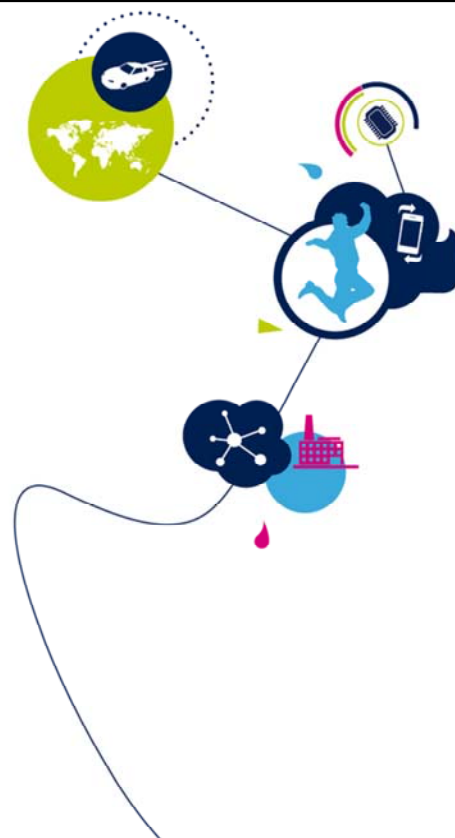


STM32H7 - Welcome

Revision 2.0



Hello, and welcome to the STM32H7 training session.



Training session organization

2

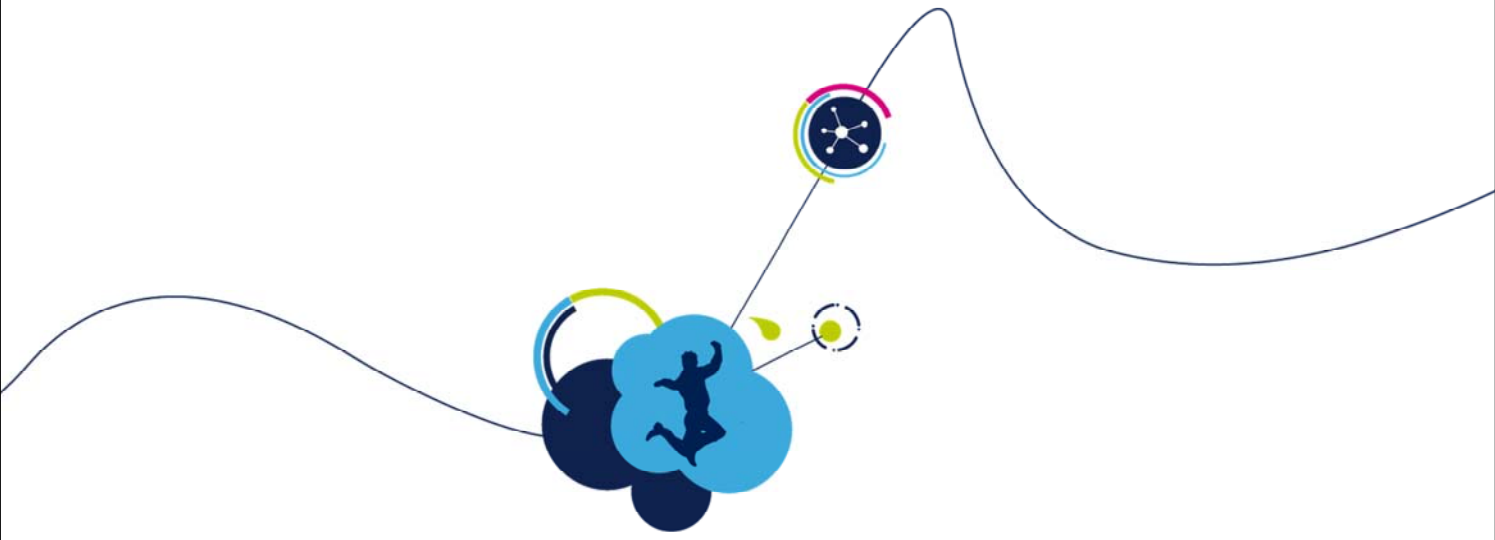
- Introduction
- System
- Memory
- Security & Safety
- Analog
- Communication & Peripherals
- Watchdogs & Timers
- Ecosystem
- Next steps




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 STM32H7 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.



STM32H7 MCU series
Excellence in **performance**



Now, let's take a closer look at the STM32H7 series of high-performance microcontrollers.



New product lines expanding the STM32 portfolio



New Performance Record

2424 + 800 CoreMark (Cortex®-M7 @480 MHz + Cortex®-M4 @240 MHz)



Single and Dual-core flexible architecture for industrial, security or AI applications
Accelerated graphics, fast data transfer, advanced peripherals



Advanced security features

Crypto Hash, Cortex®-M7 STM32Trust security ecosystem



Rich eco-system to speed-up your design

SW tools, HW boards, community and partners



life.augmented

The ARM® Cortex®-M7-based STM32H7 MCU series leverages ST's Non-Volatile-Memory (NVM) technology to reach the industry's highest benchmark scores for Cortex-M-based microcontrollers with up to 1327 DMIPS executing from embedded Flash memory.

The STM32H7 series of very high-performance MCUs come with an ARM® Cortex®-M7 core and optional ARM® Cortex®-M4 core for a dual-core.

It expands the STM32 portfolio with:

- A flexible architecture for industrial, security and AI application.
- Advanced security features.

And a rich ecosystem to speed-up your design.



STM32H7 Performance offer

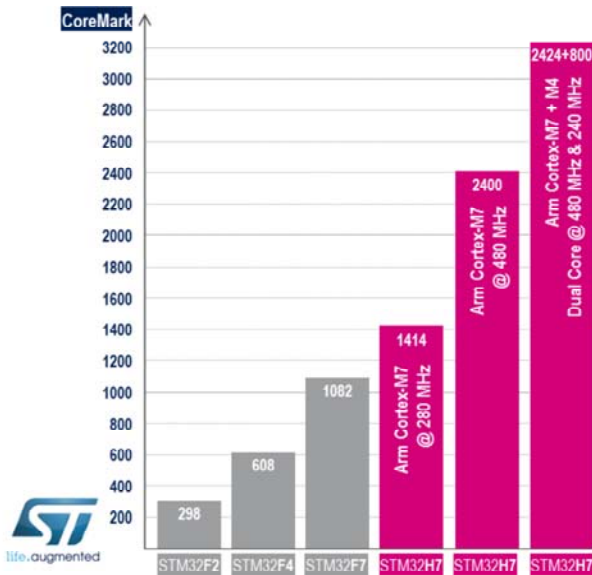
STM32H7 Completes the performance family

Arm® Cortex®-M7 @480MHz

Most powerful Cortex core with double precision FPU, MPU, advanced DSP and L1 cache

Arm® Cortex®-M4 @240MHz

Best in class core for real-time with single precision FPU, DSP, MPU and ART Accelerator™



The STM32H7 series completes the Performance family of microcontrollers developed by STMicroelectronics.

It delivers 2024 CoreMark as performance taking advantage of an L1 cache, a double-precision floating-point unit and ST's adaptive real-time memory accelerator.

The optional Cortex-M4 for dual core delivers 800 CoreMark at 240MHz.



Powerful Cores

6

Supported by a Powerful Architecture

Display nice graphic

The Chrom-ART Accelerator and MJPEG codec offload the CPU by more than 90%



Manage security

Use dedicated **cryptology** and **Hashing** HW acceleration to offload the CPU by more than 90%



Transfer data efficiently across peripherals

The Main DMA takes care of the most complex schemes between memories and peripherals with up to 16 channels to offload the CPU



Generate complex wave forms

High-Resolution timer (2.1ns) can generate complex wave forms synchronized on multiples events, with no CPU assist



The STM32H7 series is optimized to offer the best performance, extended with new peripherals to support the widest range of use cases thanks to a powerful architecture to:

- Display a nice graphic
- Transfer data efficiently across peripherals
- Generate complex wave forms
- And manage advanced security

Enjoy!

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www.st.com/stm32h7



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/stm32h7.
Enjoy!