

## Description:

7941W is a multi-protocol dual-band read and write module. Set IC and ID read and write one. It can read a variety of IC and ID card. Support Mifare1K, UID card, IC card, T5577 ID card.

## Features:

- 1>. Voltage: DC 5V
- 2>. Current: 50mA
- 3>. Distance: Mifare>3cm; EM>5cm
- 4>. Size: 47mmX26mmX5mm
- 5>. Interface: UART, Wiegand
- 6>. Support Chips: ISO/IEC 14443 A/MIFARE, NTAG, MF1xxS20, MF1xxS70, MF1xxS50
- 7>. EM4100, T5577 read and write function
- 8>. Operating Temperature: -25~85 Celsius

## Connection Introduction:

- 1>.5V: DC 5V power supply pin; if you use linearity power, it will gain better effects
- 2>.RX: receive pin
- 3>.TX: transmit pin
- 4>.GND: power supply ground pin
- 5>.IO: definition

## Protocol Introduction: (UART serial port communication protocol is shown as below)

**Baud: 115200, Data bits: 8, Parity: None, Stopbits: 1**

Sending Protocol:					
Protocol Header	Address	Command	Data Length	Data	XOR Check
AB BA	1 Byte	1 Byte	1 Byte	0-255 Bytes	1 Byte
Receiving Protocol:					
Protocol Header	Address	Command	Data Length	Data	XOR Check
CD DC	1 Byte	1 Byte	1 Byte	0-255 Bytes	1 Byte

- 1>. Protocol Header: send (0xAB 0xBA)
- 2>. Return: (0xCD 0xDC)
- 3>. Address: default 0x00

## 4>. Command:

### Send:

- 1). 0x10 read UID number
- 2). 0x11 write UID number (4 bytes), use default password ffffffff
- 3). 0x12 read specified sector
- 4). 0x13 write specified sector
- 5). 0x14 modify the password of group A or group B
- 6). 0x15 read ID number
- 7). 0x16 write T5577 number
- 8). 0x17 read all sector data (M1-1K card)

### Return:

- 1).0x81 return operation succeeded
- 2).0x80 return operation failed

- 5>. Data Length: means following data length; if it's 0, then the following data will not occur.

## 6>. Data: read and written data

### Sending Data:

- 1). Read Specified Sector: the first byte of the data represents sector; the second byte means the certain block of the sector; the third byte means A or B group password (0x0A/0x0B); then it comes with password of 6 bytes.
- 2). Write Specified Sector: the first byte of the data represents sector; the second byte means the certain block of the sector; the third byte means A or B group password (0x0A/0x0B); then it comes with password of 6 bytes and block data of 16 bytes.
- 3). Modify Password: the first byte means the certain sector; the second byte means A or B group password (0x0A/0x0B); then it comes with old password of 6 byte and new password.

### Receiving Data:

Read specified sector return data format, the first byte is sector; the second byte is the certain block of sector; then it comes with block data of 16 bytes.

7>. XOR check: result of other bytes check except protocol header.

## Example:

AB BA 00 10 00 10

AB BA 00 11 04 6D E9 5C 17 DA

AB BA 00 12 09 00 01 0A FF FF FF FF FF FF 10

AB BA 00 13 19 00 01 0A FF FF FF FF FF FF 00 01 02 03 04 05 06 07 08 09 01 02 03 04 05 06 07

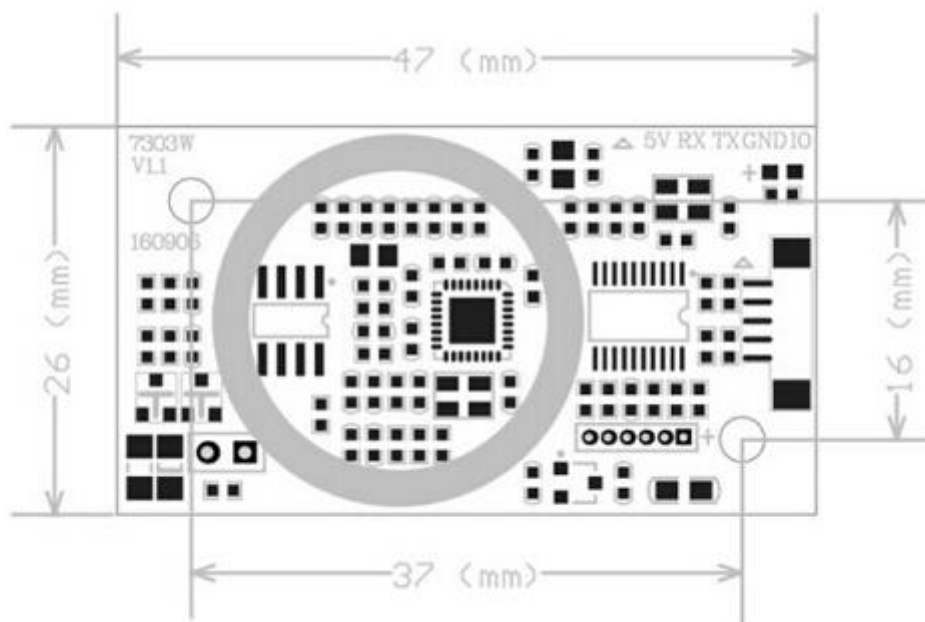
AB BA 00 14 0E 00 0A FF FF FF FF FF FF 01 02 03 04 05 06 17

AB BA 00 15 00 15

AB BA 00 16 05 2E 00 B6 A3 02 2A

AB BA 17 07 0A FF FF FF FF FF FF 1A

## Module Size:



7941W-Writing-Reading-tool-master.zip

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<sup>1</sup> <https://github.com/wendl4/7941W-Writing-Reading-tool>