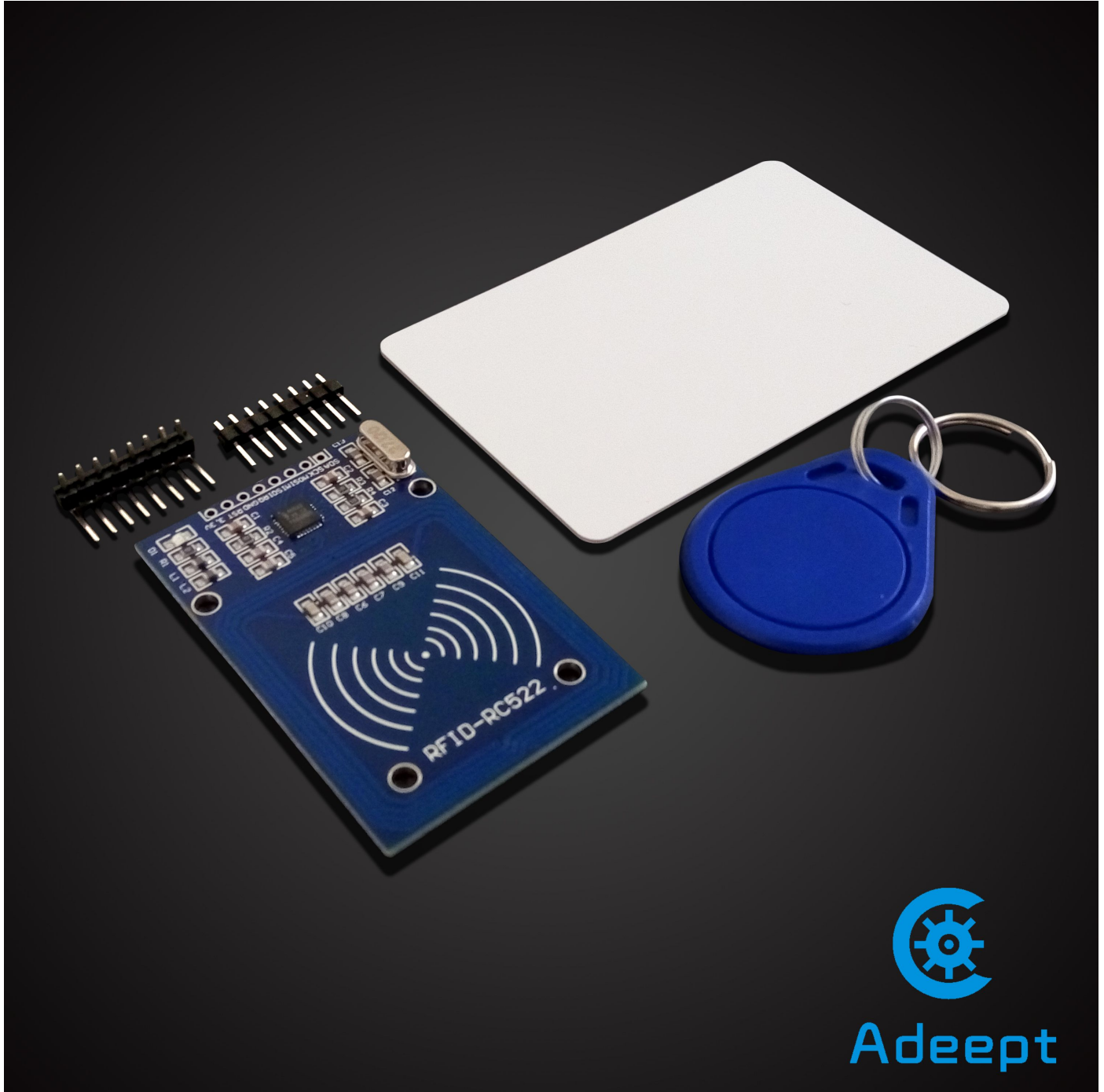

User Manual for RC522 RFID Reader Module

RC522 RFID Reader Module uses the Serial Peripheral Interface (SPI) bus to communicate with controllers such as Arduino, Raspberry Pi, beagleboard, etc. This manual is only about how to apply the RC522 RFID Reader Module on Raspberry Pi.



Step 1. Enable the SPI on Raspberry Pi

Since the SPI is not enabled by default, you need to edit the *raspi-blacklist.conf* in order to enable the SPI interface. According to the comment in the file most users are not interested in it, so it has been blacklisted.

```
$ sudo vim /etc/modprobe.d/raspi-blacklist.conf
```

Add '#' at the beginning of the line *spi-bcm2708* to comment it out of the blacklist. Save the file, and reboot the Raspberry Pi:

```
$ sudo reboot
```

After rebooting the Raspberry Pi, type in the command *lsmod* and you can see the spi device driver (*spi_bcm2708*) is enabled.

```
root@raspberrypi:~# lsmod
Module                Size  Used by
ctr                   3993  2
ccm                   8238  2
i2c_dev               6709  0
snd_bcm2835           21342  0
snd_pcm               93100  1 snd_bcm2835
snd_seq               61097  0
snd_seq_device        7209  1 snd_seq
snd_timer             23007  2 snd_pcm,snd_seq
snd                   67211  5 snd_bcm2835,snd_timer,snd_pcm,snd_seq,snd_seq_device
arc4                   1964  2
rt2800usb             18970  0
rt2800lib              81833  1 rt2800usb
rt2x00usb             12510  1 rt2800usb
rt2x00lib              48797  3 rt2x00usb,rt2800lib,rt2800usb
mac80211              557746 3 rt2x00lib,rt2x00usb,rt2800lib
i2c_bcm2708           6004  0
spi_bcm2708           6018  0
cfg80211              472025 2 mac80211,rt2x00lib
crc_ccitt              1612  1 rt2800lib
rfkill                22347  2 cfg80211
uio_pdrv_genirq       3666  0
uio                    9897  1 uio_pdrv_genirq
```

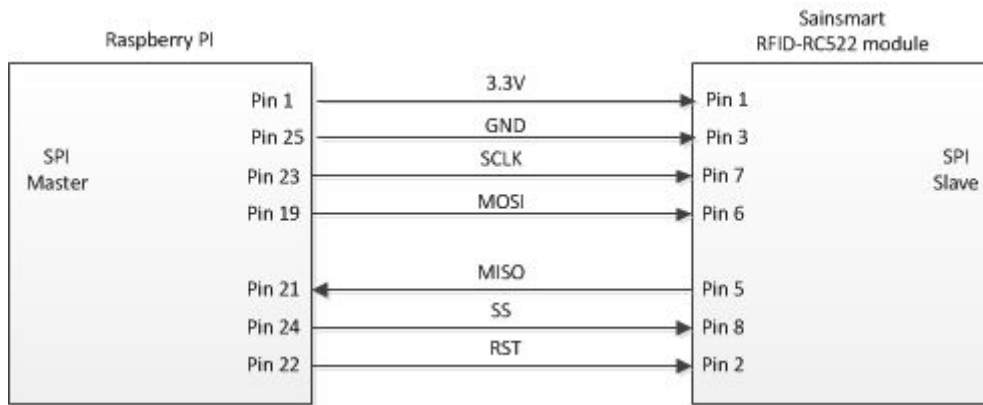
Then, two device files, */dev/spidev0.0* and */dev/spidev0.1*, will appear under the directory */dev/* in the system:

```
$ ls /dev/spi*
```

```
root@raspberrypi:~# ls /dev/spi*
/dev/spidev0.0 /dev/spidev0.1
root@raspberrypi:~#
root@raspberrypi:~#
```

If the two files exist under the directory, it means the SPI driver has been loaded successfully.

Step 2. Connect the circuit



Step 3. SPI Code

To test the module in Python, you need to load a SPI wrapper. Before that, you need to install *python-dev*. Install *python-dev*:

```
$ sudo apt-get install python-dev
```

In order to read data from the SPI bus in Python, you need a set of routines; a suitable one is SPI-Py, which is available at github.

To install it, clone the git repository *SPI-Py*. This is the source code for the SPI python library to be used.

```
$ git clone https://github.com/adeept/SPI-Py.git
```

Install the SPI-Py module:

```
$ cd SPI-Py
```

```
$ sudo python setup.py install
```

Step 4. Test the RC522 RFID Reader Module

```
$ git clone https://github.com/adeept/MFRC522-python
```

```
$ cd MFRC522-python
```

```
$ sudo python Read.py
```

Now, when you place the 13.56M IC card close to the RC522 RFID Reader module, the ID number will appear on the terminal.

```
root@raspberrypi:/home/MFRC522-python# sudo python Read.py
Welcome to the MFRC522 data read example
Press Ctrl-C to stop.
Card detected
Card read UID: 110,42,134,229
Size: 8
Sector 8 [0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
```

[Buy this RC522 Module on ebay](#)

References

<https://github.com/adeept/SPI-Py>

<https://github.com/adeept/MFRC522-python>