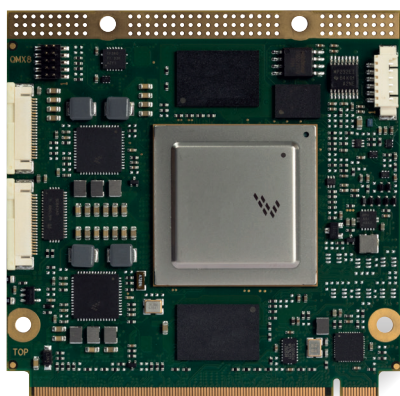


# HIGH PERFORMANCE NXP i.MX8 SERIES

## conga-QMX8

### PRELIMINARY



- NXP i.MX8 ARM Cortex-A72, Cortex-A53 and -M4F
- Advanced Graphics, Performance and Virtualization
- 3D Graphics up to 4K with HDMI 2.0a & LVDS
- Vision Extensions, MIPI CSI-2 dual camera interface
- Extended longevity, up to 15 years
- Temperature range up to -40°C .. +85°C



Formfactor	Qseven Rev. 2.1   70x70 mm <sup>2</sup>				
CPU	NXP i.MX8 ARM Processor Cores				
		ARM Cortex-A72	ARM Cortex-A53	ARM Cortex-M4F	GPU
	i.MX 8 QuadMax	2x	4x	2x	2x GC7000XSVX
	i.MX 8 QuadPlus	1x	4x	2x	2x GC7000Lite/XSVX
	i.MX 8 Dual Max	2x	-	2x	1x GC7000Lite/XSVX
DRAM	Up to 8 GByte onboard LPDDR4 memory   3200 MT/s				
Ethernet	1x 1 Gbit Ethernet				
I/O Interfaces	5x USB 2.0 (shared with 1x USB OTG client)   1x USB 3.0   1x SATA III   1x SDIO SD 3.0   up to 3x PCIe 3.0 lanes (one shared with SATA III), 2 Root Ports   I <sup>2</sup> C Bus   CAN FD   SPI   2x UART				
Mass Storage	eMMC 5.0 up to 64 GByte   Onboard MicroSD 3.0 card socket				
Sound	I <sup>2</sup> S				
Graphics	Integrated in NXP i.MX8 Series GT7000 multimedia GPU VPU (4K h.265 dec / HD h.264 enc)   2D Graphics (GPU2D) and 3D Graphics (GPU3D)   3D graphics with 4 high performance / 4 vec4 shaders up to 16 execution units   2 independent displays   dual stream 1080p/720p decoder/encoder   OpenGL   Vulkan   VX extensions   OpenCL				
Video Interfaces	HDMI 2.0a with HDCP 2.2   1x dual channel LVDS 24 bit   eDP 1.4 output and DP 1.3 output (shared with HDMI) 1x MIPI-DSI with 4-lanes each shared with camera 1   2x MIPI-CSI with 4-lanes each				
Features	Watchdog Timer I <sup>2</sup> C bus (fast mode   400 kHz   multi-master) JTAG debug interface 2x CAN FD interface High Precision Real Time Clock				
Virtualization	Multiple Domains with Hardware Virtualization   Multiple Operating Systems Support   System MMU   Resource Partitioning and Split GPU				
Security	High Assurance Boot support   Inline Encryption Engine (AES-128) TNG, AES-128, AES-256, 3DES, ARC4, RSA4096, SHA-1, SHA-2, SHA-256, MD-5   RSA-1024, 2048, 3072, 4096				
Boot Loader	U-Boot boot loader				
Operating Systems	Linux   Yocto   Android				
Power Consumption	Typ. application tbd. @ 5V				
Temperature	Operating: 0 to +60°C commercial grade -40 to +85°C industrial grade Storage: -40 to +85°C				
Humidity	Operating: 10 to 90% r. H. non cond. Storage: 5 to 95% r. H. non cond.				
Size	70 x 70 mm (2¾" x 2¾")				

# conga-QMX8 | Block diagram

conga-QMX8

Qseven 2.1



# conga-QMX8 | Order Information

Article	PN	
conga-QMX8/QCM-4GB eMMC16	016400	Qseven module with high-performance NXP i.MX8 Quad Max processor with 2x ARM® Cortex®-A72, 4x ARM® Cortex®-A53 and 2x ARM® Cortex®-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Lidded package. Commercial temperature range.
conga-QMX8/QCP-4GB eMMC16	016401	Qseven module with high-performance NXP i.MX8 Quad Plus processor with 1x ARM® Cortex®-A72, 4x ARM® Cortex®-A53 and 2x ARM® Cortex®-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Lidded package. Commercial temperature range.
conga-QMX8/DCM-4GB eMMC16	016402	Qseven module with high-performance NXP i.MX8 Quad Plus processor with 2x ARM® Cortex®-A72 and 2x ARM® Cortex®-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Lidded package. Commercial temperature range.
conga-QMX8/i-QCM-4GB eMMC16	016421	Qseven module with high-performance NXP i.MX8 Quad Max processor with 2x ARM® Cortex®-A72, 4x ARM® Cortex®-A53 and 2x ARM® Cortex®-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Lidded package. Industrial temperature range.
conga-QMX8/i-QCP-4GB eMMC16	016422	Qseven module with high-performance NXP i.MX8 Quad Plus processor with 1x ARM® Cortex®-A72, 4x ARM® Cortex®-A53 and 2x ARM® Cortex®-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Lidded package. Industrial temperature range.
conga-QMX8/i-DCM-4GB eMMC16	016423	Qseven module with high-performance NXP i.MX8 Dual Max processor with 2x ARM® Cortex®-A72 and 2x ARM® Cortex®-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Lidded package. Industrial temperature range.
conga-QMX8/CSP-B	016450	Passive cooling solution for Qseven module conga-QMX8 with lidded NXP i.MX8 ARM Cortex® A72 processor. All standoffs are with 2.7mm bore hole.
conga-QMX8/CSP-T	016451	Passive cooling solution for Qseven module conga-QMX8 with lidded NXP i.MX8 ARM Cortex® A72 processor. All standoffs are M2.5mm thread.
conga-QMX8/HSP-B	016452	Standard heatspreader for Qseven module conga-QMX8 with lidded NXP i.MX8 ARM Cortex® A72 processor. All standoffs are with 2.7mm bore hole.
conga-QMX8/HSP-T	016453	Standard heatspreader for Qseven module conga-QMX8 with lidded NXP i.MX8 ARM Cortex® A72 processor. All standoffs are M2.5mm thread.