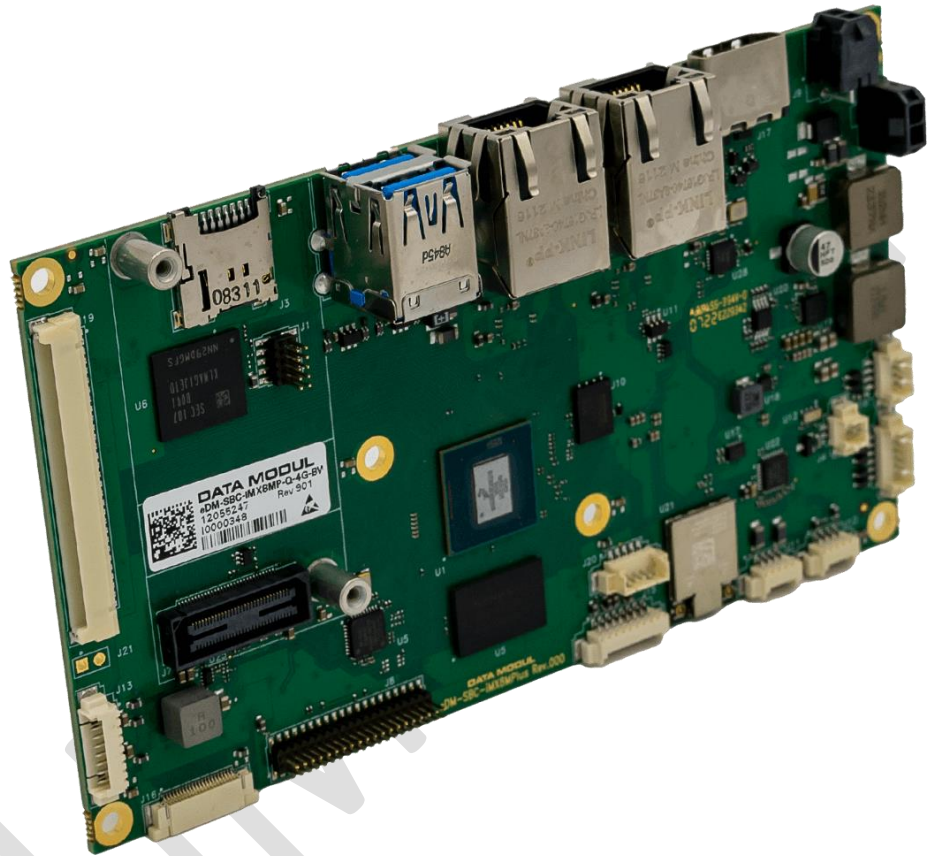


# eDM-SBC-iMX8MPlus

## Datasheet



## FEATURES

NXP® i.MX8M Plus Cortex-A53 SoC 1800MHz

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

Integrated machine learning accelerator (NPU)

Dual Gbit Ethernet (1x with TSN)

Cortex-M7 @ 800MHz, 2D/3G GPU

Multiple display interfaces up to 4Kp30

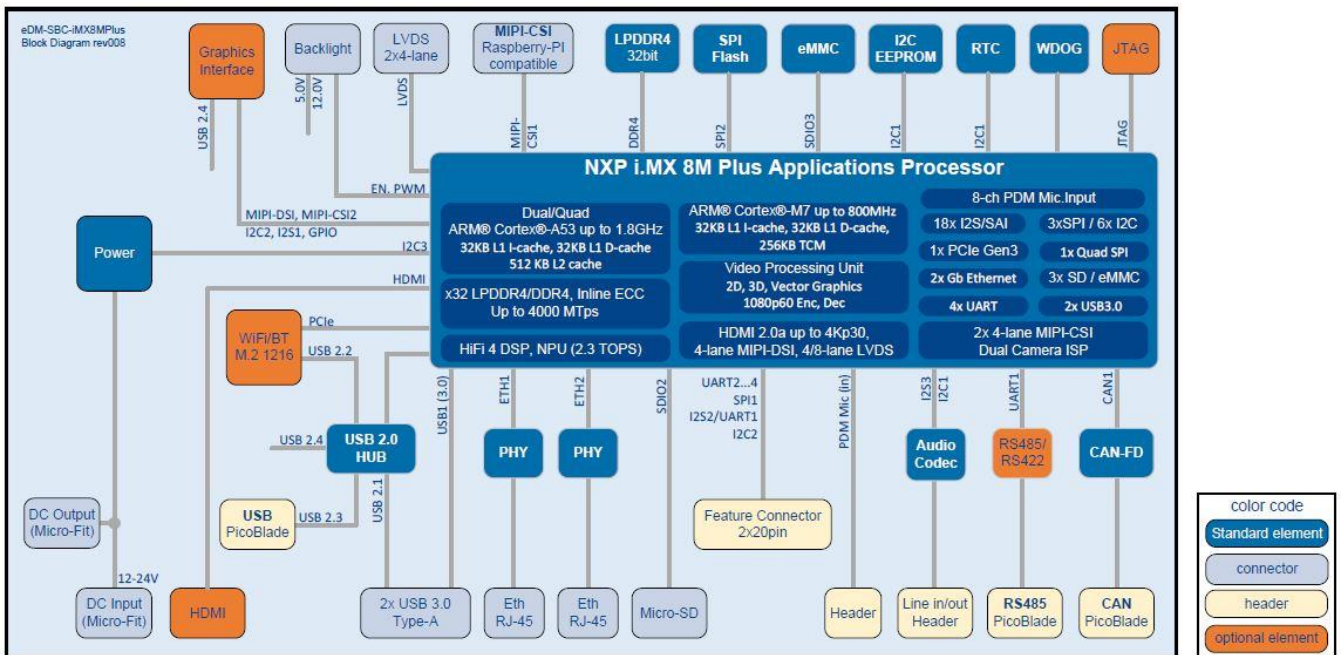
Extensive I/O connectivity on board

Designed for 24/7 applications

## TECHNICAL INFORMATION

Form Factor	140 mm x 80 mm x 21 mm
CPU	NXP® i.MX8M Plus Quad, Cortex-A53 1800 MHz, 4C, 512KB L2 Cache, ISP and Cortex-M7 800 MHz NXP® i.MX8M Plus Quad, Cortex-A53 1600 MHz, 4C, 512KB L2 Cache, ISP, NPU, HiFi4 DSP and Cortex-M7 800 MHz
Memory	Onboard up to 4 GByte LPDDR4
Mass Storage	Onboard eMMC up to 64GByte
Graphics	Integrated Graphics Processing Unit with GC520L 2D GPU and GC7000UltraLite 3D GPU (2 shaders) Integrated Video Processing Unit for video 1080p60 encode (H.265/4) and decode (H265/4, VP8/9)
Display/Monitor Interfaces	On-board 2x4 lanes LVDS, Backlight and HDMI 2.0a (optional) interfaces, up to 4Kp30 Customizable Graphics Interface via mezzanine module (optional) 4-lane MIPI DSI, dual-channel 24-bit LVDS, 24-bit RGB, up to Full HD 1920 x 1080 Pixel @ 60fps
Camera	1x MIPI-CSI (Raspberry-PI compatible connector) 1x MIPI-CSI via Graphics Interface (optional)
Ethernet	2x 1000Base-T interfaces with IEEE 1588 (1x with TSN)
I/O Interfaces	2 x USB 3.0 (Type-A), 1x USB 2.0 (Touch) connector internal Up to 4 x UART 1x CAN-FD 1 x RS485 (optional) 1x Audio (line in/out), 8x Microphone-in (PDM) 1 x Micro-SD card slot 1x I2C Touch connector (internal) 1 x I <sup>2</sup> C, 1 x I <sup>2</sup> S, 1x SPI, 3 x GPIO 1 x M.2 1216 WiFi/Bluetooth solder-on module (optional) <ul style="list-style-type: none"> <li>• IEEE 802.11a/b/g/n/ac</li> <li>• Bluetooth® 5.x</li> </ul>
Power Supply	VCC: 12...24V (+/-10%)
Operating Systems	Linux (Yocto) Kernel 5.15
Temperature	Operating: 0°C ... +70°C or -20°C ... +85°C (depending on SBC variant) Storage: -40°C ... +85°C
Humidity	Operating: < 90% RH non-condensing
Safety, Shock and Vibration	Designed to meet EN60950, IEC/EN60068-2-27 and IEC/EN60068-2-6
Available Certificates	RoHS, REACH
Assembly option	On request (MOQ)

# BLOCK DIAGRAM



# ORDERING INFORMATION

Model Name	Part No.	Description
eDM-SBC-iMX8MP-Q-2G-BW (current Prototype Units)	12055209	SBC with i.MX8M Plus Quad 1800MHz, ISP, 2GB RAM, 16GB eMMC, micro-SD, 2 USB3.0, 1 USB2.0 (internal), 2 Gigabit Ethernet, WiFi/Bluetooth Module, 1 CAN-FD, 1 RS485, HDMI, Dual-Channel LVDS, Graphics Interface Connector, Audio, RTC, Feature Connector, 12...24VDC, 0°C...+70°C
eDM-SBC-iMX8MP-Q-4G-BW-E	12055247	SBC with i.MX8M Plus Quad 1600MHz, NPU, ISP, HiFi4 DSP, 4GB RAM, 16GB eMMC, micro-SD, 2 USB3.0, 1 USB2.0 (internal), 2 Gigabit Ethernet, WiFi/Bluetooth Module, 1 CAN-FD, 1 RS485, HDMI, Dual-Channel LVDS, Graphics Interface Connector, Audio, RTC, Feature Connector, 12...24VDC, -20°C...+85°C
eDM-MOD-iMX8Mm-LVDS	12045244	Graphics Module with Dual-Channel LVDS, Backlight, USB or I2C Touch, I2S Audio, -20°C...+85°C <i>Required for a <u>second</u> LVDS Display only!</i>
eDM-MOD-iMX8Mm-MIPI	12045641	Graphics Module with 4-Lane MIPI-DSI, USB Touch, Backlight, -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 <i>Required for a <u>second</u> Monitor Interface only!</i>

# ORDERING INFORMATION - Starterkits

Model Name	Part No.	Description
eDM-SBC-iMX8MP-SK	12058408	Starterkit with eDM-SBC-iMX8MP-Q-4G-BW-E, $\mu$ SD-Card, Power Supply 12V 75W, RTC-Battery, Interface-set (Antenna, Adapter-cables, Power-cable), 0°C...+70°C
eDM-SBC-iMX8MP-DSPK1	12061059	Display-Kit including 7.0" LVDS Display, Touch and Cables, 0°C...+70°C <i>Add-on Kit for eDM-SBC-iMX8MP-SK</i>

PRELIMINARY