

EXPLORE-NFC Operational Description

EXPLORE-NFC, NearField Communication add-on board for the Raspberry Pi, is an example of implementation of ISO/IEC 14443A and ISO/IEC 14443B reader/writer and NFC reader/writer on the same printed board. Small size antenna, implemented on the same pcb, permits reading/writing on distance up to 30 mm (RFID card or other NFC device). The onboard connector permits direct connection and communication with Raspberry Pi computer.

Main part of EXPLORE-NFC is Contactless Reader IC PN512. It uses only one power supply voltage - 3V3 V. All other voltages are generated internally. PN512 IC use external quartz (27.12 MHz). All communication lines (SPI, I2C) are connected via 26-pin GPI/O connector to Raspberry Pi computer board. Complementary output stage (TX1, TX2) pins are used to generate output signal for the pcb antenna. Filter stage provide maximum adaption from output stage (PN512) to antenna (with matching capacitors). The filter is located near the IC PN512. The receiver input is connected to pin RX.

The EXPLORE-NearField Communication add-on board for the Raspberry Pi uses a 26-pin connector to be connected to a GPI/O connector on Rasperry Pi computer. Serial communication between EXPLORE-NFC Near Field Communication add-on board for the Raspberry Pi is via SPI or I2C interface.

Power supply voltage 3.3 V is via 26-pin GPI/O connector to to Raspeberry Pi computer board and no extra power supply is needed for EXPLORE-NFC board.

This board is an example of implementation of a Near Field Communication reader/writer on a EXPLORE-NFC board in connection with Raspberry Pi computer.

Disclaimer:

This module is intended only for development and evaluation purposes, and cannot be used in a finished product without further certification on the assembly.