ISO14443A, ISO14443B, ISO15693 CONTACTLESS IC CARD READER

JMY622H IC Card Reader

User's manual

(Revision 3.50)

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Contents

1 Product introduction

JMY622H is a RFID read/write module with UART, IIC port. JMY622H has various functions and supports multi ISO/IEC standard of contactless card. The RF protocol is complex. 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.

The module has a length of 506 bytes command buffer could send APDU over 256 bytes to T=CL smart cards. The modules support FSDI=8 of ISO14443-4. The impedance between RF circuit and antenna was tuned by impedance analyzer, and then the module has excellent performance and stability.
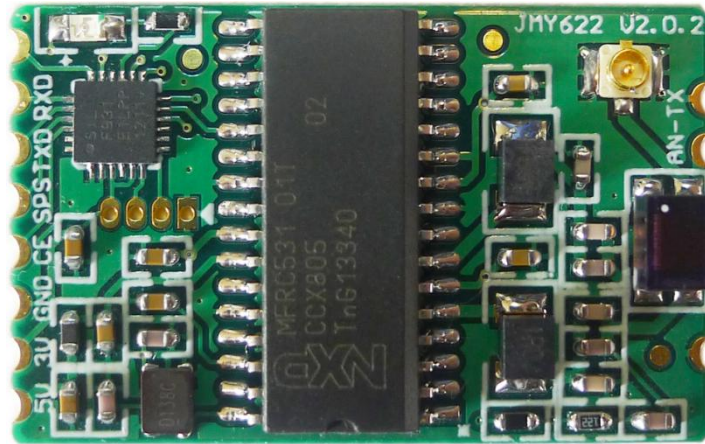
2 Characteristics

- PCD model: NXP CL RC632
- Working frequency: 13.56MHz
- Supported standard: ISO14443A, ISO14443B, ISO15693
- Card supported: Mifare 1K/4K, FM11RF08, Ultra Light, DesFire, MIFARE Plus, Mifare ProX, SR176, SRI512, SRI1K, SRI2K, SRI4K, SRIX4K, T=CL CPU cards(both ISO14443A & ISO14443B), TI Tag It, I. Code SLI, ST LRI and other tags according to ISO15693.
- 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 state can be set.
- EEPROM: 512 Bytes
- Power supply: DC 5V (±0.5V)
- Interface: IIC/UART
- Communication rate: IIC: 400Kbps
                            UART   19200bps
- Max. command length: JCP04 254 Bytes;   JCP05 510 Bytes.
- Interface level: UART/IIC: 3.3V (TTL level; 5V tolerance)
- Power consumption: 150mA
- Operating distance: 100mm (depending on card and antenna design)
- Dimension: 22mm*35mm*4.1mm
- Weight: About 10g
- ISP: Supported
- Operating temperature: -25 to +85℃
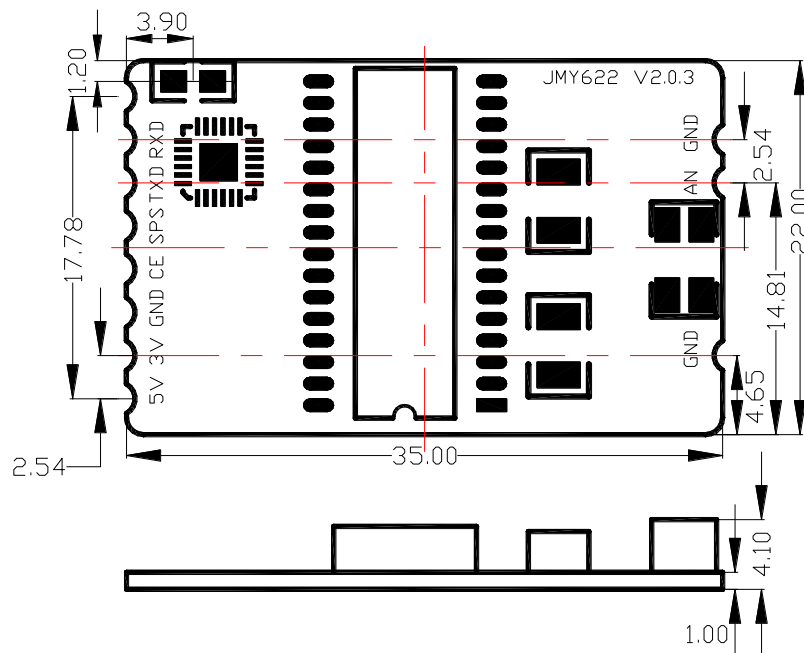- Storage temperature: -40 to +125℃
- RoHS: Compliant
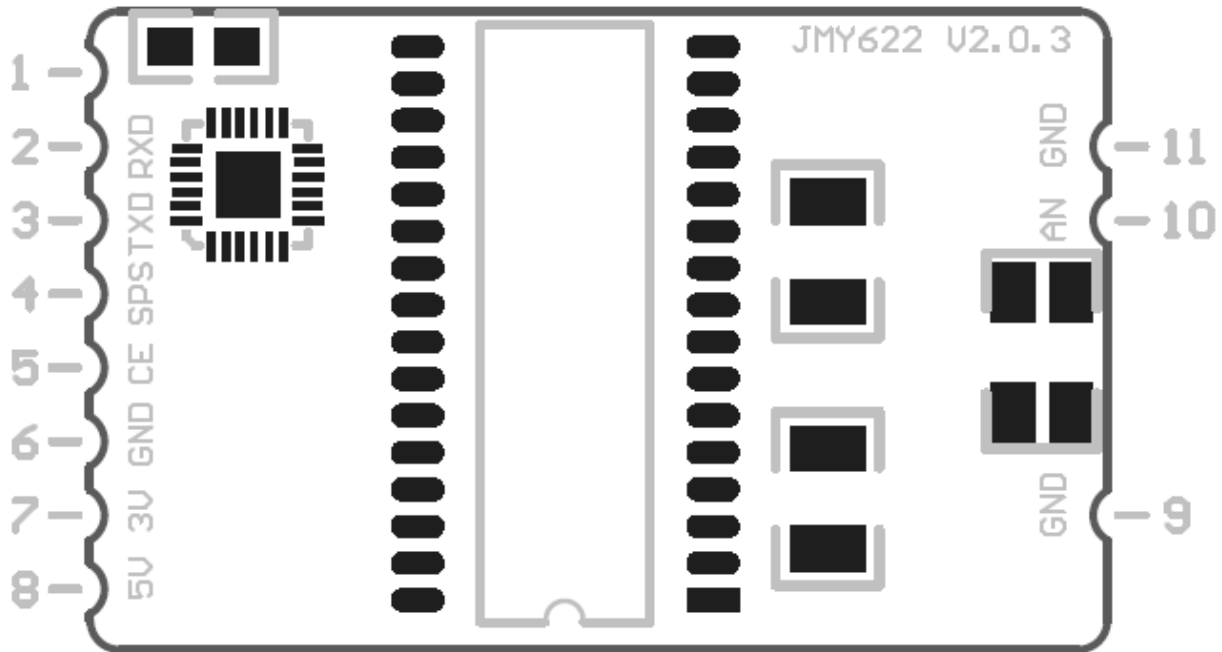
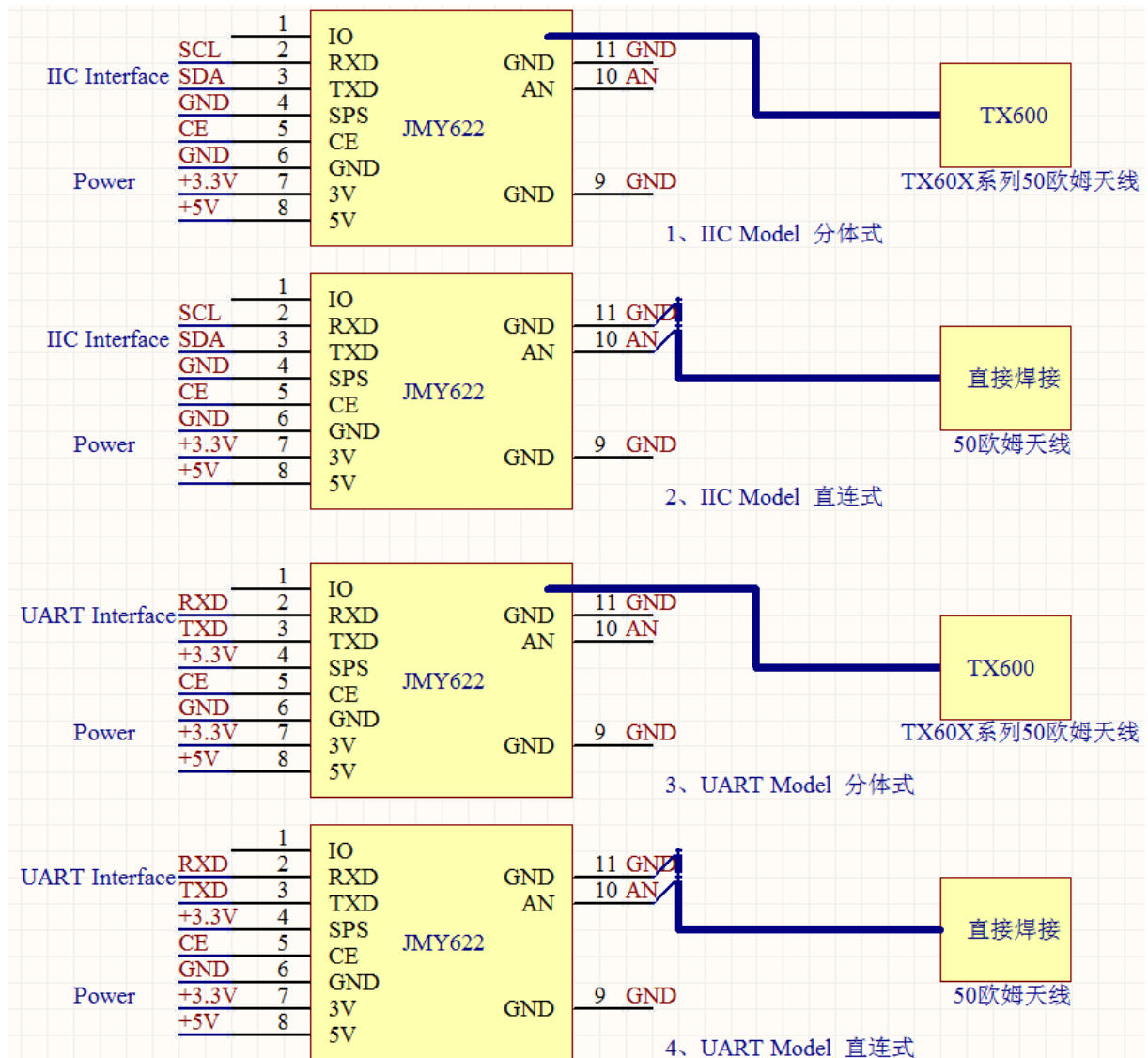# 3 Physical parameter and pin outs

3.1 Photo

3.2 Dimension

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3.3 Pin configurations and Pin outs

Pin number	Function	Type	Explanation
1	ICC	Output	Card in/out indication 0: Card IN; 1: Card OUT
2	RXD/SCL	Input	UART RXD / IIC SCL
3	TXD/SDA	Input/output	UART TXD / IIC SDA
4	SPS	Input	Serial port selector, 1: UART; 0: IIC
5	CE	Input	Module enable, 1: disable; 0: enable
6	GND	GND	GND
7	+3V	Power	CPU power supply
8	+5V	Power	RF power supply
9	GND	GND	For fixing use, connect to GND
10	AN	RF Output	For connection outside 50ohm Antenna
11	GND	GND	For connection outside 50ohm Antenna

3.4 Connection schematic

IIC Interface (1、IIC Model 分体式)

Pin	Label	Signal
1	IO	
SCL 2	RXD	GND 11 GND
SDA 3	TXD	AN 10 AN
GND 4	SPS	
CE 5	CE	JMY622 → TX600 TX60X系列50欧姆天线
GND 6	GND	
+3.3V 7	3V	GND 9 GND
+5V 8	5V	

IIC Interface (2、IIC Model 直连式)

RXD, TXD, SPS, CE, GND, 3V, 5V — JMY622 → 直接焊接 50欧姆天线

UART Interface (3、UART Model 分体式)

RXD, TXD, +3.3V, CE, GND, +3.3V, +5V — JMY622 → TX600 TX60X系列50欧姆天线

UART Interface (4、UART Model 直连式)

RXD, TXD, +3.3V, CE, GND, +3.3V, +5V — JMY622 → 直接焊接 50欧姆天线

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:

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Antenna model	Size of antenna	Card operating distance
TX600	70mm * 70mm	100mm
TX601	50mm * 50mm	70mm
TX602	30mm * 30mm	50mm
TX600-120723	100mm*150mm	100mm

3.6 Model available

- JMY622C
- JMY622H
- JMY622G

3.7 Model rule

3.7.1 Model format

1	2	3	4
JMY	622	X	X

1: company code; 2: product series code; 3: card operating type; 4: communication port type

3.7.2 Card operating type

M: PCD is RC500, support Mifare Class

A: PCD is RC500, support ISO14443A and Mifare Class

C: PCD is RC531, support ISO14443A, ISO14443B and Mifare Class

G: PCD is RC400, support ISO15693

H: PCD is RC632, support ISO15693, ISO14443A, ISO14443B and Mifare Class

D: PCD is RC500, support ISO14443A and Mifare Class with 511 bytes communication buffer

E: PCD is RC531, support ISO14443AB and Mifare Class with 511 bytes communication buffer

F: PCD is RC632, support ISO15693, ISO14443A, ISO14443B and Mifare Class with 511 bytes communication buffer

3.7.3 Communication port

I: IIC

T: UART