ST25DV-DISCOVERY

Discovery kit for the ST25DV04K dynamic NFC/RFID tag

Data brief

Features

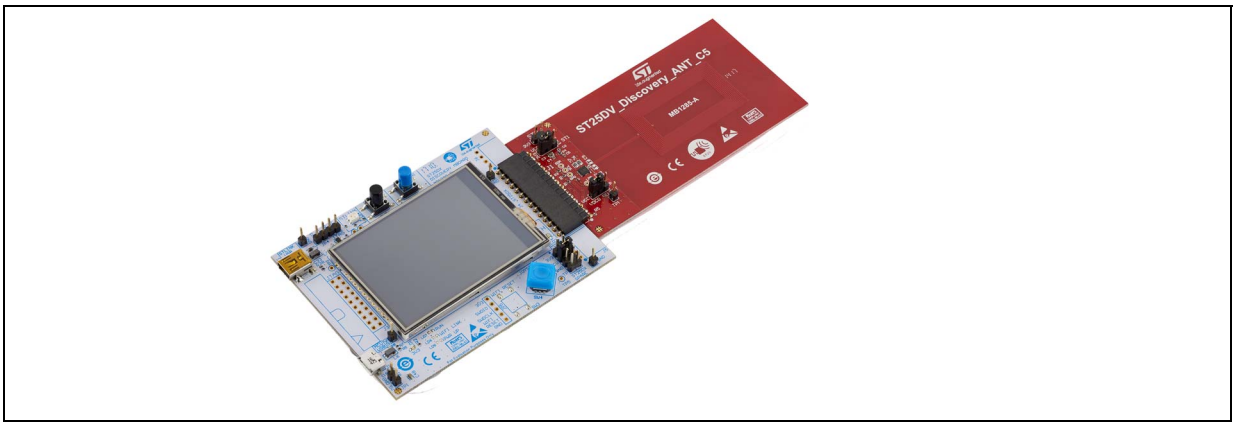
Two ready-to-use printed circuit boards (PCB):

- ST25DV_Discovery_Mboard:
  - STM32F405VGT6 LQFP100 32-bit microcontroller, with 1 Mbyte Flash memory, 192 + 4 Kbytes SRAM.
  - LCD color screen (320 x 200 pixels)
  - Touch screen driver
  - Different color LEDs (power, user, ST link)
  - User push button
  - Joystick for menu selection
  - Reset button
  - On board ST link for microcontroller firmware upgrade and debug
  - ST link mini USB
  - User micro USB
  - USB micro or mini connector for board powering
  - Demonstration use cases stored in memory
  - Demonstration edition (optional add-on module) with Bluetooth Low Energy module, Wi-Fi® module and JTAG 20 pin connector
- ST25DV_Discovery_ANT_C5:
  - 40 mm x 24 mm, 13.56 MHz inductive antenna etched on the PCB
  - ST25DV04K Dynamic NFC / RFID tag
  - I^2C interface connector
  - Energy harvesting output (VOUT) with a 10 nF capacitance filtering circuit
  - GPO configurable as RF WIP/BUSY output, to indicate that an RF operation is ongoing

Table 1. Device summary

Reference	Order code
ST25DV-DISCOVERY	ST25DV-DISCOVERY

Figure 1. ST25DV Discovery board (top side)



1 Description

The ST25DV-DISCOVERY is a demonstration kit to evaluate the features and capabilities of the ST25DV series. It is based on the NFC ST25DV04K device embedded on a daughter card using a Class 5 antenna and a STM32 processor driving a mother board. A dedicated software stored in the Flash memory is provided.

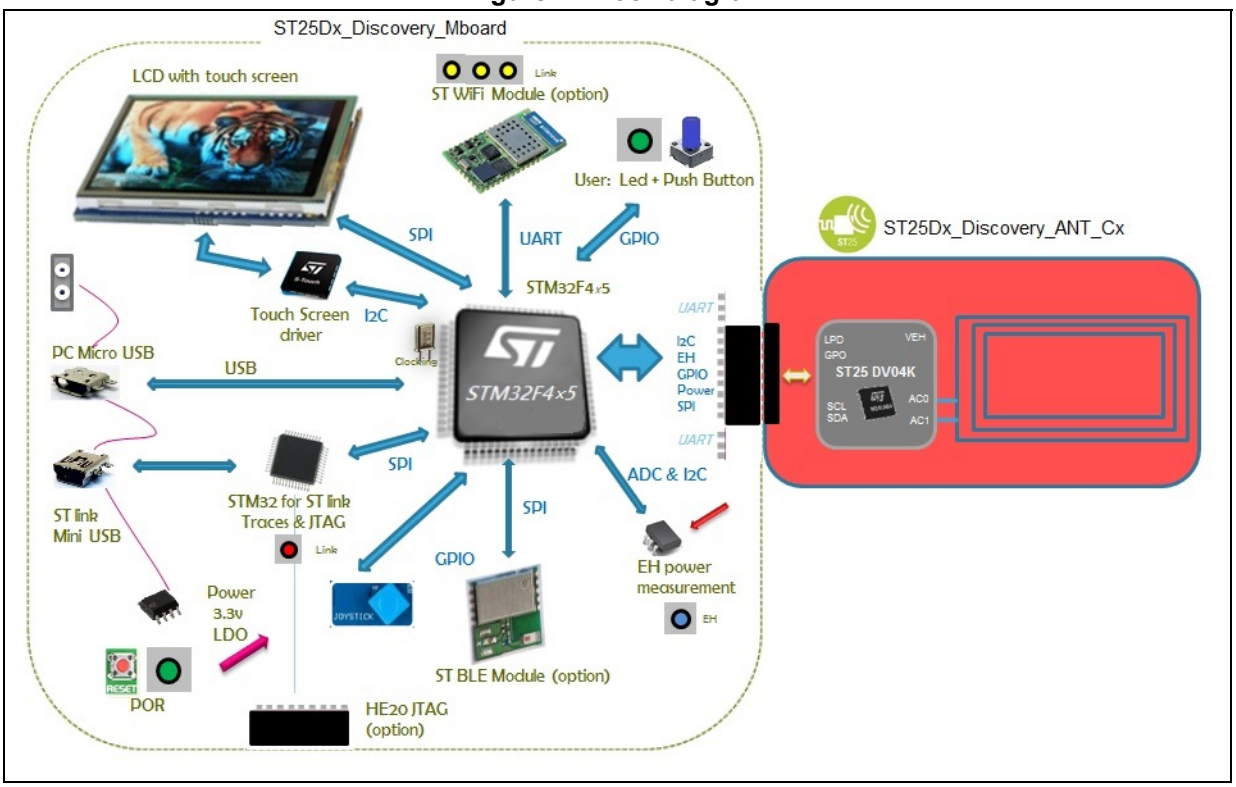
The ST25DX_Discovery_Mboard is available in two versions. The demonstration edition includes all of the standard edition features with Wi-Fi®, and BLE (Bluetooth Low Energy) modules to demonstrate various connectivity use cases. The standard edition is used to achieve the demonstration edition features.

The ST25DV04K device is a dynamic NFC/RFID tag IC with a dual interface. It embeds a 4 Kbits EEPROM memory. It can be operated from an I^2C interface, or by a 13.56 MHz RFID reader, or by a NFC phone. The ST25DV04K Class 5 antenna daughter card, included in the kit, can be replaced by Class 1 or Class 6 antennas. For this purpose an ST25DV antennas bundle is available for ordering. Its references are available on the ST web site.

The ST25DV I^2C interface uses a two-wire serial interface, consisting of a bidirectional data line and a clock line. The I^2C two-wire serial interface behaves as a slave in the I^2C protocol. The RF protocol is compatible with ISO/IEC 15693 and NFC Forum Type 5 tag contactless interface.The boards are powered through the USB connectors.

The ST25DV-DISCOVERY (MB1283 & MB1285) schematics, BOM, gerber files, drivers and firmware sources can be downloaded from *www.st.com*.

Figure 2. Block diagram



2 Revision history

Table 2. Document revision history

Date	Revision	Changes
25-Jan-2017	1	Initial release.
05-Sep-2017	2	New release with kit modifications Updated: – *Features* – *Description* – *Figure 1: ST25DV Discovery board (top side)* – *Figure 2: Block diagram*