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X-NUCLEO-NFC06A1 Operational Description

The X-NUCLEO-NFC06A1 is a ready-to-use development kit to evaluate the features and functionality in reader/writer and card emulation modes of the high-performance NFC universal device ST25R3916 for contactless applications. The ST25R3916 is a card reader IC for contact-less applications that provides the 13.56MHz air interface and that communicates with the host through dedicated interface. This expansion board has to be plugged into the Arduino R3 connector of STM32 Nucleo board.

The communication link between both boards is the SPI bus and the processor card provides the power.

The board has following features:
- On board NFC card reader IC: ST25R3916
    - o 47 x 34 mm, 4 turns, single layer 13.56MHz inductive antenna etched on PCB and associated tuning circuit.
    - o 6 general purpose LEDs
    - o Reader/writer, Card emulation, Active and passive peer to peer
- RF communication
    - o NFC-A / ISO14443A, NFC-B / ISO14443B, NFC-F / Felica™, NFC-V / ISO15693 up to 53 kb/s
    - o NFC-A / ISO14443A and NFC-F / FeliCa™ card emulation

In ISO/IEC 14443, Type A, messages are sent with 13.56Mz carrier with ASK modulation and 100% modulation index. Bit rate is 106Kbps.
In ISO/IEC 14443, Type B, messages are sent with 13.56Mz carrier with ASK modulation and 10% modulation index. Bit rate is 106Kbps
In ISO/IEC 15693, messages are sent with 13.56Mz carrier with ASK modulation and 10% modulation index.
In Felica™, messages are sent with 13.56Mz carrier with ASK modulation and 10% modulation index.
In ISO/IEC 18092, Type A, Type B or Felica™, messages are sent with 13.56Mz carrier with ASK modulation and 100% or 10% modulation index. Bit rate is 106 Kbps (Type A, B) and 212Kbps (Felica™).

Requests and reply have variable duration interval depending their respective length and on Standards.