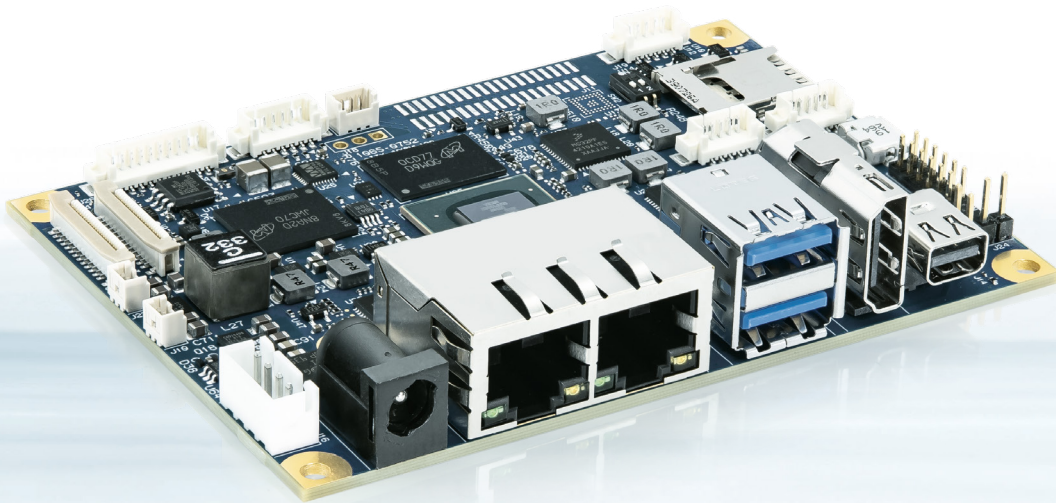


pITX-imx8m



Embedded pITX Single Board Computer with NXP ARM Cortex®-A53 CPU

- ▶ 1x M.2 B-Key (with PCIe), USB 3.0 and micro SIM interface
- ▶ 1x USB OTG microUSB Type AB socket
- ▶ 2x Gigabit Ethernet
- ▶ 12 V DC Power Supply
- ▶ Memory LPDDR4 3200 MT/s, up to 4 GByte

POSSIBILITIES START HERE

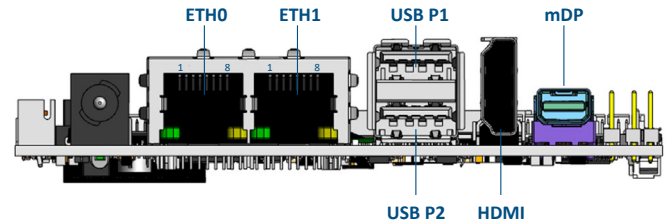
pITX-imx8m Single Board Computer

Kontron's pITX-iMX8M motherboard features NXP's dual or quad core CPUs based on the ARM Cortex®-A53 architecture with up to 1.5 GHz. The Cortex®-M4 coprocessor and full 4K UltraHD resolution make the board the perfect foundation for sophisticated applications. It offers enhanced connectivity through two Gigabit Ethernet interfaces as well as excellent graphics performance.

Thanks to its small form factor and M.2 size 2242, (offering PCIe), USB 3.0 and a Micro SIM interface, Kontron's pITX-iMX8M is a cost-optimized ARM SBC solution, specifically for embedded applications in the manufacturing industry, and a cross-market IoT gateway for small server solutions.

▶ PRODUCT HIGHLIGHTS

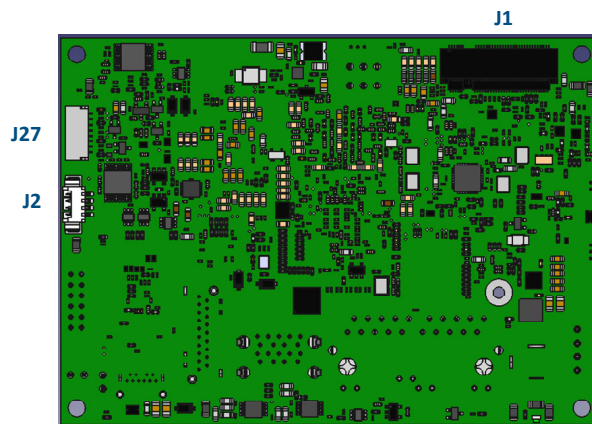
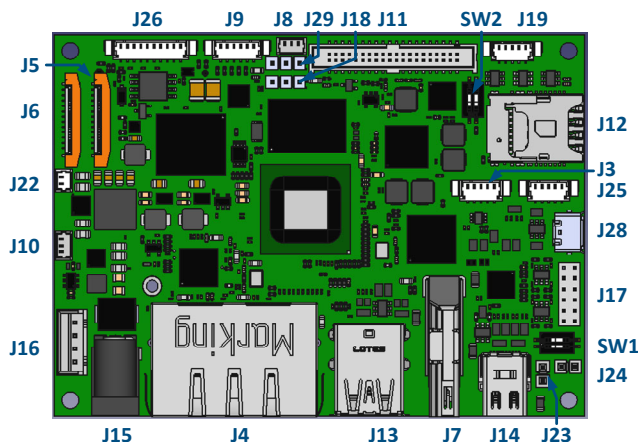
- ▶ Embedded pITX Single Board Computer with NXP i.MX8M ARM Cortex®-A53 multi-core processor architecture
- ▶ Design is prepared for any NXP i.MX8M flavour, Quad/Dual/QuadLite Industrial and Commercial temperature grade.
- ▶ Scalable LPDDR4 (up to 4 GByte) and eMMC Memory (up to 128 GByte) options
- ▶ Excellent graphic performance on HDMI, mDP or dual Channel LVDS
- ▶ Dual Gigabit Ethernet Network connectivity
- ▶ M.2 Key B (2242) with PCIe Gen 2,
- ▶ USB 3.0 and microSIM for Wireless or Storage modules
- ▶ 12 V DC Power Supply (lockable)



► TECHNICAL INFORMATION

SYSTEM	PROCESSOR MEMORY REAL TIME CLOCK	ARM Cortex®-A53 - i.MX8M Quad 1.3 GHz, GPU, VPU, HDR10 encoding, ind. temp. - i.MX8M Quad 1.5 GHz, GPU, VPU, HDR10 encoding, com. temp. - i.MX8M Dual 1.3 GHz, GPU, VPU, HDR10 encoding, ind. temp. - i.MX8M Dual 1.5 GHz, GPU, VPU, HDR10 encoding, com. temp. Up to 4 GByte LPDDR4 3200 MTps soldered Memory Pigtail Battery: 3V / 190 mAh WTB 2 Pin header, 1.25 mm pitch
VIDEO	GRAPHICS BOARD CONNECTORS CAMERA INTERFACE LVDS	Graphic Processing Unit: 4 shader 267 million triangles/sec 1.6 Giga pixel/sec 32 GFLOPs 32-bit or 64 GFLOPs 16-bit Support OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan 1x HDMI 2.0a; 1x mDP (optional) 2x Internal MIPI-CSI (Pin-Header FCP 24-Pin 0.5 mm pitch) 24Bit Dual Channel LVDS (WTB 2x 20 Pin-Header, 1.27 mm pitch)
AUDIO	AUDIO CODEC AUDIO INTERFACE	Cirrus WM8904 1x SPDIF internal header, 1x Line-In, Line-Out and Microphone-In internal header (WTB 6-Pin Header, 1.25 mm pitch),
NETWORK CONNECTION	ETHERNET	2x 10/100/1000 Gigabit Ethernet at rear I/O, GBE0: SoC Internal Mac GBE1: Intel® I210/I211 Gbit Ethernet Controller
PERIPHERAL CONNECTION	USB SPI I2C GPIO	2x USB 3.0 at rear I/O, 1x USB 2.0 internal, 1x USB OTG side I/O 1x SPI/I ² C internal header, optional 16 MByte on-board SPI Flash 8x GPIO internal header (WTB 2x 6 Pin Header, 2.0 mm pitch)
STORAGE & EXPANSION	M.2 OTHER I/O'S	Key-B 2242 (PCIe x1 Gen2) microSD Card/micro SIM combo Connector
POWER	CONNECTOR INPUT VOLTAGE	Locking barrel 12V DC +/- 10%
FIRMWARE	BOOTLOADER	ARM® based Bootloader for Freescale i.MX8MQ
SYSTEM CONTROL	SECURITY THERMAL SENSOR	TPM 2.0 Infineon SLB9670XQ2.0 LM75B onboard
COOLING	FAN	1x PWM fan (CPU) / WTB 3-Pin header, 1.25 mm pitch, 5V Input
SOFTWARE	OS-SYSTEM	Linux Yocto BSP, Win10 IoT Core (only on NXP Homepage)
MECHANICAL	FORM FACTOR OPERATION TEMPERATURE STORAGE TEMPERATURE	pico ITX family with 100 mm x 72 mm x 1.6 mm (PCB) Commercial Temp.: 0 °C - +60 °C Industrial Temp.: -40 °C - +85 °C -40 °C - +85 °C
CERTIFICATION	EMC & SAFETY	EN 62368-1; EN55032; EN61000-6-2, RoHS II, REACH

▶ BOARD OVERVIEW



J3 RS-232/UART P2
 J4 Dual Gigabit Ethernet RJ45
 J5 Camera 1
 J6 Camera 2
 J7 HDMI
 J8 FAN
 J9 Audio Codec
 J10 SPDIF
 J11 LVDS Header
 J12 MicroSD/MicroSIM
 J13 Dual USB 3.0
 J14 mini DP Connector
 J15 Power Jack
 J16 Power Socket
 J17 GPIO

J18 LVDS IO Voltage Select Jumper
 J19 RS232 P3
 J22 RTC Battery Pictail
 J23 External Reset
 J24 External ON/OFF Button
 J25 RS232/UART P1
 J26 SPI/I2C3
 J28 USB OTG
 J29 LVDS Backlight Select Jumper
 SW1: 1-4 Boot Select 0
 SW1: 2-3 Boot Select 1
 SW2: 1-4 MicroSD Card Write Protection
 SW2: 2-3 PCIe Spread Spectrum Clocking -0.5%

J1 M.2 Socket Key B
 J2 USB 2.0 P4
 J27 IMX8M JTAG Debug Header

▶ ORDERING INFORMATION

ARTICLE	PART NO.	DESCRIPTION
pITX-imx8m QUAD CORE IND.	44011-0408-13-4	pITX-imx8m with NXP ARM Cortex®-A53 Quad Core™ Industrial, 1300 Mhz, 4 GByte LPDDR4, 8 GByte eMMC (MLC), Ind. Temp.
pITX-imx8m QUAD CORE COM.	44011-0416-15-4	pITX-imx8m with NXP ARM Cortex®-A53 Quad Core Commercial, 1500 Mhz, 4 GByte LPDDR4, 16 GByte eMMC (MLC), Com. Temp. without LVDS
pITX-imx8m DUAL CORE IND.	44011-0208-13-2	pITX-imx8m with NXP ARM Cortex®-A53 Dual Core Industrial, 1300 Mhz, 2 GByte LPDDR4, 8 GByte eMMC (MLC), Ind. Temp. without mDP.
pITX-imx8m DUAL CORE COM.	44011-0216-15-2	pITX-imx8m with NXP ARM Cortex®-A53 Dual Core Commercial, 1500 Mhz, 2GByte, LPDDR4, 16 GByte eMMC (MLC), Ind. Temp. without LVDS.
ACCESSORY (OPTIONAL)		
ACTIVE COOLING SOLUTION	1064-8396	Active Cooling Solution with integrated FAN
PASSIVE COOLING SOLUTION	1064-7069	Passiv Cooling Solution
POWER SUPPLY - 12 V	1067-1755	Lockable 12 V, 60 W Power Supply for pITX-APL V2.0 and pITX-imx8m
SERIAL DATA CABLE	1055-8059	Serial Data Cable - J19 Connector

▶ GLOBAL HEADQUARTERS

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