

Embedded SMT Module HF | NFC **M900**



PRODUCT DESCRIPTION

Embedded SMT Module HF | NFC M900 series is a high performance reader series. Thanks to its tiny size the single-face layout makes it the perfect RFID Reader for SMT Production.

With its cutting edge microcontroller and latest HF transceiver technology, the reader series allows users to read and write almost any 13.56 MHz transponders. 4 different configurations are available which support the common RFID standards such as ISO 14443A/B (T=CL), ISO 15693, ISO 18000-3 and ISO 18092 / ECMA-340 (NFC).

The Embedded SMT Module HF | NFC M900 features one external antenna port. Professional RFID offers a wide choice of antennas suitable for any purpose. It achieves reading ranges of up to 10 cm (depending on type of transponder).

The Embedded SMT Module HF | NFC M900 has a TTL interface. In low power mode, the M900 consumes less than 1 mA.

The Embedded SMT Module HF | NFC M900 can be delivered on a Tape & Reel roll for SMT mass production.

The hardware comes with a useful SDK for the development of controller, Linux or Windows based applications. Beside the documentation, command protocols and source codes, the SDK includes a Windows based demo application with full functionality over all supported HF RFID standards.

APPLICATIONS

- SMT assembly on PCB boards
- Integration into mobile devices

FEATURES

- Adopts ARM MCU Solution
- 3.3 V Power Supply
- TTL Interface
- Tiny Size

RFID OPTIONS

- ISO 14443 A/B
- ISO 15693
- ISO 18000-3
- ISO 18092 | ECMA-340 (NFC)

TECHNICAL DATA

ELECTRICAL SPECIFICATIONS

Power Supply	µC: 3.3 V, RFID IC: 3.3 ~ 5 Vdc
Power Consumption	< 100 mA, standby current < 1 mA (low power mode)
Operating Frequency	13.56 MHz
Reading Distance	up to 10 cm*
Antenna	external*
Baudrate	9600 ... 115200 bit/s
Antenna Connector	Soldering Pads
Interface	TTL, 3.3 V output levels, the input is not 5 V tolerant
PCB Connections	Soldering Pads (Suitable for SMT Production)
Outputs	1 Buzzer, 2 LEDs, 3 Special, max 25 mA on each single output, max 80 mA in total.

MECHANICAL SPECIFICATIONS

Material	FR-4, Blue
Mounting Option	Soldering

ENVIRONMENTAL CONDITIONS

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

SDK INFORMATION

Supported OS	Windows 7, 8, 8.1, 10
Supported Languages	C++, Binary command protocol
Demo Software	Windows

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
RED	2014/53/EU
RoHS 2	2011/65/EU
REACH	1907/2006
Certificates	FCC, CE, IC

***READING DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.**

DESFIRE

ISO 18000-3

HF

MIFARE

GENERAL SPECIFICATIONS

Dimensions	25 × 16.5 × 2.8 mm
Weight	3 g
Power Supply	3.3 Vdc
Power Consumption	< 100 mA, standby current < 1 mA (low power mode)
Operating Frequency	13.56 MHz
Reading Distance	depending on external antenna*
RT FX Speed	up to 848 kBd
Reader IC	NXP CLRC663
Interface	TTL
Antenna	external*
Baudrate	9600 ... 115200 bit/s

AVAILABLE VERSIONS

*READING DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.

	DESFire	ISO 18000-3	HF	MIFARE
SUPPORTED STANDARDS TAGS				
ISO 14443A and compatible	Read/Write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE Ultralight® Nano, MIFARE® DESFire®EV1, MIFARE® DESFire® Light, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x, NTAG 424 Read UID only: Read UID only of all other ISO14443A RFID tags	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	Read/Write: MIFARE® Classic 1K / 4K, MIFARE Ultralight®, MIFARE Ultralight® C, NTAG 21x Read UID only: Read UID only of all other ISO14443A RFID tags	Read/Write: MIFARE® Classic 1K / 4K, MIFARE Ultralight®, MIFARE Ultralight® C, NTAG 21x Read UID only: Read UID only of all other ISO14443A RFID tags
ISO 14443B and compatible	SRI4K, SRIX4K, AT88RF020, 66CL160S, SR176			—
ISO 15693 and compatible	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI/SLIX/ DNA, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI / SLIX, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI / SLIX, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)	—
ISO 18000-3M3 and compatible	—	I-Code ILT-M	—	—

ORDER CODES

VERSIONS	ORDER CODES
DESFire	
HF NFC Embedded Module M900 - TTL	OEM-DES-M900-TTL
ISO 18000-3	
HF NFC Embedded Module M900 - TTL	OEM-DES-M900-TTL-18/3
HF	
HF NFC Embedded Module M900 - TTL	OEM-HF-M900-TTL
MIFARE	
HF NFC Embedded Module M900 - TTL	OEM-MF-M900-TTL
TAPE & REEL	
HF NFC Embedded Module M900 - Tape & Reel	On Request - MOQ 500 Units

TAPE & REEL OPTION

