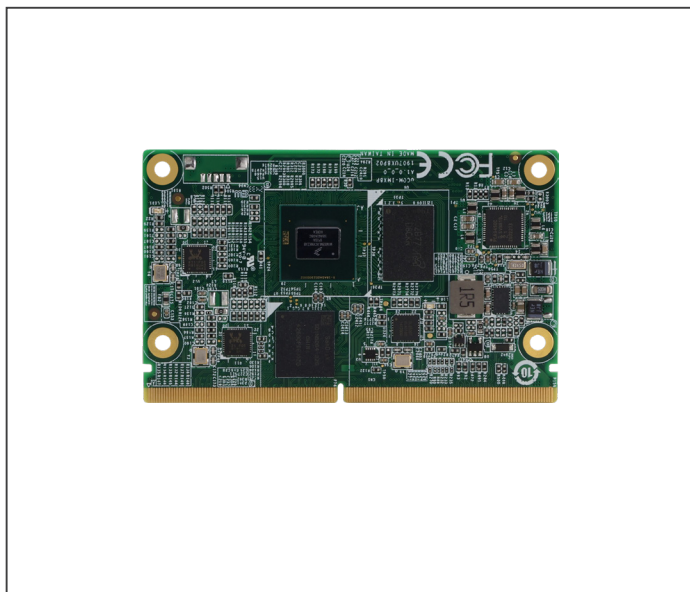




SMARC CPU Module with NXP ARM i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor



Features

- ARM NXP i.MX 8M Plus - Arm® Cortex®-A53, Cortex-M7, up to 1.6GHz per core
- Onboard LPDDR4, Up to 4GB
- HDMI2.0a x 1, LVDS x 1, MIPI-DSI 4 Lane x 1 (By request)
- GbE x 2
- USB 3.0 Gen1 x 2, USB 2.0 x 3 (support OTG x 1)
- PCIe Gen3 x 1
- UART x 4, GPIO x 14, CAN FD x 2, TPM 2.0



Specifications

| System | |
|---------------------|---|
| Form Factor | SMARC 2.1 Compliant |
| CPU | NXP i.MX 8M Plus – Quad-Core Arm® Cortex®-A53 Processor, 1.6GHz (Default w/ NPU, optional w/o NPU) |
| Chipset | — |
| Memory | Onboard LPDDR4 up to 4GB |
| Storage | eMMC 5.1, 16/32GB (Optional: 64/128 GB) |
| BIOS | — |
| MTBF (Hours) | 3,780,780 |
| Wake On LAN | — |
| Watchdog Timer | Yes |
| Real Time Clock | RTC x 1 |
| Boot Select | Carrier SD Card Module eMMC Flash |
| Security | TPM 2.0 (optional) |
| Display | |
| Graphics Controller | 2D: Vivante GC520L 3D: Vivante GC7000UL |
| Video Output | HDMI 2.0a x 1 LVDS (2 CH, 4 Lane) x 1 MIPI-DSI 4 Lane x 1 (By request) |
| I/O Interfaces | |
| Ethernet | Gigabit Ethernet x 2 (TSN x 1) |
| USB | USB 3.0 Gen 1 + USB 2.0 x 2 (Host) USB 2.0 x 2 (Host) USB 2.0 x 1 (OTG) |
| Serial Port | UART x 4 (2-wire x 2, one for debug port, 4-wire x 2) |
| Audio | I2S x 1 |
| PCIe | PCIe Gen 3.0 x 1 |
| CANBus | CAN 2.0 FD x 2 (1.8V) |
| MIPI-CSI | MIPI CSI 2 Lane x 1 MIPI CSI 4 Lane x 1 |
| GPIO | 14 bits (one for PWM) |
| Other Interfaces | SPI x 2 (SPI x 1, QSPI x 1) I2C x 5 (Power Management x 1, Camera x 2, LCD Display x 1, General Purpose x 1) |
| Power | |
| Power Requirement | DC 3.3 V ~ 5.25 V |
| Power Consumption | 3.45 W (Full loading) |

Environmental And Mechanical

| | |
|-----------------------|--|
| Dimensions | 3.23" x 1.97" (82mm x 50mm) |
| Weight | 0.03 lb. (0.013kg) |
| Operating Temperature | -40°F ~ 185°F (-40°C ~ 85°C) Optional: 32°F ~ 140°F (0°C ~ 60°C) |
| Storage Temperature | -40°F ~ 185°F (-40°C ~ 85°C) |
| Operating Humidity | 0% ~ 90% relative humidity, non-condensing |
| Certification | CE/FCC Class A |
| OS Support | Debian 12 (default) Win 10 IoT (by request) Yocto (by request) |
| Support Protocol | Modbus, MQTT, OPCUA (by request) |

Packing List

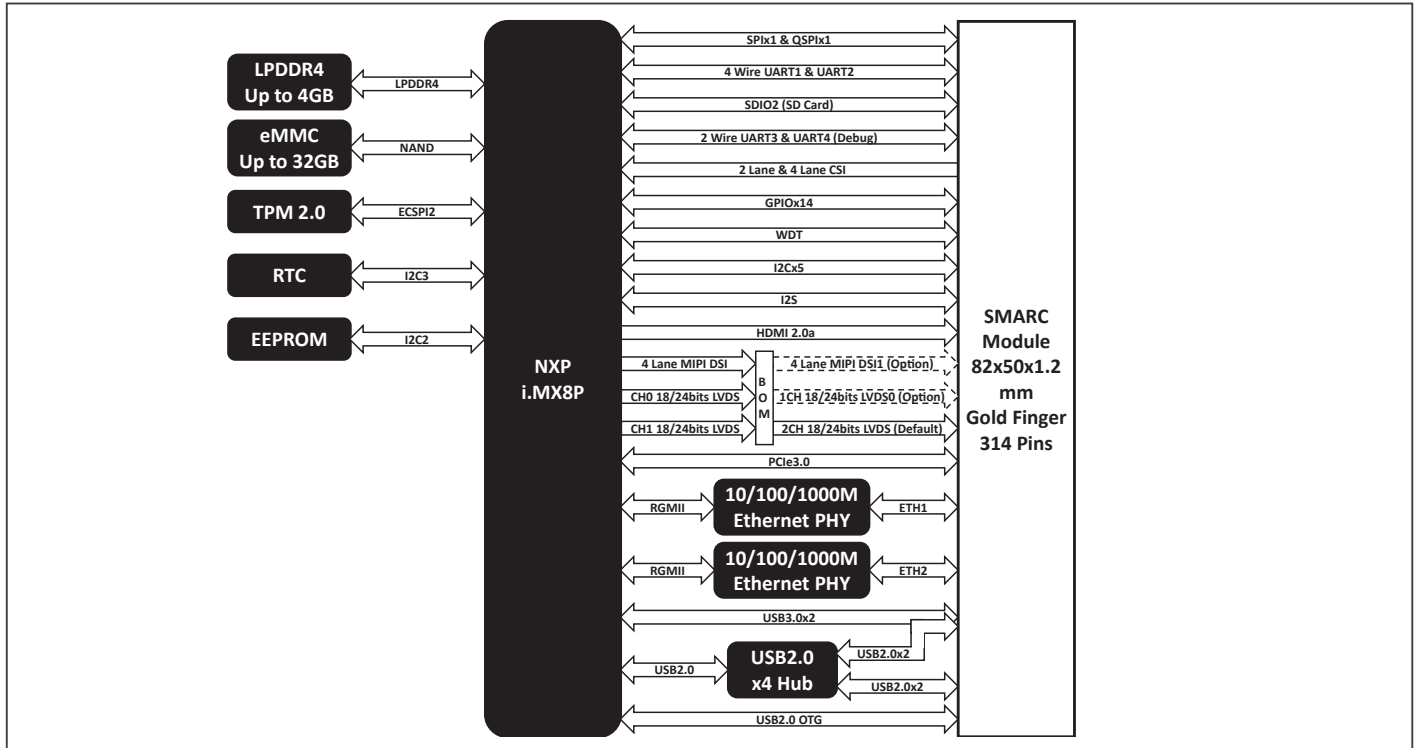
- uCOM-IMX8P

Optional Accessories

| Part Number | Description |
|-------------------|--------------------------------------|
| uCOM-IMX8P-HSK01 | HeatSink.82*42*21.5mm.for uCOM-IMX8P |
| ECB-960T-A15-0002 | Carrier board for uCOM-IMX8P |

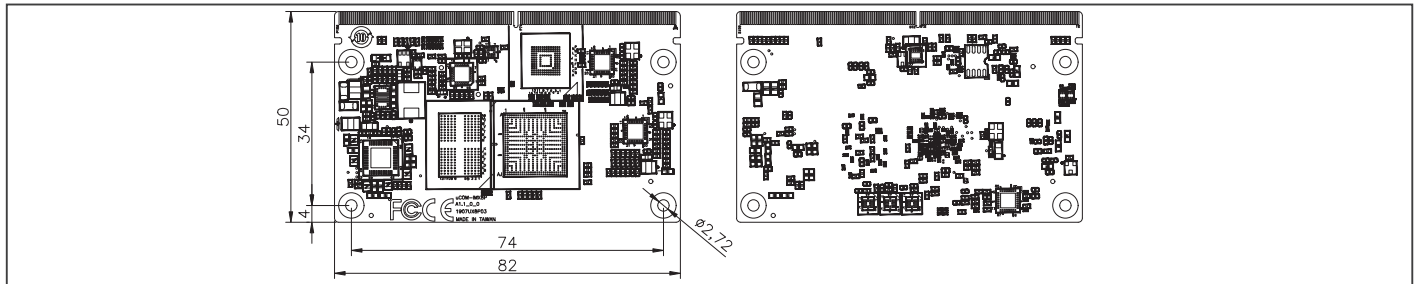


Block Diagram



Dimension

Unit: mm



Ordering Information

| Part Number | Form Factor | CPU | Memory | ECC Support | Display | Storage | LAN | USB | UART | Expansion | Power | Temperature | Others |
|---------------------|-------------|--|--------------------|-------------|--|-----------|---------|--|--|------------------|-------|--------------|---|
| uCOM-IMX8P-A11-0001 | SMARC | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor (2.3 TOPs) | Onboard LPDDR4 2GB | — | HDMI 2.0a x 1 LVDS x 1 (2 CH, 18/24bit) | 16GB eMMC | GbE x 2 | USB3.0 Gen1 + USB 2.0 x 2 (Host) USB 2.0 x 2 (Host) USB 2.0 x 1 (OTG) | 4-wire 1.8V UART x 2 2-wire 1.8V UART x 2 (one for debug port) | PCIe Gen 3.0 x 1 | +5V | -40°C ~ 85°C | CAN-FD x 2 SPI x 2 I2C x 1 (General purpose) GPIO 14 bits (one for PWM) MIPI-CSI x 2 |
| uCOM-IMX8P-A11-0002 | SMARC | ARM NXP i.MX8M Plus Quad-Core Cortex-A53 1.6GHz Processor (2.3 TOPs) | Onboard LPDDR4 4GB | — | HDMI 2.0a x 1 LVDS x 1 (2 CH, 18/24bit) | 32GB eMMC | GbE x 2 | USB3.0 Gen1 + USB 2.0 x 2 (Host) USB 2.0 x 2 (Host) USB 2.0 x 1 (OTG) | 4-wire 1.8V UART x 2 2-wire 1.8V UART x 2 (one for debug port) | PCIe Gen 3.0 x 1 | +5V | -40°C ~ 85°C | CAN-FD x 2 SPI x 2 I2C x 1 (General purpose) GPIO 14 bits (one for PWM) MIPI-CSI x 2 TPM 2.0 |