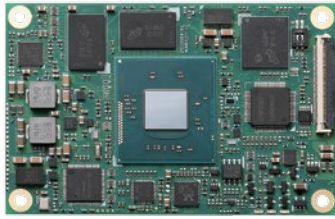


**NEW**



### 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) Atom™ E3805 1.33 GHz (No Gfx) 3W (2C/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.  |

|                       |  |
|-----------------------|--|
| Memory                | Single channel non-ECC 1333/1066 MHz soldered DDR3L memory up to 4GB (2GB or 4GB)  |
| Embedded BIOS         | AMI EFI with CMOS backup in 8MB SPI BIOS   |
| Cache                 | Primary 32 KB, 8-way L1 instruction cache and 24 KB, 6-way L1 write-back data cache<br>2MB for E3845, N2930 and J1900<br>1MB for E3827, E3826, E3825 and E3805<br>512K for E3815   |
| Expansion Busses      | 3 PCI Express x1 Gen2 (AB): lanes 0/1/2; optional PCIe x4 (lose GbE)<br>LPC bus, SMBus (system), I <sup>2</sup> C (user)   |
| 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 <sup>2</sup> C, Watchdog Timer  |
| Debug Headers         | 40-pin multipurpose flat cable connector<br>Use in combination with DB-40 debug module providing BIOS POST code LED, BMC access, SPI BIOS flashing, power test points, debug LEDs<br>60-pin XDP header for ICE debug of CPU/chipset on break out board |

#### Video

|                                    |   |
|------------------------------------|---|
| GPU Feature Support                | 7th generation Intel® graphics core architecture with four execution units supporting two independent displays<br>3D graphics hardware acceleration<br>Supports for DirectX11, OCL 1.1, OGL ES Halt/2.0/1.1, OGL 3.2<br>Video decode hardware acceleration including support for H.264, MPEG2, MVC, VC-1, WMV9 and VP8 formats<br>Video encode hardware acceleration including support for H.264, MPEG2 and MVC formats |
| Digital Display Interface LVDS/eDP | One DDI channel supporting DisplayPort/HDMI/DVI<br>Single/dual channel 18/24-bit LVDS<br>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<br>10/100/1000 GbE connection |
|--------------------------|---|

#### 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 COM 0/1 (COM 0 support console redirection)                            |
| eMMC   | Optional soldered on module bootable eMMC flash storage 8G to 32 GB                 |
| SD     | Optional, SD support multiplexed over GPIO pins<br>eMMC feature may vary between OS |
| GPIO   | 4 GPO and 4 GPI   |

#### 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<br>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                         |

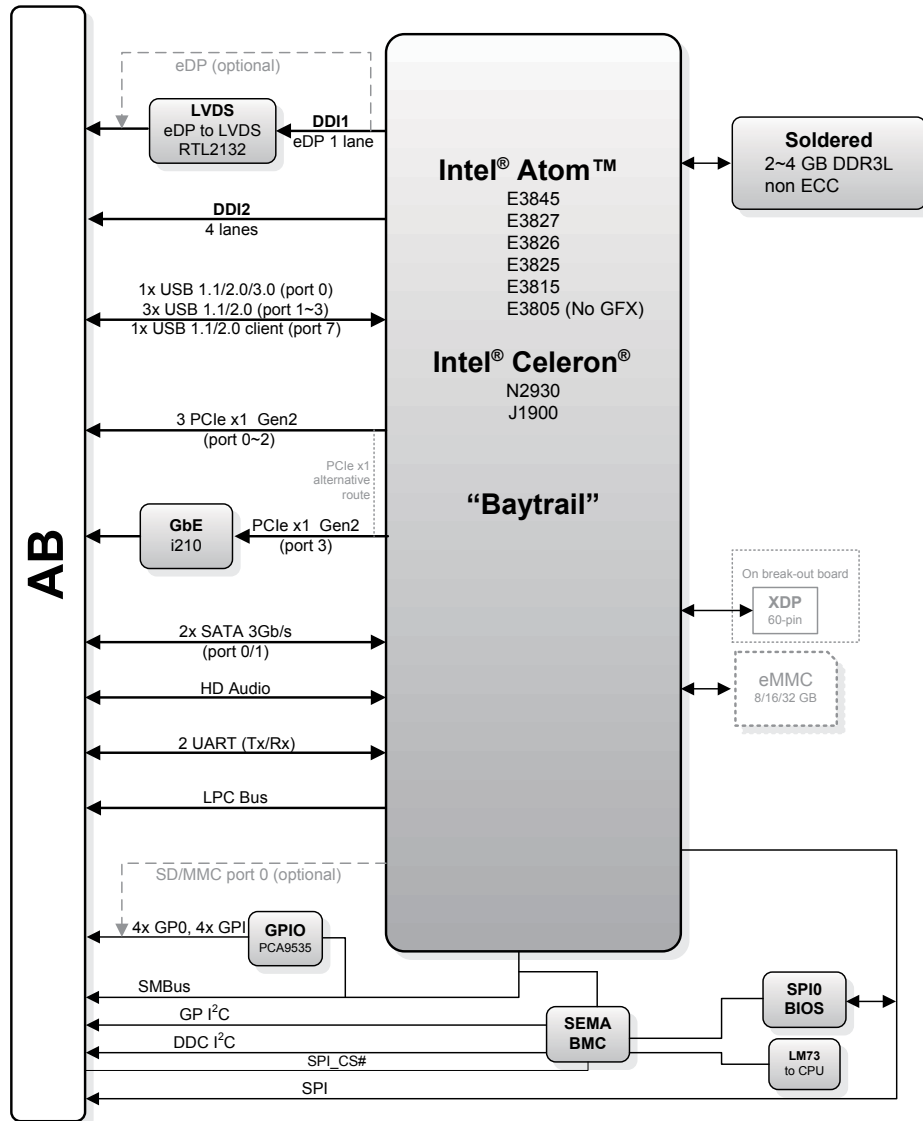
#### Mechanical and Environmental

|                       |  |
|-----------------------|--|
| 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<br>Extreme Rugged™: -40 to +85°C (optional, Atom™ E38xx series only)  |
| Humidity              | 5-90% RH operating, non-condensing<br>5-95% RH storage (and operating with conformal coating)                                      |
| Shock and Vibration   | IEC 60068-2-64 and IEC-60068-2-27<br>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, Linux, VxWorks 32/64-bit<br>WEC7 32-bit |

## 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-E3805-2G | COM Express Mini Size Type 10 with Intel Atom E3805 at 1.33 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 |

### Development Tool

| Model Number             | Description/Configuration                                 |
|--------------------------|---|
| Type 10 Starter Kit Plus | nanoX-BT Starter Kit Plus with Carrier Board miniBase-10R |

### Accessories

| Model Number             | Description/Configuration  |
|--------------------------|--|
| <b>Heat Spreaders</b>    |  |
| 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         |
| <b>Passive Heatsinks</b> |  |
| 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 |
| 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.