

STM32MP1 Series

Microprocessors



Multicore STM32MP1 architecture is ideal for Open Source Linux based applications with real-time and power constrained subsystems

The STM32MP1 series embed a dual Arm® Cortex®-A7, Cortex®-M4 and a 3D GPU. This flexible architecture allows high processing and real-time tasks in a single chip. It comes with large packages offer supporting lowest PCB cost structure and smallest board space.

STM32MP1 series is drastically reducing development time thanks to OpenSTLinux Distribution as a Mainlined Open Source Linux Distribution and STM32Cube Tools specially upgraded to cope with Linux MPU development.

TARGETED APPLICATIONS

- Industrial
- Home
- Consumer
- Health and Wellness

CORE

- Arm® Dual 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 256kB
- MCU RAM 484kB

ANALOG

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

GRAPHICS

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

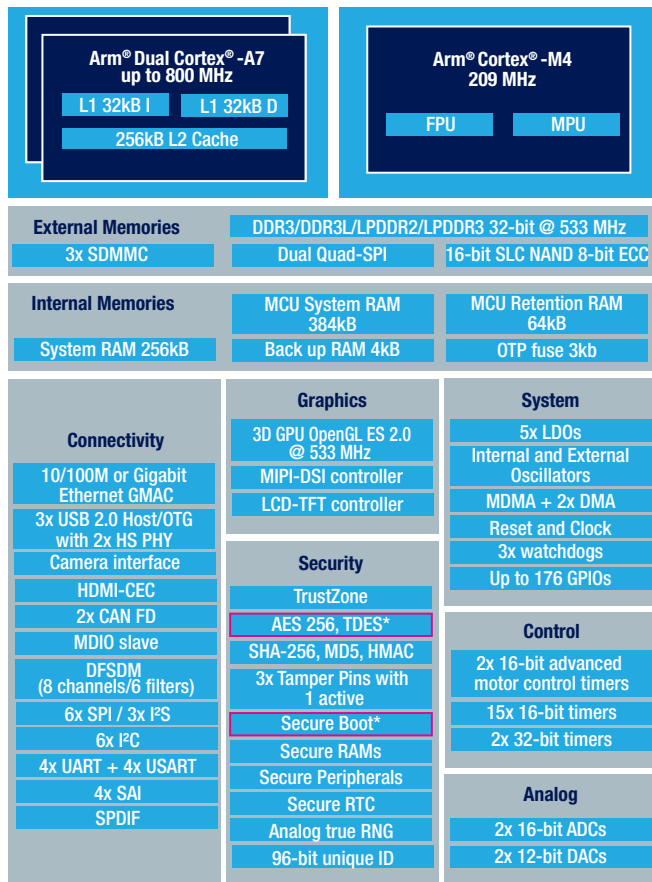
SECURITY

- TrustZone
- AES 256, TDES
- SHA-256, MD5, HMAC
- Secure boot, RAMs & Peripherals

OTHER

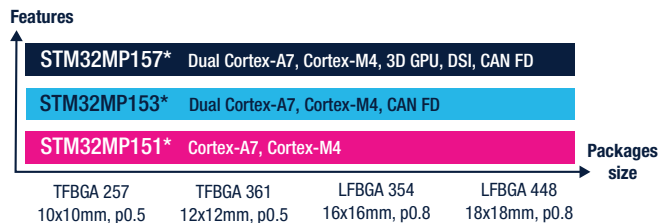
- Up to 176 GPIOs
- Up to 125°C supported as maximum junction temperature

STM32MP157 Block diagram



*available for STM32MP157C and STM32MP157F only

STM32MP1 Portfolio



Packages can support low-cost PCB down to 4-layers PTH
 *With or without crypto and secure boot

STM32MP1 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

A full set of evaluation boards enables flexible prototyping as well as full STM32MP1 evaluation.



STM32MP157A-EV1
 STM32MP157C-EV1
 2 Evaluation boards



STM32MP157A-DK1
 STM32MP157C-DK1
 2 Discovery Kits

Software tools

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



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