

ULTRA LOW POWER NXP i.MX8-X SERIES

conga-SMX8X

PRELIMINARY



- NXP i.MX8-X ARM Cortex-A35 and Cortex-M4F
- Ultra Low Power 2-5W
- Industrial grade, improved Reliability and Virtualization
- 3D Graphics up to two independent HD displays
- MIPI CSI-2 camera interface
- Extended longevity up to 15 years
- Temperature range up to -40°C .. +85°C



Formfactor	SMARC Specification 2.0 82x50 mm ²			
CPU	NXP i.MX8-X ARM Processor Cores			
		ARM Cortex-A35	ARM Cortex-M4F	GPU
	i.MX8 QuadXPlus	4x	1x	1x GC7000Lite
	i.MX8 DualXPlus	2x	1x	1x GC7000Lite
	i.MX8 DualX	2x	1x	1x GC7000UltraLite
DRAM	Up to 4 GByte onboard LPDDR4 memory 2400 MT/s			
Ethernet	Up to 2x Gbit Ethernet			
I/O Interfaces	5x USB 2.0 (shared with 1x USB OTG client) up to 1x USB 3.0 1x SDIO 3.0 1x PCIe 3.0 I ² C Bus 1x SPI 1x ESPI up to 4x UART (2x with Handshake (1x shared with FlexCAN)) 2x FlexCAN GPIOs optional M.2 1216 WiFi module (soldered down)			
Mass Storage	eMMC 5.1 up to 64 GByte			
Sound	2x I ² S 1x Tensilica [®] HiFi 4 DSP			
Graphics	Integrated in NXP i.MX8-X Series single GT7000Lite multimedia GPU VPU up to 4K h.265 dec / 1080p h.264 enc/dec 3D Graphics with up to 4 high performance vec4 shaders and 16 execution units up to 2 independent displays OpenGL ES 3.1 Vulkan VX extensions OpenCL 1.2 EP OpenVG 1.1			
Video Interfaces	1x dual channel or 2x single channel LVDS 24 bit opt. HDMI 1.3 through bridge (shared with second LVDS channel) 2x MIPI-DSI with 4-lanes shared with LVDS 1x MIPI-CSI 4-lanes			
Features	Watchdog Timer I ² C bus 400 kHz JTAG debug interface High Precision Real Time Clock			
Virtualization	Hardware Virtualization with Domain Separation Multiple Operating System Support			
Security	High Assurance Boot support, SHE Inline Encryption Engine (AES-128) TRNG, AES-128, AES-256, 3DES, ARC4, RSA4096, SHA-1, SHA-2, SHA-256, MD-5 RSA-1024, 2048, 3072, 4096 and secure key storage			
Boot Loader	U-Boot boot loader			
Operating Systems	Linux Yocto Android			
Power Consumption	Ultra Low Power Cortex A-35 Typ. application 2-5W @ 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	82 x 50 mm (3,23" x 1,97")			