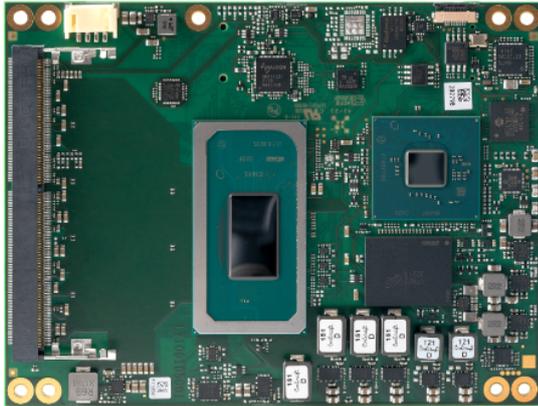


TRIA C6B-TLH

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

COM Express Type 6



Technical Data

Technology	x86
Formfactor	COM Express Basic
CPU	<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>
Chipset	Intel® Platform Controller Hubs (PCH) RM590E, QM580E or HM570E
RAM	<p>2x 260-pin SO-DIMM socket for up to 2x 32GB DDR4 SDRAM (DDR4-3200¹); dual channel operation; minimum capacity 1x 8GB single channel operation; ECC option¹²</p> <p>¹ Depending on SO-DIMM type</p> <p>² ECC supported on models with industrial processor variants (Intel® Xeon® W-11000E Series Processor) and PCH RM590E</p>
Storage Interfaces	<p>4x SATA channels (up to 6Gb/s)</p> <p>Optional on-board NVMe, 128GB, 256GB</p>
USB	<p>4x USB 3.1 (Gen 1 & 2),</p> <p>8x USB 2.0</p>
Serial Interfaces	2x high-speed serial ports from PCH
Bus Interfaces	<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>
Display Controller	<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>
Display Interfaces	<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>
Network Interface	<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>
Audio Interface	High Definition Audio
Security Device	TPM 2.0
Miscellaneous	<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



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

Technical Data for TRIA C6B-TLH

COM Express Type 6



Order Reference

Order No.	Description	Reference	Status *
94744	COM Express Type 6 Basic module (125mm x 95mm); CPU: Intel i7-11850HE 8C/16T, 2.6GHz, 45/35W cTDP; PCH: QM580E; Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP; Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4; 0...+60°C.	MSC C6B-TLH-11850HE-NN0301C PCBFTX	PV
94720	COM Express Type 6 Basic module (125mm x 95mm); CPU: Intel i5-11500HE 6C/12T, 2.6GHz, 45/35W cTDP; PCH: QM580E; Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP; Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4; 0...+60°C.	MSC C6B-TLH-11500HE-NN0301C PCBFTX	PV
110532	COM Express Type 6 Basic module (125mm x 95mm); CPU: Intel i3-11100HE 4C/8T, 2.4GHz, 45/35W cTDP; PCH: HM570E; Graphics: Intel UHD 16 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP, Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4; 0...+60°C.	MSC C6B-TLH-11100HE-NN0301C PCBFTX	PV
94750	COM Express Type 6 Basic module (125mm x 95mm); CPU: Intel Celeron 6600HE 2C/2T, 2.6GHz, 35W TDP; PCH: HM570E; Graphics: Intel UHD 16 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP; Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4; 0...+60°C.	MSC C6B-TLH-6600HE-NN0301C PCBFTX	OR
94752	COM Express Type 6 Basic module (125mm x 95mm); CPU: Intel W-11555MRE 6C/12T, 2.6GHz, 45/35W cTDP; PCH: RM590E; Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP; Ethernet: Intel i225-IT Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4 or DDR4ECC SO-DIMM; -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); CPU: Intel W-11155MRE 4C/8T, 2.4GHz, 45/35W cTDP; PCH: RM590E; Graphics: Intel UHD 16 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP; Ethernet: Intel i225-IT Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4 or DDR4ECC SO-DIMM; -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); CPU: Intel W-11865MLE 8C/16T, 1.5GHz, 25W TDP; PCH: RM590E; Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP; Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4 or DDR4ECC SO-DIMM; 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); CPU: Intel W-11555MLE 6C/12T, 1.9GHz, 25W TDP; PCH: RM590E; Graphics: Intel UHD 32 EUs; 3x DP/HDMI; 1x LVDS; 1x eDP; Ethernet: Intel i225-LM Gbit, TSN; HD audio; TPM 2.0; 4x SATA, 4x USB3, 8x USB2, PEG x16 Gen 4, PCIe Gen 3 1x4+4x1; 2x socket for DDR4 or DDR4ECC SO-DIMM; 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-0x HSI-xxx, MSC C6B-ALP/RLP/MLH-0x HSI-xxx, MSC C6B-TLH-0x HSI-xxx, MSC C6C-ALP/RLP-0x HSI-xxx, MSC C6C-TLU-0x HSI-xxx, MSC C6C-WLU-0x HSI-xxx, MSC C6C-ALN/ASL-0x HSI-xxx, MSC C6C-EL-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



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