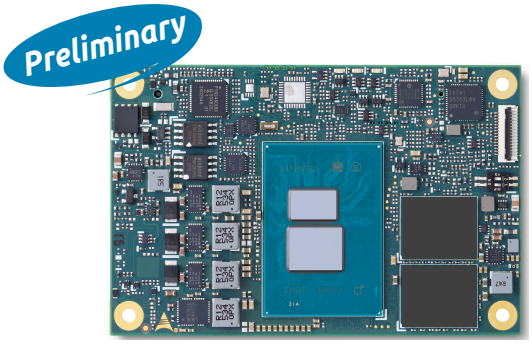
ADLINK
LEADING EDGE AI COMPUTING

nanoX-ASL

COM Express Mini Size Type 10 Module Based on Intel® Amston Lake Platform



Features

- Delivers efficient performance with up to 8 cores, turboing up to 3.8 GHz
- Intel® UHD Graphics supports up to three independent 4K @ 60 Hz displays
- Supports up to 32 GB of on-board LPDDR5-4800 memory with in-band ECC
- 2.5GbE with Intel® TSN/TCC enables deterministic, real-time control
- Offers flexible I/O with four PCIe Gen 3 lanes and USB 3.2/2.0 for easy expansion
- Extended temperature options ensure reliable operation in harsh environments; SDIO support optional via BOM

Specifications

Core System	SoC	**Intel® Core™ Atom® x7000 Series Processors**

CPU SKU	Core	Cache	Base Frequency	TDP	Graphics
x7835RE	8	6MB	1.3GHz	12W	UHD 32EUs
x7433RE	4	6MB	1.5GHz	9W	UHD 32EUs
x7213RE	2	6MB	2GHz	9W	UHD 16EUs
x7211RE	2	6MB	1GHz	6W	UHD 16EUs

Memory (Soldered Down)	Up to 32GB (2x 16GB) LPDDR5 at max. 4800MT/s, IBECC (build option)
Embedded BIOS	AMI Aptio V
Expansion	Up to 4 PCIex1 Gen3 lanes • PCIe Gen3 x4 (lane 0-3): configurable as x2, x1
Buses SEMA Board Controller	Manageability • Voltage/current monitoring • Power-sequence debug support • AT/ATX mode control • Logistics & forensic information (event/history) • General-purpose interfaces: I²C, UART, GPIO • Watchdog timer and fan control
Debug Headers	30-pin FFC/FPC connector, compatible with the DB30-x86 debug module (For BIOS POST code LEDs, EC access, SPI BIOS flashing, power test points, and debug LEDs)

Note: "Build option""indicates an alternative BOM configuration to support additional or alternative functions that are not available on the standard product. Be aware that these "build option" part numbers will need to be newly created and this will result in production lead times.

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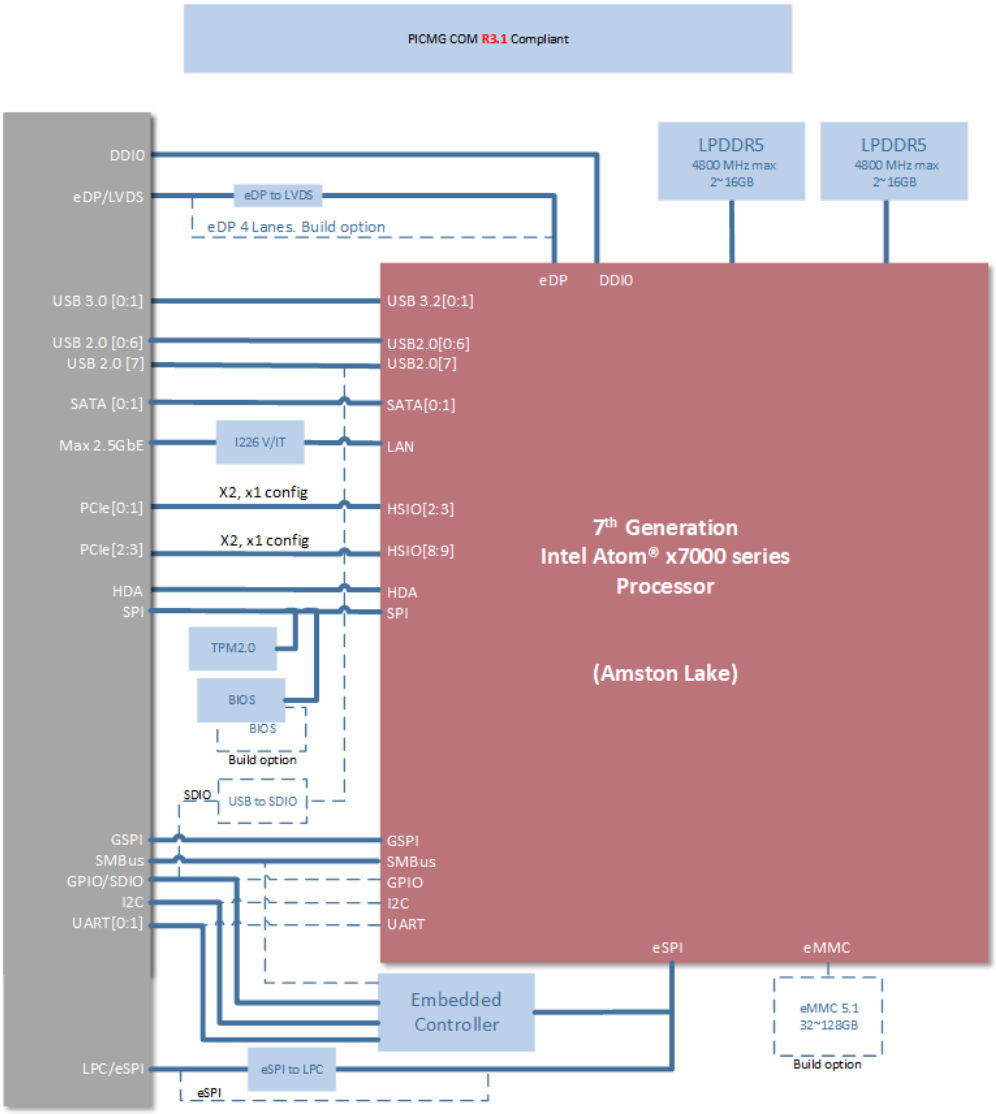
Specifications

Video	GPU Feature Support	Support up to 3 independent displays resolution up to 4K60: DP / HDMI / eDP • Intel® Gen 12 UHD graphics, up to 32EU • Standards: DirectX® 12, OpenGL® 4.6, Vulkan® 1.2 • Graphics hardware virtualization: SR-IOV 1
	Digital Display Interface	DDI port (DDI 0), support DP1.4/HDMI2.0b
	LVDS/eDP	Default LVDS (Option eDP) LVDS: Single channel 18/24-bit, resolution up to (1366 × 768 @60Hz) eDP: 1.4b HBR3, resolution up to (TBC).
Audio	Chipset	Integrated on SoC
	Codec	On the carrier miniBASE-10R
Ethernet	Intel® MAC/PHY	Intel® Ethernet Connection I226 series (TSN by build option)
	Speed	2.5Gbps/1000M/100M/10M Ethernet connection
Multi I/O and Storage	USB	2 x USB 3.2 8 x USB 2.0 (USB 2 port 7 colay with SDIO, by project support) 2 x SATAIII(600 MB/s)
	eMMC	eMMC 5.1, 32GB to 128GB (Optional)
Super I/O	Supported on the carrier if needed (standard support W83627DHG-P, other Super I/O supported by project basis)	
TPM	Chipset	Infineon
	Type	TPM 2.0 (SPI based)
Power	Standard Input	ATX: 12V±5% / 5Vsb ±5%; or AT: 12V±5%
	Wide Input	ATX: 4.75-20 V / 5Vsb ±5%; or AT: 4.75-20V
	Management	ACPI 5.0 compliant, Smart Battery support (TBC)
	Power States	C1-C6, S0, S3, S4, S5, S5 ECO mode (Wake-on-USB S3/S4, WoL S3/S4/S5)
	ECO Mode	Supports deep S5 mode for power saving
Mechanical and Environmental	Form Factor	PICMG COM.0: Rev 3.1 Type 10
	Dimension	Mini size: 84 mm x 55 mm
	Operating Temperature	Standard: 0°C to 60°C Extreme Rugged: -40°C to 85°C (Selected SKIs)
	Humidity	Operating: 5-90% RH, non-condensing Storage: 5-95% RH, non-condensing
	Shock and Vibration	IEC 60068-2-64 and IEC-60068-2-27 MIL-STD-202F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D (TBC)
	HALT	Thermal Stress, Vibration Stress, Thermal Shock and Combined Test
Operating Systems	Standard Support	Windows 11 IoT Enterprise LTSC Ubuntu 24.04 LTS

Note: "Build option""indicates an alternative BOM configuration to support additional or alternative functions that are not available on the standard product. Be aware that these "build option" part numbers will need to be newly created and this will result in production lead times.

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Block diagram



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Ordering Information

Module	Description
nanoX-ASL-x7211RE-8G	Mini COM Express Type 10 module with Intel Amston Lake Atom x7211RE, 8GB memory
nanoX-ASL-x7213RE-16G	Mini COM Express Type 10 module with Intel Amston Lake Atom x7213RE, 16GB memory
nanoX-ASL-x7835RE-32G	Mini COM Express Type 10 module with Intel Amston Lake Atom x7835RE, 32GB memory
t1nanoX-ASL-x7433RE-8G	Mini COM Express Type 10 module with Intel Amston Lake Atom x7433RE, 8GB memory, -40°C to +85°C
t1nanoX-ASL-x7835RE-32G	Mini COM Express Type 10 module with Intel Amston Lake Atom x7835RE, 32GB memory, 40°C to +85°C

Note: For certain processor or memory capacity SKUs not listed, please contact our ADLINK representative.

Accessories

Heat Spreaders	
HTS-nASL-B	Heatspreader for nanoX-ASL with threaded standoffs for bottom mounting

Passive Heatsinks	
THS-nASL-B	Low profile heatsink for nanoX-ASL with threaded standoffs for bottom mounting
THSH-nASL-B	High profile heatsink for nanoX-ASL with threaded standoffs for bottom mounting

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