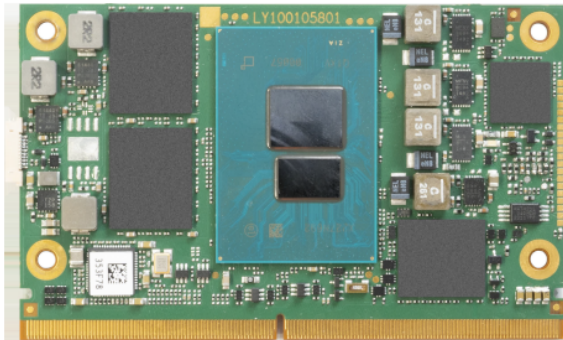


TRIA SM2S-ASL

Intel® Atom® Processors x7000RE/C Series



82 x 50 mm

8 / 17 W

-40 +85 °C



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)
- SATA-III interface (6Gbps)
- 2x DP++
- LVDS / Embedded DisplayPort and MIPI-DSI
- Triple Independent Display support
- 2x MIPI-CSI Camera Interface
- Up to 4x PCI Express x1/x2/x4 Gen. 3
- 2x USB 3.2 Gen2 (up to 10Gb/s)
- 6x USB 2.0
- 2x 1/2,5 Gigabit Ethernet (Intel® i226)
- 1x SGMII Interface on PCIE-D
- UART, SPI, I2C, SMBus .
- HD/I2S Audio
- Trusted Platform Module TPM 2.0
- SMARC 2.1.1 compliant
- UEFI Firmware

Technical Data

Technology	x86
Formfactor	SMARC® 2.1.1 Short Size
CPU	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
Chipset	Integrated in SOC
RAM	Up to 16GB LPDDR5 SDRAM, up to 4800MT/s, IB ECC, soldered
Flash	Up to 256GB eMMC V5.1 Flash, soldered (optional)
Storage Interfaces	1x SATA-III 6Gbps
USB	2x USB 3.2 Gen2 (up to 10Gb/s) 6x USB 2.0
Serial Interfaces	4x UART (two with handshake)
Bus Interfaces	Up to 4x PCI-Express x1 Gen. 3 lanes 1x I2C Bus 1x SPI Bus (Boot) 1x SPI Bus (general purpose)/ eSPI (optional) 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 2x DP++ Dual-Channel LVDS 24/18 bit up to 1920 x 1200 @ 60Hz or Embedded DisplayPort 1.4b up to 4096 x 2304 @ 60Hz and MIPI-DSI x4 Interface up to 4096 x 2160 @ 60Hz (optional) Note: display interfaces are only available with the Intel Atom Processor x7000RE Series
Network Interface	2x 10/100/1000Base-T, up to 2.5Gbps based on Intel i226 with TSN support 1x SGMII (up to 2.5Gbps) Interface on PCIe-D
Audio Interface	High Definition Audio and I2S Audio or 2x I2S Audio
Security Device	Infineon Trusted Platform Module 2.0
Miscellaneous	MIPI CSI-2 camera interface (CSI0, 2 lane) MIPI CSI-2 camera interface (CSI1, 4 lane) 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	SMARC™ 2.1.1 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: Commercial: 0° ... 60°C (operating) Industrial: -40° ... 85°C (operating) -25° ... 85°C (storage) Humidity: 5 ... 95% (operating, non-condensing) 5 ... 95% (storage, non-condensing)
Dimensions	82 x 50 mm
Certificates	UL / CE
Cooling	Heatspreader Heatsink
Carrier	TRIA SM2-MB-EP1

Technical Data for TRIA SM2S-ASL

Order Reference

Order No.	Description	Reference	Status*
114189	SMARC 2.1.1 module with Intel Atom x7835RE, Octa-Core (1.3GHz), 12W, TCC, 16GB LPDDR5 (4800 MT/s), 32EU, 32GB eMMC, no PCIe4, PCIe/ SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0, TPM 2.0, eDP, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC SM2S-ASL-x7835RE-45N01911 PCBFTX	PV
114191	SMARC 2.1.1 module with Intel Atom x7433RE, Quad-Core (1.5GHz), 9W, TCC, 8GB LPDDR5 (4800 MT/s), 32EU, 32GB eMMC, PCIe4, no SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0, TPM 2.0, LVDS, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC SM2S-ASL-x7433RE-35N02811 PCBFTX	PV
114193	SMARC 2.1.1 module with Intel Atom x7213RE, Dual-Core (2.0GHz), 9W, TCC, 8GB LPDDR5 (4800 MT/s), 16EU, 16GB eMMC, no PCIe4, PCIe/ SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0, TPM 2.0, LVDS, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC SM2S-ASL-x7213RE-34N02911 PCBFTX	PV
114195	SMARC 2.1.1 module with Intel Atom x7211RE, Dual-Core (1.0GHz), 6W, TCC, 4GB LPDDR5 (4800 MT/s), 16EU, 16GB eMMC, no PCIe4, PCIe/ SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0, TPM 2.0, LVDS, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC SM2S-ASL-x7211RE-24N02911 PCBFTX	PV
114197	SMARC 2.1.1 module with Intel Atom x7203C, Dual-Core (2.0GHz), 9W, TCC, 4GB LPDDR5 (4800 MT/s), 16GB eMMC, no PCIe4, PCIe/SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0, TPM 2.0, no Graphics, EUC (Embedded use conditions), commercial temperature 0°C...+ 60°C	MSC SM2S-ASL-x7203C-24N0N91C PCBFTX	OR
116344	SMARC 2.1.1 module with Intel Atom x7405C, quad-core, 12W TDP, 8GB LPDDR5 (4800MT/s), no eMMC, PCIe/SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.1, 6x USB 2.0 Host, no TPM, no Graphics, EUC/CUC (Embedded and Communication Use Conditions), standard temperature 0...+60°C	MSC SM2S-ASL-x7405C-3NN01N0C PCBFTX	PV
116559	SMARC 2.1.1 module with Intel Atom x7835RE, Octa-Core (1.3GHz), 12W, TCC, 16GB LPDDR5 (4800 MT/s), 32EU, 128GB eMMC, 1x PCIe4, 1x PCIe1, 1x PCIe1/SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.1, 6x USB 2.0, TPM 2.0 (SLB9672), eDP, IUC (Industrial use conditions), extended temperature -25°C...+85°C	MSC SM2S-ASL-x7835RE-47N0191E PCBFTX	PV
119559	SMARC 2.1.1 module with Intel Atom x7433RE, Quad-Core (1.5GHz), 9W, TCC, 16GB LPDDR5 (4800 MT/s), 32EU, 64GB eMMC, no PCIe4, PCIe/SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.1, 6x USB 2.0, TPM 2.0, eDP, IUC (Industrial use conditions), industrial temperature -40°C...+85°C	MSC SM2S-ASL-x7433RE-46N01911 PCBFTX	PV

Ordering Information for TRIA SM2S-ASL

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

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