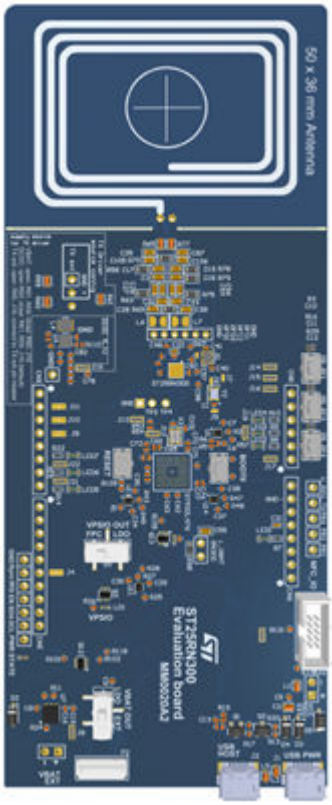
ST25RN300-EVAL

Data brief

Evaluation board for the ST25RN300 NCI reader



Product status
ST25RN300-EVAL

Features

- Based on the ST25RN300 NCI reader for payment, access control, and consumer applications
- Reader/Writer for NFC Forum Type 1, 2, 3, 4, and 5 tags
- Card emulation mode in ISO/IEC14443A/B and FeliCa™
- MIFARE Classic® *(MIFARE read/write mode feature enabled is available only on specific parts and subject to license conditions. Contact your local ST representative for further information.)*
- EMVCo L1 stack integrated in firmware
- RF transmitter supply up to 2.2 W
- Multiple TX driver supply options
- Dynamic Power Control (DPC) and Active Wave Shaping (AWS)
- 50 mm x 36 mm, removable three turns antenna
- Comprehensive PC user interface for device configuration and EMVCo L1 device test environment (DTE)
- Host interface via USB, I²C pin header, or FPC cable

Description

The evaluation board integrates the ST25RN300-EVAL NCI reader device, packaged in a compact 49-pin WLCSP format, delivering high performance in a small footprint. It features a detachable 50 mm x 36 mm three-turn RF antenna, designed for easy removal along a tearing edge to accommodate diverse application requirements.

The board includes a comprehensive and user-friendly PC interface that enables straightforward device configuration, basic functionality testing, and EMVCo L1 compliance testing through the integrated DTE.

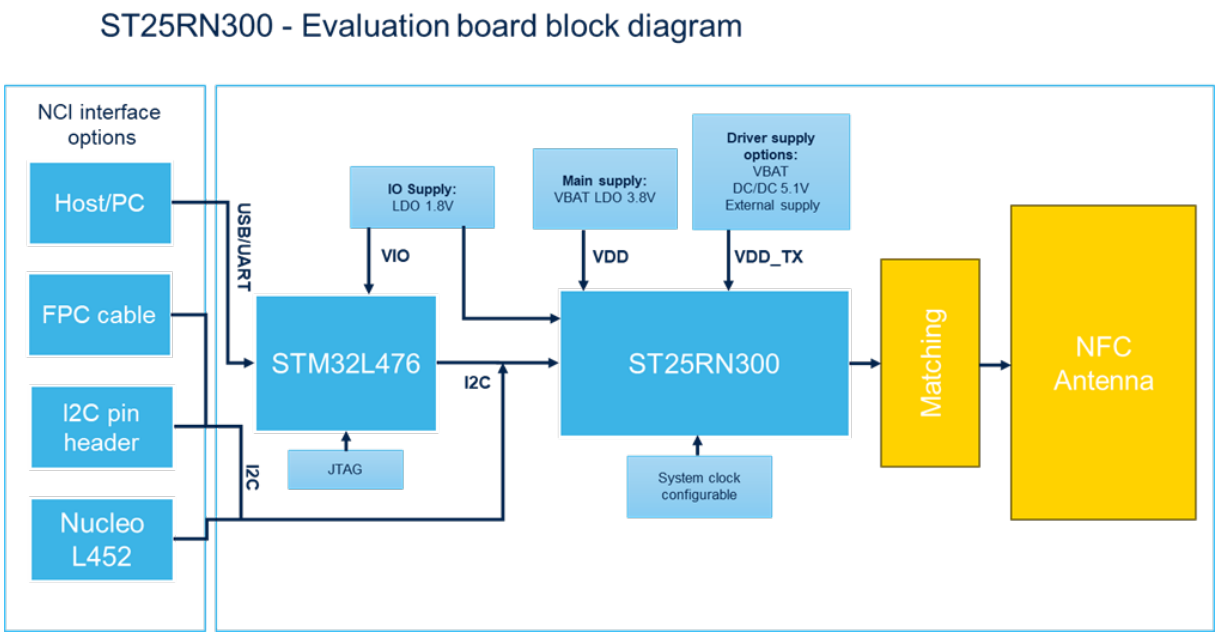
Communication between the pc host and the ST25RN300-EVAL is managed by the onboard STM32L476 microcontroller, which bridges USB to I²C communication, relaying NCI protocol.

Additionally, the platform supports seamless interconnectivity with Android devices via a dedicated I²C pin header or a specific 25-pin FPC cable, expanding its versatility across various development environments.

Furthermore, it is possible to connect the STM32 Nucleo board via the Arduino® connector, or even to use the onboard STM32L476 to drive the ST25RN300-EVAL directly without the need for a PC GUI.

To support a wide range of use cases, the evaluation board offers multiple power supply options for both the device core and the RF driver, ensuring flexibility and reliable performance.

Figure 1. Functional block diagram



Revision history

Table 1. **Document revision history**

Date	Version	Changes
11-Sep-2025	1	Initial release.

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