

RFID Reader Mifare 13.56 MHz RC522 with 2x Tags - Serial Output

Sunrom Part#
1422

Easy to use, Reads Unique Tag ID and outputs as Serial Data Packet in ASCII fixed length format. Contactless RFID, 3.3V-5V, Range around 3cm, based on NXP MF-RC522+STM8 chipset

**User's
Manual**

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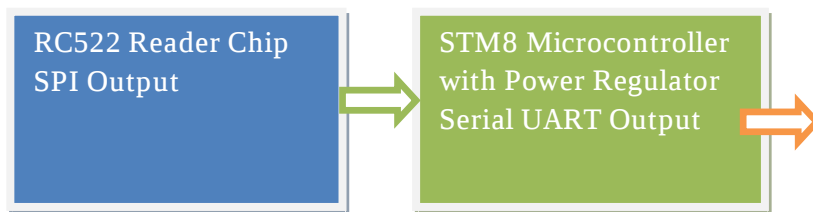
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Introduction

Mifare RC522 is the high integrated RFID card reader which works on non-contact 13.56mhz communication, is designed by NXP as a low power consumption, low cost and compact size read and write chip, is the best choice in the development of smart meters and portable hand-held devices.

We have combined the RC522 chipset with STM8 microcontroller to provide tag output as Serial Output UART data packet. It's easy to use with any microcontroller or PC.

Board Block Diagram



Features

- Simple to Use
- TTL Level Serial UART output
- LEDs for Power & Valid Tag
- Baud rate can be 9600 or 115200
- Works on 3.3V or 5V

Applications

- Security Systems
- Access Control
- Door Lock
- Attendance

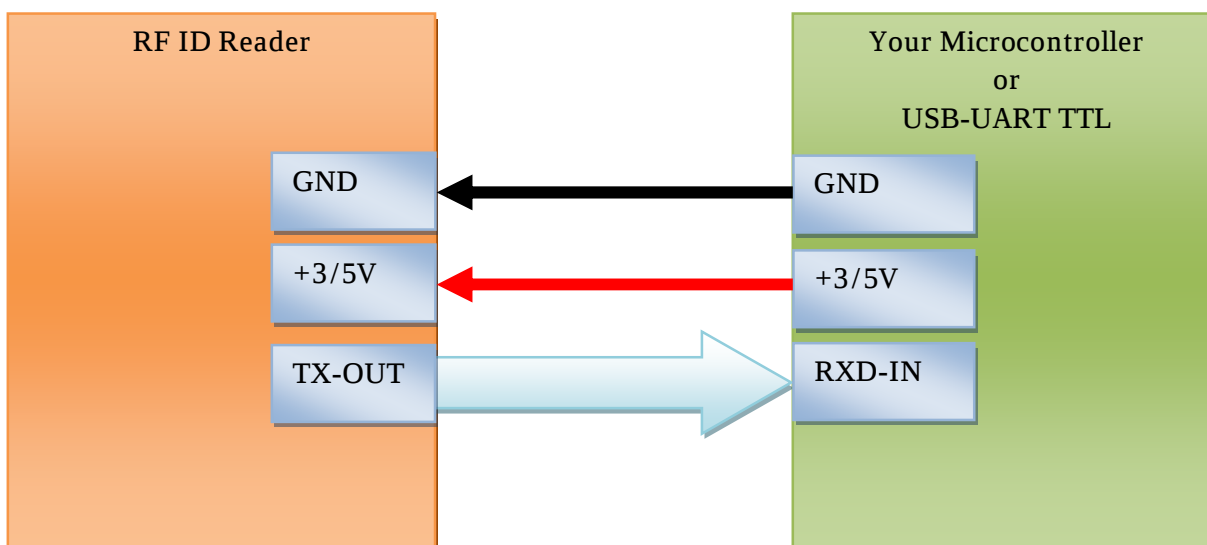
Status LEDs

There are two LEDs on board, one is power LED which is Green in color and comes on as soon as given power. The other LED is status LED which is Red in color which comes on when it gets valid serial data packet.

Interfacing with Microcontroller or USB-UART TTL

If you want to operate with microcontroller then it's very simple to connect just 3 pins of modules like below.

If you want to operate with a PC then use a typical USB-UART of TTL level(not RS232) with same connections like below.



Specifications

Parameter	Value
Working Voltage	3.3V to 5V DC regulated power supply
Current Consumption	25 mA
Frequency of Operation	13.56 MHz
Serial Baud rate	9600 bps or 15200 bps depending on jumper setting
Baud rate format	8-N-1; 1 Start bit, 8 Data bits, 1 Stop Bits, No Parity
RFID range	3 centimeters
On Board controller	STM8S003F3
RFID Chipset	NXP MF-RC522

Module Pin Details

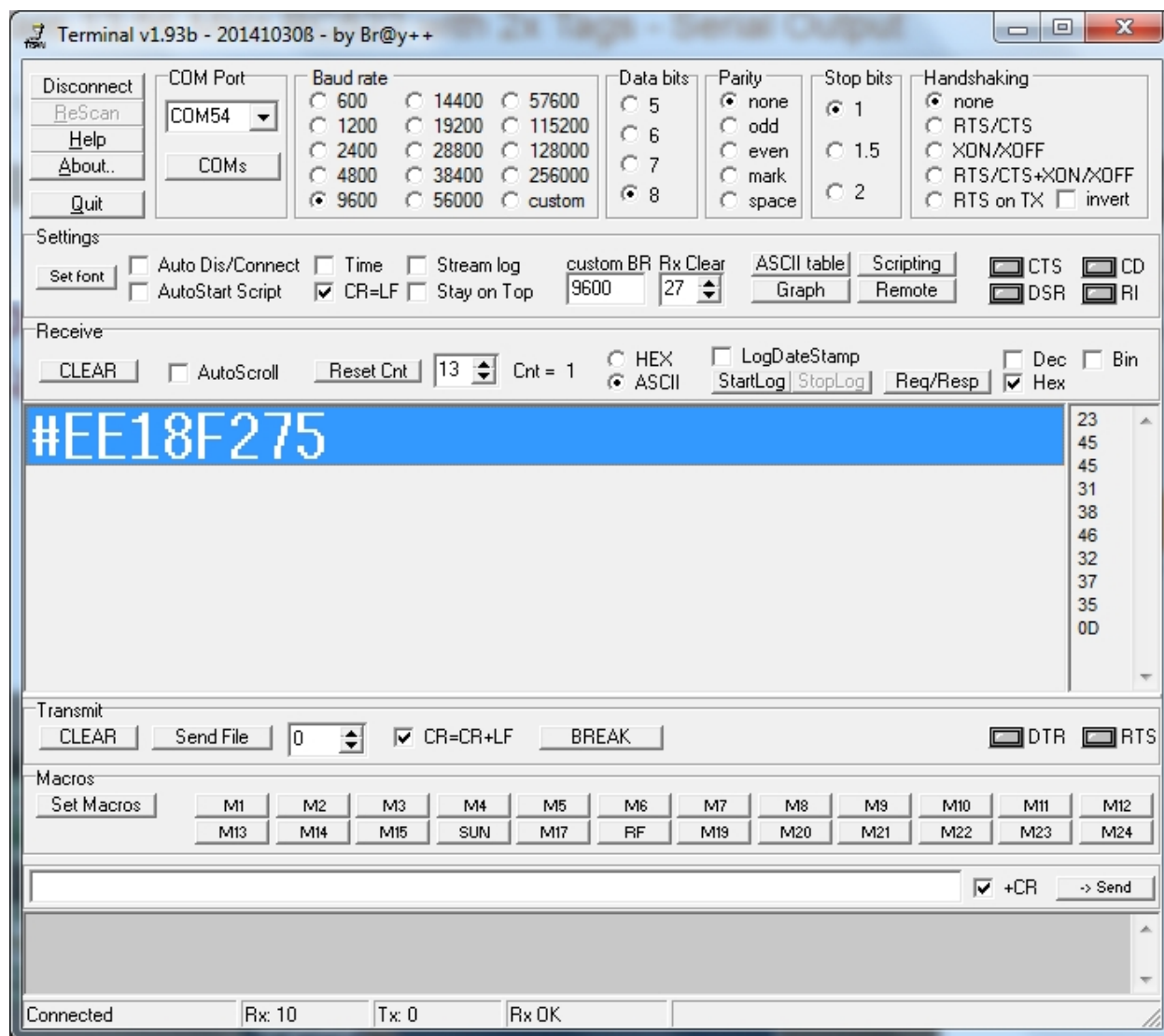
Pin	Details
GND	Common Ground
+3/5	Regulated positive power input 3.3V to 5V DC
TX-OUT	Transmit Output - UART TTL level - Connects to RXD pin of microcontroller

Output Format

Each tag has unique ID, When it is brought in range on reader, it outputs its ID as serial output in following format.

10 Byte ASCII Output - FIXED LENGTH

Start Character - 1 Byte	Tag ID: 8 Bytes	End: Enter Key Code: 1 Byte
'#' ASCII Fixes	XXXXXXXX	0X0D HEX OR 13 DECIMAL

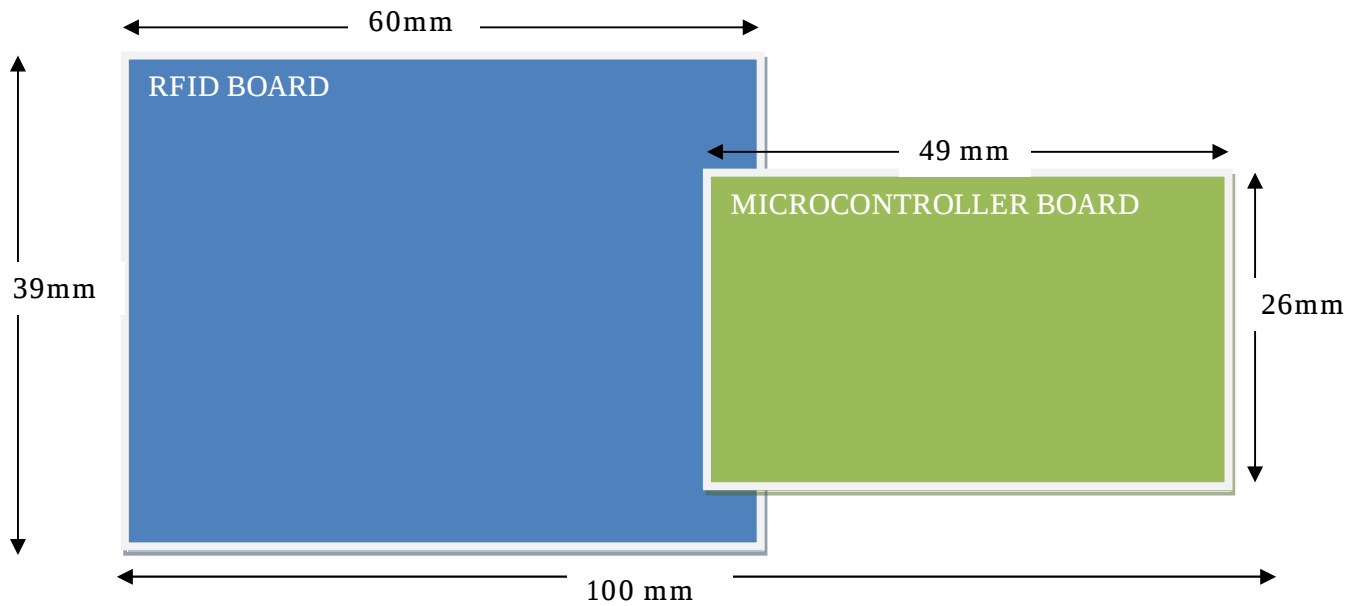


Baud Rate Setting

There is a PCB jumper on board J2. We provided it open condition which means 9600 bps baud rate. You can short it with a soldering iron, if you want 115200 bps baud rate for module.

Product Dimensions

Board Dimensions in mm



Support

Sunrom Electronics offers **free technical support** (www.sunrom.com/contact) for customers, until the end of the product's lifetime, so if something goes wrong, we're ready and willing to help!

Technical Support is available by email only and scope is limited to problem faced during use of the use of product and does not cover end user programming and hardware troubleshooting.

Each product passes through strict quality checks before it reaches you. So if something is not working out right, the first thing to doubt is the connections or programming of your hardware.

Disclaimer

Sunrom Electronics assumes no responsibility or liability for any errors or inaccuracies that may appear in the present document. Specification and information contained in the present schematic are subject to change at any time without notice.

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