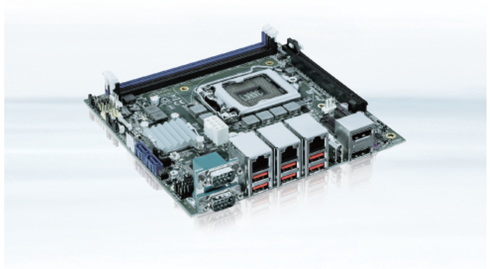
MINI-ITX MOTHERBOARDS



- **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

POSSIBILITIES START HERE kontron S&T Group

MINI-ITX
MOTHERBOARDS

Mini-ITX is the new compact standard motherboard form factor. The arrangement of its mounting holes and backplate location can accommodate itself with those in larger-sized ATX-specification motherboards, and therefore it is an ideal platform for small-configured and power-efficient computing systems with basic expansion slot(s). Kontron offers a variety of Mini-ITX motherboards with both Intel® and AMD based platforms to use in industrial applications. They come up with an availability of up to 7 years from the release date, based on embedded key components. Furthermore, Kontron offers many value-added services like detailed documentation, a professional life-cycle management and customizing tools.

SPECIAL FEATURES

The motherboards components 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 -20 and 70 ° Celsius.

kontron S&T Group

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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intel partner Titanium IoT Solutions

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MINI-ITX MOTHERBOARDS

D3633-S mITX

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® Q370
CPU SUPPORT	PROCESSOR	Intel® Core™ 8th/9th Gen. Processor Series
	PROCESSOR SOCKET	Intel® LGA1151
	MAX. PROCESSOR POWER CONSUMPTION	95 W
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	64 GByte SO/2
	RAM SPEED	DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS	Intel® UHD Graphics; DX 12
	GRAPHICS INTERFACES	DVI-D/2x DP (V 1.2)/LVDS/eDP V 1.4 (2 Lanes Supported)
ETHERNET	ONBOARD LAN CONTROLLER	Intel® i219LM Intel® i210AT
	IAMT/VPRO	yes/yes
AUDIO	TYPE	5.1 Multich.
	ONBOARD CONTROLLER	Realtek ALC671
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/yes/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	1/-/-/-/-
	MINI-PCIe/MSATA	yes/-
	M.2 SSD (PCIE AND/OR SATA)	1x M.2 Key M Socket (2242/2260/2280) for PCIe (4 lanes) based M.2 Modules
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	2/4/6/yes
	SATA PORTS/SATA RAID	4/yes
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	1/1 // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	ATX PSU or single 12 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Infineon)
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	Onboard LVDS 24bit & eDP Mini-PCIe (Halfsize/Fullsize Support) & M.2 SSD (PCIe), GPIO (8Bit) COM: RS-232/-422/-485 Supported

D3634-S mITX

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® H310
CPU SUPPORT	PROCESSOR	Intel® Core™ 8th/9th Gen. Processor Series
	PROCESSOR SOCKET	Intel® LGA1151
	MAX. PROCESSOR POWER CONSUMPTION	95 W
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte SO/2
	RAM SPEED	DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS	Intel® UHD Graphics; DX 12
	GRAPHICS INTERFACES	DVI-D/2x DP (V 1.2)/LVDS/eDP V 1.4 (2 Lanes Supported)
ETHERNET	ONBOARD LAN CONTROLLER	Intel® i219LM Intel® i210AT
	IAMT/VPRO	-/-
AUDIO	TYPE	5.1 Multich.
	ONBOARD CONTROLLER	Realtek ALC671
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/yes/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	1/-/-/-/-
	MINI-PCIe/MSATA	yes/-
	M.2 SSD (PCIE AND/OR SATA)	1x M.2 Key M Socket (2242/2260/2280) for PCIe (2 lanes) based M.2 Modules
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/4/5/-
	SATA PORTS/SATA RAID	4/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	1/1 // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	ATX PSU or single 12 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Intel®)
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	Onboard LVDS 24bit & eDP Mini-PCIe (Halfsize/Fullsize Support) & M.2 SSD (PCIe), GPIO (8Bit) COM: RS-232/-422/-485 Supported

D3543-S mITX

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	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	24 GByte SO/2
	RAM SPEED	DDR4 2400
GRAPHICS	ONBOARD GRAPHICS	Intel® UHD Graphics 600/605
	GRAPHICS INTERFACES	2x DP V 1.2; LVDS; eDP V 1.4
ETHERNET	ONBOARD LAN CONTROLLER	Intel® i210 Realtek RTL8111G
	IAMT/VPRO	-/-
AUDIO	TYPE	5.1 Multich.
	ONBOARD CONTROLLER	Realtek ALC671
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/-/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	-/-/1/-/-
	MINI-PCIe/MSATA	yes/-
	M.2 SSD (PCIE AND/OR SATA)	PCIe (1 lane) & SATA; Key-B (2242/2260/2280)
	M.2 WLAN	yes (Key-E)
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/4/6/yes
	SATA PORTS/SATA RAID	2/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	2/2 // yes
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	8-36 V
	INTERNAL SUPPLY	8-36 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Intel®)
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	No Legacy OS Support 4x COM (1x incl. RS-232/-422/ -485 Support)

D3313-S1 mITX

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Embedded G-Series SoC (eKabini)
CPU SUPPORT	PROCESSOR	GX-210HA SOC 1.0GHz DualCore
	PROCESSOR SOCKET	AMD FT3
	MAX. PROCESSOR POWER CONSUMPTION	9 W
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	16 GByte SO/2
	RAM SPEED	DDR3 1333
GRAPHICS	ONBOARD GRAPHICS	AMD Radeon™ HD8210E
	GRAPHICS INTERFACES	DVI-I/DP (V 1.2)/LVDS
ETHERNET	ONBOARD LAN CONTROLLER	2x Realtek RTL8111G
	IAMT/VPRO	-/-
AUDIO	TYPE	Stereo
	ONBOARD CONTROLLER	Realtek ALC671
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/-/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	-/1/1/-/-
	MINI-PCIe/MSATA	yes/yes
	M.2 SSD (PCIE AND/OR SATA)	-
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/2/6/yes
	SATA PORTS/SATA RAID	2/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	1/2 // internal
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	12 V
	INTERNAL SUPPLY	19-24 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	-
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	mSATA & Mini-PCIe Socket

NEW!

D3713-V/R mITX

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	AMD Embedded Ryzen™ V/R1000 SoC
CPU SUPPORT	PROCESSOR	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 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
	PROCESSOR SOCKET	AMD FP5
	MAX. PROCESSOR POWER CONSUMPTION	V1: 12W / 15W / 25W TDP V2: 12W / 15W / 25W TDP V4: 35W / 45W / 54W TDP R1: 6W TDP R2: 8W / 10W TDP R4: 12W / 15W / 25W TDP
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte SO/2
	RAM SPEED	DDR4 2400/3200 ECC Option
GRAPHICS	ONBOARD GRAPHICS	AMD Radeon™ Vega Graphics (in SoC)
	GRAPHICS INTERFACES	up to 4x DP V1.4/ 1x eDP @ 4 lanes/1x LVDS
ETHERNET	ONBOARD LAN CONTROLLER	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/XB/X4/ X1/PCI	-/-/1/-/-
	MINI-PCIe/MSATA	yes/-
	M.2 SSD (PCIE AND/OR SATA)	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 (SATA or PCIe)
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	2/4/2/1
	SATA PORTS/SATA RAID	2/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	2/2 // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	8-36 V
	INTERNAL SUPPLY	8-36 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (AMD); Infineon module optional
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	No Legacy OS Support 4x COM (1x incl. RS-232/-422/-485 Support) GPIO

D3674-B Thin mITX

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® H310
CPU SUPPORT	PROCESSOR	Intel® Core™ 8th/9th Gen Processor Series
	PROCESSOR SOCKET	Intel® LGA1151
	MAX. PROCESSOR POWER CONSUMPTION	65 W
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte SO/2
	RAM SPEED	DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS	Intel® UHD Graphics; DX 12
	GRAPHICS INTERFACES	HDMI V 1.4/DP V 1.2
ETHERNET	ONBOARD LAN CONTROLLER	Realtek RTL 8111G
	IAMT/VPRO	-/-
AUDIO	TYPE	5.1 Multich.
	ONBOARD CONTROLLER	Realtek ALC255
	BUZZER/SPEAKER/ S/PDIF HEADER	-/yes (Stereo)/-
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	-/-/-/-/-
	MINI-PCIe/MSATA	yes/-
	M.2 SSD (PCIE AND/OR SATA)	1x M.2 Key M Socket (2280) for PCIe based M.2 Modules (4 lanes)
	M.2 WLAN	yes (Key-E)
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/4/5/-
	SATA PORTS/SATA RAID	2/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	1/- // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	19-24 V
	INTERNAL SUPPLY	12 V or 19-24 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Intel®)
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	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

NEW!

mITX-VR1000 V2.0

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	AMD Embedded Ryzen™ V/R1000 SoC
CPU SUPPORT	PROCESSOR	AMD Ryzen™ V1807B (Quad Core, 3.35/3.8 GHz) AMD Ryzen™ V1202B (Dual Core, 2.3/3.2 GHz)
	PROCESSOR SOCKET	AMD FP5
	MAX. PROCESSOR POWER CONSUMPTION	V1807B: 35 W / 45 W / 54 W TDP V1202B: 12 W / 15 W / 25 W TDP
	CPU TDP LIMITING OPTION	yes
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte SO/2
	RAM SPEED	DDR4 2400/3200 ECC Option
GRAPHICS	ONBOARD GRAPHICS	AMD Radeon™ Vega Graphics (in SoC)
	GRAPHICS INTERFACES	1x DP++ V 1.4/2x DP V 1.4/1x LVDS (4 Lanes Supported)
ETHERNET	ONBOARD LAN CONTROLLER	2x Intel® i211AT 1x Intel® i210AT
	IAMT/VPRO	-/-
AUDIO	TYPE	5.1 Multich.
	ONBOARD CONTROLLER	Realtek ALC662
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/yes/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	1 (x8 signal)/-/-/-/-
	MINI-PCIe/MSATA	yes/-
	M.2 SSD (PCIE AND/OR SATA)	1x M.2 Key M Socket (2280) for SATA based M.2 Module 1x M.2 Key B Socket (2242/2280) for PCIe (2 lanes) based M.2 Module
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	2/-/5/-
	SATA PORTS/SATA RAID	1/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	6/- // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	12V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Infineon)
	CHASSIS INTRUSION SUPPORT	-
	HW WATCHDOG	yes
	MISCELLANEOUS	Win10 Support DIO (8Bit)

mITX-CFL-S

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® C246 / Q370
CPU SUPPORT	PROCESSOR	Intel® Xeon® E-2200 / E-2100 Processor Series Intel® Core™ 8th/9th Gen. Processor Series
	PROCESSOR SOCKET	Intel® LGA1151
	MAX. PROCESSOR POWER CONSUMPTION	95 W (35 W for 8-core Xeon® E-2200 & Core™ 9th Gen. CPU)
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	64 GByte SO/2
	RAM SPEED	DDR4 2400/2666 ECC Option
GRAPHICS	ONBOARD GRAPHICS	Intel UHD Graphics P630/630/610; DX12
	GRAPHICS INTERFACES	1x eDP V 1.4/2x DP V 1.2/1x HDMI V 1.4 (3 Lanes Supported)
ETHERNET	ONBOARD LAN CONTROLLER	Intel® i219LM Intel® i210AT, Intel® i211AT
	IAMT/VPRO	yes/-
AUDIO	TYPE	Stereo
	ONBOARD CONTROLLER	Realtek ALC888S
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/-/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	1/-/-/-/-
	MINI-PCIe/MSATA	-/-
	M.2 SSD (PCIE AND/OR SATA)	1x M.2 Key M Socket (2280) for PCIe (4 lanes) based M.2 Module 1x M.2 Key B Socket (22x2) for PCIe (1 lane) / SATA based M.2 Module
	M.2 WLAN	yes (Key-A)
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	2/4/4/-
	SATA PORTS/SATA RAID	2/yes
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	2/2 // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	12 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Infineon)
	CHASSIS INTRUSION SUPPORT	-
	HW WATCHDOG	yes
	MISCELLANEOUS	Win Server / Win10 Support DIO (8Bit) Extended operating temperature range support: -20 °C –70 °C

MITX-CFLx

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® Q370 / H310
CPU SUPPORT	PROCESSOR	Intel® Core™ 8th/9th Gen. Processor Series Intel® Celeron® G4000 Processor Series
	PROCESSOR SOCKET	Intel® LGA1151
	MAX. PROCESSOR POWER CONSUMPTION	65 W
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte SO/2
	RAM SPEED	DDR4 2400/2666
GRAPHICS	ONBOARD GRAPHICS	Intel® UHD Graphics 630 / 610; DX 12
	GRAPHICS INTERFACES	1x LVDS/1x DP++ V 1.2/1x HDMI V 2.0 (Q370: 3 Lanes / H310: 2 Lanes Support)
ETHERNET	ONBOARD LAN CONTROLLER	Intel® i211AT Intel® i219LM (Q370) / i219V (H310)
	IAMT/VPRO	yes/-
AUDIO	TYPE	Stereo
	ONBOARD CONTROLLER	Realtek ALC887
	BUZZER/SPEAKER/ S/PDIF HEADER	-/yes/-
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	1/-/-/-/-
	MINI-PCIe/MSATA	-/-
	M.2 SSD (PCIE AND/OR SATA)	1x M.2 Key M Socket (2242/2280) for PCIe (4 lanes) based M.2 Module 1x M.2 Key B (2242/3042/2280) for PCIe (1 lane) / SATA M.2 Module (Q370)
	M.2 WLAN	yes (Key-E)
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/3/6/-
	SATA PORTS/SATA RAID	4/yes
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	6/- // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	ATX PSU
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Infineon)
	CHASSIS INTRUSION SUPPORT	yes
	HW WATCHDOG	yes
	MISCELLANEOUS	Win10 Support DIO (8Bit) 1x I2C

mITX-KBL-S

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® Q170 / H110
CPU SUPPORT	PROCESSOR	Intel® Core™ 7th Gen. Processor Series Intel® Celeron® G3930 / G3950 Processor Series
	PROCESSOR SOCKET	Intel® LGA1151
	MAX. PROCESSOR POWER CONSUMPTION	95 W
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte SO/2
	RAM SPEED	DDR4 2133/2400
GRAPHICS	ONBOARD GRAPHICS	Intel® HD Graphics 630 / 610; DX 12
	GRAPHICS INTERFACES	1x LVDS/2x DP V 1.2/1x DVI-D/1x VGA (Q170: 3 Lanes / H110: 2 Lanes Support)
ETHERNET	ONBOARD LAN CONTROLLER	Intel® i219LM Intel® i210AT
	IAMT/VPRO	yes (Q170)/-
AUDIO	TYPE	5.1 Multich.
	ONBOARD CONTROLLER	Realtek ALC888S
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/-/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	1/-/-/-/-
	MINI-PCIe/MSATA	yes/yes (Q170)
	M.2 SSD (PCIE AND/OR SATA)	-
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/6/6/- (Q170) -/4/4/- (H110)
	SATA PORTS/SATA RAID	4/yes (Q170)
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	4/2 // -
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	ATX PSU
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Infineon, Q170)
	CHASSIS INTRUSION SUPPORT	-
	HW WATCHDOG	yes
	MISCELLANEOUS	Win10, Linux Support DIO (8Bit)

mITX-SKL-S

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® Q170 / H110
CPU SUPPORT	PROCESSOR	Intel® Core™ 7th Gen. Processor Series Intel® Celeron® G3900 / G3920 Processor Series
	PROCESSOR SOCKET	Intel® LGA1151
	MAX. PROCESSOR POWER CONSUMPTION	95 W
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	32 GByte SO/2
	RAM SPEED	DDR4 1866/2133
GRAPHICS	ONBOARD GRAPHICS	Intel® HD Graphics 530/510; DX 12
	GRAPHICS INTERFACES	1x LVDS/2x DP V 1.2/1x DVI-D/1x VGA (Q170: 3 Lanes / H110: 2 Lanes)
ETHERNET	ONBOARD LAN CONTROLLER	Intel® i219LM Intel® i210AT
	IAMT/VPRO	yes (Q170)/-
AUDIO	TYPE	5.1 Multich.
	ONBOARD CONTROLLER	Realtek ALC662
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/-/yes
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	1/-/-/-/-
	MINI-PCIe/MSATA	yes/yes (Q170)
	M.2 SSD (PCIE AND/OR SATA)	-
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/6/6/- (Q170) -/4/4/- (H110)
	SATA PORTS/SATA RAID	4/yes (Q170)
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	4/2 //-
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	ATX PSU
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Infineon, V 1.2, Q170)
	CHASSIS INTRUSION SUPPORT	-
	HW WATCHDOG	yes
	MISCELLANEOUS	Win10, Win8, Win7, Linux Support DIO (8Bit)

mITX-DNV

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® Embedded SoC
CPU SUPPORT	PROCESSOR	Intel® Atom® C3338 (Dual Core, 1.5/2.2 GHz) Intel® Atom® C3538 (Quad Core, 2.1/2.1 GHz)
	PROCESSOR SOCKET	Intel® BGA1310
	MAX. PROCESSOR POWER CONSUMPTION	9 W (C3338) 15 W (C3538)
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	16 GByte U/1 (C3338) 32 GByte U/2 (C3538)
	RAM SPEED	DDR4 1866/21330
GRAPHICS	ONBOARD GRAPHICS	RDC® C6139
	GRAPHICS INTERFACES	1x VGA
ETHERNET	ONBOARD LAN CONTROLLER	2x Intel® i210AT 4x Marvell® 88E1543
	IAMT/VPRO	-/-
AUDIO	TYPE	-
	ONBOARD CONTROLLER	-
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/-/-
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	-/1/-/-/-
	MINI-PCIe/MSATA	yes/yes
	M.2 SSD (PCIE AND/OR SATA)	1x M.2 Key B Socket (2280) for SATA based M.2 Module
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/4/2/-
	SATA PORTS/SATA RAID	6/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	1/1 //-
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	-
	INTERNAL SUPPLY	ATX PSU
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	yes (Infineon)
	CHASSIS INTRUSION SUPPORT	-
	HW WATCHDOG	yes
	MISCELLANEOUS	Win Server Support DIO (8Bit) Extended operating temperature range support: -20 °C –70 °C

mITX-BYT

BASEBOARD	DIMENSIONS	6.7" x 6.7" (170 x 170 mm)
	CHIPSET	Intel® Embedded SoC
CPU SUPPORT	PROCESSOR	Intel® Atom® E3845 (Quad Core, 1.91 GHz) Intel® Atom® E3825 (Dual Core, 1.33 GHz) Intel® Celeron® J1900 (Quad Core, 2.0/2.42 GHz) Intel® BGA1170
	PROCESSOR SOCKET	Intel® BGA1170
	MAX. PROCESSOR POWER CONSUMPTION	10 W (E3845) 6 W (E3825) 10 W (J1900)
	CPU TDP LIMITING OPTION	-
	HIGH EFFICIENCY CORE VOLTAGE REGULATOR	yes
MEMORY	MAX. CAPACITY/ NUMBER OF SOCKETS	8 GByte SO/2 (E3845 / J1900) 4 GByte SO/1 (E3825)
	RAM SPEED	DDR4 1067/1333
GRAPHICS	ONBOARD GRAPHICS	Intel® HD Graphics
	GRAPHICS INTERFACES	1x LVDS/1x HDMI V 1.4/1x VGA (2 Lanes Supported)
ETHERNET	ONBOARD LAN CONTROLLER	2x Realtek RTL8111H
	IAMT/VPRO	-/-
AUDIO	TYPE	Stereo
	ONBOARD CONTROLLER	Realtek ALC662
	BUZZER/SPEAKER/ S/PDIF HEADER	yes/yes/-
EXTENSION SLOTS	PCIE X16/XB/X4/ X1/PCI	-/-/-/1/-
	MINI-PCIe/MSATA	yes/yes
	M.2 SSD (PCIE AND/OR SATA)	-
	M.2 WLAN	-
EXTERNAL/ INTERNAL CONNECTORS	USB PORTS 3.2 GEN2/ 3.2 GEN1/2.0/ STICK SOCKET	-/1/5/-
	SATA PORTS/SATA RAID	1/-
	COM PORT INT. HEADER/ EXT. // PARALLEL PORT INT. HEADER	4/2 //1
POWER SUPPLY OPTIONS	EXTERNAL SUPPLY	12-24 V
	INTERNAL SUPPLY	12 V
MISCELLA-NEOUS	FAN SPEED CUSTOMIZING	yes
	TPM V2.0	optional (Infineon, V 1.2)
	CHASSIS INTRUSION SUPPORT	-
	HW WATCHDOG	yes
	MISCELLANEOUS	Win10, Win8, Win7, Linux Support DIO (8Bit) Extended operating temperature range support: -20 °C –70 °C

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