

# Desktop UHF RFID reader/writer Hardware manual

(For SLR1218、SLR5218、SLR5318)

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## Chapter 1 Overview

This series of readers have built-in small gain PCB antenna, excellent structural design, can effectively prevent the tag from being misread or serial read, positioned in the use of close reading card scenarios. Suitable for supply chain management, asset management and other fields of card issuing applications and close card reading applications. At the same time, it can support the optional high-gain ceramic antenna, combined with the high-performance RFID module to meet the use of higher card reading performance scenarios.

The series currently has three main products

| model   | model difference                        |
|---------|-----------------------------------------|
| SLR1218 | Power range 5 - 30dbm, high-performance |
| SLR5318 | Power range 5 - 30dbm                   |
| SLR5218 | Power range 13 - 20dbm                  |

## Chapter 2: Technical Parameters

| Label / transfer protocol        |                                                                                                                                                  |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Tagged agreement                 | EPC Class 1 Gen 2 (ISO18000-6C)                                                                                                                  |
| Radio frequency interface        |                                                                                                                                                  |
| Antenna connection               | Default 0 dBi round polarized PCB antenna, optional 2 dBi round polarized ceramic antenna                                                        |
| Output power range               | SLR1218: 5dBm~30dBm Adjustment accuracy: 1dBm<br>SLR5318: 5dBm~30dBm Adjustment accuracy: 1dBm<br>SLR5218: 13dBm~20dBm Adjustment accuracy: 1dBm |
| Receiving sensitivity            | SLR1218: < -85dBm<br>SLR5318: < -75dBm<br>SLR5218: < -65dBm                                                                                      |
| Work area support                | FCC (NA, SA) 902-928MHz<br>ETSI (EU) 865-867MHz<br>SRRC-MII (P. R. China) 840-845 MHz、920-925MHz<br>OPEN' (Custom) 840-960MHz                    |
| Transmission control interface   |                                                                                                                                                  |
| communication interface          | USB2.0 communication / RS232 serial port communication, portport rate: 115200 bps (default)                                                      |
| Universal GPIO port              | Two sets of inputs, and two sets of outputs                                                                                                      |
| Work status tips                 | Power indicator, read card status indicator, buzzer                                                                                              |
| format                           |                                                                                                                                                  |
| physical dimension               | 110mm×110mm×16.5mm                                                                                                                               |
| Power supply / power consumption |                                                                                                                                                  |
| DC power supply                  | USB power supply, external 5V (+/-0.25V) power supply                                                                                            |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                              |                      |                       |                      |                       |                       |                       |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------|----------------------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|
| power dissipation                     | Work: (separate USB supply, only maximum transmitting power of 27 dBm) SLR1218: 3.9W (27dBm) /4.8W (30dBm)<br>SLR5318: 2.7W (27dBm) /3.6W (30dBm)<br>SLR5218: 1.0W (20dBm)<br>Stand:<br>SLR1218: 0.35W<br>SLR5318: 0.25W<br>SLR5218: 0.25W                                                                                                                                                                             |                         |                              |                      |                       |                      |                       |                       |                       |
| <b>environmental character istics</b> |                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                              |                      |                       |                      |                       |                       |                       |
| working temperature                   | -10℃ - +55℃                                                                                                                                                                                                                                                                                                                                                                                                            |                         |                              |                      |                       |                      |                       |                       |                       |
| Storage temperature                   | -20℃ - +60℃                                                                                                                                                                                                                                                                                                                                                                                                            |                         |                              |                      |                       |                      |                       |                       |                       |
| <b>function</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                              |                      |                       |                      |                       |                       |                       |
| Label reading rate                    | SLR1218 : > 100 tag/second<br>SLR5318 : > 50 tag/second<br>SLR5218 : > 50 tag/second<br>(In special case, related to labeling performance)                                                                                                                                                                                                                                                                             |                         |                              |                      |                       |                      |                       |                       |                       |
| Read the card distance                | <table border="0"> <tr> <td><b>0dBi PCB Antenna</b></td><td><b>2 dBi Ceramic Antenna</b></td></tr> <tr> <td>SLR1218 : 5cm - 80cm</td><td>SLR1218 : 20cm - 3.0m</td></tr> <tr> <td>SLR5318 : 3cm - 60cm</td><td>SLR5318 : 10cm - 2.5m</td></tr> <tr> <td>SLR5218 : 10cm - 30cm</td><td>SLR5218 : 60cm - 1.0m</td></tr> </table> The write distance is about 50% of the read distance (Test label: ALIEN9662 white card) | <b>0dBi PCB Antenna</b> | <b>2 dBi Ceramic Antenna</b> | SLR1218 : 5cm - 80cm | SLR1218 : 20cm - 3.0m | SLR5318 : 3cm - 60cm | SLR5318 : 10cm - 2.5m | SLR5218 : 10cm - 30cm | SLR5218 : 60cm - 1.0m |
| <b>0dBi PCB Antenna</b>               | <b>2 dBi Ceramic Antenna</b>                                                                                                                                                                                                                                                                                                                                                                                           |                         |                              |                      |                       |                      |                       |                       |                       |
| SLR1218 : 5cm - 80cm                  | SLR1218 : 20cm - 3.0m                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                              |                      |                       |                      |                       |                       |                       |
| SLR5318 : 3cm - 60cm                  | SLR5318 : 10cm - 2.5m                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                              |                      |                       |                      |                       |                       |                       |
| SLR5218 : 10cm - 30cm                 | SLR5218 : 60cm - 1.0m                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                              |                      |                       |                      |                       |                       |                       |

## Chapter 3: Hardware Description

### 3.1 Interface description



(P) Power Supply/(S)Card reading indicator



✧ **USB:** USB 1.1 / USB 2.0

✧ **GPIO:** (Universal Input / Output interface), from left to right (Pin 1-Pin 8)

| pin | Definition | instruction                                             |
|-----|------------|---------------------------------------------------------|
| 1   | +5V        | The equipment is connected to 5V(+/-0.25V) power supply |
| 2   | GND        | Power supply of equipment                               |
| 3   | TXD        | RS232 serial port data output                           |
| 4   | RXD        | RS232 Serial port data entry                            |
| 5   | IN1        | GPIO Input (5-12V)                                      |
| 6   | IN2        | GPIO Input (5-12V)                                      |
| 7   | OUT1       | GPIO output (5V)                                        |
| 8   | OUT2       | GPIO output (5V)                                        |

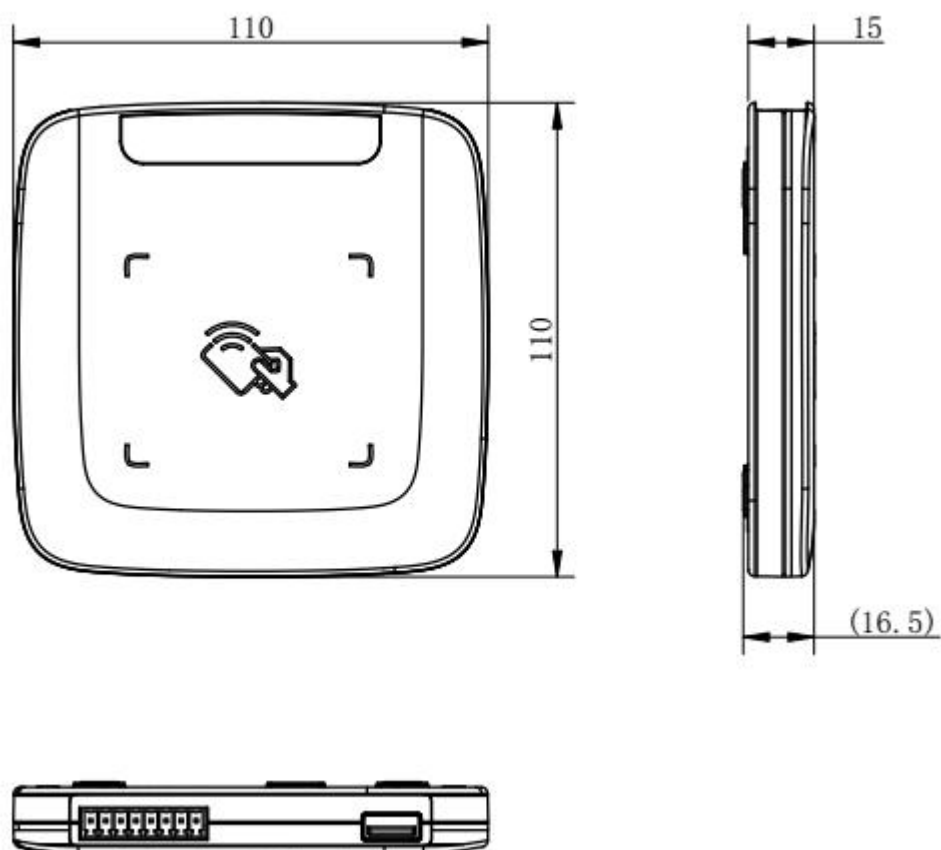
✧ **USB port / RS232 serial port communication switching switch::**

| switch | 1   | 2   | 3   |
|--------|-----|-----|-----|
| USB    | ON  | OFF | OFF |
| RS232  | OFF | ON  | OFF |

✧ (P) Indicator light: power supply indicator light, always on the power on.

✧ (S) Indicator: Read the card indicator until the card is on.

### 3.4 Appearance size

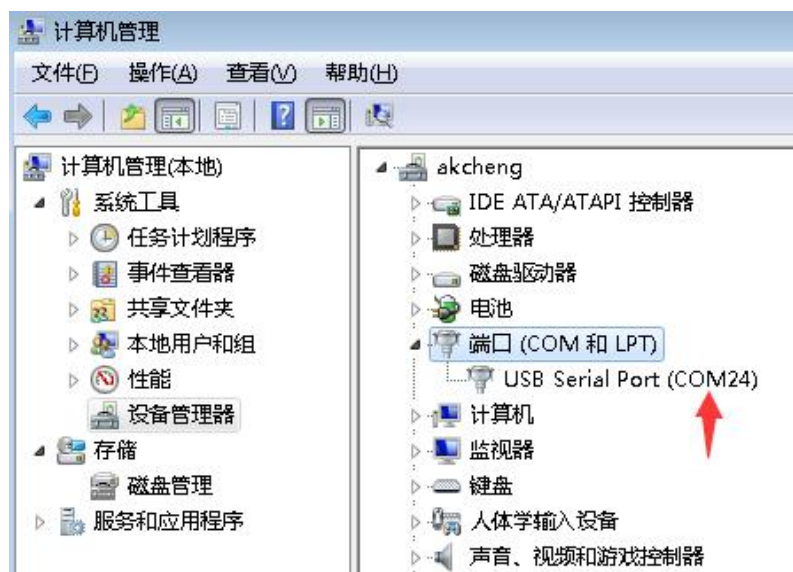


(unit: mm)

## 第 4 章 Direction for use

### 4.1 link

Connect the device through a serial port cable or USB cable to power up the device, (desktop right-click computer-Management-Device Manager-view the available COM slogan). Connection setting: fill in the COM slogan for the address, and select a single antenna for the number of antenna ports. Please refer to the demonstration software instructions for specific functions.



ModuleReaderManager

读写器参数
标签操作
升级
标签特殊指令
测试
关于

☒ ANT1
☐ ANT2
参数...

☐ ANT3
☐ ANT4
16天线设置

☒ gen2
☐ 180006b
☐ ipx64
☐ ipx256

连接设置

地址
COM24

天线端口数
单天线/发卡机/-

连接
断开

开始
停止
清空

Inventory统计

天线1: 0
天线2: 0
天线3: 0

天线4: 0
唯一ID个数: 0

耗时:

编号
读次数
EPC ID

## 4.2 GPIO control

Description: demonstrate the software-reader parameter GPIO interface setting

GPIO

☐ GP01
☐ GP02

☐ GP03
☐ GP04

设置

☐ GPI1
☐ GPI2

☐ GPI3
☐ GPI4

获取

|             |                                                                                                                                                                                                                     |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IN1 (GPI1)  | Input status: High level (5-12V) software determination logic 0 <input type="checkbox"/> GPI1<br>Input status: Low level (0V, or suspended) software determination logic 1 <input checked="" type="checkbox"/> GPI1 |
| IN2 (GPI2)  | Input status: High level (5-12V) software determination logic 0 <input type="checkbox"/> GPI1<br>Input status: Low level (0V, or suspended) software determination logic 1 <input checked="" type="checkbox"/> GPI2 |
| OUT1 (GPO1) | Software control logic of 0 <input type="checkbox"/> GP01      Output end: Low level (0V)<br>Software control logic of 1 <input checked="" type="checkbox"/> GP01      Output end: High level (5V)                  |
| OUT2 (GPO2) | Software control logic of 0 <input type="checkbox"/> GP02      Output end: Low level (0V)<br>Software control logic of 1 <input checked="" type="checkbox"/> GP02      Output end: High level (5V)                  |
| Read card   | The GPO 1 logic is in 0 <input type="checkbox"/> GP01      White light / buzzer silent; GPO 1 logic 1                                                                                                               |

|                                                 |                                                                                                                                        |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| indicator lamp (white) / Buzzer control (GPO 1) | <input checked="" type="checkbox"/> GP01, White light goes on / buzzer goes off                                                        |
| Read card indicator lamp (red) (GPO 2)          | GPO2 logic 0 <input type="checkbox"/> GP02, Red light out; GPO2 logic 1 <input checked="" type="checkbox"/> GP02, The red light is on. |

### FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.