

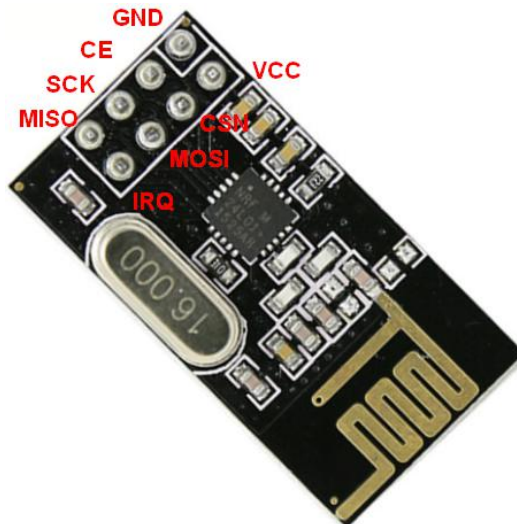
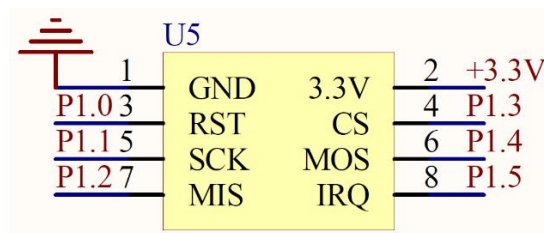
## Introduction of nRF24L01 module



### 1. Introduction

The NRF24L01 is a single-chip wireless transceiver chip manufactured by NORDIC that operates in the 2.4GHz to 2.5GHz ISM band. The output power channel selection and protocol settings can be set by the SPI interface. It can be connected to a variety of microcontroller chips, and complete wireless data transfer. Very low current consumption: 11.3mA when the transmit power is 0dBm in transmit mode, 12.3mA in receive mode, and lower current consumption in power-down mode and standby mode.

### 2. About the external pins of the module



**CSN ( CS )**: chip select line of chip, the chip is working when CSN is low level.

**SCK**: Chip Controlled Clock Line (SPI Clock)

**MISO ( MIS )**: SPI master input slave output.

**MOSI ( MOS )**: SPI master output slave input

**IRQ**: interrupt signal.

The pin goes low in the following three cases:

1. The Tx FIFO is sent out and an ACK is received (when ACK is enabled);
2. The Rx FIFO receives data;
3. The maximum number of retransmissions is reached.

**CE ( RST ):** The mode control line of the chip. When the CSN is low, the CE cooperates with the CONFIG register of the NRF24L01 to determine the state of the NRF24L01.

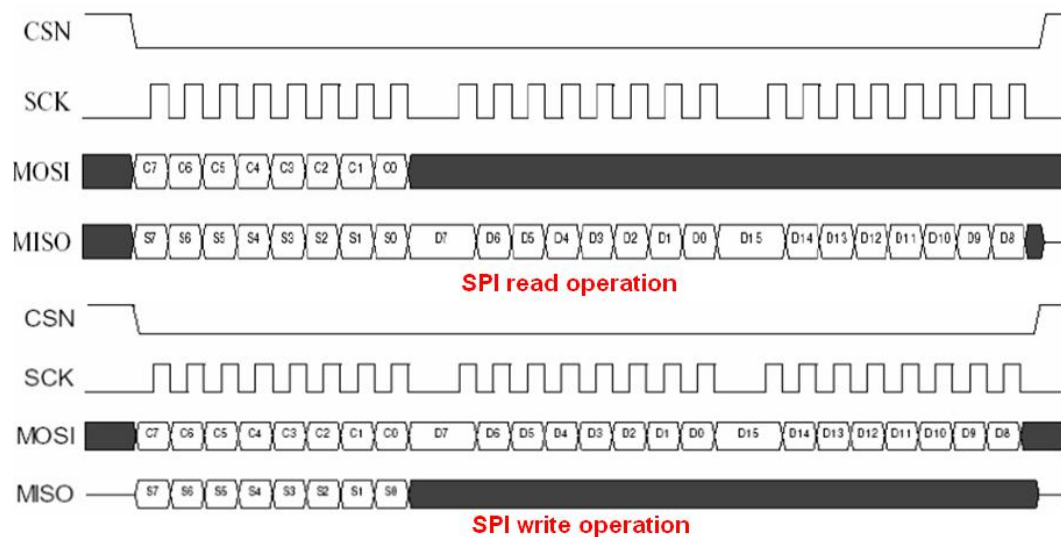
### 3. About SPI

SPI is serial peripheral interface, which is a high-speed, full-duplex, synchronous communication bus protocol.

SPI instruction setting:

When the CSN pin is low, the SPI interface waits for an instruction to be executed. The execution of each instruction must pass a high to low change in CSN.

### 4. Timing diagram



We will provide Arduino driver code for this module.