

NEW



Features

- 5th Generation Low Power Intel® Core™ i7/i5/i3 and Celeron® System-on-Chip
- Up to 32GB DDR3L at 1600MHz
- Two DDI channels, one LVDS supporting 3 independent displays
- Dual channel 18/24-bit LVDS (or optional eDP)
- Four PCIe x1 or 1 PCIe x4, Gigabit Ethernet
- Four SATA 6 Gb/s, two USB 3.0, six USB 2.0
- Supports Smart Embedded Management Agent (SEMA) functions
- Extreme Rugged™ operating temperature: -40°C to +85°C (optional)

Specifications

Core System

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|-----------------------|---|
| CPU | 5th Generation Intel® Core™ and Celeron® Processor (Mobile) - 14nm (formerly "Broadwell U-Series") Core™ i7-5650U 2.2 GHz (3.2 GHz Turbo), 4MB, 15W (2C/GT3) Core™ i5-5350U 1.8 GHz (2.9 GHz Turbo), 3MB, 15W (2C/GT3) Core™ i3-5010U 2.1 GHz (no Turbo), 3MB, 15W (2C/GT2) Supports: Intel® VT, Intel® TXT, Intel® SSE4.2, Intel® HT Technology, Intel® 64 Architecture, Execute Disable Bit, Intel® Turbo Boost Technology 2.0, Intel® AVX2, Intel® AES-NI, Intel® PCLMULQDQ Instruction, Intel® Device Protection Technology with Intel® Secure Key, Intel® TSX-NI. Note: Availability of features may vary between processor SKUs. |
| Memory | Dual channel non-ECC 1600/1333 MHz DDR3L memory up to 32GB in dual SODIMM socket |
| Embedded BIOS | AMI EFI with CMOS backup in 8MB SPI BIOS with Intel AMT 10 support |
| Expansion Busses | 4 PCI Express x1: lanes 0/1/2/3 LPC bus, SMBus (system), I ² 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 ² C, Failsafe BIOS (dual BIOS), Watchdog Timer and Fan Control |
| Debug Headers | 40-pin multipurpose flat cable connector for 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 |

Video

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|---------------------------|--|
| GPU Feature Support | Generation 8 Intel graphics core architecture, supporting 3 independent and simultaneous displays Combinations of DisplayPort/HDMI/LVDS or eDP outputs Encode/transcode HD content Playback of high definition content including Blu-ray Disc Superior image quality with sharper, more colorful images Playback of Blu-ray disc 3D content using HDMI (1.4a spec compliant with 3D) DirectX Video Acceleration (DXVA) support for accelerating video processing Full AVC/VC1/MPEG2 HW Decode Advanced Scheduler 2.0, 1.0, XPDM support Windows 8, Windows 7, OSX, Linux OS support DirectX 11.1, DirectX 11.1+, DirectX 10.1, DirectX 10, DirectX 9 support OpenGL 4.2/4.0 support |
| LVDS/eDP | Single/dual channel 18/24-bit LVDS (default) eDP support (optional) |
| Digital Display Interface | DDI1 supporting DisplayPort / HDMI DDI2 supporting DisplayPort / HDMI |

Audio

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| Chipset | Intel® HD Audio integrated in U-Series SoC |
| Audio Codec | located on carrier Express-BASE6 (ALC886 standard supported) |

Ethernet

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|--------------------------|---|
| Intel® MAC/PHY Interface | i218LM (Enterprise SKU) with AMT 10 support 10/100/1000 GbE connection |
|--------------------------|---|

I/O Interfaces

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|--------|---|
| USB | 2x USB 1.1/2.0/3.0 (USB 0,1) and 6x USB 1.1/2.0 (USB 2,3,4,5,6,7) |
| SATA | Four ports SATA 6Gb/s (SATA0, SATA1, SATA2, SATA3) |
| Serial | 2 UART ports COM1/2 with console redirection |
| GPIO | 4 GPO and 4 GPI |

Super I/O

Supported on carrier if needed (standard support for W83627DHG-P)

TPM

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| Chipset | Atmel AT97SC3204 |
| Type | TPM 1.2 |

Power

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| Standard Input | ATX = 12V±5% / 5Vsb ±5% or AT = 12V±5% |
| Wide Input | ATX = 5-20 V / 5Vsb ±5% or AT = 5 -20V |
| Management | ACPI 4.0 compliant, Smart Battery support |
| Power States | C1-C6, S0, S4, S3, S5, S5 ECO mode (Wake on USB S3/S4, WOL S3/S4/S5) |
| ECO mode | Supports deep S5 mode for power saving |

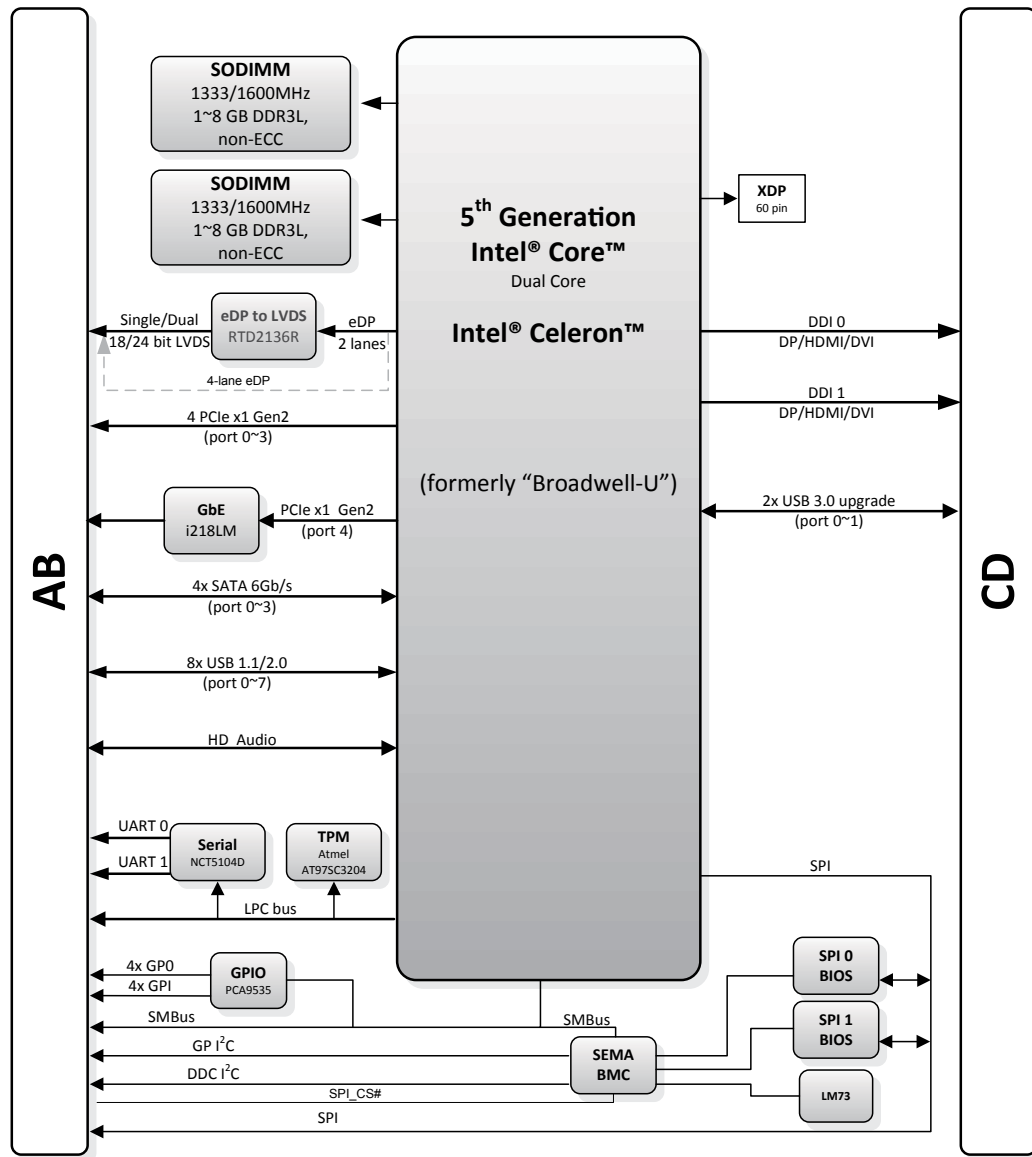
Mechanical and Environmental

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|-----------------------|--|
| Form Factor | PICMG COM.0 Rev 2.1 Type 6 |
| Dimension | Compact size: 95 mm x 95 mm |
| Operating Temperature | Standard: 0°C to 60°C Extreme Rugged: -40°C + 85°C (optional) |
| Humidity | 5-90% RH operating, non-condensing 5-95% RH storage (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

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|------------------------|--|
| Standard Support | Windows 7/8.1U 32/64-bit, Linux 32/64-bit |
| Extended Support (BSP) | WES7, WE8S, Linux, VxWorks (all support 32/64-bit) |

Functional Diagram



Ordering Information

Modules

| Model Number | Description/Configuration |
|---|--|
| cExpress-BL-i7-5650U | Compact COM Express® Type 6 module with Intel® Core™ i7-5650U at 2.2/3.2 GHz with GT3 level graphics |
| cExpress-BL-i5-5350U | Compact COM Express® Type 6 module with Intel® Core™ i5-5350U at 1.8/2.9 GHz with GT3 level graphics |
| cExpress-BL-i3-5010U | Compact COM Express® Type 6 module with Intel® Core™ i3-5010U at 2.1 GHz with GT2 level graphics |
| cExpress-BL-Celeron® Starter Kit | Compact COM Express Type 6 module with Intel® Celeron® |
| Starterkit-COM Express 6 PLUS | COM Express formfactor starter kit with Express-BASE6 board, power supply, and accessory kit |

Accessories

| Model Number | Description/Configuration |
|--------------------------|--|
| Heat Spreaders | |
| HTS-cBL-B | Heatspreader for cExpress-BL with threaded standoffs for bottom mounting |
| HTS-cBL-BT | Heatspreader for cExpress-BL with through hole standoffs for top mounting |
| Passive Heatsinks | |
| THS-cBL-B | Low profile heatsink for cExpress-BL with threaded standoffs for bottom mounting |
| THS-cBL-BT | Low profile heatsink for cExpress-BL with through hole standoffs for top mounting |
| Active Heatsink | |
| THSF-cBL-B | High profile heatsink with Fan for cExpress-BL with threaded standoffs for bottom mounting |
| THSH-cBL-B | High profile heatsink for cExpress-BL with through hole standoffs for bottom mounting |

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