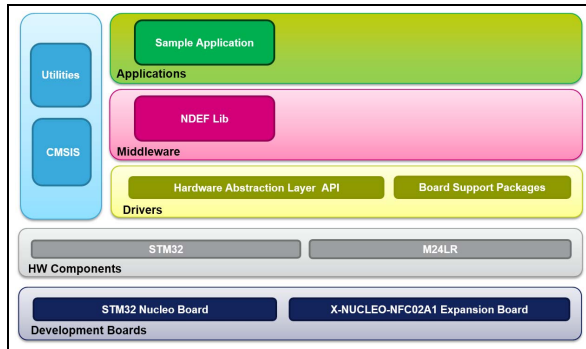


## Dynamic NFC/RFID tag IC software expansion for STM32Cube

Data brief



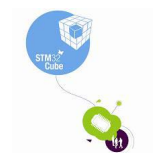
### Description

The X-CUBE-NFC2 software includes all the dynamic NFC/RFID tag IC drivers, running on STM32, for the device M24LR04E-R. It is built on top of STM32Cube software technology, easing portability across different STM32 microcontrollers.

The software comes with examples of implementation of such drivers, running on the X-NUCLEO-NFC02A1 board plugged on top of either NUCLEO-F401RE or NUCLEO-L053R8.

### Features

- Complete middleware to build applications using the dynamic NFC/RFID tag IC M24LR04E-R
- Easy portability across different MCU families, thanks to STM32Cube
- Sample application example to write the NDEF (NFC Data Exchange Format) file with URI (Uniform Resource Identifier) data
- Free, user-friendly license terms
- Implementation examples available on board X-NUCLEO-NFC02A1 plugged on top of either NUCLEO-F401RE or NUCLEO-L053R8



## 1 What is STM32Cube?

STM32Cube™ initiative was originated by STMicroelectronics to ease developers' life by reducing development efforts, time and cost. STM32Cube covers STM32 portfolio.

STM32Cube Version 1.x includes:

- The STM32CubeMX, a graphical software configuration tool that allows to generate C initialization code using graphical wizards
- A comprehensive embedded software platform, delivered per series (such as STM32CubeF4 for STM32F4 series)
  - The STM32Cube HAL, an STM32 abstraction layer embedded software, ensuring maximized portability across STM32 portfolio
  - A consistent set of middleware components such as RTOS, USB, TCP/IP, Graphics
  - All embedded software utilities coming with a full set of examples

## 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-NFC02A1 expansion board for STM32 Nucleo and some middleware components for NDEF application drivers.

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.

The package also includes an application example that the developer can use to start experimenting with the code. The sample example was developed to write the NDEF file with URI data. Other NDEF application drivers included in the middleware are:

- NDEF AAR (to add AAR, Android Application Record, in the tag)
- NDEF Email (to manage NDEF file that represents Email)
- NDEF Geo (to manage NDEF file that represents geo-location)
- NDEF MyApp (to manage the NDEF file of a private application)
- NDEF SMS (to manage NDEF file that represents SMS)
- NDEF Text (to manage Text NDEF file)
- NDEF Vcard (to manage NDEF file that represents Vcard)

### 3 Revision history

Table 1. Document revision history

Date	Revision	Changes
26-Jan-2016	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.

© 2016 STMicroelectronics – All rights reserved