



Grove - NFC

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Wiki: http://www.seeedstudio.com/wiki/Grove_%EF%BC%8D_NFC

Bazaar: <http://www.seeedstudio.com/depot/Grove-NFC-p-1804.html>

Document Revision History

Revision	Date	Author	Description
1.0	Sep 21, 2015	Victor.He	Create file

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Disclaimer

For physical injuries and possessions loss caused by those reasons which are not related to product quality, such as operating without following manual guide, natural disasters or force majeure, we take no responsibility for that.

Under the supervision of Seeed Technology Inc., this manual has been compiled and published which covered the latest product description and specification. The content of this manual is subject to change without notice.

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1. Introduction

Near Field Communication (NFC) is a set of short-range wireless technologies. It's behind daily applications such as access control system and mobile payment system.

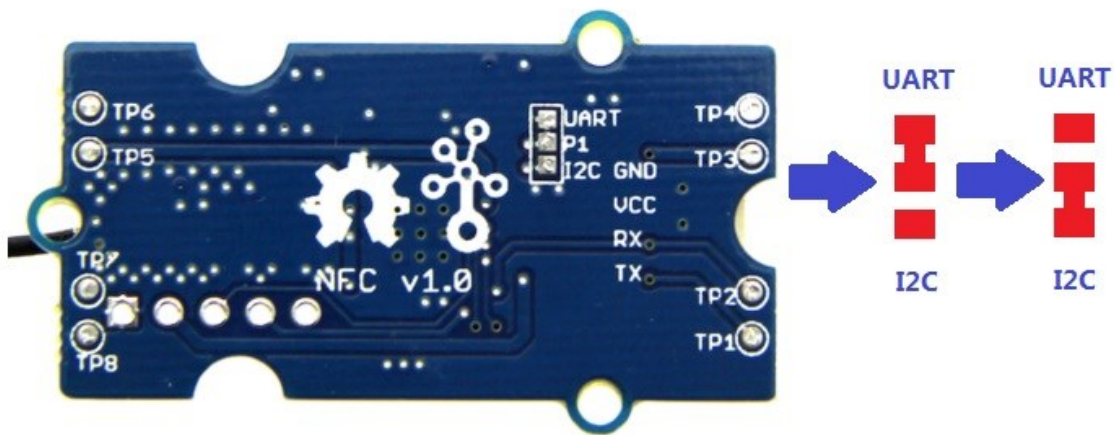
Grove NFC features a highly integrated transceiver module PN532 which handles contactless communication at 13.56MHz. You can read and write a 13.56MHz tag with this module or implement point to point data exchange with two NFCs. Grove NFC is designed to use I2C or UART communication protocols, and UART is the default mode. In addition, we assign an independent PCB antenna which can easily stretch out

2. Specification

Working Voltage	3.3V
Working Current:	Static Mode: 73mA
	Write/Read Mode: 83mA
Support host interface	I2C, UART (default).
Serve for contactless communication rate	13.56MHz.
Support ISO14443 Type A and Type B protocols.	
Max operating distance for detecting NFC tags is 28mm depending on current antenna size.	
Support P2P communication.	
Dimensions	25.43mm x 20.35mm

3. Get Started

1. Download [PN532 library](#) and put 4 folders(PN532, PN532_SPI, PN532_I2C and PN532_HSU) into Arduino's libraries.
2. Download [Don's NDEF library](#), put it into Arduino's library and rename it to NDEF.
3. Open Arduino IDE. If Arduino IDE is already opened, restart it.
4. In Arduino IDE, click menus: File -> Example -> NDEF -> ReadTag
5. We used I2C interface in the libraries of NDEF, so please cut off the connection between P1 and UART via a little knife, and solder P1 and I2C together.



Debug for Grove - NFC v1.0 : There's a bug while using I2C communication, please use jumper wires to follow those connection

Arduino/Arduino Mega	Grove - NFC
SCL	RX
SDA	TX
GND	GND
5V	VCC

Also you can use UART interface without cutting any connection, Seeeduino Mega (Arduino Mega) or Seeeduino lite(Arduino Leonardo) are preferred. Following are the modified program.

```
#include "PN532_HSU.h"
#include "PN532.h"
#include "NfcAdapter.h"

PN532_HSU interface(Serial1);
NfcAdapter nfc = NfcAdapter(interface);
```

```
void setup(void) {
  Serial.begin(115200);
  Serial.println("NDEF Reader");
  nfc.begin();
}

void loop(void) {
  Serial.println("\nScan a NFC tag\n");
  if (nfc.tagPresent())
  {
    NfcTag tag = nfc.read();
    tag.print();
  }
  delay(5000);
}
```

Of course, you can communicate Grove - NFC with Seeduino/Arduino UNO via UART interface, but you can't get any information on the monitor of Arduino IDE.

4. Related Reading

- [FAQ of Grove - NFC.](#)

Also, you can enter the FAQ page by clicking the "FAQ" button which in the right side of product's wiki page.

5. Resource

[Grove - NFC v1.0 EAGLE \(schematic and board\) files](#)

[Grove - NFC v1.1 EAGLE \(schematic and board\) files](#)

[PN532 Datasheet PDF](#)

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