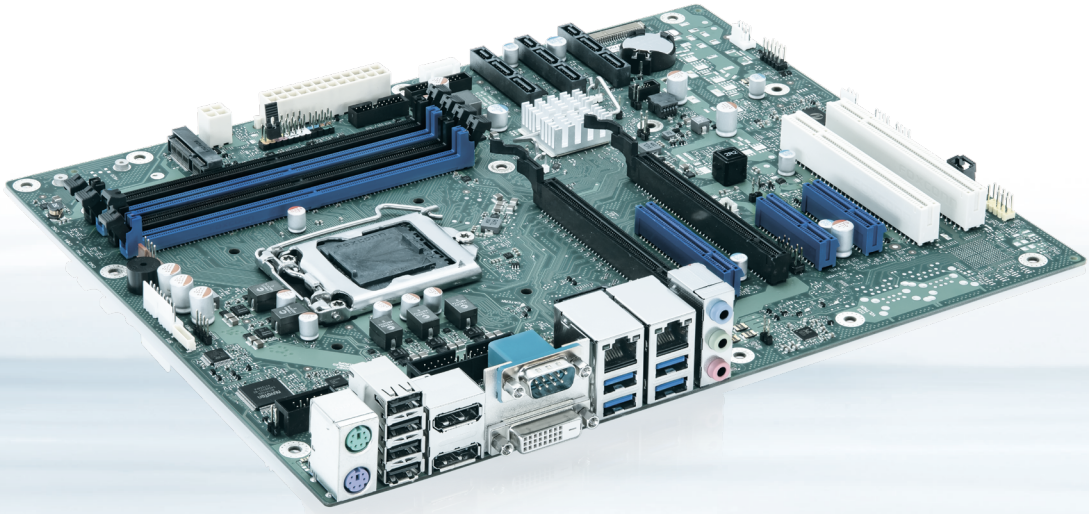
D3446-S ATX

Industrial Series



Designed by Fujitsu

Intel® C236 Express chipset and Xeon® E3-1200 V5+V6 processors

- Intel® iAMT 11.0
- Onboard support for Mini-PCI Express® and mSATA
- Onboard SATA-III incl. RAID support
- Intel® HD Graphics; PCI Express® Gen3
- Multichannel Audio & Dual Intel GbE LAN onboard

POSSIBILITIES START HERE kontron S&T Group

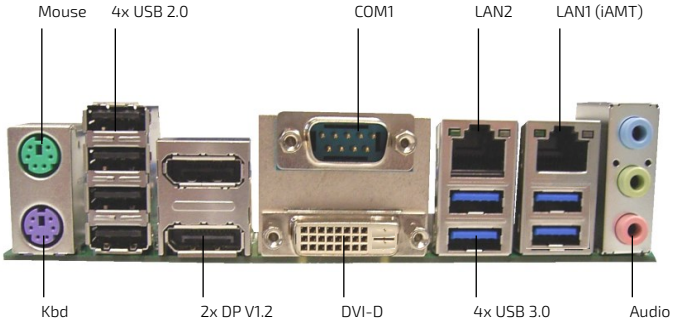
D3446-S ATX

Industrial Series

Besides assured extended availability for five years, the Kontron Motherboard D3446-S ATX of the Industrial Series provides support for highly performant Intel® Xeon® CPUs and for ECC (Error Correction Code). It also offers latest Intel® iAMT 11.0 and vPro 2015 manageability. It is particularly suitable for applications like workstations and entry-level servers, various medical applications and applications with high-performance needs.

PRODUCT HIGHLIGHTS

- Intel® iAMT 11.0
- Onboard support for Mini-PCI Express® and mSATA
- Onboard SATA-III incl. RAID support
- Intel® HD Graphics; PCI Express® Gen3
- Multichannel Audio & Dual Intel GbE LAN onboard
- USB 2.0/3.0 and USB 2.0 socket (stick) onboard
- Trusted Platform Module V2.0 (Infineon) onboard
- BIOS-POST/-Boot & OS – HW Watchdog onboard



TECHNICAL INFORMATION

SYSTEM	PROCESSOR	Intel® Xeon® E3-1200 V5 processor series Intel® Xeon® E3-1200 V6 processor series* Intel® Core™ i7/i5/i3 (6th/7th* Gen) processor series Intel® Pentium®/Intel® Celeron® (6th/7th Gen*) processor series Socket LGA1151, max. 80 W TDP
	CHIPSET	Intel® C236 Express Chipset
	MEMORY	4 DIMM Sockets DDR4, max. 64 GByte, Dual Channel DDR4 2133/2400, UDIMM, 1.2 V/2.5 V, 288-pin ECC (appropriate processor required) / Non-ECC Effective memory speed depends on installed processor
VIDEO	GRAPHICS	Intel® HD Graphics (depends on installed processor), DX12
AUDIO	AUDIO CODEC	Realtek ALC671
	AUDIO INTERFACE	5.1-channel, High Definition Audio Codec
NETWORK CONNECTION	ETHERNET	Intel i219LM & i210AT with 10/100/1000 MBit/s Wake-on-LAN (WoL) by interesting Packets, Link Status Change and Magic Packet™, PXE Support, BIOS MAC Address Display, Teaming Support
PERIPHERAL CONNECTION	USB	4x USB 2.0 4x USB 3.0
	SERIAL PORT	2x RS232 (1x by header)
	PARALLEL PORT	1x (by header)
	OTHER I/Os	1x 8-bit GPIO (by header)
STORAGE & EXPANSION	SATA	6x SATA SATA-III; NCQ, AHCI, RAID 0/1/5/10
	PCIe/PCI SLOTS	PCIe x16: 1x 16 Lanes, Gen3; 1x 4 Lanes, Gen3 PCIe x8: 1x 1 Lane, Gen3 PCIe x4: 1x 4 Lanes, Gen3; 1x 1 Lane, Gen3 2x PCI 1x Mini-PCI Express®
POWER	CONNECTOR	Parallel Port Pin
	INPUT VOLTAGE	ATX Power Supply (24 pin + 4 pin)
FIRMWARE	BIOS	AMI Aptio 5.x (UEFI) BIOS modified and adapted by Fujitsu Technology Solutions; Recovery BIOS, SM-BIOS (DMI), BIOS and CPU Microcode Update, Quick Boot, Logo Boot, Quiet Boot, Plug & Play, Automatic DRAM and PCIe Configuration, BIOS Support for S.M.A.R.T., Advanced Power Management, ACPI S3/S4, Wake on time from S5.
	WATCHDOG	3 Level Watchdog (BIOS/BIOS Post/OS HW)
	REAL TIME CLOCK	Integrated
	TPM	Trusted Platform Module TPM V2.0 (Infineon SLB 9665)

*D3446-S2 only!

TECHNICAL INFORMATION

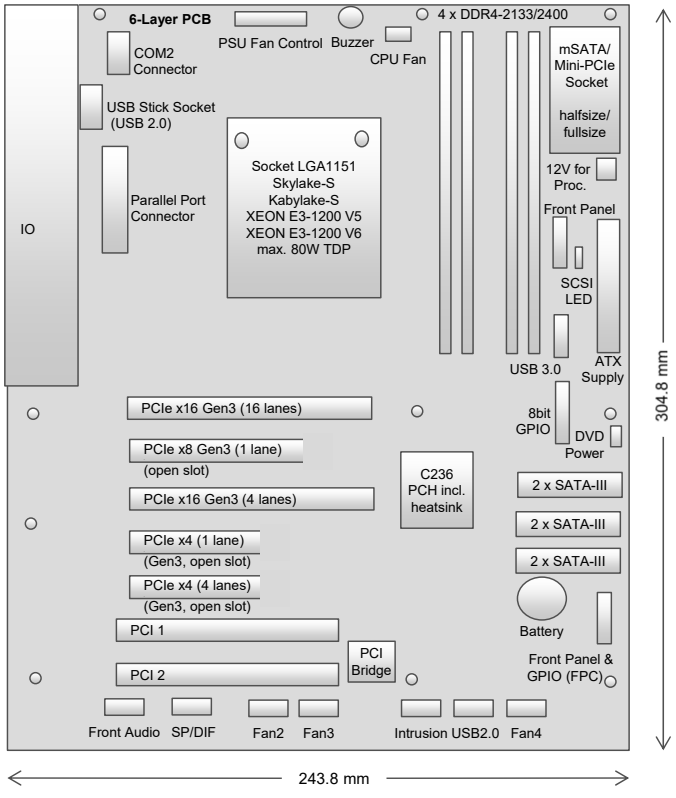
SYSTEM CONTROL	FP HEADER	1x Header for Reset button, HDD LED & External Speaker, Power button, Power LED
	SECURITY	Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial/USB- Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Infineon Trusted Platform Module (TPM) V1.2-SLB9660 / V2.0-SLB9665.
SOFTWARE	OS SUPPORT	MS Windows 7-32/64 (D3446-S1 only) MS Windows 8.1-64 (D3446-S1 only) MS Windows 10-64 MS Server 2008 R2 / 2012 R2 (D3446-S1 only) MS Server 2016 Linux 32/64
MECHANICAL	DIMENSIONS (L x W)	ATX: 9.6" x 12" (243.8 x 304.8 mm)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
CERTIFICATION	EMC & SAFETY	cTÜVus acc. IEC 62368-1, CE Class B, FCC-B verified

POWER SUPPLY REQUIREMENTS

SOURCE	VOLTAGE	MIN. PS LOAD	MAX. VOLTAGE TOLERANCE	MOTHERBOARD CAPACITIVE LOAD	MOTHERBOARD MAX. CURRENT (continous)
Main Power Supply	+ 12 V	0.05 A	± 5 %	5.000 µF	10 A / 15 A [1]
	- 12 V	0 A	± 10 %	470 µF	0.3 A
	+ 5 V	0.2 A	± 5 %	3.000 µF	6.0 A
	+ 3.3 V	0 A	± 5 %	3.000 µF	0.5 A
Aux. Power	+ 5 Vaux	0 A	+ 5 % / - 3 %	3.000 µF	2.5 A

[1] Max. Cont. Current = 10 A; max. Surge Current = 12 A (< 100 sec) / 15 A (< 10 ms)

CONNECTOR / SOCKET DIAGRAM



TECHNICAL INFORMATION

FEATURES	Board Size / Chipset	ATX / iC236
	VGA* / DVI-I / DVI-D / DP V1.2 / 2nd DP V1.2 / LVDS	- / - / + / + / + / -
	Buzzer / int. Speaker Support / 5.1 Multichannel Audio	+ / + / +
	Dual LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot	+ / + / + / + / +
	iAMT 11.0 / Intel Standard Manageability / DASH V1.1	+ / + / +
	SATA / ATA / RAID / eSATA-Support / mSATA / M.2 SSD**	+ / - / + / + / + / -
	FireWire™ / USB 2.0 / USB 3.0	- / + / +
	FAN monitored & controlled PSU*** / CPU / AUX1 / AUX2 / AUX3	+ / + / + / + / +
	TEMP monitored CPU / onboard sensors / external sensor	+ / + / -
SPECIAL FEATURES	Silent Fan / Silent Fan LT / System Guard / Silent Drives	+ / - / + / +
	Recovery BIOS / Desk Update / Multi Boot	+ / + / +
	HDD Password / HDD Encryption / EraseDisk / TPM	+ / - / + / +
	BIOS POST Watchdog / BIOS Boot Watchdog / OS HW Watchdog	+ / + / +
	Logo Boot Option	+
	High Efficiency Core Voltage Regulator Design	+
	Operating Mode 24-7 / 8-5 (hrs per day - days per week)	+ / -
	Mainboard operating temperature range (chassis inside)	0 °C – 60 °C
INTERNAL CONNECTORS	DIMM Sockets (DDR4-2133)	4
	PCI Express® x16 (16 Lanes, Gen3) / x16 (4 Lanes, Gen3)	1 / 1
	PCI Express® x8 (1 Lane Gen3)	1
	PCI Express® x4 (4 Lanes, Gen3) / x4 (1 Lane Gen3)	1 / 1
	PCI Slots (32Bit, 33 MHz, Rev. 2.3) / Mini-PCI Express****	2 / 1
	SATA-600 / SATA-300 / mSATA**** / M.2 SSD**	6 / - / 1 / -
	S/PDIF (digital Audio) OUT / IN	1 / -
	Frontpanel Audio (9-Pin, HD Audio & Legacy Audio AC97)	1
	USB 2.0 channels / USB 3.0 channels / USB Stick (2.0)	2 / 2 / 1
	Serial (COM2, RS232)	1
	FAN PSU*** / CPU / AUX1 / AUX2***** / AUX3	1 / 1 / 1 / 1 / 1
	Intrusion (Case Open) / GPIO (8Bit) / SMBus (Case Temp.)	1 / 1 / -
	Parallel Port Pin Connector******	1
	ATX Power Supply (24 pin + 4 pin) / 12V-only Power Supply	+ / -
EXTERNAL CONNECTORS	VGA Sub D2 / DVI-I / DVI-D / DisplayPort V1.2	- / - / 1 / 2
	D3446-S Audio Mic. In / Line in / Line out (or driver configuration)	1 / 1 / 1
	LAN (RJ-45)	2
	PS/2 Mouse / Keyboard	1 / 1
	USB 2.0 / USB 3.0	4 / 4
	Serial (COM1, RS232)	1
	Parallel (EPP/ECP)******	-

*) VGA possible via optional converter board D3453 or DP-VGA-converter (dongle); In total, only three graphics outputs can be used
**) M.2 support possible via D3352 M.2 Carrier Board (for PCIe/AHCI-based SSD module)
***) Not supported by standard Power Supplies
****) mSATA / Mini-PCI Express = shared socket (halfsize / fullsize support)
*****) One fan useable in PWM- or 3-pin mode (BIOS Option)
******) External parallel port possible via optional connector cable - Note: Intel limitation -> ECP-DMA-Mode no longer supported

ORDERING INFORMATION

ARTICLE	PART NO.	DESCRIPTION
D3446-S1 ATX	F5110-V118	Intel® Xeon® E3-1200 V5, Intel® Core™ i7/i5/i3 (6th Gen) & Intel® Pentium®/Intel® Celeron® (6th Gen) processor series, Intel® C236 Express Chipset
D3446-S2 ATX	F5110-V149	Intel® Xeon® E3-1200 V5/V6, Intel® Core™ i7/i5/i3 (6th/7th Gen) & Intel® Pentium®/Intel® Celeron® (6th/7th Gen) processor series, Intel® C236 Express Chipset

ACCESSORIES

ADAPTER BOARD PCIe TO M.2	F5000-M003	for WiFi modules
VGA CONVERTER BOARD	F5000-R008	D3453-A
SERIAL PORT CABLE	F5000-K005	400 mm, fullsize slot bracket
M.2 CARRIER BOARD	F5000-M001	1x M.2

Global Headquarters

Kontron S&T AG

Lise-Meitner-Str. 3-5
86156 Augsburg, Germany
Tel.: + 49 821 4086 0
Fax: + 49 821 4086 111
info@kontron.com
www.kontron.com

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