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› SunFounder Mifare RC522 Reader Module Kit Instruction Manual

SunFounder Mifare RC522 Module RFID Reader

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Model: Mifare RC522 Module RFID Reader

1. INTRODUCTION

The SunFounder Mifare RC522 Reader Module is designed around the original Philips MFRC522 chip, offering an easy-to-use and cost-effective solution for RFID applications. This module is suitable for equipment development, advanced application development, and RF card terminal design/production. Operating at 3.3V and utilizing an SPI interface, it connects with minimal wiring directly to a CPU motherboard, ensuring stable and reliable performance as a proximity card reader.

2. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- 1 x RC522 Module
- 1 x Key Fob
- 1 x Reader Module Card (S50 White Card)

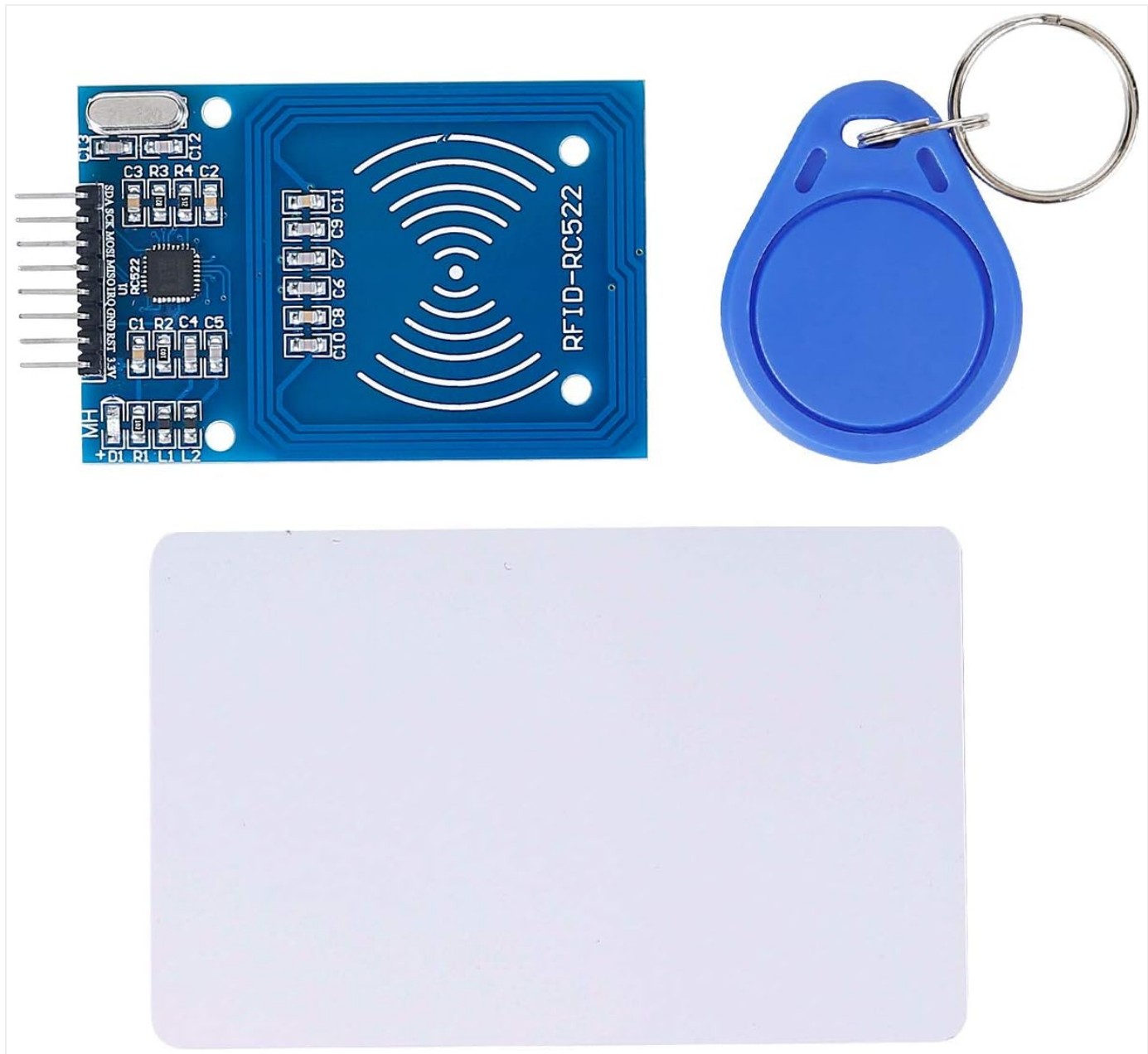


Image: The complete SunFounder Mifare RC522 Reader Module Kit, showing the RC522 module, a white S50 card, and a blue key fob.

3. TECHNICAL SPECIFICATIONS

Specification	Value
Operating Current	13-26mA / DC 3.3V
Idle Current	10-13mA / DC 3.3V
Sleep Current	<80uA
Peak Current	<30mA
Operating Frequency	13.56MHz
Read Range	0 ~ 35mm (Mifare1 card)
Module Size	40mm × 60mm
Operating Temperature	-20 to 80 degrees Celsius

Storage Temperature	-40 to 85 degrees Celsius
Relative Humidity	5% - 95%
Module Interface	SPI
Data Transfer Rate	Maximum 10Mbit/s
Supported Card Types	Mifare1 S50, Mifare1 S70, MIFARE Ultralight, Mifare Pro, MIFARE DESFire

4. SETUP GUIDE

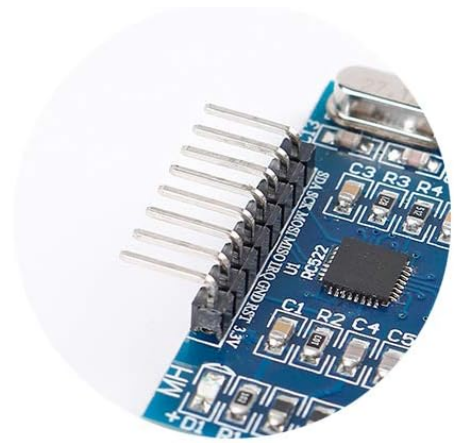
This section outlines the general steps for connecting your RC522 module to a microcontroller board like Arduino or Raspberry Pi. Specific wiring diagrams and code examples may vary depending on your chosen platform and project requirements.

4.1. Pin Connections

The RC522 module communicates via the Serial Peripheral Interface (SPI). Ensure proper connection of the following pins:

- **SDA (Slave Select):** Connect to a digital pin on your microcontroller (e.g., D10 for Arduino Uno).
- **SCK (Serial Clock):** Connect to the SPI clock pin on your microcontroller (e.g., D13 for Arduino Uno, GPIO11 for Raspberry Pi).
- **MOSI (Master Out Slave In):** Connect to the SPI MOSI pin on your microcontroller (e.g., D11 for Arduino Uno, GPIO10 for Raspberry Pi).
- **MISO (Master In Slave Out):** Connect to the SPI MISO pin on your microcontroller (e.g., D12 for Arduino Uno, GPIO9 for Raspberry Pi).
- **IRQ (Interrupt Request):** Optional, can be connected to a digital pin for interrupt-driven operations.
- **GND (Ground):** Connect to the ground pin of your microcontroller.
- **RST (Reset):** Connect to a digital pin on your microcontroller (e.g., D9 for Arduino Uno).
- **3.3V (Power Supply):** Connect to the 3.3V power output of your microcontroller.

**With pin header (not
need to be soldered
by yourself)**



RFID

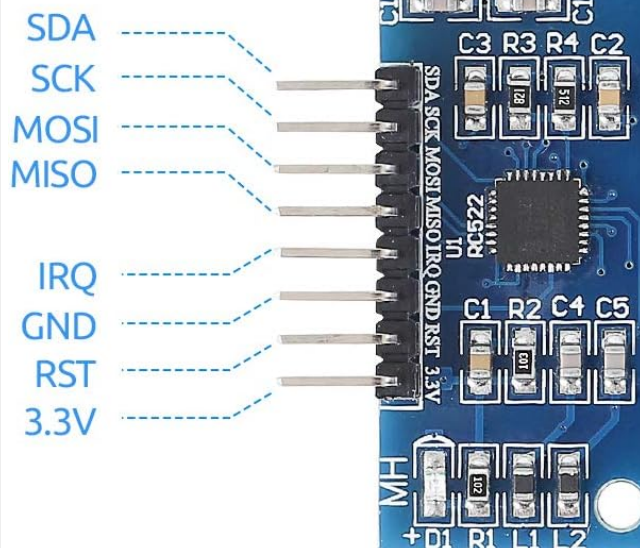


Image: Detailed view of the RC522 module's pinout, indicating connections for SPI communication.



Image: Top view of the RC522 module, showing the integrated antenna and main chip.

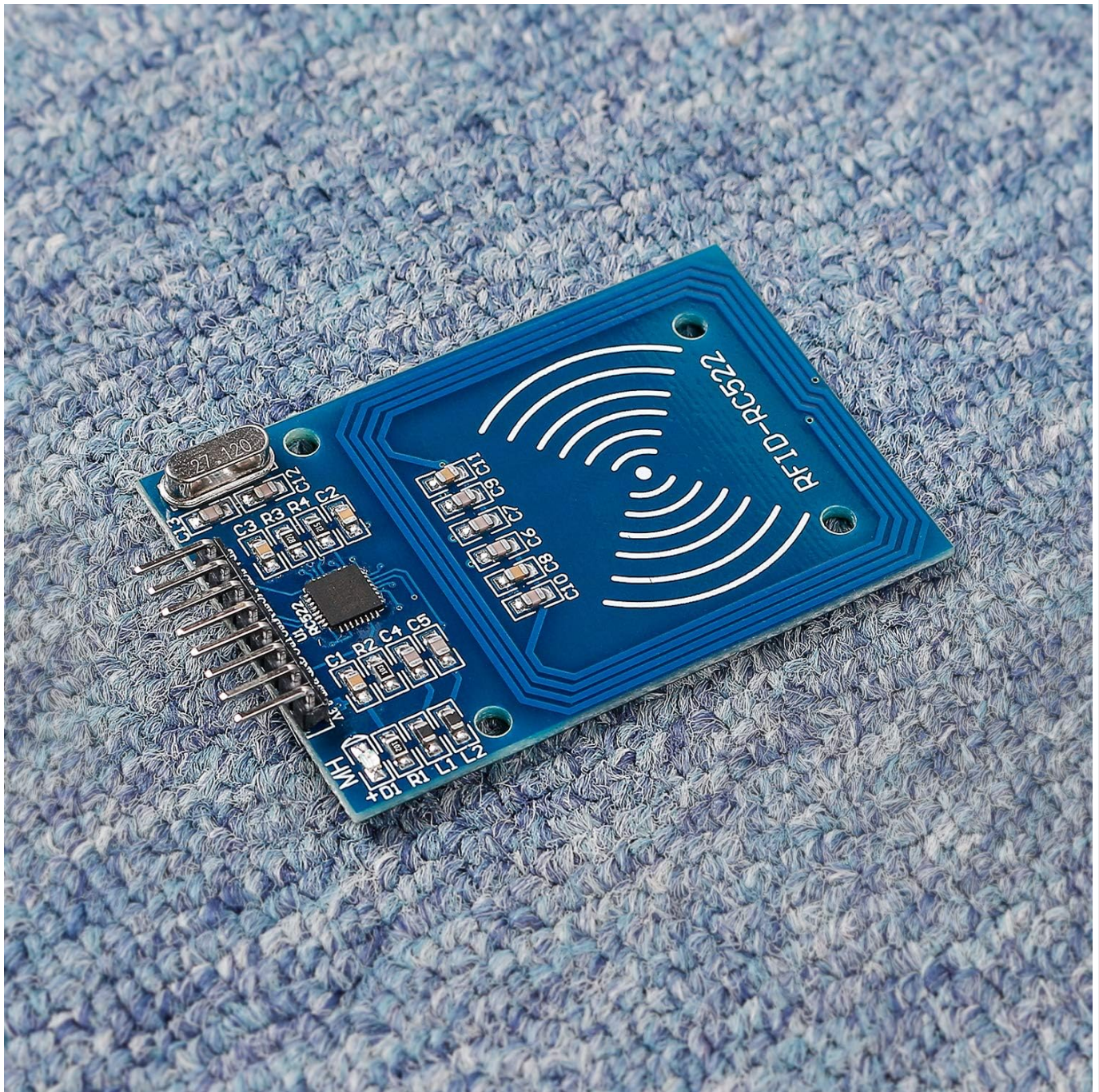


Image: Bottom view of the RC522 module, illustrating the circuit board layout.

4.2. Software Setup

After hardware connection, you will need to install the appropriate libraries for your microcontroller platform. For Arduino, search for

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question