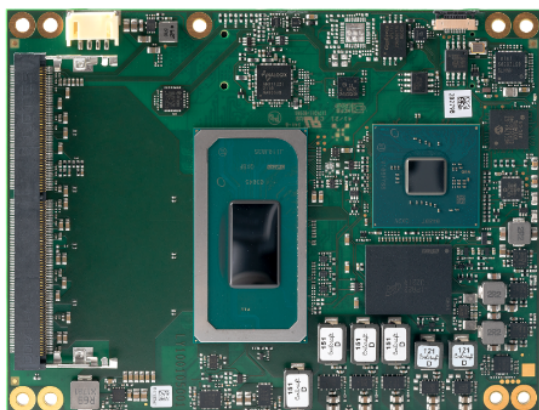


## TRIA C6B-TLH

Intel® Core™ 11th Generation



125 x 95

35 / 60 W

-40 +85

**COM**   
**Express**



## Highlights

- 11th Gen Intel® Core™ processors
- Scalable CPU performance
- Up to eight cores, 16 threads
- Up to 64GB DDR4-3200 SDRAM, dual channel
- Optional ECC
- Intel® UHD Graphics
- Three DisplayPort/HDMI interfaces
- LVDS and Embedded DisplayPort interface
- Up to four independent displays
- Eight PCI Express® x1 lanes, configurable up to x4, Intel® RST support
- PEG configurable as 1×16 or 2×8 or 1×8 + 2×4, PCIe Gen 4 / 3
- Four USB 3.1 Gen1/2 and eight USB 2.0 ports
- Two UARTs
- Optional on-board NVMe SSD, up to 256GB
- Four SATA 6Gb/s mass storage interfaces
- 1 / 2.5 Gb Ethernet port
- TSN, TCC support (optional)
- Trusted Platform Module TPM 2.0

# COM Express Type 6



- Industrial temperature range and 24/7 support
- Long-term product availability

## Technical Data

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technology</b>         | x86                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Formfactor</b>         | COM Express Basic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>CPU</b>                | <p>Intel® Core™ Processor i7-11850HE, 8C/16T, 2.6/4.7 GHz, 32EUs, 24M L3, 45/ 35W TDP/cTDP down</p> <p>Intel® Core™ Processor i5-11500HE, 6C/12T, 2.6/4.5 GHz, 32EUs, 12M L3, 45/ 35W TDP/cTDP down</p> <p>Intel® Core™ Processor i3-11100HE, 4C/8T, 2.4/4.4 GHz, 16EUs, 8M L3, 45/35W TDP/cTDP down</p> <p>Intel® Celeron® Processor 6600HE, 2C/2T, 2.6 GHz, 16EUs, 8M L3, 35W TDP</p> <p>Intel® Xeon® Processor W-11865MRE, 8C/16T, 2.6/4.7 GHz, 32EUs, 24M L3, 45/ 35W TDP/cTDP down, extended temperature</p> <p>Intel® Xeon® Processor W-11555MRE, 6C/12T, 2.6/4.5 GHz, 32EUs, 12M L3, 45/ 35W TDP/cTDP down, extended temperature</p> <p>Intel® Xeon® Processor W-11155MRE, 4C/8T, 2.4/4.4 GHz, 16EUs, 8M L3, 45/ 35W TDP/cTDP down, extended temperature</p> <p>Intel® Xeon® Processor W-11865MLE, 8C/16T, 1.5/4.5 GHz, 32EUs, 24M L3, 25W TDP</p> <p>Intel® Xeon® Processor W-11555MLE, 6C/12T, 1.9/4.4 GHz, 32EUs, 12M L3, 25W TDP</p> <p>Intel® Xeon® Processor W-11155MLE, 4C/8T, 1.8/3.1 GHz, 16EUs, 8M L3, 25W TDP</p> <p>Notes: Support for 24/7 operation supported by selected processor variants. Please see the order reference for details. Additional configuration settings may apply. Max. turbo frequencies vary based on processor variant and number of active cores. Please contact Tria Technologies for further information.</p> |
| <b>Chipset</b>            | Intel® Platform Controller Hubs (PCH) RM590E, QM580E or HM570E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>RAM</b>                | <p>2x 260-pin SO-DIMM socket for up to 2x 32GB DDR4 SDRAM (DDR4-3200<sup>1</sup>); dual channel operation; minimum capacity 1x 8GB single channel operation; ECC option<sup>12</sup></p> <p><sup>1</sup> Depending on SO-DIMM type</p> <p><sup>2</sup> ECC supported on models with industrial processor variants (Intel® Xeon® W-11000E Series Processor) and PCH RM590E</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Storage Interfaces</b> | <p>4x SATA channels (up to 6Gb/s)</p> <p>Optional on-board NVMe, 128GB, 256GB</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>USB</b>                | <p>4x USB 3.1 (Gen 1 &amp; 2),</p> <p>8x USB 2.0</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Serial Interfaces</b>  | 2x high-speed serial ports from PCH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Bus Interfaces</b>     | <p>8x PCI Express® x1 Gen 3,</p> <p>1x PCI Express® Graphics (PEG) x 16 Gen 4 and 3</p> <p>LPC bus (Low Pin Count bus; no DMA support)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Display Controller</b> | <p>Integrated Intel® UHD graphics</p> <p>Up to 32 execution units (EU)</p> <p>3D Acceleration: DirectX® 12.1, OpenGL 4.6, OpenCL™ 2.0;</p> <p>Video Decode/Encode: MPEG2, JPEG, HEVC, VP9, SCC, AV1, AVC</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Display Interfaces</b> | <p>Four independent displays supported</p> <p>3x Digital Display Interface (DP 1.4, HDMI 2.0b)</p> <p>1x Embedded DisplayPort 1.4b</p> <p>1x LVDS 24bit, dual-channel;</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Network Interface</b>  | <p>10/100/1000Base-TX, 2.5G, TSN support</p> <p>I-Temp variants: Intel® i225-IT</p> <p>C-Temp variants: Intel® i225-LM</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Audio Interface</b>    | High Definition Audio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Security Device</b>    | TPM 2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Miscellaneous</b>      | <p>Watchdog Timer:</p> <p>Initiates system reset, programmable</p> <p>Fan Supply:</p> <p>4-pin header for CPU fan, PWM speed controlled and PWM speed control for system fan supported</p> <p>RTC battery:</p> <p>external</p> <p>System Monitoring:</p> <p>voltage, temperature, CPU fan, system fan</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

# COM Express Type 6



|                           |                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Feature Highlights</b> | Type 6 pin-out                                                                                                                                                                                                                                                                                                                                      |
| <b>Firmware</b>           | UEFI Firmware:<br>AMI Aptio® V<br>Security:<br>TPM 2.0 support, TCG compliant<br>Power Management:<br>ACPI<br>Active fan control<br>USB:<br>USB legacy support (keyboard, mouse, storage)<br>Monitoring:<br>System Monitoring<br>Health Monitoring<br>Tria Adv. Boot Device Selection:<br>Boot device priority setting based on physical interfaces |
| <b>OS Support</b>         | Windows 10 IoT Enterprise RS5 (64bit)<br>BSP for Linux (Yocto)                                                                                                                                                                                                                                                                                      |
| <b>Power Requirement</b>  | Voltage:<br>+8.5V to +20V, +5V Stby optional<br>Power Consumption:<br>35W to 60W (typ.)                                                                                                                                                                                                                                                             |
| <b>Environment</b>        | Ambient Temperature;<br>0° ... 60°C (operating)<br>-25° ... 85°C (storage)<br>Extended temp. variants:<br>-40 ... +85°C (operating)<br><br>Humidity:<br>5 ... 95% (operating, non-condensing),<br>5 ... 95% (storage, non-condensing)                                                                                                               |
| <b>Dimensions</b>         | 125 x 95                                                                                                                                                                                                                                                                                                                                            |
| <b>Certificates</b>       | UL / CE                                                                                                                                                                                                                                                                                                                                             |

Technical Data for TRIA C6B-TLH

## Order Reference

| Order No. | Description                                                                                                                                                                                                                                                                                                                                                                                        | Reference                           | Status* |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------|
| 94744     | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel i7-11850HE 8C/16T, 2.6GHz, 45/35W cTDP; PCH: QM580E;<br>Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP;<br>Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4;<br>0...+60°C.                                                      | MSC C6B-TLH-11850HE-NN0301C PCBFTX  | PV      |
| 94720     | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel i5-11500HE 6C/12T, 2.6GHz, 45/35W cTDP; PCH: QM580E;<br>Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP;<br>Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4;<br>0...+60°C.                                                      | MSC C6B-TLH-11500HE-NN0301C PCBFTX  | PV      |
| 110532    | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel i3-11100HE 4C/8T, 2.4GHz, 45/35W cTDP; PCH: HM570E;<br>Graphics: Intel UHD 16 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP,<br>Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4;<br>0...+60°C.                                                       | MSC C6B-TLH-11100HE-NN0301C PCBFTX  | PV      |
| 94750     | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel Celeron 6600HE 2C/2T, 2.6GHz, 35W TDP; PCH: HM570E;<br>Graphics: Intel UHD 16 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP;<br>Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4;<br>0...+60°C.                                                       | MSC C6B-TLH-6600HE-NN0301C PCBFTX   | OR      |
| 94752     | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel W-11555MRE 6C/12T, 2.6GHz, 45/35W cTDP; PCH: RM590E;<br>Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP;<br>Ethernet: Intel i225-IT Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4 or DDR4ECC SO-DIMM;<br>-40...+85°C, recommended for 24/7 operation. | MSC C6B-TLH-11555MRE-NN1301I PCBFTX | PV      |
| 94718     | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel W-11155MRE 4C/8T, 2.4GHz, 45/35W cTDP; PCH: RM590E;<br>Graphics: Intel UHD 16 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP;<br>Ethernet: Intel i225-IT Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4 or DDR4ECC SO-DIMM;<br>-40...+85°C, recommended for 24/7 operation.  | MSC C6B-TLH-11155MRE-NN1301I PCBFTX | PV      |

# COM Express Type 6



| Order No. | Description                                                                                                                                                                                                                                                                                                                                                                                  | Reference                           | Status * |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------|
| 94746     | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel W-11865MLE 8C/16T, 1.5GHz, 25W TDP; PCH: RM590E;<br>Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP;<br>Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4 or DDR4ECC SO-DIMM;<br>0...+60°C, recommended for 24/7 operation. | MSC C6B-TLH-11865MLE-NN1301C PCBFTX | PV       |
| 94742     | COM Express Type 6 Basic module (125mm x 95mm);<br>CPU: Intel W-11555MLE 6C/12T, 1.9GHz, 25W TDP; PCH: RM590E;<br>Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP;<br>Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0;<br>4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1;<br>2x socket for DDR4 or DDR4ECC SO-DIMM;<br>0...+60°C, recommended for 24/7 operation. | MSC C6B-TLH-11555MLE-NN1301C PCBFTX | PV       |

Ordering Information for TRIA C6B-TLH

\*PV = Preferred variant; OR = on Request (in OEM quantities only)

## Accessories

### Cooling Solutions

| Order No. | Description                                                                                                                                                                                                                                   | Reference                 |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 89031     | Passive Heatsink for C6B-TLH consisting of a singlepiece aluminum profile with fins, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU, chipset, NVMe.                                    | MSC C6B-TLH-01 HSI-001    |
| 89032     | Passive Heatsink / heat pipe for C6B-TLH consisting of a single-piece aluminum profile with fins and embedded heatpipe, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU, chipset, NVMe. | MSC C6B-TLH-01 HSI-HP-001 |
| 89033     | Heatspreader for C6B-TLH. Single-piece aluminum profile, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU, chipset, NVMe.                                                                | MSC C6B-TLH-01 HSP-001    |
| 89034     | Heatspreader / heat pipe for C6B-TLH. Single-piece aluminum profile with embedded heat pipe, standoffs without thread (2.7mm inner diameter), screws and thermopad for the thermal contact to CPU, chipset, NVMe.                             | MSC C6B-TLH-01 HSP-HP-001 |
| 89035     | Heatspreader for C6B-TLH. Single-piece aluminum profile, standoffs with M2.5 thread, screws and thermopads for the thermal contact to CPU, chipset, NVMe.                                                                                     | MSC C6B-TLH-02 HSP-001    |

Cooling Devices for TRIA C6B-TLH

| Order No. | Description                                                                                                                                                                                                      | Reference                 |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 79809     | Fan kit for Heatsink MSC HCA-ALP/RLP/MLH/PLH-0x HSI-xxx, MSC C6B-TLH/ALP/RLP/MLH-0x HSI-xxx, MSC C6C-WLU/TLU/ALP/RLP/PLH-0x HSI-xxx, MSC C6C-EL/ALN/ASL-0x HSI-xxx, MSC C6C-RYZx-0x HSI-xxx, PWM fan 80x80x15mm. | MSC C6C-FANKIT-01-HSF-001 |

Fan Kit for COM Express Heatsinks

### Memory Options

| Order No. | Description                                  | Reference                              |
|-----------|----------------------------------------------|----------------------------------------|
| 97869     | 16GB DDR4-3200 SO-DIMM, Commercial Temp.     | MOD SODIMM DDR4 16GB PC4-25600 CL22 2B |
| 97871     | 32GB DDR4-3200 SO-DIMM, Commercial Temp.     | MOD SODIMM DDR4 32GB PC4-25600 CL22 2B |
| 97867     | 8GB DDR4-3200 SO-DIMM, ECC, Commercial Temp. | MOD SODIMM DDR4 8GB PC4-25600 CL22 1B  |

Memory Options for TRIA C6B-TLH

# COM Express Type 6



Tria Technologies GmbH  
Industriestr. 16  
76297 Stutensee  
[info@tria-technologies.com](mailto:info@tria-technologies.com)  
[tria-technologies.com](http://tria-technologies.com)

Copyright © 2024 Tria Technologies GmbH. All data is for information purposes only and is subject to change without notice. No guarantee for legal purposes is implied. Information in this document has been carefully checked, however, no responsibility for inaccuracies has to be assumed. All brand or product names may be trademarks and property of their respective owners.