

# STM32MP2 MPU series

## 64-bit microprocessors with Neural Processing Unit



**Industrial-grade 64-bit MPU for secure Industry 4.0 and advanced edge computing applications that require high-end multimedia capabilities.**

The STM32MP25 lines are the first of the STM32MP2 series.

These microprocessors (MPUs) are built around single or dual Arm® Cortex®-A35 cores running up to 1.5 GHz and a single Arm® Cortex®-M33 core running up to 400 MHz.

The STM32MP25 MPUs offer long-term and cost-optimized DRAM support (DDR4 and LPDDR4) with a 32-bit interface at 1.2 GHz.

The STM32MP25 lines enable edge AI solutions in industrial environments, thanks to a neural processing unit (NPU) up to 1.35 TOPS and 3D graphics processing unit (GPU) for advanced HMI.

### Robustness

- 100% operating time for 10 years
- Extended temperature up to +125°C
- 10-year longevity program

### Connectivity











- Time-Sensitive Networking (TSN)
- Up to 3 Gigabit Ethernet ports (with 2-port switch)
- PCIe Gen2, USB 3.0, 3 x CAN-FD

### High-end graphics

- 1080p graphic capabilities (3D GPU, H.264 HW Video Codec)
- RGB, MIPI DSI and LVDS displays
- MIPI CSI-2 camera interface with Lite-ISP


### Strong security

- SESIP Level 3 certification
- TrustZone® on Cortex®-A and Cortex®-M
- Robust hardware encryption
- Secure Provisioning Ecosystem

 <p><b>64-bit Arm® Dual Cortex® -A35</b> up to 1.5 GHz DDR3L/DDR4/LPDDR4 32-bit</p>		 <p><b>Arm® Cortex® -M33</b> 400 MHz</p>	
 <p><b>Industry 4.0 and connectivity</b></p> <p>Up to 3-port TSN PCIe Gen2 USB 3.0</p>	 <p><b>Industrial Grade</b></p> <p>+125°C T<sub>j</sub></p>	 <p><b>Strong ecosystem</b></p> <p>OpenSTLinux </p>	
 <p><b>Edge computing</b></p> <p>1.35TOPS NPU</p>	 <p><b>Advanced multimedia</b></p> <p>3D GPU, H.264 MIPI DSI, LVDS MIPI CSI-2 w/ ISP</p>		 <p><b>Certified security</b></p> <p></p>

**Software tools**

STM32MP25 MPU lines come with enhanced STM32CubeMX, multi-core IDE solutions (including STM32CubeIDE for device tree management) and STM32CubeProgrammer.



**Hardware tools**

Flexible prototyping and evaluation



STM32MP257F-EV1  
Available in 2024

**STM32MP25 embedded software distribution includes:**

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



- STM32Cube MPU Package, running on the Arm® Cortex®-M processor: STM32CubeMP2 Package



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