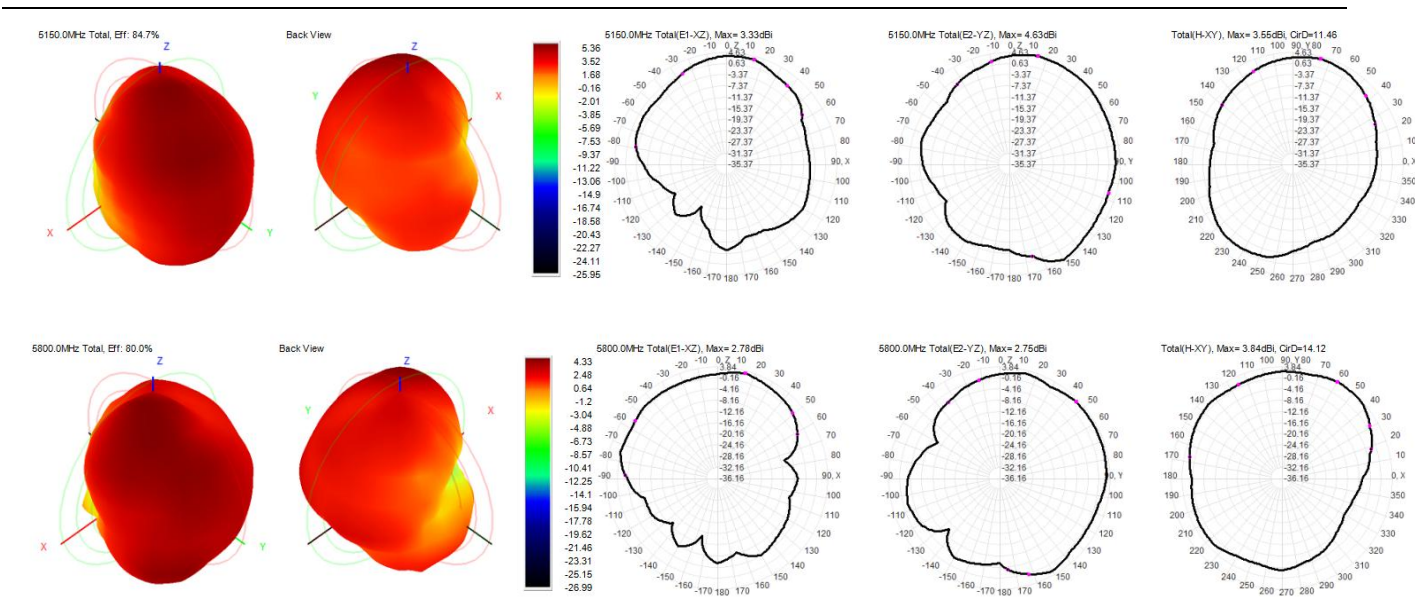
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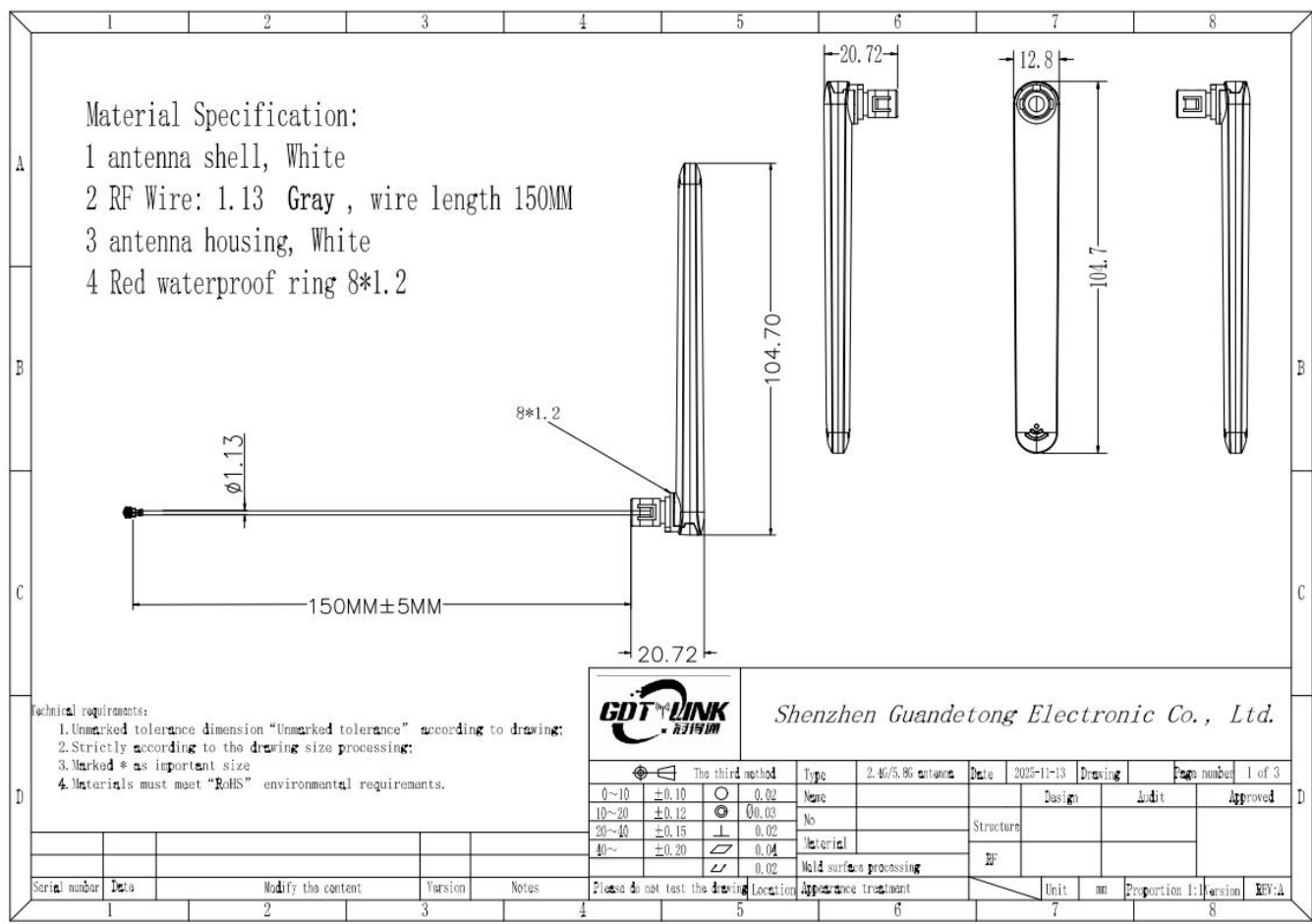
深圳市冠得通电子有限公司

| 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)        | -2.23  | -2.34  | -2.26  | -2.10  | -2.44  | -2.35  | -2.16  | -2.35  | -2.05  | -2.32  | -2.46  | -0.72  | -0.81  | -1.06  | -1.07  | -0.69  | -0.79  | -0.59  | -0.62  | -0.67  | -0.62  | -0.84  | -0.40  | -0.71  | -0.97  |
| 增益(dB)        | 2.09   | 1.85   | 2.01   | 2.58   | 2.03   | 2.49   | 2.83   | 2.47   | 3.10   | 2.83   | 2.62   | 5.36   | 5.35   | 5.29   | 5.45   | 6.16   | 5.91   | 6.19   | 5.88   | 5.58   | 5.47   | 4.89   | 5.07   | 4.83   | 4.33   |
| 效率(%)         | 59.82  | 58.33  | 59.49  | 61.60  | 57.01  | 58.19  | 60.83  | 58.16  | 62.31  | 58.58  | 56.80  | 84.66  | 82.92  | 78.21  | 85.40  | 83.30  | 87.22  | 86.71  | 85.83  | 86.60  | 82.49  | 91.13  | 84.99  | 79.96  |        |
| 方向性(dB)       | 4.32   | 4.20   | 4.27   | 4.68   | 4.47   | 4.94   | 4.99   | 4.83   | 5.15   | 5.15   | 5.07   | 6.09   | 6.16   | 6.35   | 6.52   | 6.85   | 6.70   | 6.78   | 6.50   | 6.25   | 6.09   | 5.73   | 5.47   | 5.54   | 5.30   |
| 最大增益位置(Theta) | 45.00  | 45.00  | 45.00  | 75.00  | 75.00  | 75.00  | 75.00  | 75.00  | 75.00  | 75.00  | 75.00  | 15.00  | 45.00  | 30.00  | 30.00  | 30.00  | 30.00  | 30.00  | 30.00  | 30.00  | 30.00  | 45.00  | 15.00  | 30.00  | 30.00  |
| 最大增益位置(Phi)   | 120.00 | 120.00 | 120.00 | 90.00  | 90.00  | 90.00  | 90.00  | 90.00  | 90.00  | 90.00  | 90.00  | 60.00  | 60.00  | 60.00  | 60.00  | 60.00  | 45.00  | 45.00  | 45.00  | 45.00  | 45.00  | 45.00  | 45.00  | 45.00  | 45.00  |
| 水平极化效率(%)     | 33.88  | 36.09  | 36.06  | 34.72  | 34.83  | 32.90  | 33.54  | 33.61  | 32.75  | 30.61  | 29.94  | 27.74  | 29.80  | 29.85  | 28.55  | 29.91  | 30.12  | 29.75  | 30.47  | 29.30  | 30.10  | 36.92  | 33.53  | 32.70  | 32.17  |
| 垂直极化效率(%)     | 25.94  | 22.23  | 23.44  | 26.88  | 22.18  | 25.29  | 27.28  | 24.55  | 29.56  | 27.97  | 26.86  | 56.92  | 53.12  | 48.48  | 49.66  | 55.49  | 53.17  | 57.47  | 56.23  | 56.33  | 56.50  | 51.57  | 57.60  | 52.29  | 47.80  |
| 上半球效率(%)      | 32.27  | 31.81  | 33.31  | 35.86  | 33.81  | 35.73  | 38.22  | 36.80  | 40.41  | 38.19  | 36.92  | 55.38  | 55.31  | 52.79  | 53.20  | 57.51  | 55.64  | 57.58  | 56.10  | 53.77  | 53.22  | 49.89  | 55.39  | 52.29  | 48.90  |
| 下半球效率(%)      | 27.55  | 26.51  | 26.19  | 25.74  | 23.20  | 22.45  | 22.60  | 21.36  | 21.90  | 20.39  | 19.88  | 29.28  | 27.61  | 25.53  | 25.01  | 27.90  | 27.66  | 29.64  | 30.60  | 31.85  | 33.38  | 32.60  | 35.74  | 32.71  | 31.06  |





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 3 times in the direction of mutually perpendicular axes at a height of 1M                                                                                                                                                                                                                                                      | Normal electrical and mechanical performance                                                 |