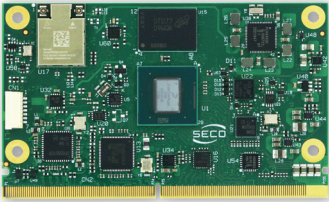




SOM-SMARC-MX8M-Plus

SMARC® Rel. 2.1.1 compliant module with NXP i.MX 8M Plus Applications Processors

Low-power design for embedded applications of machine learning at higher levels



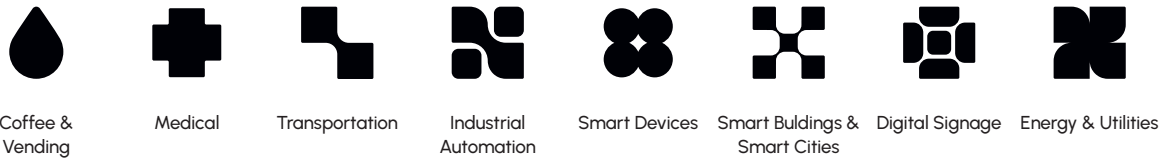
HIGHLIGHTS

CPU NXP i.MX 8M Plus Applications Processors	CONNECTIVITY 2x Gigabit Ethernet; opt. Wi-Fi +BT 5.0; 2x CSI Camera; 2x USB 3.0; 3x USB2.0; 1x PCI-e xl; 2x CAN Bus; 4xUART; 14x GPIOs; QuadSPI interface
GRAPHICS Integrated GPU, supports 3 independent displays	MEMORY up to 6GB soldered down LPDDR4-4000 memory

Available in Industrial Temperature Range



MAIN FIELDS OF APPLICATION



FEATURES

Processor	NXP i.MX 8M Plus family SoCs: Dual or Quad Arm® Cortex®-A53 Cores + general purpose Cortex® M7 800MHz processor <ul style="list-style-type: none"> · NXP i.MX 8M Plus Quad, 4x Arm® Cortex®-A53 Cores up to 1.8GHz · NXP i.MX 8M Plus Dual, 2x Arm® Cortex®-A53 Cores up to 1.8GHz · NXP i.MX 8M Plus Quad Lite, 4x Arm® Cortex®-A53 Cores up to 1.8GHz, no VPU / NPU 		Networking	Up to 2 x Gigabit Ethernet interfaces Optional WiFi + BT LE module onboard
Max Cores	4+1		USB	Up to 2 x USB 2.0 Host Ports 2 x USB 3.0 Host Ports 1 x USB 2.0 OTG port
Memory	Soldered down LPDDR4-4000 memory, 32-bit interface, up to 6GB		PCI-e	Up to 1x PCI-e xl Gen3 port
NPU	2.3 TOPS Neural Network performance (not for Quad Lite)		Audio	2x I2S Audio interfaces
Graphics	Integrated Graphics Processing Unit GC7000UL, supports 3 independent displays. Embedded VPU, supports HW decoding of HEVC/H.265, AVC/H.264, MPEG-4, MPEG-2, MVC, VC-1, RV, VP6, VP7, VP8, VP9, JPEG, HW encoding of HEVC/H.265, AVC/H.264 Supports OpenVG 1.1, OpenGL ES 3.1, OpenCL 1.2 Full Profile and Vulkan		Serial Ports	2x 2-wires UART 2x 4-wires UART
Video Interfaces	Up to 3 video display interfaces HDMI® 2.0a interface, supporting HDCP 2.2 and HDCP 1.4/1.3 2xLVDS Single Channel / 1xLVDS Dual Channel or eDP + 1xLVDS Single Channel (factory alternatives)		CAN Bus	2x CAN interfaces
Video Resolution	HDMI®, LVDS, eDP	Up to 1920 x 1080p @60	Other Interfaces	1x 4-lanes CSI camera interface 1x 2-lanes CSI camera interface 2x PWM Up to 14x GPIOs I2C bus SM bus SPI interface QuadSPI interface Watchdog Boot select signals Power Management Signals
Mass Storage	Soldered onboard eMMC 5.1 Drive, up to 64GB SD 4-bit interface		Power Supply	+5V _{DC} and +3.3V _{RTC}
			Operating System	Linux Android

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SMARC® Rel. 2.1.1 compliant module with NXP i.MX 8M Plus Applications Processors

FEATURES

Operating Temperature*	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version)
Dimensions	50 x 82 mm (1.97" x 3.23")

*Measured at any point of SECO standard heatspreader for this product, during any and all times (including start-up). Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider application-specific cooling solutions for the final system to keep the heatspreader temperature in the range indicated.

BLOCK DIAGRAM

