STM32MP15 MPU lines

Industrial-grade MPUs for Linux real-time applications

Flexible, multicore architecture for open source Linux-based applications that require real-time performance

The STM32MP15 MPU lines are based on a dual or single Arm® Cortex®-A7 core running up to 800 MHz and a single Cortex®-M4 running up to 209 MHz. They also embed a 3D GPU for advanced graphics.

This architecture enables efficient resource management, and flexible peripheral mapping between the two cores.

STM32MP15 lines significantly reduce development time thanks to OpenSTLinux Distribution as a Mainlined Open Source Linux Distribution and upgraded STM32Cube tools.

INDUSTRIAL GRADE
- 100% operation time during 10 years
- Junction temperature: - 40°C to 125°C
- Up to 176 GPIOs

CORE
- Dual or Single Arm® Cortex®-A7 up to 800 MHz
- Arm® Cortex®-M4 core @ 209 MHz

EXTERNAL MEMORIES SUPPORT
- DDR3, DDR3L, LPDDR2, LPDDR3
- SLC NAND, SPI NAND
- eMMC, SD card, Quad-SPI NOR

INTERNAL MEMORIES
- System RAM 256Kbytes
- MCU RAM 484Kbytes

ANALOG
- 2x 16-bit ADCs
- 2x 12-bit DACs

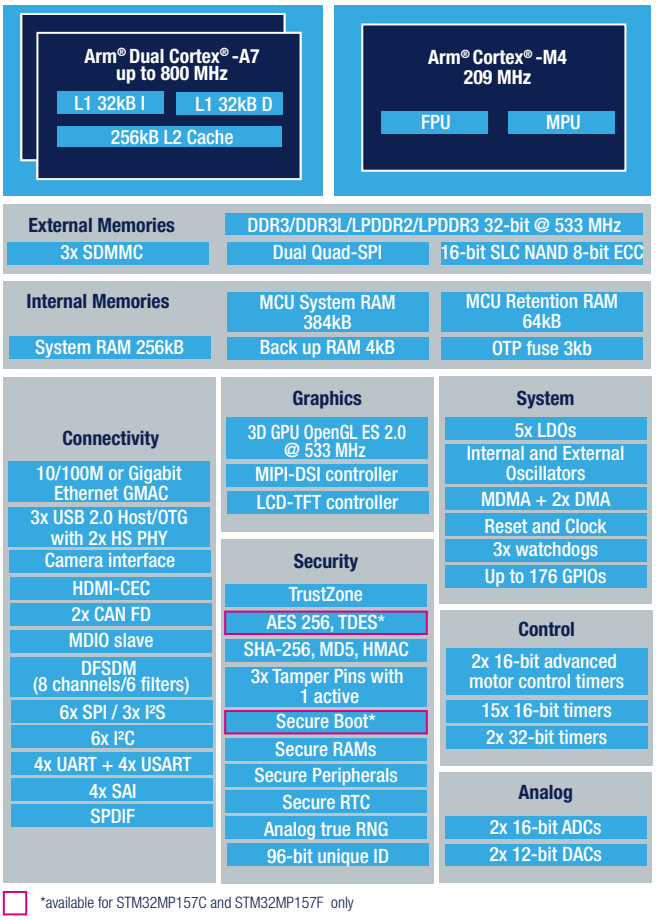
GRAPHICS
- 3D GPU OpenGL ES 2.0
- LCD-TFT Controller
- MIPI-DSI 2 lanes

SECURITY
- TrustZone®
- AES 256, TDES
- SHA-256, MD5, HMAC
- Secure boot, RAMs and peripherals

APPLICATIONS
- Industrial
- Home
- Consumer
- Health and wellness

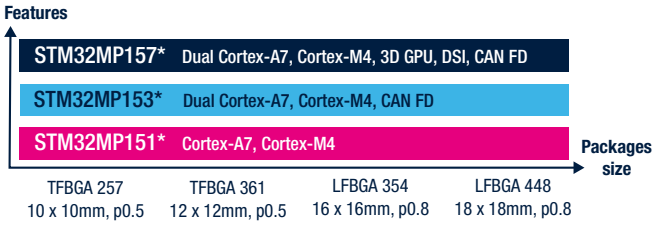
www.st.com/stm32mp1

STM32MP157 block diagram



*available for STM32MP157C and STM32MP157F only

STM32MP15x Portfolio



Packages can support low-cost PCB down to 4-layers PTH

*With or without crypto and secure boot

STM32MP15 embedded software distribution includes:

- Linux distribution based on Yocto, running on the Arm® Cortex®-A processor(s): **OpenSTLinux Distribution**

- STM32Cube MPU Package, running on the Arm® Cortex®-M processor: STM32CubeMP1 Package

Hardware tools

Flexible prototyping and evaluation

STM32MP157A-EV1
STM32MP157F-EV1

STM32MP157A-DK1
STM32MP157C-DK2

Software tools

STM32MP1 MPU Series come with enhanced STM32CubeMX, multicore IDE solutions (including STM32CubeIDE for device tree management) and STM32CubeProgrammer.

Flash this code to access to our wiki !

https://wiki.st.com/stm32mpu

STM32 MPU wiki by

Order code: FL2303STM32MP15