SMARC

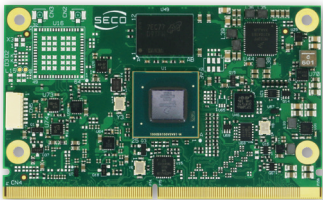## SM-C12 — SMARC Rel. 2.1 compliant module with NXP i.MX 8M Applications Processors

Standard solution for next generation multimedia applications

early access

HIGHLIGHTS

CPU
NXP i.MX 8M Applications Processors

CONNECTIVITY
WiFi + BT LE; CSI camera; QuadSPI interface; 14 x GPI/Os

GRAPHICS
Integrated Graphics Processing Unit, supports 2 independent displays

MEMORY
Up to 4GB soldered down LPDDR4-3200 memory, 32-bit interface

🌡 Available in Industrial Temperature Range

SMARC module | SGeT STANDARDIZATION GROUP FOR EMBEDDED TECHNOLOGIES | GOLD PARTNER NXP

Linux | yocto PROJECT | Android

MAIN FIELDS OF APPLICATION

Digital Signage - Infotainment | Home Automation | Multimedia devices | Transportation | Vending
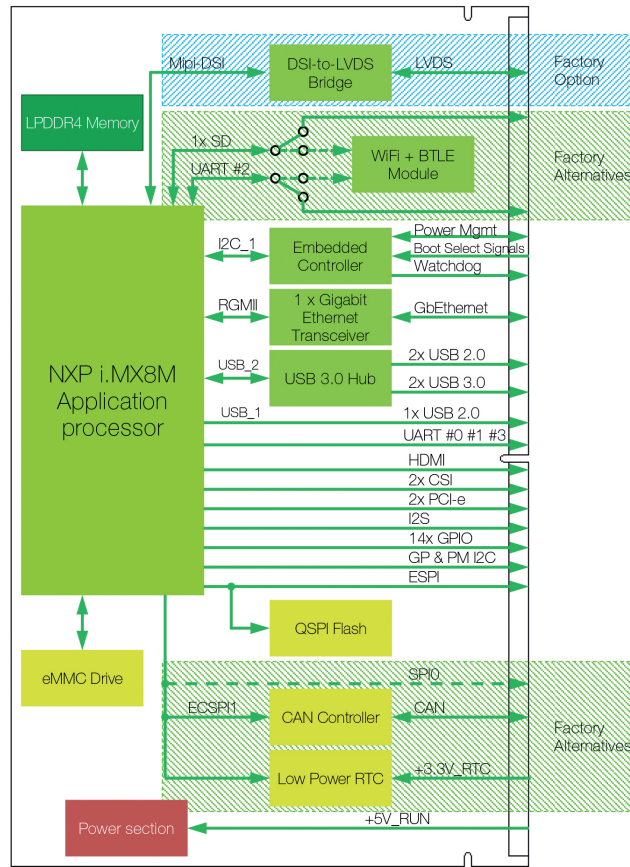
FEATURES

Processor	NXP i.MX 8M Family based on ARM Cortex®-A53 cores + general purpose Cortex®-M4 processor: • **i.MX 8M Quad** - 4x Cortex®-A53 cores up to 1.5GHz • **i.MX 8M Dual** - 2x Cortex®-A53 cores up to 1.5GHz • **i.MX 8M QuadLite** - 4x Cortex®-A53 cores up to 1.5GHz, no VPU	**Other Interfaces**	1x 4-lanes + 1x 2-lanes CSI camera interfaces I2C Bus SM Bus 2x SPI interfaces QuadSPI interface 14 x GPI/Os Boot select signals Power Management Signals
Memory	Soldered Down LPDDR4-3200 memory, 32-bit interface, up to 4GB	**Power Supply**	+5V$_{DC}$ +3.3V_RTC
Graphics	Integrated Graphics Processing Unit, supports 2 independent displays Embedded VPU, supports HW decoding of HEVC (H.265), H.264, H.263, MPEG-4, MPEG-2, AVC, VC-1, RV, DivX, VP6, VP8, VP9, JPEG Supports OpenGL ES 3.1, Open CL 1.2. OpenGL 2.X, Vulkan, DirectX, Open VG 1.1	**Operating System**	Linux Yocto Android
Video Interfaces	HDMI 2.0a interface, supporting HDCP 2.2 and HDCP 1.4 18- / 24-bit Dual Channel LVDS interface (factory option)	**Operating Temperature***	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version)
Video Resolution	HDMI: Up to 4096 x 2160 @ 60 (4K) LVDS: Up to 1920 x 1080 @ 60Hz	**Dimensions**	50 x 82 mm (1.97" x 3.23")
Mass Storage	Optional SD 4-bit interface QSPI Flash soldered-onboard eMMC 5.0 drive soldered on-board		
Networking	1 x Gigabit Ethernet interface Optional WiFi + BT LE module onboard		
USB	2 USB 3.0 Host ports 2 USB 2.0 Host ports 1 USB 2.0 OTG port		
PCI-e	2x PCI-e x1 ports		
Audio	I2S Audio Interface		
Serial Ports	Up to 2x UART Tx/Rx/RTS/CTS 2x UART Tx/Rx 1x CAN Bus (TTL level)		

*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