JSOM-N8MC

NXP i.MX 8M Mini SMARC Module

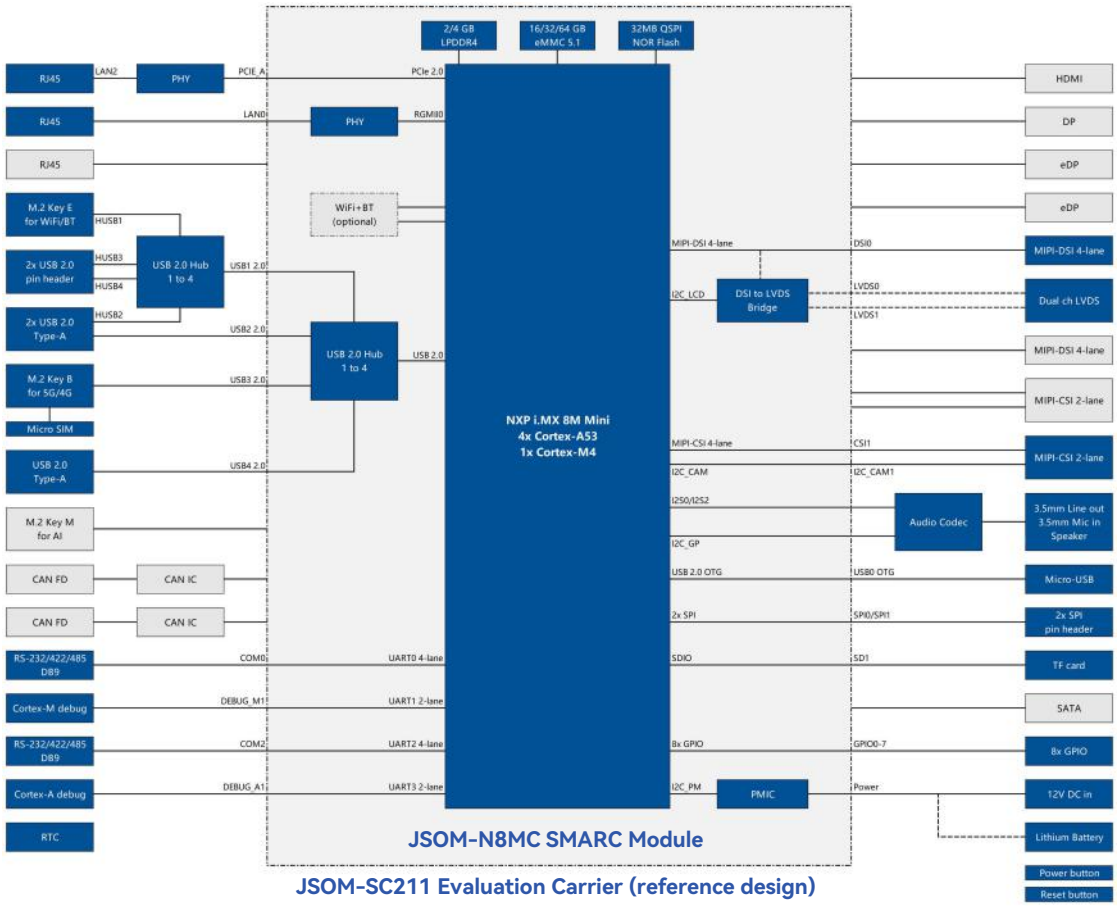
JWIPC's JSOM-N8MC is an Arm-based SMARC 2.1.1 Computer-on-Module powered by industrial tier NXP i.MX 8M Mini SoC, which includes up to 4x Arm Cortex-A53 cores, 1x Cortex-M4 real-time processor and Vivante GC NanoUltra graphics engine. It supports MIPI-DSI or dual channel LVDS display and provides rich I/O resources such as 1x GbE, 1x PCIe 2.0, 5x USB, 4x UART. It also features an optional on-board WiFi+BT module. Designed for -40~85℃ industrial operating temperature, JSOM-N8MC is ideal for low power embedded applications such as point-of-care testing (POCT), industrial HMI, IoT gateways, etc.

- Arm-based SMARC 2.1.1 Computer-on-Module
- Industrial tier NXP i.MX 8M Mini SoC up to 1.6 GHz
- 4x Cortex-A53 + 1x Cortex-M4 + GC NanoUltra 3D GPU
- On-board 2/4GB LPDDR4 + 16/32/64GB eMMC 5.1
- Optional on-board Dual band WiFi+BT module
- Display: 1x MIPI-DSI or Dual channel LVDS
- I/O: 1x GbE, 1x PCIe 2.0, 5x USB, 4x UART
- DC 5V, supports 3.6~5.25V Lithium battery operation
- Supports -40~85℃ operating temperature

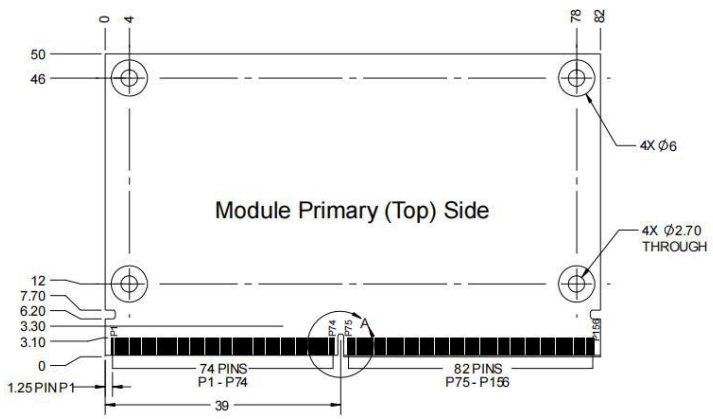
01 Specifications

CPU	NXP i.MX 8M Mini, Quad core Cortex-A53 processors up to 1.6 GHz, 64-bit Arm® v8-A architecture
MCU	1x Arm Cortex-M4
NPU	N/A
GPU	Vivante GC NanoUltra, supports OpenGL ES 2.0, OpenVG 1.1
H/W Video Codec	Decoder: H.265, H.264, VP8/9 up to 1080p60; Encoder: H.264, VP8 up to 1080p60
Memory	On-board 2GB LPDDR4 (4GB optional)
Flash Memory	On-board 16GB eMMC 5.1 for OS (32GB/64GB optional) On-board 32MB QSPI NOR Flash for board information
Ethernet	1x 10/100/1000 Mbps
WiFi	On-board AW-CM358 module (optional), supports IEEE 802.11a/b/g/n/ac WiFi with Bluetooth 5.2
Display	1x 4-lane MIPI-DSI or Dual channel LVDS
Camera Input	1x 4-lane MIPI-CSI
Audio	2x I2S
PCIe	1x PCIe 2.0
USB	1x USB 2.0 OTG, 4x USB 2.0
UART	2x 4-wire UART, 2x 2-wire UART for debug
CAN	N/A
SDIO	1
SPI	2
I2C	4
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℃
Operating Humidity	5%~90% RH non-condensing

02 Block Diagram



03 Dimensions



04 Order Information

Part No.	SoC	Memory	Flash	LAN	WiFi	Display	I2S	PCIe	USB	UART	SPI	I2C	GPIO	Operating Temperature
JSOM-N8MC-AQLL0	i.MX 8M Mini Quad core	2GB	16GB	1x 1000M	N/A	1x LVDS	2	1	5	4	2	4	14	-40~85℃
JSOM-N8MC-AQML0	i.MX 8M Mini Quad core	2GB	16GB	1x 1000M	2.4/5GHz	1x LVDS	2	1	5	4	2	4	14	-30~85℃
JSOM-N8MC-BQLL0	i.MX 8M Mini Quad core	2GB	16GB	1x 1000M	N/A	1x LVDS	2	1	5	4	2	4	14	0~60℃
JSOM-N8MC-BQMM0	i.MX 8M Mini Quad core	2GB	16GB	1x 1000M	2.4/5GHz	1x MIPI-DSI	2	1	5	4	2	4	14	0~60℃