

MOTHERBOARDS AND SMARTCASE™

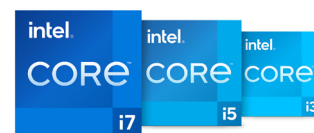


- ▶ **LONG LIFECYCLE**
Availability up to 7 years
- ▶ **ENHANCED HARDWARE FEATURE SET**
24/7 continuous operation at 60°C
- ▶ **EXTENSIVE POWERFUL SOFTWARE TOOLS**
Customization of Motherboards

MOTHERBOARDS AND SMARTCASE™

Kontron offers a comprehensive portfolio of high quality, longevity and competitive motherboards – designed and made in Germany. They are available from small Mini-STX up to full-size ATX form factor and provide the best technical requirements for various applications of different 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 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 micro-ATX motherboards in this folder.



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

About the Intel® Partner Alliance

From modular components to market-ready systems, Intel and the over 1,000+ global member companies of the Intel® Partner Alliance provide scalable, interoperable solutions that accelerate deployment of intelligent devices and end-to-end analytics. Close collaboration with Intel and each other enables Alliance members to innovate with the latest IoT technologies, helping developers deliver first-in-market solutions.

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INDUSTRIAL MOTHERBOARDS

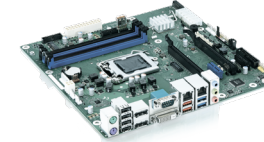
9th/12th Gen. Intel® Core™ i Processor Series



D3646-S ATX



K3841-Q µATX



D3641-S µATX



D3633-S mITX



D3634-S mITX

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 LGA A1151 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)

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® Q670E
CPU SUPPORT	PROCESSOR	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 Optional VGA-Ext. D3653
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)

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® Q370
CPU SUPPORT	PROCESSOR	Intel® Core™ 8th/9th Gen. Processor Series LGA A1151 95 W yes yes
MEMORY	MAX. CAPACITY/NUMBER OF SOCKETS RAM SPEED	64 GByte 50/2 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

BASEBOARD	DIMENSIONS CHIPSET	6.7" x 6.7" (170 x 170 mm) Intel® H310
CPU SUPPORT	PROCESSOR	Intel® Core™ 8th/9th Gen. Processor Series LGA A1151 95 W yes yes
MEMORY	MAX. CAPACITY/NUMBER OF SOCKETS RAM SPEED	32 GByte 50/2 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

Intel® Celeron® & Intel® Pentium® Silver Processors / AMD Ryzen™ Embedded V/R1000 Series



D3543-S mITX



D3544-S mSTX



D3713-V/R mITX



D3714-V/R mSTX

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	- 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 2x DP V 1.2; LVDS; eDP V 1.4
	GRAPHICS INTERFACES	
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i210 Realtek RTL8111G -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ SPDIF 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)	-/-/1 /-/- yes/- PCIe (1 lane) & SATA; Key-B (2242/2260/2280)
	M.2 WLAN (KEY-E)	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 GEN1 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

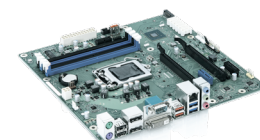
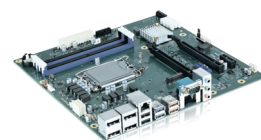
BASEBOARD	DIMENSIONS CHIPSET	5.5" x 5.8" (140 x 148 mm) Intel Embedded SoC
CPU SUPPORT	PROCESSOR	S1: Dual-Core J4005 SoC (2.70 GHz/10W) S2: Quad-Core J4105 SoC (2.50 GHz/10W) S3: Quad-Core J5005 SoC (2.80 GHz/10W)
	PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION	- 10 W
	CPU TDP LIMITING OPTION HIGH 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 2x DP V 1.2; LVDS; eDP V 1.4
	GRAPHICS INTERFACES	
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel i210 Realtek RTL8111G -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ SPDIF 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)	-/-/-/-/- yes/- PCIe (1 lane) & SATA; Key-B (2242/2260/2280)
	M.2 WLAN (KEY-E)	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 GEN1 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

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 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 yes yes
	PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION	- 10 W
	CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	- 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 IAMT/VPRO	1x Intel i210 1x Realtek RTL8111H -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ SPDIF 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)	-/-/-/-/- 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 GEN1 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

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 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 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 yes yes
	PROCESSOR SOCKET MAX. PROCESSOR POWER CONSUMPTION	- 10 W
	CPU TDP LIMITING OPTION HIGH EFFICIENCY CORE VOLTAGE REGULATOR	- yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	32 GByte/2 DDR4 2400 ECC Option
GRAPHICS	ONBOARD GRAPHICS	AMD Radeon™ Vega Graphics (within SoC)
	GRAPHICS INTERFACES	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/ SPDIF HEADER	Stereo Realtek ALC256 yes/yes/-
EXTENSION SLOTS	PCIe x16/x8/x4/x1/PCI MINI-PCIe/mSATA M.2 SSD (PCIe AND/OR SATA)	-/-/-/-/- yes/- 1x M.2 Key-M (2230/2242/2280; PCIe x4)
	M.2 WLAN (KEY-E)	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 GEN1 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

EXTENDED LIFECYCLE MOTHERBOARDS

9th/12th Gen. Intel® Core™ i Processor Series



K3842-Q µATX

K3843-B µATX

D3642-B µATX

D3644-B µATX

D3674-B Thin mITX

D3664-B mSTX

D3654-B mSTX

BASEBOARD	DIMENSIONS CHIPSET	9.6" x 9.6" (243.8 x 243.8 mm) Intel® Q670	9.6" x 9.6" (243.8 x 243.8 mm) Intel® B660	9.6" x 9.6" (243.8 x 243.8 mm) Intel® Q370	9.6" x 9.6" (243.8 x 243.8 mm) Intel® C246	6.7" x 6.7" (170 x 170 mm) Intel® H310	5.5" x 5.8" (140 x 148 mm) Intel® Q370	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™ 12th Gen Processor Series Intel® LGA1700 125 W yes yes	Intel® Core™ 12th Gen Processor Series Intel® LGA1700 125 W yes yes	Intel® Core™ 8th/9th Gen Processor Series Intel® LGA1151 95 W yes yes	Intel® Core™ 8th/9th Gen & Xeon® Processor Series Intel® LGA1151 95 W yes yes	Intel® Core™ 8th/9th Gen Processor Series Intel® LGA1151 95 W yes yes	Intel® Core™ 8th/9th Gen Processor Series Intel® LGA1151 65 W yes yes	Intel® Core™ 8th/9th Gen Processor Series Intel® LGA1151 65 W yes yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS RAM SPEED	128 GByte/4 DDR5 4800 non-ECC	128 GByte/4 DDR5 4800 non-ECC	64 GByte/4 DDR4 2400/2666	64 GByte/4 DDR4 2400/2666 ECC support	32 GByte SO/2 DDR4 2400/2666	32 GByte SO/2 DDR4 2400/2666	32 GByte SO/2 DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS GRAPHICS INTERFACES	Intel® UHD Graphics 7xx driven by X ^e Architecture 4x DisplayPort V1.4a @4k Optional VGA-Ext. D3653	Intel® UHD Graphics 7xx driven by X ^e Architecture 4x DisplayPort V1.4a @4k Optional VGA-Ext. D3653	Intel® UHD Graphics; DX 12 DVI-D/2x DP V 1.2 Optional VGA-Ext. D3653	Intel® UHD Graphics; DX 12 DVI-D/2x DP V 1.2 Optional VGA-Ext. D3453	Intel® UHD Graphics; DX 12 HDMI V 1.4/DP V 1.2	Intel® UHD Graphics; DX 12 HDMI V 1.4/DP V 1.2 /USB 3.1 Gen2 Type-C (DP Alt Mode)	Intel® UHD Graphics; DX 12 HDMI V 1.4/DP V 1.2
ETHERNET	ONBOARD LAN CONTROLLER IAMT/VPRO	Intel® i219LM -/vPro Essentials (Selected Features)	Intel® i219LM -/-	Intel® i219LM yes/yes	Intel® i219LM yes/yes	Realtek RTL 8111G -/-	Intel® i219LM yes/yes	Realtek RTL 8111E -/-
AUDIO	TYPE ONBOARD CONTROLLER BUZZER/SPEAKER/ S/PDIF HEADER	5.1 Multich. Tempo Semiconductor 92HD91B -/yes/-	5.1 Multich. Tempo Semiconductor 92HD91B -/yes/-	5.1 Multich. Realtek ALC671 -/yes/-	5.1 Multich. Realtek ALC671 -/yes/-	5.1 Multich. Realtek ALC255 -/yes (Stereo)/-	Stereo Realtek ALC671 -/yes/-	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)	2 (16 Lanes/4Lanes)/-/-/2/- -/- 2x M.2 2230/2242/2280 (Key-M, PCIe/NVMe SSD modules), incl. NVMe RAID yes	2 (16 Lanes/4Lanes)/-/-/2/- -/- 2x M.2 2280 (Key-M, PCIe/NVMe SSD modules)	2/-/-/2/- - 1x M.2 Key M Socket (2280) for PCIe (4 lanes) based M.2 Modules	2/-/-/2/- - 1x M.2 Key M Socket (2280) for PCIe (4 lanes) based M.2 Modules	-/-/-/-/- 1x M.2 Key M Socket (2280) for PCIe based M.2 Modules (4 lanes)	-/-/-/-/- 1x M.2 Key M Socket (2280) for PCIe based M.2 Modules (4 lanes)	-/-/-/-/- 1x M.2 Key M Socket (2280) for PCIe based M.2 Modules (4 lanes)
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 -/-	-/2 (pin header) 2 (pin header)/- 4/yes -/-	-/4 (2 x pin header) 2 (pin header)/1 (3.2 Gen2) 6/yes -/-	-/4 (2 x pin header) 2 (pin header)/1 (3.2 Gen2) 6/yes -/-	-/2 (pin header) 3 (2 x pin header)/- 2/- 1/-	-/- 2 (pin header)/- 1/- -/-	-/- 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	2/4/1 - 1	2/2/- 2 1	2/2/- 2 1	2/2/- 2 1	-/2/- 2 -	2/3/1 - -	-/3/1 2 -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY INTERNAL SUPPLY	- ATX PSU (Multirail)	- ATX PSU (Multirail)	- ATX PSU (Multirail)	- ATX PSU (Multirail)	19-24 V 12 V or 19-24 V	19 V -	19 V -
MISCELLANEOUS	FAN SPEED CUSTOMIZING TPM V2.0 CHASSIS INTRUSION SUPPORT HW WATCHDOG MISCELLANEOUS	yes yes (Intel®) + TPM Socket yes yes -	yes yes (Intel®) yes - -	yes yes (Infineon) yes yes -	yes yes (Infineon) yes yes -	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	yes yes (Intel®) - yes 19 V DC Power Supply 1x USB Type-C (front) 1x USB Type-C (Rear, incl. DP Alt Mode)	yes yes (Intel®) - yes 19 V DC Power Supply 1x USB Type-C (Front)

SMARTCASE™ FAMILY



SMARTCASE™ S500

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D) 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	THEFT PROTECTION	Kensington lock support
	MOUNTING OPTIONS	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

SMARTCASE™ S520

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D) 0.87 l black ~ 0.4 kg
CPU SUPPORT	PROCESSOR SOCKET	Intel® LGA
SUPPORTED MOTHERBOARDS		D3654-B, D3664-B
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	0 °C - 40 °C*
	HUMIDITY	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	THEFT PROTECTION	Kensington lock support
	MOUNTING OPTIONS	Internal WLAN antenna kit (2 antennas - integrated in chassis front) Wall Mount, VESA Kit, DC-in holder

SMARTCASE™ S511

CHASSIS DATA	FORMFACTOR DIMENSIONS	Mini-STX 36 x 147 x 165 mm (W x H x D) 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	THEFT PROTECTION	Kensington lock support
	MOUNTING OPTIONS	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)

SMARTCASE™ S700

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	PROCESSOR SOCKET	Intel® BGA
SUPPORTED MOTHERBOARDS		D3543-S1, D3543-S2, D3543-S3
ENVIRONMENTAL CONDITIONS	OPERATING TEMPERATURE	Passive heatsink (fanless): 0 °C - 35 °C* Active heatsink (with Fan): 0 °C - 50 °C*
	HUMIDITY	5 % - 85 %
CHASSIS/SYSTEM FAN SPECIFICATION	MTBF	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	8-24 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	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); one port incl. RS-232, RS-422, RS-485
	MOUNTING OPTIONS	

SMARTCASE™ S711

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	PROCESSOR SOCKET	AMD® BGA
SUPPORTED MOTHERBOARDS		D3713-R, D3713-V
ENVIRONMENTAL CONDITIONS	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	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	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	

SMARTCASE™ S720

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	0 °C - 45 °C*
	HUMIDITY	5 % - 85 %
CHASSIS/SYSTEM FAN SPECIFICATION	MTBF	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	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) Additional serial port 2.5" Drive
	MOUNTING OPTIONS	

*Chassis ambient temperature; upper limit depends on system configuration



D3544-S mSTX



D3664-B mSTX



D3714-R mSTX



D3543-S mITX



D3713-V/R mITX



D3633-S mITX



D3654-B mSTX



D3634-S mITX