

Discovery kit for the ST25DV04K dynamic NFC/RFID tag

Data brief

Features

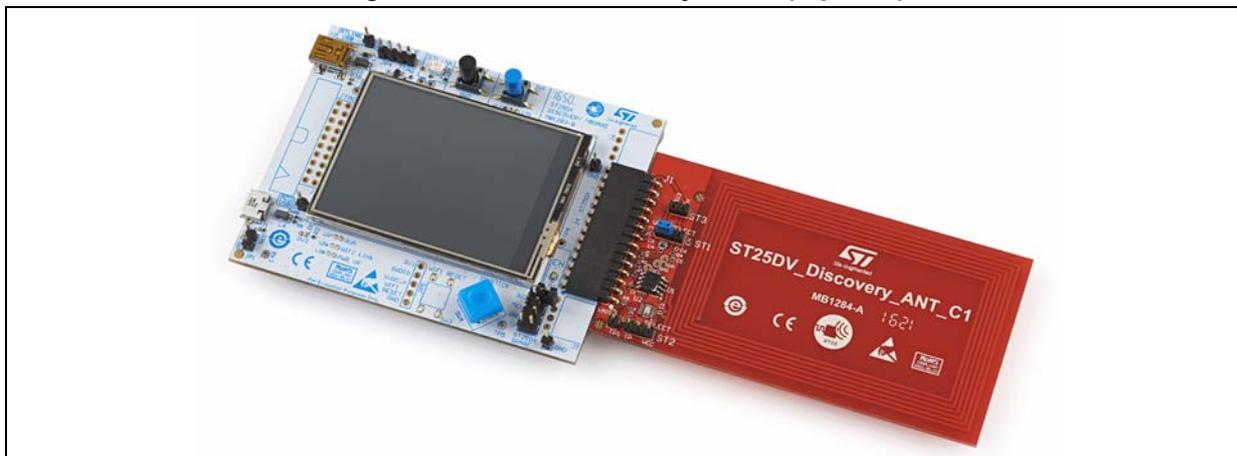
Two ready-to-use printed circuit boards (PCB):

- ST25DX_Discovery_Mboard:
 - STM32F415VGT6 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_C1:
 - 45 mm x 75 mm, 13.56 MHz inductive antenna etched on the PCB
 - ST25DV04K Dynamic NFC / RFID tag
 - I²C 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 1 antenna and a STM32 processor driving a mother board. A dedicated software stored in the Flash memory is provided.

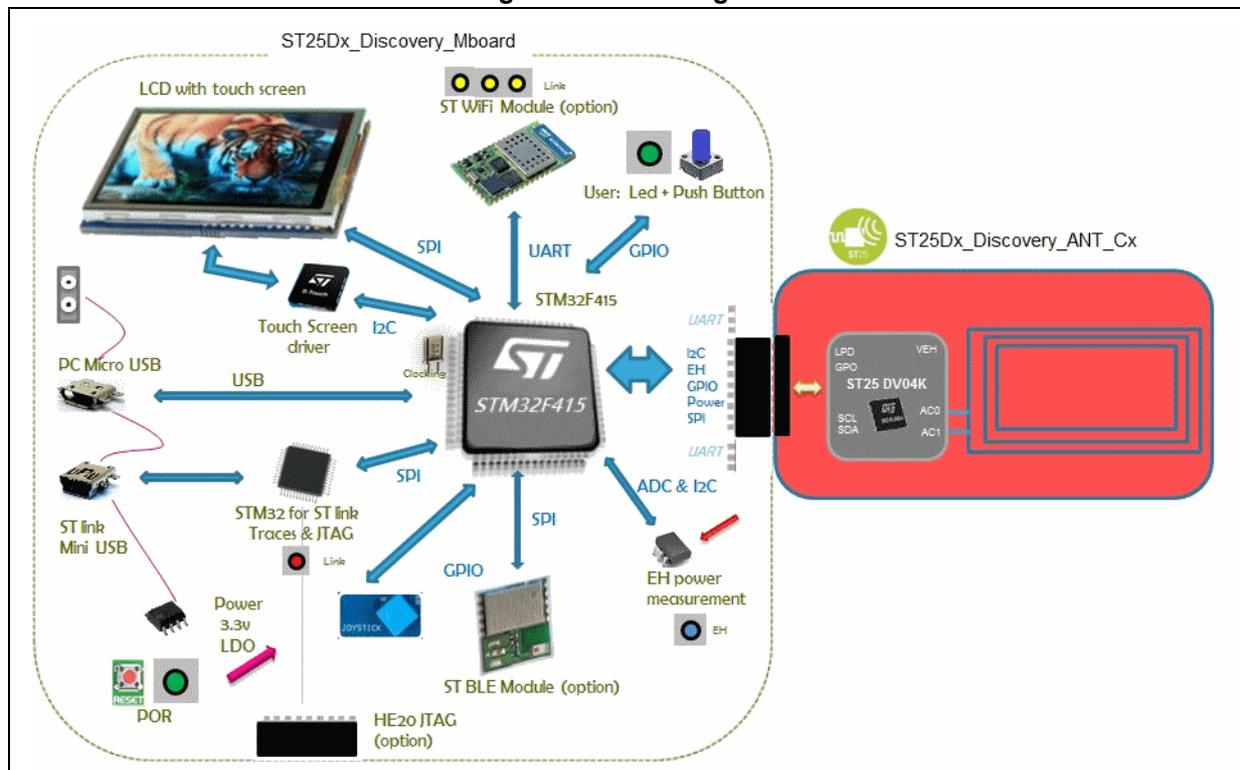
The ST25DX_Discovery_Mboard is available in two versions. The demonstration edition includes all of the standard edition features with Wi-Fi®, and BLE (Bluetooth Low Energy) modules to demonstrate various connectivity use cases. The standard edition is used to achieve the demonstration edition features.

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 I²C interface, or by a 13.56 MHz RFID reader, or by a NFC phone. The ST25DV04K Class 1 antenna daughter card, included in the kit, can be replaced by Class 5 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 I²C interface uses a two-wire serial interface, consisting of a bidirectional data line and a clock line. The I²C two-wire serial interface behaves as a slave in the I²C 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 & MB1284) 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.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2017 STMicroelectronics – All rights reserved