

规格承认书 | Approval Sheet

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产品名称 M30-NFC 天线

Product Name M30-NFC Antenna

天线类型 铁氧体天线

Antenna type Ferrite Antenna

产品型号 <u>天线铁氧体二合一</u>

Product Model Antenna & Ferrite Combo

送样日期 <u>2025-08-02</u>

Sample Submission Date <u>August 2, 2025</u>

文件版本 <u>A</u>

Document Version <u>A</u>

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1. 标示 | Labeling

本报告总结了 M30-NFC 芯片电气性能的结果建议设计的内部天线，以支持 M30-NFC 天线项目。该天线是一个组件 13.56MHz 频段。

This report summarizes the results of the M30-NFC chip's electrical performance and the recommended design of the internal antenna to support the M30-NFC Antenna project. This antenna is a component operating in the 13.56MHz frequency band.

2. 电气性能 | Electrical Performance

2.1 天线测试 | Antenna Test

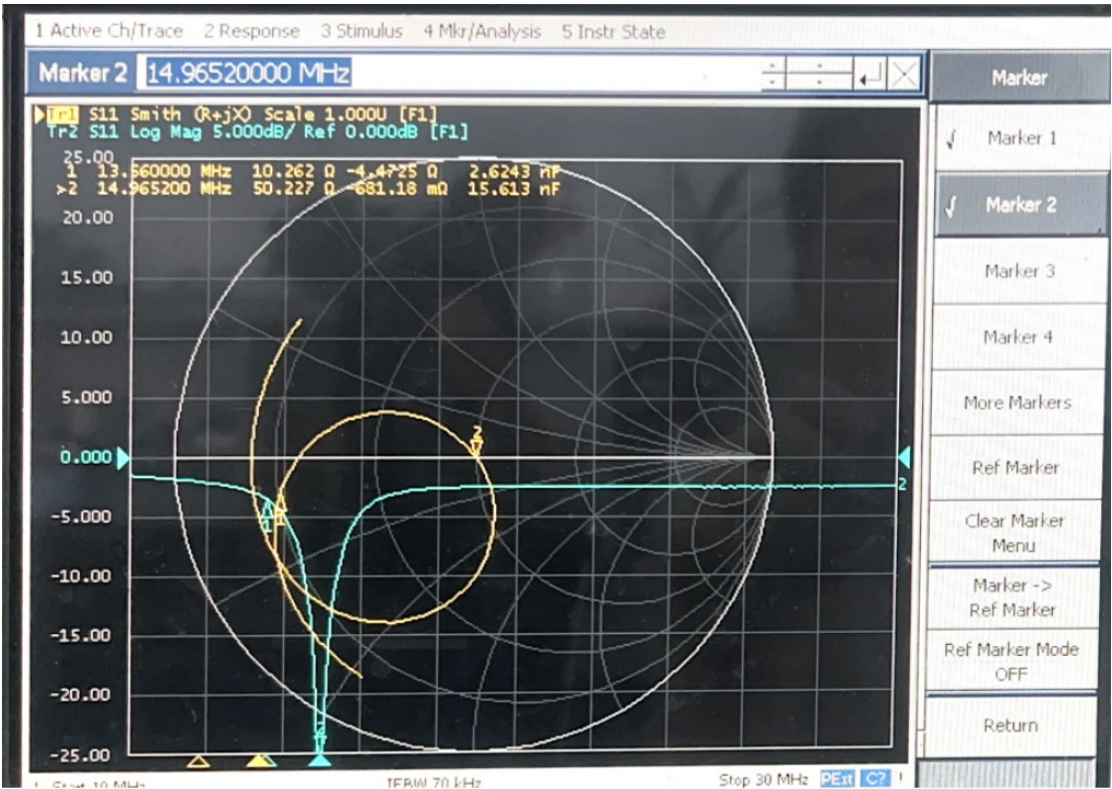
频段 Frequency	电感 La Inductance	串联电阻 Rs Series Resistance	并联电阻 Rp Parallel Resistance	谐振频率 Fra Resonant Frequency	品质因数 Q Quality Factor
13.56MHz	1.0~2.0uH	<1 Ohm	>1.5k Ohm	>35 MHz	>10

2.2 天线性能 | Antenna Performance

使用客户提供的样机安装天线进行了实际测试，主要是采用测试白卡距离感应测试。

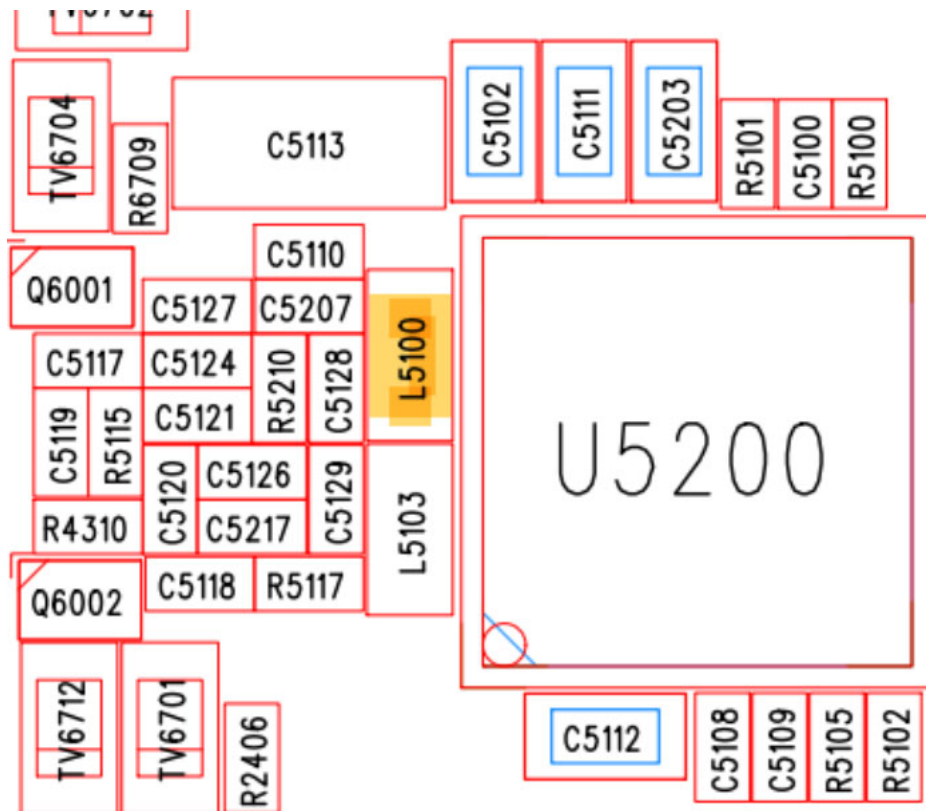
Practical testing was conducted by installing the antenna in the sample device provided by the customer, primarily using test white cards for distance sensing measurement.

3. 无源史密斯图 | Passive Smith Chart



S11 测试电器性能 | S11 Test Electrical Performance

4. 匹配参数 | Matching Parameters



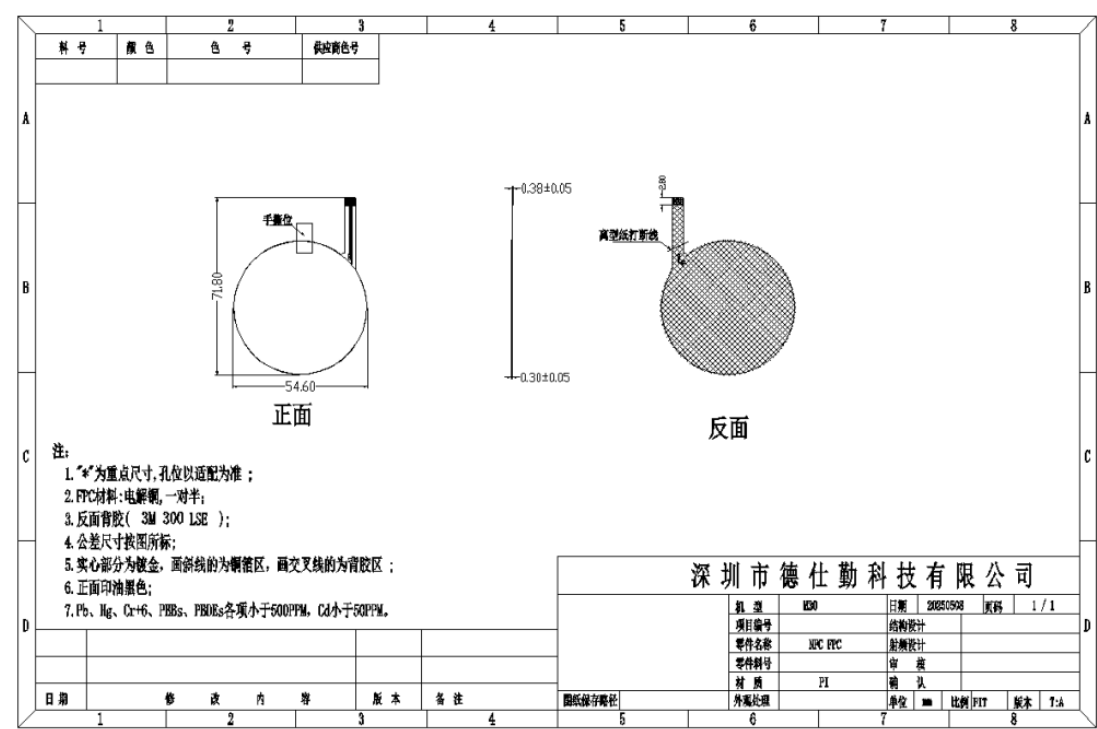
元件位置	原匹配值	现匹配值
Component Location	Original Matching Value	Current Matching Value
C5128 + C5129	680 pF	560 pF
C5124 + C5217	39 pF	12 pF
C5119 + C5120	220 pF	100 pF
C5117 + C5118	NC (Not Connected)	22 pF
C5121	39 pF	22 pF

5. 实卡性能测试 | Actual Card Performance Test

测试卡类型	实际读卡距离 (mm)
Test Card Category	Actual Read Distance (mm)
Type 1	30
Type 2	30
Type 3	30

测试卡类型	实际读卡距离 (mm)
Test Card Category	Actual Read Distance (mm)
Type 4	10
Type 5	40

6. 结构图纸 | Mechanical Drawing



7. 验收标准与条件 | Acceptance Criteria and Conditions

7.1 批量产品验收应以本文件第 2.1 节所列之天线单体无源电气参数为主要依据。供方保证批量交付的天线单体性能符合该表规定之范围。

Bulk product acceptance shall be primarily based on the passive electrical parameters of the antenna unit listed in Section 2.1 of this document. The supplier guarantees that the performance of the antenna units delivered in bulk conforms to the ranges specified in that table.

7.2 第 5 节所述之“实卡性能测试距离”数据, 系基于以下特定条件得出, 仅作为本次样品设计验证的参考。

The "Actual Card Performance Test" distance data described in Section 5 is derived under the following specific conditions and is for reference only as validation of this sample design.

- * 测试样机: [请客户填写版本号, 如: PVT-1.0] | Test Sample Device: [To be filled by customer, e.g., PVT-1.0]
- * 测试卡片: [请客户明确各 Type 对应卡片的品牌与型号] | Test Cards: [To be specified by customer - brand and model for each Type]
- * 测试环境: 常温常压, 无强电磁干扰。 | Test Environment: Room temperature and pressure, without strong

electromagnetic interference.

* 测试方法: [请描述具体方法] | Test Method: [To be described in detail]

7.3 客户理解并同意, 天线在最终整机中的性能受整机结构、材料、周边电路及软件等多重因素影响。第 5 节的测试结果代表该特定样机组合下的表现, 不构成对天线单体在所有应用场景下的绝对性能保证。

The customer understands and agrees that the performance of the antenna in the final product is affected by multiple factors including the overall product structure, materials, surrounding circuitry, and software. The test results in Section 5 represent the performance under that specific sample assembly and do not constitute an absolute performance guarantee for the antenna unit under all application scenarios.

8. 保密条款 | Confidentiality Clause

本承认书及其所有附件 (包括但不限于技术规格、图纸、测试数据) 包含供方的保密信息。客户仅可将此等信息用于评估、验收及生产与本“M30-NFC 天线”项目直接相关的产品之目的。未经供方事先书面同意, 客户不得向任何第三方披露、复制或用于其他任何项目。本保密义务在本承认书签署后持续有效, 不因项目终止而失效。

This Approval Sheet and all its attachments (including but not limited to technical specifications, drawings, test data) contain confidential information of the supplier. The customer may use such information only for the purposes of evaluating, accepting, and manufacturing products directly related to this "M30-NFC Antenna" project. Without the prior written consent of the supplier, the customer shall not disclose, copy, or use such information for any other project or with any third party. This confidentiality obligation shall remain in effect after the signing of this Approval Sheet and shall not terminate upon conclusion of the project.

说明 | Note

本文件所有章节及所引用的附图 (media/image1-4.png) 共同构成完整的技术承认文件, 任何部分的缺失或篡改均可能导致文件无效。后续版本需经双方书面确认方可替代本版本。

All sections of this document and the referenced drawings (media/image1-4.png) together constitute the complete technical approval document. Missing or tampering with any part may render the document invalid. Any subsequent version shall replace this version only upon written confirmation by both parties.