SMARC

SWAN
SMARC® Rel. 2.1.1 module with NXP i.MX 8X Applications Processors

Safety-certifiable and efficient performance in SMARC Standard module
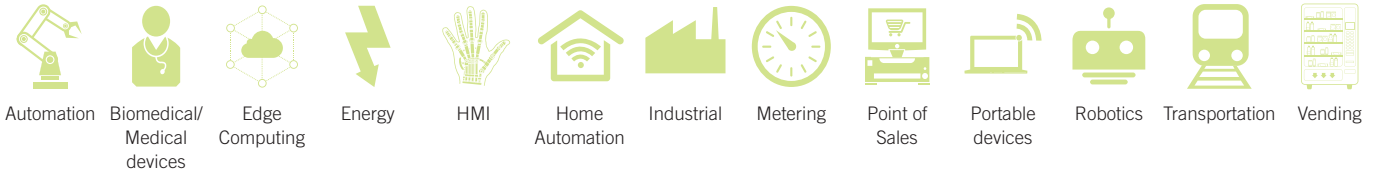
HIGHLIGHTS

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 GPI/Os; QuadSPI interface;

GRAPHICS
Integrated GPU, supports 2 independent displays

MEMORY
up to 4GB soldered down LPDDR4-2400 memory

Available in Industrial Temperature Range

SMARC module

SGeT STANDARDIZATION GROUP FOR EMBEDDED TECHNOLOGIES

GOLD PARTNER NXP

AI-ENABLED WITH ((CLEA

Linux   android

MAIN FIELDS OF APPLICATION

Automation | Biomedical/ Medical devices | Edge Computing | Energy | HMI | Home Automation | Industrial | Metering | Point of Sales | Portable devices | Robotics | Transportation | Vending

FEATURES

Processor	NXP i.MX 8X family SoCs: Dual or Quad Arm Cortex®-A35 Cores + 1x Cortex® M4F core for real-time processing • NXP i.MX8 QuadXplus, 4x Arm Cortex®-A35 Cores + 1x Cortex® M4F core for real-time processing • NXP i.MX8 DualXplus, 2x Arm Cortex®-A35 Cores + 1x Cortex® M4F core for real-time processing • NXP i.MX8 DualX, 2x Arm Cortex®-A35 Cores	**PCI-e**	1x PCI-e 3.0 x1 port
		Audio	Up to 2x I2S Audio interfaces
		Serial Ports	2x 2-wires UART 2x 4-wires UART
		CAN Bus	2x CAN interfaces
Max Cores	4+1	**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
Memory	Soldered down LPDDR4 memory @ 1200MHz, 32-bit interface, up to 4GB		
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		
		Power Supply	+5V$_{DC}$ and +3.3V_RTC
		Operating System	Linux Android
Video Interfaces	Factory alternatives: • 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 + HMDI interface • eDP 4-lane interface + LVDS / Mipi-DSI single Channel 18-/24-bit interface • eDP 4-lane interface + HMDI interface	**Operating Temperature***	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version)
		Dimensions	50 x 82 mm (1.97" x 3.23")
Video Resolution	MIPI-DSI, LVDS, eDP, HDMI Up to 1920 x 1080 @ 60Hz		
Mass Storage	Optional Soldered onboard eMMC 5.1 Drive, up to 64GB SD 4-bit interface QSPI NOR Flash soldered on-board		
Networking	Up to 2 x Gigabit Ethernet interfaces On-board WiFi 802.11 a/b/g/n + BT LE 5.0 module, optional		
USB	Up to 3 x USB 2.0 Host Ports 2 x USB 3.0 Host Ports		

*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.

SECO

BLOCK DIAGRAM