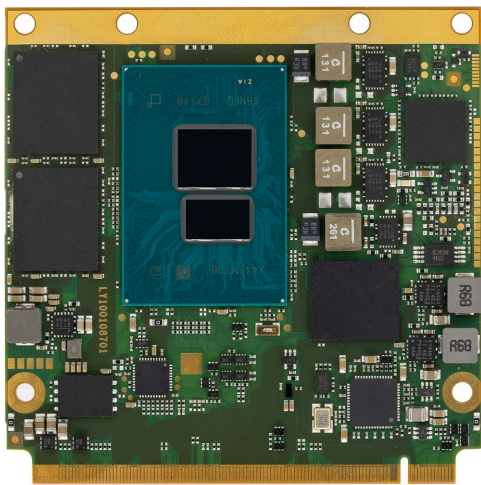


## TRIA Q7-ASL

Intel® Atom® Processors x7000RE/C Series



70 x 70 mm

11/ 19 W

-40 +85 °C

Q S E V E N



### Highlights

- Up to eight processing cores
- Power efficient processors, TDP 6 to 12W
- Integrated Intel UHD Gen.12 graphics, max. 32 executing units
- Up to 16GB LPDDR5 SDRAM, In-band ECC
- Up to 256GB eMMC 5.1 Flash (optional)
- 2x SATA-III interface (6Gbps)
- 1x DP++
- LVDS / Embedded DisplayPort
- Up to 4x PCI Express x1/x2/x4 Gen. 3
- 2x USB 3.1 Host interfaces
- 8x USB 2.0 Host interfaces
- 1x 1/2,5 Gigabit Ethernet (Intel® i226)
- 1x SGMII Interface on SATA-Port1 (optional)
- UART, SPI, I2C, SMBus.
- HD Audio
- Trusted Platform Module TPM 2.0
- Qseven 2.1 compliant

- UEFI Firmware

## Technical Data

<b>Technology</b>	x86
<b>Formfactor</b>	Qseven
<b>CPU</b>	Intel Atom® x7835RE, octa-core, 1.3GHz, 32EU, TCC, 12W, IUC, ET Intel Atom® x7433RE, quad-core, 1.5GHz, 32EU, TCC, 9W, IUC, ET Intel Atom® x7213RE, dual-core, 2.0GHz, 16EU, TCC, 9W, IUC, ET Intel Atom® x7211RE, dual-core, 1.0GHz, 16EU, TCC, 6W, IUC, ET Intel Atom® x7405C, quad-core, 2.2GHz, no GPU, TCC, 12W, EUC, CT Intel Atom® x7203C, dual-core, 2.0GHz, no GPU, TCC, 9W, EUC, CT Note: base frequency shown, other frequencies supported ET- Extended temperature CT- Commercial temperature EUC - Intel Embedded Use Conditions IUC - Intel Industrial Use Conditions
<b>Chipset</b>	Integrated in SOC
<b>RAM</b>	Up to 16GB LPDDR5 SDRAM, up to 4800MT/s, IBECC, soldered
<b>Flash</b>	Up to 256GB eMMC 5.1 Flash (optional)
<b>Storage Interfaces</b>	2x SATA-3.2 6Gbps
<b>USB</b>	2x USB 3.2, 6x USB 2.0, 1x Dual Role Port (Host/Device)* or 1x USB 3.2, 8x USB 2.0, 1x Dual Role Port (Host/Device)* *One USB 3.2 port according to Qseven Rev. 2.1 (only SS signals)
<b>Serial Interfaces</b>	1x UART (with RTS/CTS)
<b>Bus Interfaces</b>	Up to 4x PCI-Express x1 Gen. 3 lanes 1x LPC Bus 1x I2C Bus 1x SPI Bus 1x SMBus
<b>Display Controller</b>	Integrated Intel UHD Graphics (Gen12) Up to 32 execution units (EU) Note: only available with the Intel Atom Processor x7000RE Series
<b>Display Interfaces</b>	Three independent displays supported 1x DP++ 1x eDP 1.4b (1x DP) / 1x dual channel LVDS Dual-Channel LVDS 24/18 bit up to 1920 x 1200 @ 60Hz or 2x Embedded DisplayPort 1.4b up to 4096 x 2160 @ 60Hz
<b>Network Interface</b>	1x 10/100/1000Base-T, up to 2.5Gbps based on Intel i226 with TSN support 1x SGMII Interface on SATA-Port1 (optional)
<b>Audio Interface</b>	High Definition Audio
<b>Security Device</b>	Infineon Trusted Platform Module 2.0 (optional)
<b>Miscellaneous</b>	Watchdog Timer: Initiates system reset, (programmable, 1s ... 255h) Fan Supply: PWM Speed Control for system fan on carrier board RTC battery: external System Monitoring: Voltage, Temperature, CPU Fan, System Fan
<b>Feature Highlights</b>	Qseven Rev.2.1 compliant

<b>Firmware</b>	AMI Aptio UEFI
<b>OS Support</b>	Windows 10 LTSC Windows 11 LTSC Yocto Project (LTS kernel 2021)
<b>Power Requirement</b>	+5V +/-5% +5V Standby
<b>Environment</b>	Temperature Range: 0° ... 60°C (operating) -25° ... 85°C (storage) -40° ... 85°C (operating industrial) Humidity: 5 ... 95% (operating, non-condensing) 5 ... 95% (storage, non-condensing)
<b>Dimensions</b>	70 x 70 mm
<b>Certificates</b>	UL / CE
<b>Cooling</b>	Heatspreader Heatsink
<b>Carrier</b>	TRIA Q7-MB-EP5 TRIA Q7-MB-EP6

Technical Data for TRIA Q7-ASL

## Order Reference

Order No.	Description	Reference	Status*
121825	Qseven 2.1 module with Intel Atom x7835RE, Octa-Core (1.3GHz), 12W, TCC, 16GB LPDDR5 (4800 MT/s), 32EU, 64GB eMMC, 2x SATA, 1x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 (1x Host/Device), TPM 2.0, eDP, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC Q7-ASL-X7835RE-46N0111I PCBFTX	PV
121821	Qseven 2.1 module with Intel Atom x7433RE, Quad-Core (1.5GHz), 9W, TCC, 8GB LPDDR5 (4800 MT/s), 32EU, 64GB eMMC, 1x SATA, SGMII on SATA0, 1x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 (1x Host/Device), TPM 2.0, LVDS, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC Q7-ASL-7433RE-36N0291I PCBFTX	PV
121823	Qseven 2.1 module with Intel Atom x7433RE, Quad-Core (1.5GHz), 9W, TCC, 4GB LPDDR5 (4800 MT/s), 32EU, no eMMC, 2x SATA, 1x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 (1x Host/Device), TPM 2.0, LVDS, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC Q7-ASL-X7433RE-2NN021I PCBFTX	PV

Ordering Information for TRIA Q7-ASL

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

## Accessories

### Carrier Options

Order No.	Description	Reference
67690	Qseven Rev. 2.0 compatible embedded platform (148 x 102mm), 10-28V input voltage, 1x RS232 on DB9 connector, 1x RS485 on pin header, 1x RS232 no handshake on pin header, dual RJ45 LAN connector with LED, 1x SATA, 1x mSATA slot, SD card holder, 1x USB 3.0 connector, 2x USB 2.0 connector, 1x USB 2.0 on pin row, 1x microUSB 2.0 OTG, CAN, I2C, LPC/ GPIO on pin header, I2C/SMBus, SPI, DisplayPort connector, LVDS/eDP on JLI30 connector, regulated backlight supply, mini PCI Express slot, HD Audio, CMOS battery. Commercial temperature range 0..+70°C	MSC Q7-MB-EP6-601 PCBFTX

Carrier Options for TRIA Q7-EL/AL/BT/BW

### Cooling Options

Order No.	Description	Reference
118185	Passive Heatsink for Q7-ALN and Q7-ASL variants, consisting of a single-piece aluminium pin cooler and thermal pad for contact to the processor, with 2.7mm through-hole standoffs	MSC Q7-ASL-01 HSI-001
118186	Heatspreader for Q7-ALN and Q7-ASL variants, consisting of a single-piece aluminium plane and thermal pad for contact to the processor, with 2.7mm through-hole standoffs	MSC Q7-ASL-01 HSP-001
1053769	Heat rail for Q7 baseboards. Recommended for conductive heat transfer from the Q7 module to the Q7 baseboard. Already assembled on all MSC baseboards.	MSC Q7-XXX-01 HTR-001

Cooling Options for TRIA Q7-ASL/ALN

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.