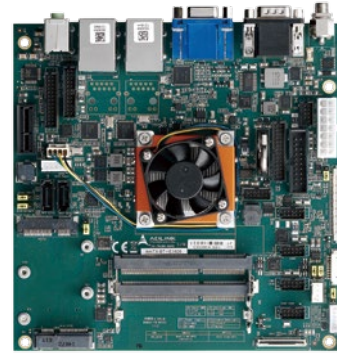


# AmITX-BT-I

## Mini-ITX Industrial Motherboard with 4th Gen Intel® Atom™ Processor E3800 Series SoC

### Features

- Single, dual or quad core Intel® Atom™ Processor E3800 Series and Celeron® SoC
- Up to 8 GB Dual SODIMM socket DDR3L at 1333MHz
- 18/24-bit dual channel LVDS and HDMI
- OpenGL 3.0, OpenCL 1.2, DX11, H.264, MPEG2, MCV, VC-1, VP8 support
- Supports Smart Embedded Management Agent (SEMA®) functions
- Extreme Rugged Operating Temperature: -40°C + 85°C (build option, Atom™ E38xx series only)



### Specifications

#### • Processor & System

##### CPU

Atom™ E3845 1.91 GHz 542/792 (Turbo) 10W (4C/1333)  
 Atom™ E3825 1.33 GHz 533 (No Turbo) 6W (2C/1066) Atom™ E3827 1.75 GHz  
 533/792 (Turbo) 8W (2C/1333)  
 Atom™ E3826 1.46 GHz 533/667 (Turbo) 7W (2C/1066)  
 Atom™ E3815 1.46 GHz 400 (No Turbo) 5W (1C/1066)  
 Celeron® N2930 1.83 GHz, 313/854 (Turbo) 7.5W (4C/1333)  
 Celeron® J1900 2.00 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: the availability of the features dependent on processor SKU

##### Memory

Dual channel non-ECC 1333/1066 MHz DDR3L memory up to 8GB in dual stacked SODIMM sockets

##### BIOS

AMI EFI 8MB SPI BIOS

##### SEMA Support

Supports: Voltage/Current monitoring, Power sequence debug support, AT/ATX mode control, Logistics and Forensic information, Flat Panel Control, General Purpose I2C, Failsafe BIOS (dual BIOS), Watchdog Timer and Fan Control

##### Debug Header

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 Testpoints, Debug LEDs

#### • I/O Interfaces

##### Expansion Slots

1x PCIe x1 slot compliant with PCI Express Base 2.0 specification  
 1x Mini-PCIe full card support with USB and SIM card socket  
 1x mSATA full card support with USB

##### Serial ATA

2x SATA 3.0 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

1x RS-232 on rear I/O, 1x RS-232/422/485 on rear I/O  
 2x RS-232 and 2x RS-232/422/485 (with 5V/12V optional) support on internal headers

##### Digital IO

10x GPI, 10x GPO on internal feature connector

## Specifications

- **Onboard Storage**

- eMMC**

- Optional soldered eMMC with extra space 8-64GB capacity

- **Audio**

- Audio Codec**

- Realtek ALC886

- Interfaces**

- Line-out, Mic-in on rear I/O

- 7.1 channel signals and S/PDIF output on internal header

- **Display**

- Graphics Core**

- Intel® Gen7 graphics core

- VGA**

- Analog VGA up to 1920x1200 @ 60 Hz

- HDMI**

- Supports HDMI 1.3a, up to 2560 x 1600 x 24bpp @ 60 Hz

- LVDS**

- Single/Dual channel 24-bit up to 1920 x 1200 @ 60 Hz, support non-EDID type

- **Ethernet**

- Controller: 2x Intel® i211AT (MAC/PHY) Ethernet controller

- Interface: PCIe x1 bus

- Wake-on-LAN: Yes

- **Power**

- Standard Input**

- ATX = 12V±5% / 5Vsb ±5% from internal header

- AT = 12V±5% from internal header or external screw connector

- Peripherals Output**

- Onboard headers for fan and SATA power

- **Mechanical and Environmental**

- Dimensions: 170 mm x 170 mm (L x W)

- Operating Temp.**

- Standard: 0°C to 60°C

- Extreme Rugged™: -40°C + 85°C

- (build option, Atom™ E38xx series only)

- Humidity**

- 5-90% RH operating, non-condensing

- 5-95% RH storage

- 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

- Relative Humidity**

- 10% to 90%, non-condensing

- HALT**

- Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

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 these "build option" part numbers will need to be newly created and this will result in production lead times.

# Functional Diagram

