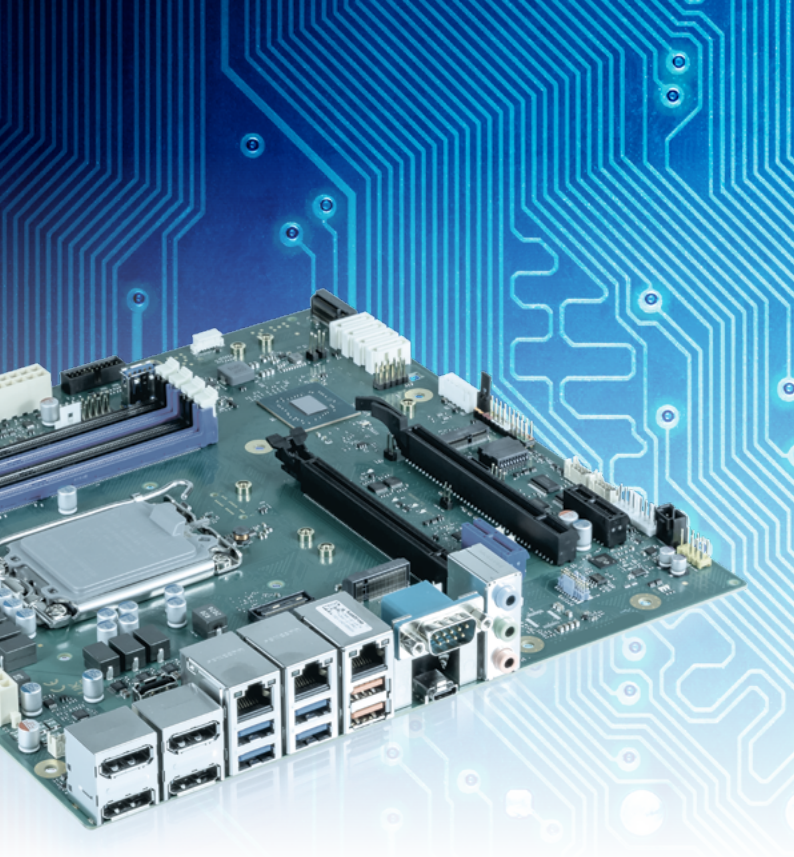




MOTHERBOARDS PRODUCT FACTS

Quality made in Germany

POSSIBILITIES START HERE



kontron
S&T Group

KONTRON MOTHERBOARD TEAM

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



A STRONG PARTNER WORDLWIDE



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.



NEW MOTHERBOARD GENERATION AVAILABLE

In 2022, Kontron will launch a complete new generation of motherboards supporting the 12th Gen. Intel® Core™ i Processor series and a lot of new features like DDR5, PCI Express® Gen5, Intel® i225LM, TSN & TCC. Discover the first new motherboards in this folder.



Made in Germany

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:

► THE EXTENDED LIFECYCLE SERIES Semi-industrial Features

- D3598-B ATX
- D3598-G ATX
- D3642-B μ ATX
- D3644-B μ ATX
- D3654-B mSTX
- D3664-B mSTX
- D3674-B Thin mITX
- K3842-Q μ ATX
- K3843-B μ ATX

► THE INDUSTRIAL MOTHERBOARD SERIES Special Features for Industrial Needs

AMD

- D3713-V/R mITX
- D3714-V/R mSTX
- D3723-R mITX

Intel®

- D3543-S mITX
- D3544-S mSTX
- D3633-S mITX
- D3634-S mITX
- D3641-S μ ATX
- D3646-S ATX
- K3841-Q μ ATX
- K3851-R 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.

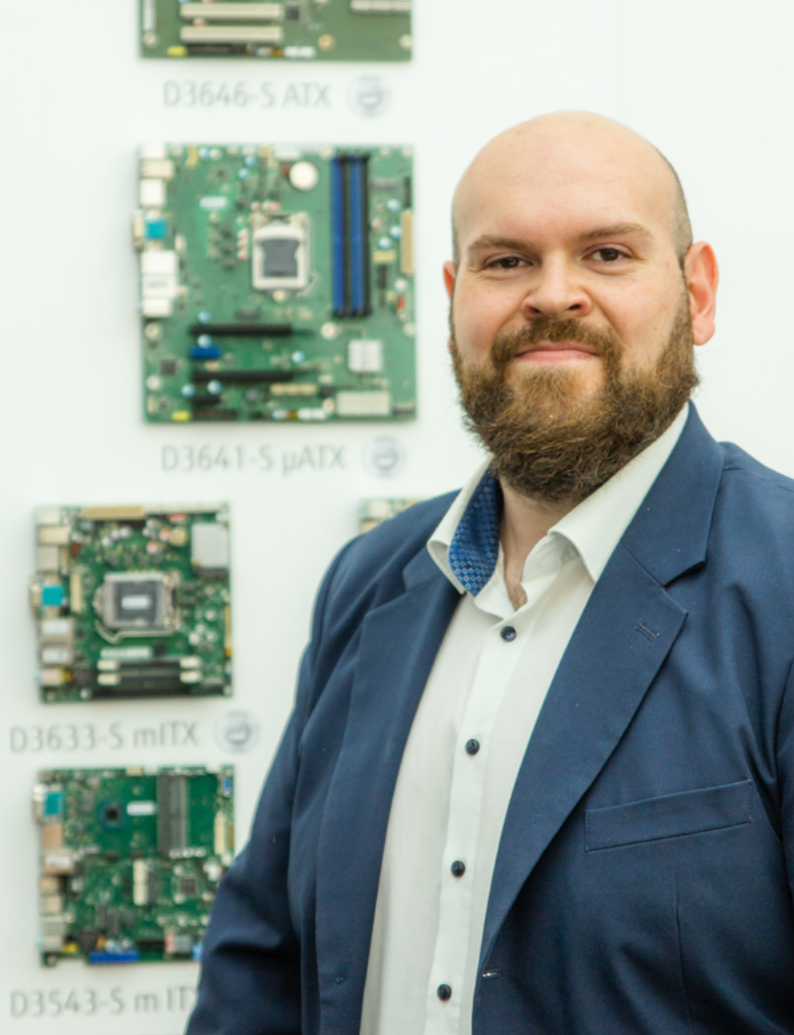
Strict lifecycle management and reliable product maintenance

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.





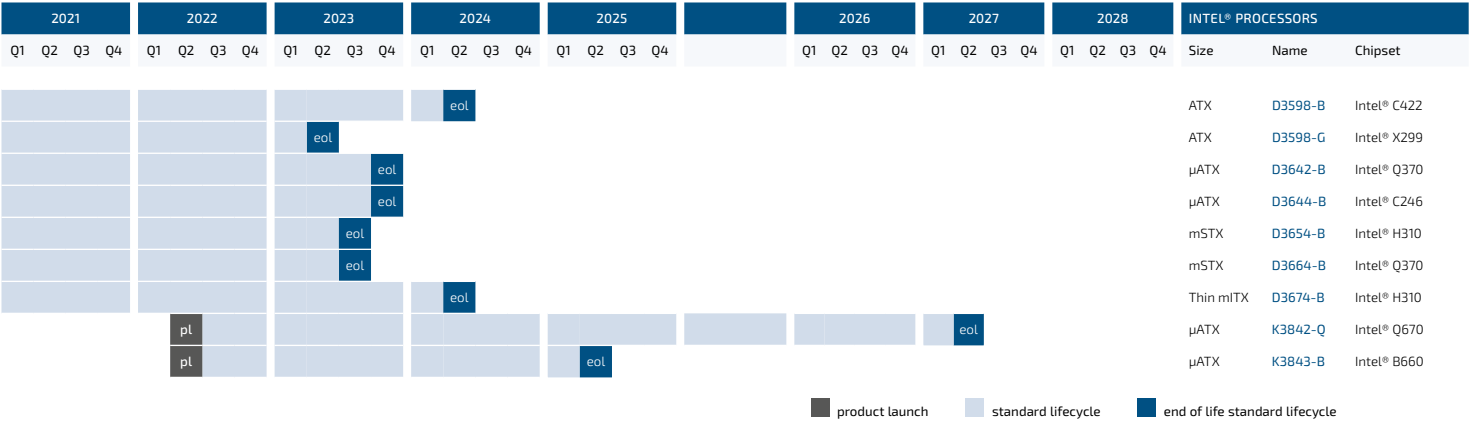
THE EXTENDED LIFECYCLE SERIES

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

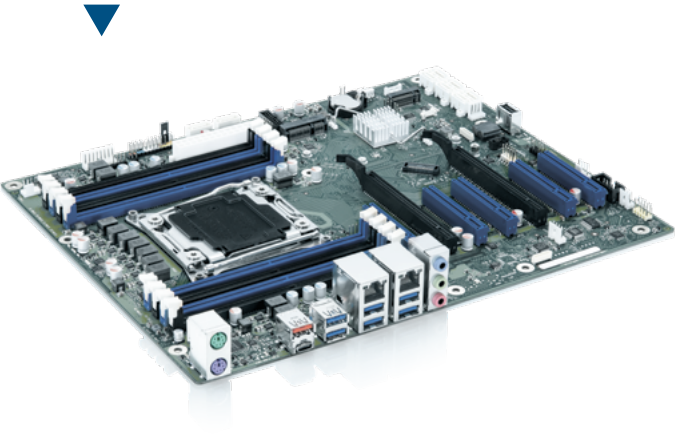
Motherboards of the Extended Lifecycle Series are designed for long-term, continuous operations (24/7) in advanced temperature environments. Nevertheless, these products will cover fast moving technology trends to be applicable in many vertical markets:

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



Extended Lifecycle Motherboards

D3598-B ATX



PRODUCT HIGHLIGHTS

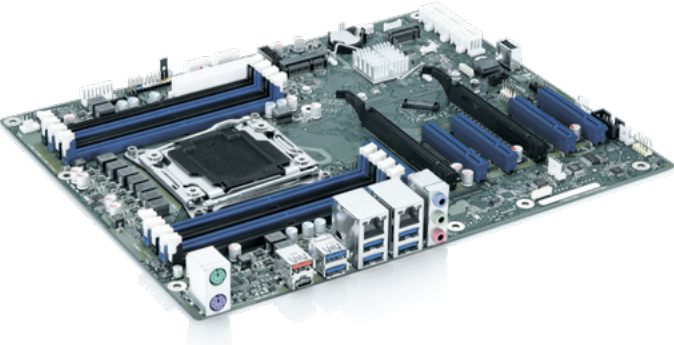
- ▶ Intel® Xeon® Processor W21xx/W22xx
- ▶ DDR4 2666 SDRAM Memory, max. 512 GByte
- ▶ Mini-PCIe socket incl. USB
- ▶ 7x PCIe generation 3 onboard
- ▶ 5.1 multichannel audio onboard
- ▶ USB 3.1 Gen2, USB 3.1 Gen1 and USB 2.0
- ▶ USB 3.1 Gen2 Type C
- ▶ Dual Intel® GbE LAN supporting iAMT/vPro & Teaming
- ▶ 8x Serial ATA III incl. RAID onboard
- ▶ Trusted Platform Modul (Infineon) V2.0 onboard
- ▶ BIOS-POST/-Boot & OS - HW Watchdog onboard
- ▶ M.2 SSD 2280 socket (PCIe, for NVMe modules)
- ▶ Socket for optional Intel® VROC HW License Key (NVMe SSD RAID)

TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 12" (243.8 x 304.8 mm) Intel® C422
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Xeon® W-21xx/-22xx Processors Future Intel® Xeon® W Processors Intel® LGA2066 165 W - yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	512 GByte/8 ECC Support DDR4 2666/2933 SDRAM (Quad Channel)
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	- -
ETHERNET	ONBOARD LAN CONTROLLER iAMT/vPRO	Intel® i219LM Intel® i210AT yes/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Realtek ALC671 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)	2/5/-/-/- yes/- PCIe @ 4lanes; Key-M (2280) -
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.1 GEN2/3.1 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER/EXT. // PARALLEL PORT INT. HEADER	2/10/2/yes 8/yes 1/- // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes Intel® VROC Support USB 3.1 Gen2 Type-C, Win7 & Win10 Support 2x PCIe x16 (@16 Lanes) 1x USB Type-C (Rear)

Extended Lifecycle Motherboards

D3598-G ATX



PRODUCT HIGHLIGHTS

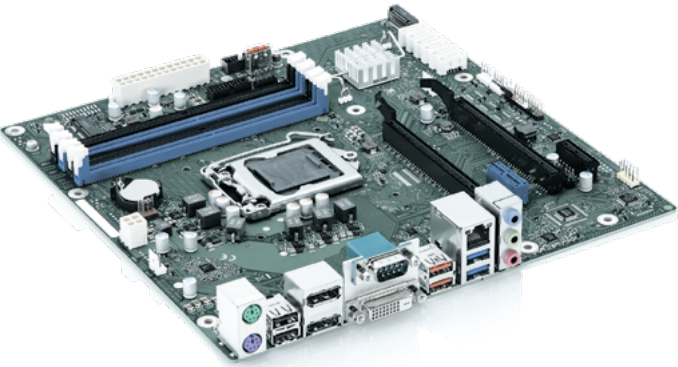
- ▶ Intel® Core™ i7-78xxX/-98xxX Processors
Intel® Core™ i9-79xxX/- 98xxX/- 99xxX/- 109xxX Processors
- ▶ DDR4 2666/2933 SDRAM Memory, max. 256 GByte
- ▶ Mini-PCIe socket incl. USB 2.0
- ▶ 7x PCIe generation 3 onboard
- ▶ 5.1 multichannel audio onboard
- ▶ USB 3.1 Gen2, USB 3.1 Gen1 and USB 2.0
- ▶ USB 3.1 Gen2 Type C
- ▶ Dual Intel® GbE LAN incl. Teaming support
- ▶ 8x Serial ATA III incl. RAID onboard
- ▶ Trusted Platform Modul (Infineon) V2.0 onboard
- ▶ BIOS-POST/-Boot & OS - HW Watchdog onboard
- ▶ M.2 SSD 2280 socket (PCIe, for NVMe modules)
- ▶ Intel® VROC (Virtual RAID on CPU) supported

TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	9,6" x 12" (243.8 x 304.8 mm) Intel® X299
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ i7-78xxX/-98xxX processors Intel® Core™ i9-79xxX/-98xxX/ -99xxX/-109xxX Processors Future Intel® Core™ X-Series Processors Intel® LGA2066 165 W - yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	128 GByte/8 DDR4 2666/2933 SDRAM (Quad Channel)
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	- -
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM Intel® i210AT -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Realtek ALC671 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)	2/5/-/-/- yes/- PCIe @ 4lanes; Key-M (2280) -
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.1 GEN2/3.1 GEN1 USB PORTS 2.0/STICK SOCKET SATA PORTS/SATA RAID COM PORT INT. HEADER/EXT. // PARALLEL PORT INT. HEADER	2/10/2/yes 8/yes 1/- //-
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes Intel® VROC Support USB 3.1 Gen2 Type-C, Win10 Support 2x PCIe x16 (@16 Lanes) 1x USB Type-C (Rear)

Extended Lifecycle Motherboards

D3642-B µATX



PRODUCT HIGHLIGHTS

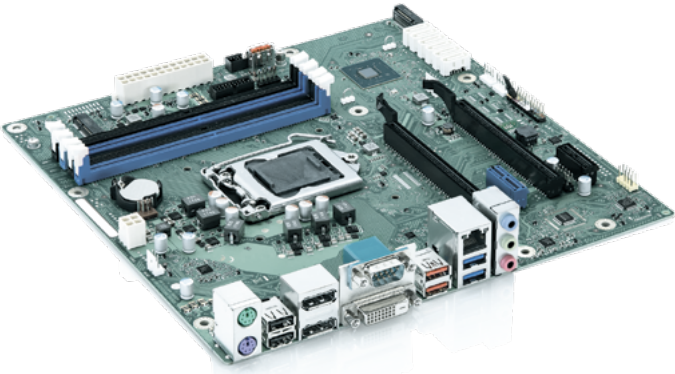
- ▶ Intel® 8th/9th Gen Core™ Processor Series
- ▶ DDR4 2666 SDRAM, max. 64 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting Intel® AMT 12.0/vPro
- ▶ PCI Express® x16 (Gen.3)
- ▶ Intel® GbE LAN
- ▶ Intel® UHD Graphics (DX12)
- ▶ 1x DVI-D, 2x DP V1.2
- ▶ Intel® High Definition 5.1 Audio;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

TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 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/4 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 DVI-D/2x DP V 1.2 Optional VGA-Ext. D3653
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM yes/yes
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Realtek ALC671 -/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	-/4 (2 x pin header) 2 (pin header)/1 (3.2 Gen2) 6/yes -/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 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)
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes -

Extended Lifecycle Motherboards

D3644-B µATX



PRODUCT HIGHLIGHTS

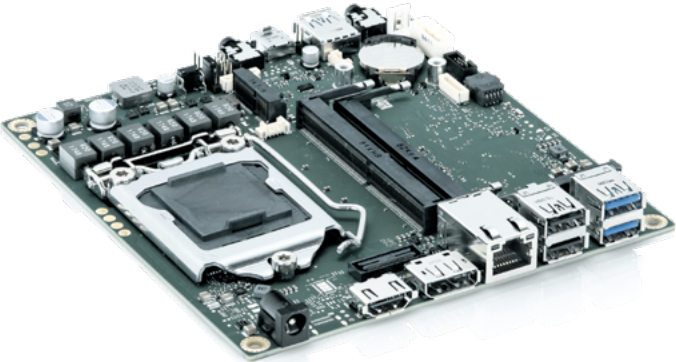
- ▶ Intel® 8th/9th Gen Core™ & Intel® Xeon® Processor Series
- ▶ DDR4 2666 SDRAM, max. 64 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting Intel® AMT 12.0/vPro
- ▶ PCI Express® x16 (Gen.3)
- ▶ Intel® GbE LAN
- ▶ Intel® UHD Graphics (DX12); 1x DVI-D, 2x DP V1.2
- ▶ Intel® High Definition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

TECHNICAL INFORMATION

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 DVI-D/2x DP V 1.2 Optional VGA-Ext. D3453
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM yes/yes
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Realtek ALC671 -/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	-/4 (2 x pin header) 2 (pin header)/1 (3.2 Gen2) 6/yes -/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 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)
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes -

Extended Lifecycle Motherboards

D3654-B mSTX



PRODUCT HIGHLIGHTS

- ▶ Intel® 8th/9th Gen Core™ Processor Series
- ▶ DDR4 2666, SDRAM, max. 32 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Intel® HD Graphics (DX12, integrated in Processor)
- ▶ HDMI V1.4 and DP V1.2
- ▶ Stereo Audio onboard
- ▶ USB 2.0 and USB 3.2 Gen1 onboard
- ▶ Onboard support for M.2 SSD (PCIe x4 based M.2 2280)
- ▶ Onboard support for M.2 WLAN/Bluetooth (M.2 2230)
- ▶ Realtek GbE LAN onboard
- ▶ Intel® integrated TPM V2.0 onboard
- ▶ DC Power Supply 19 V
- ▶ HW Watchdog onboard

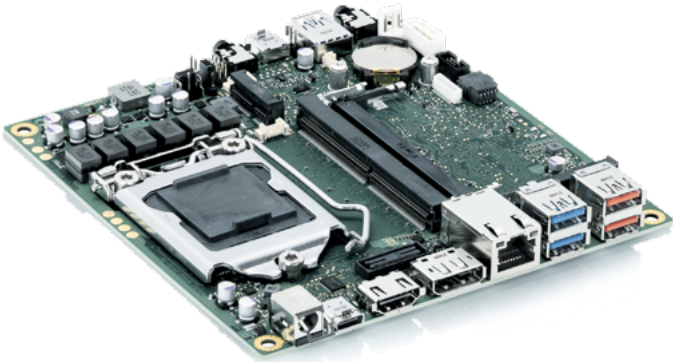


TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 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 65 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	32 GByte SO/2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 HDMI V 1.4/DP V 1.2
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Realtek RTL 8111E -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	Stereo Realtek ALC671 -/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 Socket (2280) for PCIe based M.2 Modules (4 lanes) 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)/- 1/- -/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	-/3/1 2 -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	19 V -
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) - yes 19 V DC Power Supply 1 x USB Type-C (Front)

Extended Lifecycle Motherboards

D3664-B mSTX



PRODUCT HIGHLIGHTS

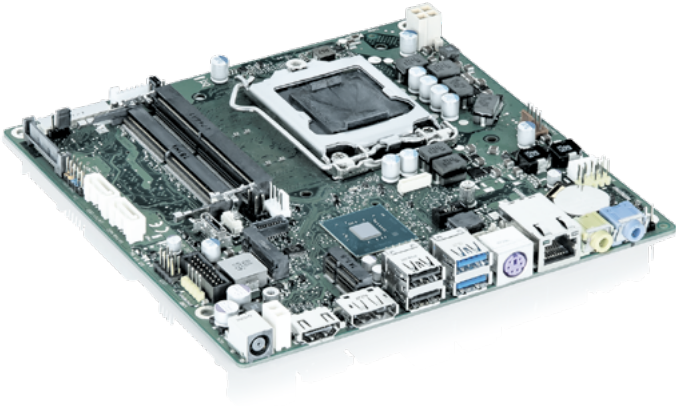
- ▶ Intel® 8th/9th Gen Core™ Processor Series
- ▶ DDR4 2666 SDRAM, max. 32 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting Intel® AMT 12.0
- ▶ Intel® HD Graphics (DX12, integrated in Processor)
- ▶ HDMI V1.4 and DP V1.2
- ▶ Stereo Audio onboard
- ▶ USB 2.0, USB3.2 Gen1/Gen2 onboard & USB Type-C (DP Alt Mode)
- ▶ Onboard support for M.2 SSD (PCIe x4 based M.2 2280)
- ▶ Onboard support for M.2 WLAN/Bluetooth (M.2 2230)
- ▶ Intel® GbE LAN onboard
- ▶ Intel® integrated TPM V2.0 onboard
- ▶ DC Power Supply 19 V
- ▶ HW Watchdog onboard

TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 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 65 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	32 GByte SO/2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 HDMI V 1.4/DP V 1.2 /USB 3.1 Gen2 Type-C (DP Alt Mode)
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM yes/yes
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	Stereo Realtek ALC671 -/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 Socket (2280) for PCIe based M.2 Modules (4 lanes) 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)/- 1/- -/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/3/1 - -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	19 V -
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) - yes 19 V DC Power Supply 1x USB Type-C (front) 1x USB Type-C (Rear, incl. DP Alt Mode)

Extended Lifecycle Motherboards

D3674-B Thin mITX



PRODUCT HIGHLIGHTS

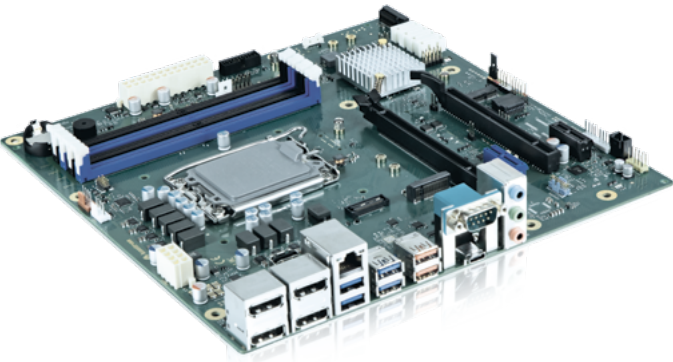
- ▶ Intel® 8th/9th Gen Core™ i Processor series
- ▶ DDR4 2666 SDRAM memory capacity up to 32GB
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Intel® HD Graphics (DX12, integrated in Processor)
- ▶ HDMI V1.4, DP V1.2 and Dual Channel LVDS support
- ▶ 8 Bit GPIO & multichannel Audio onboard
- ▶ USB 2.0 and USB 3.2 Gen1 onboard
- ▶ Onboard support for M.2 SSD (PCIe x4 based M.2 2280)
- ▶ Onboard support for M.2 WLAN/Bluetooth (M.2 2230)
- ▶ Realtek GbE LAN onboard
- ▶ Intel® integrated TPM V2.0 onboard
- ▶ Dual-Range DC Power Supply 12 V/19-24 V
- ▶ HW Watchdog onboard
- ▶ Motherboard operating temperature range (chassis inside)
10 °C - 50 °C

TECHNICAL INFORMATION

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 65 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	32 GByte SO/2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 HDMI V 1.4/DP V 1.2
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Realtek RTL 8111G -/ -
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Realtek ALC255 -/yes (Stereo)/-
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 Socket (2280) for PCIe based M.2 Modules (4 lanes) 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) 3 (2 x pin header)/- 2/- 1/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	-/2/- 2 -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	19-24 V 12 V or 19-24 V
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes Onboard LVDS 24bit, M.2 (WLAN/Bluetooth) Key E M.2 SSD - PCIe Key M, GPIO (8Bit) Dual-Range DC Power Supply 12 V/19-24 V

Extended Lifecycle Motherboards

K3842-Q µATX



PRODUCT HIGHLIGHTS

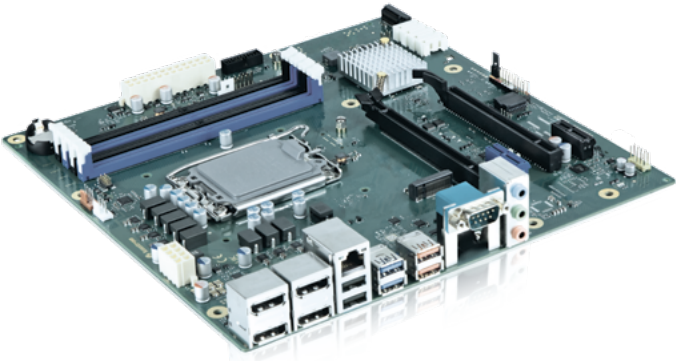
- ▶ Intel® 12th Gen Core™ Processor Series
- ▶ DDR5 4800 UDIMM, max. 128 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting selected Intel® vPro® Essentials features
- ▶ PCI Express® x16 (Gen5 @ CPU, Gen4 @ PCH)
- ▶ 1x Intel® GbE LAN
- ▶ Intel® UHD Graphics 7xx driven by Xe Architecture;
4x DisplayPort V1.4a @4k
- ▶ Intel® High Definition 5.1 Audio; Intel® integrated TPM V2.0
- ▶ 1x COM port
- ▶ 3x USB 3.2 Gen 2, 6x USB 3.2 Gen1, 2x USB 2.0,
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

TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® Q670
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	Intel® Core™ 12th Gen Processor Series Intel® LGA1700 125 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	128 GByte/4 DDR5 4800 non-ECC
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by Xe Architecture 4x DisplayPort V1.4a @4k
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM -/vPro Essentials (Selected Features)
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. 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 (16 Lanes/4Lanes)/-/2/- -/- 2x M.2 2230/2242/2280 (Key-M, PCIe/NVME SSD modules), incl. NVME RAID 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 4/yes -/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 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)
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) + TPM Socket yes yes -

Extended Lifecycle Motherboards

K3843-B µATX

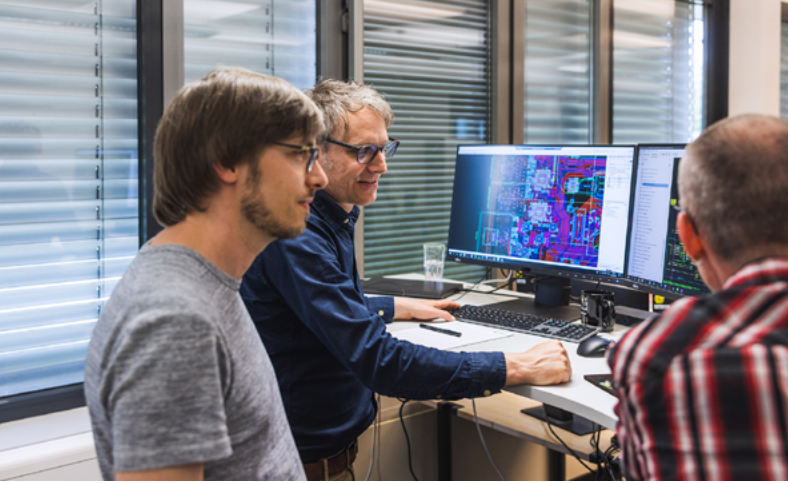


PRODUCT HIGHLIGHTS

- ▶ Intel® 12th Gen Core™ Processor Series
- ▶ DDR5 4800 UDIMM, max. 128 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 Xe Architecture;
4x DisplayPort V1.4a @4k
- ▶ Intel® High Definition 5.1 Audio; Intel® integrated TPM V2.0
- ▶ 1x COM port
- ▶ 2x USB 3.2 Gen 2, 4x USB 3.2 Gen1, 4x USB 2.0
- ▶ 4x SATA 6G incl. RAID support
- ▶ 2x M.2 2280 (Key-M, PCIe/NVME SSD modules)

TECHNICAL INFORMATION

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™ 12th Gen Processor Series Intel® LGA1700 125 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	128 GByte/4 DDR5 4800 non-ECC
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by Xe Architecture 4x DisplayPort V1.4a @4k
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM -/ -
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. 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 (16Lanes/1Lane)/-/ -/2/- -/ - 2x 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)/- 4/yes -/ -
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 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)
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes - -



THE INDUSTRIAL SERIES



Characteristic features

Motherboards of the Industrial Series are designed for long-term, continuous operations (24/7) in an extended temperature range and high system load. Industrial motherboards are specified for a temperature range between 0 °C and 60 °C.

Kontron motherboards of the Industrial Series are applicable in many branches:

- ▶ Industrial Automation
- ▶ Medical Equipment
- ▶ Digital Signage
- ▶ Gaming / Gambling
- ▶ Vending / POS / ATM / Kiosk / Ticketing
- ▶ Video Surveillance

In addition to long-term availability Industrial Series motherboards offer a multitude of add-on functions and services. They combine the product maturity and production quality of high volume manufacturing base with the special requirements of industrial applications. Additionally, motherboards of the Industrial Series come with special hardware and service features and extensive software tools.

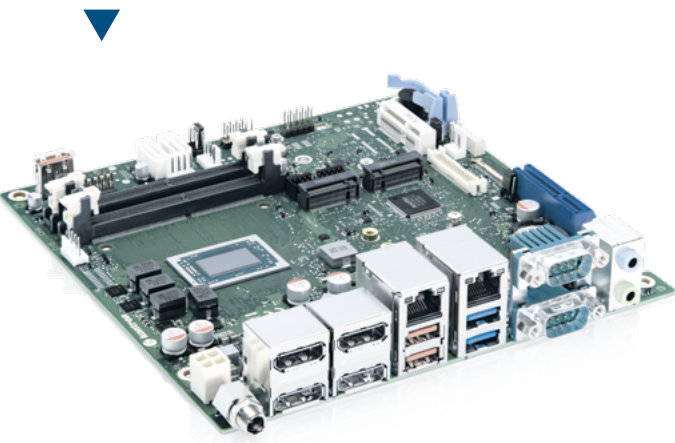
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■ product launch ■ standard lifecycle ■ end of life standard lifecycle
■ extended lifecycle period ■ end of life extended lifecycle

Industrial Motherboards

D3713-V/R mITX



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 - 32 V/36 V)
- ▶ HW Watchdog onboard
- ▶ RS-232/485/422 support onboard

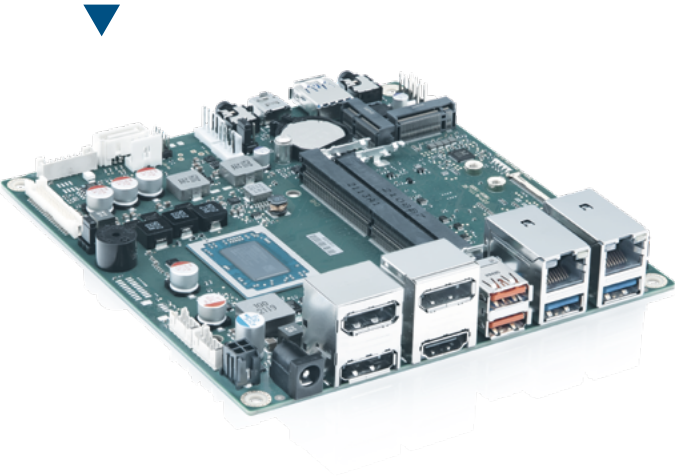


TECHNICAL INFORMATION

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	AMD FP5
	MAX. PROCESSOR POWER CONSUMPTION (TDP)	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	yes
	HIGH EFFICIENCY CORE	yes
	VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte/2
	RAM SPEED	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® i210, 1x Realtek RTL8111H
	IAMT/VPRO	-/-
AUDIO	TYPE	Stereo
	ONBOARD CONTROLLER	Realtek ALC256
	BUZZER/SPEAKER/ S/PDIF HEADER	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/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	2/2/- - 2
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	8-36 V
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (AMD); Infineon module optional yes yes No Legacy OS Support 1x COM incl. RS-232/-422/-485 Support; GPIO

Industrial Motherboards

D3714-V/R mSTX



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

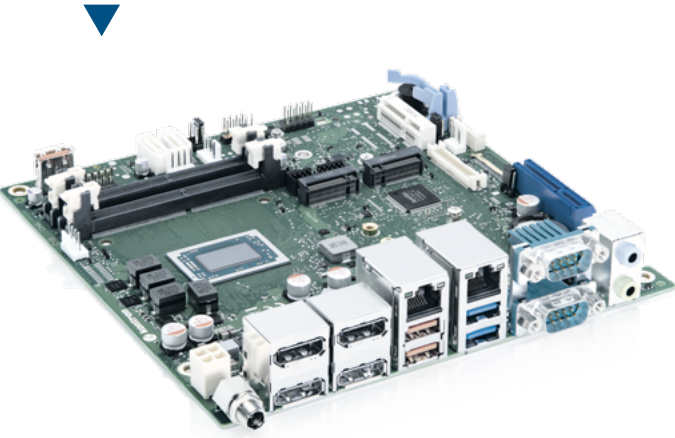


TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 mm) AMD Ryzen™ Embedded V1000/ R1000 Series SoC
CPU SUPPORT	PROCESSOR PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION (TDP) CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	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 AMD FP5 R1: 6 W TDP R2: 8 W/10 W TDP V2: 12 W/15 W/25 W TDP 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/HDMI V2.0b/ 1x eDP V1.4 @ 4 lanes/1x LVDS
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i210, 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/ 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)
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

Industrial Motherboards

D3723-R mITX



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 - 32 V/36 V)
- ▶ HW Watchdog onboard
- ▶ RS-232/485/422 support onboard
- ▶ Windows 11 support

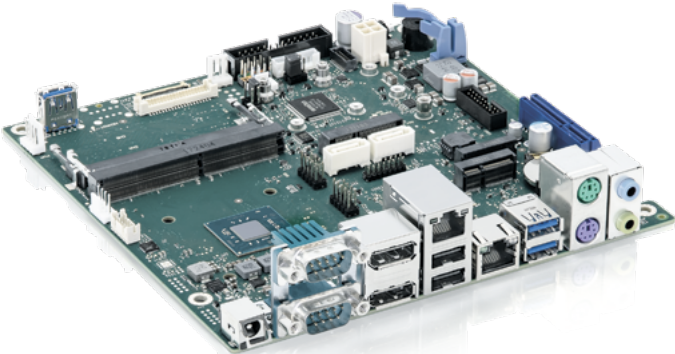


TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 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 R4: R2544 Quad-Core 3.35/3.7 GHz AMD FP5 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 yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	32 GByte/2 DDR4 2400/2666/3200 ECC Option
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	AMD Radeon™ Vega Graphics (within SoC) up to 4x DP V1.4/ 1x eDP @ 4 lanes/1x LVDS
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	1x Intel® i210, 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)	-/-/-/-/- 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) -
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/ 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	-/- 2 2
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	8 V - 36 V
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

Industrial Motherboards

D3543-S mITX



PRODUCT HIGHLIGHTS

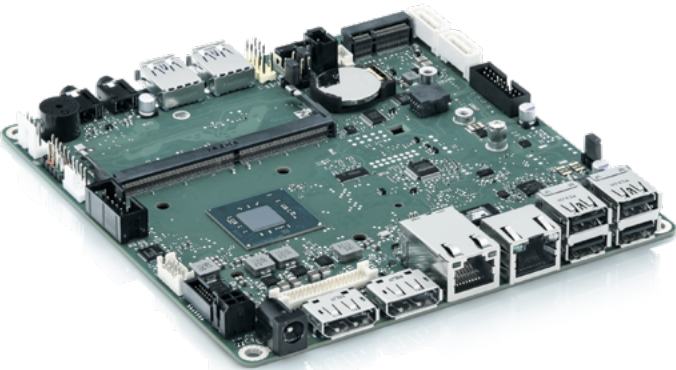
- ▶ Intel® Celeron® Processor J4005/J4105 & Intel® Pentium® Silver Processor J5005
- ▶ DDR4 2400 SDRAM, max. 24 GByte
- ▶ Intel® UHD Graphics 600/605 (within SoC)
- ▶ 2x DisplayPort V1.2a
- ▶ Dual Channel LVDS (24Bit) and eDP V1.4 onboard
- ▶ 8 Bit GPIO & HD Audio onboard
- ▶ USB 2.0 and USB 3.2 (gen1) onboard
- ▶ 2x SATA III
- ▶ Onboard support for M.2 SSD (SATA/PCIe)
- ▶ Onboard support for M.2 WLAN/Bluetooth module
- ▶ Onboard support for Mini-PCIe
- ▶ Dual GbE LAN onboard
- ▶ Intel® integrated TPM V2.0 onboard
- ▶ WideRange internal/external DC Input (8 V - 36 V)
- ▶ HW Watchdog onboard
- ▶ RS-232/485/422 support onboard

TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® Embedded SoC
CPU SUPPORT	PROCESSOR	S1: Dual-Core J4005 SoC (2.70 GHz/10W) S2: Quad-Core J4105 SoC (2.50 GHz/10W) S3: Quad-Core J5005 SoC (2.80 GHz/10W)
	PROCESSOR SOCKET	-
	MAX. PROCESSOR POWER CONSUMPTION (TDP)	10 W
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	24 GByte SO/2 DDR4 2400
GRAPHICS	ONBOARD GRAPHICS	S1: Intel® UHD Graphics 600 S2: Intel® UHD Graphics 600 S3: Intel® UHD Graphics 605
	GRAPHICS INTERFACES	2x DP V 1.2; LVDS; eDP V 1.4
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i210, Realtek RTL8111G -/ -
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Realtek ALC671 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/- PCIe (1 lane) & SATA; Key-B (2242/2260/2280) 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 2/- 2/yes
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	-/2/- 2 2
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	8-36 V
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes No Legacy OS Support 1x COM incl. RS-232/-422/-485 Support; GPIO

Industrial Motherboards

D3544-S mSTX



PRODUCT HIGHLIGHTS

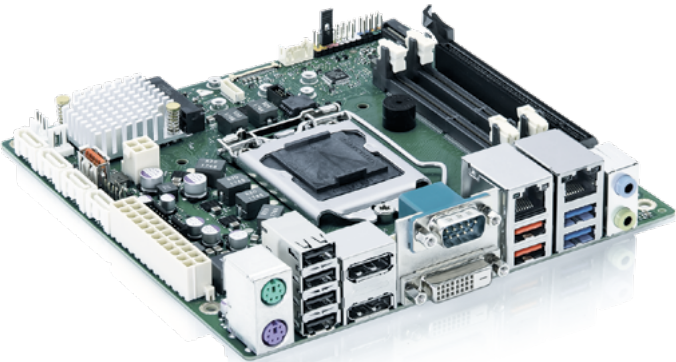
- ▶ Intel® Celeron® Processor J4005/J4105 & Intel® Pentium® Silver Processor J5005
- ▶ DDR4 2400 SDRAM, max. 16 GByte
- ▶ Intel® UHD Graphics 600/605 (within SoC)
- ▶ 2x DisplayPort V1.2a
- ▶ Dual Channel LVDS (24Bit) and eDP V1.4 onboard
- ▶ 8 Bit GPIO & HD Audio onboard
- ▶ USB 2.0 and USB 3.2 (gen1) onboard
- ▶ 2x SATA III
- ▶ Onboard support for M.2 SSD (SATA/PCIe)
- ▶ Onboard support for M.2 WLAN/Bluetooth module
- ▶ Dual GbE LAN onboard
- ▶ Intel® integrated TPM V2.0 onboard
- ▶ WideRange internal/external DC Input (8 V-24 V)
- ▶ HW Watchdog onboard
- ▶ RS-232/485/422 support onboard

TECHNICAL INFORMATION

BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 mm) Intel® Embedded SoC
CPU SUPPORT	PROCESSOR	S1: Dual-Core J4005 SoC (2.70 GHz/10W) S2: Quad-Core J4105 SoC (2.50 GHz/10W) S3: Quad-Core J5005 SoC (2.80 GHz/10W)
	PROCESSOR SOCKET	-
	MAX. PROCESSOR POWER CONSUMPTION (TDP)	10 W
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	16 GByte SO/1 DDR4 2400
GRAPHICS	ONBOARD GRAPHICS	S1: Intel® UHD Graphics 600 S2: Intel® UHD Graphics 600 S3: Intel® UHD Graphics 605
	GRAPHICS INTERFACES	2x DP V 1.2; LVDS; eDP V 1.4
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i210, Realtek RTL8111G -/ -
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Realtek ALC671 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)	-/-/-/-/- -/- PCIe (1 lane) & SATA; Key-B (2242/2260/2280) 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) 1 (pin header)/- 2/- 2/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 3.2 GEN2 TYPE C USB PORTS 2.0 COM PORTS	-/2/- 4 -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	8-24 V
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes No legacy OS Support 1x COM incl. RS-232/-422/-485 Support; GPIO

Industrial Motherboards

D3633-S mITX



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

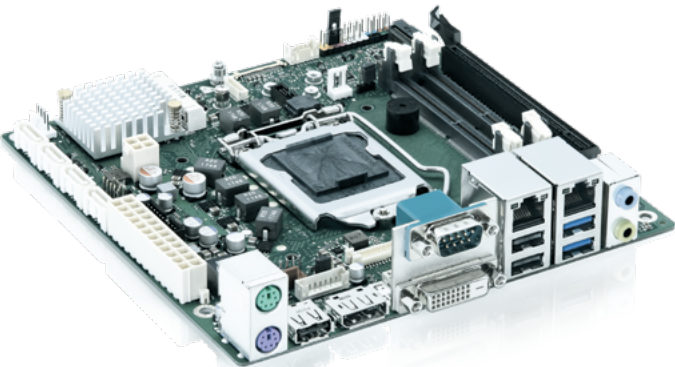


TECHNICAL INFORMATION

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 LG A1151 95 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	64 GByte SO/2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 DVI-D/2x DP (V 1.2)/LVDS/eDP V 1.4 (2 Lanes Supported)
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM 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/ 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
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

Industrial Motherboards

D3634-S mITX



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

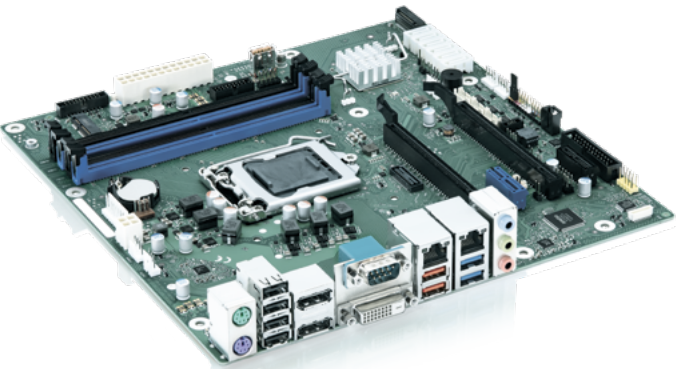


TECHNICAL INFORMATION

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 LG A1151 95 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	32 GByte SO/2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics; DX 12 DVI-D/DP (V 1.2)/LVDS/eDP V 1.4 (2 Lanes Supported)
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM 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/ 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
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) yes yes Onboard LVDS 24bit & eDP Mini-PCIe (Halfsize/Fullsize Support) & M.2 SSD (PCIe), GPIO (8Bit) COM: RS-232/-422/-485 Supported

Industrial Motherboards

D3641-S µATX



PRODUCT HIGHLIGHTS

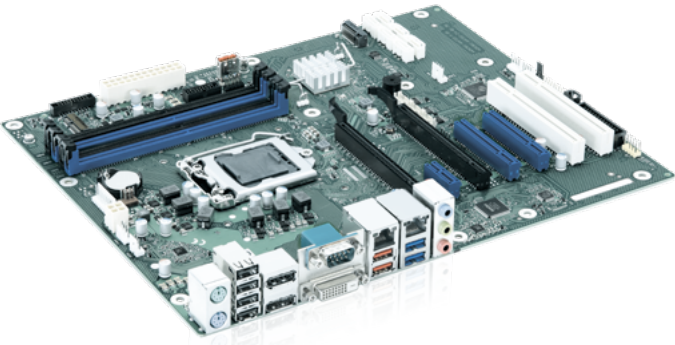
- ▶ Intel® 8th/9th Gen Core™ & Intel® Xeon® Processor Series
- ▶ DDR4 2666 SDRAM, max. 64 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting Intel® AMT 12.0/vPro
- ▶ PCI Express® x16 (Gen.3)
- ▶ 2x Intel® GbE LAN (incl. Teaming)
- ▶ Intel® UHD Graphics (DX12); 1x DVI-D, 2x DP V1.2
- ▶ 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

TECHNICAL INFORMATION

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 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 DVI-D/2x DP V1.2 Optional VGA-Ext. D3653
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM 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/ 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)
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes GPIO (8Bit)

Industrial Motherboards

D3646-S ATX



PRODUCT HIGHLIGHTS

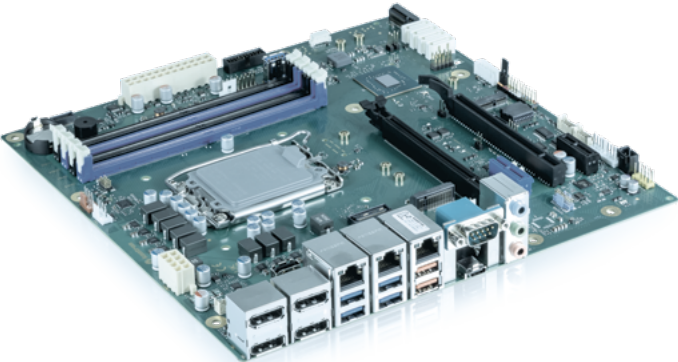
- ▶ Intel® 8th/9th Gen Core™ & Intel® Xeon® Processor Series
- ▶ DDR4 2666 SDRAM, max. 64 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting Intel® AMT 12.0/vPro
- ▶ PCI Express® x16 (Gen.3) & 2x PCI (32 Bit/33 MHz Rev. 2.3)
- ▶ 2x Intel® GbE LAN (incl. Teaming)
- ▶ Intel® UHD Graphics (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

TECHNICAL INFORMATION

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 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 DVI-D/2x DP V1.2 Optional VGA-Ext. D3653
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM 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/ 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)
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Infineon) yes yes GPIO (8Bit)

Industrial Motherboards

K3841-Q µATX



PRODUCT HIGHLIGHTS

- ▶ Intel® 12th Gen Core™ Processor Series
- ▶ DDR5 4800 UDIMM, max. 128 GByte
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting selected Intel® vPro® Essentials features 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 Xe Architecture; 4x DisplayPort V1.4a @4k
- ▶ 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

TECHNICAL INFORMATION

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™ 12th Gen. Processor Series LGA1700 125 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	128 GByte/4 DDR5 4800 non-ECC
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by Xe Architecture 4x DisplayPort V1.4a @4k
ETHERNET	ONBOARD LAN CONTROLLER IAMT/vPRO	Intel® i219LM 2x Intel® i225LM -/vPro Essentials (Selected Features)
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 (16 Lanes/4Lanes)/-/2/- -/- 2x M.2 2230/2242/2280 (Key-M, PCIe/NVME SSD modules), incl. NVME RAID 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)/2 (2.0/3.2 Gen2) 4/yes 3/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 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)
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) + TPM Socket yes yes GPIO (8Bit)

Industrial Motherboards

K3851-R ATX



PRODUCT HIGHLIGHTS

- ▶ Intel® 12th Gen Core™ Processor Series
- ▶ DDR5 4800 UDIMM, max. 128 GByte, ECC support
- ▶ cTDP – Easy & flexible reduction of CPU TDP
- ▶ Supporting selected Intel® vPro® Essentials features 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 Xe Architecture; 4x DisplayPort V1.4a @4k
- ▶ 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

TECHNICAL INFORMATION

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™ 12th Gen Processor Series LGA 1700 125 W TDP yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	128 GByte/4 DDR5 4800 ECC Option
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by Xe Architecture 4x DisplayPort V1.4a @4k
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM, 2x Intel® i225LM -/vPro Essentials (Selected Features)
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 (16 Lanes/4Lanes)/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 1/2 (2.0/3.2 Gen2) 4/yes 3/-
EXTERNAL CONNECTORS	USB PORTS 3.2 GEN2/3.2 GEN1/ 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)
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



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



SMARTCASE™ S500



PRODUCT HIGHLIGHTS

- ▶ Highly convenient tiny industrial Box
- ▶ Perfect fit for mini-STX motherboard D3544-S
- ▶ Small Size (36 x 146,9 x 164 mm)
- ▶ Support for fanless operation
- ▶ Comprehensive certification and test reports on system level (e.g. CE, climatics)
- ▶ Stand for vertical/horizontal positioning
- ▶ VESA mounting
- ▶ Wall mount brackets
- ▶ Comprehensive accessories (optional):
 - Antennas for inside front bezel
 - Speaker for inside front bezel
 - Cable for USB-Type C

TECHNICAL INFORMATION



CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D)
	COLOUR WEIGHT	0.87 l black ~ 0.4 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® BGA
SUPPORTED MOTHERBOARDS		D3544-S1, D3544-S2, D3544-S3
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Passive heatsink (fanless): 0 °C - 40 °C* Active heatsink (with Fan): 0 °C - 50 °C*
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	- -
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	8-24 V +/- 5 % Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	EMC THEFT PROTECTION MOUNTING OPTIONS	Kensington lock support Internal WLAN antenna kit (2 antennas - integrated in chassis front) Rear COM port (incl. RS-232, RS-422, RS-485) Rear USB Type-C connector (USB 3.1 gen1) Wall Mount Kit, VESA Kit, DC-In Holder

*Chassis ambient temperature; upper limit depends on system configuration

SMARTCASE™ S511



PRODUCT HIGHLIGHTS

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

TECHNICAL INFORMATION



CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D)
	COLOUR WEIGHT	0.87 l black ~ 0.4 kg
CPU SUPPORT	PROCESSOR SOCKET	AMD® BGA
SUPPORTED MOTHERBOARDS		D3714-R
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	-10 °C ... +35 °C (max. 8 W/10 W TDP, horizontal position) -10 °C ... +40 °C (max. 10 W TDP, vertical position only)
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	- -
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	Dual-Range: 12 V or 19-28 V Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	EMC 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)

*Chassis ambient temperature; upper limit depends on system configuration

SMARTCASE™ S520



PRODUCT HIGHLIGHTS

- ▶ Highly convenient tiny industrial Box
- ▶ Perfect fit for mini-STX motherboard D3654-B & D3664-B
- ▶ Small Size (36 x 146,9 x 164 mm)
- ▶ Comprehensive certification and test reports on system level (e.g. CE, climatics)
- ▶ Stand for vertical/horizontal positioning
- ▶ VESA mounting
- ▶ Wall mount brackets
- ▶ Antennas for inside front bezel

TECHNICAL INFORMATION



CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D)
	COLOUR WEIGHT	0.87 l black ~ 0.4 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® LGA
SUPPORTED MOTHERBOARDS		D3654-B, D3664-B
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE HUMIDITY	0 °C - 40 °C* 5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	- -
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	19 V +10 %/-15 % Ø 2.5 mm/5.5 mm
APPROVALS & CERTIFICATIONS	CE CLASS B INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	EMC THEFT PROTECTION MOUNTING OPTIONS	Kensington lock support Internal WLAN antenna kit (2 antennas - integrated in chassis front) Wall Mount, VESA Kit, DC-in holder

*Chassis ambient temperature; upper limit depends on system configuration

SMARTCASE™ S700



PRODUCT HIGHLIGHTS

- ▶ Highly flexible Industrial Box
- ▶ Perfect fit for mini-ITX motherboard D3543-S
- ▶ Small Size (250 x 52 x 191 mm)
- ▶ Large expandability for
 - 2.5" hard disc drive (SSD/HDD)
 - Low profile PCI/PCIe card
 - graphics card
- ▶ Support for fanless operation
- ▶ Comprehensive certification and test reports on system level (e.g. CE, climatics)
- ▶ Stand for vertical/horizontal positioning
- ▶ Wall mount brackets

TECHNICAL INFORMATION



CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-ITX 250 x 52 x 191 mm (W x H x D)
CPU SUPPORT	COLOUR WEIGHT	2.48 l satin black ~ 1 kg
SUPPORTED MOTHERBOARDS	PROCESSOR SOCKET	Intel® BGA
ENVIRONMENTAL CONDITIONS		D3543-S1, D3543-S2, D3543-S3
CHASSIS/ SYSTEM FAN SPECIFICATION	OPERATING TEMPERATURE	Passive heatsink (fanless): 0 °C – 35 °C* Active heatsink (with Fan): 0 °C – 50 °C* 5 % – 85 %
REQUIREMENTS FOR AC ADAPTER	HUMIDITY	
APPROVALS & CERTIFICATIONS	MTBF OPERATING TEMPERATURE	70.000 hours @ 40 °C PWM (4 pin), 40 x 40 x 10mm 900 – 5.000 rpm (nominal) Two ball bearing
CHASSIS FEATURES	DC INPUT DC PLUG	8-24 V +/- 5 % Ø 2.5 mm/5.5 mm
	CE CLASS B INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
	EMC THEFT PROTECTION	Two front USB ports Kensington lock support Mechanical lock for DC-In connector Intrusion Support WLAN antenna via (RP-) SMA connector PCIe riser (PCIe x4, low profile)
	MOUNTING OPTIONS	Two rear COM ports (COM3, COM4); one port incl. RS-232, RS-422, RS-485

*Chassis ambient temperature; upper limit depends on system configuration

SMARTCASE™ S711



PRODUCT HIGHLIGHTS

- ▶ Compact Design with Dual Front USB 3.2 Gen1
- ▶ Perfect fit for mini-ITX motherboard D3713-V/R & D3723-R
- ▶ 250 x 52 x 191 mm
- ▶ Low Profile Extension Slot
- ▶ Option for Internal 65W PSU Module
- ▶ Horizontal and Vertical Stand plus Wall Mount Bracket

TECHNICAL INFORMATION



CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-ITX 250 x 52 x 191 mm (W x H x D) 2.48 l satin black ~ 1 kg
CPU SUPPORT	COLOUR WEIGHT	
SUPPORTED MOTHERBOARDS	PROCESSOR SOCKET	AMD® BGA
ENVIRONMENTAL CONDITIONS		D3713-R, D3713-V, D3723-R
	OPERATING TEMPERATURE	Passive heatsink (fanless): -10 °C ... +35 °C (max. 15 W TDP, vertical/horizontal pos.)* -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 pos.)*
	HUMIDITY	5 % - 85 %
CHASSIS/ SYSTEM FAN SPECIFICATION	MTBF OPERATING TEMPERATURE	70.000 hours @ 40 °C PWM (4 pin), 40 x 40 x 10mm 900 - 5.000 rpm (nominal) Two ball bearing
REQUIREMENTS FOR AC ADAPTER	DC INPUT DC PLUG	8 V-36 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	EMC THEFT PROTECTION	Two front USB ports Kensington lock support Mechanical lock for DC-In connector Intrusion Support WLAN antenna via (RP-) SMA connector PCIe riser (PCIe x4, low profile) Two rear COM ports (COM3, COM4) 2.5" Drive (HDD/SSD)
	MOUNTING OPTIONS	

*Chassis ambient temperature; upper limit depends on system configuration

SMARTCASE™ S720



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

TECHNICAL INFORMATION



CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-ITX 250 x 52 x 191 mm (W x H x D)
	COLOUR WEIGHT	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 INDUSTRIAL IMMUNITY FCC CLASS B (VERIFIED)	yes yes yes
CHASSIS FEATURES	EMC 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

Important parts for more functionality

Accessories



CABLE



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

2nd SERIAL PORT CABLE

Compatibility

all mSTX & mITX
models

refer to data sheet

COOLING SOLUTIONS



ACTIVE COOLER
(alu cooler, 4 pin PWM fan)

PASSIVE HEATSINK
(alu heatsink)

Compatibility

D3543-S1/S2/S3 mITX
D3544-S1/S2/S3 mSTX
D3674-B mITX (@35 W TDP)
D3633-S mITX (@35 W TDP)
D3634-S mITX (@35 W TDP)
D3713-V/R mITX
D3723-R mITX
D3714-V/R mSTX

D3543-S1/S2/S3 mITX
D3544-S1/S2/S3 mSTX
D3713-V/R mITX
D3723-R mITX
D3714-V/R mSTX

RISER CARDS



1X PCIe RISER CARD
D3318-A
1 PCIe Slot

Compatibility

D3713-V/R mITX
D3723-R mITX
D3714-V/R mSTX
D3633-S mITX
D3634-S mITX
D3543-S mITX
suitable for
SMARTCASE™ S7xx Series

GRAPHICS



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

Compatibility

all models with DP



D3653-A VGA ADDON CARD

D3642-B µATX
D3644-B µATX
D3641-S µATX
D3646-S ATX

OTHER



D3127-A
TPM-Upgrade-Modul

Compatibility

D3713-V/R mITX
D3723-R mITX



D3352-A2x
M.2 Upgrade Module

D3598-B/G ATX

D3352-A1x

All motherboards



19 V AC ADAPTER
65 W

D3543-S mITX
D3544-S mSTX
D3674-B mITX
D3654-B mSTX
D3664-B mSTX
D3713-V/R mITX
D3723-R mITX
D3714-V/R mSTX



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

All industrial models
with a fullsize Mini PCIe
socket



20 V AC ADAPTER
120 W

D3713-V/R mITX
D3723-R mITX



**12 V INTEGRATED
POWER SUPPLY**
65 W

D3543-S mITX
D3633-S mITX
D3634-S mITX
D3713-V/R mITX
D3723-R mITX

About Kontron – Member of the S&T Group

Kontron is a global leader in IoT/Embedded Computing Technology (ECT). As a part of technology group S&T, Kontron offers a combined portfolio of secure hardware, middleware and services for Internet of Things (IoT) and Industry 4.0 applications. With its standard products and tailor-made solutions based on highly reliable state-of-the-art embedded technologies, Kontron provides secure and innovative applications for a variety of industries. As a result, customers benefit from accelerated time-to-market, reduced total cost of ownership, product longevity and the best fully integrated applications overall.

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



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