

SMARC 2.1 based on NXP i.MX 8M MINI

conga-SMX8-Mini

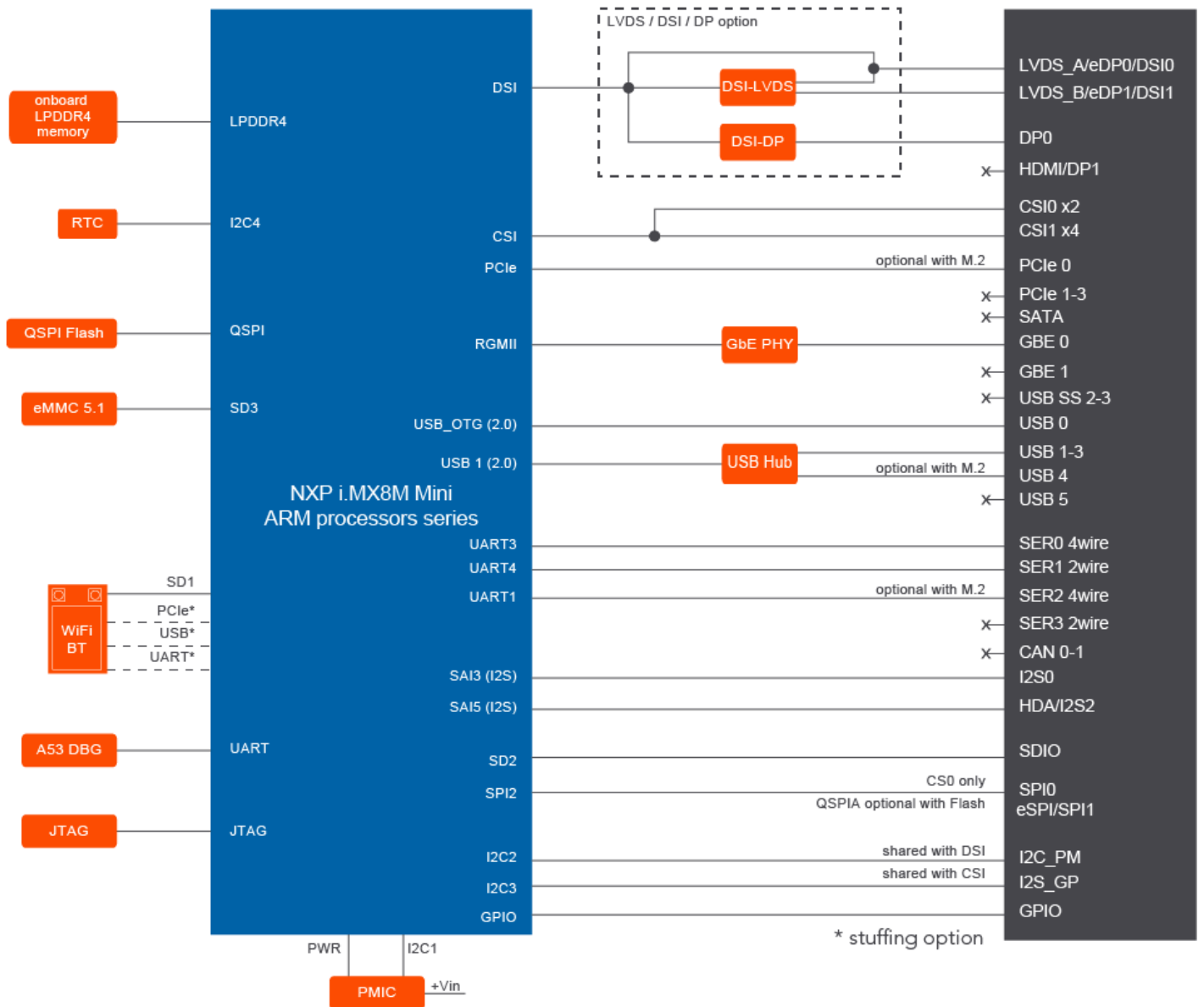


- SMARC 2.1 Module based on NXP i.MX 8M Mini
- Scalable ARM Performance with up to 4x 1.8GHz Cortex-A53 and 1x Cortex-M4F
- Highly improved power efficiency and performance by 14LPC FinFET process technology
- 3D Graphics with Full HD resolution, MIPI CSI-2
- Extended longevity up to 15 years



Form factor	SMARC Specification 2.1 82x50 mm²			
CPU	NXP i.MX 8M Mini ARM Processor Cores			
	Commercial i.MX 8M Mini Quad i.MX 8M Mini Dual i.MX 8M Mini Solo	ARM Cortex-A53 4 x 1.8GHz 2 x 1.8GHz 1 x 1.8GHz	ARM Cortec-M4F 1x 400MHz 1x 400MHz 1x 400MHz	GPU 1x GC NanoUltra 3D Graphics 1x GC NanoUltra 3D Graphics 1x GC NanoUltra 3D Graphics
	Industrial i.MX 8M Mini Quad i.MX 8M Mini Dual i.MX 8M Mini Solo	4 x 1.6GHz 2 x 1.6GHz 1 x 1.6GHz	1x 400MHz 1x 400MHz 1x 400MHz	1x GC NanoUltra 3D Graphics 1x GC NanoUltra 3D Graphics 1x GC NanoUltra 3D Graphics
DRAM	Up to 4 GByte onboard LPDDR4 memory 3000 MT/s			
Ethernet	1x Gigabit Ethernet with IEEE 1588v2 support			
I/O Interfaces	Up to 5x USB 2.0 (shared with 1x USB OTG client) 1x PCIe 2.0 1x SDIO 3.0 2x I²C Bus 1x SPI up to 3x UART (2x with handshake) GPIOs 1x MIPI-CSI2 (2-lanes) or (4-lanes) optional M.2 1216 WiFi/BT module			
Storage	eMMC 5.1 up to 128 GByte			
Sound	2x I²S			
Graphics	Integrated in NXP i.MX 8M Mini Series GC NanoUltra 3D GPU one display VPU with up to 1080p video decoding (H.265, H.264, VP8/9) up to 1080p video encoding (H.264, VP8) 3D Graphics GPU with one shader core up to 6.4GFlops GC320 2D Graphics GPU OpenGL ES 2.0 OpenVG 1.1			
Display Interfaces	1x dual channel 24bit LVDS through bridge (default) or MIPI-DSI 4-lanes or DisplayPort through bridge			
Embedded Features	Watchdog Timer I²C bus Cortex-A53 console optional JTAG debug interface high precision Real Time Clock			
Security	High Assurance Boot support TrustZone AES-256, RSA-4096, SHA-256, 3DES, DES, ARC4, MD-5 eFuse Key Storage Secure Real Time Clock (RTC) True Random Number Generator (RNG) 32 KB Secure RAM SJTAG			
Boot Loader	U-Boot boot loader			
Operating Systems	Linux Yocto Android			
Power Consumption	See user’s guide for full details			
Temperature	Industrial Variants: Commercial Variants:	Operating Temperature: -40 to +85°C Operating Temperature: 0 to +60°C	Storage Temperature: -40 to +85°C Storage Temperature: -40 to +85°C	
Humidity	Operating: 10 - 90% r. H. non cond.		Storage: 5 - 95% r. H. non cond.	
Size	82 x 50 mm (~3,23” x 1,97”)			

conga-SMX8-Mini | Block diagram



conga-SMX8-Mini | Order Information

Article	PN	Description
conga-SMX8-Mini/QC-4G eMMC16	051200	SMARC 2.1 module with NXP i.MX 8M Mini Quad 14LPC FinFET processor with 4x 1.8GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Commercial temperature range.
conga-SMX8-Mini/DC-2G eMMC16	051201	SMARC 2.1 module with NXP i.MX 8M Mini Dual 14LPC FinFET processor with 2x 1.8GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 2GB onboard LPDDR4 memory and 16GB onboard eMMC. Commercial temperature range.
conga-SMX8-Mini/SC-1G eMMC16	051202	SMARC 2.1 module with NXP i.MX 8M Mini Single 14LPC FinFET processor with 1x 1.8GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 1GB onboard LPDDR4 memory and 16GB onboard eMMC. Commercial temperature range.
conga-SMX8-Mini/QC-2G eMMC16	051203	SMARC 2.1 module with NXP i.MX 8M Mini Quad 14LPC FinFET processor with 4x 1.8GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 2GB onboard LPDDR4 memory and 16GB onboard eMMC. Commercial temperature range.
conga-SMX8-Mini/QC-4G eMMC16 DP	051204	SMARC 2.1 module with NXP i.MX 8M Mini Quad 14LPC FinFET processor with 4x 1.8GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Features DisplayPort interface. Commercial temperature range.
conga-SMX8-Mini/i-QC-4G eMMC16	051220	SMARC 2.1 module with NXP i.MX 8M Mini Quad 14LPC FinFET processor with 4x 1.6GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 4GB onboard LPDDR4 memory and 16GB onboard eMMC. Industrial temperature range.
conga-SMX8-Mini/i-DC-2G eMMC16	051221	SMARC 2.1 module with NXP i.MX 8M Mini Dual 14LPC FinFET processor with 2x 1.6GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 2GB onboard LPDDR4 memory and 16GB onboard eMMC. Industrial temperature range.
conga-SMX8-Mini/i-SC-1G eMMC16	051222	SMARC 2.1 module with NXP i.MX 8M Mini Single 14LPC FinFET processor with 1x 1.6GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 1GB onboard LPDDR4 memory and 16GB onboard eMMC. Industrial temperature range.
conga-SMX8-Mini/i-QC-2G eMMC16	051223	SMARC 2.1 module with NXP i.MX 8M Mini Quad 14LPC FinFET processor with 4x 1.6GHz ARM Cortex-A53 and 1x 400MHz ARM Cortex-M4F, 2GB onboard LPDDR4 memory and 16GB onboard eMMC. Industrial temperature range.
conga-SEVAL	007010	Evaluation carrier board for SMARC modules.
conga-SMC1/SMARC-ARM	020750	3.5" carrier board for congatec SMARC 2.1 modules based on NXP i.MX ARM architecture.



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