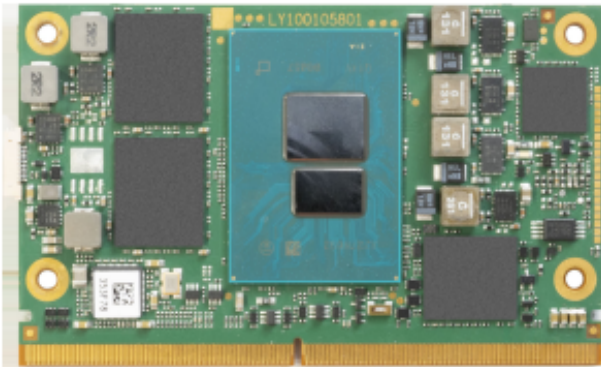


TRIA SM2S-ALN

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



82 x 50 mm

8 / 17 W

0 +60 °C



Highlights

- Up to eight processing cores
- Power efficient processors, TDP 6 to 15W
- Integrated Intel UHD Gen.12 graphics, max. 32 executing units .
- Up to 32GB LPDDR5 SDRAM (IB ECC for Atom SKU's)
- 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 Gigabit Ethernet (Intel® i226)
- 1x SGMII Interface on PCIE-D (opt. only Atom SKU's)
- UART, SPI, I2C, SMBus
- HD/I2S Audio
- Trusted Platform Module
- SMARC 2.1.1 compliant
- UEFI Firmware

Technical Data

Technology	x86
Formfactor	SMARC™ 2.1.1 Short Size
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 32GB LPDDR5 SDRAM, up to 4800MT/s, IBEC (only Atom SKU's), 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)
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 1920 x 1080 @ 60Hz (optional)
Network Interface	2x 10/100/1000Base-T, up to 2.5G based on Intel i226 1x SGMII Interface on PCIe-D (opt. only Atom SKU's)
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) -20° ... 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-ALN

Order Reference

Order No.	Description	Reference	Status*
114166	SMARC 2.1.1 module with Intel Core i3-N305, Octa-Core (1.0/1.8GHz), 9-15W, 16GB LPDDR5 (4800MT/s), no eMMC, 4x PCIe1, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 Host, TPM 2.0, LVDS, PUC (PC Client Use Conditions), standard temperature 0...+60°C	MSC SM2S-ALN-N305-4NN0291C PCBFTX	PV
114170	SMARC 2.1.1 module with Intel Processor N97, Quad-core (2.0 GHz), 12W, 8GB LPDDR5 (4800MT/s), 32GB eMMC, 4x PCIe1, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 Host, TPM 2.0, LVDS, PUC (PC Client Use Conditions), standard temperature 0...+60°C	MSC SM2S-ALN-N97-35N0291C PCBFTX	PV
114168	SMARC 2.1.1 module with Intel Processor N50, Dual-core (1.0 GHz), 6W, 4GB LPDDR5 (4800MT/s), 16GB eMMC, 4x PCIe1, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 Host, TPM 2.0, LVDS, PUC (PC Client Use Conditions), standard temperature 0...+60°C	MSC SM2S-ALN-N50-24N0291C PCBFTX	PV
114186	SMARC 2.1.1 module with Intel Atom x7425E, Quad-Core (1.5 GHz), 12W, TCC, 16GB LPDDR5 (4800MT/s), no eMMC, PCIe4, no SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 Host, TPM 2.0, LVDS, EUC (Embedded use conditions), standard temperature 0...+60°C	MSC SM2S-ALN-x7425E-4NN0281C PCBFTX	PV
114184	SMARC 2.1.1 module with Intel Atom x7213E, Dual-Core (1.7 GHz), 10W, TCC, 4GB LPDDR5 (4800MT/s), 16GB eMMC, no PCIe4, PCIe/SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 Host, TPM 2.0, LVDS, EUC (Embedded use conditions), standard temperature 0...+ 60°C	MSC SM2S-ALN-x7213E-24N0291C PCBFTX	PV
114182	SMARC 2.1.1 module with Intel Atom x7211E, Dual-Core (1.0 GHz), 6W, TCC, 4GB LPDDR5 (4800MT/s), 16GB eMMC, no PCIe4, PCIe/SGMII on PCIe_D, SATA, 2x 2.5GbE LAN, 2x USB 3.2, 6x USB 2.0 Host, TPM 2.0, LVDS, EUC (Embedded use conditions), standard temperature 0...+ 60°C	MSC SM2S-ALN-x7211E-24N0291C PCBFTX	PV

Ordering Information for TRIA SM2S-ASL

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

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