Version NO.	V1.0

Product Specification

Name: Multi-protocol Card Reader Module（SPI）

Model: HW58S3-XYLS

Code: 5824080801

Preparation: Xu Xiaobing
Date: 24/08/08

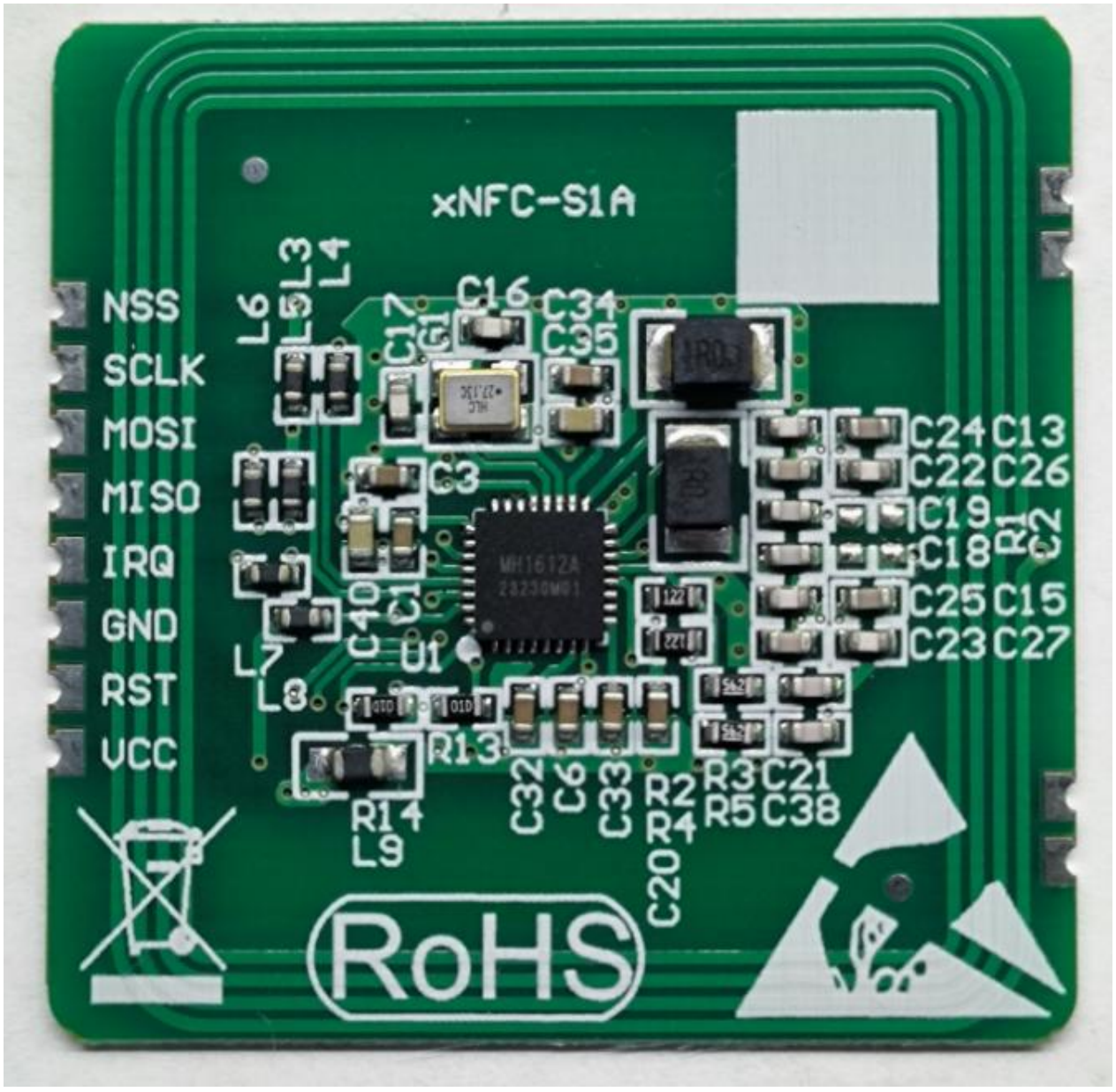
Checked: Wang Hanping
Date: 24/08/08

Approved: Jiang Xulian
Date: 24/08/08

Change log:

Date	Version	Preparation	Checked	Change content	Remarks
2024/08/08	V1.0	Xu Xiaobing	Wang Hanping	First written	

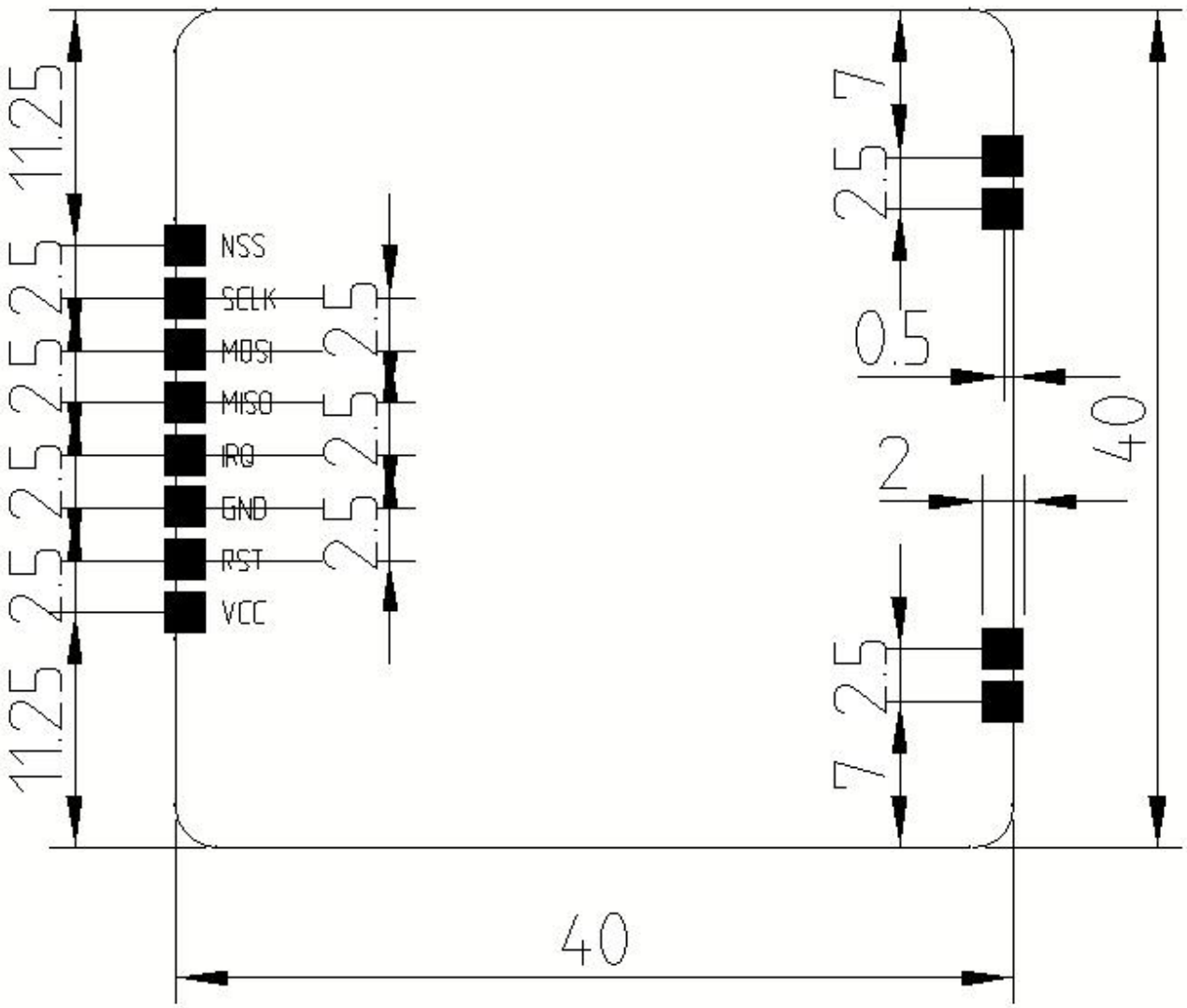
1. Product Image:



Interface definition (12-pin stamp hole, SPI)

Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9, 10,11,12
NSS	SCLK	MOSI	MISO	IRQ	GND	RST	VCC	NC

Product Size (mm)



2. Product Overview

- This module is a 13.56MHz card reading and writing module developed based on MH1612 card reading chip;
- Wide voltage operating range, voltage 2.0-5.5V;
- Support ISO/IEC 14443 Type A/Type B protocol;
- Supports ISO/IEC 18092 protocol;
- Supports ISO/IEC 15693 protocol;

- Support mobile payment applications such as Apple Pay and Samsung Pay;
- Support EMV3.0/3.1 certification, including electrical, protocol, and mobile compatibility certification tests;
- SPI, rate up to 10Mbit/s;
- Support low power card detection function (LPCD);
- The main MCU consumes less resources and can support multiple cores;
- Integrated PCB antenna, can simply achieve stable and reliable non-contact card operation;

3. Product Parameters

Name	Multi-protocol Card Reader Module（SPI）
Model	HW58S3-XYLS
Size	Length * width * height 40*40*4mm
Environment	Temperature: -40-85℃ Humidity: 5%~95% no condensation and ice
Contactless Card	Supports 14443 Type A/Type B contactless smart card Supports Feilica card and ISO15693 card
Card reading distance	≤5cm
communication Mode	SPI, up to 10Mbit/s
Power	Supports 2.0-5.5V input (DC3.3V)
Dissipation	Typical working current 120-200mA (DC3.3V)
Software	Refer to the latest MH1612 data sheet for detailed module operation timing and instructions
Attention	The product needs to be installed away from metal environments (≥4cm), otherwise it may interfere with the card reading signal and shorten the reading distance. If this occurs, try attaching ferrite absorbing paper to the back of the card reader. If the card still cannot be read, please contact technical support.

4.Conformal coating follows the following standards：

4.1.Spray coating thickness: 0.1-0.3 mm, with a cured thickness of 40-60 μm.

4.2.Conformal coating bubble standards: Bubbles are allowed on the plastic body or insulating parts of components, and small bubbles within the coating are acceptable. Only a single bubble enclosing a single part of a conductor is acceptable; bubbles between the component leads are not acceptable.

4.3.Exposed copper with tin plating, connectors, and power components should not be coated with conformal coating.

4.4.Components within 3 mm around the connectors do not require conformal coating, but a clear isolation strip of conformal coating must be present around the connectors.

4.5.No conformal coating is allowed within a 5 mm diameter of positioning holes, and holes should not be filled.

4.6.All IC component leads must be coated with conformal coating, and there should be visible traces of conformal coating on the body.

5.Salt Spray Testing is conducted in accordance with the following standards：

GB/T 2423. 17-2008 《Environmental Testing for Electrical and Electronic Products, Part 2: Test Methods, Test Ka: Salt Spray》

FCC Statement

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.

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 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.

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

FCC Radiation Exposure Statement

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device must operate with a minimum distance of 20 cm between the radiator and user body.