

# STM32L4 Series

## Ultra-low-power and performance



## STM32® ultra-low-power at 100 DMIPS with DSP and FPU

### ULTRA-LOW-POWER EXCELLENCE

The STM32L4 microcontroller is based on a new ultra-low-power platform featuring FlexPowerControl which extends flexibility to reach optimized power consumptions: With an EEMBC ULPBench score of 153 ULPBench™-CP, the STM32L4 outperforms the market in the ultra-low-power domain.

### WITH PERFORMANCE

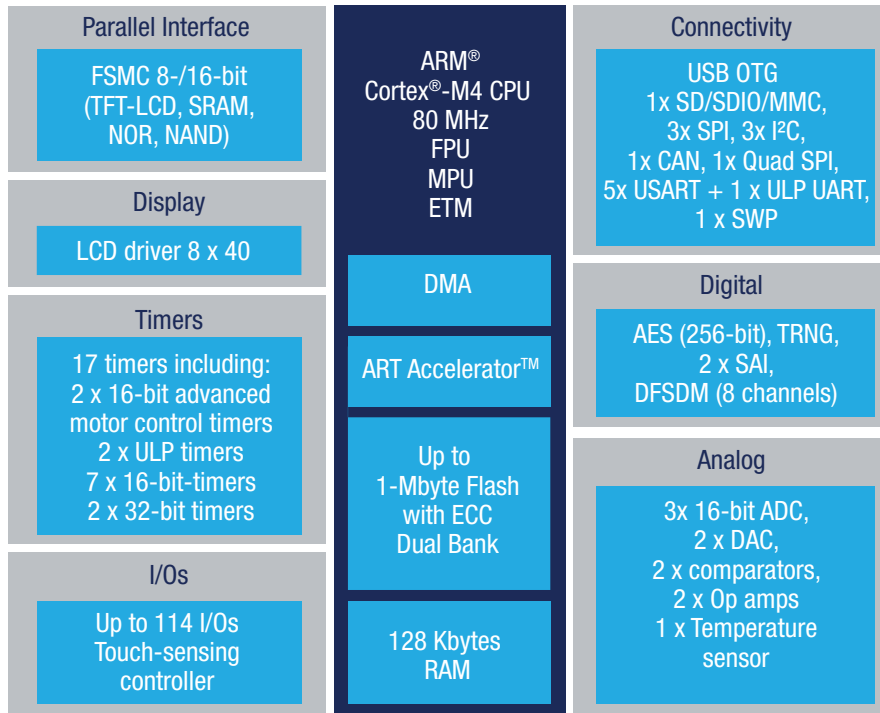
Offering up to 1 Mbyte of Flash (dual bank) memory and 128 Kbytes of SRAM, the STM32L4 unleashes the ARM® Cortex®-M4 power efficiency with floating point unit (FPU) and DSP instructions. It delivers 100 DMIPS / 273 CoreMark thanks to the ST ART Accelerator™ at 80 MHz. The entire system performance is optimized using a multi-AHB bus matrix and DMA controllers.

### OUTSTANDING LOW-POWER MODES

Wake-up time	VBAT	4 nA / 300 nA*
250 µs	SHUTDOWN	30 nA / 330 nA*
14 µs	STANDBY	130 nA / 430 nA*
14 µs	STANDBY+ 32 Kbytes RAM	360 nA / 660 nA*
5 µs	STOP 2 full retention	1.1 µA / 1.4 µA*
6 cycles	SLEEP	35 µA / MHz
	RUN	100 µA / MHz

\* without RTC / with RTC

## STM32L486 BLOCK DIAGRAM



## HARDWARE TOOLS



A full set of evaluation boards enables flexible prototyping as well as full STM32L4 evaluation. Commercial part numbers: NUCLEO-L476RG; STM32L476G-DISCO; STM32L476G-EVAL

## SOFTWARE TOOLS

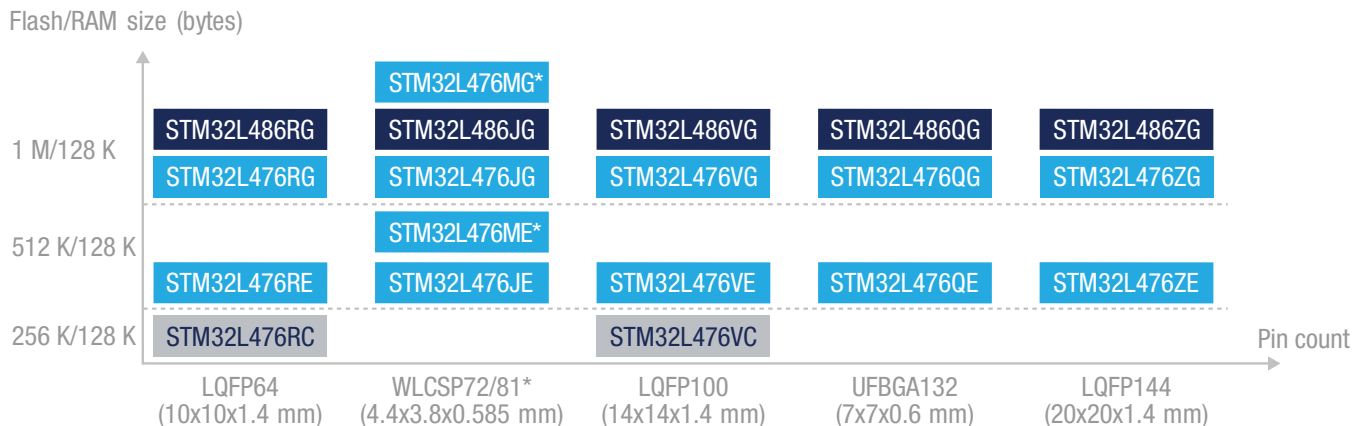


STM32CubeMX enables fast development thanks to its MCU clock configurator, power consumption calculator and code generation tools.

## SMART PERIPHERALS

- Low-power UART and I²C communication interfaces
- Low-power time counter (16-bit low-power timers)
- Up to 7 SPIs including Quad-SPI supporting software execution
- Independent peripheral communication clock separate from main system clock
- Digital filters for sigma-delta modulators supporting digital microphone (PDM to PCM conversion w/ HW filter)

## STM32L4 PORTFOLIO



Legend:

■ With 128/256-bit AES hardware encryption

■ Without encryption

■ Available in Q4/2015



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