



深圳市英佳创电子科技有限公司

Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

APPROVAL SHEET

承认书

| | | |
|---------------------------|--|-------------------|
| CUSTOMER NAME 客户名称 | 九洲电器 | |
| CUSTOMER P/N 客户料号 | | |
| PART NAME 品名 | 5G 黑色 PCB 内置天线, 1.37黑色线 L=90MM 5G black PCB built-in antenna, 1.37black. line L=90MM | |
| P/ N 料号 | YJC-6N090-B86 | |
| APPROVAL REV. 版次 | A0 | |
| DELIVERY DATE 送样日期 | March 29, 2024 | |
| PREPARED BY 承办 | 殷飞杰 Yin Feijie | |
| CHECKED BY 审核 | 方文锋 Fang Wenfeng | |
| APPROVED BY 核准 | 肖汉 Chauhan | |
| Customer Approved 客户承认 | | |
| Prepared By 承办 | Checked By 审核 | Approved By 核准 |
| | | |

总部地址: 深圳市光明区马田街道油麻岗路 11 号宏域光明谷 C 栋

Headquarters Address: Building C, Hongyu Guangming Valley, No. 11, Youma Gang Road, Matan Street, Guangming District, Shenzhen City

东莞分厂: 东莞市桥头镇石水口银河三路 2 号英佳创产业园

Dongguan Branch: Yingjiachuang Industrial Park, No. 2 Yinhe 3rd Road, Shishuikou, Qiaotou Town, Dongguan City

杭州办事处: 杭州市滨江区物联网街 369 号大华江虹国际创新园 B 栋 212

Hangzhou Office: 212, Building B, Dahua Jianghong International Innovation Park, No. 369 Internet of Things Street, Binjiang District, Hangzhou

绵阳办事处: 四川省绵阳市高新区绵兴东路 35 号万向高新国际 4F-34 号

Mianyang Office: No. 4F-34 Wanxiang High-tech International, No. 35 Mianxing East Road, Gaoxin District, Mianyang City, Sichuan Province

电话: 0755-27810060

传真: 0755-27810057

网址: <http://www.szsyjc.com>



深圳市英佳创电子科技有限公司

Shenzhen Yingjia Chuang electronic technology Co., LTD

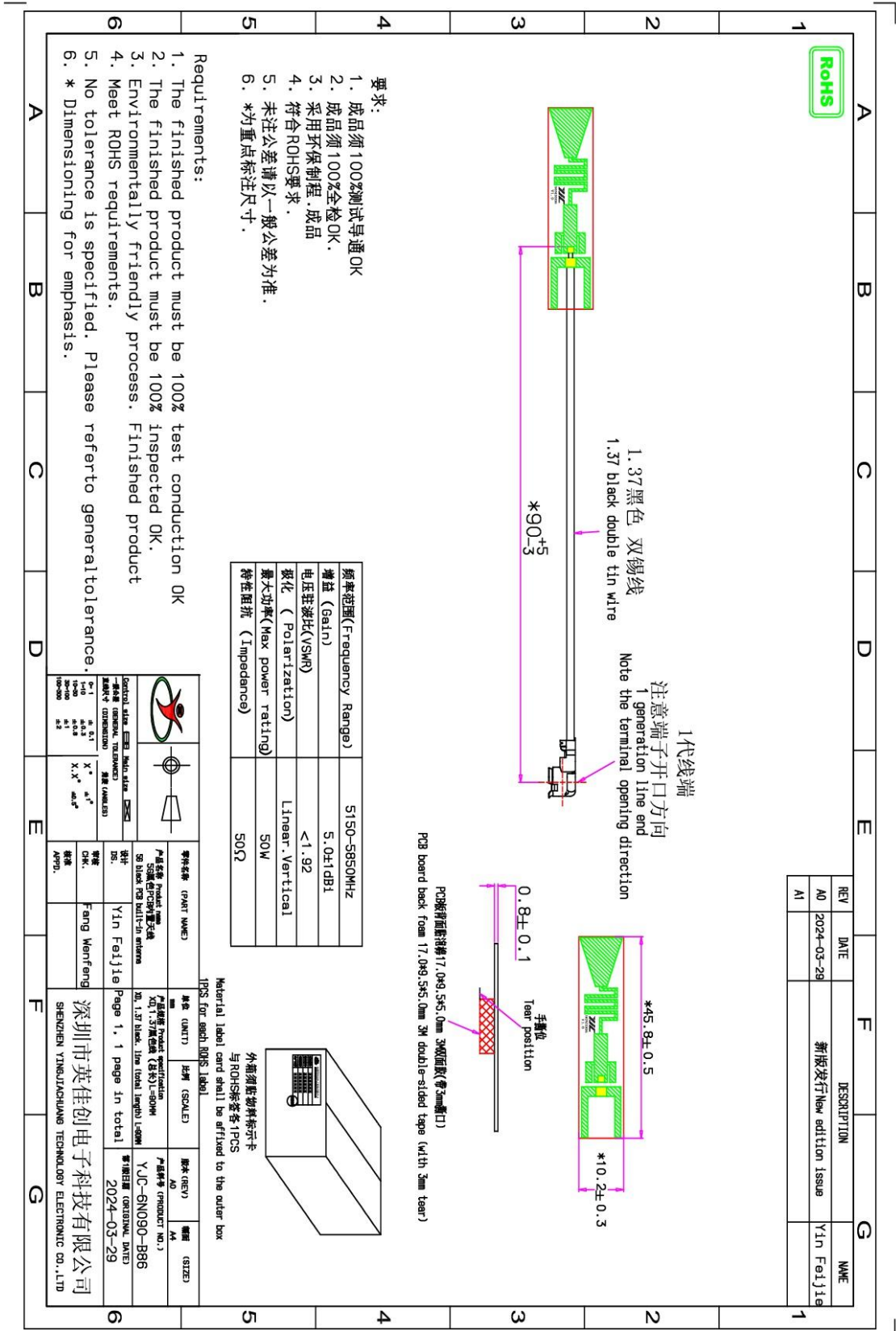
<http://www.szsyjc.com>

目录 catalogue

| | | |
|-----|---|-----|
| 1、 | 封面 cover。 | 1 |
| 2、 | 目录 catalogue。 | 2 |
| 3、 | 履历表 resume。 | 3 |
| 4、 | 天线平面图 Antenna plan。 | 4 |
| 5、 | 天线技术参数 Antenna technical parameter。 | 5 |
| 6、 | 环境性能测试 Environmental performance test。 | 6 |
| 7、 | 天线实物图 Antenna diagram。 | 7 |
| 8、 | 天线贴附位置图 Antenna attached location map。 | 7 |
| 9、 | 天线性能测试图 Antenna performance test diagram。 | 7 |
| 10、 | 2D.3D (5G) 测试数据 2D.3D (5G) test data。 | 8-9 |
| 11、 | ROHS 物料控制报告 ROHS Material control report。 | 10 |



天线平面图 Antenna plan:





深圳市英佳创电子科技有限公司

Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

天线技术参数及环境测试 Antenna technical parameters and environmental testing:

| 电气技术参数 Electrical technical parameter | | | |
|--|--------------|----------------------------------|--------------|
| 电性能指标 | | Electrical Specifications | |
| 频率范围 | 5150-5850MHz | Frequency Range | 5150-5850MHz |
| 电压驻波比 | <1.92 | VSWR | <1.92 |
| 输入阻抗 | 50 Ω | Input Impedance | 50 Ω |
| 方向 | 全向 | Direction | All |
| 增益 | 5.0±1dBi | Gain | 5.0±1dBi |
| 机械指标 | | Mechanical Specifications | |
| 线材颜色 | 黑色 | Wire Color | black. |
| 接口形式 | XD | Input connector | XD |
| 线材长度 | 90MM | Wire Length | 90MM |
| 工作温度 | -20℃~+70℃ | Working Temperature | -20℃~+70℃ |
| 工作湿度 | 20%~80% | Working Humidity | 20%~80% |



深圳市英佳创电子科技有限公司

Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

环境性能测试 Environmental performance test:

| 项目 (Project) | 测试条件 (Test condition) | 规格 (Specification) |
|--|---|---|
| 储存环境 Storage Conditions | In the absence of specified test temperature, humidity, air pressure is as follows: 在没有指定的情况下测试温度、湿度、气压如下: 1. Temperature is $-45^{\circ}\text{C} \sim +85^{\circ}\text{C}$ 1. 温度为 $-45^{\circ}\text{C} \sim +85^{\circ}\text{C}$ 2. Relative humidity of $20 \sim 80\%$ 2. 相对湿度为 $20 \sim 80\%$ 3. Air pressure is 86 kpa to 106 kpa 3. 气压为 $86\text{kpa} \sim 106\text{kpa}$ | Electrical and mechanical properties is normal 电气机械性能正常 |
| 高低温试验 high and low temperature test | Between 85°C and -45°C for 5 loops, then 1-2 h under normal conditions, check the appearance quality. 在 85°C 与 -45°C 之间进行5次循环, 然后在正常条件下1-2H, 检查外观质量。 | Size should meet the requirements and should satisfy the content with the electrical and mechanical properties 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 Constant damp and hot resistance test | $80 \pm 3\%$ relative humidity, temperature test: 40°C . Lasts 2 h after, try to take out the determination of electrical properties, within 5 min after try 1-2 h under article normal thing, check the appearance quality 相对湿度 $80 \pm 3\%$, 试验温度: 40°C . 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 | Size should meet the requirements and should satisfy the content with the electrical and mechanical properties 尺寸应满足规定并应满足于机械、电气性能 |
| 振动试验 vibration test | 10-55 hz, vibration frequency range of displacement amplitude: 0.35 MM, acceleration amplitude: 50.0 M/S, sweep cycles: 30 times 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 | Electrical and mechanical properties is normal 电气机械性能正常 |
| 跌落试验 fall down test | 1 m high altitude in accordance with the perpendicular axis free drop 3 times 1M高空按照互相垂直的轴方向自由跌落3次 | Electrical and mechanical properties is normal 电气机械性能正常 |

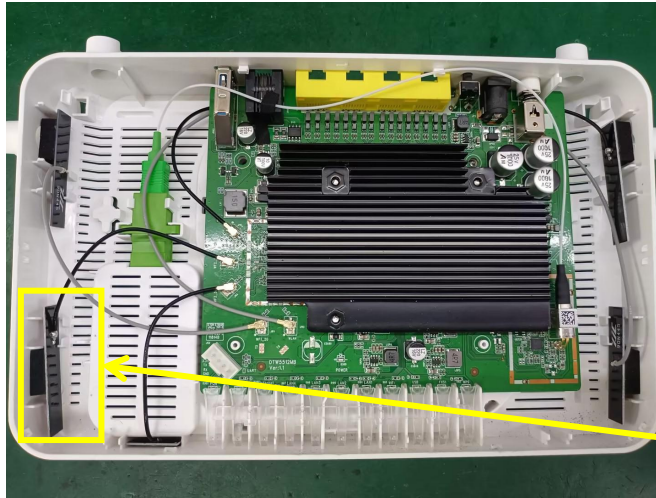


深圳市英佳创电子科技有限公司

Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

天线实物图与天线贴附位置图 Antenna physical diagram and antenna attached location diagram:



天线贴附位置图
Antenna attached location map

天线性能测试图 Antenna performance test diagram:





深圳市英佳创电子科技有限公司

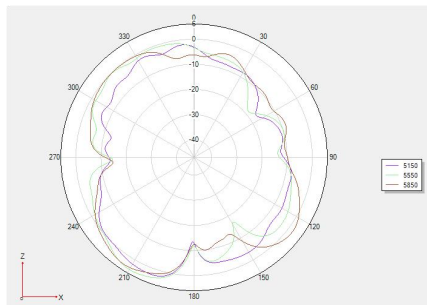
Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

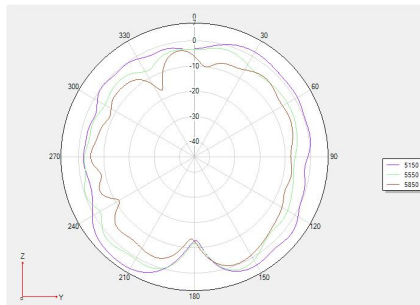
2D、3D 测试数据(5G)2D and 3D test data (5G):

| Frequency | Efficiency (%) | Gain. (dBi) |
|-----------|----------------|-------------|
| 5150MHz | 56.70 | 5.37 |
| 5250MHz | 59.62 | 5.23 |
| 5350MHz | 58.71 | 4.91 |
| 5450MHz | 57.14 | 5.19 |
| 5550MHz | 53.39 | 5.18 |
| 5650MHz | 58.39 | 4.84 |
| 5750MHz | 59.80 | 5.21 |
| 5850MHz | 57.80 | 5.36 |

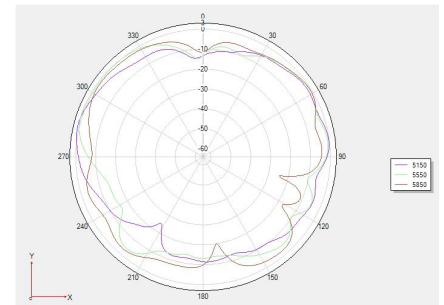
Phi 0 2D 图:



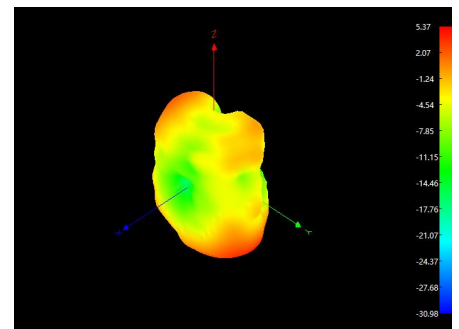
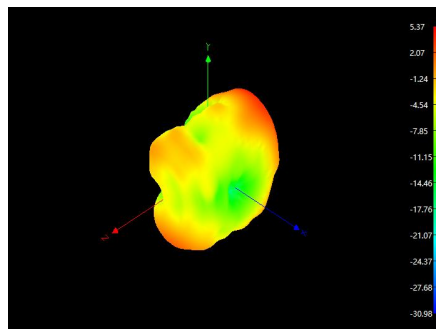
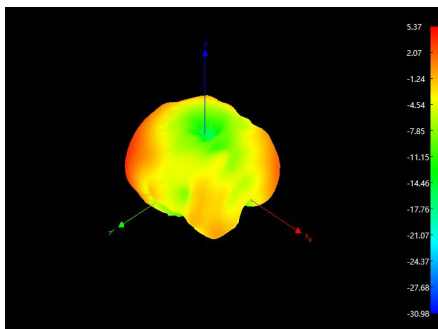
Phi 90 2D 图



Theta 90 2D 图



3D 5150:



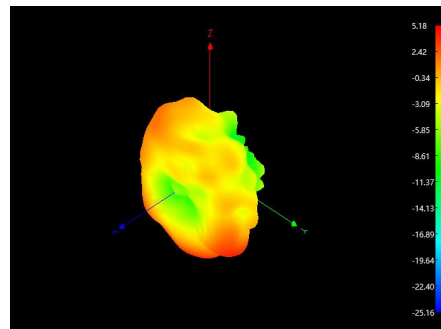
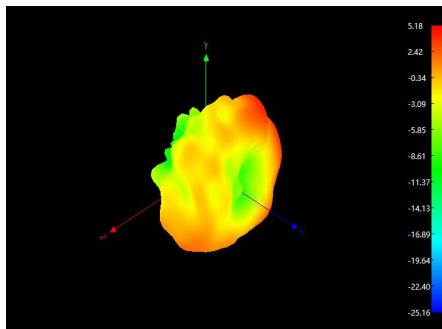
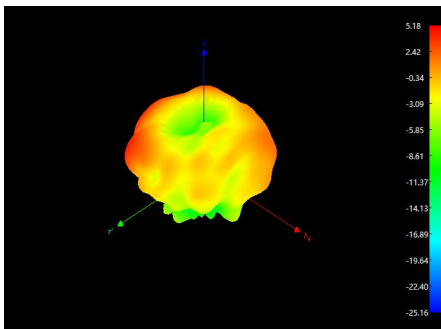


深圳市英佳创电子科技有限公司

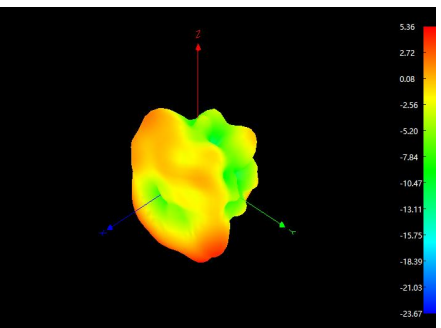
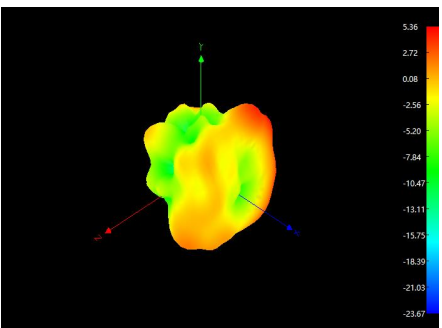
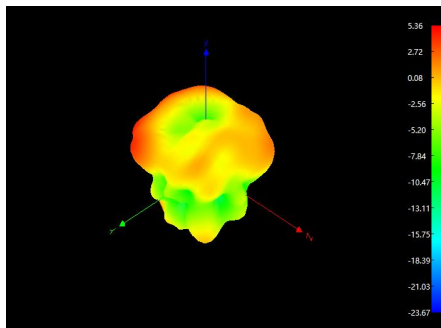
Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

3D 5550:



3D 5850:





深圳市英佳创电子科技有限公司

<http://www.szsyjc.com>

ROHS 物料控制报告 (ROHS Material control report)

兹证明向贵司交货的零组件、辅助材料所使用的原材料、以及生产工程中的添加剂等均符合 RoHS 限制使用有害物质指令的环保要求 (RoHS 指令 2011/65/EC)
This is to certify that the components delivered to your company, the raw materials used for auxiliary materials, and the additives used in the production project all meet the environmental requirements of the RoHS directive on limiting the use of hazardous substances. (RoHS 指令 2011/65/EC)

关于零组件、辅助材料所使用的原材料、包装材料以及和产过程中使用的添加剂等的构成成份报告如下:

The report on the composition of raw materials, packaging materials, and additives used in the manufacturing process for component auxiliary materials is as follows

| 组成物料名称 Component /Part Name | 组成材料 Material Composition | ICP 报告编号 ICP report # | 测试机构 Test Org. | 测试时间 Test Date | 有害物质含量(ppm) | | | | | | 是否合格? PASS? |
|-----------------------------------|---------------------------------|--------------------------|-------------------|-------------------|-------------|----|----|------------------|-----|------|----------------|
| | | | | | Cd | Pb | Hg | Cr ⁶⁺ | PBB | PBDE | PASS |
| 线材(wire rod) | 铁氟龙同轴 线缆 Teflon coaxial | CANEC24002746206 | SGS | 24/02/23 | ND | ND | ND | ND | ND | ND | PASS |
| 锡条 (tin rod) | 环保锡丝 Green solder | TAOEC2302260502 | SGS | 23/04/12 | ND | 17 | ND | ND | ND | ND | PASS |
| 端子 | 铜 cuprum | CANEC24000977302 | SGS | 24/01/22 | ND | 6 | ND | ND | ND | ND | PASS |
| | 金镀层 gold plate | A2230400553101001E | CTI | 23/08/12 | ND | ND | ND | ND | ND | ND | PASS |
| | 胶芯 rubber core | ETR23705931 | SGS | 23/08/04 | ND | ND | ND | ND | ND | ND | PASS |
| EVA | EVA | ETR23705931 | SGS | 23/08/04 | ND | ND | ND | ND | ND | ND | PASS |
| PCB | PCB | TAOEC2302260502 | SGS | 23/04/12 | ND | 17 | ND | ND | ND | ND | PASS |