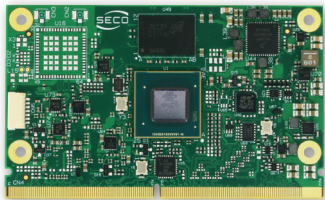




SM-C12

SMARC Rel. 2.1 compliant module with NXP i.MX 8M Applications Processors

Standard solution for next generation multimedia applications



HIGHLIGHTS

CPU NXP i.MX 8M Applications Processors	CONNECTIVITY WiFi + BT LE; CSI camera; QuadSPI interface; 12x GPIOs
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



DEVELOPMENT SAMPLING **PRODUCTION**

MAIN FIELDS OF APPLICATION



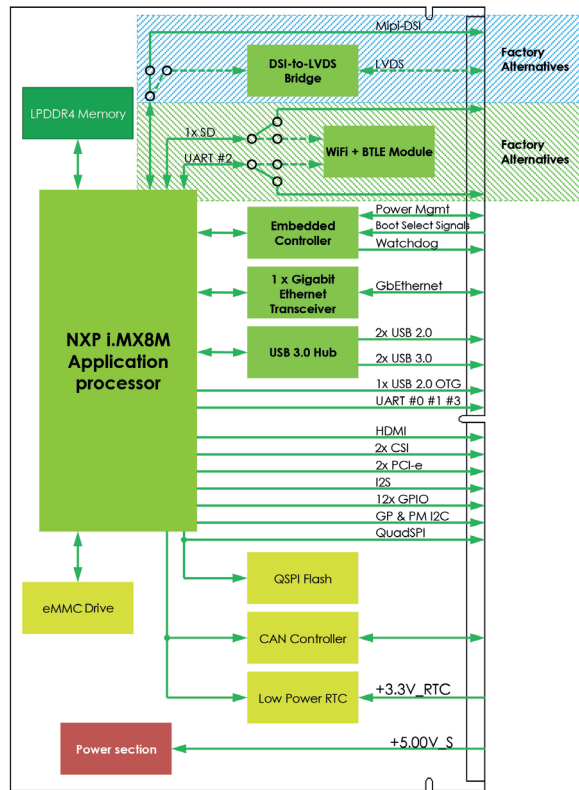
FEATURES

Processor	NXP i.MX 8M Family based on ARM Cortex®-A53 cores + general purpose Cortex®-M4 processor: <ul style="list-style-type: none"> • 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 12 x GPIOs 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 or MIPI-DSI interface (factory alternatives)	Operating Temperature*	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version)
Video Resolution	HDMI: Up to 4096 x 2160 @ 60 (4K) MIPI-DSI, 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	*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.	
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)		

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BLOCK DIAGRAM



002.2017 information subject to change. Please visit www.seco.com to find the latest version of this datasheet