

# STM32L4+ - Welcome

Revision 1



Hello, and welcome to the STM32L4+ training session.



# Training Session Chapters

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1. Introduction
2. System
3. Memory
4. Security & Safety
5. Analog
6. Communication & Peripherals
7. Watchdog & Timers
8. Ecosystem
9. Next steps



This session is organized to provide you with the most important information to ensure that you can develop your application as easily as possible. You will find a technical description of all the STM32L4+ modules including peripherals and development tools organized into specific sections: system, memory, security, analog, peripherals, watchdog and timers and ecosystem.

You can browse each section separately and learn about each module in the order of your choice and at your convenience.

This session also allows you to search directly for a keyword and you will have a direct access to the sections covering this information.



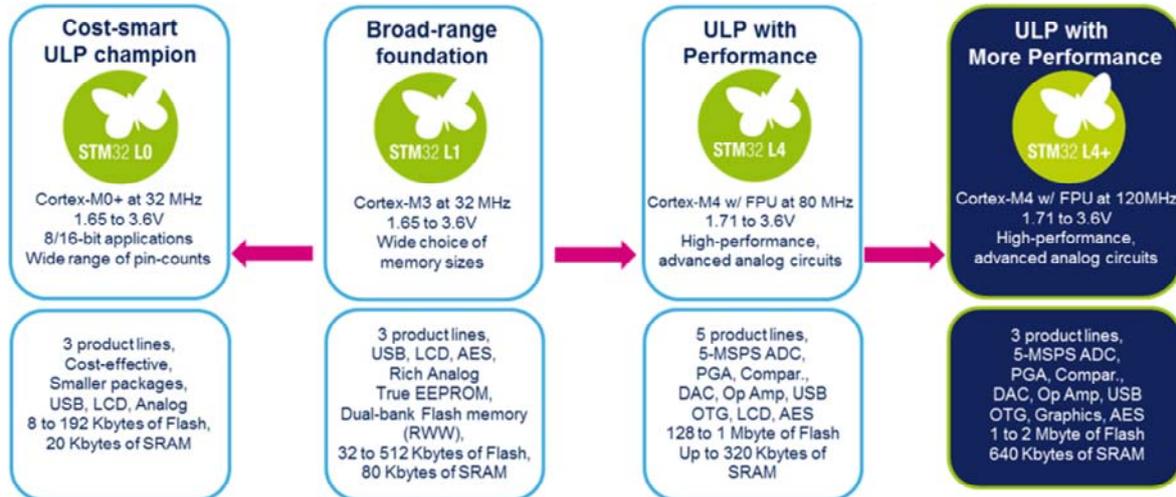
- ① More performance and still ULP leader
- ② Innovation and graphics
- ③ Integration and safety
- ④ Great investment



These are the 4 major points that characterize the STM32L4+ series:

- 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 figures.
- Innovation and Graphics: Enhanced graphics acceleration and innovative peripherals are embedded to optimize the BOM cost.
- Integration and Safety: 2 Mbytes of Flash memory and 640 Kbytes of SRAM with safety and security features, smart and numerous peripherals, advanced and low power analog circuits in packages as small as 5.2 x 5.2 mm.
- Long-term and advantageous investment: This new series of STM32 microcontrollers benefits from the pin-to-pin compatibility of the STM32 family and its ecosystem.

## STM32L4+ completes the ultra-low-power family



The STM32L4+ series completes the ultra-low-power family of microcontrollers developed by STMicroelectronics. The new STM32L4+ series stretches the STM32L4 technology by providing a higher performance (up to 120 MHz) and more graphics capabilities and very large memory (up to 2 Mbytes of Flash memory and 640 Kbytes of SRAM). To simplify migration and give you all the flexibility you need, the STM32L4+ is pin-to-pin compatible with the different STM32 series and opens the door to the full STM32 ecosystem.



# Ultra-low-power and Flexibility

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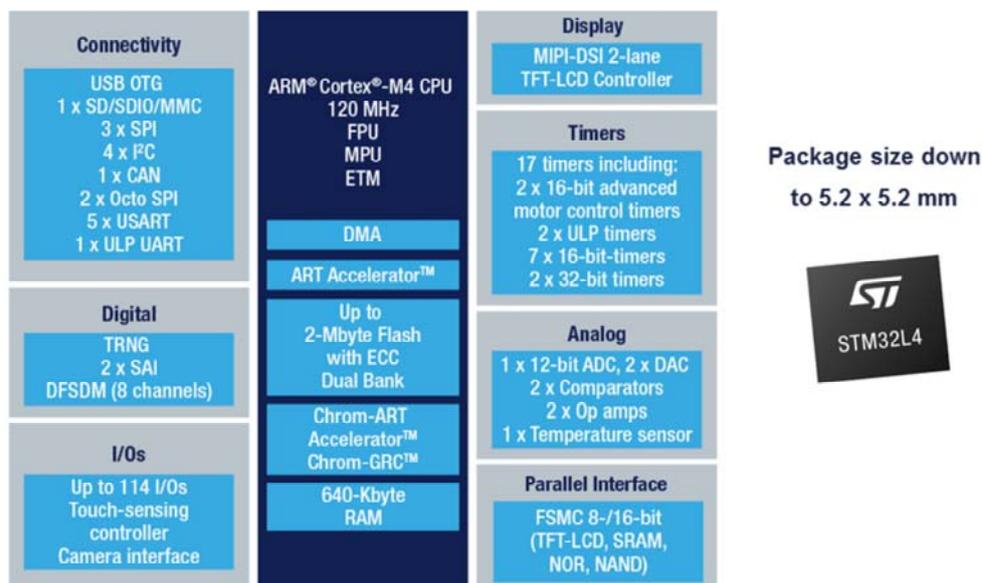
STM32L4+ keeps the advantages of the great STM32L4 platform optimized to reduce power consumption and increase flexibility



The STM32L4+ is based on the same platform as STM32L4 which is optimized to reduce power consumption and increase flexibility typically with its I/O level kept in low-power modes, the backup SRAM in Standby mode, the flexibility of wake-up sources in Stop mode, the ultra-low power consumption in Shutdown mode, the separate VDD supply, the VBAT domain with charging capability and the multi-speed internal RC oscillator programmable from 100 kHz to 48 MHz.



## High integration with high memory size in small packages



This block diagram of the STM32L4+ highlights the main sections of the microcontroller covered in this training session and their modules. The STM32L4+ proposes a wide variety of features that are required to develop flexible and complex applications such as industrial control, motor control, consumer, appliance, metering, medical, gaming, printers, audio and digital camera applications.

The STM32L4+ is also adapted to a wide panel of use cases. The Chrom-ART Accelerator is coupled with the large embedded SRAM, the Chrom-GRC™ round display memory optimizer, the high-throughput OctoSPI interface and to the advanced TFT and DSI controllers, allowing you to achieve ‘smartphone-like’ graphic user interfaces in a single-chip and ultra-low power solution.

## Integrated safety and security features

### Safety



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



### Security



- Anti-tamper detection
- Memory Protection Unit (MPU)
- Read and write protection
- Unique ID
- AES-256 encryption
- SHA- 256 Authentication
- JTAG fuse
- True random number generator
- Software IP protection
- OTP Zone



The STM32L4+ microcontroller includes many safety features and embeds specialized hardware for developing secured applications.

Enjoy!

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[www.st.com/stm32l4+](http://www.st.com/stm32l4+)

Now let's get started with the training. Do not hesitate to follow the events and news about this product on our website at [www.st.com](http://www.st.com).  
Enjoy!