

Grove — NFC

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.

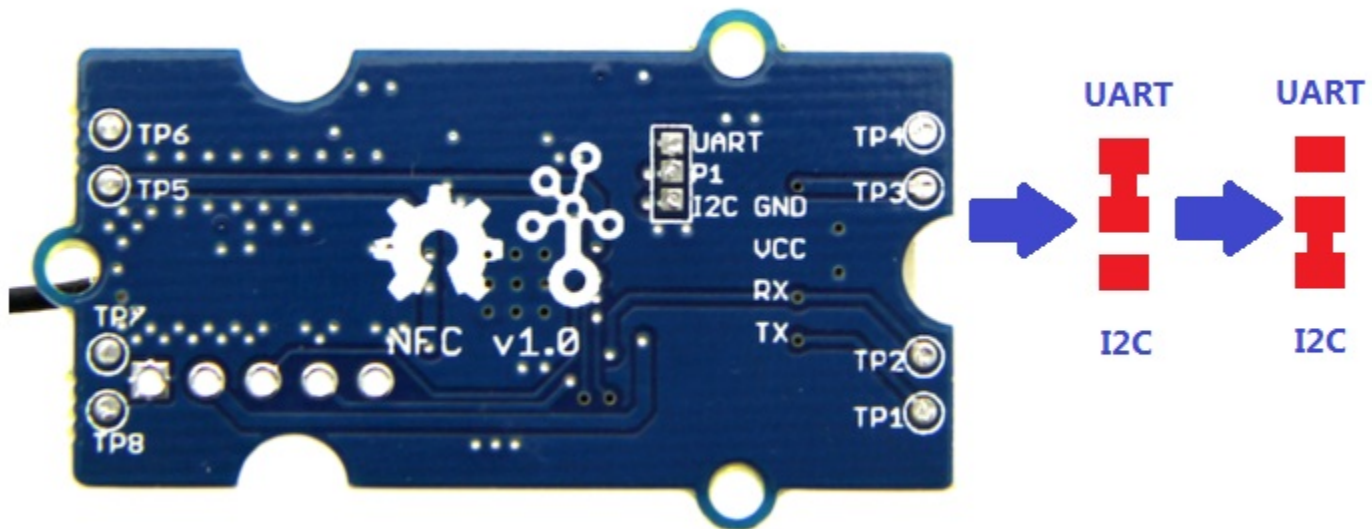
Grove NFC features a highly integrated transceiver module PN532 which handles contactless communication at 13.56MHz. You can read and write a 13.56MHz tag with this module or implement point to point data exchange with two NFCs. Grove NFC is designed to use I2C or UART communication protocols, and UART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

Specification

- Working Voltage: 3.3V
- Working Current:
 - Static Mode: 73mA
 - Write/Read Mode: 83mA
- Support host interface: I2C, UART(default).
- Serve for contactless communication at 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

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, and solder P1 and I2C together.



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 Seeeduino/Arduino UNO via UART interface, but you can't get any information on the monitor of Arduino IDE.