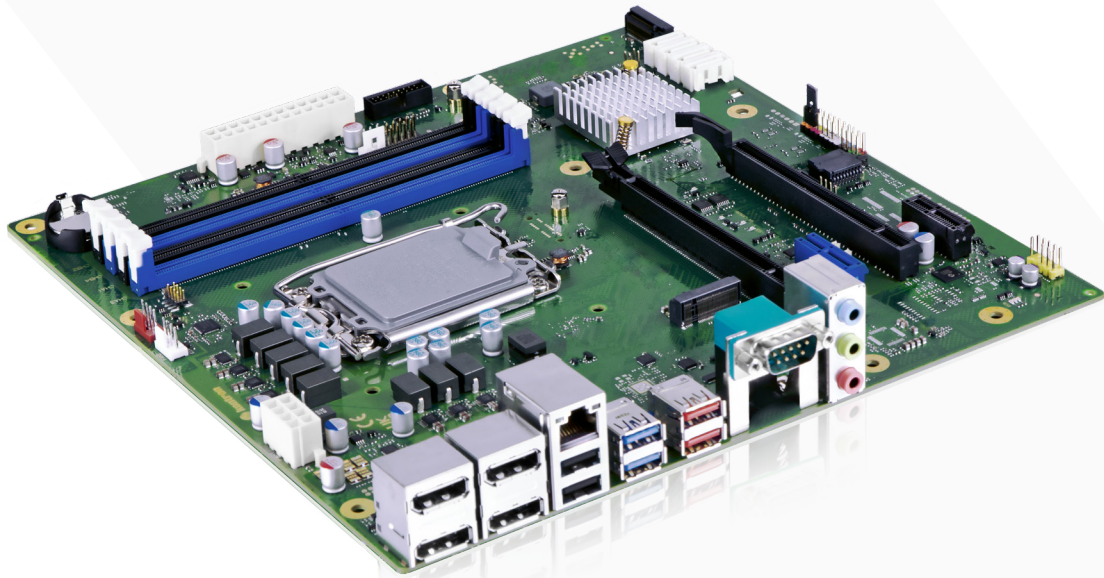


# K3843-B µATX

## Extended Lifecycle Series



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

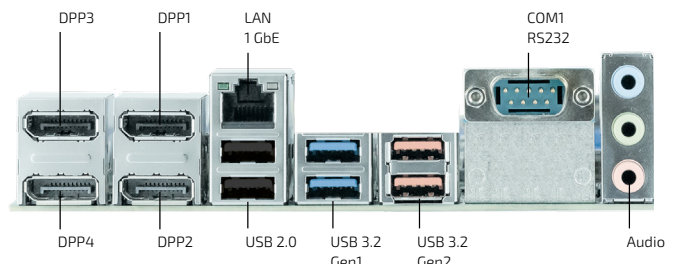
- Cost-effective iB660 platform
- Latest DDR5 memory technology for best-in-class system performance
- Intel® UHD Graphics 7xx driven by Xe Architecture
- Dual M.2 Key-M SSD sockets onboard
- Powerful USB 3.2 Gen2, 1x COM (RS-232)

## 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 4800/5600 UDIMM, max. 192 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 X<sup>e</sup> 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) *<br>Intel® Pentium®/Intel® Celeron® processor series<br>Socket LGA1700, max. 125 W TDP<br>(For details on supported processors please refer to Kontron FTP Server)                                                                                                        |
|                                | <b>CHIPSET</b>                 | Intel® B660 Chipset                                                                                                                                                                                                                                                                                                     |
|                                | <b>MEMORY</b>                  | 4 DIMM Sockets UDIMM DDR5-4800/5600**, max. 192 GByte<br>Dual Channel unbuffered, non-ECC<br>Effective memory speed of DDR5 modules according Intel® specification:<br>1x DIMM per channel = max. DDR5-4400**<br>2x DIMM per channel (single rank) = max. DDR5-4000<br>2x DIMM per channel (dual rank) = max. DDR5-3600 |
| <b>VIDEO</b>                   | <b>GRAPHICS</b>                | Intel® UHD Graphics 7xx (depends on installed processor),<br>4x DPP V1.4a up to 8K                                                                                                                                                                                                                                      |
| <b>AUDIO</b>                   | <b>AUDIO CODEC</b>             | Tempo Semiconductor 92HD91B                                                                                                                                                                                                                                                                                             |
|                                | <b>AUDIO INTERFACE</b>         | High Definition Stereo Audio Codec                                                                                                                                                                                                                                                                                      |
| <b>NETWORK CONNECTION</b>      | <b>ETHERNET</b>                | Intel® i219LM with 10/100/1000 MBit/s,<br>Wake-on-LAN (WoL) by interesting Packets, Link Status Change and<br>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),<br>2x USB 2.0 (rear I/O, Type-A), 2x USB 3.2 Gen1 (by header),<br>2x USB 2.0 (by header)                                                                                                                                                       |
|                                | <b>SERIAL PORT</b>             | 1x RS232 (rear I/O)                                                                                                                                                                                                                                                                                                     |
| <b>STORAGE &amp; EXPANSION</b> | <b>SATA</b>                    | 4x Serial ATA III 600 Interface (up to 6GBit/s), NCQ, AHCI, RAID 0/1/5/10                                                                                                                                                                                                                                               |
|                                | <b>M.2 PCIe/NVME</b>           | 2x M.2 2280 (Key-M, PCIe/NVME SSD modules)                                                                                                                                                                                                                                                                              |
|                                | <b>PCIe/PCI SLOTS</b>          | PCIe x16: 1x 16 lanes, Gen5 *** /1x 1 lane, Gen4<br>PCIe x1: 2x Gen3, "closed slot"                                                                                                                                                                                                                                     |
| <b>POWER</b>                   | <b>CONNECTOR INPUT VOLTAGE</b> | ATX (Multirail) plus 8-pin socket (12 V for CPU)                                                                                                                                                                                                                                                                        |

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

\*\*) Modules DDR5-4800/5600 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)

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

|                |                       |                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FIRMWARE       | BIOS                  | 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) |
| SYSTEM CONTROL | REAL TIME CLOCK TPM   | Integrated TPM V2.0 (Intel® integrated)                                                                                                                                                                                                                                                                                                                           |
|                | 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, Write Protection for Flash BIOS, EraseDisk (BIOS Feature), Trusted Platform Module (TPM)                                                                                                                                                                      |
| SOFTWARE       | OS SUPPORT            | MS Windows 10, MS Windows 11, Linux-64<br>No legacy OS support, no MBR installation (UEFI only)                                                                                                                                                                                                                                                                   |
| MECHANICAL     | DIMENSIONS (L x W)    | µATX: 9.6" x 9.6" (243.8 x 243.8 mm)                                                                                                                                                                                                                                                                                                                              |
| ENVIRONMENTAL  | OPERATION TEMPERATURE | 10 °C - 50 °C                                                                                                                                                                                                                                                                                                                                                     |
| CERTIFICATION  | EMC & SAFETY          | 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)

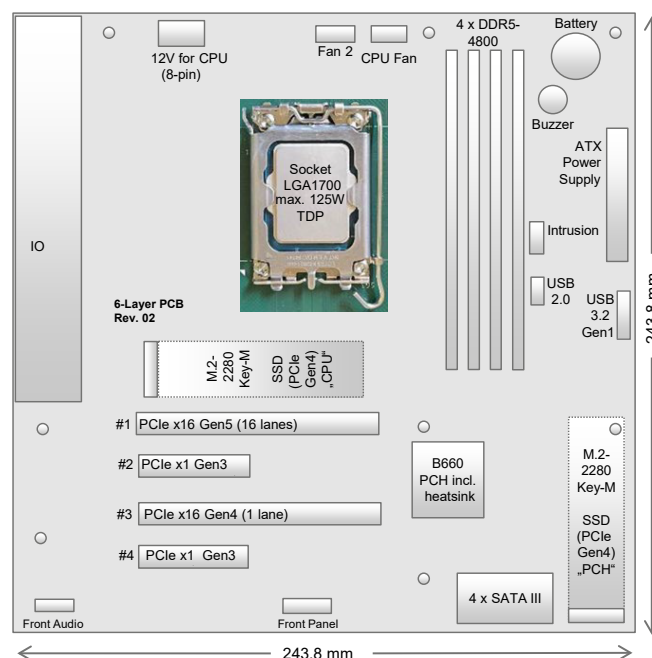
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                    |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FEATURES            | <p>Board Size / Chipset<br/>VGA* / DVI / DPP / LVDS / eDP<br/>Stereo Audio / 5.1 Multichannel Audio / Front Panel Audio<br/>Buzzer / int. Speaker Support (mono)<br/>GbE LAN / 2.5GbE LAN / Dual 2.5GbE LAN<br/>WoL / LAN Boot / Teaming / TSN<br/>Intel® Standard Manageability / vPro Essentials / iAMT<br/>SATA / SATA RAID / M.2 SSD (NVME) / NVME RAID<br/>USB 2.0 / USB 3.2 Gen1 / USB 3.2 Gen2 / USB 3.2 Type-C<br/>FAN controlled &amp; monitored / CPU / AUX1 / AUX2 / AUX3<br/>TEMP monitored CPU / Onboard Sensors / External Sensor</p>                                                                                                                                                                                                                                                                   | <p>µATX / B660<br/>- / - / + / - / -<br/>+ / - / +<br/>+ / +<br/>+ / - / -<br/>+ / + / - / -<br/>- / - / -<br/>+ / + / + / -<br/>+ / + / + / -<br/>+ / + / - / -<br/>+ / + / -</p> |
| SPECIAL FEATURES    | <p>Silent Fan / System Guard / cTDP<br/>Recovery BIOS / Flash Update / Multi Boot<br/>HDD Password / EraseDisk / TPM V2.0<br/>BIOS POST Watchdog / BIOS Boot Watchdog / OS HW Watchdog<br/>Logo Boot Option<br/>High Efficiency Core Voltage Regulator Design<br/>Operating Mode 24-7 / 8-5 (hrs per day - days per week)<br/>Motherboard operating temperature range (chassis inside)**</p>                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>+ / + / +<br/>+ / + / +<br/>+ / + / +<br/>- / - / -<br/>+<br/>+<br/>+ / -<br/>10 °C – 50 °C</p>                                                                                 |
| INTERNAL CONNECTORS | <p>DIMM Sockets (DDR5-4800/5600) / ECC-Support<br/>PCI Express® x16: 16lanes-Gen5 / PCI Express® x16: 1 lane – Gen4<br/>PCI Express® x1: Gen3-"open" / PCI Express® x1: Gen3-"closed"<br/>PCI Slots (32 Bit, 33 MHz, Rev. 2.3) / Mini-PCIe<br/>SATA-600 / M.2 Key-M (NVME SSD) / M.2 Key-B<br/>M.2 2230 (Key-E, PCIe &amp; USB2.0 for WLAN/Bluetooth)<br/>S/PDIF (digital Audio) OUT / IN<br/>Front Panel Audio (9-Pin, HD Audio)<br/>USB 2.0 / USB 3.2 (Gen1) / USB 2.0 Stick / USB 3.2 (Gen2) Stick***<br/>Fan CPU / AUX1 / AUX2 / AUX3<br/>Intrusion (Case Open) / GPIO (8Bit) / SM-Bus (Case Temp.)<br/>Serial Port Header (COM, RS-232) / Parallel Port Header / PS2 Header<br/>Front Panel (Power Switch, Reset Switch, LEDs, Intel 10 pin compatible)<br/>Multirail PSU (24 pin + 8 pin) / Single 12 V PSU</p> | <p>4 / -<br/>1 / 1<br/>- / 2<br/>- / -<br/>4 / 2 / -<br/>-<br/>- / -<br/>1<br/>1 / 1 / - / -<br/>1 / 1 / - / -<br/>1 / - / -<br/>- / - / -<br/>1<br/>+ / -</p>                     |
| EXTERNAL CONNECTORS | <p>VGA Sub D* / DVI-I / DVI-D / DisplayPort V1.4a<br/>Audio Mic. In / Line in / Line out (or driver configuration)<br/>LAN (RJ-45)<br/>PS/2 Mouse / Keyboard<br/>USB 2.0 / USB 3.2 (Gen1) / USB 3.2 (Gen2)<br/>Serial (COM1, RS-232)<br/>Parallel (EPP/ECP)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>- / - / - / 4<br/>1 / 1 / 1<br/>1<br/>- / -<br/>2 / 2 / 2<br/>1<br/>-</p>                                                                                                       |

\*) 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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