X-CUBE-EEPRMA1

Standard I²C and SPI EEPROM software expansion for STM32Cube

Application	Examples
Hardware Abstraction	STM32Cube Hardware Abstraction Layer (HAL)
Hardware	STM32 Nucleo expansion boards X-NUCLEO-EEPRMA2/ X-NUCLEO-PGEEZ1/ X-NUCLEO-EEICA1
	STM32 Nucleo development board

Features

- Complete software to build applications using M24256E-F I²C, M24M01E-F I²C, M24XX I²C, M95XX SPI standard EEPROM or M95P32 SPI page EEPROM

- Sample implementation available on the X-NUCLEO-EEICA1, X-NUCLEO-EEPRMA2, and X-NUCLEO-PGEEZ1 expansion boards plugged to a NUCLEO-F401RE, NUCLEO-G474RE, NUCLEO-L053R8, or NUCLEO-H753ZI (only for X-NUCLEO-EEICA1 and X-NUCLEO-PGEEZ1) 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-EEPRMA1 software expansion for STM32Cube provides an evaluation software example for M24256E-F I²C, M24M01E-F I²C, M24XX I²C, M95XX SPI standard EEPROM or M95P32 SPI page EEPROM.

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-EEICA1, X-NUCLEO-EEPRMA2, and X-NUCLEO-PGEEZ1 expansion boards connected to the featured development boards.

Product summary	
Standard I²C and SPI EEPROM software expansion for STM32Cube	X-CUBE-EEPRMA1
Standard I²C EEPROM memory expansion board based on M24256E-F & M24M01E-F series for STM32 Nucleo	X-NUCLEO-EEICA1
Standard I²C and SPI EEPROM memory expansion board based on M24xx and M95xx series for STM32 Nucleo	X-NUCLEO-EEPRMA2
Standard SPI page EEPROM memory expansion board based on M95P32 series for STM32 Nucleo	X-NUCLEO-PGEEZ1
STM32 Nucleo-64 development board with STM32F401RE/ STM32L053R8/ STM32G474RE MCUs	NUCLEO-F401RE/ NUCLEO-L053R8/ NUCLEO-G474RE

Product summary	
STM32 Nucleo-144 development board with STM32H753ZI MCU, supports Arduino, ST Zio and morpho connectivity	NUCLEO-H753ZI
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-EEICA1, X-NUCLEO-EEPRMA2 and X-NUCLEO-PGEEZ1 expansion boards for serial communication with a PC.

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

- standard initialization of the I²C and SPI EEPROM
- use of read-only protection feature
- write the complete memory and read the information received
- configurable device address, software write protect, device type identifier features

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.
17-Nov-2022	4	Added reference to X-NUCLEO-PGEEZ1.
14-Dec-2023	5	Updated cover image, features, description, product summary table and Section 1.2 How does thissoftware complement STM32Cube? Added reference to X-NUCLEO-EEICA1.
10-Jul-2025	6	Updated Features and Product summary. Replaced NUCLEO-H743ZI with NUCLEO-H753ZI.

IMPORTANT NOTICE – READ CAREFULLY