

承 认 书

SPECIFICATION FOR APPROVAL

| | | | |
|---------------------------------------|---------------|---------------------------------------|-------------------|
| 客户名称 Customer Name | 深圳市长音电子有限公司 | | |
| 客户项目名 Customer Project Name | | 合立讯项目名 Helixun Project Name | |
| 客户编码 Customer P/N | 30905-0027-00 | 合立讯料号 Helixun P/N | HLX0028-A0-T90-V1 |
| 频段 Band | 800-930MHz | | |
| 版本号 Version | A1 | | |
| 设计人信息/Designer Information | | | |
| 射频工程师 RF Engineer | 黄亚飞 | 电子工程师 EE Engineer | 时震浩 |
| 结构工程师 ME Engineer | 黄亚飞 | | |

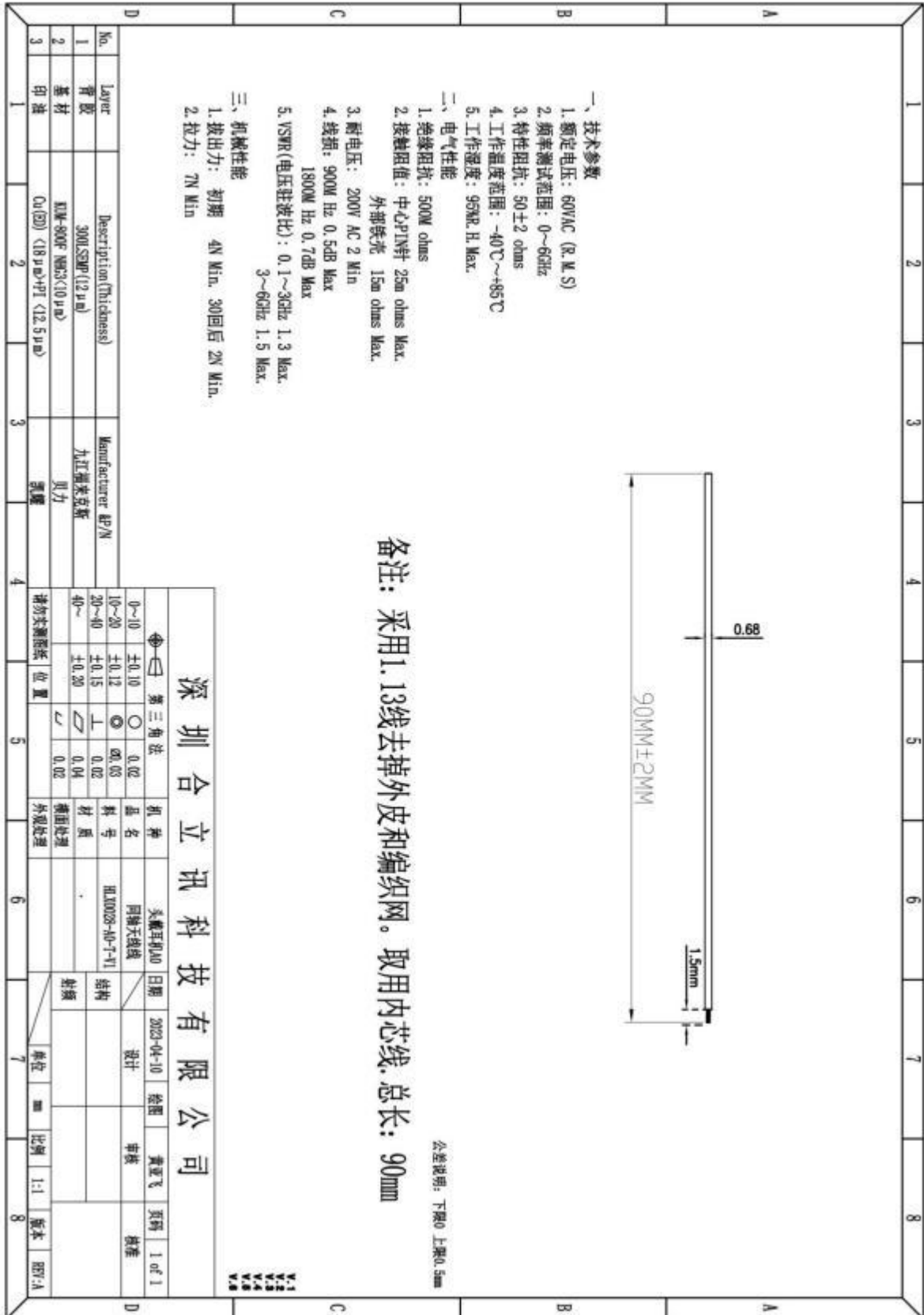
| 合立讯审批/Helixun Approval | | | 客户批准/Customer Approval | | |
|------------------------|-------------------|------------------|------------------------|------------------|-------------------|
| | 制作 Prepared By | 审核 Checked By | 批准 Approval By | 审核 Checked By | 批准 Approval By |
| 签章 Signature | 尹永康 | | | | |
| 日期 Date | 2023-11-28 | | | | |

| 修订履历/Change Log | | | | |
|-----------------|----------------------------|-------------------------|-------------------|------------|
| 版本 Version | 修订内容 Change Description | 责任人 Person in Charge | 核准 Approval By | 日期 Date |
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产品图纸或实物图片
Drawing or Product Image



样品尺寸测量报告

Sample Dimensions Test Report

| | | | | | |
|----------------------------|----------------|----------------------|--------------------------|----------------------|-------------------|
| 客户名称 Customer Name | 深圳市长音电子有限公司 | 客户料号 Customer P/N | 30905-0027-00 | 合立讯料号 Helixun P/N | HLX0028-A0-T90-V1 |
| 测试日期 Test Date | 2023-11-28 | 样品数量 Sample Qty. | 3 | 测试人 Inspector | 尹永康 |
| 尺寸编号 Dimension No. | 标准 Standard | 样品 1 Sample 1 | 样品 2 Sample 2 | 样品 3 Sample 3 | Pass/NG |
| ①线长 | 90 ± 2mm | 92 ± 2mm | 88 ± 2mm | 90 ± 2mm | Pass |
| ② | | | | | |
| ③ | | | | | |
| ④ | | | | | |
| ⑤ | | | | | |
| ⑥ | | | | | |
| ⑦ | | | | | |
| 最终结论 Conclusion | | | | | PASS |
| 测试人&日期 Inspector & Date | 尹永康 2023-11-28 | | 批准&日期 Approval & Date | | |

射频性能测量报告

RF Performance Test Report

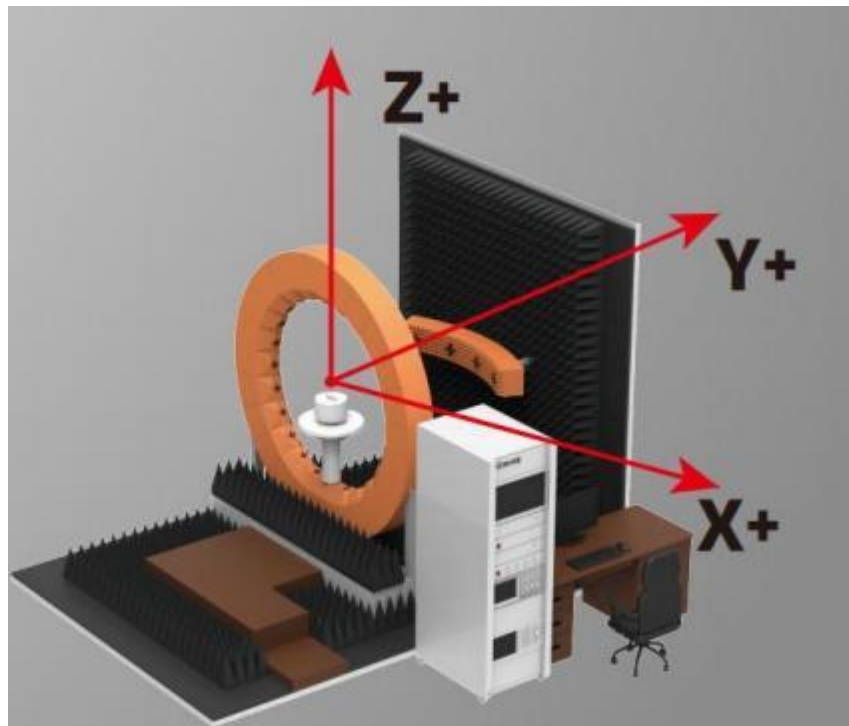
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|-----------------------|-------------|----------------------|------------|----------------------|-------------------|
| 客户名称 Customer Name | 深圳市长音电子有限公司 | 项目名称 Project Name | | 合立讯料号 Helixun P/N | HLX0028-A0-T90-V1 |
| 频段 Band | 800-930MHz | 测试日期 Test Date | 2023-11-28 | 测试人 Inspector | 尹永康 |

天线测试设备简介

Antenna Test Equipment Introduction

测试天线输入特性使用 **Agilent E5071C and Agilent 5071C** 矢量网络分析仪；辐射特性利用 ETS 三维近场暗室进行测试，并分别使用 CMW500 和 Agilent 5071C 进行了分析。暗房的测试坐标如下：

Test of antenna input characteristics using **Agilent E5071C and Agilent 5071C** vector network analyzer ; The radiation pattern of the antenna are tested using the ETS star lab 3D near field Anechoic Chamber, and the instrument is used to Agilent 8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows :



| Sequence Number | Test Item | equipment |
|-------------------|-------------------|---|
| S parameter | VSWR | Agilent 5071C & Agilent 5062A |
| OTA Test | TRP&TIS | Agilent 8960 E5515 C& Agilent 4438 C&CMW500 ETS&SATIMO |
| Gain & Efficiency | Gain & Efficiency | ETS&SATIMO Agilent 5071C |



Gain & Efficiency——ANT

| Frequency (MHz) | Efficiency (%) | Peak GAIN (dBi) |
|-----------------|----------------|-----------------|
| 800 | 14.21 | -1.81 |
| 810 | 14.54 | -1.62 |
| 820 | 14.02 | -1.72 |
| 830 | 15.3 | -2.34 |
| 840 | 15.95 | -2.15 |
| 850 | 16.91 | -2.20 |
| 860 | 16.3 | -2.24 |
| 870 | 17.21 | -2.66 |
| 880 | 17.01 | -2.68 |
| 890 | 17.7 | -2.21 |
| 900 | 16.2 | -2.02 |
| 910 | 17.65 | -2.58 |
| 920 | 17.89 | -2.19 |
| 930 | 17.98 | -2.64 |

2D Pattern

