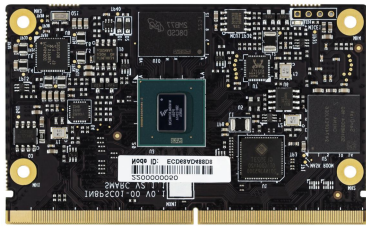


JSOM-N8PC NXP i.MX 8M Plus SMARC Module

JSOM-N8PC is an Arm-based SMARC 2.1.1 Computer-on-Module powered by industrial grade NXP i.MX 8M Plus SoC, which includes 4x Arm Cortex-A53 cores, and integrates a 2.3 TOPS NPU for machine learning acceleration. It offers multiple display options and various high-speed interfaces including 2x GbE, 1x PCIe, 5x USB, 4x UART, 2x CAN. JSOM-N8PC is suited for lightweight edge AI applications with high reliability, such as industrial automation, healthcare and smart city.

JSOM-N8PC is paired with the JSOM-SC211 SMARC 2.1.1 development board for faster end-product peripheral integration and time-to-market, offered along with carrier board design support documents and Android/Linux SDK.

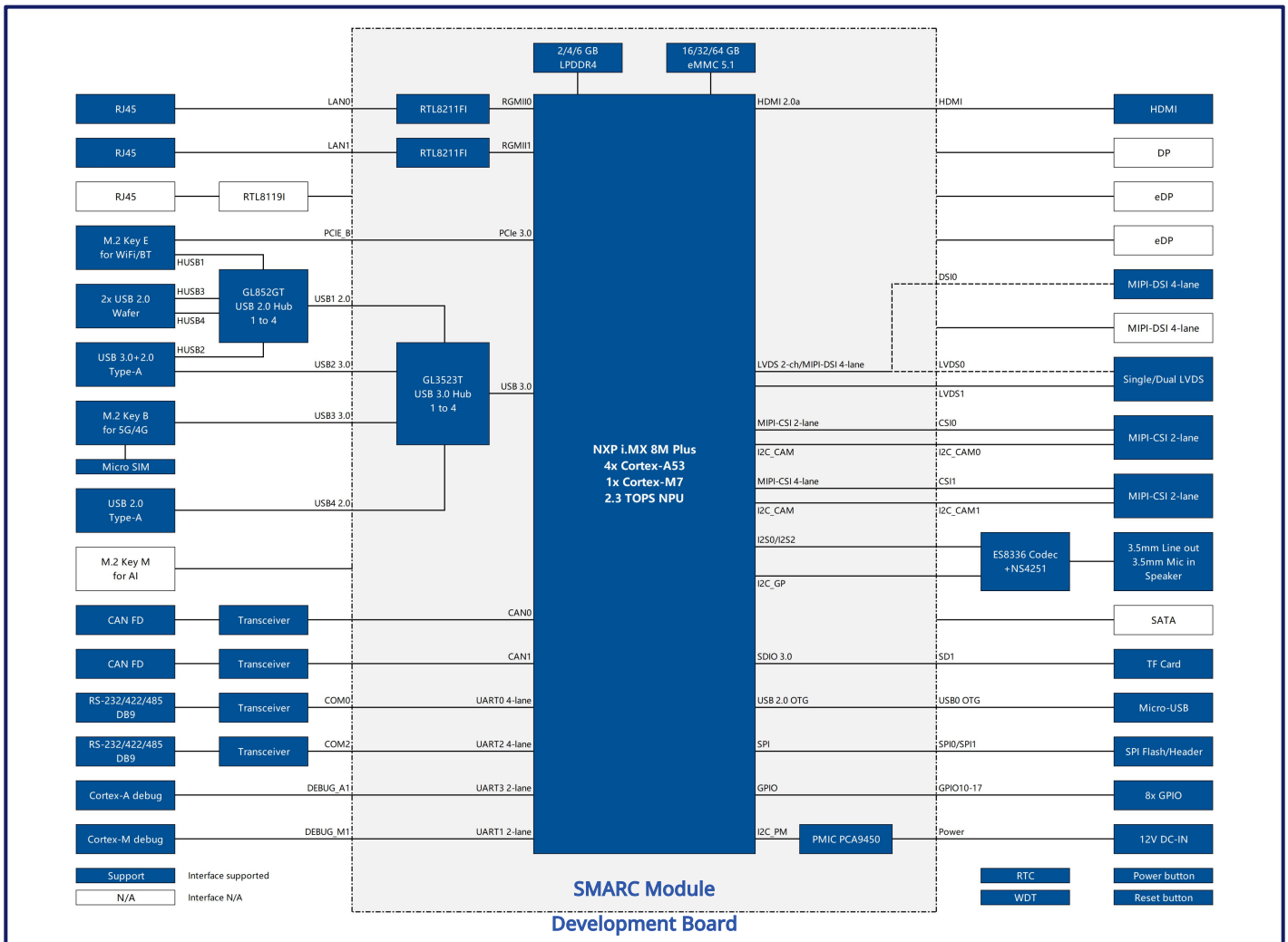


- NXP i.MX 8M Plus SoC up to 1.8 GHz
- 4x Cortex-A53 + 1x Cortex-M7 + GC7000UL GPU
- Integrated 2.3 TOPS NPU for machine learning
- On-board 2/4/6GB LPDDR4 + 16/32/64GB eMMC
- Display: Single LVDS+MIPI-DSI or Dual LVDS, HDMI 2.0a
- I/O: 2x GbE, 1x PCIe, 5x USB, 4x UART, 2x CAN
- Supports 0~60°C/-40~85°C operating temperature

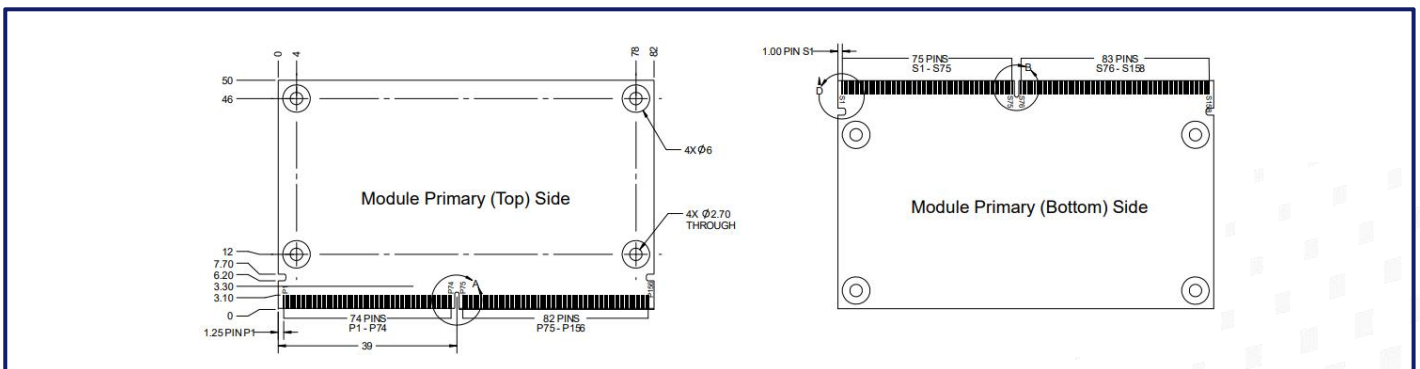
01 Specifications

CPU	NXP i.MX 8M Plus 4x Arm Cortex-A53 up to 1.8 GHz (consumer) / 1.6 GHz (industrial) 1x Arm Cortex-M7 up to 800 MHz for real-time control	
NPU	2.3 TOPS Neural Network performance	
GPU	Vivante GC7000UL, supports OpenVG 1.1, Open GL ES 3.1, Vulkan, and Open CL 1.2 FP	
H/W Video Codec	H.265/H.264/VP9/VP8 Decoder up to 1080p60, H.265/H.264 Encoder up to 1080p60	
Memory	On-board 2GB/4GB/6GB LPDDR4	
Flash Memory	On-board 16GB/32GB/64GB eMMC 5.1 for OS	
Ethernet	2x 10/100/1000 Mbps	
Display	1x HDMI 2.0a up to 4K30 1x 4-lane MIPI-DSI 1x Single channel LVDS Dual independent display or triple identical display	1x HDMI 2.0a up to 4K30 1x Dual channel LVDS Dual independent display support
Video Input	1x 4-lane MIPI-CSI, 1x 2-lane MIPI-CSI	
Audio	2x I2S	
PCIe	1x PCIe 3.0 1-lane	
SATA	-	
USB	2x USB 3.0 Host, 2x USB 2.0 Host, 1x USB 2.0 OTG/Host	
Serial Port	2x 4-wire UART, 2x 2-wire UART for debug	
Other I/Os	1x SDIO (4 bit, for SD cards), 2x CAN FD, 2x SPI, 5x I2C, 14x GPIO	
Board Features	Watchdog Timer, RTC	
Power Supply	DC 5V, supports 3.6~5.25V operation from Lithium-ion cells	
Form Factor	SMARC 2.1.1 314-pin MXM Connector, 82mm x 50mm	
OS Support	Yocto 3.5 Linux, Ubuntu 22.04, Android 11	
Boot Options	eMMC or SD, default to eMMC	
Operating Conditions	0~60°C/-40~85°C, 10%~90% RH non-condensing	
Storage Conditions	-40~85°C, 5%~90% RH non-condensing	

02 Block Diagram



03 Dimensions



04 Order Information

Part Number	SoC	Memory	Flash	Display	GbE	PCIe	USB	UART	CAN	Operating Temp.
J50M-N8PC-AQML2	i.MX 8M Plus Quad 1.6 GHz	4GB	32GB	HDMI+Dual LVDS	2	1	5	4	2	-40~85°C
J50M-N8MC-BQMM2	i.MX 8M Plus Quad 1.8 GHz	4GB	32GB	HDMI+MIPI-DSI+LVDS	2	1	5	4	2	0~60°C