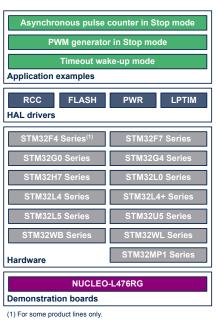




Low-power timer (LPTIM) software expansion for STM32Cube







Features

- Three applicative examples covering most features of the STM32 low-power timer peripherals:
 - Asynchronous pulse counter in Stop mode
 - PWM generator in Stop mode
 - Timeout wake-up mode
- Source-code template generated by the STM32CubeMX software tool
- Tailored to run readily on the NUCLEO-L476RG board
- Easy tailoring for any toolchains compatible with the STM32 ecosystem

Description

The X-CUBE-LPTIMER is an STM32Cube Expansion Package. It provides applicative use-cases for the low-power timer (LPTIM) peripherals embedded in STM32 microcontrollers and microprocessors.

X-CUBE-LPTIMER applies to the STM32F7 Series, STM32G0 Series, STM32G4 Series, STM32H7 Series, STM32L0 Series, STM32L4 Series, STM32L4+ Series, STM32L5 Series, STM32U5 Series, STM32WB Series, STM32WL Series, and STM32MP1 Series. It applies also to the STM32F410 and STM32F413/423 product

For more details on the low-power timer (LPTIM), refer to the Low-power timer (LPTIM) applicative use cases on STM32 MCUs and MPUs application note (AN4865), available at the www.st.com website.



1 General information

The X-CUBE-LPTIMER Expansion Package runs on STM32 microcontrollers based on Arm® cores.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

arm

1.1 Ordering information

X-CUBE-LPTIMER is available for free download from the www.st.com website.

1.2 What is STM32Cube?

STM32Cube is an STMicroelectronics original initiative to improve designer productivity significantly by reducing development effort, time, and cost. STM32Cube covers the whole STM32 portfolio.

STM32Cube includes:

- A set of user-friendly software development tools to cover project development from conception to realization, among which are:
 - STM32CubeMX, a graphical software configuration tool that allows the automatic generation of C initialization code using graphical wizards
 - STM32CubeIDE, an all-in-one development tool with peripheral configuration, code generation, code compilation, and debug features
 - STM32CubeProgrammer (STM32CubeProg), a programming tool available in graphical and commandline versions
 - STM32CubeMonitor (STM32CubeMonitor, STM32CubeMonPwr, STM32CubeMonRF, STM32CubeMonUCPD) powerful monitoring tools to fine-tune the behavior and performance of STM32 applications in real time
- STM32Cube MCU and MPU Packages, comprehensive embedded-software platforms specific to each microcontroller and microprocessor series (such as STM32CubeL4 for the STM32L4 Series), which include:
 - STM32Cube hardware abstraction layer (HAL), ensuring maximized portability across the STM32 portfolio
 - STM32Cube low-layer APIs, ensuring the best performance and footprints with a high degree of user control over hardware
 - A consistent set of middleware components such as RTOS, USB Host and Device, FAT file system, touch library, and graphics
 - All embedded software utilities with full sets of peripheral and applicative examples
- STM32Cube Expansion Packages, which contain embedded software components that complement the functionalities of the STM32Cube MCU and MPU Packages with:
 - Middleware extensions and applicative layers
 - Examples running on some specific STMicroelectronics development boards

DB3012 - Rev 3 page 2/5



2

License

X-CUBE-LPTIMER is delivered under the SLA0048 software license agreement and its Additional License Terms.

DB3012 - Rev 3 page 3/5



Revision history

Table 1. Document revision history

Date	Revision	Changes
26-Sep-2016	1	Initial release.
16-Jun-2017	2	Updated Description.
22-Mar-2022	3	Extended the range of compatible products: Added the simplified software architecture on the cover page Updated the document title Updated Features and Description Added License and What is STM32Cube?

DB3012 - Rev 3 page 4/5



IMPORTANT NOTICE - 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 acknowledgment.

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. For additional information about ST trademarks, refer to www.st.com/trademarks. 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.

© 2022 STMicroelectronics - All rights reserved

DB3012 - Rev 3 page 5/5