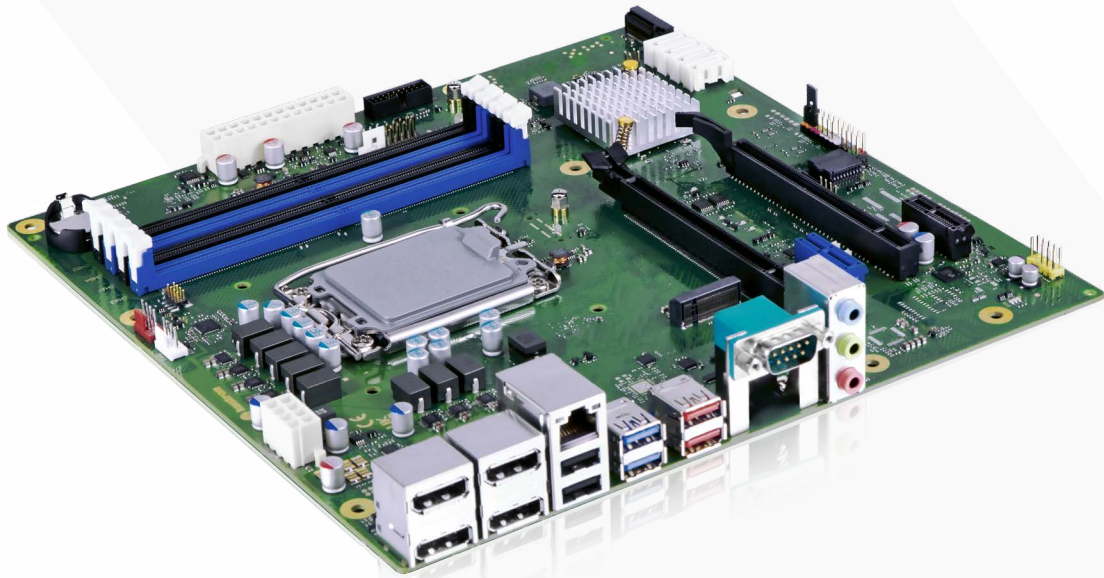


# K3843-B $\mu$ ATX

## Extended Lifecycle Series



### Intel® B660 Chipset and Intel® Core™ processors (12th/13th/14th Gen)

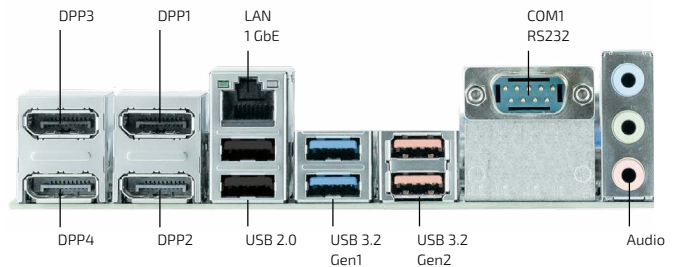
- Cost-effective iB660 platform
- Latest DDR5 memory technology for best-in-class system performance
- Intel® UHD Graphics 7xx driven by X<sup>e</sup> Architecture
- Dual M.2 Key-M SSD sockets onboard
- Powerful USB 3.2 Gen2, 1x COM (RS-232)

## K3843-B µATX Extended Lifecycle Series

The Extended Lifecycle Motherboard K3843-B µATX is equipped with the highly performant Intel® B660 Chipset. It also offers a multitude of supporting processors such as the Intel® Core™

i9/i7/i5/i3 processor (12th/13th/14th Gen) and the Intel® Pentium®/Intel® Celeron® processor series. Designed and approved for 24/7 continuous operation.

- Intel® Core™ processors (12th/13th/14th Gen)
- DDR5-4800 UDIMM, max. 128 GByte
- cTDP – Easy & flexible reduction of CPU TDP
- PCI Express® x16 (Gen5 @ CPU prepared, Gen4 @ PCH)
- 1x Intel® GbE LAN
- Intel® UHD Graphics 7xx driven by Xe Architecture; 4x DisplayPort V1.4a up to 8K
- Intel® High Definition Stereo Audio; Intel® integrated TPM V2.0
- 1x COM port
- 2x USB 3.2 Gen 2, 4x USB 3.2 Gen1, 4x USB 2.0
- 4x SATA 6G incl. RAID support
- 2x M.2 2280 (Key-M, PCIe/NVME SSD modules)



## Technical Information

<b>SYSTEM</b>	<b>PROCESSOR</b>	Intel® Core™ processors (12th/13th/14th Gen) *** Intel® Pentium®/Intel® Celeron® processor series Socket LGA1700, max. 125 W TDP (For details on supported processors please refer to Kontron FTP Server)
	<b>CHIPSET MEMORY</b>	Intel® B660 Chipset 4 DIMM Sockets DDR5-4800, max. 128 GByte, Dual Channel unbuffered, non-ECC Effective memory speed of DDR5-4800 modules according Intel® specification: 1x DIMM per channel = max. DDR5-4400** 2x DIMM per channel (single rank) = max. DDR5-4000 2x DIMM per channel (dual rank) = max. DDR5-3600
<b>VIDEO</b>	<b>GRAPHICS</b>	Intel® UHD Graphics 7xx (depends on installed processor), 4x DPP V1.4a up to 8K
<b>AUDIO</b>	<b>AUDIO CODEC AUDIO INTERFACE</b>	Tempo Semiconductor 92HD91B High Definition Stereo Audio Codec
<b>NETWORK CONNECTION</b>	<b>ETHERNET</b>	Intel® i219LM 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
<b>PERIPHERAL CONNECTION</b>	<b>USB</b>	2x USB 3.2 Gen 2 (rear I/O, Type-A), 2x USB 3.2 Gen1 (rear I/O, Type-A), 2x USB 2.0 (rear I/O, Type-A), 2x USB 3.2 Gen1 (by header), 2x USB 2.0 (by header)
	<b>SERIAL PORT</b>	1x RS232 (rear I/O)
<b>STORAGE &amp; EXPANSION</b>	<b>SATA M.2 PCIe/NVME PCIe/PCI SLOTS</b>	4x Serial ATA III 600 Interface (up to 6Gbit/s), NCQ, AHCI, RAID 0/1/5/10 2x M.2 2280 (Key-M, PCIe/NVME SSD modules) PCIe x16: 1x 16 lanes, Gen5 * /1x 1 lane, Gen4 PCIe x1: 2x Gen3, "closed slot"
<b>POWER</b>	<b>CONNECTOR INPUT VOLTAGE</b>	ATX (Multirail) plus 8-pin socket (12 V for CPU)

\*) PCIe x16 (PEG) slot: Gen5 support prepared, but not validated

\*\*) Modules DDR5-5600 can be installed, but the max. effective speed is limited to DDR5-4400 (Intel design limitation for 12th/13th/14th Gen processors @ 4 DIMM sockets)

\*\*\*) BIOS Revision 2.x.x must be installed before using a 13th/14th gen processor.

<b>FIRMWARE</b>	<b>BIOS</b>	AMI Aptio 5.x (UEFI) BIOS modified and adapted by Kontron; 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. HW No legacy OS support, no MBR installation (UEFI only)
<b>SYSTEM CONTROL</b>	<b>REAL TIME CLOCK TPM</b>	Integrated TPM V2.0 (Intel® integrated)
	<b>FP HEADER</b>	1x Header for Reset button, HDD LED & External Speaker, Power button, Power LED
	<b>SECURITY</b>	Recovery BIOS, System and BIOS Password, Boot Sequence Control, Serial/USB- Port Access Protection, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Trusted Platform Module (TPM)
<b>SOFTWARE</b>	<b>OS SUPPORT</b>	MS Windows 10, MS Windows 11, Linux-64 No legacy OS support, no MBR installation (UEFI only)
<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>	10 °C - 50 °C
<b>CERTIFICATION</b>	<b>EMC &amp; SAFETY</b>	cTÜVus acc. IEC62368-1, CE Class B, UKCA

## Power Supply Requirements

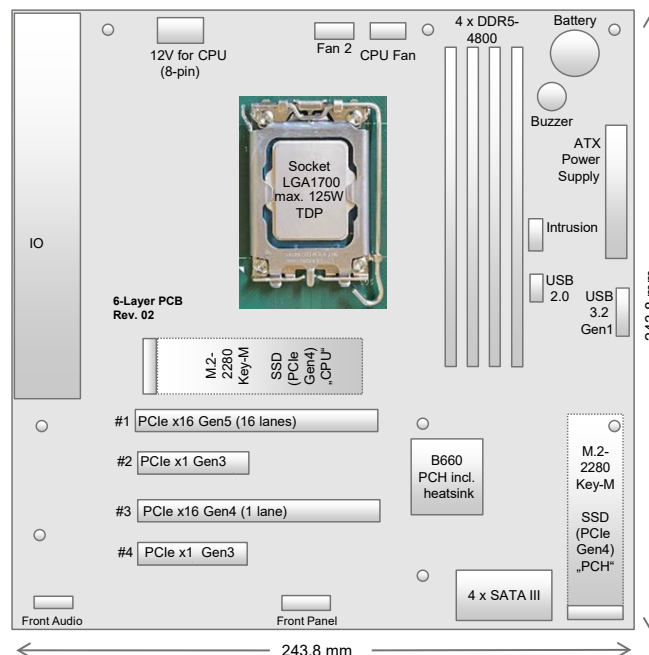
SOURCE	VOLTAGE	MIN. PS LOAD	MAX. VOLTAGE TOLERANCE	MOTHERBOARD CAPACITIVE LOAD	MOTHERBOARD MAX. CURRENT (continuous)*
Main Power Supply	+ 12 V	0 A	± 5 %	2.500 µF	15 A
	- 12 V	n.a.	n.a.	-	-
	+ 5 V	0 A	± 5 %	1.900 µF	6.0 A
	+ 3.3 V	0 A	± 5 %	1.100 µF	0.5 A
Aux	+ 5 Vaux	0 A	± 5 %	1.900 µF	2.5 A

\*) Max. motherboard input current incl. processor and DRAM memory. Additional power for drives, USB devices, PCIe cards etc. is not included! Note: BIOS provides option to reduce CPU TDP/Turbo power in order to use PSU with limited loadability.  
 Processor 125 W TDP: Max. Cont. Current < 15 A; max. Surge Current = 30 A (full Turbo Mode)  
 Processor 65 W TDP: Max. Cont. Current < 8 A; max. Surge Current = 26 A (full Turbo Mode)  
 Processor 35 W TDP: Max. Cont. Current < 5 A; max. Surge Current = 13 A (full Turbo Mode)

<b>FEATURES</b>	Board Size / Chipset VGA* / DVI / DPP / LVDS / eDP Stereo Audio / 5.1 Multichannel Audio / Front Panel Audio Buzzer / int. Speaker Support (mono) GbE LAN / 2.5GbE LAN / Dual 2.5GbE LAN WoL / LAN Boot / Teaming / TSN Intel® Standard Manageability / vPro Essentials / iAMT SATA / SATA RAID / M.2 SSD (NVME) / NVME RAID USB 2.0 / USB 3.2 Gen1 / USB 3.2 Gen2 / USB 3.2 Type-C FAN controlled & monitored / CPU / AUX1 / AUX2 / AUX3 TEMP monitored CPU / Onboard Sensors / External Sensor	µATX / B660 - / - / + / - / - + / - / + + / + + / - / - + / + / - / - - / - / - + / + / + / - + / + / + / - + / + / - / - + / + / -
<b>SPECIAL FEATURES</b>	Silent Fan / System Guard / cTDP Recovery BIOS / Flash Update / Multi Boot HDD Password / EraseDisk / TPM V2.0 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)**	+ / + / + + / + / + + / + / + - / - / - + + + / - 10 °C – 50 °C
<b>INTERNAL CONNECTORS</b>	DIMM Sockets (DDR5-4800) / ECC-Support PCI Express® x16: 16lanes-Gen5 / PCI Express® x16: 1 lane - Gen4 PCI Express® x1: Gen3-"open" / PCI Express® x1: Gen3-"closed" PCI Slots (32 Bit, 33 MHz, Rev. 2.3) / Mini-PCIe SATA-600 / M.2 Key-M (NVME SSD) / M.2 Key-B M.2 2230 (Key-E, PCIe & USB2.0 for WLAN/Bluetooth) S/PDIF (digital Audio) OUT / IN Front Panel Audio (9-Pin, HD Audio) USB 2.0 / USB 3.2 (Gen1) / USB 2.0 Stick / USB 3.2 (Gen2) Stick*** Fan CPU / AUX1 / AUX2 / AUX3 Intrusion (Case Open) / GPIO (8Bit) / SM-Bus (Case Temp.) Serial Port Header (COM, RS-232) / Parallel Port Header / PS2 Header Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin compatible) Multirail PSU (24 pin + 8 pin) / Single 12 V PSU	4 / - 1 / 1 - / 2 - / - 4 / 2 / - - - / - 1 1 / 1 / - / - 1 / 1 / - / - 1 / - / - - / - / - 1 + / -
<b>EXTERNAL CONNECTORS</b>	VGA Sub D* / DVI-I / DVI-D / DisplayPort V1.4a Audio Mic. In / Line in / Line out (or driver configuration) LAN (RJ-45) PS/2 Mouse / Keyboard USB 2.0 / USB 3.2 (Gen1) / USB 3.2 (Gen2) Serial (COM1, RS-232) Parallel (EPP/ECP)	- / - / - / 4 1 / 1 / 1 1 - / - 2 / 2 / 2 1 -

\*) VGA possible via DP-VGA-converter (dongle)  
 \*\*) Forced cooling required, see technical documentation for details  
 \*\*\*) Each internal USB connector (pin header) provides two USB ports (except for USB stick socket)

## Connector/Socket Diagram



# Ordering Information

K3843-B µATX

ARTICLE	PART NO.	DESCRIPTION
K3843-B µATX	F5110-V190	Intel® Core™ processors (12th/13th/14th Gen), Intel® B660 Chipset

## Accessories

M.2 CARRIER BOARD	S26361-F5000-M001	D3352-A1
SLIM HEATSINK LGA1700 65W	F5000-C030	Box contains 40x cooler plus 40x backplate

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