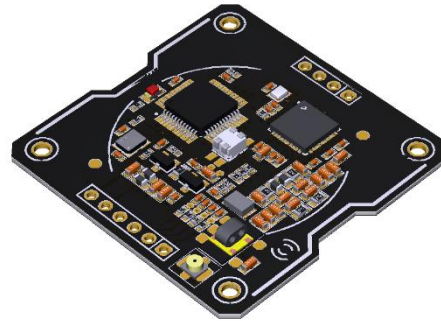


MCRN1L RFID/NFC Card Reader Module

MCRN1L R 1.0
Oct. 8, 2018

Key Features

Frequency	13.56 MHz
Interface	RS232-TTL
Standards	ISO14443A/B, ISO15693
Supported Cards & Transponders	MIFARE® Family NTAG I-Code
Antennas	Internal or external (50-Ohm)
Power supply	+5V or optional +3.3V



1 DESCRIPTION

The MCRN1L is a low-cost RFID/NFC Crypto-Module optimized for MIFARE® DESFire applications.

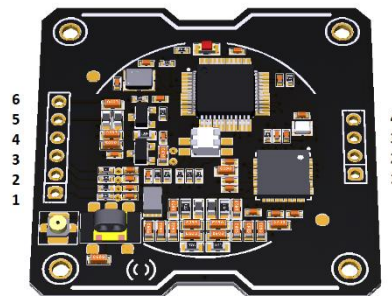
2 ELECTRICAL

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
VIN	Input Voltage	+3.2	+3.3V	+3.6V	V
IIN	Input Current (VIN=+3.3V)	20	60	150	mA
TA	Ambient Temperature Range	(RF off)	(polling mode)	(RF on)	
		-30	-	+85	°C
RS232 Receiver	Input Voltage	-	+3.3V	-	V
RS232 Transmitter	Output Voltage	-	+3.3V	-	V
MTBF		500.000h			

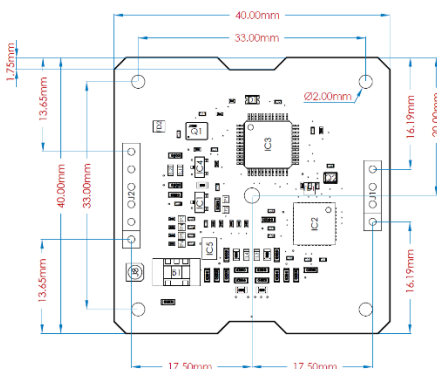
3 CONNECTOR PINOUT

Main Connector	RS232-TTL (+3.3V)
1	RX Input
2	TX Output
3	RESET (LOW: Reset HIGH: Running)
4	INT (Do not connect or connect to HIGH)
5	GND – Ground
6	+VIN +3.3V (optional +5V)

Relay Connector	Description
1	GPIO1 Watchdog output 1Hz %10 duty cycle
2	GPIO2
3	GPIO3
4	GPIO4



4 DIMENSIONS



6 FEATURES

- RS232-TTL up to 230K Baud
- Full NFC support
- Integrated antenna
- Optional RGB LED in the middle
- **4 x GPIOs**
- Crypto Element Device with Secure Hardware-based Key Storage
- AES Algorithm with 128-bit Keys
- Secure Storage for up to Sixteen 128-bit Keys
- Encrypted User Memory
- Message Authentication Code (MAC) Capability
- FIPS Random Number Generator (RNG)
- Reading Distance
- ISO14443 up to 6cm, ISO15693 up to 12cm
- Optimized for MIFARE® DESFire applications

5 ORDERING CODES

ARTICLE NR:	+Vin	RS232-TTL	Int. ANT	Ext. ANT (50-Ohm)
MCRN1-L000	+5V	X	X	
MCRN1-L010	+5V	X		X
MCRN1-L100	+3.3V	X	X	
MCRN1-L110	+3.3V	X		X

