

➤ Motherboards Product Facts

Quality made in Europe

➤ Kontron Motherboard Team

Sales, R&D, Product Management, Technical Support,
Test, Marketing



➤ A strong partner worldwide

Motherboards by Kontron

Kontron offers a comprehensive portfolio of high quality, long-term available and competitive motherboards – designed and made in Germany. The comprehensive line-up, from compact Mini-STX up to full-sized ATX form factor fulfills most different requirements for various applications from diverse vertical markets like Industrial Automation, POS/POI, KIOSK, Digital Signage, Medical, Casino Gaming, Video Surveillance or Transportation.

Kontron motherboards support latest processors and chipset platforms and utilize advanced technology components. They are designed for continuous operation (24/7) in an extended temperature range and on high system load. Kontron motherboards are specified for a temperature range between 0 °C and max. 60 °C and come up with an availability of up to 7 years from the release date, based on embedded key components. In addition, a corresponding portfolio on chassis kit solutions (SMARTCASE™), add on cards and related 3rd party accessories is also available. Furthermore, Kontron offers many value-added services like detailed documentation, a professional life-cycle management and customizing tools.

➤ Motherboards Overview

Kontron's wide product range helps you to meet today's requirements. The products offer highest reliability, security and ease of use of features. Motherboards from Kontron are designed to fulfill customer needs.

In order to have the perfect solutions for all clients, Kontron features two motherboard families:



➤ Extended Lifecycle Series Semi-industrial Features



- K3842-Q1 & K3842-Q2 μ ATX
- K3843-B1 & K3843-B2 μ ATX
- K3921-H mSTX

➤ Industrial Motherboard Series Special Features for Industrial Needs



AMD

- D3713-V/R mITX
- D3714-V/R mSTX
- D3723-R mITX
- D3724-R mSTX
- K4131-P mITX

Intel®

- D3633-S mITX
- D3634-S mITX
- D3641-S μ ATX
- D3646-S ATX
- K3831-H Thin mITX
- K3832-Q mITX
- K3833-Q mITX
- K3836-Q/R mITX
- K3841-Q μ ATX
- K3851-R ATX
- K3921-N mSTX
- K3931-N mITX
- K4021-U mSTX
- K4031-H mITX

➤ Industrial Server Class Series Server Management Features



- K9051-C ATX
- K3881-C μ ATX
- K3882-C μ ATX



➤ Motherboards Designed and made in Germany

Highest quality through German engineering and production

The design quality benefits from more than 30 years of experience in the development of motherboards. Comprehensive product validation and test as well as a modern manufacturing of the boards guarantee reliable function under all operating conditions.

Comprehensive feature and tool set

Kontron provides unique features and tools, which enables our partners and customers to modify, adjust, test and produce their systems independent of the manufacturer.

Excellent technical support

Our professional technical support team has direct access to experts in hardware and BIOS development as well as on-site production and is always happy to assist our customers and partners.

Strict lifecycle management and reliable product maintenance

To ensure the highest possible revision stability, changes are only made when it is absolutely necessary. In this case, changes are communicated to customers at an early stage via a strict lifecycle management process.

Beneficial total-cost-of-ownership

Kontron's customers benefit from short lead-times, least field failure rates and low transportation costs within the EU.





➤ Extended Lifecycle Series

The standard lifecycle of desktop motherboards is 12 months to a maximum of 18 months. Taking into consideration the enormous expense necessary for certification and engineering, that time frame is too narrow for many commercial applications. To solve this problem, Kontron offers selected semi-industrial motherboards for an extended lifecycle with min. 36 months.

Characteristic features

Motherboards of the Extended Lifecycle Series are designed for long-term, continuous operations (24/7) in advanced temperature environments. Nevertheless, these products will cover fast moving technology trends to be applicable in many vertical markets:

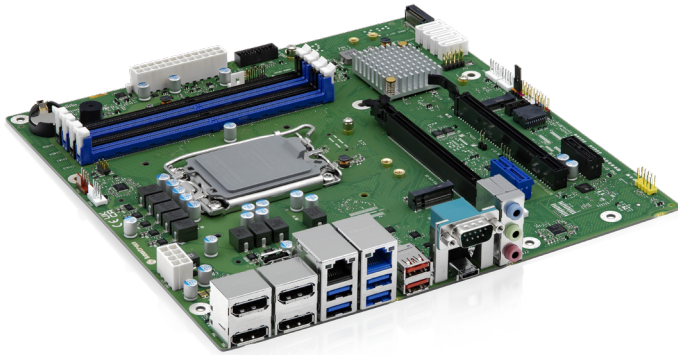
- Video Surveillance
- Medical Systems
- Webhosting
- CAD Workstations
- Vending/POS/ATM/KIOSK/Ticketing & Digital Signage

2026				2027				2028				2029				INTEL® PROCESSORS		
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Size	Name	Chipset
				eol												μATX	K3843-B1/B2	Intel® Q670
																μATX	K3842-Q1/Q2	Intel® B660
								eol								mSTX	K3921-H	Intel® AlderLake-N
																mSTX	K3921-H3/H7	Intel® Twin Lake

Extended Lifecycle Motherboards

K3842-Q1 & K3842-Q2 μ ATX

Technical Information



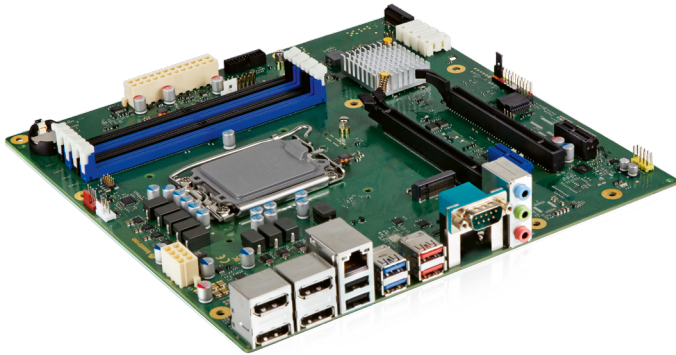
Product Highlights

- Intel® Core™ Processor Series 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Extended Lifecycle Motherboards

K3843-B1 & K3843-B2 μ ATX

Technical Information



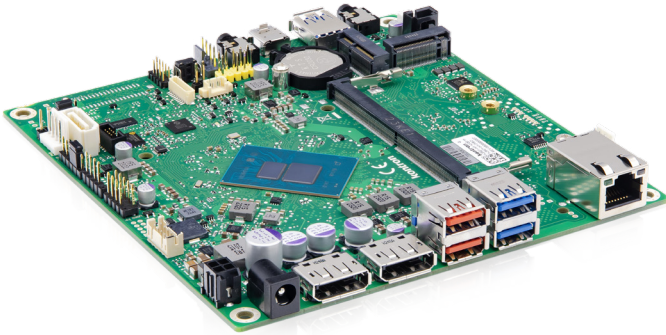
Product Highlights

- Intel® Core™ Processor Series (12th/13th/14th/Gen 2)
- DDR5 4800/5600 UDIMM, max. 192 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- PCI Express® x16 (Gen5 @ CPU, Gen4 @ PCH)
- 1x Intel® GbE LAN
- Intel® UHD Graphics 7xx driven by X^e Architecture;
Up to 4x DisplayPort V1.4a (up to 8K)
- Intel® High Definition Stereo Audio; Intel® integrated TPM V2.0
- 1x COM port
- 2x USB 3.2 Gen 2, 4x USB 3.2 Gen1, 4x USB 2.0
- Up to 4x SATA 6G incl. RAID support
- Up to 2x M.2 2280 (Key-M, PCIe/NVME SSD modules)

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® B660
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Processor (14th Gen/Gen 2) Intel® LGA1700 125 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	192 GByte K3843-B1: 4 K3843-B2: 2 DDR5 4800/5600 non-ECC*
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by X ^e Architecture K3843-B1: 4x DP V1.4a up to 8K K3843-B2: 2x DP V1.4a up to 8K
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Tempo Semiconductor 92HD91B yes/yes -
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	2/-/-/(2**)/- -/- K3843-B1: 2x M.2 2280 (Key-M, PCIe/NVME SSD modules) K3843-B2: 1x M.2 2280 (Key-M, PCIe/NVME SSD modules) -
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/- K3843-B1: 4; K3843-B2: 2/yes - -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/2 - 2 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail)
ENVIRONMENTAL	OPERATION TEMPERATURE	10 °C - 50 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes - -

*Effective memory speed depends on installed processor and platform architecture

**Only on K3843-B1



Product Highlights

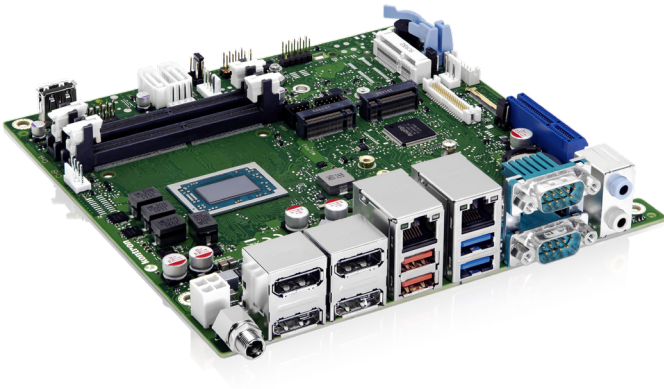
- DDR5-4800 SODIMM, max 32 GByte
- Intel® UHD Gen12 Graphics (within SoC)
- 2x DisplayPort V1.4a + USB Type-C Alt mode (DPoC)
- eDP V1.4b
- HD Audio onboard
- 3x USB 2.0, 3x USB 3.2 Gen1, 2x USB 3.2 Gen2
- 1x USB 3.2 Gen1 (Front Type-C) with DP Alt mode
- 1x Realtek GbE LAN
- 1x SATA 6G
- 1x M.2 2230/2242/2280 (Key-M, PCIe x1 Gen3 NVMe SSD + SATA SSD)
- 1x M.2 2230 (Key-E, WLAN/Bluetooth modules, PCIe and CNVi support)
- Intel® integrated TPM V2.0
- 1x RS-232 support onboard
- DualRange internal/external DC input (12V / 19-28V), PowerDelivery Sink Mode (20V DC-In via USB-C)

BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 mm) Intel® Alder Lake N/Twin Lake SoC
CPU SUPPORT	PROCESSOR	8-Cores: Intel® Core™ i3-N305 (up to 3.8 GHz), Core™ i3-N355 (up to 3.9 GHz) 4-Cores: Intel® Processor N100 (up to 3.4 GHz), Processor N150 (up to 3.6 GHz) FCBGA1264 6W-15W
	PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	- yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	32 GByte 1 DDR5 4800
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by Xe Architecture up to 3x DP (1x via USB Type-C), 1x eDP @ 4 lanes
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Realtek RTL8111H -/ -
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	-/-/-/-/- -/- 1x M.2 2230/2242/2280 (Key-M, 1x PCIe Gen3 + SATA, NVMe + SATA SSD) 1x M.2 2230 (Key-E, WLAN PCIe and CNVi)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/- 3 (pin headers)/- 1/- 1 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN1 TYPE C USB PORTS 2.0 COM PORTS	2/3 1 - -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	12 V/19-28 V
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 50 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes MS Windows 11 USB-C with DP Alt. Mode and PowerDelivery Sink

Industrial Motherboards

D3713-V/R mITX

Technical Information



Product Highlights



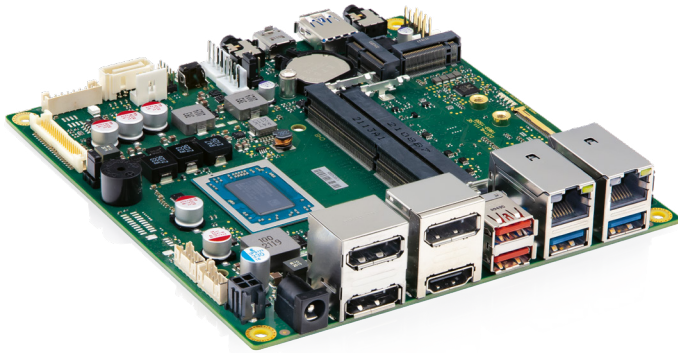
- AMD Radeon™ Vega Graphics (within SoC)
- Up to 4x DisplayPort V1.4
- Dual Channel LVDS (24Bit) and eDP V1.3 (4k) onboard
- PCI Express® x4 (Gen3)
- 8 Bit GPIO & HD Audio onboard
- USB 2.0 and USB 3.2 (Gen1/Gen2) onboard
- 2x SATA III; USB Stick Socket
- Onboard support for 1x M.2 SSD (Key-M: 2230/2242/2280)
- Onboard support for 1x M.2 (Key-B: 2242/3052/2260/2280)
- Onboard support for 1x Mini-PCIe (halfsize/fullsize)
- Dual GbE LAN onboard incl. Teaming Support
- AMD integrated TPM V2.0 onboard & socket for optional TPM Module
- WideRange internal/external DC Input (8 V - 34 V)
- HW Watchdog onboard
- RS-232/485/422 support onboard

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) AMD Ryzen™ Embedded V1000/ R1000 Series SoC
CPU SUPPORT	PROCESSOR	R1: R1102G Dual-Core 1.2/2.6 GHz R2: R1305G Dual-Core 1.5/2.8 GHz R4: R1606G Dual-Core 2.6/3.5 GHz V1: V1202B Dual-Core 2.3/3.2 GHz V2: V1605B Quad-Core 2.0/3.6 GHz V4: V1807B Quad-Core 3.35/3.8 GHz
	PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP)	AMD FP5 R1: 6 W TDP R2: 8 W/10 W TDP R4: 12 W/15 W/25 W TDP V1: 12 W/15 W/25 W TDP V2: 12 W/15 W/25 W TDP V4: 35 W/45 W/54 W TDP
	CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	32 GByte 2 DDR4 2400/3200 ECC Option
GRAPHICS	ONBOARD GRAPHICS	AMD Radeon™ Vega Graphics (within SoC)
	GRAPHICS INTERFACES	up to 4x DP V1.4, 1x eDP V1.4 @ 4 lanes, 1x LVDS
ETHERNET	ONBOARD LAN CONTROLLER	1x Intel® i210AT 1x Realtek RTL8111H
	IAMT/VPRO	-/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA)	-/-/1/-/- yes/- 1x M.2 Key-M (2230/2242/2280; PCIe x4) R-Series: M.2 Key-M socket shared with PCIe x4 slot (M.2 or PCIe slot usable; BIOS Setup option) 1x M.2 Key-B (2242/3052/2260/2280; SATA or PCIe)
	M.2 WLAN (KEY-E)	-
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/1 2/- 2 2 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/2 - - 2
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	8 V - 34 V
ENVIRONMENTAL	OPERATION TEMPERATURE	-10 °C to +60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (AMD); Infineon module yes yes No Legacy OS Support 1x COM incl. RS-232/-422/-485 Support; GPIO

Industrial Motherboards

D3714-V/R mSTX

Technical Information

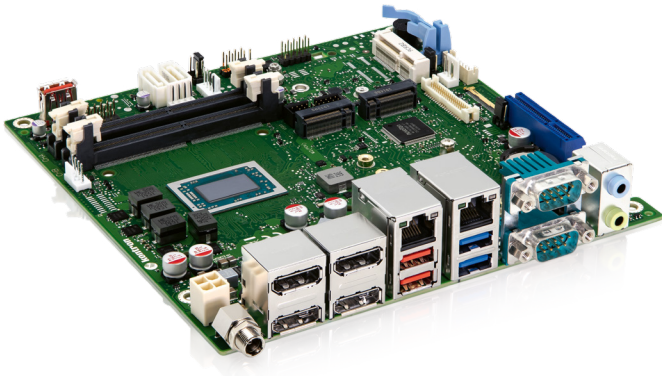


Product Highlights



- AMD Radeon™ Vega Graphics (within SoC)
- Up to 3x DisplayPort V1.4 plus HDMI V2.0b
- Dual Channel LVDS (24Bit) and eDP V1.3 (4k) onboard
- 8 Bit GPIO & HD Audio onboard
- USB 2.0 and USB 3.2 (Gen1/Gen2) onboard
- 1x SATA III onboard
- Onboard support for 1x M.2 SSD (Key-M: 2230/2242/2280)
- Onboard support for 1x M.2 WLAN/Bluetooth (Key-E: 2230)
- Dual GbE LAN onboard incl. Teaming Support
- AMD integrated TPM V2.0 onboard
- Auto Dual Range internal/external DC Input (12 V or 19-28 V)
- HW Watchdog onboard
- RS-232/485/422 support onboard

BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 mm) AMD Ryzen™ Embedded V1000/ R1000 Series SoC
CPU SUPPORT	PROCESSOR	R1: R1102G Dual-Core 1.2/2.6 GHz R2: R1305G Dual-Core 1.5/2.8 GHz V2: V1605B Quad-Core 2.0/3.6 GHz
	PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP)	AMD FP5 R1: 6 W TDP R2: 8 W/10 W TDP V2: 12 W/15 W/25 W TDP
	CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	32 GByte 2 DDR4 2400 ECC Option
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	AMD Radeon™ Vega Graphics (within SoC) up to 3x DP V1.4, 1x HDMI V2.0b, 1x eDP V1.4 @ 4 lanes, 1x LVDS
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i210AT 1x Realtek RTL8111H -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes -
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	-/-/-/-/- -/- 1x M.2 Key-M (2230/2242/2280; PCIe x4) 1x M.2 WLAN/Bluetooth (Key-E: 2230, supports PCIe x1/ Gen3 + USB 2.0)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/- 2 (pin header)/- 1/- 2 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/3 1 - -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	12 V or 19 - 28 V (Auto Dual Range)
ENVIRONMENTAL	OPERATION TEMPERATURE	-10 °C to +60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (AMD integrated) - yes No Legacy OS Support 1x COM incl. RS-232/-422/-485 Support; GPIO

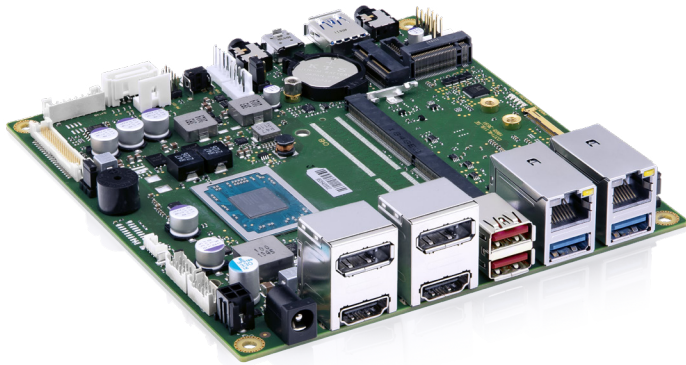


Product Highlights



- AMD Radeon™ Vega Graphics (within SoC)
- Up to 4x DisplayPort V1.4
- Dual Channel LVDS (24Bit) and eDP V1.3 (4k) onboard
- PCI Express® x4 (Gen3)
- 8 Bit GPIO & HD Audio onboard
- USB 2.0 and USB 3.2 (Gen1/Gen2) onboard
- 2x SATA III; USB Stick Socket
- Onboard support for 1x M.2 SSD (Key-M: 2230/2242/2280)
- Onboard support for 1x M.2 (Key-B: 2242/3052/2260/2280)
- Onboard support for 1x Mini-PCIe (halfsize/fullsize)
- Dual GbE LAN onboard incl. Teaming Support
- AMD integrated TPM V2.0 onboard & socket for optional TPM Module
- WideRange internal/external DC Input (8 V - 34 V)
- HW Watchdog onboard
- RS-232/485/422 support onboard
- Windows 11 support

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) AMD Embedded Ryzen™ R2000 Series SoC (Zen+ Core)
CPU SUPPORT	PROCESSOR	R1: R2312 Dual-Core 2.7/3.5 GHz R2: R2314 Quad-Core 2.1/3.5 GHz R3: R2514 Quad-Core 2.1/3.7 GHz R4: R2544 Quad-Core 3.35/3.7 GHz
	PROCESSOR SOCKET	AMD FP5
	MAX. PROCESSOR POWER CONSUMPTION (TDP)	R1: 12 W/15 W/25 W TDP R2: 12 W/15 W/25 W/35 W TDP R3: 12 W/15 W/25 W/35 W TDP R4: 35 W/45 W/54 W TDP
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	32 GByte 2 DDR4 2400/2666/3200 ECC Option
GRAPHICS	ONBOARD GRAPHICS	AMD Radeon™ Vega Graphics (within SoC)
	GRAPHICS INTERFACES	up to 4x DP V1.4, 1x eDP @ 4 lanes, 1x LVDS
ETHERNET	ONBOARD LAN CONTROLLER	1x Intel® i210AT 1x Realtek RTL8111H
	IAMT/VPRO	-/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA)	-/-/1/-/ yes/- 1 x M.2 Key-M (PCIe x4) R1: M.2 Key-M socket shared with PCIe x4 slot (M.2 or PCIe slot usable; BIOS Setup option) 1 x M.2 Key-B (SATA or PCIe)
	M.2 WLAN (KEY-E)	-
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/1 2/- 2 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/2 - - 2
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	8 V - 34 V
ENVIRONMENTAL	OPERATION TEMPERATURE	-10 °C to +60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (AMD integrated) yes yes MS Windows 11 No Legacy OS Support 4x COM (1x incl. RS-232/-422/-485 Support), GPIO

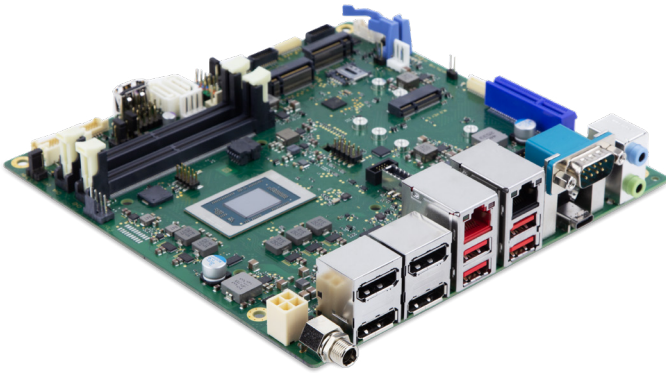


Product Highlights



- AMD Radeon™ Vega Graphics (within SoC)
- Up to 3x DisplayPort V1.4 plus HDMI V2.0b
- Dual Channel LVDS (24Bit) and eDP V1.3 (4k) onboard
- 8 Bit GPIO & HD Audio onboard
- USB 2.0 and USB 3.2 (Gen1/Gen2) onboard
- 1x SATA III onboard
- Onboard support for 1x M.2 SSD (Key-M: 2230/2242/2280)
- Onboard support for 1x M.2 WLAN/Bluetooth (Key-E: 2230)
- Dual GbE LAN onboard incl. Teaming Support
- AMD integrated TPM V2.0 onboard
- Auto Dual Range internal/external DC Input (12 V or 19-28 V)
- HW Watchdog onboard
- RS-232/485/422 support onboard

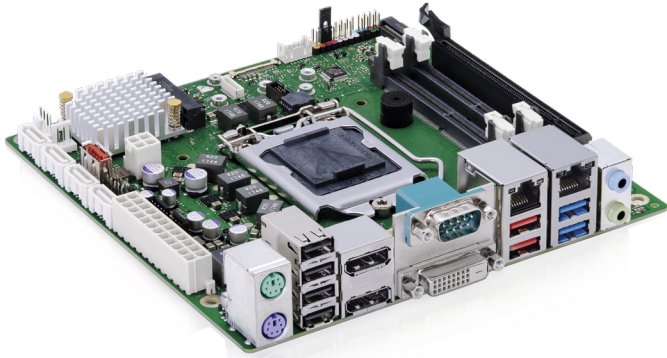
BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 mm) AMD Embedded Ryzen™ R2000 Series SoC (Zen+ Core)
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	R1: R2312 Dual-Core 2.7/3.5 GHz R2: R2314 Quad-Core 2.1/3.5 GHz R3: R2514 Quad-Core 2.1/3.7 GHz AMD FP5 12 W/15 W/25 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	32 GByte 2 DDR4 2400/2666 ECC Option
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	AMD Radeon™ Vega Graphics (within SoC) up to 3x DP V1.4, 1x HDMI V2.0b, 1x eDP V1.4, 1x LVDS
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i210AT 1x Realtek RTL8111H -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes -
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	-/-/-/-/- -/- 1x M.2 PCIe x4 (Key-M: 2230/2242/2280) 1x M.2 WLAN/Bluetooth (Key-E: 2230, supports PCIe x1/ Gen3 + USB 2.0)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/- 2 (pin header)/- 1/- 2 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN1 TYPE C USB PORTS 2.0 COM PORTS	2/3 1 - -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	12 V / 19 - 28 V
ENVIRONMENTAL	OPERATION TEMPERATURE	-10 °C to +60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (AMD integrated) - yes MS Windows 11 No Legacy OS Support 2x COM (1x incl. RS-232/-422/-485 Support) GPIO



Product Highlights

- AMD Ryzen™ AI Embedded P100 Series
- DDR5-5600 SODIMM, max 96 GByte
- AMD Radeon™ RDNA3.5 Graphics (within SoC) with 4x DisplayPort™ V1.4
- Dual Channel LVDS (24Bit) and eDP V1.4b (4k) onboard
- Powerful USB 4® (Type-C) and 3.2 Gen2 Ports
- Integrated XDNA™2 NPU with 50+ TOPs
- 1x Intel® 1GbE LAN & 1x Realtek 5GbE LAN incl. Teaming
- 2x M.2 Key M x2 Gen4
- 1x M.2 Key B with 5G card support
- 1x M.2 Key E (WLAN / Bluetooth)
- 8 Bit GPIO & HD AUDIO onboard
- 1x PCI Express® x4 (Gen4, open slot)
- HW Watchdog onboard
- WideRange internal/external DC input 9-34V, PowerDelivery Sink Mode (up to 28V / 140W via Type-C)

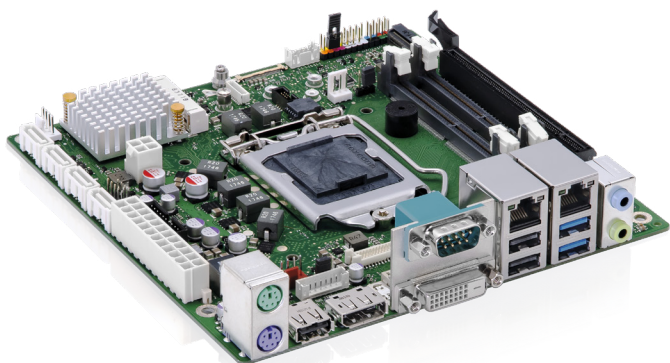
BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) AMD Ryzen™ AI Embedded
CPU SUPPORT	PROCESSOR	P2: P121 (4 Cores) P3: P132 (6 Cores) P6: P164 (8 Cores) P7: P174 (10 Cores) P8: P185 (12 Cores)
	POWER CONSUMPTION TDP CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE TDP	28W (15-54W) yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	96 Gbyte 2 DDR5 5600
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	AMD Radeon™ RDNA 3.5 Graphics (within SoC) 4x DP V1.4 up to 8K 1x USB4 1x eDP V1.4b up to 4K 1x Dual Channel LVDS
ETHERNET	ONBOARD LAN CONTROLLER iAMT/vPRO	1x Realtek RTL8126, 1x Intel® i210 -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	7.1 channel HD-AUDIO Realtek ALC897 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe / mSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	--/-- / 1 / --/-- -/- 1x M.2 2230/2242/2280 (Key-M, PCIe x2/Gen4/NVMe SSD, modules) 1x M.2 2230/2242 (Key-M, PCIe x2/Gen4/NVMe SSD modules) 1x M.2 2230/2242/3052 (Key-B PCIe x2/USB2) 1x M.2 2230 (Key-E, WLAN/Bluetooth modules, PCIe/USB)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2 KEY-A / 3.2 GEN1 USB PORTS 2.0 / STICK SOCKET SATA PORTS / SATA RAID COM PORT (INT. HEADER) PARALLEL PORT INT. HEADER	1 / 2 (pin header) 2 (pin header)/1 2/no 5 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2 / 3.2 GEN1 / USB4 TYPE C USB PORTS 2.0 COM PORT	4 / - / 1 - 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	9V-34V
ENVIRONMENTAL	OPERATION TEMPERATURE	-10 °C to +60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (AMD integrated, TPM socket) yes yes MS Windows 11, No Legacy OS Support, 6 x COM (1 x incl. RS-232/-422/-485 Support), GPIO



Product Highlights

- Intel® 8th/9th Gen Core™ Processor Series
- DDR4 2666 SDRAM, max. 64 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® AMT 12.0/vPro
- PCI Express® x16 (Gen.3)
- 2x Intel® GbE LAN (incl. Teaming)
- Intel® UHD Graphics (DX12)
- 1x DVI-D, 2x DP V1.2, eDP V1.4 and Dual Channel LVDS
- Intel® High Definition 5.1 Audio; Infineon TPM V2.0
- 8 Bit GPIO; 2x COM port (incl. RS-422/RS-485 support)
- 6x USB 2.0, 4x USB 3.2 Gen1, 2x USB 3.2 Gen2, 1x USB 3.2 Gen2 stick socket
- 4x SATA-III incl. RAID support & M.2 (PCIe-based SSD modules 2242, 2260, or 2280)
- Mini-PCIe socket (halfsize/fullsize support)
- Dual Power Supply (ATX compliant or single 12 V DC)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

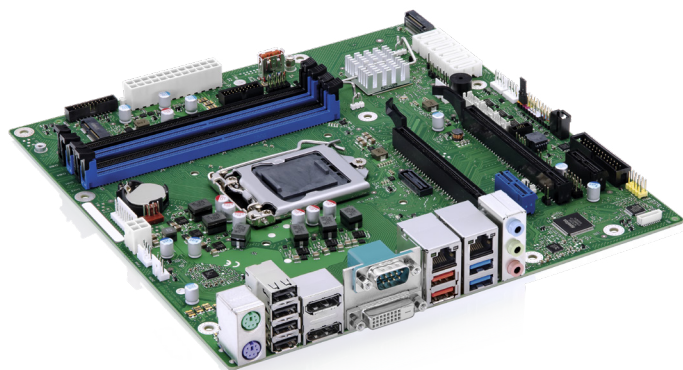
BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® Q370
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ 8th/9th Gen. Processor Series Intel® LGA1151 95 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	64 GByte 2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 1x DVI-D, 2x DP V1.2, 1x LVDS, 1x eDP V1.4 @ 2 lanes
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM 1x Intel® i210AT yes/yes
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	5.1 Multich. Realtek ALC671 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	1/-/-/-/- yes/- 1x M.2 Key-M Socket (2242/2260/2280) for PCIe (4 lanes) based M.2 Modules -
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/1 (3.2 Gen2) 4/yes 1 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/2 - 4 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail) or single 12 V
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes Onboard LVDS 24bit & eDP Mini-PCIe (Halfsize/Fullsize Support) & M.2 SSD (PCIe), GPIO (8Bit) COM: RS-232/-422/-485 Supported



Product Highlights

- Intel® 8th/9th Gen Core™ Processor Series
- DDR4 2666 SDRAM, max. 64 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- PCI Express® x16 (Gen.3)
- 2x Intel® GbE LAN (incl. Teaming)
- Intel® UHD Graphics (DX12)
- 1x DVI-D, 1x DP V1.2, eDP V1.4 and Dual Channel LVDS
- Intel® High Definition 5.1 Audio; Intel® integrated TPM V2.0
- 8 Bit GPIO; 2 x COM port (incl. RS-422/RS-485 support)
- 5x USB 2.0, 4x USB 3.2 Gen1
- 4x SATA-III & M.2
(PCIe-based SSD modules 2242, 2260, or 2280)
- Mini-PCIe socket (halfsize/fullsize support)
- Dual Power Supply (ATX compliant or single 12V DC)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

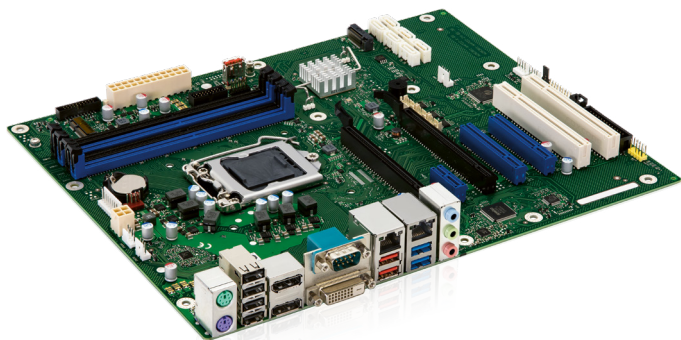
BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® H310
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ 8th/9th Gen. Processor Series Intel® LGA1151 95 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	32 GByte 2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 1x DVI-D, 1x DP V1.2, 1x LVDS, 1x eDP V1.4 @ 2 lanes
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM 1x Intel® i210AT -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	5.1 Multich. Realtek ALC671 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	1/-/-/-/- yes/- 1x M.2 Key-M Socket (2242/2260/2280) for PCIe (2 lanes) based M.2 Modules -
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/- 4/- 1 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	-/2 - 3 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail) or single 12 V
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes yes Onboard LVDS 24bit & eDP Mini-PCIe (Halfsize/Fullsize Support) & M.2 SSD (PCIe), GPIO (8Bit) COM: RS-232/-422/-485 Supported



Product Highlights

- Intel® 8th/9th Gen Core™ & Intel® Xeon® Processor Series
- DDR4 2666 SDRAM, max. 64 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® AMT 12.0/vPro
- PCI Express® x16 (Gen.3)
- 2x Intel® GbE LAN (incl. Teaming)
- Intel® UHD Graphics (DX12); 1x DVI-D, 2x DP V1.2
- Intel® High Definition 5.1 Audio; Infineon TPM V2.0
- 8 Bit GPIO; 4x COM ports
- 6x USB 2.0, 4x USB 3.2 Gen1, 2x USB 3.2 Gen2, 1x USB 3.2 Gen2 stick socket
- 6x SATA 6G incl. RAID support, parallel port (internal pin header)
- M.2 2280 (PCIe-based SSD modules)
- M.2 2230 (WLAN/Bluetooth modules)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

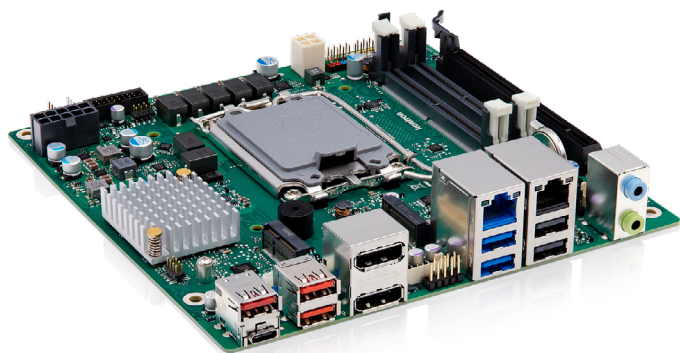
BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® C246
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ 8th/9th Gen & Xeon® Processor Series Intel® LGA1151 95 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	64 GByte 4 DDR4 2400/2666 ECC support
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 1x DVI-D, 2x DP V1.2, Optional VGA-Ext. D3653
ETHERNET	ONBOARD LAN CONTROLLER IAMT/vPRO	1x Intel® i219LM 1x Intel® i210AT yes/yes
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	5.1 Multich. Realtek ALC671 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	2/-/-/2/- - 1x M.2 Key-M Socket (2280) for PCIe (4 lanes) based M.2 Modules yes
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/1 (3.2 Gen2) 6/yes 3 yes
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/2 - 4 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes GPIO (8Bit)



Product Highlights

- Intel® 8th/9th Gen Core™ & Intel® Xeon® Processor Series
- DDR4 2666 SDRAM, max. 64 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® AMT 12.0/vPro
- PCI Express® x16 (Gen.3) & 2x PCI (32 Bit/33 MHz Rev. 2.3)
- 2x Intel® GbE LAN (incl. Teaming)
- Intel® UHD Graphics (DX12); 1x DVI-D, 2x DP V1.2
- Intel® High Definition 5.1 Audio; Infineon TPM V2.0
- 8 Bit GPIO; 4x COM ports, HW watchdog
- 6x USB 2.0, 4x USB 3.2 Gen1, 2x USB 3.2 Gen2, 1x USB 3.2 Gen2 stick socket
- 6x SATA 6G incl. RAID support, parallel port (internal pin header)
- M.2 2280 (PCIe-based SSD modules)
- M.2 2230 (WLAN/Bluetooth modules)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 12" (243.8 x 304.8 mm) Intel® C246
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ 8th/9th Gen & Xeon® Processor Series Intel® LGA1151 95 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	64 GByte 4 DDR4 2400/2666 ECC support
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 1x DVI-D, 2x DP V1.2, Optional VGA-Ext. D3653
ETHERNET	ONBOARD LAN CONTROLLER IAMT/vPRO	1x Intel® i219LM 1x Intel® i210AT yes/yes
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	5.1 Multich. Realtek ALC671 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	2/2/-/1/2 - 1x M.2 Key-M Socket (2280) for PCIe (4 lanes) based M.2 Modules yes
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/1 (3.2 Gen2) 6/yes 3 yes
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/2 - 4 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes GPIO (8Bit)



Product Highlights

- Intel® Core™ Processor Series (12th/13th/14th/Gen 2)
- DDR5-4800/5600 SODIMM, max. 96 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® iAMT features and Intel® Time Coordinated Computing (TCC)
- PCI Express® x16 (Gen5)
- 1x Intel® GbE LAN, 1x 2.5GbE incl. Teaming and TSN
- Intel® UHD Graphics 7xx driven by X^e Architecture; 2x DisplayPort V1.4a up to 8K; 1x Dual Channel LVDS; 1x eDP V1.4b
- Intel® High Definition Stereo Audio; Intel® integrated TPM V2.0
- 8 Bit GPIO; 2x COM port
- 4x USB 3.2 Gen 2, 4x USB 3.2 Gen1, 2x USB 2.0
- 1x M.2 2242 (Key-M, PCIe/NVME SSD modules)
- M.2 2230 (Key-E, WLAN/Bluetooth modules, incl. CNVi support)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

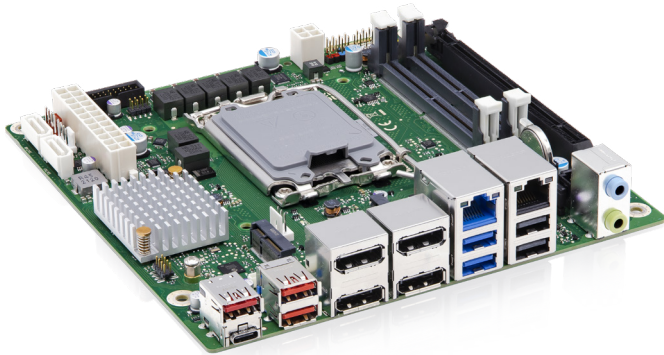
BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® Q670E
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Processor (14th Gen/Gen 2) Intel® LGA1700 65 W TDP yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	96 GByte 2 DDR5 4800/5600*
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by X ^e Architecture 2x DP V1.4 up to 8K, 1x eDP V1.4b @4K, 1x Dual-Channel (24Bit) LVDS @Full HD
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM 1x Intel® i226LM yes/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Tempo Semiconductor 92HD91B yes/yes -
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	1/-/-/-/- -/- 1x M.2 2242 (Key-M, PCIe/NVME SSD modules) 1x M.2 2230 (Key-E incl. CNVi)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2/- -/- 2 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	3/2 1 2 -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- Dual supply option: Single 12 V PSU ("DC In") or ATX 12V0 (Intel®-compliant) PSU; 10-pin socket plus 4-pin socket (12 V CPU power connector)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) - yes GPIO (8Bit)

*Support for DDR5-5600 requires Intel® Core™ i7 or i9 processor (13th/14th Gen) and single rank SO-DIMM modules

Industrial Motherboards

K3833-Q mITX

Technical Information



Product Highlights

- Intel® Core™ Processor Series (12th/13th/14th/Series 2)
- DDR5-4800/5600 SODIMM, max. 96 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® iAMT features and Intel® Time Coordinated Computing (TCC)
- PCI Express® x16 (Gen5)
- 1x Intel® GbE LAN, 1x 2.5GbE incl. Teaming and TSN
- Intel® UHD Graphics 7xx driven by X^e Architecture; 4x DisplayPort V1.4a up to 8K; 1x eDP V1.4b
- Intel® High Definition 5.1 Audio; Intel® integrated TPM V2.0
- 8 Bit GPIO; 1x COM port
- 4x USB 3.2 Gen 2, 4x USB 3.2 Gen1, 2x USB 2.0
- 2x SATA 6G incl. RAID support
- 1x M.2 2242 (Key-M, PCIe/NVME SSD modules)
- M.2 2230 (Key-E, WLAN/Bluetooth modules, incl. CNVi support)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

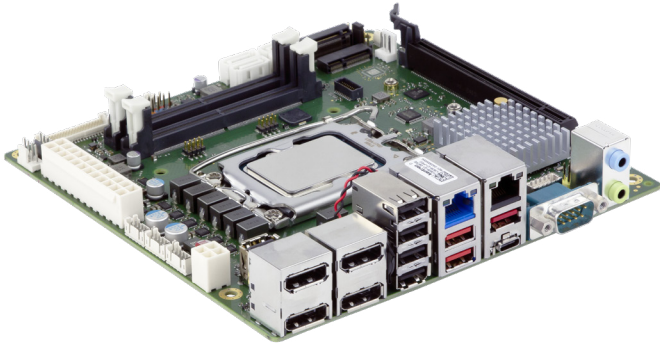
BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® Q670E
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Processor (14th Gen/Series 2) Intel® LGA1700 65 W TDP yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	96 GByte 2 DDR5 4800/5600
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by X ^e Architecture 4x DP V1.4a up to 8K, 1x eDP V1.4b @4K
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM 1x Intel® i226LM yes/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	5.1 Multich. Tempo Semiconductor 92HD91B yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	1/-/-/-/- -/ 1x M.2 2242 (Key-M, PCIe/NVME SSD modules) 1x M.2 2230 (Key-E incl. CNVi)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) -/ 2/yes 1 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	3/2 1 2 -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail); 24-pin socket plus 4-pin socket (12 V CPU power connector)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes GPIO (8Bit)

*Support for DDR5-5600 requires Intel® Core™ i7 or i9 processor (13th/14th Gen) and single rank SO-DIMM modules

Industrial Motherboards

K3836-Q/R mITX

Technical Information



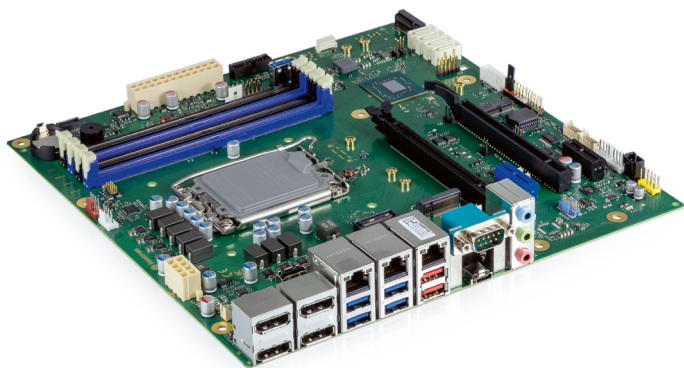
Product Highlights

- Intel® Core™ processor series (12th/13th/14th/Gen 2)
- DDR5-4800/5600 SODIMM, max. 96 GByte
- ECC Support with R680E chipset
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® iAMT features and Intel® Time Coordinated Computing (TCC)
- PCI Express® x16 (Gen5 prepared)
- 1x Intel® GbE LAN, 1x 2.5GbE incl. Teaming and TSN
- Intel® UHD Graphics 7xx driven by Xe Architecture;
- 4x DisplayPort V1.4a up to 8K; 1x eDP V1.4b @4K; 1x Dual Channel LVDS
- HD Audio onboard
- Intel® integrated TPM V2.0
- 8 Bit GPIO; 4x COM port
- 6x USB 3.2 Gen 2, 7x USB 2.0
- 1x M.2 2242/2280 (Key-M, PCIe/NVME SSD modules)
- M.2 2230 (Key-E, WLAN/Bluetooth modules)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) K3836-Q: Intel® Q670 K3836-R: Intel® R680E
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Processor (14th Gen/Series 2) Intel® LGA1700 65 W TDP yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	96 GByte 2 DDR5 4800/5600* K3836-R: ECC Support
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by X ^e Architecture 4x DP V1.4a up to 8K, 1x eDP V1.4b @4K, 1x Dual Channel LVDS
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM 1x Intel® i226LM yes/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	1**/-/-/-/- -/- 1x M.2 2242/2280 (Key-M, PCIe/NVME SSD modules) 1x M.2 2230 (Key-E, WLAN/Bluetooth modules, PCIe + USB)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	2 (pin header)/- 2 (pin header)/1 4/yes 3 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	3/- 1 4 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- Dual supply option: Single 12 V PSU ("DC In") or Standard ATX Multirail PSU; 24-pin ATX socket plus 4-pin socket for CPU
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes GPIO (8Bit)

* Support for DDR5-5600 requires Intel® Core™ i7 or i9 processor (13th/14th Gen) and single rank 50-DIMM modules

** Support for Lane Split (x16 or x4+x4)

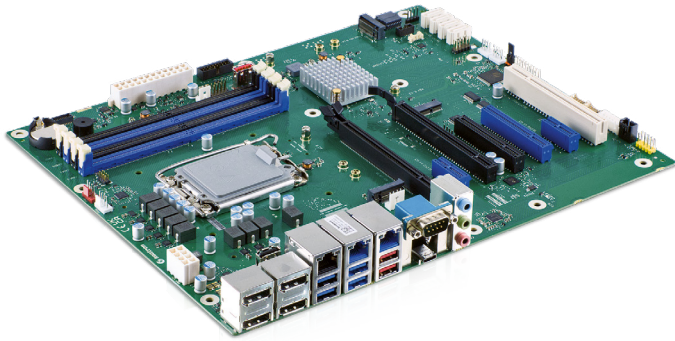


Product Highlights

- Intel® Core™ Processor Series (12th/13th/14th/Series 2)
- DDR5 4800/5600 UDIMM, max. 192 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® AMT 16.0 and Intel® Time Coordinated Computing (TCC)
- PCI Express® x16 (Gen5 @ CPU, Gen4 @ PCH)
- 1x Intel® GbE LAN, 2x 2.5GbE incl. Teaming and TSN
- Intel® UHD Graphics 7xx driven by X^e Architecture; 4x DisplayPort V1.4a up to 8K
- Intel® High Definition 5.1 Audio; Intel® integrated TPM V2.0
- 8 Bit GPIO; 4x COM ports
- 3x USB 3.2 Gen 2, 6x USB 3.2 Gen1, 2x USB 2.0, 1x USB 3.2 Gen2 stick socket, 1x USB 2.0 stick socket
- 4x SATA 6G incl. RAID support
- 2x M.2 2230/2242/2280 (Key-M, PCIe/NVME SSD modules), incl. NVME RAID support
- M.2 2230 (Key-E, WLAN/Bluetooth modules, incl. CNVi support)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® Q670E
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Processor (14th Gen/Series 2) Intel® LGA1700 125 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	192 GByte 4 DDR5 4800/5600 non-ECC*
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by X ^e Architecture 4x DP V1.4ak up to 8K
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM 2x Intel® i226LM yes/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	5.1 Multich. Tempo Semiconductor 92HD91B yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	2/-/-/2/- -/- 2x M.2 2230/2242/2280 (Key-M, PCIe/NVME SSD modules), incl. NVME RAID 1x incl. CNVi
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (pin header) 2 (pin header)/2 (2.0/3.2 Gen2) 4/yes 3 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/4 1 - 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) + TPM Socket yes yes GPIO (8Bit)

*Effective memory speed depends on installed processor and platform architecture

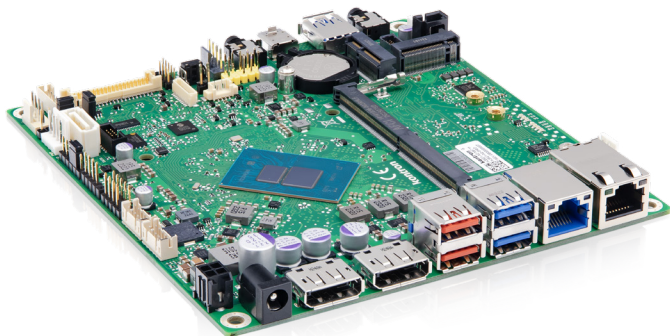


Product Highlights

- Intel® Core™ Processor Series (12th/13th/14th/Series 2)
- DDR5 4800/5600 UDIMM, max. 192 GByte, ECC support
- cTDP – Easy & flexible reduction of CPU TDP
- Supporting Intel® AMT 16.0 and Intel® Time Coordinated Computing (TCC)
- PCI Express® x16 (Gen5 @ CPU, Gen4 @ PCH)
- 1x Intel® GbE LAN, 2x 2.5GbE incl. Teaming and TSN
- Intel® UHD Graphics 7xx driven by X^e Architecture; 4x DisplayPort V1.4a up to 8K
- Intel® High Definition 5.1 Audio; Intel® integrated TPM V2.0
- 8 Bit GPIO; 4x COM ports
- 3x USB 3.2 Gen 2, 6x USB 3.2 Gen1, 2x USB 2.0, 1x USB 3.2 Gen2 stick socket, 1x USB 2.0 stick socket
- 4x SATA 6G incl. RAID support
- 2x M.2 2230/2242/2280 (Key-M, PCIe/NVME SSD modules), incl. NVME RAID support
- M.2 2230 (Key-E, WLAN/Bluetooth modules, incl. CNVi support)
- PCI Slot (32 Bit)
- BIOS-POST/-Boot & OS – HW Watchdog onboard

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 12" (243.8 x 304.8 mm) Intel® R680E
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Processor (14th Gen/Series 2) Intel® LGA1700 125 W TDP yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	192 GByte 4 DDR5 4800/5600 ECC Option*
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by X ^e Architecture 4x DP V1.4a up to 8K, Optional VGA-Ext. D3653
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i219LM 2x Intel® i226LM yes/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	5.1 Multich. Tempo Semiconductor 92HD91B yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	2/2/-/2/1 -/ 2x M.2 2230/2242/2280 (Key-M, PCIe/NVME SSD modules), incl. NVME RAID 1x incl. CNVi
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/1 2 (pin header)/2 (2.0/3.2 Gen2) 4/yes 3 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/4 1 - 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) + TPM Socket yes yes GPIO (8 Bit); PCI Slot

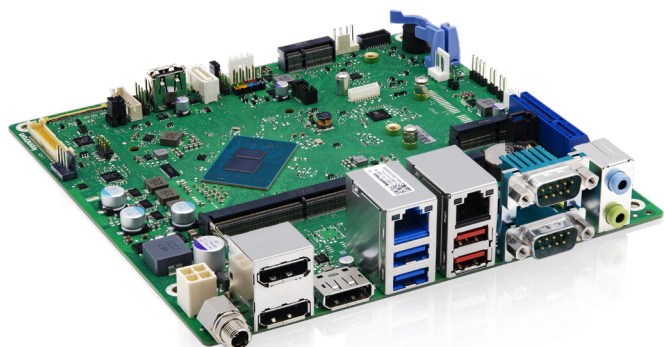
*Effective memory speed depends on installed processor and platform architecture



Product Highlights

- DDR5-4800 SODIMM, max 32 GByte
- Intel® UHD Gen12 Graphics (within SoC)
- 2x DisplayPort V1.4a + USB Type-C Alt mode (DPoC)
- Dual Channel LVDS (24 bit) and eDP V1.4b
- 8 Bit GPIO & HD Audio onboard
- 3x USB 2.0, 3x USB 3.2 Gen1, 2x USB 3.2 Gen2
- 1x USB 3.2 Gen1 (Front Type-C) with DP Alt mode
- 1x Realtek GbE LAN, 1x 2.5GbE incl. Teaming
- 1x SATA 6G
- 1x M.2 2230/2242/2280 (Key-M, PCIe x2 Gen3/NVMe SSD modules)
- 1x M.2 2230 (Key-E, WLAN/Bluetooth modules, PCIe and CNVi support)
- Intel® integrated TPM V2.0
- 2x RS-232 support onboard (1x incl. RS485/422)
- HW Watchdog onboard
- DualRange internal/external DC input (12V / 19-28V) PowerDelivery Sink Mode (20V DC-In via USB-C)

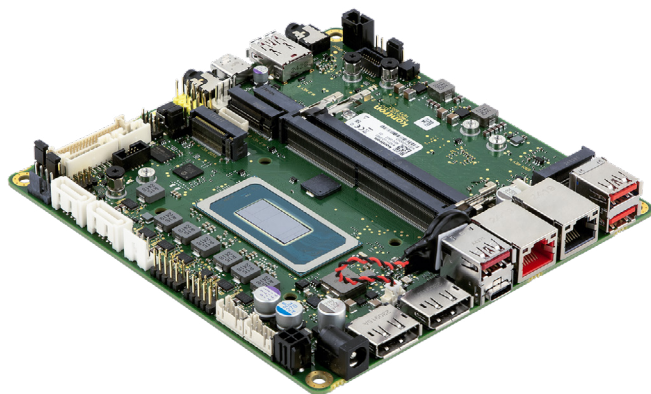
BASEBOARD	DIMENSIONS	5.5" x 5.8" (140 x 148 mm)
CPU SUPPORT	CHIPSET	Intel® Alder Lake N/Twin Lake SoC
	PROCESSOR	8-Cores: Intel® Core™ i3-N305 (up to 3.9 GHz), Core™ 3-N355 (up to 3.9 GHz) 4-Cores: Intel® Processor N97 (up to 3.6 GHz), N150 (up to 3.6 GHz), N200 (up to 3.7 GHz) 2-Cores: Intel® Processor N50 (up to 3.4 GHz) FCBGA1264 6W-15W
	PROCESSOR SOCKET	
	MAX. PROCESSOR POWER CONSUMPTION (TDP)	
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY	32 GByte
	NUMBER OF SOCKETS	1
	RAM SPEED	DDR5 4800
GRAPHICS	ONBOARD GRAPHICS	Intel® UHD Graphics 7xx driven by X ^e Architecture up to 3x DP (1x via USB Type-C), 1x Dual-Channel LVDS, 1x eDP @ 4 lanes
	GRAPHICS INTERFACES	
ETHERNET	ONBOARD LAN CONTROLLER	1x Realtek RTL8111H 1x Realtek RTL8125BG-CG
	IAMT/VPRO	-/-
AUDIO	TYPE	Stereo
	ONBOARD CONTROLLER	Realtek ALC256
	BUZZER/SPEAKER	yes/yes
	S/PDIF HEADER	yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI	-/-/-/-/-
	MINI-PCIe/MSATA	-/-
	M.2 SSD (PCIe AND/OR SATA)	1x M.2 2230/2242/2280 (Key-M, 2x PCIe Gen3, NVMe)
	M.2 WLAN (KEY-E)	1x M.2 2230 (Key-E, WLAN PCIe and CNVi)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1	-/-
	USB PORTS 2.0/STICK SOCKET	3 (pin headers)/-
	SATA PORTS/SATA RAID	1/-
	COM PORT INT. HEADER	2
	PARALLEL PORT INT. HEADER	-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1	2/3
	USB 3.2 GEN1 TYPE C	1
	USB PORTS 2.0	-
	COM PORTS	-
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	12 V/19-28 V
	INTERNAL SUPPLY	
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Intel®)
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	MS Windows 11, 2x COM (1x incl. RS-232/-422/-485 Support) USB-C with DP Alt. Mode and PowerDelivery Sink



Product Highlights

- Intel® Core™ i3 processors & Intel® Processors N Series (Alder Lake N)
- DDR5-4800 SODIMM, max 32 GByte
- Gen12 UHD Graphics - driven bei X^e architecture
- Up to 3x DisplayPort V1.4a
- Dual Channel LVDS (24 bit) and eDP V1.4b
- PCI Express® x1 (Gen3, mechanical x4)
- 8 Bit GPIO & HD Audio onboard
- 4x USB 2.0, 4x USB 3.2 Gen1, 3x USB 3.2 Gen2
- Internal USB3 Key-A for USB-C extension cable
- Internal USB2 Stick socket
- 1x Realtek GbE LAN, 1x Intel® 2.5GbE incl. Teaming
- 1x SATA 6G
- 1x M.2 2230/2242/2280 (Key-M, PCIe x1 Gen3/NVMe SSD modules)
- 1x M.2 2242/2280 (Key-B, PCIe x1 Gen3/SATA SSD modules)
- 1x M.2 2230 (Key-E, WLAN/Bluetooth modules, CNVi support only)
- Intel® integrated iTPM V2.0
- Up to 4x RS-232 support onboard (1x with RS485/422 optional)
- HW Watchdog onboard
- WideRange internal/external DC input (8 V - 34 V)

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
CPU SUPPORT	CHIPSET	Intel® Alder Lake-N SoC
	PROCESSOR	N6: Octa-Core i3-N305 (1.0 GHz, up to 3.8 GHz @9 W; 1.8 GHz, up to 3.8 GHz @15 W) N4: Quad-Core N200 (1.0 GHz, up to 3.7 GHz @6 W) N2: Quad-Core N97 (2.0 GHz, up to 3.6 GHz @12 W) N1: Dual-Core N50 (1.0 GHz, up to 3.4 GHz @6 W)
	PROCESSOR SOCKET	FCBGA1264
	MAX. PROCESSOR POWER CONSUMPTION (TDP)	N6: 9 W/15 W N1, N4: 6 W N2: 12 W
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE	yes
	VOLTAGE REGULATOR	
MEMORY	MAX. CAPACITY	32 GByte
	NUMBER OF SOCKETS	1
	RAM SPEED	DDR5 4800
GRAPHICS	ONBOARD GRAPHICS	Intel® Gen12 UHD Graphics
	GRAPHICS INTERFACES	3x DP, 1x Dual-Channel LVDS, 1x eDP @ 4 lanes
ETHERNET	ONBOARD LAN CONTROLLER	1x Intel® i226 1x Realtek RTL8111H
	IAMT/VPRO	-/-
AUDIO	TYPE	Stereo
	ONBOARD CONTROLLER	Realtek ALC256
	BUZZER/SPEAKER	yes/yes
	S/PDIF HEADER	yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI	-/-/1/-/-
	MINI-PCIe/MSATA	-/-
	M.2 SSD (PCIe AND/OR SATA)	1x M.2 2230/2242/2280 (Key-M, 2x PCIe, NVMe) 1x M.2 2242/2280 (Key-B, 1x PCIe, SATA)
	M.2 WLAN (KEY-E)	1x M.2 Key-E (CNVi, USB)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1	1 (pin header)/2 (pin header)
	USB PORTS 2.0/STICK SOCKET	3 (pin headers)/1
	SATA PORTS/SATA RAID	1/-
	COM PORT INT. HEADER	2
	PARALLEL PORT INT. HEADER	-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1	2/2
	USB 3.2 GEN2 TYPE C	-
	USB PORTS 2.0	-
	COM PORTS	2
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	8 V - 34 V
	INTERNAL SUPPLY	
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Intel®)
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	MS Windows 11, No Legacy OS Support, 4x COM (1x incl. RS-232/-422/-485 Support, 1x ccTalk), GPIO

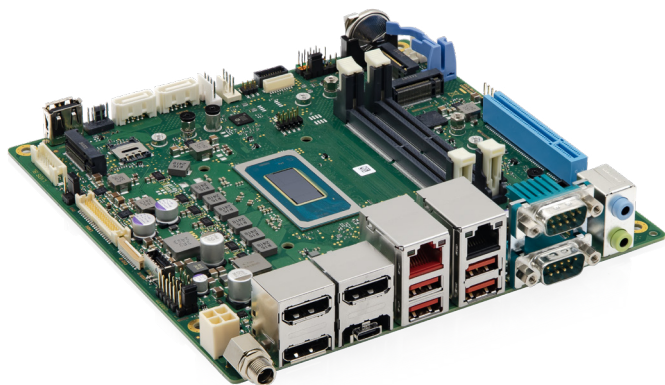


Product Highlights

- Intel® Core™ Ultra Processors
- Intel® AI Boost (Integrated NPU)
- DDR5-5600 SODIMM, max 96 GByte
- Intel® Graphics @ MTL-U, Xe LPG (within SoC)
- 2x DisplayPort V1.4a
- Dual Channel LVDS (24 bit) and eDP V1.4b
- 4x USB3.2 Gen2
- 1x USB Type-C with DP Alt mode
- 1x USB Type-C with Thunderbolt™ 4* / USB4® Support
- 1x Intel® i219LM (with iAMT support) GbE LAN,
- 1x Realtek RTL8126 5GbE incl. Teaming
- 2x M.2 Key-M 2230/2242/(2280)
(PCIe x4/Gen4, NVMe SSD modules)
- 1x M.2 Key-B 2242 (PCIe x2/USB2)
- 1x M.2 Key-E 2230 (WLAN/Bluetooth modules, PCIe/USB/CNVio)
- Intel® integrated iTPM V2.0
- WideRange internal/external DC input 9-24V
PowerDelivery Sink Mode (20V DC-In via Rear USB-C)

BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 mm) Intel® Meteor Lake U SoC
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Ultra 7 155U Intel® Core™ Ultra 5 125U U Type 3 15W (12-28W) yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	96 GByte 2 DDR5 5600
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® Graphics driven by Intel® Xe with up to 8 Xe-cores 1x TB4* (DP2.1 up to UHBR20 8K), 2x DP V1.4a up to 8K, 1x USB-C with DPoC /Alternate Mode up to 8K 1x eDP V1.4b up to 5K 1x Dual-Channel LVDS
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Realtek RTL8126 1x Intel® i219LM yes/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	-/-/-/-/- -/- 1x M.2 2230/2242/2280 (Key-M, PCIe x4/Gen4/NVMe SSD modules) 1x M.2 2230/2242 (Key-M, PCIe x4/ Gen4/NVMe SSD modules) 1x M.2 2242 (Key-B PCIe x2/USB2) 1x M.2 2230 (Key-E, WLAN/ Bluetooth modules, PCIe/USB/CNVio)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/- 4 (by header)/- 2/yes 2 -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C TB4/USB4® TYPE C USB PORTS 2.0 COM PORTS	4/- 1 1 - -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	9 V - 24 V SATA Drive Power Connector (5 V/12 V) / DC-In Connector 9-24V (4 pin)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes GPIO (8Bit)

* Thunderbolt™ 4 certification pending

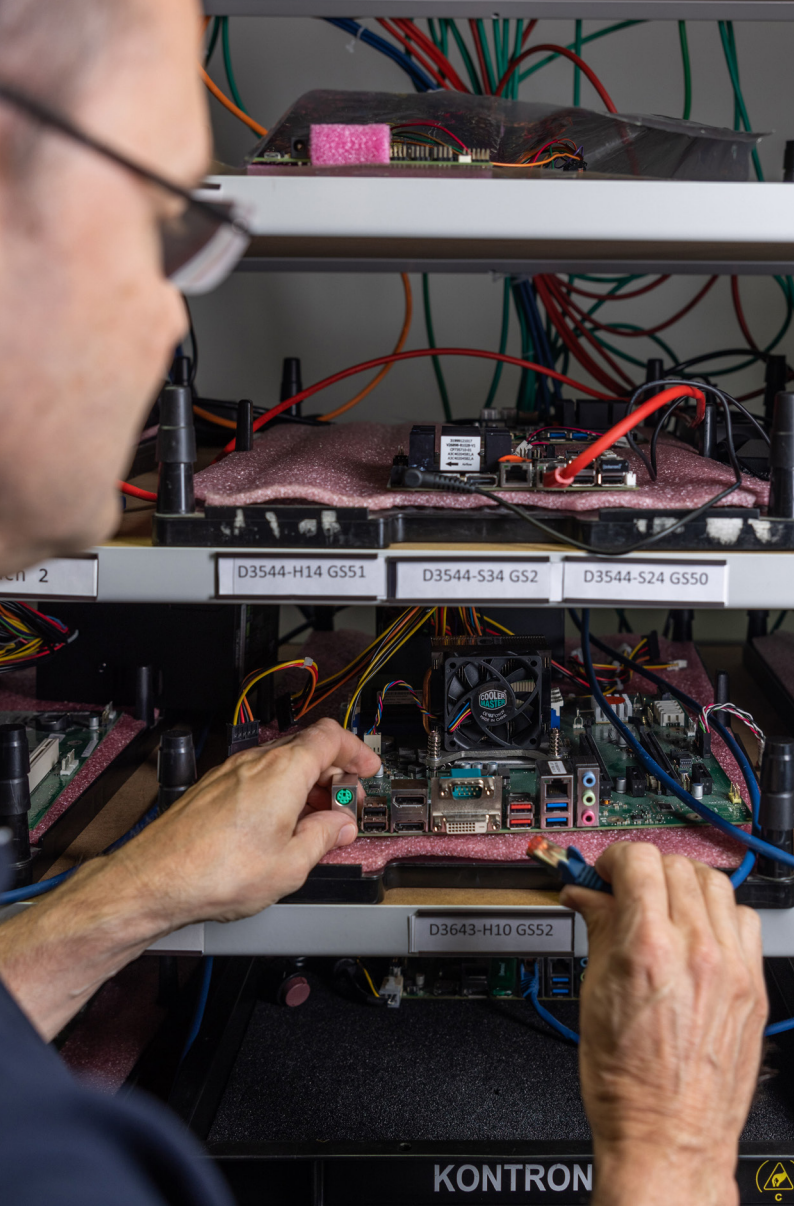


Product Highlights

- ▶ Intel® Core™ Ultra Processors
- ▶ Intel® Arc™ GPU with up to eight Xe cores (up to 128 graphics execution units)
- ▶ Up to four concurrent 4K60 HDR displays or two 8K displays
- ▶ Intel® AI Boost (Integrated NPU)
- ▶ DDR5-5600 SODIMM, max 96 GByte
- ▶ 3x DisplayPort™ V1.4a
- ▶ Up to 2x USB Type-C with TB4* / USB4® or DP alt mode / USB 3.2 Gen2
- ▶ Dual Channel LVDS, eDP V1.4b and MIPI-CSI2 camera interface
- ▶ 4x USB3.2 Gen2 and 2x USB3.2 Gen1
- ▶ 1x Intel® 1GbE LAN, 1x Realtek 5GbE
- ▶ 1x PCI Express® x8 (Gen 5, open slot)
- ▶ 2x M.2 Key M x4 Gen4
- ▶ 1x M.2 Key B with 5G card support
- ▶ WideRange internal/external DC input 9-34V, PowerDelivery Input EPR3.1 (28W/140W)

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® Core™ Ultra Processors
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ Ultra 7 155H Intel® Core™ Ultra 5 125H U Type 3 28W (20-38W) yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	96 GByte 2 DDR5 5600
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® Arc™ GPU with up to eight Xe-cores 1x TB4*/USB4® (DP2.1 up to UHBR20 8K) 3x DP V1.4a up to 8K 1x USB-C with DPoC via header (USB Key-A)** 1x eDP V1.4b up to 5K, 1x Dual-Channel 24bit LVDS***
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPPO	Intel® i219LM yes (ISM only) / -
AUDIO	TYPE ONBOARD AUDIO CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	Stereo Realtek ALC256 yes/yes yes
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	-/1/-/-/- -/ 2x M.2 2230/2242/2280 (Key-M, PCIe x4/Gen4/NVMe SSD modules) 1x M.2 2230/3042/3052 (Key-B PCIe x2/USB2) 1x M.2 2230 (Key-E, WLAN/Bluetooth modules, PCIe/USB/CNVio2)
INTERNAL CONNECTORS	USB PORTS 3.1 GEN2/3.1 GEN1 USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	- 1 (Type-E/Key-A for 1x USB-C)/2 (by header) 3 (by header)/1 2/yes - -
EXTERNAL CONNECTORS	USB PORTS 3.1 GEN2/3.1 GEN1 / 3.1 GEN1 TYPE C USB PORTS 3.2 GEN2 / 3.2 GEN1 / 3.2 GEN2 TYPE C TB4/USB4® TYPE C USB PORTS 2.0 COM PORTS	- 4/0/optional via cable 1 - 2
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	9-34V, PowerDelivery up to 28W/140W 4-pin socket 9-34V
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes GPIO (8Bit), Integrated AI Co Processor, Kontron 5G card support

* Thunderbolt™ 4 certification pending



➤ Industrial Server Class Series

Motherboards of the Server Class Series benefits from the long experience of Server & Industrial Design capabilities. These products are designed and equipped to master the challenges of everyday life in the data center, midmarket or other demanding environments.

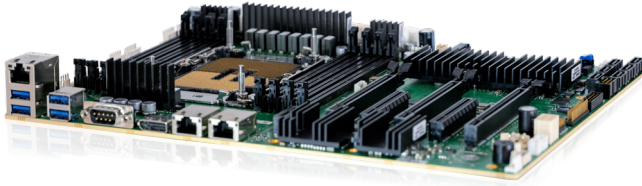
Characteristic features

Server Class Motherboards are designed for continuous (24/7) operation and advanced temperature ranges up to 60°C. The implementation of common server management features is flavored by the industrial series. Due to the generic design approach these products are applicable in various markets:

- Datacenter
- Medical
- Industrial Automation
- Communication
- Video Surveillance

2025				2026				2027				2028				2029				2030				INTEL® PROCESSORS			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Size	Name	Chipset	
																								ATX	K9051-C	Intel® C741 Chipset	
																									μATX	K3881-C	Intel® C266 Chipset
																									μATX	K3882-C	Intel® C262 Chipset

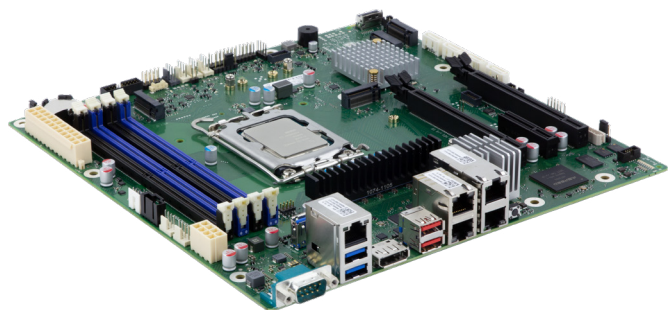
product launch
 standard lifecycle
 end of life standard lifecycle



Product Highlights

- ▶ Intel® 4th/5th Generation Xeon® scalable processor
- ▶ Intel® C741 Chipset
- ▶ 8x DDR5 5600 MT/s RDIMM Independent Channels
- ▶ 3x PCIe Gen5 x16 slots and 2 x PCIe Gen5 x8 slots
- ▶ 2x 10GBASE-T RJ45 Ethernet ports
- ▶ 6x SATA 6G incl. RAID support
- ▶ 4x Type A connectors USB 3.2 Gen1 (5Gbps)
- ▶ DisplayPort connector via AST2600 video output
- ▶ Discrete Infineon TPM version 2.0

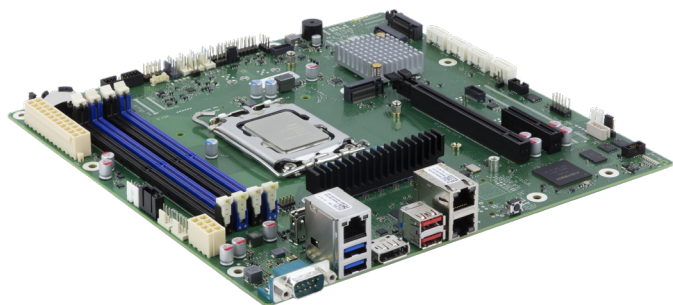
BASEBOARD	DIMENSIONS CHIPSET	9.6" x 12" (243.8 x 304.8 mm) Intel® C741
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® 4th/5th Generation Xeon® SP Intel® LGA4677 350 W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	768 GByte 8 DDR5 5600
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	ASPEED AST260 1 DP 1.1a/1920x1200 32bpp@60Hz
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	2x Intel® X710 -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER S/PDIF HEADER	via accessory: 8-Channel (HD) via accessory: Tempo Semi- conductor 92HD68D yes/yes -
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	3/2/-/-/-/ -/- 2x M.2 2280/2242 (Key-M, PCIe/NVMe Gen5 x4 SSD modules), Intel VMD NVMe RAID 0/1 (license required) -
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER PARALLEL PORT INT. HEADER	-/2 (by header) 2 (by header)/- 6/yes - -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1 USB 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	-/4 - - 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail); 24-pin socket, 2x8-pin for CPU, 1x6-pin socket for PCIe cards
ENVIRONMENTAL MISCELLANEOUS	OPERATION TEMPERATURE FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	0 °C - 60 °C yes yes (Infineon) yes yes (BMC) ID LED User programmable Application Ready LED Slot Bifurcation Supports up to 6 Fans Supports 2 external temperature sensors



Product Highlights

- Intel® C266 Chipset
- Intel® XEON® 6300 series Processors
- Intel® XEON® E-2400 series Processors
- Pentium® Gold G7400T / G7400 Processors
- Latest DDR5 memory technology for best-in-class system performance
- ECC support
- Display Port ASPEED 2600
- Remote Management
- 10GbE Dual Lan
- Prepared for 5G

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® C266
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® XEON® E-2400 series Intel® XEON® 6300 series Intel® LGA 1700 95W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	128 Gbyte 4 DDR5 5600
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	ASPEED AST2600 Video Graphic Adapter 1x Displayport 1.1a
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	2x Intel® I210 1x Intel® E610 Dual port Realtek RTL8211F (BMC LAN) Kontron OpenBMC Server Remote Management
AUDIO	BUZZER/SPEAKER S/PDIF HEADER	yes/- -
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	1/-/1/1 -/- 1x M.2 2230/2280/22110 (Key-M, PCIe/NVME SSD Modules) 1x M.2 2280/22110 (Key-M, PCIe/NVME SSD Modules) 1x M.2 3052/2260/2280 Key B (USB 3.1 Gen 1 / PCIe x1 Gen 4) 1x M.2 2230 (Key-E, PCIe & USB 2.0 for WLAN/Bluetooth)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2 / 3.2 GEN1 USB PORTS 2.0 / STICK SOCKET SATA PORTS / SATA RAID COM PORT (INT. HEADER) PARALLEL PORT INT. HEADER	-/2 (by header) 2 by header /1 up to 8 / + (SATA VROC) - -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2 / 3.2 GEN1 / 3.2 GEN2 TYPE C TB4/USB4® TYPE C USB PORTS 2.0 COM PORTS	2/2/-/- - - 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail); 24-pin socket plus 8-pin socket (12 V CPU power connector)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes by header yes yes (BMC) 8 Bit GPIO



Product Highlights

- Intel® C262 Chipset
- Intel® XEON® 6300 Processors
- Intel® XEON® E-2400 Processors
- Pentium® Gold G7400T / G7400 Processors
- Latest DDR5 memory technology for best-in-class system performance
- ECC support
- Display Port ASPEED 2600
- Remote Management

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® C262
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® XEON® E-2400 series Intel® XEON® 6300 series Intel® LGA 1700 95W yes yes
MEMORY	MAX. CAPACITY NUMBER OF SOCKETS RAM SPEED	128 Gbyte 4 DDR5 5600
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	ASPEED AST2600 Video Graphic Adapter 1x Displayport 1.1a
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	2x Intel® I210 Realtek RLT8211F (BMC LAN) Kontron OpenBMC Server Remote Management
AUDIO	BUZZER/SPEAKER S/PDIF HEADER	yes/- -
EXTENSION SLOTS	PCIe X16/X8/X4/X1/PCI MINI-PCIe/MSATA M.2 SSD (PCIe AND/OR SATA) M.2 WLAN (KEY-E)	1/-/-/1 -/- 1x M.2 2230/2280/22110 (Key-M, PCIe/NVME SSD Modules) 1x M.2 2280/22110 (Key-M, PCIe/NVME SSD Modules) 1x M.2 2230 (Key-E, PCIe & USB 2.0 for WLAN/Bluetooth)
INTERNAL CONNECTORS	USB PORTS 3.2 GEN2 / 3.2 GEN1 USB PORTS 2.0 / STICK SOCKET SATA PORTS / SATA RAID COM PORT (INT. HEADER) PARALLEL PORT INT. HEADER	-/2 (by header) 2 by header /1 4/yes - -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2 / 3.2 GEN1 / 3.2 GEN2 TYPE C TB4/USB4® TYPE C USB PORTS 2.0 COM PORTS	2/2/-/- - - 1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail); 24-pin socket plus 8-pin socket (12 V CPU power connector)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C ... +60 °C
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes by header yes yes (BMC) 8 Bit GPIO



▶ SMARTCASE™ Family

Besides the industrial motherboard portfolio we provide the small and stylish SMARTCASE™ solutions. Approved for EMC according to CE and FCC/B, the chassis family is applicable in different areas with high demands, e.g. industry or digital signage. It's a modularized, compact and flexible IPC chassis family. In addition, they are thermally approved up to 45 °C and integrate a 2.5" drive bay for HDD/SDD with cooler as well as further expansion options such as graphics cards or Bluetooth/WiFi.

SMARTCASE™ solutions are applicable in many branches:

- ▶ Digital Signage
- ▶ Gambling
- ▶ Vending/POS/ATM/Kiosk/Ticketing
- ▶ Industrial Automation
- ▶ Thin Clients





Product Highlights

- Ultra-Compact Design
- 36 x 147 x 165 mm
- Front & Rear USB
- Horizontal or Vertical Operation
- VESA- and Wall Mount Option

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D) 0.87 l
	COLOUR WEIGHT	black ~ 0.4 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® BGA
SUPPORTED MOTHERBOARDS		K3921-N, K3921-H
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Passive Cooling (fanless)*: -10°C ... +35°C (max. 12W TDP) -10°C ... +45°C (max. 10W TDP, vertical position) Active Cooling (with Fan): -10°C ... +45°C (up to 15W TDP)
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	no chassis fan -
REQUIREMENTS FOR AC ADAPTER	DC INPUT	12 V or 19-28 V (5 A max./65 W max.)
	DC PLUG	Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B (VERIFIED) INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	THEFT PROTECTION MOUNTING OPTIONS	Kensington lock support Intrusion Support Integrated WLAN antennas Wall Mount VESA Kit DC-in holder Cooling solution Rear COM port (incl. RS-232, RS-422, RS-485)

* Limited cooling performance in horizontal operating mode; possible system performance reduction. Vertical operating position recommended for most favorable cooling & system performance



Product Highlights

- Ultra-Compact Design
- 36 x 147 x 165 mm
- Front & Rear USB
- VESA- and Wall Mount Option
- Security Feature: Chassis Intrusion Option

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D) 0.87 l
	COLOUR WEIGHT	black ~ 0.4 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® BGA
SUPPORTED MOTHERBOARDS		K4021-U mSTX
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Active Cooling: -10°C ... +40°C (max. 15W TDP*)
	HUMIDITY	5% - 85% relative humidity (non-condensing)
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	no chassis fan -
REQUIREMENTS FOR AC ADAPTER	DC INPUT	9-24 V (5 A max./100 W max.)
	DC PLUG	Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B (VERIFIED) INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	THEFT PROTECTION	Kensington lock support Mechanical lock for DC-In connector (DC-in holder; optional) Intrusion support (optional)
	MOUNTING OPTIONS	Integrated WLAN antennas Wall Mount VESA Kit Cooling solution Rear COM port

*(Tbd.) Thermal approval pending. Vertical operating position recommended for most favorable cooling & system performance



Product Highlights

- Ultra-Compact Design
- Perfect fit for mini-STX motherboard D3714-V/R and D3724-R
- Small Size (36 x 147 x 165 mm)
- Front & Rear USB
- Horizontal or Vertical Operation
- VESA- and Wall Mount Option

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D) 0,87 l
	COLOUR WEIGHT	black ~ 0,4 kg
CPU SUPPORT	PROCESSOR SOCKET	AMD® BGA
SUPPORTED MOTHERBOARDS		D3714-R, D3714-V, D3724-R
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Passive heatsink (fanless): -10 °C ... +40°C (max. 10W TDP, vertical position) Active heatsink (with Fan): -10 °C ... +40°C (up to 25W TDP)
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	no chassis fan -
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	12 V +/-10%/19-28 V +/-10%/-15 % Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B (VERIFIED) INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	THEFT PROTECTION MOUNTING OPTIONS	Kensington lock support Internal WLAN antenna kit (2 antennas - integrated in chassis front) Wall Mount VESA Kit DC-in holder Rear COM port* (incl. RS-232, RS-422, RS-485)

* Available for motherboard versions up to 3 rear graphics ports only



Product Highlights

- Ultra-Compact Design (0.87 liter)
- White edition - fits best for medical applications.
- Front & Rear USB
- VESA- and Wall Mount Option
- Security Feature: Chassis Intrusion Option

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D) 0.87 l
	COLOUR WEIGHT	white ~ 0.4 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® BGA
SUPPORTED MOTHERBOARDS		K3921-H, K3921-N, K4021-U
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Active Cooling: -10°C ... +45°C (max. 15W TDP) -10°C ... +35°C (max. 28W TDP) Passive Cooling: -10°C ... +35°C (max. 12W TDP, any position)** -10°C ... +40°C (max. 10W TDP, any position)** -10°C ... +45°C (max. 10W TDP, vertical position) 5% - 85%
	HUMIDITY	
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	no chassis fan
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	9-24 V (5 A max./100 W max.) Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	THEFT PROTECTION	Kensington lock support Mechanical lock for DC-In connector (DC-in holder; optional) Intrusion support (optional) Integrated WLAN antennas
	MOUNTING OPTIONS	Wall Mount VESA Kit Cooling solution Rear COM port



Product Highlights

- Mini-ITX Chassis for industrial applications, digital signage, etc.
- Perfect fit for mini-ITX motherboard D3633-S & D3634-S
- 12 V DC in, lockable, max. 60 W (System)/35 W (CPU TDP)
- Fully CE and FCC/B approved on system level
- Thermally approved up to 45 °C
- HDD/system fan (4 pin PWM), HDD SATA and power cable included
- Intrusion switch and Kensington lock
- Small size (250 x 52 x 191 mm)
- Usable in horizontal and vertical mode
- High expandability within a small-sized box: Intel® CPU/PCIe riser card/mSATA/miniPCIe/M.2 (SSD)/2.5" drive bay

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-ITX 250 x 52 x 191 mm (W x H x D) 2.48 l black ~ 1 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® LGA
SUPPORTED MOTHERBOARDS		D3633-S, D3634-S
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE HUMIDITY	0 °C – 45 °C* 5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	70.000 hours @ 40 °C PWM (4 pin), 40 x 40 x 10 mm 900 – 5.000 rpm (nominal) Two ball bearing
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	12 V +/-5 % 5.5 x 2.5 x 12 mm Lockable DC Plug (optional)
APPROVALS & CERTIFICATIONS	CE CLASS B (VERIFIED) INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	THEFT PROTECTION	Two front USB ports Kensington lock support Mechanical lock for DC-In connector Intrusion Support
	MOUNTING OPTIONS	WLAN antenna via (RP-) SMA connector PCIe riser (PCIe x4, low profile) Additional serial port 2.5" Drive

*Chassis ambient temperature; upper limit depends on system configuration



Product Highlights

- Compact Design with Dual Front USB 3.2 Gen1
- Perfect fit for mini-ITX motherboards K3931-N & D3723-R
- Low Profile Extension Slot
- Option for Internal 65W PSU Module
- Horizontal and Vertical Stand plus Wall Mount Bracket
- Option for rear USB-C 3.2 Gen2 extension
- Thermally approved up to 45 °C
- Small size (250 x 52 x 191 mm)
- High expandability within a small-sized box: Intel® CPU/PCIe riser card/mSATA/miniPCIe/M.2 (SSD)/2.5" drive bay

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-ITX 250 x 52 x 191 mm (W x H x D) 2.48 l
	COLOUR WEIGHT	black ~ 1 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® BGA or AMD BGA
SUPPORTED MOTHERBOARDS		K3931-Nx, D3713-V/R, D3723-R
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Passive heatsink (fanless): -10 °C ... +35 °C (max. 15 W TDP, vertical/horizontal position)* -10 °C ... +40 °C (max. 12 W TDP, vertical position only)* Active heatsink (with Fan): -10 °C ... +45 °C (max. 35 W TDP, vertical/horizontal position)*
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	70.000 hours @ 40 °C PWM (4 pin), 40 x 40 x 10 mm 900 - 5.000 rpm (nominal) Two ball bearing
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	8 V-34 V (5 A max./65 W max.) Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B (VERIFIED) INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	THEFT PROTECTION	Two front USB ports Kensington lock support Mechanical lock for DC-In connector Intrusion Support
	MOUNTING OPTIONS	WLAN antenna via (RP-) SMA connector PCIe riser (PCIe x4, low profile) Two rear COM ports (COM3, COM4) 2.5" Drive (HDD/SSD) Rear USB-C 3.2 Gen2 extension

* Chassis ambient temperature; upper limit depends on system configuration



Product Highlights

- Compact Design with Dual Front USB 3.2 Gen1
- Perfect fit for mini-ITX motherboards K4031-H & K4131-P
- Low Profile Extension Slot
- Option for Internal 65W PSU Module
- Horizontal and Vertical Stand plus Wall Mount Bracket
- Option for rear USB-C 3.2 Gen2 extension
- Thermally approved up to 45 °C
- Small size (250 x 52 x 191 mm)
- High expandability within a small-sized box:
 - PCIe riser card/mSATA/miniPCIe/
 - M.2 (SSD)/2.5" drive bay

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-ITX 250 x 52 x 191 mm (W x H x D) 2.48 l
	COLOUR WEIGHT	satin black ~ 1 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® / AMD®
SUPPORTED MOTHERBOARDS		K4031-H, K4131-P
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Passive heatsink (fanless): -10 °C ... +35 °C (max. 15 W TDP, vertical/horizontal position)* -10 °C ... +40 °C (max. 12 W TDP, vertical position only)* Active heatsink (with Fan): -10 °C ... +45 °C (max. 35 W TDP, vertical/horizontal position)*
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	no chassis fan -
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	9 V-34 V (5 A max./65 W max.) Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes -
CHASSIS FEATURES	THEFT PROTECTION	Two front USB ports Kensington lock support Mechanical lock for DC-In connector Intrusion Support
	MOUNTING OPTIONS	WLAN antenna via (RP-) SMA connector PCIe riser (PCIe x4/x8, low profile) Two rear COM ports (COM3, COM4) 2.5" Drive bay (HDD/SSD) Exchangeable Rear-I/O



Product Highlights

- Compact Design
- 190 x 75.2 x 189 mm
- Dual Front USB Type-A connectors
- Drive bay for 2x 2.5" SSD
- Optional/ Removable Front Panel mounting option

CHASSIS DATA	FORMFACTOR DIMENSIONS COLOUR WEIGHT	Mini-ITX 190 x 75.2 x 189 mm (W x H x D) satin black ~ 1 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® / AMD®
SUPPORTED MOTHERBOARDS		All Mini-ITX motherboards with DC-IN option
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Passive heatsink (fanless): -10 °C ... +40 °C (max. 15W TDP. Depends on cooling solution)** Active heatsink (with Fan): -10 °C ... +45 °C (max. 35 W TDP)**
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	no chassis fan
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	12V (12.5A max. / 150W max.) Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	THEFT PROTECTION	Kensington lock support
	MOUNTING OPTIONS	Screw-on DC-In connector WLAN antenna via (RP-) SMA connector (2x on left side) Aperture for additional COM port or Phoenix power connector (DB9 size) 2.5" Drive (HDD/SSD)

Accessories

Important parts for more functionality

CABLE



DRIVE POWER CABLE
provides power for SATA HDD and SATA slimline DVD

SERIAL PORT CABLE

USB-C CABLE

Compatibility

all mSTX & mlTX models

refer to data sheet

refer to data sheet

COOLING SOLUTIONS



ACTIVE COOLER
(alu cooler, 4 pin PWM fan)



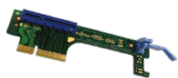
PASSIVE HEATSINK
(alu heatsink)

Compatibility

D3674-B mlTX (@35 W TDP)
D3633-S mlTX (@35 W TDP)
D3634-S mlTX (@35 W TDP)
D3713-V/R mlTX
D3723-R mlTX
D3714-V/R mSTX
D3724-R mSTX
K383x mlTX
K384x μATX
K3851-R ATX
K3921-N/-H mSTX
K3931-N mlTX
K4021-U mSTX
K4031-H mlTX
K4131-P mlTX

D3713-V/R mlTX
D3723-R mlTX
D3714-V/R mSTX
K3921-N/-H mSTX
K3931-N mlTX

RISER CARDS



1X PCIe RISER CARD D3318-A
1 PCIe Slot

Compatibility

K4031-H mlTX D3713-V/R mlTX
D3723-R mlTX
K3931-N mlTX
D3633-S mlTX
D3634-S mlTX
suitable for
SMARTCASE™ S7xx Series

GRAPHICS



DISPLAY PORT TO HDMI ADAPTER

DISPLAY PORT TO DVI ADAPTER
for usage of DVI monitor on Display Port output

Compatibility

all models with a free DP interface

all models with DP

OTHER



D3627-A
TPM-Upgrade-Modul

Compatibility

D3713-V/R mlTX
D3723-R mlTX
K3831-H mlTX
K3881-C μATX
K3882-C μATX



D3436-S
Adapter for Mini PCIe to M.2 Wi-Fi modules

All industrial models with a fullsize Mini PCIe socket



19 V AC ADAPTER
65 W

D3713-V/R mlTX
D3723-R mlTX
K3921-N/-H mSTX
K3931-N mlTX
D3714-V/R mSTX
D3724-R mSTX
K4021-U mSTX
K4031-H mlTX
K4131-P mlTX



20 V AC ADAPTER
120 W

D3713-V/R mlTX
D3723-R mlTX
K3921-N/-H mSTX
K3931-N mlTX
K4021-U mSTX
K4031-H mlTX
K4131-P mlTX



BATTERY ADAPTER
for CR2032

All motherboards supporting onboard CR2032 battery via socket, except for D3714, D3724 & K3921 series



K1201-A
M.2 Key-E/A SATA ADDON

K383x mlTX
K3841 μATX
K3851-R ATX
K3921-N/H mSTX



K1202-A
M.2 Key-B/M Quad Serial Adapter

For all Kontron motherboards with Key-B/M socket and PCIe x1



About Kontron

Kontron AG (www.kontron.com, ISIN AT0000A0E9W5, WKN A0X9EJ, KTN) is a leading IoT technology company. For more than 20 years, Kontron has been supporting companies from a wide range of industries to achieve their business goals with intelligent solutions. From automated industrial operations, smarter and safer transport to advanced communications, connectivity, medical, and energy solutions, the company delivers technologies that add value for its customers. With the acquisition of Katek SE in early 2024, Kontron significantly strengthens its portfolio with the new GreenTec division, focusing on solar energy and eMobility, and grows to around 7,000 employees in over 20 countries worldwide. Kontron is listed on the SDAX® and TecDAX® of the German Stock Exchange.

For more information, please visit: www.kontron.com

Your Contact

Kontron Europe GmbH

Lise-Meitner-Straße 3-5
86156 Augsburg, Germany
Tel.: + 49 821 4086-0
pcmb-sales@kontron.com

www.kontron.com/motherboards

Global Headquarters

Kontron Europe GmbH

Gutenbergstraße 2
85737 Ismaning, Germany
Tel.: + 49 821 4086-0
info@kontron.com

www.kontron.com