

# 深圳市云顶通讯电子有限公司

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E-mail:wht0809@163.com

## 承認書 APPROVAL SHEET

客 户 悟騰  
:

品 名 规 格 EDP-1.13-L500-IPEX 一代  
DESCRIPTION:

料 号  
PART NO.:

客 户 料 号  
CUS PART NO.:

日 期 2024.6.6  
D A T E:

### 云顶呈样签章

| 工 程<br>ENGINEERING DEPARTMENT | 品 保<br>Q C DEPARTMENT | 业 务<br>SALES DEPARTMENT |
|-------------------------------|-----------------------|-------------------------|
|                               |                       |                         |

### 客户承认签章

| 工 程<br>ENGINEERING DEPARTMENT | 品 保<br>Q C DEPARTMENT | 采 购<br>PURCHASING DEPARTMENT |
|-------------------------------|-----------------------|------------------------------|
|                               |                       |                              |

联系电话: 0755 23073599

※ 承认书一式三份, 惠蒙贵司承认签章

※ Approval in duplicate, please signed by your company.

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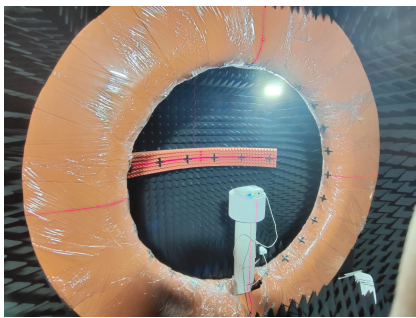
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## 1. 测试项目与设备

|                            | 测试项目                                         | 设备                                                                                                                                     |
|----------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 1. S11 参数<br>(S-parameter) | 1. 回波损耗 (Return Loss)<br><br>2. 电压驻波比 (VSWR) | 网络分析仪: Agilent E5071B<br><br>HP 8753D                                                                                                  |
| 2. 有源测试<br>(Active)        | 1. 发射功率 (TRP)<br><br>2. 接收灵敏度 (TIS)          | 1. 暗室: ETS 7x4x3 m (3D) Chamber<br><br>ETS 5x3x3 m (3D) Chamber<br><br>2. 综合测试仪: Agilent 8960 E5515B ×2<br><br>StarPoint SP6011 Cmw500 |
| 3. 无源测试<br>(Passive)       | 1. 天线增益 (Gain) 2. 天线效率 (Efficiency)          | 1. 暗室: ETS 7x4x3 m (3D) Chamber<br><br>ETS 5x3x3 m (3D) Chamber<br><br>2. 网络分析仪: Agilent E5071B<br><br>HP 8753D                        |



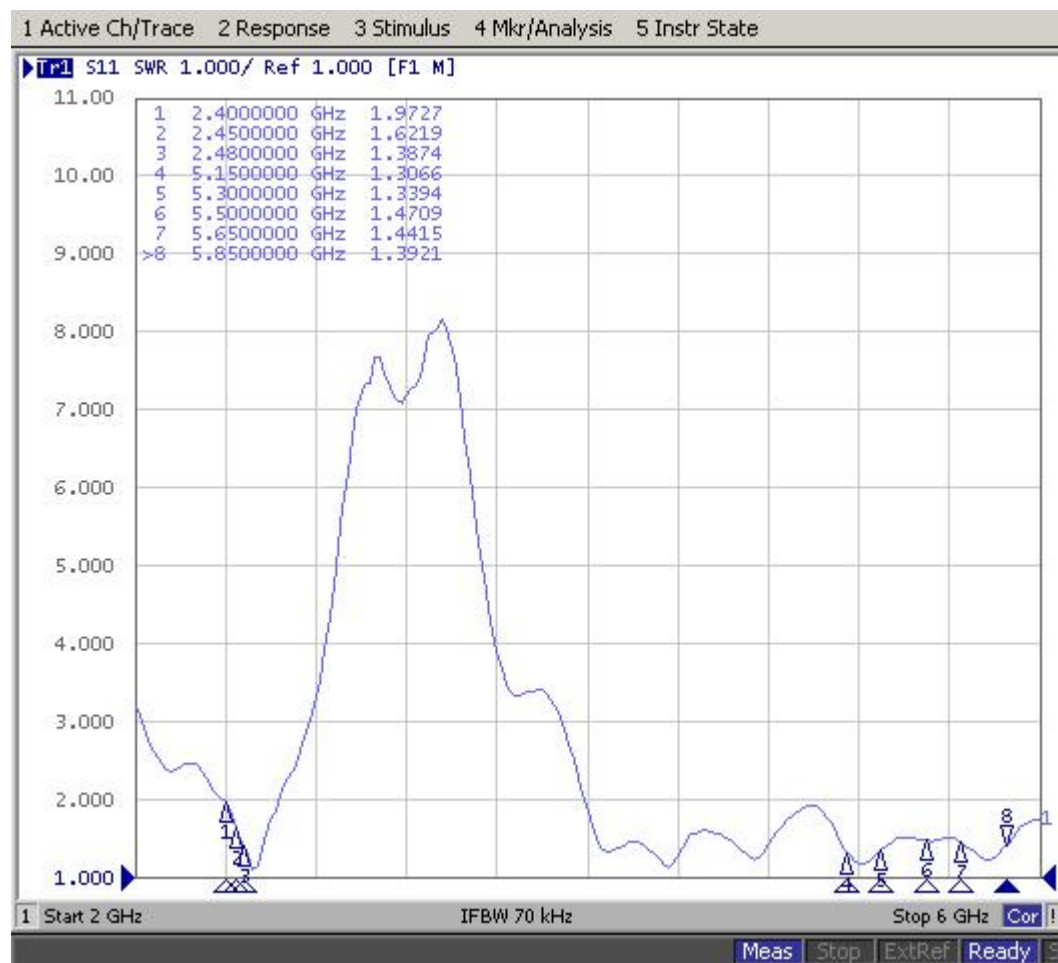
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## 2. 天线性能 SWR



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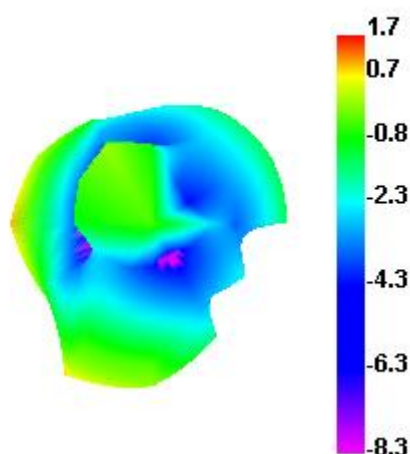
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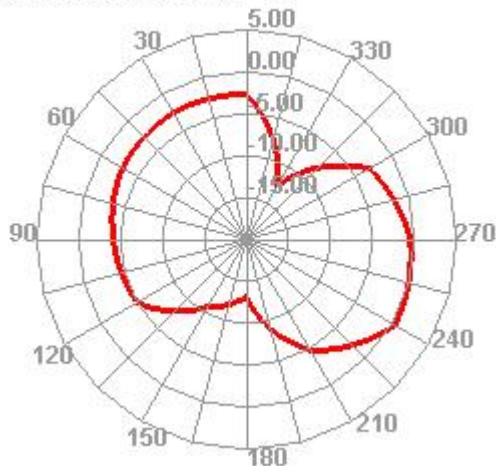
## 3. 天线效率与增益

| Passive Test For WIFI |             |               |
|-----------------------|-------------|---------------|
| Freq<br>(MHz)         | Effi<br>(%) | Gain<br>(dBi) |
| 2400                  | 52.68       | 1.71          |
| 2410                  | 52.05       | 1.76          |
| 2420                  | 50.39       | 1.71          |
| 2430                  | 52.7        | 1.92          |
| 2440                  | 55.75       | 2.13          |
| 2450                  | 60.31       | 2.34          |
| 2460                  | 61.16       | 2.26          |
| 2470                  | 61.66       | 2.17          |
| 2480                  | 62.54       | 2.13          |
| 2490                  | 63.7        | 2.15          |
| 2500                  | 64.07       | 2.23          |

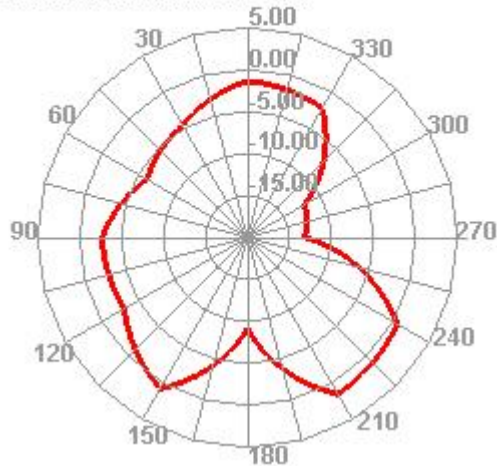
2400.000MHz



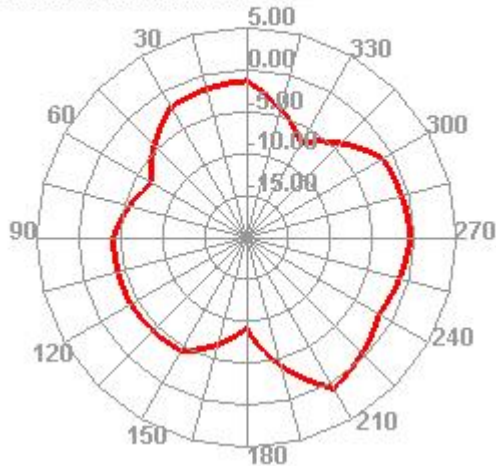
2400.000MHz H



2400.000MHz E1



2400.000MHz E2



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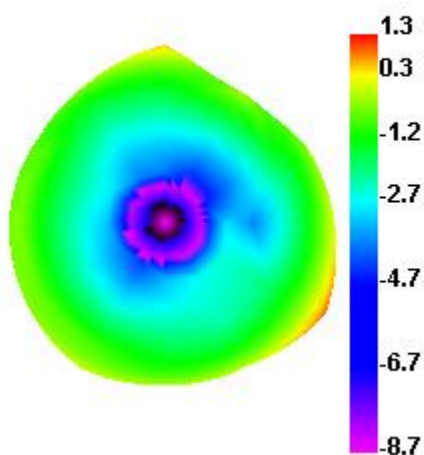
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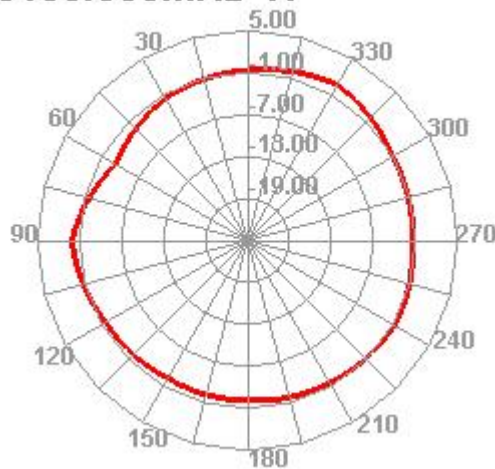
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| Passive Test For WIFI5.8 |             |               |
|--------------------------|-------------|---------------|
| Freq<br>(MHz)            | Effi<br>(%) | Gain<br>(dBi) |
| 5150                     | 57.65       | 1.29          |
| 5200                     | 52.36       | 0.76          |
| 5250                     | 46.79       | 0.16          |
| 5300                     | 49.36       | 0.4           |
| 5350                     | 58.05       | 1.13          |
| 5400                     | 65.74       | 1.8           |
| 5450                     | 58.96       | 1.53          |
| 5500                     | 60.61       | 1.74          |
| 5550                     | 63.45       | 2.28          |
| 5600                     | 60.14       | 2.21          |
| 5650                     | 56.98       | 2.02          |
| 5700                     | 56.92       | 1.78          |
| 5750                     | 59.28       | 2.02          |
| 5800                     | 54.71       | 1.05          |
| 5850                     | 47.4        | 0.66          |

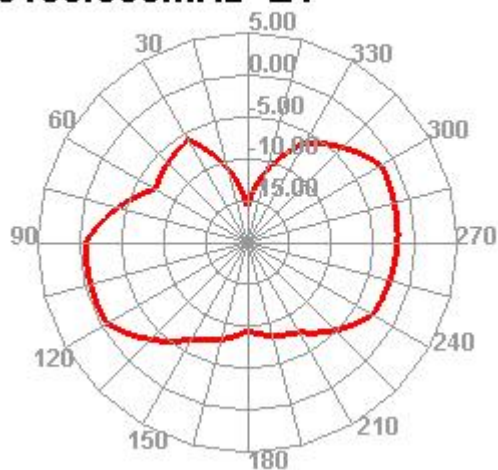
5150.000MHz



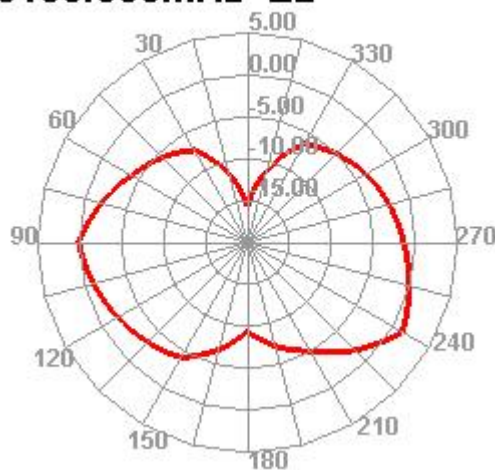
5150.000MHz H



5150.000MHz E1



5150.000MHz E2



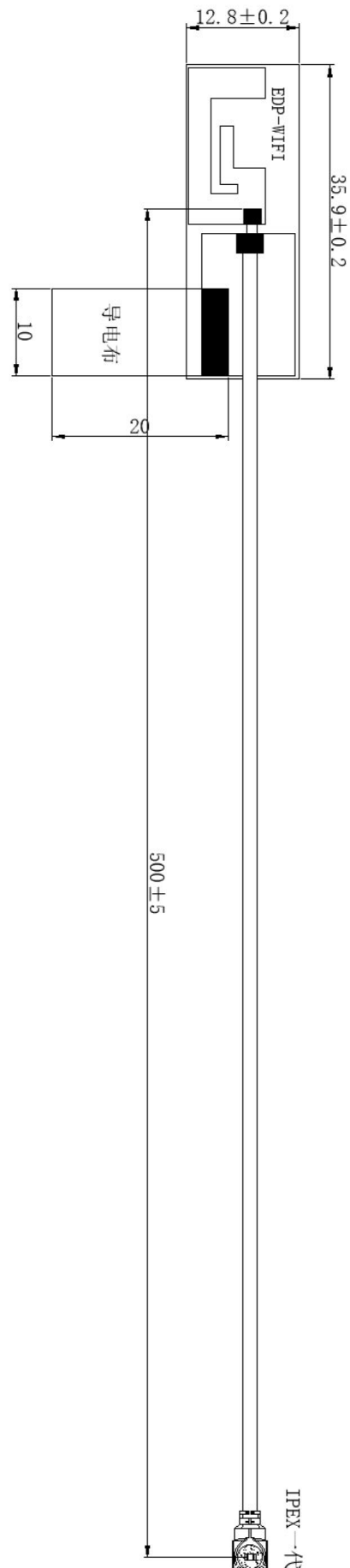
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## 4. 天线结构图:



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## 电器技术参数

| 电 性 能 指 标 |                       | Electrical Specifications |                       |
|-----------|-----------------------|---------------------------|-----------------------|
| 频率范围      | 2400~2500/5150~5850Hz | Frequency Range           | 2400~2500/5150~5850Hz |
| 电压驻波比     | ≤2.0                  | VSWR                      | ≤2.0                  |
| 输入阻抗      | 50 Ω                  | Input Impedance           | 50 Ω                  |
| 增益        | 2 DBI                 | Gain                      | 2 DBI                 |
| 机 械 指 标   |                       | Mechanical Specifications |                       |
| 线材颜色      | 黑色                    | Wire color                | Black                 |
| 接口形式      | IPEX 一代               | Input connector           | IPEX 1                |
| 天线线长      | 500mm                 | Cable length              | 500mm                 |
| 工作温度      | -40℃~+85℃             | Working Temperature       | -40℃~+85℃             |
| 工作湿度      | 20~80%                | Working Humidity          | 20~80%                |

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## 环境性能测试（Environment performance test）：

| 项目      | 测试条件                                                                               | 测试结果                |
|---------|------------------------------------------------------------------------------------|---------------------|
| 储存环境    | 在没有指定的情况下测试温度、湿度、气压如下：<br>1. 温度为-30℃~+80℃<br>2. 相对湿度为45%-85%<br>3. 气压为86kpa-106kpa | 电气机械性能正常            |
| 高低温试验   | 在70℃与-40℃之间进行5次循环，然后在正常条件下1-2H，检查外观质量。                                             | 尺寸应满足规定并应满足于机械、电气性能 |
| 耐恒定湿热试验 | 相对湿度95±3%，试验温度：40℃.持续2H作用后，试品取出后5min之内测定电气性能，试品在正常条件下1-2H，检查外观质量                   | 尺寸应满足规定并应满足于机械、电气性能 |
| 振动试验    | 振频范围10-55HZ，位移幅值：0.35MM，加速度幅值：50.0M/S，扫频循环次数：30次                                   | 电气机械性能正常            |
| 跌落试验    | 1M高空按照互相垂直的轴方向自由跌落3次                                                               | 电气机械性能正常            |

| Project                                | Test condition                                                                                                                                                                            | Test results                                                             |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Storage environment                    | Test temperature, humidity, pressure without stated condition as follwings:1.Temperature: -30℃ ~ +80℃ ;2.Relative humidity: 45%-85%;3,Pressure: 86kpa-106kpa                              | Electrical and mechanical performance normal                             |
| High and low temperature test          | Having 5 times cycle between -40℃ to 70℃,Then in common condition 1-2 hours test exterior quality.                                                                                        | Measurement satisfied with electrical and mechanical performance normal. |
| Resistance constant hot and humid test | Relative humidity:95±3%,Test temperature: 40℃,last 2 hours ,put it after 5 min test the electrical function .Test products during common condition 1-2 hours ,Then test exterior quality. | Measurement satisfied with electrical and mechanical performance normal. |
| Vibration test                         | Vibrate Frequency:10-55HZ;<br>Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times                                                                                       | Electrical and mechanical performance normal                             |
| Fall test                              | From 1m height fall down 3 times freely (vertical direction)                                                                                                                              | Electrical and mechanical performance normal                             |