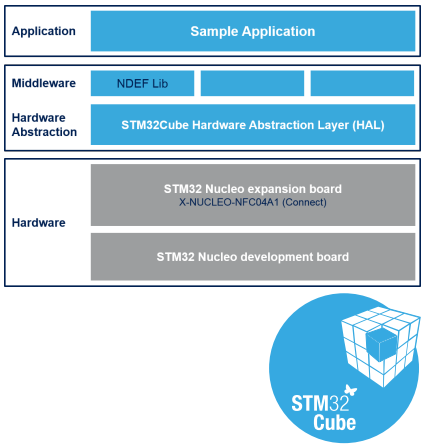
X-CUBE-NFC4

Data brief

Dynamic NFC/RFID tag IC software expansion for STM32Cube



Features

- Complete middleware to build applications using dynamic NFC/RFID tag IC (ST25DV04K)
- Easy portability across different MCU families, thanks to STM32Cube
- Sample application to communicate with PC software
- Samples included in the package to:
  - Drive ST25DV by PC software via USB
  - Enable energy harvesting
  - Activate GPO interrupt
  - Activate low power down
  - Set I²C protection
  - Use ST25DV mailbox
  - Write URI NDEF
- Free, user-friendly license terms
- Sample implementation available on the X-NUCLEO-NFC04A1 expansion board, plugged into a NUCLEO-F401RE, NUCLEO-L053R8, or NUCLEO-L476RG board.
- Package compatible with STM32CubeMX, can be downloaded from and installed directly into STM32CubeMX

Product summary	
Dynamic NFC/RFID tag IC software expansion for STM32Cube	X-CUBE-NFC4
4-Kbit Dynamic NFC/RFID tag NFC Forum type V with I²C interface	ST25DV04K
Dynamic NFC/RFID tag IC expansion board based on ST25DV04K for STM32 Nucleo	X-NUCLEO-NFC04A1

Description

The X-CUBE-NFC4 software expansion for STM32Cube provides a complete middleware for STM32 to build applications using dynamic NFC/RFID tag IC (ST25DV device).

The software is based on STM32Cube technology and expands STM32Cube based packages. It is built on top of STM32Cube software technology to ease portability across different STM32 microcontrollers.

The software comes with sample implementations of the drivers running on the X-NUCLEO-NFC04A1 expansion board plugged on top of a NUCLEO-F401RE, NUCLEO-L053R8 or NUCLEO-L476RG board.

1 Detailed description

1.1 What is STM32Cube?

STMCube™ is an STMicroelectronics initiative that helps you reduce development effort, time and cost. STM32Cube covers the STM32 portfolio.

STM32Cube version 1.x includes:

- STM32CubeMX, a graphical software configuration tool that allows the generation of C initialization code using graphical wizards.
- A comprehensive embedded software platform specific to each series (such as the STM32CubeF4 for the STM32F4 series), which includes:
  - the STM32Cube HAL embedded abstraction-layer software, ensuring maximized portability across the STM32 portfolio
  - a consistent set of middleware components such as RTOS, USB, TCP/IP and graphics
  - all embedded software utilities with a full set of examples

1.2 How does this software complement STM32Cube?

The proposed software is based on the STM32CubeHAL, the hardware abstraction layer for the STM32 microcontroller. The package extends STM32Cube by providing a Board Support Package (BSP) for the X-NUCLEO-NFC04A1 expansion board for STM32 Nucleo and some middleware components for NDEF application drivers and PC software communication library. The drivers abstract low-level details of the hardware and allow the middleware components and applications to access NDEF data in a hardware independent fashion and to perform communication with PC software through the USB link. The package also includes some examples that developers can use to start experimenting with the code. The examples were developed to allow user to activate features of the ST25DV. Examples included in the project are:

- Drive ST25DV by PC software via USB
- Enable energy harvesting
- Activate GPO interrupt
- Activate LPD
- Set I²C protection
- Use ST25DV Mailbox
- Write URI NDEF

Revision history

Table 1. Document revision history

Date	Version	Changes
22-Jun-2017	1	Initial release.
23-Jun-2017	2	Updated cover image and features.
03-Aug-2018	3	Updated cover image. Added NUCLEO-L476RG board compatibility information.
08-Feb-2019	4	Updated cover page features.