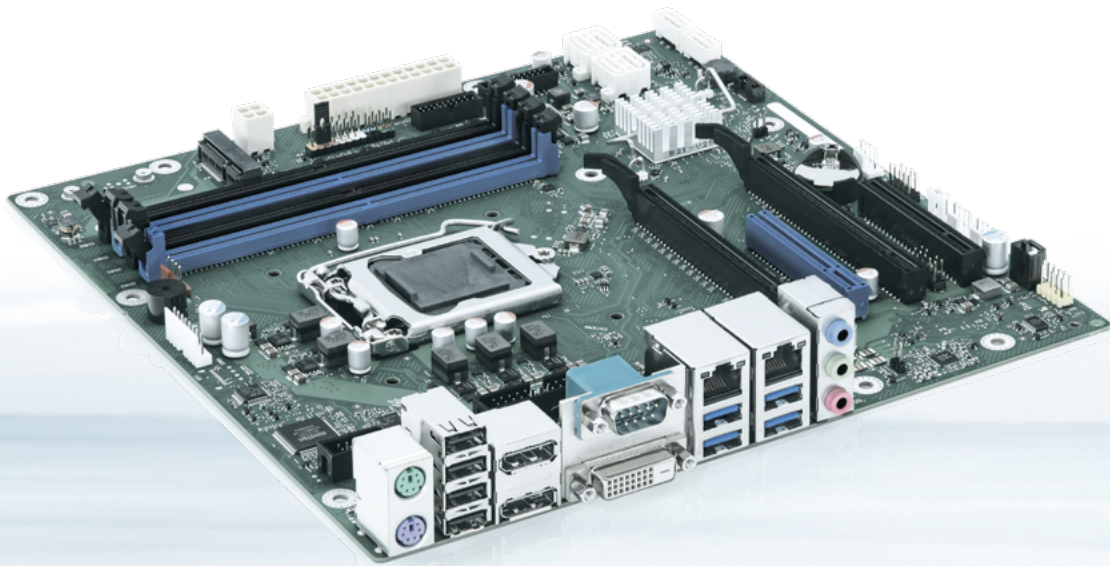


# D3441-S $\mu$ ATX

## Industrial Series

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### 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

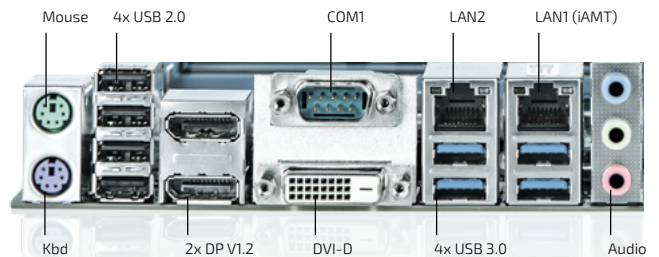
## Industrial Series

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

<b>SYSTEM</b>	<b>PROCESSOR</b>	Intel® Core™ i7/i5/i3 (6th/7th* Gen) processor series Intel® Pentium®/Celeron® (6th/7th* Gen) processor series Socket LGA1151, max. 65W TDP
	<b>CHIPSET</b>	Intel® Q170 Express Chipset
	<b>MEMORY</b>	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
<b>VIDEO</b>	<b>GRAPHICS</b>	Intel® UHD Graphics (depends on installed processor), DX12
<b>AUDIO</b>	<b>AUDIO CODEC</b>	Realtek ALC671
	<b>AUDIO INTERFACE</b>	5.1- channel, High Definition Audio Codec
<b>NETWORK CONNECTION</b>	<b>ETHERNET</b>	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
<b>PERIPHERAL CONNECTION</b>	<b>USB</b>	4x USB 2.0, 2x USB 2.0 channels, 4x USB 3.0, 2x USB 3.0 channels, 1x USB 2.0 stick
	<b>SERIAL PORT</b>	2x RS232 (1x by header)
	<b>PARALLEL PORT</b>	1x (by header)
	<b>OTHER I/Os</b>	1x 8-Bit GPIO (by header)
<b>STORAGE &amp; EXPANSION</b>	<b>SATA</b>	6x Serial ATA III 600 Interface (up to 6Gbit/s), NCQ, AHCI, RAID 0/1/5/10, 1x mSATA
	<b>PCIe/PCI SLOTS</b>	PCIe x16: 1x 16 lanes, Gen3/1x 4 lanes, Gen3 PCIe x8: 1x 4 Lanes, Gen3; 1x 1 Lane, Gen3 1x Mini-PCI Express®
<b>POWER</b>	<b>CONNECTOR</b>	ATX Power Supply (24+4 Pin)
<b>FIRMWARE</b>	<b>BIOS</b>	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
	<b>WATCHDOG</b>	3 Level Watchdog (BIOS/BIOS Post/OS HW)
	<b>REAL TIME CLOCK</b>	Integrated
	<b>TPM</b>	TPM V2.0 (Infineon SLB9665; TCG compliant)

\*D3441-S2 only

## TECHNICAL INFORMATION

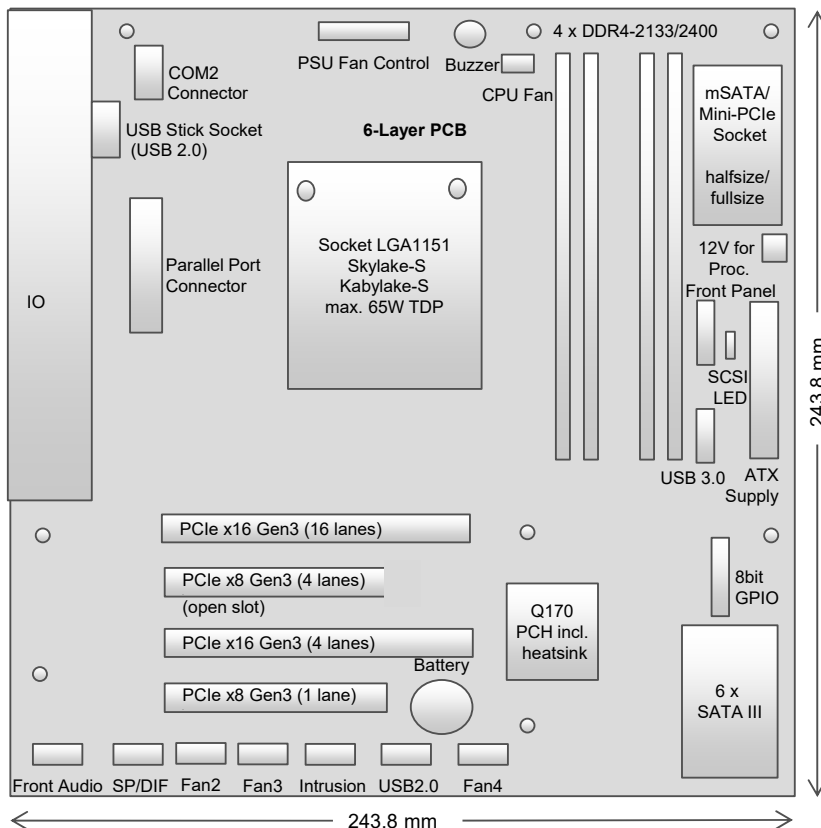
<b>SYSTEM CONTROL</b>	<b>FP HEADER</b>	1x Header for Reset button, HDD LED & External Speaker, Power button, Power LED Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial-/Parallel-/USB-Port Access Protection, Boot Sector Virus Warning, Write Protection for Flash BIOS, EraseDisk (BIOS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

<b>FEATURES</b>	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 - / - / + / + / + / - - / + + / + + / + / + / + / + + / + / + + / - / + / + / + / - - / + / + + / + / + / + / + + / + / -
<b>SPECIAL FEATURES</b>	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
<b>INTERNAL CONNECTORS</b>	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 + / -
<b>EXTERNAL CONNECTORS</b>	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
<b>ACCESSORIES</b>		
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

## ▶ GLOBAL HEADQUARTERS

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