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## ST25R3916 Discovery kit Operational Description

The ST25R3916-DISCO is a ready-to-use development kit to evaluate the features and functionality in reader/writer, card emulation and peer-to-peer modes of the ST25R3916 NFC universal device 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 ST25 Discovery Mother Board (MB1396).

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 66 x 66 mm, 2 turns, single layer 13.56MHz inductive antenna etched on PCB and associated tuning circuit.
  - o Reader/writer, Card emulation, Active and passive peer to peer
  - o 2.4" TFT LCD with touch screen capability
  
- 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 and peer-to-peer modes

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.