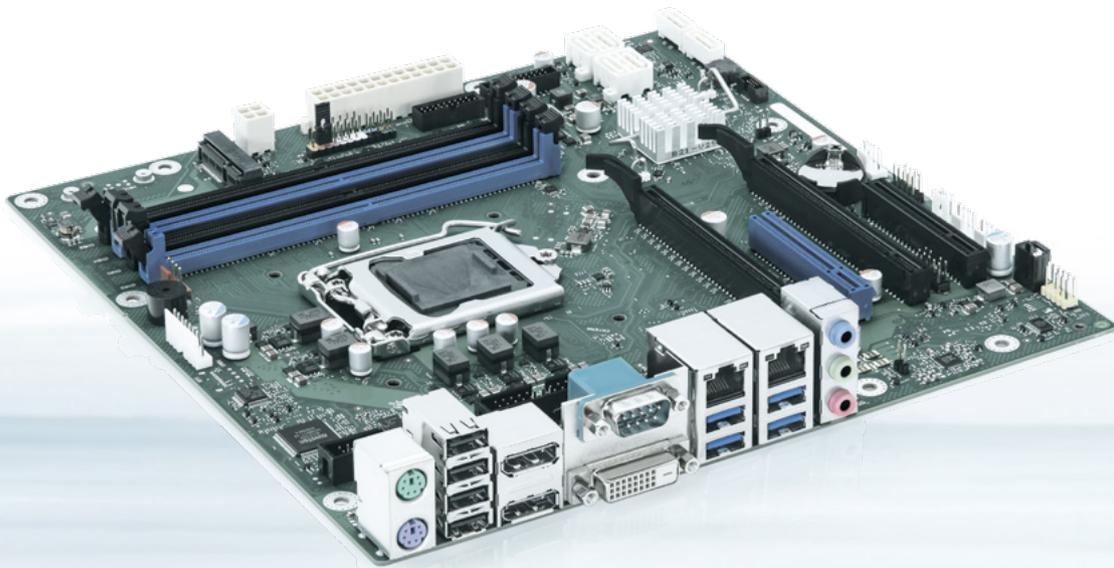


D3441-S μ ATX

Industrial Series



Intel® Q170 Express Chipset and Intel® 6th/7th Gen Core™ i3/i5/i7 Processors

- ▶ Supporting Intel® AMT 11.0/vPro 2015
- ▶ Onboard Support for Mini-PCI Express® and mSATA
- ▶ PCI Express® Gen3
- ▶ USB 2.0/3.0 and USB 2.0 Socket (Stick)

POSSIBILITIES START HERE



D3441-S µATX

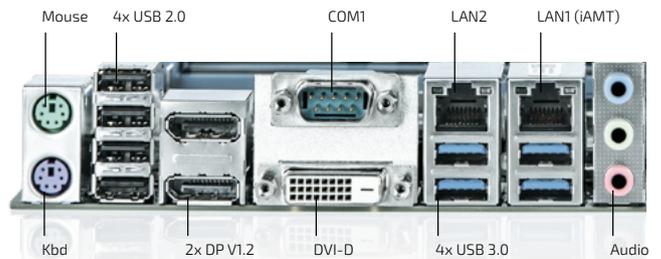
Industrial Series

The Kontron Industrial Motherboard D3441-S µATX is equipped with the highly performant Intel® Q170 Express Chipset and supports the Intel® 6th and 7th Generation Core™ series processors. Supporting 24/7 operation mode and an extended temperature range up to

60 °C the Kontron D3441-S µATX provides high functionality and fits perfect with special requirements of certain markets. It offers extended manageability with Intel® iAMT 11.0 and vPro 2015.

▶ PRODUCT HIGHLIGHTS

- ▶ Intel® iAMT 11.0 / vPro 2015
- ▶ Onboard support for Mini-PCI Express® and mSATA
- ▶ Intel® HD Graphics; PCI Express Gen3
- ▶ Multichannel Audio & Dual Intel® GbE LAN
- ▶ USB 2.0/3.0 and USB 2.0 socket (stick)
- ▶ Trusted Platform Module V2.0 (Infineon)
- ▶ HW Watchdog



▶ TECHNICAL INFORMATION

SYSTEM	PROCESSOR	Intel® Core™ i7/i5/i3 (6th/7th* Gen) processor series Intel® Pentium®/Celeron® (6th/7th* Gen) processor series Socket LGA1151, max. 65W TDP
	CHIPSET	Intel® Q170 Express Chipset
	MEMORY	4 DIMM Sockets DDR4, max. 64 GByte, Dual Channel, 2133 MHz (CL15) & 2400 MHz (CL17), UDIMM, 1.2 V/2.5 V, 288-pin, non-ECC. Effective memory speed depends on installed processor
VIDEO	GRAPHICS	Intel® UHD 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, iAMT 11.0/vPro Support, 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, 2x USB 2.0 channels, 4x USB 3.0, 2x USB 3.0 channels, 1x USB 2.0 stick
	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 Serial ATA III 600 Interface (up to 6Gbit/s), NCQ, AHCI, RAID 0/1/5/10, 1x mSATA
	PCIe/PCI SLOTS	PCIe x16: 1x 16 lanes, Gen3/1x 4 lanes, Gen3 PCIe x8: 1x 4 Lanes, Gen3; 1x 1 Lane, Gen3 1x Mini-PCI Express®
POWER	CONNECTOR	ATX Power Supply (24+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. Boot support for M.2 Carrierboard D3352-A1 (PCIe-based SSD modules, AHCI/NVME). BIOS integrated HW Diagnostic Tool. Recovery BIOS, System and BIOS Password, Boot Sequence Control
	WATCHDOG	3 Level Watchdog (BIOS/BIOS Post/OS HW)
	REAL TIME CLOCK	Integrated
	TPM	TPM V2.0 (Infineon SLB9665; TCG compliant)

*D3441-S2 only

TECHNICAL INFORMATION

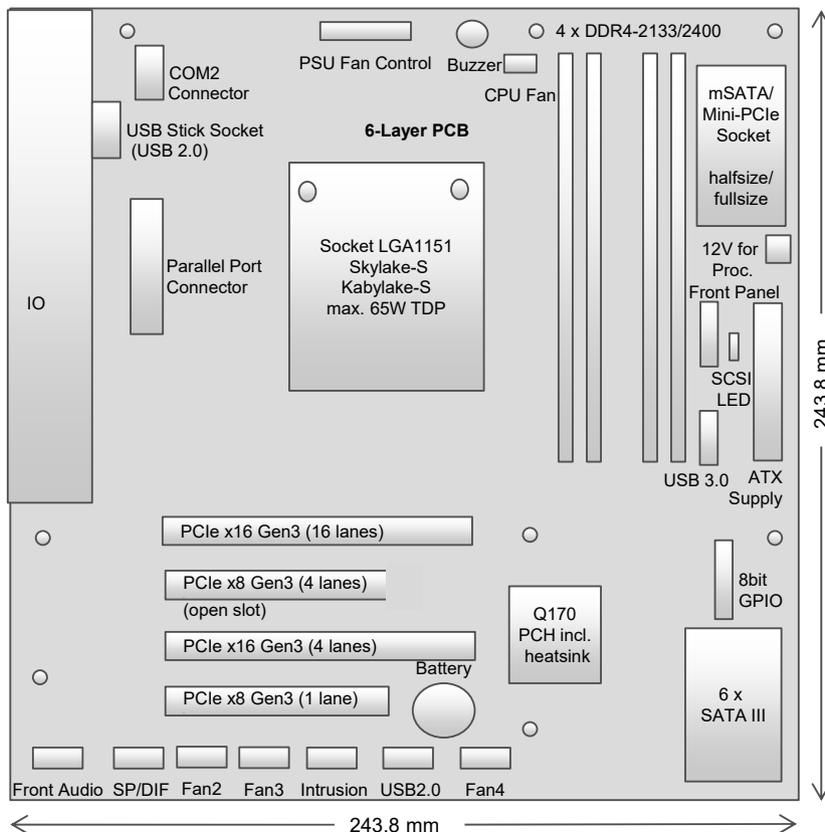
SYSTEM CONTROL	FP HEADER	1x Header for Reset button, HDD LED & External Speaker, Power button, Power LED Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial-/Parallel-/USB-Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Infineon Trusted Platform Module (TPM), Infineon SLB9665
	SECURITY	
SOFTWARE	OS SUPPORT	MS Windows 7 (D3441-S1 only) MS Windows 8.1 (D3441-S1 only) MS Windows 10 (D3441-S2 only) Linux
MECHANICAL	DIMENSIONS (L x W)	µATX: 9.6" x 9.6" (243.8 x 243.8 mm)
ENVIRONMENTAL	OPERATION TEMPERATURE	0 °C - 60 °C
CERTIFICATION	EMC & SAFETY	cTÜVus acc. IEC 62368, CE Class B, FCC-B verified

POWER SUPPLY REQUIREMENTS

SOURCE	VOLTAGE	MIN. PS LOAD	MAX. VOLTAGE TOLERANCE	MOTHERBOARD CAPACITIVE LOAD	MOTHERBOARD MAX. CURRENT (continuous)
Main Power Supply	+ 12 V	0.05 A	± 5 %	5.000 µF	8 A / 12 A*
	- 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	+ 5 Vaux	0 A	+ 5 % / - 3 %	3.000 µF	2.5 A

*) Max. Cont. Current = 8A; max. Surge Current = 10A (< 100sec) / 12A (< 10ms)

CONNECTOR / SOCKET DIAGRAM



▶ TECHNICAL INFORMATION

FEATURES	Chipset / Board Size VGA* / DVI-I / DVI-D / DP V1.2 / 2nd DP V1.2 / LVDS Stereo Audio / 5.1 Multichannel Audio Buzzer / int. Speaker Support Dual LAN Gbit / 100 Mbit / 10 Mbit / WoL / LAN Boot iAMT 11.0 vPro / 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	iQ170 / µATX - / - / + / + / + / - - / + + / + + / + / + / + / + + / + / + + / - / + / + / + / - - / + / + + / + / + / + / + + / + / -
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) Motherboard operating temperature range (chassis inside)	+ / - / + / + + / + / + + / - / + / + + / + / + + + + / - 0 °C – 60 °C
INTERNAL CONNECTORS	DIMM Sockets (DDR4-2133) PCI Express® x16 (16 Lanes, Gen3) / x16 (4 Lanes, Gen3) PCI Express® x8 (4 Lanes, Gen3) / x8 (1 Lane Gen3) PCI Slots (32Bit, 33 MHz, Rev. 2.3) / Mini-PCI Express®**** SATA-600 / SATA-300 / mSATA***** / M.2 SSD S/PDIF (digital Audio) OUT / IN Frontpanel Audio (9-Pin, HD Audio & Legacy Audio AC97) USB 2.0 channels / USB 3.0 channels / USB Stick (2.0) Serial (COM2, RS232) FAN PSU*** / CPU / AUX1 / AUX2***** / Aux3 Intrusion (Case Open) / GPIO (8Bit) / SMBus (Case Temp.) Parallel Port Pin Connector***** ATX Power Supply (24 pin + 4 pin) / 12V-only Power Supply	4 1 / 1 1 / 1 - / 1 6 / - / 1 / - 1 / - 1 2 / 2 / 1 1 1 / 1 / 1 / 1 / 1 1 / 1 / - 1 + / -
EXTERNAL CONNECTORS	VGA Sub D* / DVI-I / DVI-D / DisplayPort V1.2 D3441-S Audio Mic. In / Line in / Line out (or driver configuration) LAN (RJ-45) PS/2 Mouse / Keyboard USB 2.0 / USB 3.0 Serial (COM1, RS232) Parallel (EPP/ECP)*****	- / - / 1 / 2 1 / 1 / 1 2 1 / 1 4 / 4 1 -

*) VGA possible via optional converter board D3453 or DP-VGA-converter (dongle)
**) M.2 support possible via D3352 M.2 Carrier Board (for PCIe/AHCI-based SSD modules)
***) 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
D3441-S1 µATX	F5110-V116	Intel® 6th Gen Core™, Intel® Q170 Express Chipset
D3441-S2 µATX	F5110-V148	Intel® 6th and 7th Gen. Core™, Intel® Q170 Express Chipset
ACCESSORIES		
VGA CONVERTOR CARD	F5000-R8	D3453-A
SERIAL PORT CABLE	F5000-K5	400 mm, fullsize slot bracket
M.2 CARRIER BOARD	F5000-M1	D3352-A1
MINI PCIe TO M.2 ADAPTER	F5000-M3	D3436-S

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