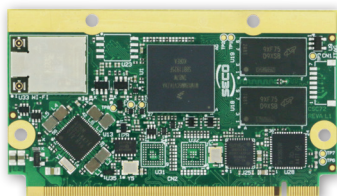




ELECTRA

µQseven® standard module with NXP i.MX 8M Mini & NXP i.MX 8M Nano Processors

with NXP's first MPU built using advanced 14LPC FinFET process technology for more speed and improved power efficiency



HIGHLIGHTS



CPU

NXP i.MX 8M Mini Family / i.MX 8M Nano Family



CONNECTIVITY

Gigabit Ethernet; opt. Wi-Fi +BT 5.0; 2 x UART; opt. CAN; 5x USB 2.0; 1 PCI-e x1



GRAPHICS

GC320 2D accelerator + GCNanoUltra 3D accelerator



MEMORY

Soldered on-board DDR4-2400 Memory



MAIN FIELDS OF APPLICATION



HMI



Multimedia devices



Thin client



Vending

FEATURES

Processor	NXP i.MX 8M Mini Family based on Arm® Cortex®-A53 cores + general purpose Cortex®-M4 400MHz processor:	Graphics	i.MX 8M Mini Family of processors: Vivante GC320 2D accelerator + GCNanoUltra 3D accelerator OpenGL ES 2.0, OpenVG 1.1 support
	i.MX 8M Mini Quad - Full featured, 4x Cortex®-A53 cores up to 1.8GHz i.MX 8M Mini Dual - Full featured, 2x Cortex®-A53 cores up to 1.8GHz i.MX 8M Mini Solo - Full featured, 1x Cortex®-A53 cores up to 1.8GHz i.MX 8M Mini Quad Lite - 4x Cortex®-A53 cores up to 1.8GHz, no VPU i.MX 8M Mini Dual Lite - 2x Cortex®-A53 cores up to 1.8GHz, no VPU i.MX 8M Mini Solo Lite - 1x Cortex®-A53 cores up to 1.8GHz, no VPU		i.MX 8M Nano Family of processors: Vivante GC7000UL 2D/3D GPU OpenGL ES 3.1, OpenCL1.2, Vulkan support
Max Cores	NXP i.MX 8M Nano Family based on Arm® Cortex®-A53 cores + general purpose Cortex®-M7 750MHz processor:	Video Interfaces	Only for i.MX 8M Mini Family, not for Lite processors, embedded VPU able to offer:
	i.MX 8M Nano Quad - Full featured, 4x Cortex®-A53 cores up to 1.5GHz i.MX 8M Nano Dual - Full featured, 2x Cortex®-A53 cores up to 1.5GHz i.MX 8M Nano Solo - Full featured, 1x Cortex®-A53 cores up to 1.5GHz i.MX 8M Nano Quad Lite - 4x Cortex®-A53 cores up to 1.5GHz, no VPU i.MX 8M Nano Dual Lite - 2x Cortex®-A53 cores up to 1.5GHz, no VPU i.MX 8M Nano Solo Lite - 1x Cortex®-A53 cores up to 1.8GHz, no VPU	Video Resolution	- VP9, HEVC/H.265, AVC/H.264, VP8 HW Decoding - AVC/H.264, VP8 HW encoding
Memory	Soldered Down onboard DDR4 memory:	Mass Storage	Single/Dual Channel 18/24 bit LVDS interface or eDP interface
	- Up to 4GB of DDR4-2400, 32-bit bus memory (i.MX8M Mini) - Up to 2GB of DDR4-2400, 16-bit bus memory (i.MX8M Nano)	Networking	Up to 1920 x 1080p
		USB	eMMC 5.1 drive on-board, up to 64GB SD / MMC / SDIO interface Optional QSPI Flash for booting
		PCI-e	Gigabit Ethernet interface Optional WiFi 802.11 a/b/g/n/ac +BT 5.0 NGFF module soldered on-board
		Audio	5x USB 2.0 Host ports (i.MX 8M Mini) 4x USB 2.0 Host ports (i.MX 8M Nano)
		Serial Ports	1 x PCI Express x 1 lane (only with i.MX 8M Mini)
		Other Interfaces	I2S Audio Interface
			1x 4-wire UART + 1 x Debug UART Optional CAN interface
			SPI interface Watchdog 8x GPIO SM Bus I2C interface

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FEATURES

	Power Supply	+5V _{DC} and +5V _{SB} (optional)
	Operating System	Linux (Yocto)
	Operating Temperature*	0°C ÷ +60 °C (commercial temp.) -30°C ÷ +85°C (extended temp.)
	Dimensions	40 x 70 mm (μQseven, 1.57" x 2.76")

*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

