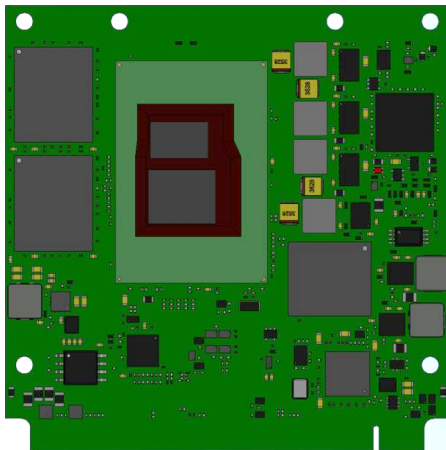


TRIA Q7-ALN

Intel Atom® processors x7000E Intel® Core™ i3 processor Intel® Processors N Series

70 x 70 mm



11/ 19 W

0 +60 °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

Technology	x86
Formfactor	Qseven
CPU	Intel® Core™ i3-N355, eight-core, 1.0GHz/1.9GHz, 32EU, 9/15W, PUC Intel® Core™ i3-N305, eight-core, 1.0GHz/1.8GHz, 32EU, 9/15W, PUC Intel Atom® x7425E, four-core, 1.5GHz, 24EU, TCC, 12W, EUC Intel Atom® x7213E, two-core, 1.7GHz, 16EU, TCC, 10W, EUC Intel Atom® x7211E, two-core, 1.0GHz, 16EU, TCC, 6W, EUC Intel® Processor N250, quad-core, 1.3GHz, 32EU, 6W, PUC Intel® Processor N200, quad-core, 1.0GHz, 32EU, 6W, PUC Intel® Processor N150, quad-core, 0.8GHz, 24EU, 6W, PUC Intel® Processor N97, quad-core, 2.0GHz, 24EU, 12W, PUC Intel® Processor N50, dual-core, 1.0GHz, 16EU, 6W, PUC EUC - Intel Embedded Use Conditions PUC - Intel PC Client Use Conditions
Chipset	Integrated in SOC
RAM	Up to 16GB LPDDR5 SDRAM, up to 4800MT/s, IB ECC, soldered
Flash	Up to 256GB eMMC 5.1 Flash (optional)
Storage Interfaces	2x SATA-3.2 6Gbps
USB	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)
Serial Interfaces	1x UART (with RTS/CTS)
Bus Interfaces	Up to 4x PCI-Express x1 Gen. 3 lanes 1x LPC Bus 1x I2C Bus 1x SPI Bus 1x SMBus
Display Controller	Integrated Intel UHD Graphics (Gen12) Up to 32 execution units (EU) Note: only available with the Intel Atom Processor x7000RE Series
Display Interfaces	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
Network Interface	1x 10/100/1000Base-T, up to 2.5Gbps based on Intel i226 with TSN support 1x SGMII Interface on SATA-Port1 (optional)
Audio Interface	High Definition Audio
Security Device	Infineon Trusted Platform Module 2.0 (optional)
Miscellaneous	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
Feature Highlights	Qseven Rev.2.1 compliant
Firmware	AMI Aptio UEFI

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

Technical Data for TRIA Q7-ALN

Order Reference

Order No.	Description	Reference	Status*
tbd	Get in touch with your sales representative	tbd	OR

Ordering Information for TRIA Q7-ALN

*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

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