

OEM-MF-R835-TTL
13.56 MHz Embedded RFID Reader
Hardware Description

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1 Introduction

1.1 Overview

The OEM-MF-R835-TTL series reader is a MIFARE read/write module based on 13.56 MHz frequency and compliant with ISO14443A standards. It can operate MIFARE Classic Mini, 1K, 4K, MIFARE Light, MIFARE Ultralight, MIFARE Pro data to be read and written, and reads UID only of other kinds of ISO14443A series cards.

Embedded Reader OEM-MF-R835-TTL can be set to auto-request mode which needs no command sent to after power-on. If only the card approaches to it, it will send the card number via UART automatically.

This MIFARE module has the characteristic of easy use, high reliability, multi ports and small in size, which enables users to integrate it with all kinds of current popular IC card technologies quickly and conveniently.

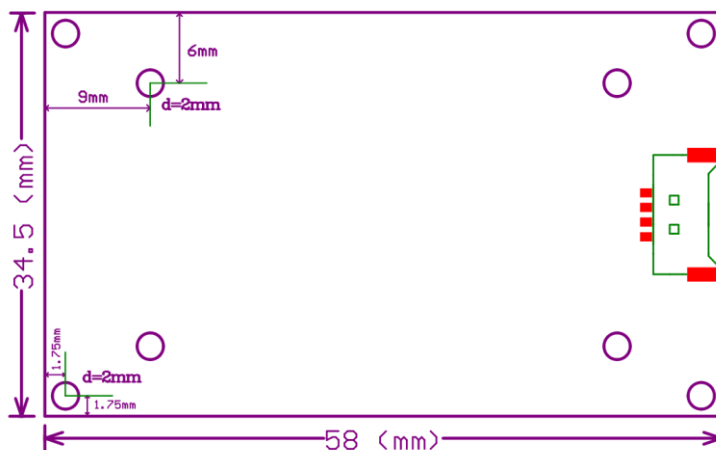
1.2 Key Features

- Auto answer mode
- High data integrity
- Easy using and high data transfer
- Compact in size & comprehensive interface
- Auto request mode and transferring data by UART automatically

1.3 Typical Application

- Portable device
- Time attendance
- Automatic fare collection
- Loyalty membership management
- PC power management
- Logical access management
- Smart gaming device

1.4 Mechanics of the Module



The Thickness is < 5 mm.

Figure 1 Dimensional Drawing of Embedded Module

2 Electrical Installation

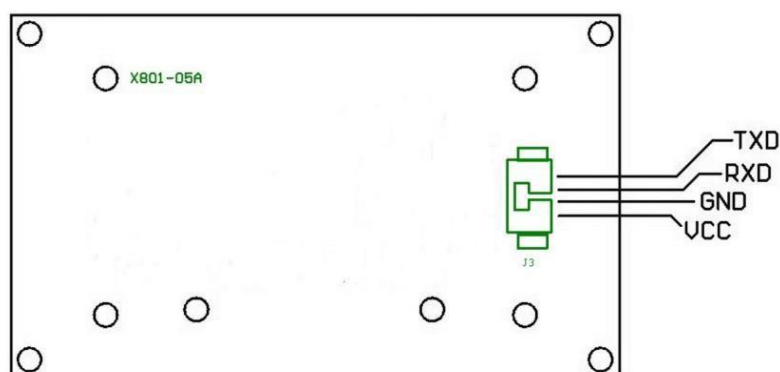


Figure 2 Pinout

Connector on right side (interface, 4 pins)

PIN	Name	Description
1	+3.3...5 Vdc	Power Supply Vcc (Red)
2	GND	Power Supply GND (Black)
3	RXD	Receive Data (Yellow)
4	TXD	Transmit Data (Green)

PIN	Name	Description
1	JTAG	— do not connect —
2	JTAG	— do not connect —
3	JTAG	— do not connect —
4	JTAG	— do not connect —
5	GND	Power Supply GND

3 Technical Data

Electrical Specifications	
Power Supply	3.3 ... 5 Vdc
Power Consumption	< 150 mA, standby current < 1 mA (low power mode)
Operating Frequency	13.56 MHz
Antenna	Internal
Reader IC	NXP CV520
RF TX Speed	up to 848 kBd
Interfaces	TTL
Baudrate	9600...115200 bit/s

Mechanical Specifications	
Dimensions	58 × 34 × 5 mm
Weight	7 g
Material	FR4, blue

Environmental Conditions	
Operating Temperature	-10 °C ... +70 °C
Storage Temperature	-40 °C ... +80 °C
Humidity	up to 95 %, non condensing
MTBF	200'000 h

Supported Standards / Tags	
ISO 14443 A and compatible	Read/write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultralight®, MIFARE® Smart MX, NTAG21x Read UID only: MIFARE Ultralight® C, MIFARE® Pro X, MIFARE® Plus S / X read UID only of all other ISO14443A RFID tags

Applicable Standards	
EMC	EN 301489-1:2012-04 (v1.9.21) EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1) EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08 EN 62369-1:2010-03 EN 50364:2010-11
RoHS	EC Guideline 2011/65/EU
Certificates	FCC, CE, IC

SDK Information	
Supported OS by Silabs USB VCP Driver	Windows 7/8/8.1/10 (v6.7.3) Windows XP/Server 2003/Vista/7/8/8.1 (v6.7) Windows 2K (v6.3a) WinCE (5.0, 6.0) Macintosh OSX (v4) Linux (3.x.x., 2.6.x) Android 4.2
Supported OS	Windows XP, Vista, 7, 8, 8.1, 10
Supported Languages	C, ASCII command protocol
Demo Software	Windows

Other functions and details to be continued and upgraded.