



life.augmented

STM32™ 32-bit MCU family

Leading supplier of Arm® Cortex®-M microcontrollers





Releasing your creativity

By choosing one of ST's microcontrollers for your embedded application, you gain from our leading expertise in MCU architecture, technology, multi-source manufacturing and long-term supply.

The STM32 portfolio offers an extraordinary variety of options, including Arm® Cortex®-M cores (M0, M0+, M3, M4 and M7), giving developers flexibility to find the perfect STM32 for their applications. Particular attention is paid to accommodate porting of applications from one device to another. Scalable and flexible software ecosystem combined with the close pinout compatibility assignment, hardware IP re-use and consistency across product families and higher level programming language makes the development job far more convenient when dealing with the STM32 families.

HIGH-PERFORMANCE



HIGH DEGREE OF INTEGRATION AND RICH CONNECTIVITY

- **STM32H7**: highest performance STM32 MCUs with advanced features including DSP and FPU instructions based on Cortex®-M7 with 1 to 2 Mbytes of Flash memory (2020 CoreMark)
- **STM32F7**: very high performance MCUs with advanced features including DSP and FPU instructions based on Cortex®-M7 with 256 Kbytes to 2 Mbytes of Flash memory (1082 CoreMark)
- **STM32F4**: from the access line to high-performance MCUs with advanced features including DSP and FPU instructions based on Cortex®-M4 with 64 Kbytes to 2 Mbytes of Flash memory (608 CoreMark)
- **STM32F2**: mid-range MCUs with excellent price-performance ratio based on Cortex®-M3 with 128 Kbytes to 1 Mbyte of Flash memory (398 CoreMark)

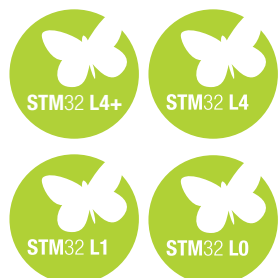
MAINSTREAM



SCALABLE SET OF MCUS FOR A LARGE VARIETY OF APPLICATIONS

- **STM32F3**: upgraded F1 series with various levels of advanced analog peripherals based on Cortex®-M4 with 16 to 512 Kbytes of Flash memory (245 CoreMark)
- **STM32F1**: foundation series based on Cortex-M3 with 16 Kbytes to 1 Mbyte of Flash memory (108 CoreMark)
- **STM32F0**: entry-level MCUs extending to 8-/16-bit world based on Cortex®-M0 with 16 to 256 Kbytes of Flash memory (105 CoreMark)

ULTRA-LOW-POWER



TINY POWER BUDGET APPLICATIONS

- **STM32L4+**: excellence in ultra-low-power with more performance based on Cortex®-M4 with 1 to 2 Mbytes of Flash memory (233 ULPMark-CP / 55 ULPMark-PP / 410 CoreMark)
- **STM32L4**: best-in-class in ultra-low-power with performance based on Cortex®-M4 with 128 Kbytes to 1 Mbyte of Flash memory (347 ULPMark-CP / 121 ULPMark-PP / 273 CoreMark)
- **STM32L1**: market-proven answer for 32-bit applications based on Cortex®-M3 with 32 to 512 Kbytes of Flash memory (81 ULPMark-CP / 93 CoreMark)
- **STM32L0**: perfect fit for 8-/16-bit applications and cost-sensitive designs based on Cortex®-M0+ with 8 to 192 Kbytes of Flash memory (244 ULPMark-CP / 95-ULPMark-PP / 75 CoreMark)

WIRELESS



MULTIPROTOCOL AND ULTRA-LOW-POWER 2.4 GHZ RADIO TRANSCEIVER

- **STM32WB**: Dual-core (Cortex®-M4/M0+) architecture (216 CoreMark) supporting BLE 5.0 and IEEE 802.15.4 in Single or Concurrent mode. Strong RF link with +6 dBm output power and -96 dBm / -100 dBm sensitivity (BLE / IEEE 802.15.4) and integrated balun. From 256 Kbytes to 1 Mbyte of Flash memory. Rich set of protection features.

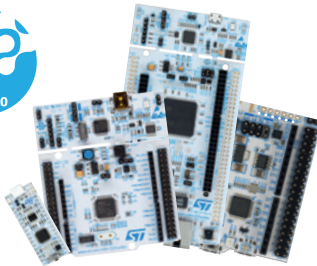


STM32 Ecosystem

HARDWARE TOOLS

www.st.com/stm32hardwaretools

STM32 Nucleo board



The highly affordable STM32 Nucleo boards allow anyone to try out new ideas and to quickly create prototypes with any STM32 MCU.

Sharing the same connectors, STM32 Nucleo boards can easily be extended with a large number of specialized application hardware add-ons (Nucleo-64 include Arduino Uno rev3 & ST morpho connectors, Nucleo-32 include Arduino Nano connectors).

Flexible prototyping

STM32 Discovery kits are a cheap and complete solution for the evaluation of the outstanding capabilities of STM32 MCUs. They carry the necessary infrastructure for demonstration of specific device characteristics, a HAL library and comprehensive software examples allow to fully benefit from the devices features and added values.

Extension connectors give access to most of the device's I/Os and make the connection of add-on hardware possible.

Discovery kit



Creative demos

Evaluation board



Full-feature evaluation

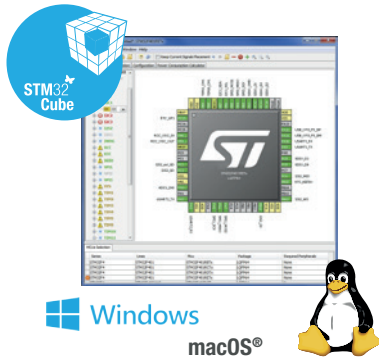
The STM32 eval boards have been designed as a complete demonstration and development platform for the Arm® Cortex STM32 MCUs.

They carry external circuitry, such as transceivers, sensors, memory interfaces, displays and many more. The evaluation boards can be considered as a reference design for application development.

SOFTWARE TOOLS

www.st.com/stm32softwaretools

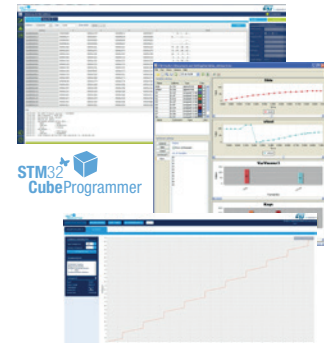
STM32CubeMX



Partner IDEs



STM32CubeMonitor-Power STMStudio



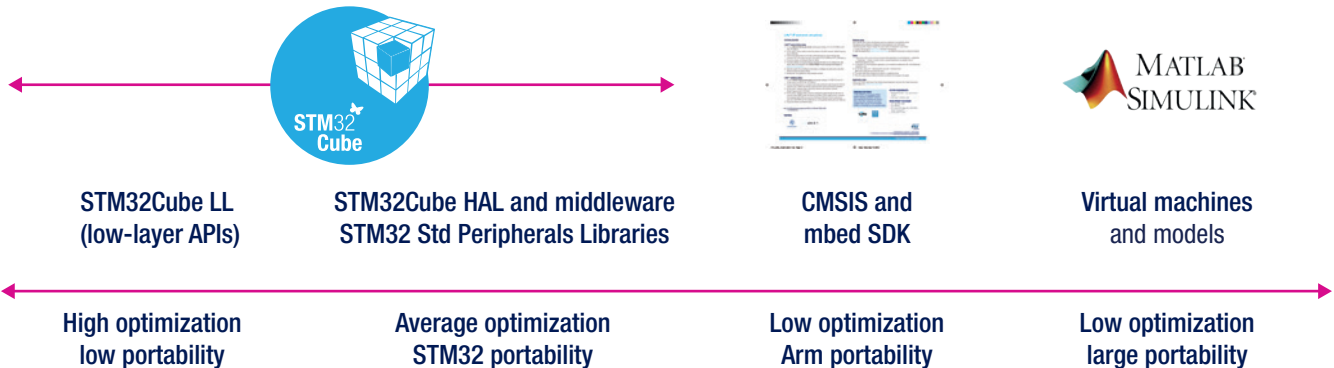
Configure and generate code

Compile and debug

Monitor & Program

EMBEDDED SOFTWARE

www.st.com/stm32embeddedsoftware



ST COMMUNITY



Ask, learn, share, discuss, become famous and engage with the community of STM32 enthusiasts on community.st.com/stm32



STM32 EDUCATION

Bring your STM32 project to life with the free educational and training resources on st.com/stm32education