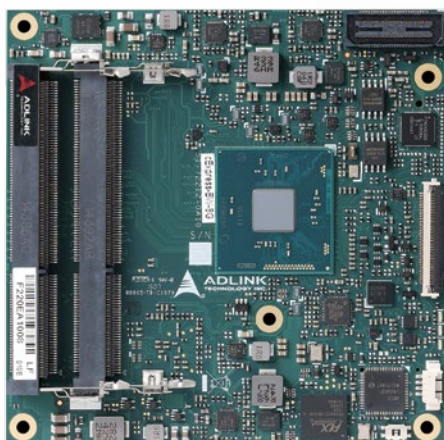


NEW



Features

- Dual, quad-core Intel® Pentium®, Celeron® N3000 Series and Atom™ SoC
- Up to 8 GB Dual Channel DDR3L at 1600MHz
- Three DDI channels, one eDP, (shared with DDI3) 3 independent displays (optional LVDS in place of eDP)
- Three PCIe x1 (five PCIe x1 with bridge)
- Gigabit Ethernet
- Two SATA 6 Gb/s (optional onboard SSD)
- Four USB 3.0, eight USB 2.0
- Smart Embedded Management Agent (SEMA) functions

Specifications

Core System

CPU	Dual or quad-core Intel® Pentium®, Celeron® N3000 Series and Atom™ SoC, 14nm process (formerly “Braswell”) Intel® Pentium® N3710, 1.6/2.56 (Burst) GHz, 400/700 (Turbo), 6W (4C) Intel® Celeron® N3160, 1.6/2.24 (Burst) GHz, 320/640 (Turbo), 6W (4C) Intel® Celeron® N3060, 1.6/2.48 (Burst) GHz, 320/600 (Turbo), 6W (2C) Intel® Celeron® N3010, 1.04/2.24 (Burst) GHz, 320/600 (Turbo), 4W (2C) Intel® Atom™ X5-E8000, 1.04/2.0 (Burst) GHz, 320 (no Turbo), 5W (4C)
Memory	Dual channel non-ECC 1600/1333 MHz DDR3L memory up to 8GB in dual SODIMM socket
Embedded BIOS	AMI EFI with CMOS backup in 8MB SPI BIOS
Cache	2MB for Pentium®, Celeron® and Atom™
Expansion Busses	3x PCIe x1: Lanes 0/1/2 (build option 5x PCIe x1 with bridge) 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 DB-40 debug module providing BIOS POST code LEDs, BMC access, SPI BIOS flashing, power testpoints, debug LEDs 60-pin XDP header for ICE debug of CPU

Video

Supports	3 independent and simultaneous display combinations of DisplayPort/HDMI/eDP monitors (optional LVDS in place of eDP)
GPU Feature Support	Encode/transcode of HD video content Supports 3D rendering, media compositing and video encoding Full hardware acceleration for decode of HEVC, H.264, SVC, VP8, VP9, MPEG4, AVS, H.263 Full hardware acceleration for encode of H.264, SVC, VP8, VP9, AVS, H.263 Supports content protection using PAVP2.0, HDCP 1.4/2.1 and Media Vault DRM DirectX 11.1 support OpenGL 4.2, ES 3.0 and OpenCL 1.2 support Note: Availability of features dependent on operating system.
LVDS/eDP	eDP support (shared with DDI3) Single/dual channel 18/24-bit LVDS (optional in place of eDP)
Digital Display Interface	DDI1 supporting DisplayPort/HDMI DDI2 supporting DisplayPort/HDMI DDI3 supporting DisplayPort/HDMI (shared with LVDS/eDP BOM option) Note: Only two simultaneous HDMI outputs supported.

Audio

Chipset	Intel® HD Audio integrated in SoC
Audio Codec	On Express-BASE6 carrier (ALC886 standard support)

Ethernet

MAC/PHY	Intel® Ethernet Controller i211AT
Interface	10/100/1000 GbE connection

I/O Interfaces

USB	4x USB 1.1/2.0/3.0 (USB 0,1,2,3) and 4x USB 1.1/2.0 (USB 4,5,6,7, port 4-7 from USB hub)
SATA	2x SATA 6Gb/s (SATA0, SATA1) Optional onboard SSD (8/16/32GB) in place of SATA1 port
Serial	2 UART ports COM 1/2 (COM 1 supports console redirection)
GPIO/SD	4 GPO and 4 GPI SD muxed with GPIO, switched by BIOS setting

Super I/O

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

TPM (optional)

Chipset	Atmel AT97SC3204
Type	TPM 1.2

Power

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 5.0 compliant, Smart Battery support
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

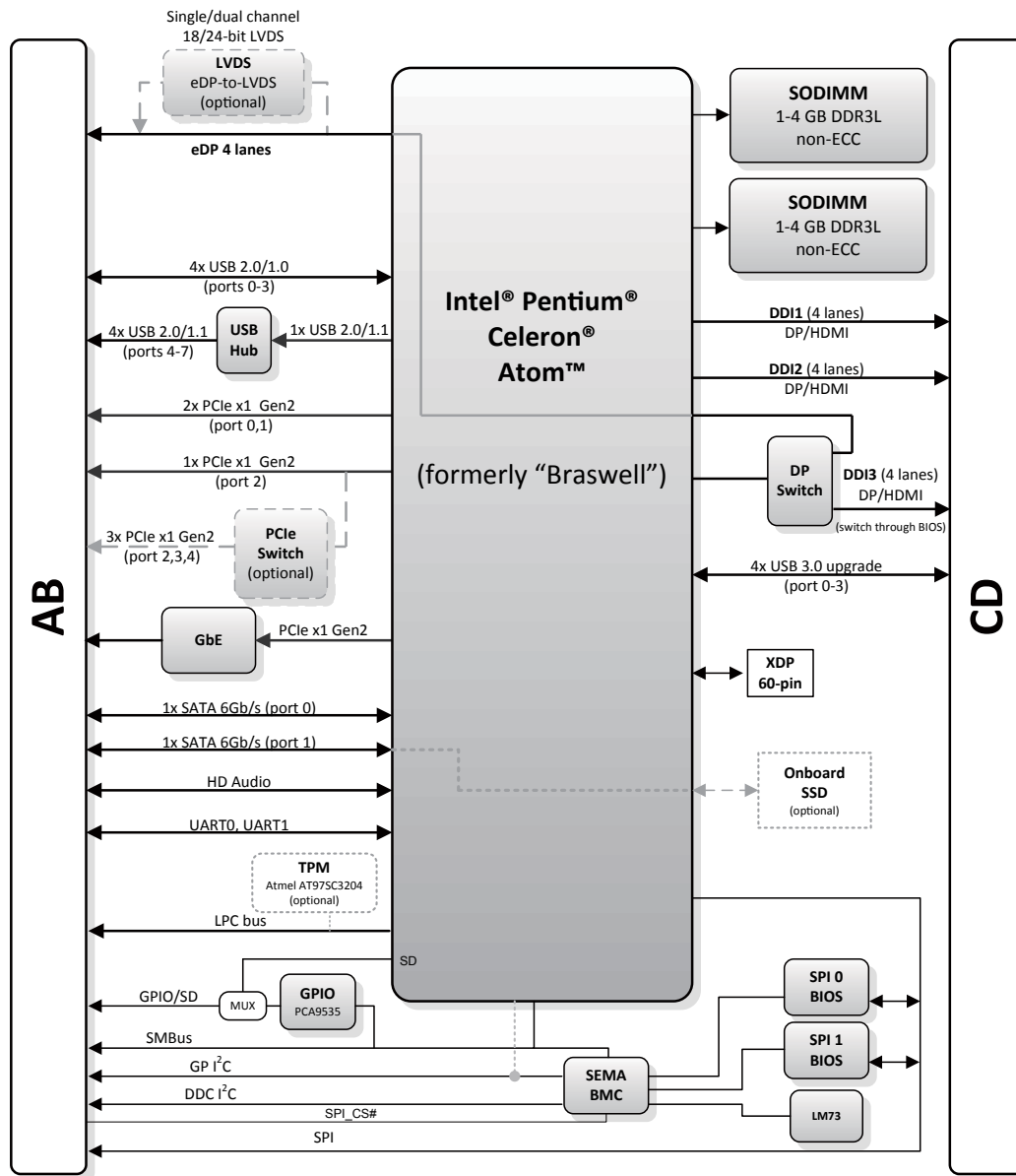
Mechanical and Environmental

Form Factor	PICMG COM.0 Rev 2.1 Type 6
Dimension	Compact size: 95 mm x 95 mm
Operating Temperature	Standard: 0°C to 60°C
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 10 64-bit, Windows 7/8.1 32/64-bit, Linux 32/64-bit
Extended Support (BSP)	WES7 32/64-bit, Linux 32/64-bit, VxWorks 32-bit

Functional Diagram



Ordering Information

Modules

Model Number	Description/Configuration
cExpress-BW-N3710	COM Express Compact size Type 6 module with Intel® Pentium® N3710 at 1.6/2.56 (Burst) GHz
cExpress-BW-N3160	COM Express Compact size Type 6 module with Intel® Celeron® N3160 at 1.6/2.24 (Burst) GHz
cExpress-BW-N3060	COM Express Compact size Type 6 module with Intel® Celeron® N3060 at 1.6/2.48 (Burst) GHz
cExpress-BW-N3010	COM Express Compact size Type 6 module with Intel® Celeron® N3010 at 1.04/2.24 (Burst) GHz
cExpress-BW-x5-E8000	COM Express Compact size Type 6 module with Intel® Atom™ x5-E8000 at 1.04/2.0 (Burst) GHz

Starter Kit

Model Number	Description/Configuration
COM Express Type 6 Starter Kit Plus	Starter kit for cExpress-BW

Accessories

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

Note: All specifications are subject to change without further notice.v.2.0