

NEW



Features

- Single, dual, quad-core Intel® Atom™ or Celeron® Processor System-on-Chip
- Up to 4GB soldered Dual Channel DDR3L at 1333MHz
- One DDI channel, one LVDS (optional eDP)
- Three PCIe x1, GbE
- Two SATA 3Gb/s, four USB and one USB client
- Supports Smart Embedded Management Agent (SEMA) functions
- Extreme Rugged™ operating temperature: -40°C to +85°C (optional)

Specifications

Core System

CPU	Single, dual, quad-core Intel® Atom™ or quad-core Celeron® Atom™ E3845 1.91 GHz 542/792 Gfx (Turbo) 10W (4C/1333) Atom™ E3827 1.75 GHz 542/792 Gfx (Turbo) 8W (2C/1333) Atom™ E3826 1.46 GHz 533/667 Gfx (Turbo) 7W (2C/1066) Atom™ E3825 1.33 GHz 533 Gfx (No Turbo) 6W (2C/1066) Atom™ E3815 1.46 GHz 400 Gfx (No Turbo) 5W (1C/1066) Celeron® N2930 1.83/2.16 (Burst) GHz, 313/854 (Turbo) 7.5W (4C/1333) Celeron® J1900 2.0/2.42 (Burst) GHz, 688/854 (Turbo) 10W (4C/1333) Supports: Single, dual or quad Out-of-Order Execution (OOE) processor cores, Intel® VT-x, Intel® SSE4.1 and SSE4.2, Intel® 64 architecture, IA 32-bit, PCLMULQDQ Instruction DRNG, Intel® Thermal Monitor (TM1 & TM2) Note: Availability of features may vary between processor SKUs.
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Memory	Single channel non-ECC 1333/1066 MHz soldered DDR3L memory up to 4GB (1GB/2GB or 4GB)
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Embedded BIOS	AMI EFI with CMOS backup in 8MB SPI BIOS
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Cache	Primary 32 KB, 8-way L1 instruction cache and 24 KB, 6-way L1 write-back data cache 2MB for E3845, N2930 and J1900 1MB for E3827, E3826 and E3825 512K for E3815
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Expansion Busses	3 PCI Express x1 Gen2 (AB): lanes 0/1/2; optional PCIe x4 (lose GbE) LPC bus, SMBus (system), I ² C (user)
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SEMA Board Controller	Supports: Voltage/Current monitoring, Power sequence debug support, AT/ATX mode control, Logistics and Forensic information, Flat Panel Control, General Purpose I ² C, Watchdog Timer
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Debug Headers	40-pin multipurpose flat cable connector Use in combination with DB-40 debug module providing BIOS POST code LED, BMC access, SPI BIOS flashing, power test points, debug LEDs 60-pin XDP header for ICE debug of CPU/chipset on break out board
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Video

GPU Feature Support	7th generation Intel® graphics core architecture with four execution units supporting two independent displays 3D graphics hardware acceleration Supports for DirectX11, OCL 1.1, OGL ES Halt/2.0/1.1, OGL 3.2 Video decode hardware acceleration including support for H.264, MPEG2, MVC, VC-1, WMV9 and VP8 formats Video encode hardware acceleration including support for H.264, MPEG2 and MVC formats
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Digital Display Interface	One DDI channel supporting DisplayPort/HDMI/DVI
LVDS/eDP	Single/dual channel 18/24-bit LVDS eDP support (optional)

Audio

Chipset	Intel® HD Audio integrated in SOC
Audio Codec	Located on carrier miniBASE-10R

Ethernet

Intel® MAC/PHY Interface	Intel® i210LM (MAC/PHY) Ethernet controller 10/100/1000 GbE connection
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I/O Interfaces

USB	1x USB 3.0 (USB 0) 3x USB 2.0 (USB 1,2,3) and 1x USB 2.0 client (USB 7)
SATA	Two SATA 3 Gb/s ports
Serial	2 UART ports COM1/2 with console redirection
eMMC	Optional soldered on module bootable eMMC flash storage 8 GB
SDIO	Optional SDIO support multiplexed over GPIO pins
GPIO	4 GPO and 4 GPI with interrupt

Super I/O

On carrier if needed (standard support for W83627DHG-P)

Power

Standard Input	ATX = 12V±5% / 5Vsb ±5% or AT = 12V±5%
Wide Input	ATX = 5~14V / 5Vsb AT = 5~14V
Management	ACPI 4.0 compliant, Smart Battery support
Power States	C0, C1, C1E, C4, C6 S0, S3, S4, S5 (Wake on USB S3/S4, WOL S3/S4/S5)
ECO mode	Supports deep S5 (ECO mode) for power saving

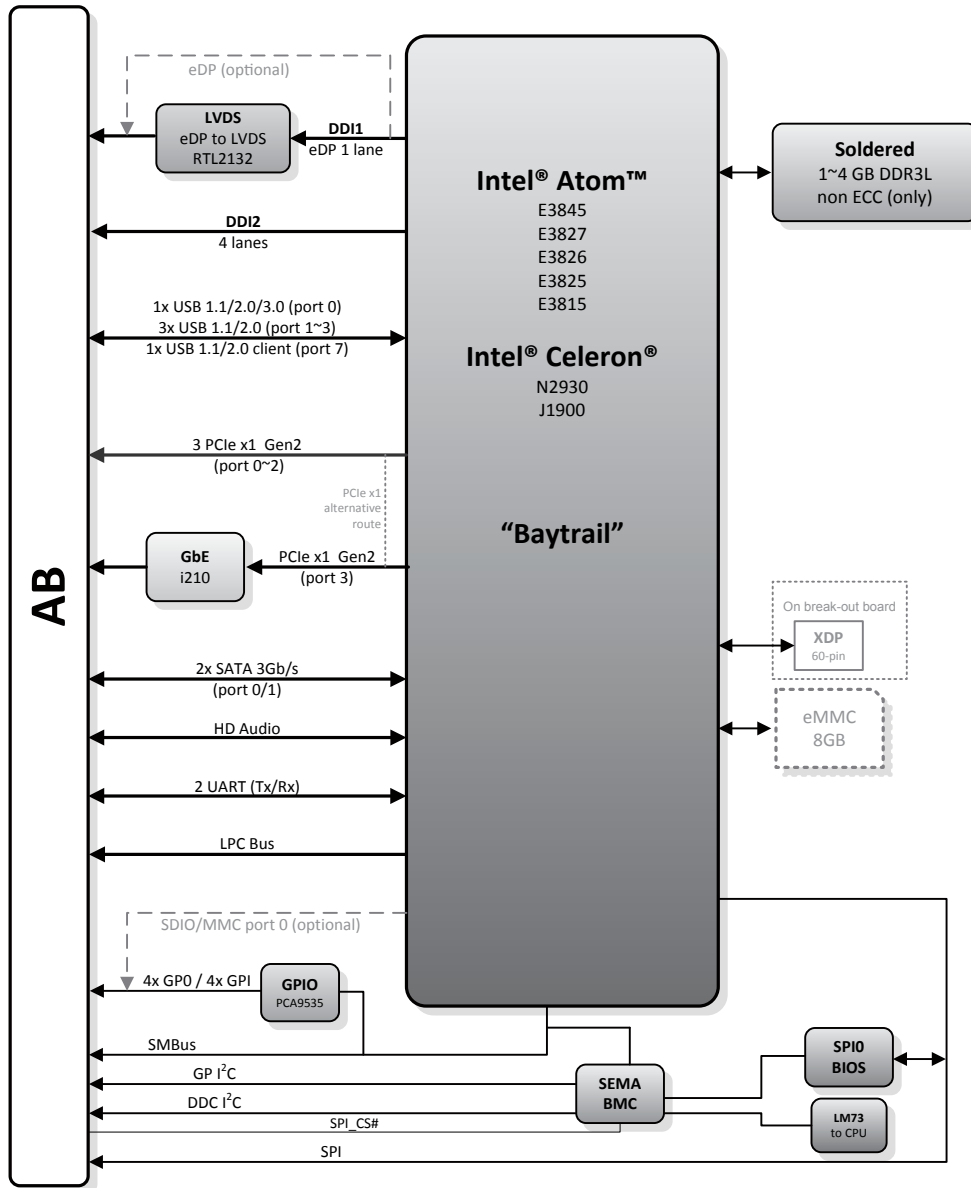
Mechanical and Environmental

Form Factor	PICMG COM.0: Rev 2.1 Type 10
Dimension	Mini size: 84 mm x 55 mm
Operating Temperature	Standard: 0°C to +60°C Extreme Rugged™: -40 to +85°C (optional)
Humidity	5-90% RH operating, non-condensing 5-95% RH storage (and operating with conformal coating)
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
HALT	Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

Operating Systems

Standard Support	Windows 7/8 32/64-bit, Linux 32/64-bit
Extended Support (BSP)	WES7/8, WEC7, Linux, VxWorks

Functional Diagram



Ordering Information

Modules

Model Number	Description/Configuration
nanoX-BT-E3845-2G	COM Express® Mini Size Type 10 with Intel® Atom™ E3845 at 1.91 GHz and 2GB non ECC DDR3L
nanoX-BT-E3827-2G	COM Express® Mini Size Type 10 with Intel® Atom™ E3827 at 1.75 GHz and 2GB non ECC DDR3L
nanoX-BT-E3826-2G	COM Express® Mini Size Type 10 with Intel® Atom™ E3826 at 1.46 GHz and 2GB non ECC DDR3L
nanoX-BT-E3825-2G	COM Express® Mini Size Type 10 with Intel® Atom™ E3825 at 1.33 GHz and 2GB non ECC DDR3L
nanoX-BT-E3815-2G	COM Express® Mini Size Type 10 with Intel® Atom™ E3815 at 1.46 GHz and 2GB non ECC DDR3L
nanoX-BT-N2930-2G	COM Express® Mini Size Type 10 with Intel® Celeron® N2930 at 1.83 GHz and 2GB non ECC DDR3L
nanoX-BT-J1900-2G	COM Express® Mini Size Type 10 with Intel® Celeron® J1900 at 2.00 GHz and 2GB non ECC DDR3L

Accessories

Model Number	Description/Configuration
Heat Spreaders	
HTS-nXBT-B	Heatspreader for nanoX-BT with threaded standoffs for bottom mounting
HTS-nXBT-BT	Heatspreader for nanoX-BT with through hole standoffs for top mounting
Passive Heatsinks	
THS-nXBT-B	Low profile heatsink for nanoX-BT with threaded standoffs for bottom mounting
THS-nXBT-BT	Low profile heatsink for nanoX-BT with through hole standoffs for top mounting
Active Heatsink	
THSH-nXBT-B	High profile heatsink for nanoX-BT with threaded standoffs for bottom mounting

Note: All specifications are subject to change without further notice.