JMY612 IC Card Reader Module

User's Manual

(Revision 4.05)

Jinmuyu Electronics Co. LTD

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Contents

1 Product introduction

JMY612 is a series of RFID reader module with multi communication port. JMY612 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.

The module and antenna is split. The impedance between RF circuit and antenna was tuned by impedance analyzer, and then the module has excellent performance and stability.

2 Key Characteristics

- **Module split antenna, connected by 50ohm coaxial cable, flexible antenna size and layout**
- **EMV2010 certification ability**
- **4 SAM slots and 512K bytes data FLASH, full fill payment system usage**

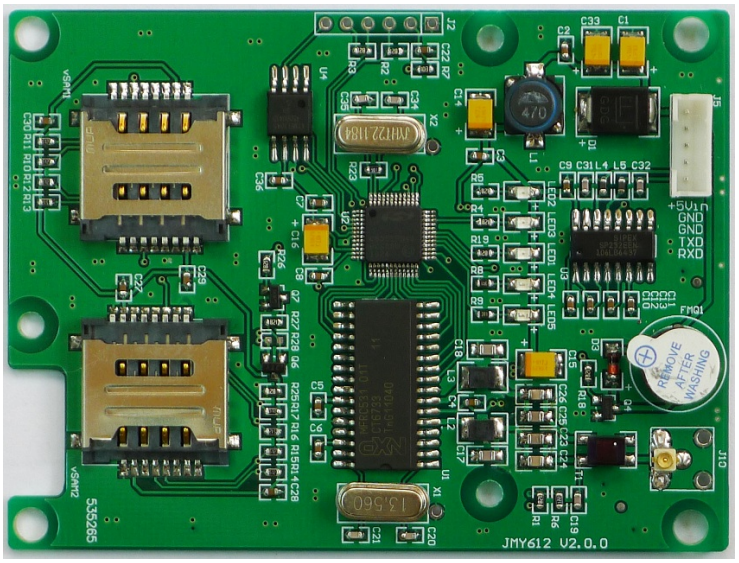
3 Technical parameters

- PCD type: NXP MF RC531 / CL RC400 / SL RC632
- Working frequency: 13.56MHz
- Supported standard: ISO14443A, ISO14443B, ISO15693, ISO7816
- Card supported: see: module function configuration table
- Anti collision ability: Full function anti collision; be able to set multi-cards or single card
- Auto detecting card: Supported, default OFF, could be set
- SAM slots: 4, T=0 & T=1 9600, 19200, 38400, 55800, 57600, 115200bps
- Data FLASH: 512K Bytes
- Power supply: DC 5V (±10%)
- Interface: USB HID, RS232C, UART or IIC by order
- Communication speed: IIC Max. 200Kbps
  UART 19200bps / 9600bps / 38400bps / 57600bps / 115200bps
  USB 2.0 HID class
- Interface level: UART/IIC 3.3V (5V tolerance)
- Max. command length: JCP04 253 bytes
  JCP05 510 bytes
- Power consumption: Max. 150mA
- Operating distance: 100mm (M1 typical, depending on antenna design and card quality)
- Dimension: 86.5mm * 65mm * 9.5mm (without Antenna)
- Weight: About 30g (without Antenna)
- ISP: Supported
- RoHS: Compliant

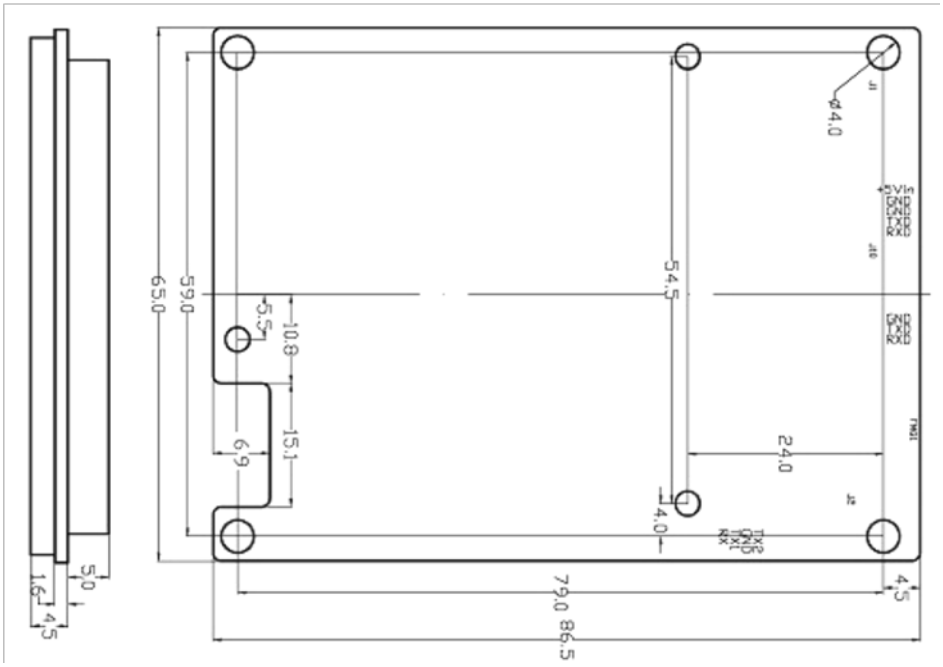
- CE certification: in plan (Jan. 17, 2015)
- Operating temperature: -25 to +85°C
- Storage temperature: -40 to +125°C

4 Physical parameter and pin outs

4.1 Photo



4.2 Dimension



4.3 Pin configurations and pin outs

Pin number	Function	Type	Description
1	VCC	Power	VCC
2	GND	Power	GND
3	GND	Power	GND
4	TXD	Output	RS232C TXD
5	RXD	Input	RS232C RXD

4.4 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
TX604	50mm * 70mm	80mm
TX605	100mm * 150mm	100mm

4.5 Module function configuration table

	JMY612A	JMY612C	JMY612G	JMY612H
PCD	MF RC500	MF RC531	SL RC400	CL RC632
JCP04 protocol	●	●	●	●
JCP05 protocol	●	●	●	●
MIFARE 1K	●	●		●
MIFARE 4K	●	●		●
MIFARE Ultra Light	●	●		●
MIFARE Ultra Light C	●	●		●
MIFARE Mini	●	●		●
MIFARE DES fire	●	●		●
MIFARE Plus	●	●		●
T=CL TYPE A	●	●		●
SR176	●	●		●
SRI512	●	●		●
SRI1K	●	●		●
SRI2K	●	●		●
SRI4K	●	●		●
SRIX4K	●	●		●
T=CL TYPE B	●	●		●
I.CODE 1			●	●
I.CODE SLI			●	●
I.CODE SLI-S			●	●
TI Tag-it series			●	●
ST LRI series			●	●
SAM slots	4			
ISO7816 (T=0 & T=1)	●	●	●	●
On Chip Data Flash	512 bytes			
On Board Data Flash	512 Kbytes			
IIC Interface	JMY612AI	JMY612CI	JMY612GI	JMY612HI
UART Interface	JMY612AT	JMY612CT	JMY612GT	JMY612HT
RS232C Interface	JMY612AS	JMY612CS	JMY612GS	JMY612HS
USB Interface	JMY612AU	JMY612CU	JMY612GU	JMY612HU

5 Operate the module

The physical interfaces of module are various. But the data link layer protocols are in accordance with JCP04 & JCP05. Please reference “JMY600 series general communication protocol manual.pdf”. For convenience to test the module, we supply PC software: TransPort to users. We have interface program source code to help users also. They are KELL projects in C51 or ASM51 format.

TransPort is PC software for Jinmuyu products. It could help you to know the protocols.

Please log on to our website: http://www.jinmuyu.com to download or mail to jinmuyu@vip.sina.com to obtain the resources.