STM32L4+ MCU series excellence in ultra-low-power with more performance
STM32 L4+ series

**More performance and still ULP leader** ST has stretched the STM32L4 architecture to reach 150 MIPS based on its Arm® Cortex®-M4 core with FPU and ST ART Accelerator™ at 120 MHz while keeping best-in-class, ultra-low-power (ULP) figures.

**More Graphics and Innovation** Enhanced graphics acceleration and innovative peripherals are embedded to optimize the BOM cost.

**More Integration** Up to 2 MB of Flash and up to 640 KB of SRAM with safety and security features, smart and numerous peripherals, advanced and low power analog circuits in packages as small as 4.6 x 4.1 mm.

**Great Investment** This new STM32 member benefits from the pin-to-pin compatibility of the STM32 family and the STM32 Ecosystem.
Providing more performance

Stretching the performance and still excellent in Power consumption

- Up to 120 MHz/ 150 DMIPS with ART Accelerator™
- Up to 409 CoreMark Result
- Arm Cortex-M4 with DSP instructions and floating-point unit (FPU)
- 2 x DMA (14 channels)
- SPI up to 60 Mbit/s, OctoSPI up to 86 MHz USART up to 10 Mbit/s,
### Ultra-low-power modes

#### Best power consumption numbers with full flexibility

<table>
<thead>
<tr>
<th>Wake-up time</th>
<th>VBAT</th>
<th>22 nA / 180 nA*</th>
<th>42 nA / 190 nA*</th>
<th>242 nA / 390 nA*</th>
<th>2.5 µA / 2.9 µA*</th>
<th>3.9 µA / 4.3 µA*</th>
<th>13 µA / MHz**</th>
<th>Down to 43 µA / MHz**</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 µs</td>
<td>3 nA / 300 nA*</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 µs</td>
<td>Shutdown</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 µs</td>
<td>Standby</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 µs</td>
<td>Standby + 4-Kbyte RAM</td>
<td>242 nA / 390 nA*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 µs</td>
<td>Stop 2 (retention: 256-Kbyte RAM)</td>
<td>2.5 µA / 2.9 µA*</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 cycles</td>
<td>Stop 2 (full retention: 640-Kbyte RAM)</td>
<td>3.9 µA / 4.3 µA*</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Sleep</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Run up to 120 MHz</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: * without RTC / with RTC  
** with external SMPS

- Tamper detection: 3 I/Os, RTC  
- Wake-up sources: reset pin, 5 I/Os, RTC  
- Wake-up sources: + BOR, IWDG  
- Wake-up sources: + all I/Os, PVD, LCD, COMPs, I²C, LPUART, LPTIM  
- Wake-up sources: any interrupt or event

![ULP Bench](image-url)
STM32L4+ keeps the advantages of the great STM32L4 platform optimized to reduce power consumption and increase flexibility.

- Down to 22 nA for I/O wake-up with additional Shutdown mode
- RTC available for all power modes (from Active down to $V_{BAT}$)
- 3 nA $V_{BAT}$ mode with charging capability
- External level shifter no longer needed
- Separate $V_{DD}$ supplies (down to 1.08 V)
- I/O level kept in low-power modes
- Optimization of system consumption
- Wake up MCU with any peripheral (Communication I/Fs, analog circuits, timers …)
- USB crystal-less capable
  (Dedicated crystal oscillator is no longer needed for USB functions)
- Internal oscillator from 100 kHz to 48 MHz
  ($\pm 0.25\%$ int. clock accuracy over voltage/temperature with LSE)
- Down to 242 nA keeping 4 Kbytes of SRAM active in Standby mode

Ultra-low-power and flexibility
FlexPowerControl
Efficient run and fast wake-up

Ready for Launch Control? From 0 to 48 MHz in less than 5 µs

- Thanks to our internal oscillator (MSI) used at start-up (programmable from 100 kHz to 48 MHz)
- PLL wake-up time < 15 µs (needed to reach $f_{\text{MAX}}$)
- No inrush current
Enhanced graphics capabilities

- Chrom-ART Accelerator™
  - 2D Graphic acceleration
  - Allowing enhanced graphic while releasing the core capabilities for real time processing

11% CPU Load
With Chrom-ART Accelerator™ and 84% CPU load without it
Enhanced graphics capabilities

- Chrom-ART Accelerator™
- Large choice of display interfaces
  - MIPI-DSI Controller for high pixel density, low pin count and low EMI displays
  - LCD-TFT Controller for mid resolution displays
  - Parallel display interface for low resolution displays
Enhanced graphics capabilities

- Chrom-ART Accelerator™
- Large choice of display interfaces
- Integration and resources optimization
  - Chrom-GRC™ memory optimization for round displays
  - Large internal SRAM allowing
    - BOM cost and power consumption optimization
    - Support of up to 400x400 24 bpp MIPI-DSI round displays
    - Support of up to 4’, WQVGA 16 bpp TFT displays with no external memory
Digital smart peripherals

A large set of digital peripheral

• Peripherals running in Stop mode
  • Low-power UART can wake up the system if a programmed byte or start bit is detected (with no loss of the first bit)
  • I²C can wake up system when address is detected
  • Low-power timer can count time or events or generate signals
• 2x Octo SPI for data and execution in place
  • External Flash and SRAM support
  • Single, dual, quad and Octo SPI and Hyperbus

• Digital Filter for Sigma Delta Modulator
  • For connection to external sigma delta modulator (e.g.: STPMS2)
  • Up to 4 filters, 8 multiplexed channels
  • Also supports digital microphone MEMs (PDM to PCM conversion and filtering performed by HW)
• Peripheral clock independent from main system clock
Analog smart peripherals

A large set of analog peripheral

- 12/16-bit ADC (up to 5 Msps)
- Adaptive power consumption (200µA/Msp)
- HW oversampling
- Single and differential inputs
- 2x Op amps with built-in PGA
- 2 x 12-bit DACs (1 Msp)
- Low-power Sample and Hold modes available in Stop mode

- 2x Comparators
  - Low-power modes, works in Stop mode
- Internal voltage reference
  - Programmable 2.048 or 2.5 V
  - Can be used for external components
Digital Filter for Sigma Delta Modulators
- 8 x parallel inputs
- with up to 24-bit data output resolution

V\textsubscript{BAT} with RTC
- for battery backup
- 300 nA in V\textsubscript{BAT} mode for RTC and
- 32x 32-bit backup registers

TRNG & AES
- for Security
- 128-/256-bit AES
- key encryption hardware accelerator

FSMC
- External memory interface
- for static memories supporting SRAM, PSRAM, NOR and NAND

ADC
- for 24-bit

V\textsubscript{BAT} with RTC

Anti Tamper pin
- 3 x tamper pins
- for battery domain

SPI / UART / SDIO
- for Wireless
- 3x SPIs (4x SPIs with the Quad SPI)
- 6x USARTs (ISO 7816, LIN, IrDA, modem)
- 1 x SDIO

I/Os
- Up to 114 fast I/Os for buttons & relays

LCD Display
- SPI, Parallel or TFT Interface

STM32L4+

Electricity/Gas / Water Smart Meter

STM32L4+

Electricity/Gas / Water Smart Meter

STM32L4+

Electricity/Gas / Water Smart Meter

STM32L4+

Electricity/Gas / Water Smart Meter

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Electricity/Gas / Water Smart Meter

STM32L4+

Electricity/Gas / Water Smart Meter

STM32L4+

Electricity/Gas / Water Smart Meter
Smart peripherals
fitness tracker - wristband

STM32L4+

**Sensors**
- 3x I²C FM+ (1 Mbit/s), SMBus/PMBus

**Sensors**
- Batch Acquisition Mode (BAM)

**Digital Filter for Sigma Delta Modulators**
- with PDM (Pulse Density Modulation)
- microphone input support

**I²C**
- 3x I²C

**USB**
- USB OTG 2.0
- full-speed, LPM and BCD

**Display**
- Parallel interface to TFT
- Up to 60 MHz speed
- MIPI DSI
- Direct connection
- Chrom-ART
- Graphic Acceleration
- Chrom-GRC
- SRAM needs reduction

**SPI / UART**
- 3x SPIs (4x SPIs with the Quad SPI)
- 6x USARTs (ISO 7816, LIN, IrDA, modem)

**SAI**
- 2x serial audio interfaces

**DAC**
- 2x 12-bit DAC, low-power sample and hold

**ADC**
- 2x 12-bit ADC 5 MSPS, up to 16-bit with hardware oversampling, 200 μA/MSPS

**OPAMP**
- 2x op amp with built-in PGA
**Smart peripherals and industrial sensors**

- **STM32L4+**
  - 2x 16-bit advanced motor-control timers
  - 12-bit ADCs: 5 MSPS, with up to 16-bit with hardware oversampling, 200 μA/MSPS

- **Motor Control**
  - 2x 16-bit advanced motor-control timers
  - 12-bit ADCs: 5 MSPS, with up to 16-bit with hardware oversampling, 200 μA/MSPS

- **FSMC**
  - External memory interface for static memories supporting SRAM, PSRAM, NOR and NAND

- **I/Os**
  - Up to 114 fast I/Os for buttons & relays

- **Display**
  - TFT controller, or SPI or FSMC

- **High temperature**
  - from -40°C up to +125°C

- **SPI / UART**
  - 3x SPIs (4x SPIs with the Octo SPI)
  - 6x USARTs (ISO 7816, LIN, IrDA, modem)

- **I²C**
  - 3x I²C FM+(1 Mbit/s), SMBus/PMBus

- **Electricity/Gas/Water Smart Meter**

- **CAN Bus**
  - (2.0B Active)

- **TRNG & AES for Security**
  - 128/256-bit AES key encryption hardware accelerator
High integration with high memory size in small packages

Connectivity
- USB OTG, 2 x SD/SDIO/MMC, 3 x SPI, 4 x I2C, 1 x CAN, 2 x Octo SPI, 5 x USART, 1 x ULP UART

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

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

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

Display
- TFT-LCD Controller

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

I/Os
- Up to 114 I/Os
- Touch-sensing controller

ARM® Cortex®-M4
- 120 MHz
- FPU
- MPU
- ETM

Package size down to 4.62 x 4.14 mm
Integrated safety and security features

- Brown-out Reset in all modes
- Clock Security System
- SRAM parity check
- Backup byte registers
- Supply monitoring
- Flash with ECC with status register (address)
- Dual watchdog

SAFETY

STM32L4+

SECURITY

- Anti-tamper detection
- Memory Protection Unit (MPU)
- Read and Write Protection
- Unique ID
- AES-256 / SHA-256 Encryption
- JTAG fuse
- True Random Number Generator
- Software IP Protection
- OTP Zone
# STM32 MCU portfolio

## MPU

<table>
<thead>
<tr>
<th>STM32MP1</th>
</tr>
</thead>
<tbody>
<tr>
<td>4158 CoreMark</td>
</tr>
<tr>
<td>650 MHz Cortex -A7</td>
</tr>
<tr>
<td>209 MHz Cortex -M4</td>
</tr>
</tbody>
</table>

## High Perf MCUs

<table>
<thead>
<tr>
<th>STM32F0</th>
<th>STM32G0</th>
<th>STM32F1</th>
<th>STM32F4</th>
<th>STM32H7</th>
<th>STM32F7</th>
</tr>
</thead>
<tbody>
<tr>
<td>106 CoreMark</td>
<td>142 CoreMark</td>
<td>177 CoreMark</td>
<td>608 CoreMark</td>
<td>3224 CoreMark</td>
<td>1082 CoreMark</td>
</tr>
<tr>
<td>48 MHz</td>
<td>64 MHz</td>
<td>72 MHz</td>
<td>180 MHz</td>
<td>240 MHz Cortex -M4</td>
<td>216 MHz</td>
</tr>
<tr>
<td>640 MHz Cortex -M7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Mainstream MCUs

<table>
<thead>
<tr>
<th>STM32F2</th>
<th>STM32F3</th>
<th>STM32G4</th>
</tr>
</thead>
<tbody>
<tr>
<td>398 CoreMark</td>
<td>245 CoreMark</td>
<td>550 CoreMark</td>
</tr>
<tr>
<td>120 MHz</td>
<td>72 MHz</td>
<td>170 MHz</td>
</tr>
</tbody>
</table>

## Ultra-low Power MCUs

<table>
<thead>
<tr>
<th>STM32L0</th>
<th>STM32L1</th>
<th>STM32L5</th>
<th>STM32L4</th>
<th>STM32L4+</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 CoreMark</td>
<td>93 CoreMark</td>
<td>424 CoreMark</td>
<td>273 CoreMark</td>
<td>409 CoreMark</td>
</tr>
<tr>
<td>32 MHz</td>
<td>32 MHz</td>
<td>110 MHz</td>
<td>80 MHz</td>
<td>120 MHz</td>
</tr>
</tbody>
</table>

## Wireless MCUs

<table>
<thead>
<tr>
<th>STM32WL</th>
<th>STM32WB</th>
</tr>
</thead>
<tbody>
<tr>
<td>161 CoreMark</td>
<td>216 CoreMark</td>
</tr>
<tr>
<td>48 MHz</td>
<td>64 MHz</td>
</tr>
</tbody>
</table>

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**Arm® Cortex® core**

- M0
- M0+
- M3
- M33
- M4
- M7
- Dual -A7 & -M4

- Optimized for mixed-signal applications
- Cortex-M0+ Radio co-processor
<table>
<thead>
<tr>
<th>Cost-smart ULP champion</th>
<th>Broad-range foundation</th>
<th>ULP With performance</th>
<th>ULP with more performance</th>
<th>Advanced security</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STM32L0</strong></td>
<td><strong>STM32L1</strong></td>
<td><strong>STM32L4</strong></td>
<td><strong>STM32L4+</strong></td>
<td><strong>STM32L5</strong></td>
</tr>
<tr>
<td>Cortex-M0+ at 32 MHz</td>
<td>Cortex-M3 at 32 MHz</td>
<td>Cortex-M4 w/ FPU at 80 MHz</td>
<td>Cortex-M4 w/ FPU at 120 MHz</td>
<td>Cortex-M33 w/ FPU at 110 MHz</td>
</tr>
<tr>
<td>1.65 to 3.6V</td>
<td>1.65 to 3.6V</td>
<td>1.71 to 3.6V</td>
<td>1.71 to 3.6V</td>
<td>1.71 to 3.6V</td>
</tr>
<tr>
<td>8-/16-bit applications</td>
<td>Wide range of memory sizes</td>
<td>High-performance, advanced analog circuits</td>
<td>Wide choice of memory sizes</td>
<td>Wide choice of memory sizes</td>
</tr>
<tr>
<td>Wide range of pin-counts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 product lines,</td>
<td>3 product lines,</td>
<td>5 product lines,</td>
<td>3 product lines,</td>
<td>1 product line,</td>
</tr>
<tr>
<td>Cost-effective</td>
<td>USB, LCD, AES,</td>
<td>5-MSPS ADC,</td>
<td>5-MSPS ADC,</td>
<td>5-MSPS ADC,</td>
</tr>
<tr>
<td>Smaller packages</td>
<td>Rich Analog</td>
<td>PGA, Compar.,</td>
<td>PGA, Compar.,</td>
<td>PGA, Compar.,</td>
</tr>
<tr>
<td>USB, LCD, Analog</td>
<td>True EEPROM,</td>
<td>DAC, Op Amp, USB</td>
<td>DAC, Op Amp, USB</td>
<td>DAC, Op Amp,</td>
</tr>
<tr>
<td>8 to 192 Kbytes of Flash,</td>
<td>Dual-bank Flash memory (RWW),</td>
<td>OTG, LCD, AES</td>
<td>OTG, LCD, AES</td>
<td>USB Type C,</td>
</tr>
<tr>
<td>Up to 20 Kbytes of SRAM</td>
<td>32 to 512 Kbytes of Flash,</td>
<td>64 Kbytes to 1 Mbyte</td>
<td>1 to 2 Mbytes of Flash,</td>
<td>AES</td>
</tr>
<tr>
<td></td>
<td>Up to 80 Kbytes of SRAM</td>
<td>Up to 320 Kbytes of SRAM</td>
<td>Up to 640 Kbytes of SRAM</td>
<td>256 to 512 Kbytes of Flash,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Up to 256 Kbytes of SRAM</td>
</tr>
</tbody>
</table>

STM32L5 completes the ultra-low-power subclass
STM32L, a complete offer

STM32L4+ completes the ultra-low-power family

STM32 Mainstream MCUs
32-bit Arm® Cortex®-M

- STM32L5
  - 32-bit Arm® Cortex® M33 + FPU at 110 MHz
  - From 256 to 1 Mbyte of Flash memory
  - Lowest power mode = RAM + RTC 0.30 µA

- STM32L4+ (highlighted)
  - 32-bit Arm® Cortex® M4 + FPU at 110 MHz
  - From 0.12 Mbyte up to 2 Mbytes of Flash memory
  - Lowest power mode = RAM + RTC 0.36 µA

- STM32L4
  - 32-bit Arm® Cortex® M4 + FPU at 30 MHz
  - From 0.4 Mbyte to 1 Mbyte of Flash memory
  - Lowest power mode = RAM + RTC 0.36 µA

- STM32L3
  - 32-bit Arm® Cortex® M0+ at 32 MHz
  - From 32 to 1 Mbyte of Flash memory
  - Lowest power mode = RAM + RTC 1.2 µA

- STM32L0
  - 32-bit Arm® Cortex® M0+ at 32 MHz
  - From 8 to 1 Mbyte of Flash memory
  - Lowest power mode = RAM + RTC 0.67 µA

- STM32L
  - 8-bit STM8 core at 16 MHz
  - From 2 to 64 Kbytes of Flash memory
  - Lowest power mode 0.3 µA

STM32L4+ achieves a higher CoreMark score than other models.

Graph showing flash memory size and number of pins for different STM32L variants.
### STM32L4+ MCU Series

**32-bit Arm® Cortex®-M4 (DSP + FPU) – 120 MHz**

<table>
<thead>
<tr>
<th>Product line</th>
<th>Flash (KB)</th>
<th>RAM (KB)</th>
<th>Memory I/F</th>
<th>Op-Amp</th>
<th>Comp.</th>
<th>Sigma-Delta Mod.</th>
<th>12-bit ADC</th>
<th>FPUT</th>
<th>TFT Display</th>
<th><em>Chrom-GUI™</em></th>
<th>MIPI-DSI</th>
<th>AES</th>
</tr>
</thead>
<tbody>
<tr>
<td>STM32L4P6</td>
<td>512 to 1024</td>
<td>320</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>4 ch</td>
<td>2</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STM32L4Q5</td>
<td>1024</td>
<td>320</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>4 ch</td>
<td>2</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STM32L4R5</td>
<td>1024 to 2048</td>
<td>640</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>8x ch</td>
<td>1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STM32L4S5</td>
<td>2048</td>
<td>640</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>8x ch</td>
<td>1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STM32L4R7</td>
<td>1024 to 2048</td>
<td>640</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>8x ch</td>
<td>1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>STM32L4S7</td>
<td>2048</td>
<td>640</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>8x ch</td>
<td>1</td>
<td>•</td>
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<td>•</td>
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<td></td>
</tr>
<tr>
<td>STM32L4R9</td>
<td>1024 to 2048</td>
<td>640</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>8x ch</td>
<td>1</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>STM32L4S9</td>
<td>1024 to 2048</td>
<td>640</td>
<td>SDIO FSMC</td>
<td>2</td>
<td>2</td>
<td>8x ch</td>
<td>1</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td></td>
</tr>
</tbody>
</table>

- USART, SPI, I2C
- 2x Quad-SPI
- 16- and 32-bit timers
- SAI + audio PLL
- CAN
- Camera IF
- ART Accelerator™
- Chrom-ART Accelerator™
- 2x 12-bit DACs
- Temperature sensor
- Low voltage 1.71 to 3.6V
- VBAT mode
- Unique ID
- Capacitive touch-sensing

**STM32L4+ Series 10 Years Commitment**
STM32L4+ portfolio

Legend
- STM32L4R9/S9
- STM32L4R5/S5
- STM32L4R7/S7
- STM32L4P5/Q5
- With 128-/256-bit AES Hardware Encryption

Pin count
- 48 pins UQFN / LQFP
- 64 pins LQFP
- 100-pin LQFP
- 132-pin UFBGA (0.5 mm pitch)
- 144-pin LQFP & WLCSP & UFBGA (0.8 mm pitch)
- 169-pin UFBGA (0.5 mm pitch)

Flash memory / RAM size (bytes)
- 512 K / 320 K
- 1 M / 320 K
- 1 M / 640 K
- 2 M / 640 K
A large Ecosystem

SOFTWARE TOOLS

STM32CubeMX

IDEs

STM32CubeProg
STM32CubeMonitor
STM32CubeMonitorCPD

Notes:
- STM32CubeIDE will support multi-core debugging in Q4 2019.

HARDWARE TOOLS

STM32 Nucleo boards

Flexible prototyping

Discovery kits

Creative demos

Evaluation boards

Full-feature evaluation
STM32L4/L4+ ecosystem

**User code**

STM32CubeL4

- Hardware Abstraction Layer (HAL) portable APIs
- High-performance, light-weight low-layer (LL) APIs
- High coverage for most STM32 peripherals
- Production-ready and fully qualified
- Dozens of usage examples

STM32CubeL4

- Low-level drivers
- CMSIS

STM32CubeL4

- Middleware
- USB host and device library from ST
- STemWin graphical stack library from ST and Segger
- Open-source FAT file system (FatFs)
- Open-source real-time OS (FreeRTOS)
- Numerous examples

EMBEDDED SOFTWARE
STM32 graphic ecosystem

3 Recommended Software Solutions

Entry Solution

Advanced Solutions
Summary

4 keys of STM32 L4 + series

- More performance and still ULP leader
- More Graphics and Innovation
- More Integration
- Great Investment