



STMicroelectronics
190 Avenue Celestin Coq
13106 Rousset
France

Tel : +33 4 42 68 88 00

STEVAL-25R3916B Operational Description

The STEVAL-25R3916B 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 ST25R3916B for contactless applications. The ST25R3916B 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 discovery kit is composed of two boards, the MB1396 [STEVAL-M25R16B] mother board based on a STM32 MCU and the MB1749 [STEVAL-D25R16B] which embeds the ST25R3916B reader IC. They must be plugged together.

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

The board STEVALD3916B has following features:

- On board NFC card reader IC: ST25R3916B
 - o A single layer 13.56MHz inductive antenna etched on PCB and associated tuning circuit.
 - 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.