

# STM32L4+ SERIES

# Ultra-low-power and more performance



# Longer battery life and superior user experience

STM32L4+ MCU series stretches the state-of-art in ultra-low-power technology to provide more performance.

Successfully mixing ultra-low power capabilities with advanced processing capabilities, 2D-graphic acceleration, significantly large memory integration and rich connectivity, the new STM32 product series will help you develop richer functionalities and superior user experience in consumer, medical and industrial battery powered applications.

The STM32L4+ products support up to 125°C ambient temperature and are available with 320 Kbytes up to 640 Kbytes of internal SRAM, from 512 Kbytes up to 2 Mbytes internal Flash memory and in packages offering from 48 to 168 pins.

#### **ULTRA-LOW-POWER EXCELLENCE**

- 285 ULPMark-CP score
- Down to 43 µA/MHz in active mode

#### **SUPERIOR GRAPHIC CAPABILITIES**

- Up to 640 Kbytes embedded SRAM
- Large display interface options with mebedded MIPI-DSI, TFT and parallel display controllers

#### ADVANCED PERFORMANCE

Achieving 150 DMIPS and 409 CoreMark scores

## STM32L4S9 block diagram

#### **Connectivity**

USB OTG, 2 x SD/SDIO/MMC, 3 x SPI , 4 x I<sup>2</sup>C, 1 x CAN , 2 x Octo SPI 5 x USART, 1 x ULP UART

#### **Digital**

AES 256, SHA, PKA TRNG, 2 x SAI DFSDM (4 channels)

#### **Display**

**TFT-LCD Controller** 

#### I/Os

Up to 114 I/Os Touch-sensing controller ARM® Cortex®-M4 120 MHz FPU MPU ETM

#### DMA

ART Accelerator™

Up to 1-Mbyte Flash with ECC Dual Bank

Chrom-ART Accelerator™

> 320-Kbyte RAM

#### **Timers**

17 timers including: 2 x 16-bit advanced motor control timers 2 x ULP timers 7 x 16-bit-timers 2 x 32-bit timers

#### **Analog**

2 x 12-bit ADC, 2 x DAC 2 x Comparators 2 x Op amps 1 x Temperature sensor

#### **Parallel Interface**

FSMC 8-/16-bit (SRAM, NOR, NAND)

## **Hardware tools**

A full set of evaluation boards enables flexible prototyping as well as full STM32L4+ evaluation.



STM32L4R9I-EVAL Evaluation board



STM32L4R9I-DISCO Discovery kit



STM32L4P5G-DK Discovery kit



NUCLEO-L4R5ZI / NUCLEO-L4P5ZG (144-pin Nucleo) NUCLEO-L4R5ZI-P (144-pin Nucleo SMPS version)

## **Software tools**

STM32CubeMX enables fast development thanks to its MCU clock configurator, power consumption calculator and code generation tools.

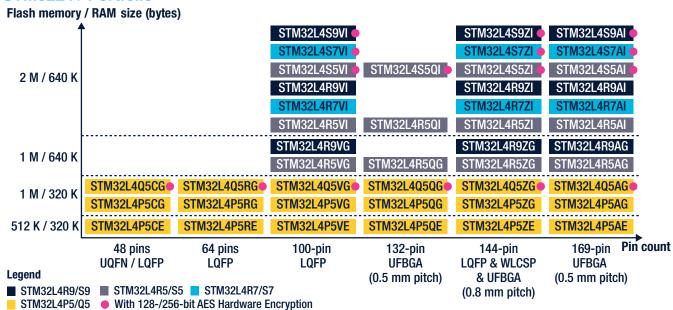
# Embedded software The STM32CubeL4 package includes

the STM32CubeL4 package includes the STM32Cube HAL and low-layer (LL) APIs peripheral drivers, plus a consistent set of middleware components (RTOS, USB, FatFS, graphics and STM32 touch sensing). All embedded software utilities come with a full set of examples running on STMicroelectronics boards.





#### STM32L4+ Portfolio



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