

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.



## 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



## FEATURES



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

USB	<ul style="list-style-type: none"> <li>• Up to 4x USB HOST 2.0</li> <li>• 1x USB 3.0 (optional)</li> </ul>
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"> <li>• Linux</li> <li>• Yocto</li> </ul>
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

