



南京瑞凡达新能源科技有限公司  
Nanjing Ruifanda New Energy Technology Co., Ltd.  
RF1D1H-01 规格书  
RFID1H-01 Specification

Organization		Department	
Examine		Date	
Ratify		Date	

Applicable Product List

Item Number	Name	Specifications

Document Revision History

Serial Number	Summary of revised content	Revised version	Revised By	Revision Date	Notes
1	Initial Release	A	郭贴	2023.05.08	
2	Update Images	B	金彪	2023.06.23	
3	Update images	C	金彪	2023.09.06	
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## **1、Overview**

**RFID1H-01 is a non-contact card reader module based on a frequency of 13.56MHz. Supports non-contact reader/writer mode that complies with the ISO/IEC 14443 TypeA protocol. Suitable for non-contact card reader applications with low power consumption, low voltage, and low cost requirements.**

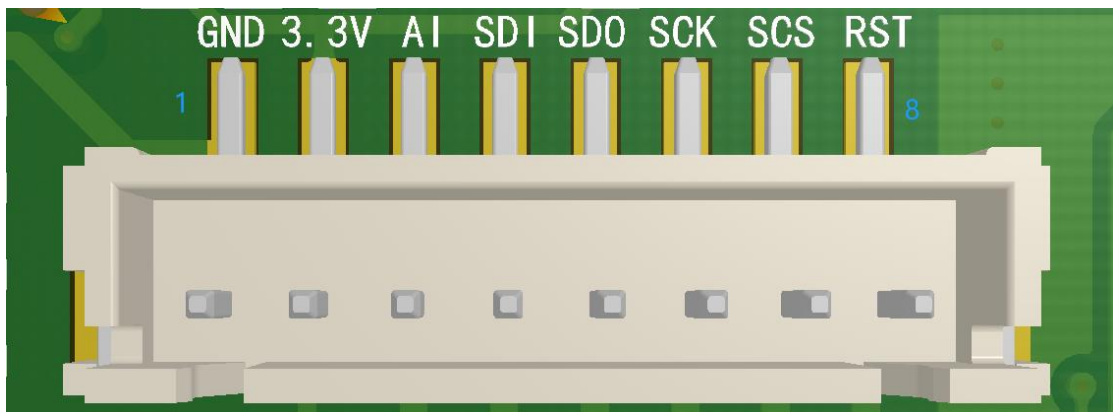
## **2、Interface definition and description**

**This product adopts SPI interface and shares a P1 interface with the power supply, supporting a communication rate of up to 10Mbps.**

**Power Supply: DC 3.3V Power Supply**

**P1 interface socket model and specification: 2.54-8P**

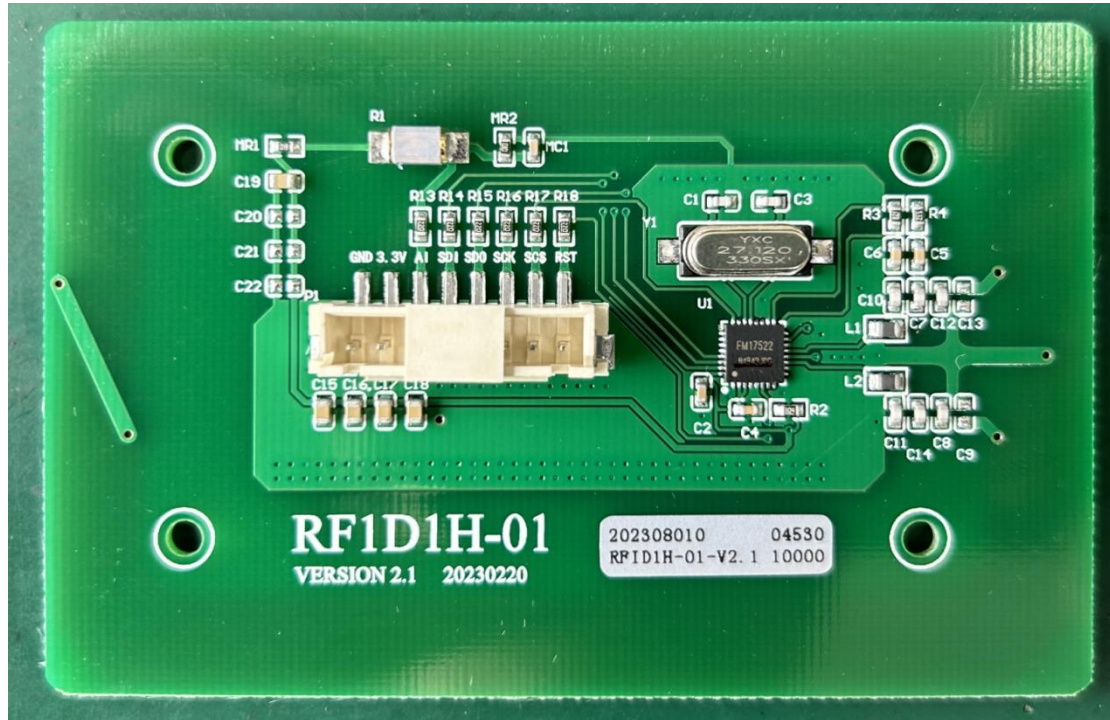
**straight plug buckle, The following figure:**





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### 3、Product Identification Description



**Product model and version:**

**RF1D1H-01: Product Name**

**VERSION 2.1: Hardware version number**

**20230220: Hardware Version Date**

The example is shown in the figure. The silver label on the right shows the production batch number, which is our company's internal control code. You don't need to pay attention.



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#### 4、Performance indicators

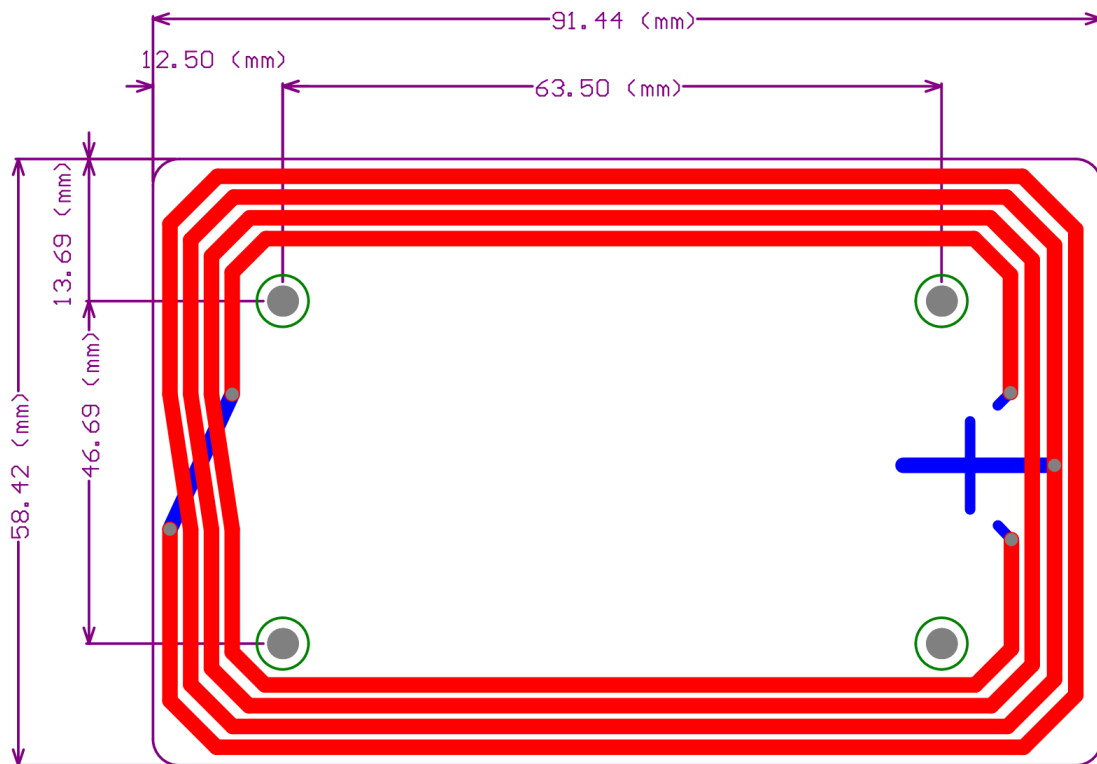
Support Card Types	Illustrate
Rf Card	ISO/IEC 14443 Card
Reading and writing distance	About 5cm (depending on the environment)
Working Voltage	3.3V±5%
Working Current	<100mA
Quiescent Current	<35mA
Ambient Condition	
Storage Temperature	-40~+75℃（无凝结）
Operation Temperature	-40~+75℃（无凝结）



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## 5、Installation dimensions

The unit is mm, and the installation hole diameter is 3mm.





## **6、Installation environment requirements**

**This product is relatively sensitive to the environment. Metal has a reflection and shielding effect on electromagnetic waves, which means that metal has an impact on both the card reader and the label. If there is metal nearby, it will reduce the probability of successful label reading. So there are certain requirements for the installation of this module. During installation, this module should be kept away from metal components. It is recommended to reserve at least 40mm of space between the board edge of this module and the metal components, and try not to have transformers or other electronic coil components nearby, which will directly affect the distance of card swiping. During installation, debugging can be carried out while installing, and the final effect will be based on the actual installation.**

**This module is only used for internal products of Ruifanda Company.**

## **7、User Method**

**This RFID module is driverd by the control board which produced by RVD, the communication interface is SPI,and the communication protocol is standard that can refer to RC522.**



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**Integration instructions for host product manufacturers according to KDB 996369 D03  
OEM Manual v01**

**2.2 LIST OF APPLICABLE FCC RULES:**

Compliance with §15.225 regulation

**2.3 SPECIFIC OPERATIONAL USE CONDITIONS:**

The module is typically use in industrial, household and general office / ITE and audio & video, EV charging system end-products. The product must not be co-located or operating in conjunction with any other antenna or transmitters.

**2.4 LIMIT MODULE PROCEDURES:**

Applicable. The module is a Limited module and complies with the requirement of FCC Part 15.225. According to FCC Part 15 Subpart C Section 15.212, The radio elements must have the radio frequency circuitry shielded. However, due to there is no shield for this Module, this module is granted as a Limited Modular Approval. When this Module is installed into the other host, a Class II Permissive Change submission is required for each new host configuration to ensure the full compliance of FCC relevant requirements.

**2.5 TRACE ANTENNA DESIGNS:**

The module was designed with the fixed PCB print antenna, any changes or modifications by the OEM integrator will require additional testing and evaluation. change in antenna type or maximum gain increase requires C2PC.

**2.6 RF EXPOSURE CONSIDERATIONS:**

The module has been evaluated and shown compliant with the FCC RF Exposure limits under portable exposure conditions. OEM integrator shall equipped the antenna to compliance with antenna requirement part 15.203& 15.204 and must not be co-located or operating in conjunction with any other antenna or transmitters, otherwise, a Class II Permissive Change (C2PC) must be filed with the FCC must be applied.

**2.7 ANTENNAS:**

The antenna of the module was deisgned as PCB printed on the PCBA board and the best gain is 0dBi. Modification the antenna design may need additional testing and evaluation. change in antenna type or maximum gain increase requires C2PC.

**2.8 LABEL AND COMPLIANCE INFORMATION:**

The final end product must be labelled in a visible area with the following “Contains TX FCC ID: 2BCPX-RFID01” or “Contains Transmitter Module FCC ID: 2BCPX-RFID01” . If the size of the end product is smaller than 8x10cm, then additional FCC part 15.19 statement is required to be available in the users' manual: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference



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that may cause undesired operation. A user's manual for the finished product should include one of the following statements: For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician **for help**.

The User's Manual for The finished product should include the following statements:

Any changes or modifications to this equipment not expressly approved by the OEM/Integrator may cause harmful interference and void the user's authority to operate this equipment.





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**RF Exposure**

This device has been evaluated and shown compliant with the FCC RF Exposure limits under portable fixed exposure conditions.

**2.9 INFORMATION ON TEST MODES AND ADDITIONAL TESTING REQUIREMENTS:**

Data transfer module demo board can control the EUT work in RF test mode at specified conditions. This radio module must not be installed to co-locate and operating simultaneously with other radios in the host system except in accordance with FCC multi-transmitter product procedures. Additional testing and equipment authorization may be required operate simultaneously with other radio.

**2.10 ADDITIONAL TESTING, PART 15 SUBPART B DISCLAIMER:**

The host product manufacturer is responsible for compliance with any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

**General Statements**

The module is intended only for OEM integrators. The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module. The OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed OEM integrator shall not modify and change the fixed designed PCB print antenna, and must not be co-located or operating in conjunction with any other antenna or transmitters, otherwise, a Class II Permissive Change (C2PC) must be filed with the FCC and/or a new FCC authorization must be applied. The product is typically use in industrial, household and general office / ITE and audio & video, EV charging system end-products.