AmITX-BW-I

Thin Mini-ITX Embedded Board with Intel® Pentium®/Celeron® N3000 and Atom™ x5-E8000

Features

New



- Low-profile Thin Mini-ITX Embedded board
- Intel® Pentium®/Celeron® Processor N3000 Series and Atom™ x5-E8000 Processor
- Up to 8 GB dual channel DDR3L non-ECC at 1600/1333 MHz in stacked SODIMM sockets
- 2x DisplayPort, 1x HDMI, dual channel 18/24-bit LVDS (eDP by build option) supports three independent displays
- Supports Smart Embedded Management Agent (SEMA®) functions

Specifications

Processor & System

CPU

Dual or quad-core Intel® Pentium®/Celeron®/Atom™ Processor SoC

Intel® Pentium® N3710 1.6/2.56 (Burst) GHz 6W
Intel® Celeron® N3160 1.6/2.24 (Burst) GHz 6W (build option)
Intel® Celeron® N3060 1.6/2.48 (Burst) GHz 6W
Intel® Celeron® N3010 1.04/2.24 (Burst) GHz 4W (build option)
Intel® Atom™ x5-E8000 1.04/2.00 (Burst) GHz, 5W

BIOS

AMI EFI in 8MB SPI BIOS

Debug Interface

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

Memory

Dual channel non-ECC 1600/1333 MHz DDR3L memory up to 8GB in dual SODIMM socket

SEMA® Support

Supports voltage/current monitoring, power sequence debug, AT/ATX mode control, logistics and forensic information, flat panel control, general purpose I²C, failsafe BIOS (dual BIOS), watchdog timer and fan control

I/O Interfaces

Expansion Slots

1x PCIe x1 slot
1x Mini PCIe (half size slot) with USB
1x mSATA (full size slot) with USB
SIM card slot (build option)
microSD card slot (build option)

Serial ATA

2x SATA 6 Gbps port (one shared with mSATA)

USB

4x USB 3.0 on rear I/O
2x USB 2.0 via front panel header
2x USB 2.0 via onboard header
1x USB 2.0 on Mini PCIe and 1x USB 2.0 on mSATA slot

KB/MS

1x PS/2 internal header

Serial Ports

2x RS-232/422/485 via onboard headers (5V/12V build option)
4x RS-232 via onboard headers

Digital IO

10 GPIO on internal feature connector

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 part numbers for SKUs with "build options" will need to be created and may cause production lead times.

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Specifications

Audio

Audio Codec
Realtek ALC886

Interfaces
7.1 channel audio via 5 jacks and S/PDIF output on rear I/O
7.1 channel audio and S/PDIF output on internal header

Display

Support
3 independent displays: 1x HDMI, 2x DisplayPort, 1x LVDS switchable from DisplayPort (eDP by build option, in place of LVDS)

GPU Feature Support
Supports 3D rendering, media compositing and video encode/transcode
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, OpenGL 4.2, ES 3.0 and OpenCL 1.2
Note: Availability of features dependent on operating system

Ethernet

Controller: 2x Intel® Ethernet Controller i211AT (MAC/PHY)
Interface: 10/100/1000 GbE connection, 2x RJ-45
Wake-on-LAN: Yes

Power

Standard Input: 12V ±5% from internal 4-pin power connector or external DC jack
Supports ATX/AT mode
Peripheral Output: Onboard headers for fan and SATA power

Mechanical and Environmental

Dimension (mm): 170 mm x 170 mm (L x W)

Operating Temperature
Standard: 0˚C to +60˚C

Certification
CE, FCC Class A

Relative Humidity
10% to 90%, non-condensing

Operating Systems

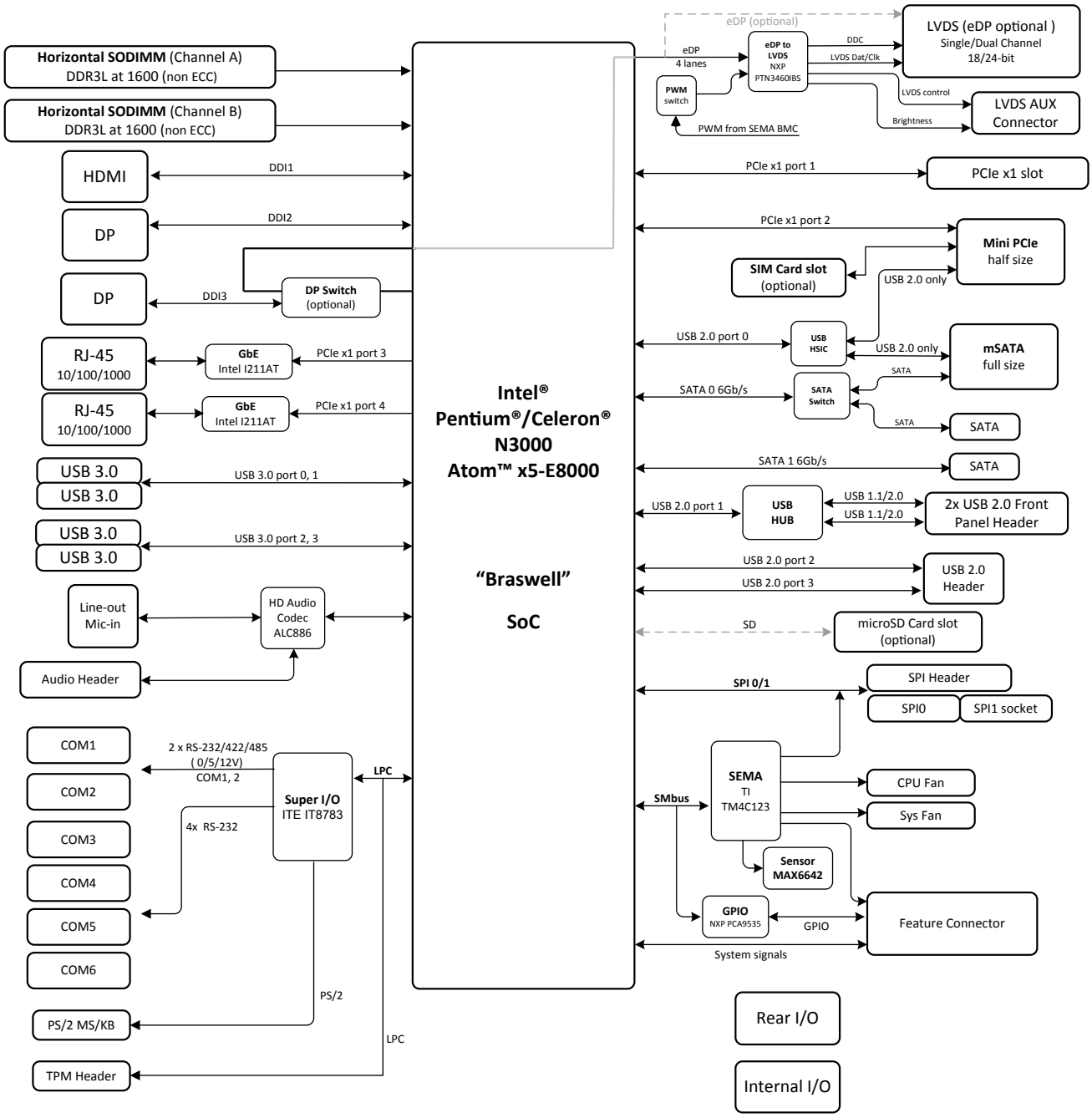
Standard Support
Windows 7/8.1/10 32/64-bit, Linux 32/64-bit

Extended Support (BSP)
WES7, Linux

Intelligent Middleware

SEMA®
Local management, control of embedded computer systems
Extended EAPI for monitoring, controlling and analytics applications
Multiple OS support and across platforms (x86, ARM)

Functional Diagram



Ordering Information

- **AmITX-BW-I-N3710**
  Thin Mini-ITX motherboard with Intel® Pentium® N3710 at 1.6/2.56 (Burst) GHz
- **AmITX-BW-I-N3160**
  Thin Mini-ITX motherboard with Intel® Celeron® N3160 1.6/2.24 (Burst) GHz (build option)
- **AmITX-BW-I-N3060**
  Thin Mini-ITX motherboard with Intel® Celeron® N3060 1.6/2.48 (Burst) GHz
- **AmITX-BW-I-N3010**
  Thin Mini-ITX motherboard with Intel® Celeron® N3010 1.04/2.24 (Burst) GHz (build option)
- **AmITX-BW-I-E8000**
  Thin Mini-ITX motherboard with Intel® Atom™ x5-E8000 1.04/2.00 (Burst) GHz

Packing List

- **32-40344-0000**
  AmITX-BW-I CPU heat sink B, low-profile, aluminum
- **30-20875-0000**
  SATA dual power cable
- **30-10057-0600**
  SATA cable
- **34-25317-0000**
  AmITX-BW-I standard rear I/O shield

Optional Accessories

- **30-20876-0000**
  COM port cable (1 port, 25cm)
- **30-20873-0000**
  PS/2 KB/MS cable (40cm)
- **30-20874-1000**
  USB 2.0 cable (2 ports, 20cm)
- **34-25317-1000**
  AmITX-BW-I low-profile rear I/O shield
- **32-40343-0000**
  AmITX-BW-I CPU heat sink A, low-profile, copper

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