

SmarCore STM32MP2 is based on the next-gen STM32 MPUs by ST® Microprocessors, with industrial-grade 64-bit MPU for secure Industry 4.0 and advanced edge computing applications that require high-end multimedia capabilities. This new SOM includes single or dual Arm® Cortex®-A35 up to 1.5 GHz, Arm Cortex-M33 at 400 MHz, NPU at 1.35 TOPS, 3D GPU for time-sensitive networking. Robustness, extended connectivity, high-end graphics and strong security.



FEATURES



	CPU	ST® STM32MP25x
	CORES	<ul style="list-style-type: none"> Single or Dual Core ARM Cortex-A35 @1.5 GHz ARM Cortex-M33@400MHz
	MEMORY	Up to 4GB LPDDR4 @2400 MT/s
	AI & GRAPHICS	<ul style="list-style-type: none"> 1.35 TOPS NPU 3D GPU: VeriSilicon® - Up to 900 MHz OpenGL® ES 3.2.8 – Vulkan 1.2 OpenCL™ 3.0, OpenVX™ 1.3 Up to 150 Mtriangle/s, 900 Mpixel/s
	VIDEO INTERFACES	<ul style="list-style-type: none"> MIPI® DSI 4 data lanes up to 2.5 Gbit/s each (NON-COMPLIANT STANDARD) Dual channel LVDS up to 1.1 Gbit/s per lane MIPI-CSI
	VIDEO PROCESSING	<ul style="list-style-type: none"> 1080p60 HEVC (h.264, VP8) dec 1080p60 HEVC (h.264, VP8) enc
	AUDIO	I²S interfaces
	NETWORKING	2x Gb Ethernet interfaces

HIGHLIGHTS

- 64-bit MPU with Neural Processing Unit (NPU)
- 2x Gb Ethernet
- 1080p graphic capabilities (3D GPU, H.264 hardware video Codec)
- MIPI DSI and LVDS displays
- Standard SMARC® 2.1.1 form factor

APPLICATIONS



	USB	<ul style="list-style-type: none"> Up to 4x USB HOST 2.0 1x USB 3.0 (optional)
	MASS STORAGE	Starting form 8GB eMMC drive soldered on-board
	PERIPHERAL INTERFACES	Serial, I²C, SPI, CAN Bus, PWM, SDIO i/f, JTAG i/f, PCIe, GPIOs
	POWER SUPPLY	+5V DC
	OPERATING SYSTEM	<ul style="list-style-type: none"> Linux Yocto
	OPERATING TEMPERATURE*	Up to -40°/+85°
	DIMENSIONS	Standard SMARC short size module

* Valid for all components except CPU. Customer shall consider junction temperature for CPU. Temperature will widely depend on application. Specific cooling solutions could be necessary for the final system.

BLOCK DIAGRAM

