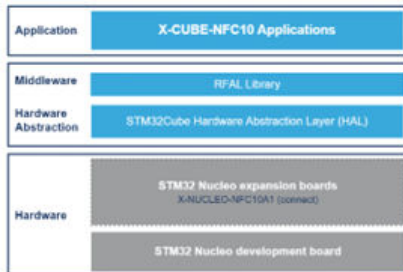## NFC/HF RFID reader IC software expansion for STM32Cube

Features

- Complete middleware to build applications using NFC/HF RFID reader IC (ST25R200)
- Easy portability across different MCU families, thanks to STM32Cube
- Samples Application included in the package to:
  - Polling tag detection
- Free, user-friendly license terms
- Sample implementation is available on the X-NUCLEO-NFC10A1 expansion board, plugged into a NUCLEO-L476RG or NUCLEO-G0B1RE board
- Package compatible with STM32CubeMX, can be downloaded from and installed directly into STM32CubeMX

Description

The X-CUBE-NFC10 software expansion for STM32Cube provides a complete middleware for STM32 to build applications using NFC/HF RFID reader IC (ST25R200 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-NFC10A1 expansion board plugged on top of a NUCLEO-L476RG or NUCLEO-G0B1RE board.

Product summary

Product summary	
NFC/HF RFID reader IC software expansion for STM32Cube	X-CUBE-NFC10
NFC card reader expansion board based on ST25R200 for STM32 Nucleos	X-NUCLEO-NFC10A1
STM32 Nucleo-64 development board with STM32L476RG MCU, supports Arduino and ST morpho connectivity	NUCLEO-L476RG
STM32 Nucleo-64 development board with STM32G0B1RE MCU, supports Arduino and ST morpho connectivity	NUCLEO-G0B1RE

1 Detailed description

1.1 What is STM32Cube?

STM32Cube is a combination of a full set of PC software tools and embedded software blocks running on STM32 microcontrollers and microprocessors:

- STM32CubeMX configuration tool for any STM32 device; it generates initialization C code for Cortex-M cores and the Linux device tree source for Cortex-A cores
- STM32CubeIDE integrated development environment based on open-source solutions like Eclipse or the GNU C/C++ toolchain, including compilation reporting features and advanced debug features
- STM32CubeProgrammer programming tool that provides an easy-to-use and efficient environment for reading, writing and verifying devices and external memories via a wide variety of available communication media (JTAG, SWD, UART, USB DFU, I2C, SPI, CAN, etc.)
- STM32CubeMonitor family of tools (STM32CubeMonRF, STM32CubeMonUCPD, STM32CubeMonPwr) to help developers customize their applications in real-time
- STM32Cube MCU and MPU packages specific to each STM32 series with drivers (HAL, low-layer, etc.), middleware, and lots of example code used in a wide variety of real-world use cases
- STM32Cube expansion packages for application-oriented solutions.

1.2 How does this software complement STM32Cube?

This software is based on the STM32CubeHAL hardware abstraction layer for the STM32 microcontroller.

The package extends STM32Cube by providing a board support package (BSP) for the X-NUCLEO-NFC10A1 expansion board for the STM32 Nucleo and the 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 tags. The package also includes an example that developers can use to start experimenting with the code.

Example included in the project is:

- Polling tag detection

Revision history

Table 1. Document revision history

Date	Revision	Changes
09-Jul-2024	1	Initial release.

IMPORTANT NOTICE – READ CAREFULLY