



SM-D16 SMARC® Rel. 2.1 compliant module with NXP i.MX 8X Applications Processors

Safety-certifiable and efficient performance in SMARC Standard module



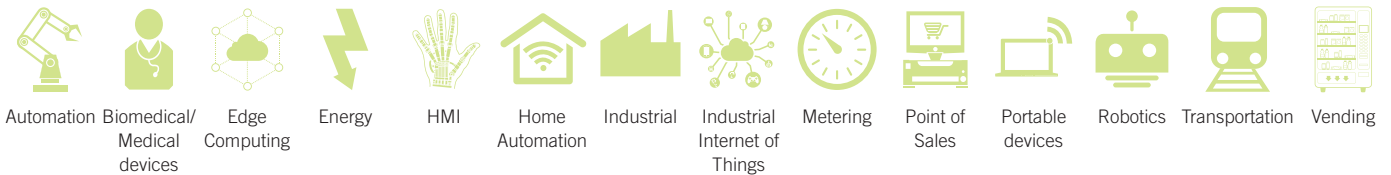
HIGHLIGHTS

CPU NXP i.MX 8X Applications Processors	CONNECTIVITY 2x Gigabit Ethernet; opt. Wi-Fi + BT 5.0; CSI camera; 2x USB 3.0; 3x USB2.0; 1x PCI-e x1; 2x CAN Bus; 4xUART; 14x GPIOs; QuadSPI interface;
GRAPHICS Integrated GPU, supports 2 independent displays	MEMORY up to 4GB soldered down LPDDR4-2400 memory

Available in Industrial Temperature Range



MAIN FIELDS OF APPLICATION



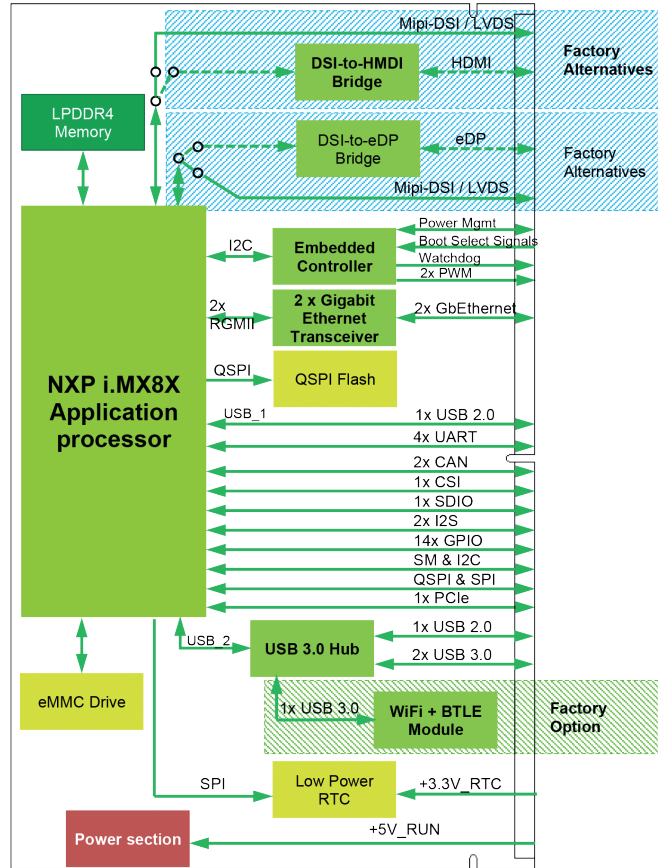
FEATURES

Processor	NXP i.MX 8X family SoCs: Dual or Quad ARM Cortex®-A35 Cores + 1x Cortex® M4F core for real-time processing	PCI-e	1x PCI-e 3.0 x1 port
Max Cores	4+1	Audio	Up to 2x I2S Audio interfaces
Memory	Soldered down LPDDR4 memory @ 1200MHz, 32-bit interface, up to 4GB	Serial Ports	2x 2-wires UART 2x 4-wires UART
Graphics	Embedded GC7000Lite GPU Supports OpenGL 3.0, 2.1, OpenGL ES 3.1, OpenCL 1.2 Full Profile and 1.1, OpenVG 1.1, and Vulkan Embedded VPU, supports HW decoding of HEVC/H.265, AVC/H.264, MPEG-2, VC-1, RV10, VP8, H.263 and MPEG4.2t, HW encoding of AVC/H.264 2 independent displays supported	CAN Bus	2x CAN interfaces
Video Interfaces	Factory alternatives: <ul style="list-style-type: none"> • 2x LVDS / Mipi-DSI Single Channel or 1xLVDS / Mipi-DSI Dual Channel 18-/24-bit interface • LVDS / Mipi-DSI Single Channel 18-/24-bit interface + HDMI interface • eDP 4-lane interface + LVDS / Mipi-DSI single Channel 18-/24-bit interface • eDP 4-lane interface + HDMI interface 	Other Interfaces	1x 4-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
Video Resolution	MIPI-DSI, LVDS, eDP, HDMI Up to 1920 x 1080 @ 60Hz	Power Supply	+5V _{DC} and +3.3V _{RTC}
Mass Storage	Optional Soldered onboard eMMC 5.1 Drive, up to 64GB SD 4-bit interface QSPI NOR Flash soldered on-board	Operating System	Linux Android
Networking	Up to 2 x Gigabit Ethernet interfaces On-board WiFi 802.11 a/b/g/n + BT LE 5.0 module, optional	Operating Temperature*	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version)
USB	Up to 3 x USB 2.0 Host Ports 2 x USB 3.0 Host Ports	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.

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BLOCK DIAGRAM



Information subject to change. Please visit www.seco.com to find the latest version of this datasheet

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