



| Design Specifications          | Typical                                                                                                                      | Units |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------|
| 天线形式<br>Antenna form           | FPC+端子线<br>FPC+Terminal wire                                                                                                 |       |
| 工作频率(working<br>Frequency)     | 2400-2500                                                                                                                    | MHz   |
| 增益 ( Gain )                    | -0.44 ~ -0.09                                                                                                                | dBi   |
| 天线效率 ( Antenna<br>efficiency ) | 29.80 ~ 37.38                                                                                                                | %     |
| 电压驻波比 ( VSWR )                 | <3                                                                                                                           |       |
| 极化方式(Ploriaztion)              | 线极化<br>Line polarization                                                                                                     |       |
| 轴比(Axial Ratio)                | 当天线为圆极化时，备注在工作带宽内的轴比大小<br>When the antenna is circularly polarized, note the axial ratio size within the operating bandwidth | N/A   |
| 辐射方向(Radiation<br>pattern)     | 全向<br>Omnidirectional                                                                                                        |       |
| 馈电阻抗(impedance)                | 50 ohm                                                                                                                       |       |
| 功率容量(Power<br>handling)        | 33                                                                                                                           | dBm   |
| 天线接口(Interface)                | IPEX                                                                                                                         |       |
| 天线尺寸(Overall<br>dimensions)    | 见图纸部分<br>See the drawings section                                                                                            |       |
| 重量(Weight)                     | 无要求<br>No requirements                                                                                                       |       |
| 工作温度(Operatin Temp)            | -30 ----- 70                                                                                                                 | °     |
| 储存温度(Storing Temp)             | -30 ----- 70                                                                                                                 | °     |

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# DSGW-090 BT 天线规格书

**1、规格：** 报告主要提供 DSGW-090 BT 天线的各项电性能参数的测试状况。

The report mainly provides the test status of various electrical performance parameters of the DSGW-090 BT antenna.



图一 DSGW 090 BT

## 2、电器性能 Electrical performance

### 2.1 规格标准 Specification standards

DSGW-090 BT 天线工作频段在 **2400-2500MHz**。

The DSGW-090 BT antenna operates in the frequency band of 2400-2500MHz.

### 2.2 天线的匹配电路 The matching circuit of the antenna

DSGW-090 BT 天线匹配主板自带匹配。

The DSGW-090 BT antenna matching motherboard comes with matching.

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## 2.3 驻波比(VSWR)的测试

### A. 测试的设置

VSWR 测试装置依次连接为: 8714ET 网络分析仪 → 50 欧姆的同轴 Cable → 120mm 长的铜管 → 测试治具。

测试治具的处理: 从天线 50 欧姆测试点处用一根电缆引出 SMA 接头, 与套有扼流圈的铜管连接, 再依次连接其他装置。

The VSWR test rig is connected sequentially: 8714ET Network Analyzer → 50 ohm coaxial cable → 120mm long copper tube → test fixture.

Treatment of test fixtures: Lead the SMA connector with a cable from the antenna 50 ohm test point, connect it with a copper tube with a choke, connect other devices in turn.

### B. VSWR

下表所示为 DSGW 090 BT 天线工作频段边缘频点的驻波比数值。测试所得的 VSWR, 相关波形图如附件所示。

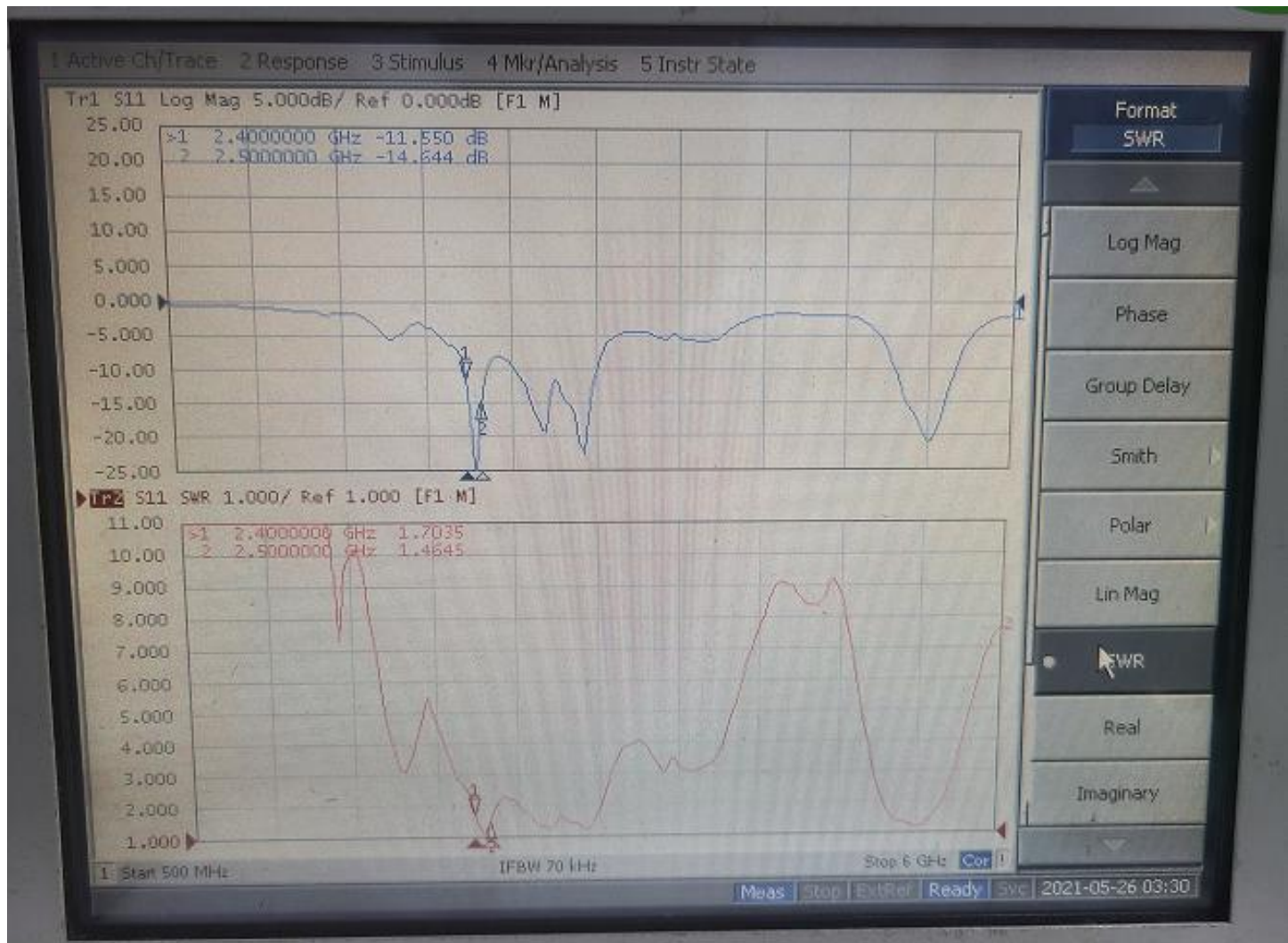
The following table shows the VSWR values at the edge frequency points of the operating band of the DSGW-090 BT antenna. The resulting VSWR, correlation waveform plot is shown in the attachment.

| 频段 | 频率 (MHz) | VSWR |
|----|----------|------|
| BT | 2400     | 1.70 |
|    | 2500     | 1.46 |

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### 2.3.1 S11 参数



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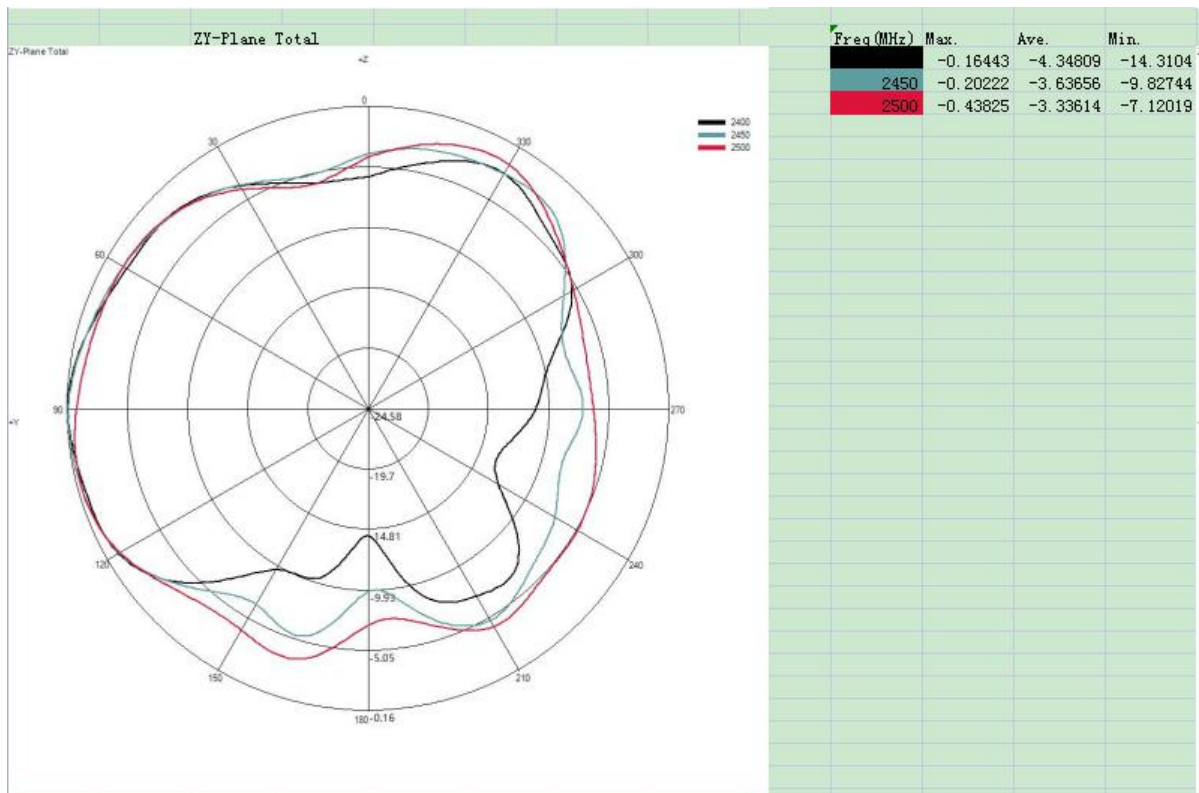
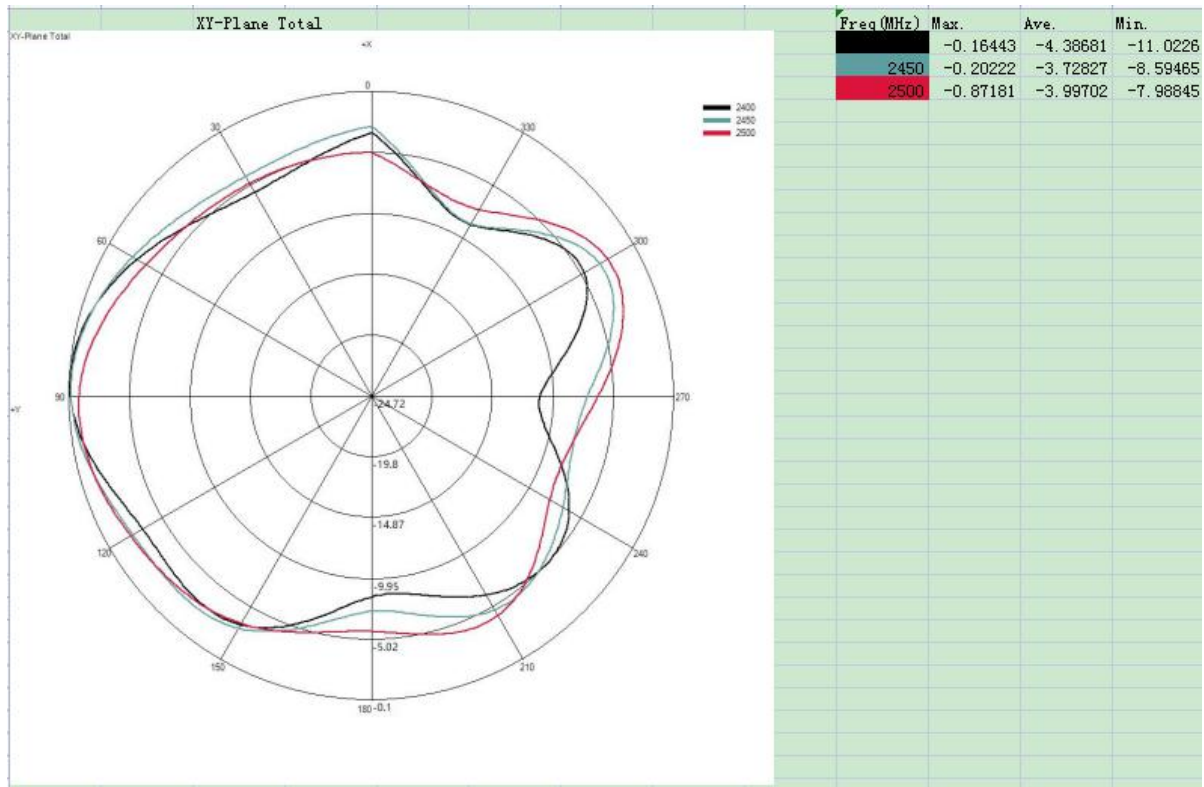
### 2.3.2 无源天线效率

| Freq(MHz) | Gain(dBi) | Efficiency(dB) | Efficiency(%) |
|-----------|-----------|----------------|---------------|
| 2400      | -0.16     | -5.26          | 29.80         |
| 2410      | -0.18     | -5.17          | 30.39         |
| 2420      | -0.11     | -5.03          | 31.41         |
| 2430      | -0.13     | -4.89          | 32.44         |
| 2440      | -0.18     | -4.79          | 33.17         |
| 2450      | -0.20     | -4.57          | 34.92         |
| 2460      | -0.22     | -4.42          | 36.12         |
| 2470      | -0.16     | -4.31          | 37.05         |
| 2480      | -0.09     | -4.27          | 37.38         |
| 2490      | -0.16     | -4.28          | 37.29         |
| 2500      | -0.44     | -4.51          | 35.42         |

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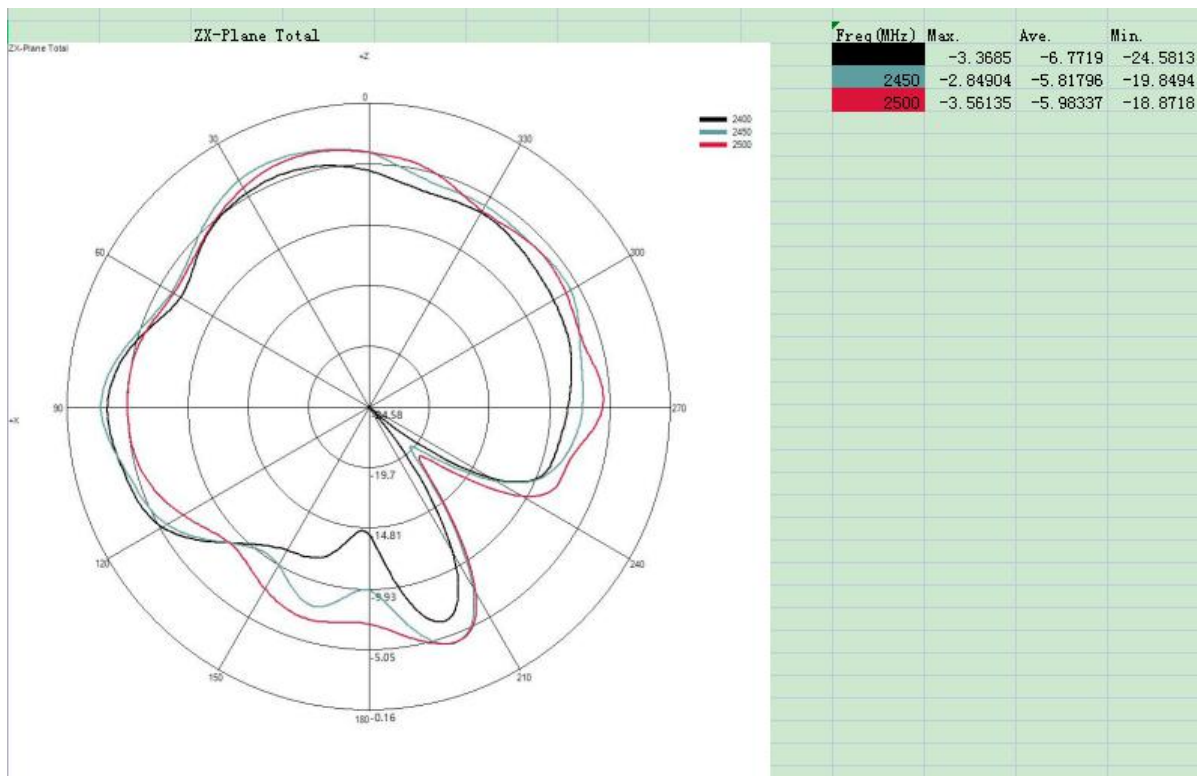
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### 2.3.3 方向图



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### 3、建议与结论

此报告是根据客户提供 DSGW-090 BT 天线的最终版测得的天线电气性能。

从如上测试数据可以看到，此天线提供了较好的电气性能。

维力谷研发期盼您的确认，谢谢合作！

of the DSGW-090 BT antenna provided by the customer.

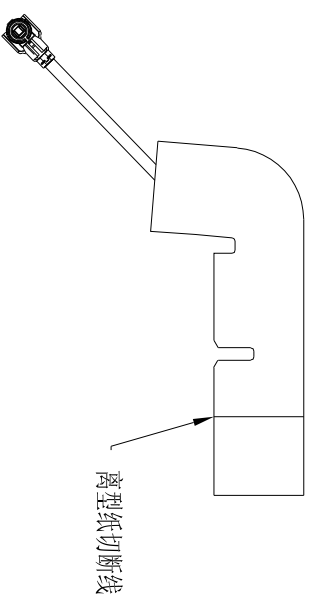
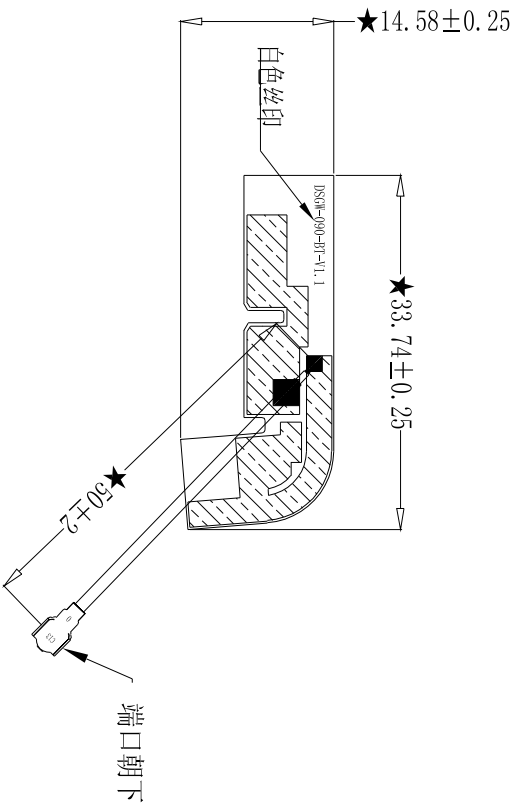
From the above test data, it can be seen that this antenna provides better electrical performance. Veligu R&D looks forward to your confirmation, thank you for your cooperation!

### 4、图面样品、外观见附档：

Drawing sample, appearance see attached file:

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- 注:
- 1、打※为配合尺寸,打\*为重点尺寸;
  - 2、打★为必测尺寸,其它尺寸以实配为准;
  - 3、外观不得有色差、划伤、毛边,露铜,丝印不良,撕手未切断等缺陷;
  - 4、具体要求要求见VLG质量文件VLG/JY8.2-08中第六条款规定。

|      |          |         |           |        |        |
|------|----------|---------|-----------|--------|--------|
| 3    | 端子       | 一代镀金端子  |           |        |        |
| 2    | RG113线材  | RG113线材 | 黑色        |        | 1      |
| 1    | FPC      | PI      | 黑色        |        | 1      |
| Name | Material | Color   | Treatment | Amount | Remark |

|                                                                   |      |                |      |            |     |
|-------------------------------------------------------------------|------|----------------|------|------------|-----|
| VLG 深圳市维力谷无线技术股份有限公司<br>Shenzhen VLG Wireless Technology Co., Ltd |      |                |      |            |     |
| 第三角法                                                              | 机种   | DSGW-090       | 日期   | 2022.05.28 | 页码  |
| 0~10 ±0.10                                                        | 品名   | BT天线成品         | 绘图   |            | 1/1 |
| 10~20 ±0.15                                                       | 料号   | V2183-004-A-05 | 品质审核 |            |     |
| 20~40 ±0.20                                                       | 材质   | 模面处理           | 结构审核 |            |     |
| > 40 ±0.25                                                        | 外观处理 |                | 单位   | mm         | 比例  |
| 请勿实测图样位置                                                          | 外观处理 |                | 单位   | mm         | 比例  |

|    |    |    |    |     |   |   |   |
|----|----|----|----|-----|---|---|---|
| 1  | 2  | 3  | 4  | 5   | 6 | 7 | 8 |
| 序号 | 修改 | 内容 | 版本 | 备注  |   |   |   |
| 1  |    |    |    | 收回: |   |   |   |