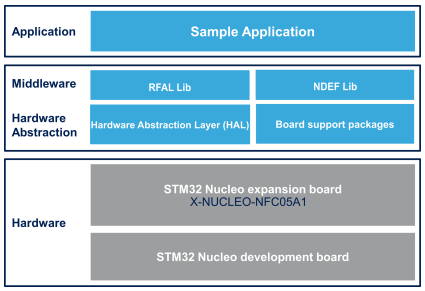
X-CUBE-NFC5

Data brief

High performance HF reader/NFC initiator IC software expansion for STM32Cube



Features

- Complete middleware to build applications using the ST25R3911B high performance HF reader/NFC initiator with 1.4 W supporting VHBR and AAT
- Easy portability across different MCU families, thanks to STM32Cube
- Sample application to detect several NFC tag types and mobile phones supporting P2P
- Free, user-friendly license terms
- Sample implementations available for the X-NUCLEO-NFC05A1 expansion board, plugged into a NUCLEO-F401RE or NUCLEO-L476RG development board
- Complete RF/NFC abstraction (RFAL) for all major technologies including complete ISO-DEP and NFC-DEP layers

Description

The X-CUBE-NFC5 software expansion for STM32Cube provides a complete middleware for STM32 to control applications using ST25R3911B (HF reader/NFC initiator IC).

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-NFC05A1 expansion board plugged on top of a NUCLEO-F401RE or NUCLEO-L476RG board.

Product summary	
High performance HF reader/NFC initiator IC software expansion for STM32Cube	X-CUBE-NFC5
NFC card reader expansion board based on ST25R3911B for STM32 and STM8 Nucleos	X-NUCLEO-NFC05A1
NFC/HF RFID Reader IC	ST25R3911B
STM32 Nucleo-64 development board with STM32F401RE MCU	NUCLEO-F401RE
STM32 Nucleo-64 development board with STM32L476RG MCU	NUCLEO-L476RG

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

1.1.1 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-NFC05A1 expansion board for STM32 Nucleo and some middleware components for HF reader and NFC application drivers (RFAL).

The drivers abstract low-level details of the hardware and allow the middleware components and applications to access NFC and HF tags or P2P devices in a hardware independent fashion.

The package also includes two sample applications that developers can use to start experimenting with the code.

One sample application has been developed to detect NFC tags of different types and mobile phones supporting P2P.

The other application shows how to read and write URI and text records to tags using the NDEF library.

Revision history

Table 1. Document revision history

Date	Version	Changes
13-Jul-2017	1	Initial release.
23-Apr-2019	2	Updated cover page image and Section 1.1.1 How does this software complement STM32Cube?. Added product summary table.

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