

## Standard I<sup>2</sup>C and SPI EEPROM software expansion for STM32Cube

Application	Examples
Hardware Abstraction	STM32Cube Hardware Abstraction Layer (HAL)
Hardware	STM32 Nucleo expansion boards X-NUCLEO-EEPROMA1/X-NUCLEO-EEPROMA2 (Connect)
	STM32 Nucleo development board



### Features

- Complete software to build applications using M24XX or M95XX-based EEPROM
- Sample implementation available on the [X-NUCLEO-EEPROMA1](#) and [X-NUCLEO-EEPROMA2](#) expansion boards plugged to a [NUCLEO-F401RE](#), [NUCLEO-G474RE](#) or [NUCLEO-L053R8](#) development board
- Easy portability across different MCU families thanks to [STM32Cube](#)
- Free user-friendly license terms
- Package compatible with [STM32CubeMX](#), can be downloaded from and directly installed into [STM32CubeMX](#)

### Description

The [X-CUBE-EEPROMA1](#) software expansion for [STM32Cube](#) provides an evaluation software example for M24XX I<sup>2</sup>C and M95XX SPI EEPROMs.

The package is built on [STM32Cube](#) software technology to ease portability across different STM32 microcontrollers.

The software comes with sample implementations of the drivers running on the [X-NUCLEO-EEPROMA1](#) and [X-NUCLEO-EEPROMA2](#) expansion boards connected to the featured development boards.

Product summary	
Standard I <sup>2</sup> C and SPI EEPROM software expansion for STM32Cube	<a href="#">X-CUBE-EEPROMA1</a>
Standard I <sup>2</sup> C and SPI EEPROM memory expansion board based on M24xx and M95xx series for STM32 Nucleo	<a href="#">X-NUCLEO-EEPROMA1/X-NUCLEO-EEPROMA2</a>
STM32 Nucleo-64 development board with STM32F401RE/ STM32L053R8/ STM32G474RE MCUs	<a href="#">NUCLEO-F401RE/ NUCLEO-L053R8/ NUCLEO-G474RE</a>
Applications	Industrial Sensors

## 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?

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-EEPRMA1](#) and [X-NUCLEO-EEPRMA2](#) expansion boards for serial communication with a PC.

The package also includes samples to start experimenting with the code:

- standard initialization of the I<sup>2</sup>C and SPI EEPROM
- use of read-only protection feature
- write the complete memory and read the information received

## Revision history

**Table 1. Document revision history**

Date	Version	Changes
02-Oct-2018	1	Initial release.
07-Apr-2020	2	Updated all content to add X-NUCLEO-EEPRMA2 expansion board and NUCLEO-G474RE development board compatibility information.
13-Oct-2020	3	Updated cover page features.

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