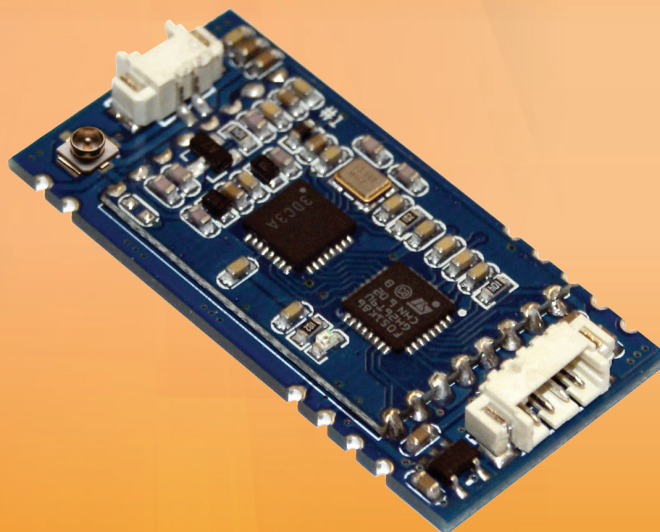


# DESFire Module M890



## Applications

- Ticketing
- Payment
- Access Control
- Handhelds / Terminals

## Features

- Adopts ARM MCU solution
- Tiny size
- Single-face laying components
- 5 V power supply
- TTL/RS232 interface

## RFID Options

- HF (ISO14443A/B, 15693, 18092)

## Description

Embedded RFID Module DESFire M890 is compliant with ISO14443A/B, ISO15693 and ISO18092 Standard.

Thanks to its tiny size and single-face laying components layout, it allows for embedding in various applications and devices.

HF Module M890 DESFire features one external antenna port. iDTRONIC Professional RFID offers a wide choice of antennas suitable for any purpose.

Interface options included UART TTL and RS232. In low power mode, the M890 consumes less than 1 mA.

A useful SDK for developing your own applications and operations is available for download.

Technical Data

Electrical Specifications	
Power Supply	5 Vdc (3.3 Vdc on request)
Power Consumption	< 100mA, standby current < 1mA (low power mode)
Operating Frequency	13.56 MHz
Baudrate	9600...115200 bit/s
Antenna	external, U,FL and Molex connector
Reader IC	CL 663
RF TX Speed	up to 848kBd
Interfaces	UART (TTL or RS232), USB VCP, HID**

Mechanical Specifications	
Dimensions	39 × 19 × 4.5 mm
Weight	5 g
Material	FR4, blue

Environmental Conditions	
Operating Temperature	-20°C ... +80°C
Storage Temperature	-40°C ... +85°C
Humidity	up to 95%, non condensing
MTBF	200'000 h

Supported Standards / Tags	
ISO14443 A and compatible	Read/write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE® DESFire®EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x  Read UID only: Read UID only of all other ISO14443A RFID tags
ISO14443 B and compatible	SRI4K, SR1X4K, AT88RF020, 66CL160S, SR176
ISO15693 and compatible	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI / SLIX, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)

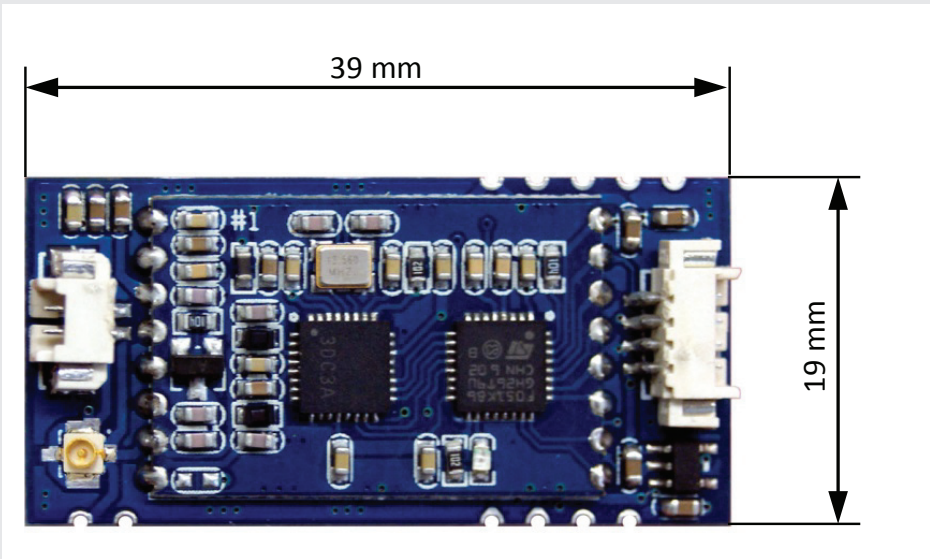
Applicable Standards	
EMC	EN 301489-1:2012-04 (v1.9.21) EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1) EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08 EN 62369-1:2010-03 EN 50364:2010-11
RoHS	EC Guideline 2011/65/EU
Certificates	FCC, CE, IC

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	ASCII command protocol, VS2005 C++
Demo Software	Windows

\* Reading distance depends on tag, antenna and environmental conditions.

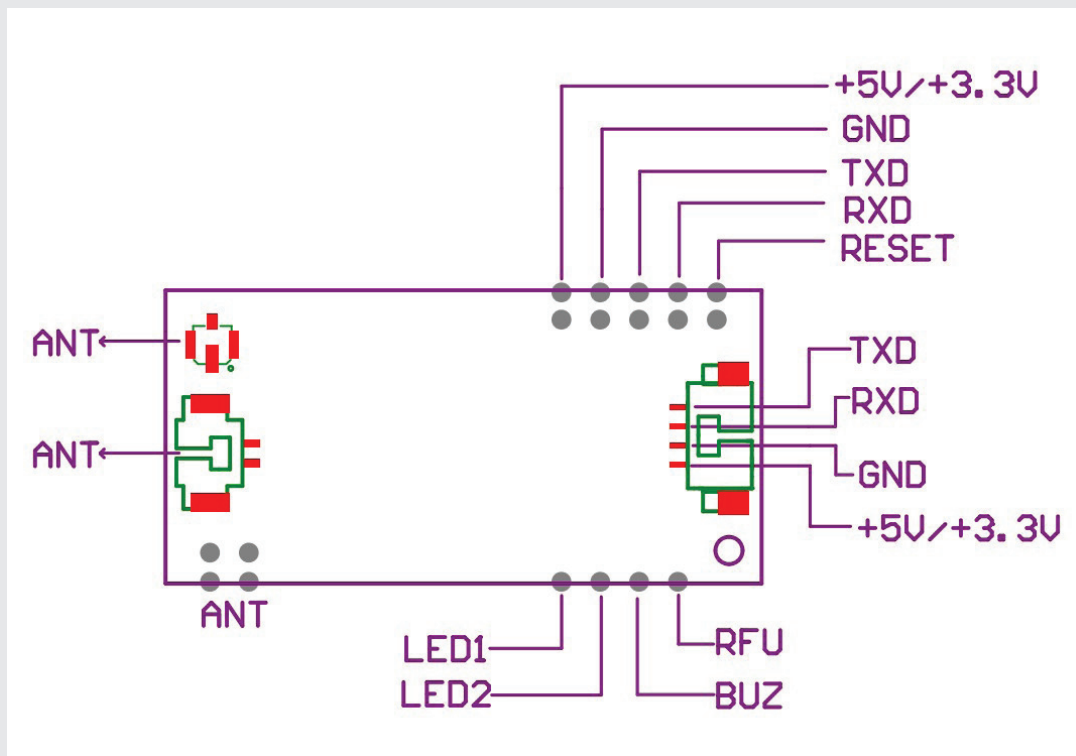
\*\* Human Interface Device

Mechanical View



All Dimensions in millimeters (mm)

## Pin Layout



## Connections

Pin	Signal	IO Type	Description
1	TxD	Output	UART TxD (yellow)
2	RxD	Input	UART RxD (green)
3	GND	PWR	Power supply GND (black)
4	+5V/+3.3V	PWR	Power supply +5 or 3.3 VDC (red)

## Order Codes

Version	Order Code
TTL	OEM-DES-M890-TTL
RS232	OEM-DES-M890-232

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