MIFARE & ISO14443A & ISO14443B CONTACTLESS IC CARD READ/WRITE READER MODULE

# JMY620C User's Manual

## (Revision 3.50)

**Jinmuyu Electronics Co. LTD**
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Please read this manual carefully before using. If any problem, please mail to: Jinmuyu@vip.sina.com

# Contents

# 1 Product introduction

JMY620C is a RFID read/write module with UART, IIC port. JMY620C has various functions and supports multi ISO/IEC standard of contactless card. The RF protocol is complex, but the designer combined some frequent used command of RF card and then user could operate the cards with full function by sending simple command to the module.

And the module and antenna is linked by 50ohm coaxial cable. The impedance between RF module and antenna was tuned by impedance analyzer, so the module has excellent read/write performance and stability. Though the cable can reach 10m, the performance is still good. Normally the cable should be 60cm that is the module's best performance and stability. JMY620C adopts surface mount installation form. Small size is a major feature of JMY620C.

# 2 Characteristics

- PCD model:               NXP MF RC523
- Working frequency:       13.56MHz
- Supported standard:      ISO14443A, ISO14443B, Mifare Classic
- Card supported:          Mifare 1K/4K, FM11RF08, Ultra Light, DesFire, Mifare ProX, SR176, SRI512, SRI1K, SRI2K, SRI4K, SRIX4K, T=CL CPU cards(both ISO14443A & ISO14443B).
- Anti collision ability:   Full function anti collision; be able to process multi-cards; be able to set operate single card only
- Auto detecting card:     Supported, default OFF. The default status can be set
- Power supply:            DC 3.3V（±10%）
- Interface:               IIC, UART(selected by SPS pin, recommend to use IIC)
- Communication rate:      IIC:              400Kbps
                           UART:             19.2Kbps/115.2Kbps
- Max. command length:     254 Bytes
- Interface level:         UART/IIC: 3.3V (TTL level; 5V tolerance)
- Static power consumption: Working mode:80mA; Idle:100uA
- Operating distance:      80mm (depending on card)
- Dimension:              20mm×35mm
- Package:                Surface Mount
- Weight:                 About 10g
- ISP:                    Supported
- Operating temperature:   -25 to +85 ℃
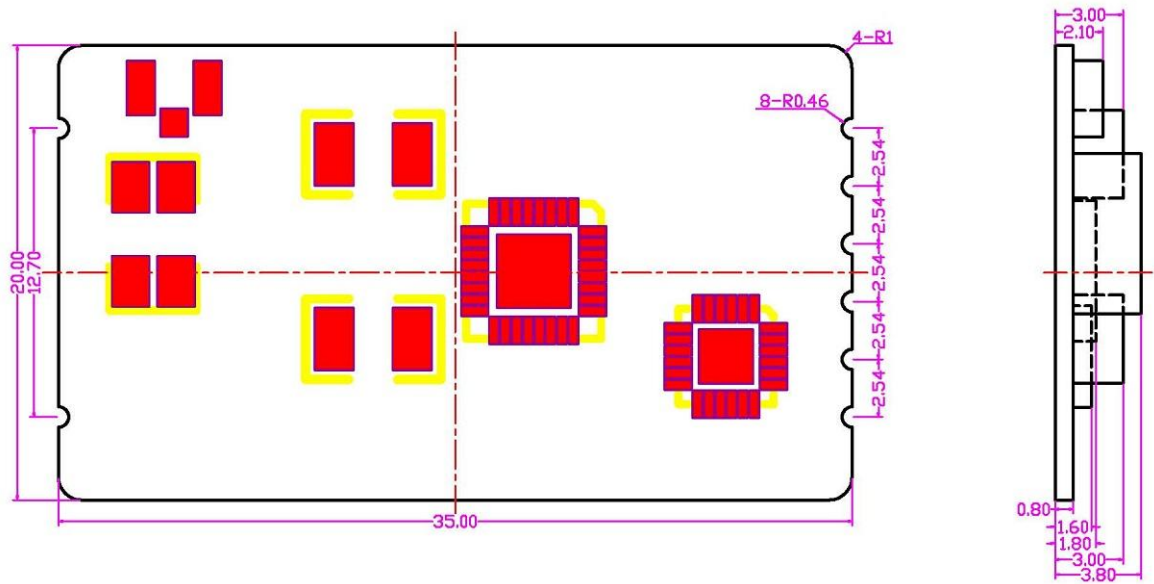- Storage temperature:     -40 to +125 ℃
- RoHS:                   Compliant

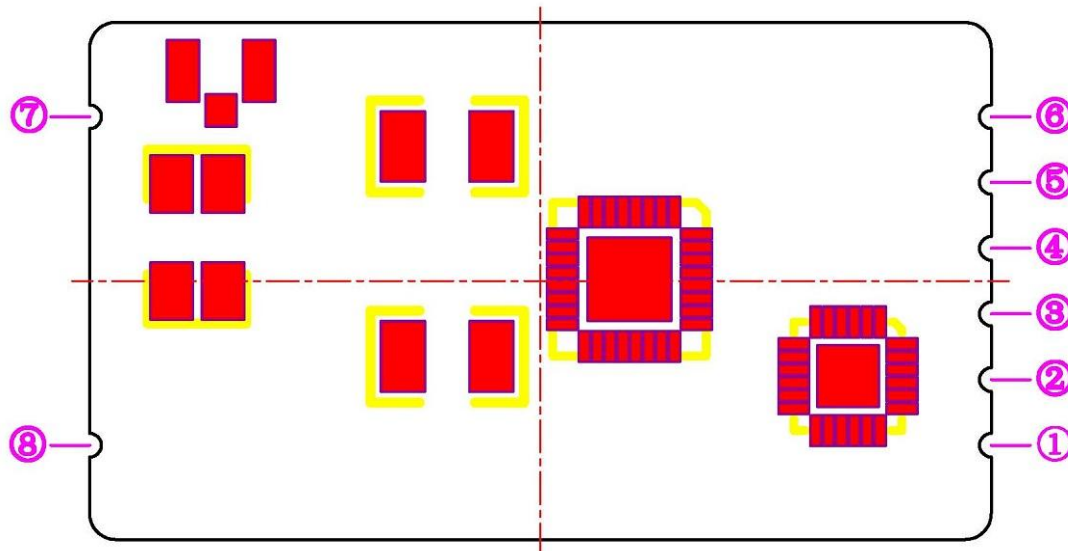# 3 Physical parameter and pin outs

## 3.1 Photo
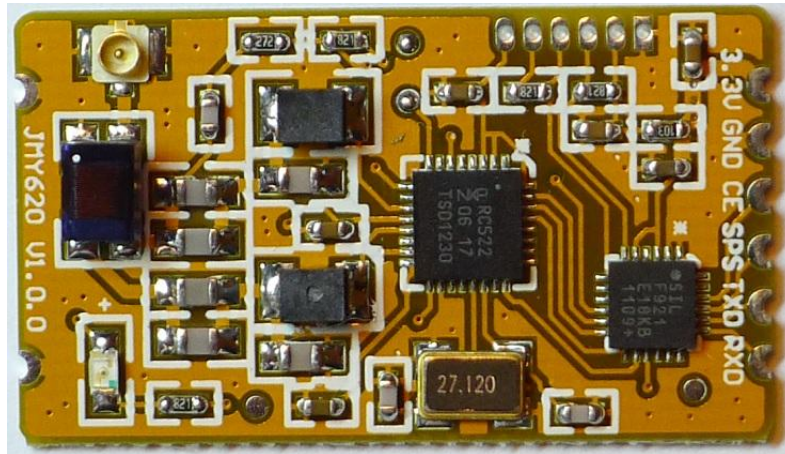


## 3.2 Dimension

## 3.3  Pin configurations and pin outs



| Pin number | Function | Type | Description |
|------------|----------|------|-------------|
| 1 | RXD/SCL | Input | UART RXD / IIC SCL |
| 2 | TXD/SDA | Input / Output | UART TXD / IIC SDA |
| 3 | SPS | Input | Serial port selector<br>0: IIC 1: UART |
| 4 | CE | Input | Module enable, 1: disable; 0: enable |
| 5 | GND | Power | GND |
| 6 | +3V | Power | Power |
| 7 | GND | Power | For fixing use, connect to GND |
| 8 | GND | Power | For fixing use, connect to GND |

## 3.4   Connection schematics
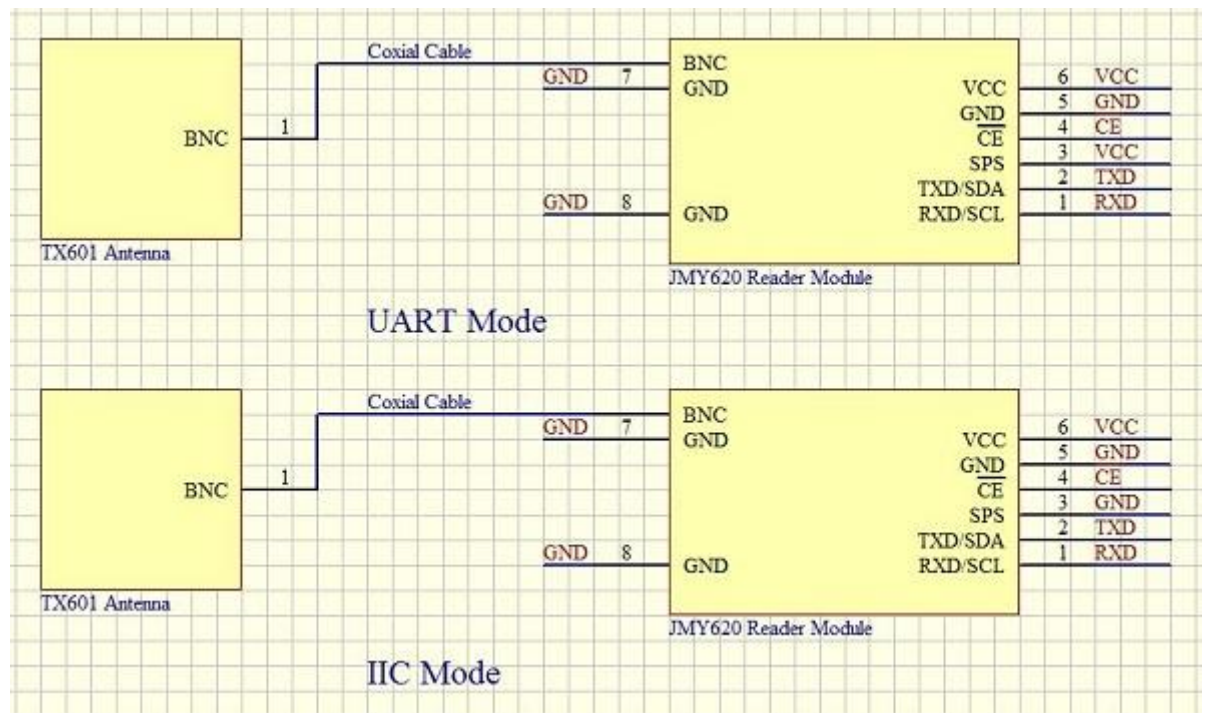


## 3.5  Antennas

Normally, as the size of TX600 series antenna may not meet the actual demands, the antenna needs to be customized, especially in some compact systems. The following information for customization is needed: 1. Dimension of the antenna PCB; 2. the position and direction of the antenna outlet and the connector; 3. the description of the antenna periphery. Jinmuyu will design the most proper antenna according to the user's exact requirements.

We provide many models of antenna. Please visit our website to get more information. There are some recommended models in the table:

| Antenna model | Size of antenna | Card operating distance |
|---|---|---|
| TX600 | 70mm * 70mm | 100mm |
| TX601 | 50mm * 50mm | 70mm |
| TX602 | 30mm * 30mm | 50mm |

## 3.6  Model naming rule

### 3.6.1 Model format

| 1 | 2 | 3 |
|---|---|---|
| JMY | 620 | X |

1: company code; 2: product series code; 3: card operating type

### 3.6.2 Card operating type

A: PCD is RC522, support ISO14443A and Mifare Class

C: PCD is RC523, support ISO14443A, ISO14443B and Mifare Class

D: PCD is RC522, support ISO14443A and Mifare Class with 511 bytes communication buffer

E: PCD is RC523, support ISO14443AB and Mifare Class with 511 bytes communication buffer