

JSOM-N8PC

NXP i.MX 8M Plus SMARC Module

JWIPC's JSOM-N8PC is an Arm-based SMARC 2.1.1 Computer-on-Module powered by industrial tier NXP i.MX 8M Plus SoC, which includes up to 4x Arm Cortex-A53 cores, 1x Cortex-M7 real-time processor, 2.3 TOPS NPU and Vivante GC7000UL graphics engine. It supports HDMI+MIPI-DSI+LVDS triple display and provides rich I/O resources such as 2x GbE, 2x CAN, 1x PCIe 3.0, 5x USB, 4x UART. Designed for -40~85°C industrial operating temperature, JSOM-N8PC is ideal for lightweight edge AI applications such as industrial automation, surgical robotics, EV charging stations, etc.

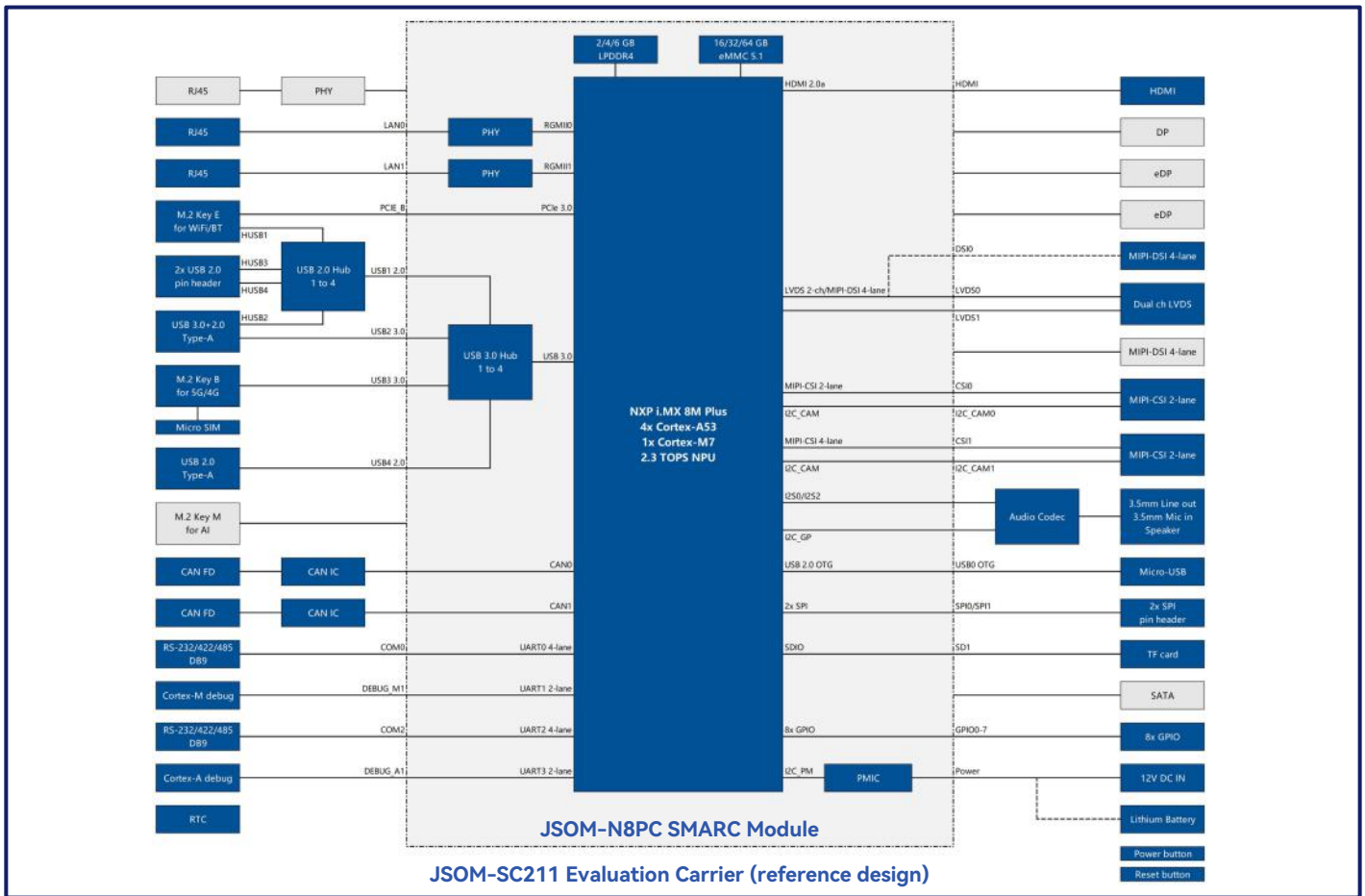


- Arm-based SMARC 2.1.1 Computer-on-Module
- Industrial tier NXP i.MX 8M Plus SoC up to 1.6 GHz
- 4x Cortex-A53 + 1x Cortex-M7 + 2.3 TOPS NPU
- On-board 2/4/6GB LPDDR4 + 16/32/64GB eMMC 5.1
- Display: 1x LVDS+MIPI-DSI or 1x Dual ch LVDS, 1x HDMI
- I/O: 2x GbE, 2x CAN, 1x PCIe 3.0, 5x USB, 4x UART
- DC 5V, supports 3.6~5.25V Lithium battery operation
- Supports -40~85°C operating temperature

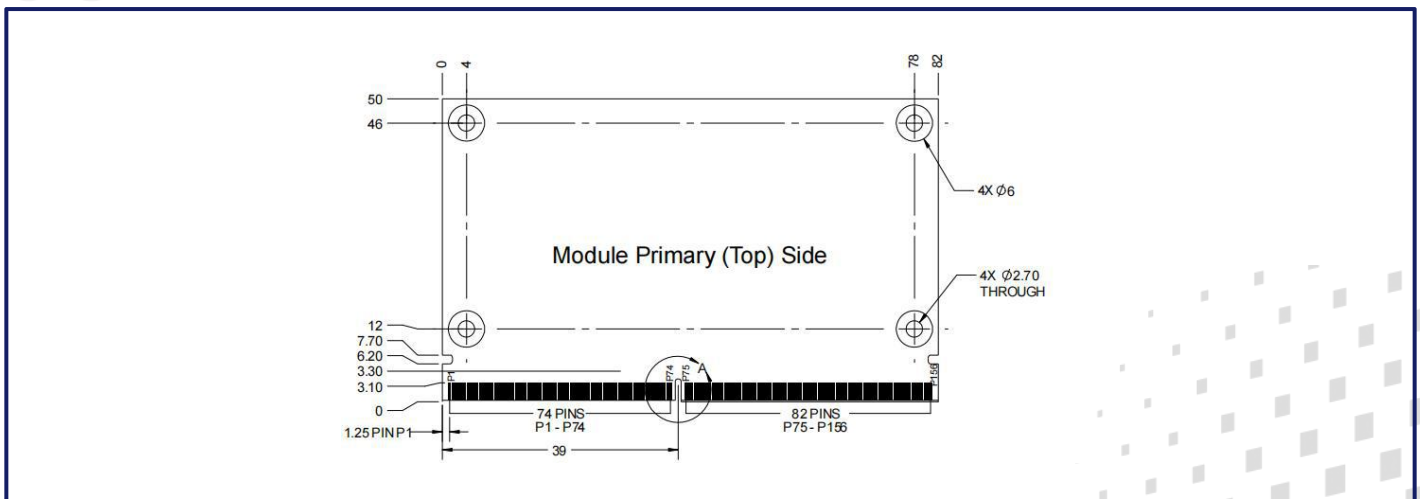
Specifications

CPU	NXP i.MX 8M Plus, Quad core Cortex-A53 processors up to 1.6 GHz, 64-bit Arm® v8-A architecture
MCU	1x Arm Cortex-M7
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	Decoder: H.265, H.264, VP8/9 up to 1080p60; Encoder: H.264, VP8 up to 1080p60
Memory	On-board 4GB LPDDR4 (2GB/6GB optional)
Flash Memory	On-board 32GB eMMC 5.1 for OS (16GB/64GB optional)
Ethernet	2x 10/100/1000 Mbps
Display	1x Single channel LVDS+1x 4-lane MIPI-DSI or 1x Dual channel LVDS 1x HDMI 2.0a up to 3840x2160 30Hz Supports HDMI+MIPI-DSI or Dual channel LVDS dual display Supports HDMI+MIPI-DSI+Single channel LVDS triple display
Camera Input	1x 4-lane MIPI-CSI, 1x 2-lane MIPI-CSI
Audio	2x I2S
PCIe	1x PCIe 3.0
USB	1x USB 2.0 OTG, 2x USB 3.0, 2x USB 2.0
UART	2x 4-wire UART, 2x 2-wire UART
CAN	2
SDIO	1
SPI	2
I2C	5
GPIO	14
Power Supply	DC 5V, supports 3.6~5.25V Lithium battery operation
Form Factor	SMARC 2.1.1 MXM 314 pin, 82mm x 50mm
Operating System	Yocto 3.5, Ubuntu 22.04, Android 11
Boot Options	eMMC or SD, default to eMMC
Operating Temperature	-40~85°C
Operating Humidity	5%~90% RH non-condensing

Block Diagram



Dimensions



Order Information

Part No.	SoC	Memory	Flash	LAN	Display	I2S	USB	UART	PCIe	SPI	CAN	I2C	GPIO	Operating Temperature
JSOM-N8PC-AQHL0	i.MX 8M Plus Quad core	6GB	32GB	2x 1000M	HDMI+Dual ch LVDS	2	5	4	1	2	2	5	14	-40~85°C
JSOM-N8PC-BDMM0	i.MX 8M Plus Dual core	4GB	32GB	2x 1000M	HDMI+MIPI-DSI+LVDS	2	5	4	1	2	2	5	14	0~60°C
JSOM-N8PC-BQML0	i.MX 8M Plus Quad core	4GB	32GB	2x 1000M	HDMI+Dual ch LVDS	2	5	4	1	2	2	5	14	0~60°C