

eDM-SBC-iMX8Mm

Datasheet



FEATURES

Small Pico-ITX Format (100mm x 72mm x 21mm)

NXP® i.MX8M Mini Cortex-A53 SoC up to 1800MHz

Up to 4 Cores and up to 4GB onboard LPDDR4 memory

Customizable Full-HD Graphics interface

Extensive I/O connectivity

Designed for 24/7 applications

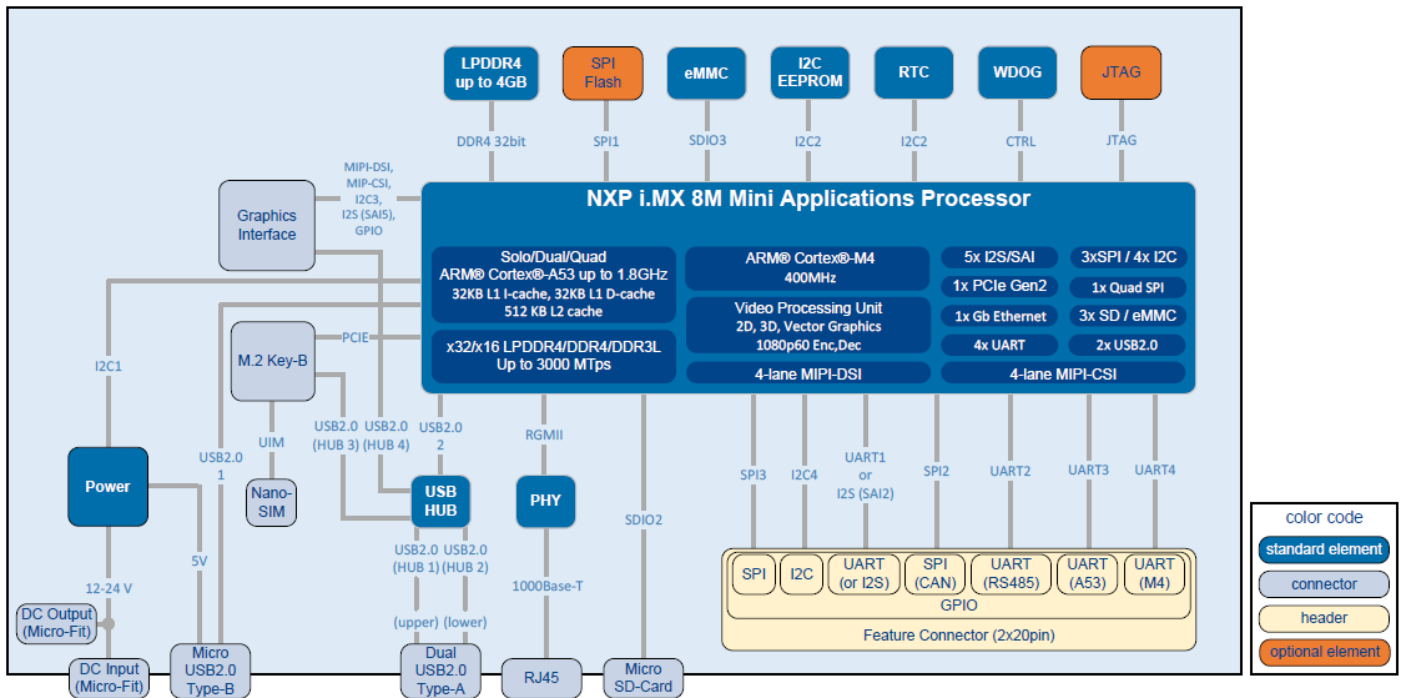
TECHNICAL INFORMATION

| | | |
|------------------------------------|---|------------|
| Form Factor | 100 mm x 72 mm x 21 mm (Pico-ITX) | |
| CPU | NXP® i.MX8M Mini Dual, Cortex-A53 1800 MHz ¹⁾ , 2C, 512KB L2 Cache, GCNanoUltra NXP® i.MX8M Mini Quad, Cortex-A53 1800 MHz ¹⁾ , 4C, 512KB L2 Cache, GCNanoUltra | |
| Memory | Onboard up to 4 GByte LPDDR4 | |
| Mass Storage | Onboard eMMC up to 64GByte | |
| Graphics | Integrated Graphics Processing Unit with 2D, 3D accelerator Video Processing Unit for video encode and decode | Integrated |
| Display/Monitor Interfaces | Customizable Graphics Interface via mezzanine module 4-lane MIPI DSI, dual-channel 24-bit LVDS, 24-bit RGB, HDMI 1.2a (Type A) Up to Full HD 1920 x 1080 Pixel @ 60fps | |
| Ethernet | 1000Base-T interface with Qualcomm AR8031 PHY | |
| I/O Interfaces²⁾ | 2 x USB 2.0 (Type-A), 1 x USB2.0 (micro Type-B) Up to 4 x UART (1 x RS485 over UART optional via I/O module) 1 x Micro-SD card slot 1 x PCIe 2.0 Lane on M.2 Key-B socket 2 x SPI (1 x CAN over SPI optional via I/O module), 1 x I ² C, 1 x I ² S, 3 x GPIO 1 x M.2 Key-B socket for wireless connection 1 x Nano SIM card slot | |
| Power Supply | VCC: 12V...24V (+/-10%), optional: +5V (+/-5%) | |
| Operating Systems | Linux (Yocto) Kernel 5.15 | |
| Temperature | Operating: 0°C ... +70°C (with commercial grade CPU) / -20°C ... +80°C (with industrial grade CPU) Storage: -40°C ... +85°C | |
| Humidity | Operating: < 90% RH non-condensing | |
| Safety, Shock and Vibration | Designed to meet EN62368, IEC/EN60068-2-27 and IEC/EN60068-2-6 | |
| Available Certificates | RoHS, REACH | |
| Assembly option | On request (MOQ) | |

¹⁾ The maximum processor speed is 1600 MHz for industrial grade CPUs

²⁾ Some interfaces require the optional eDM-MOD-iMX8Mm-FIO1 I/O module

BLOCK DIAGRAM



ORDERING INFORMATION

| Model Name | Part No. | Description |
|-----------------------|----------|--|
| eDM-SBC-iMX8Mm-D-2G | 12059030 | SBC with i.MX8M Mini Dual 1800MHz, 2GB RAM, 16GB eMMC, micro-SD, 2 + 1 USB2.0, Gigabit Ethernet, Graphics Connector, M.2 Key-B Socket, RTC, Feature Connector, 12...24VDC, 0°C...+70°C |
| eDM-SBC-iMX8Mm-Q-4G | 12059032 | SBC with i.MX8M Mini Quad 1800MHz, 4GB RAM, 16GB eMMC, micro-SD, 2 + 1 USB2.0, Gigabit Ethernet, Graphics Connector, M.2 Key-B Socket, RTC, Feature Connector, 12...24VDC, 0°C...+70°C |
| eDM-SBC-iMX8Mm-D-2G-E | 12059031 | SBC with i.MX8M Mini Dual 1600MHz, 2GB RAM, 16GB eMMC, micro-SD, 2 + 1 USB2.0, Gigabit Ethernet, Graphics Connector, M.2 Key-B Socket, RTC, Feature Connector, 12...24VDC, -20°C...+80°C |
| eDM-SBC-iMX8Mm-Q-4G-E | 12059033 | SBC with i.MX8M Mini Quad 1600MHz, 4GB RAM, 16GB eMMC, micro-SD, 2 + 1 USB2.0, Gigabit Ethernet, Graphics Connector, M.2 Key-B Socket, RTC, Feature Connector, 12...24VDC, -20°C...+80°C |
| eDM-MOD-iMX8Mm-LVDS | 12045244 | Graphics Module with Dual-Channel LVDS, Backlight, USB or I2C Touch, I2S Audio, -20°C...+85°C |
| eDM-MOD-iMX8Mm-MIPI | 12045641 | Graphics Module with 4-Lane MIPI-DSI, USB or I2C Touch, I2S Audio, -20°C...+85°C <i>Example solution, supporting 5.0" Display Ortustech COM50H5N17ULC</i> |
| eDM-MOD-iMX8Mm-HDMI | 12046330 | Graphics Module with HDMI 1.2a Type A connector, -20°C...+85°C |
| eDM-MOD-iMX8Mm-FIO1 | 12047960 | I/O Module with 3 x RS232, 1 x RS485 (isolated), 1 x CAN (isolated), 1 x SPI, 1 x I2C, 3 x GPIO, Buzzer, 0°C...+70°C |

ORDERING INFORMATION - Starterkits

| Model Name | Part No. | Description |
|----------------------|----------|--|
| eDM-SBC-iMX8Mm-SK | 12049886 | Starterkit with eDM-SBC-iMX8Mm-Q-4G, eDM-MOD-iMX8Mm-HDMI Module, eDM-MOD-iMX8Mm-FIO1 I/O-Module, µSD-Card, DM-USB-Stick, Power Supply 12V 75W, RTC-Battery, Interface-set (Adapter-cables, Power-cable), 0°C...+70°C |
| eDM-SBC-iMX8Mm-SK1 | 12058498 | Starterkit with eDM-SBC-iMX8Mm-Q-4G, eDM-MOD-iMX8Mm-HDMI Module, µSD-Card, DM-USB-Stick, Power Supply 12V 75W, RTC-Battery, Interface-set (Adapter-cables, Power-cable), 0°C...+70°C |
| eDM-SBC-iMX8Mm-SK2 | 12052037 | Starterkit with eDM-SBC-iMX8Mm-D-2G, eDM-MOD-iMX8Mm-HDMI Module, eDM-MOD-iMX8Mm-FIO1 I/O-Module, µSD-Card, DM-USB-Stick, Power Supply 12V 75W, RTC-Battery, Interface-set (Adapter-cables, Power-cable), 0°C...+70°C |
| eDM-SBC-iMX8Mm-SK3 | 12058500 | Starterkit with eDM-SBC-iMX8Mm-D-2G, eDM-MOD-iMX8Mm-HDMI Module, µSD-Card, DM-USB-Stick, Power Supply 12V 75W, RTC-Battery, Interface-set (Adapter-cables, Power-cable), 0°C...+70°C |
| eDM-SBC-iMX8Mm-DSPK2 | 12050257 | Display-Kit including 7.0" LVDS Display, Touch and eDM-iMX8Mm-LVDS Adapter, 0°C...+70°C <i>Add-on kit for eDM-SBC-iMX8Mm-SK / -SK1 / -SK2 / -SK3</i> |