

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)
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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

Onboard Storage

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

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.

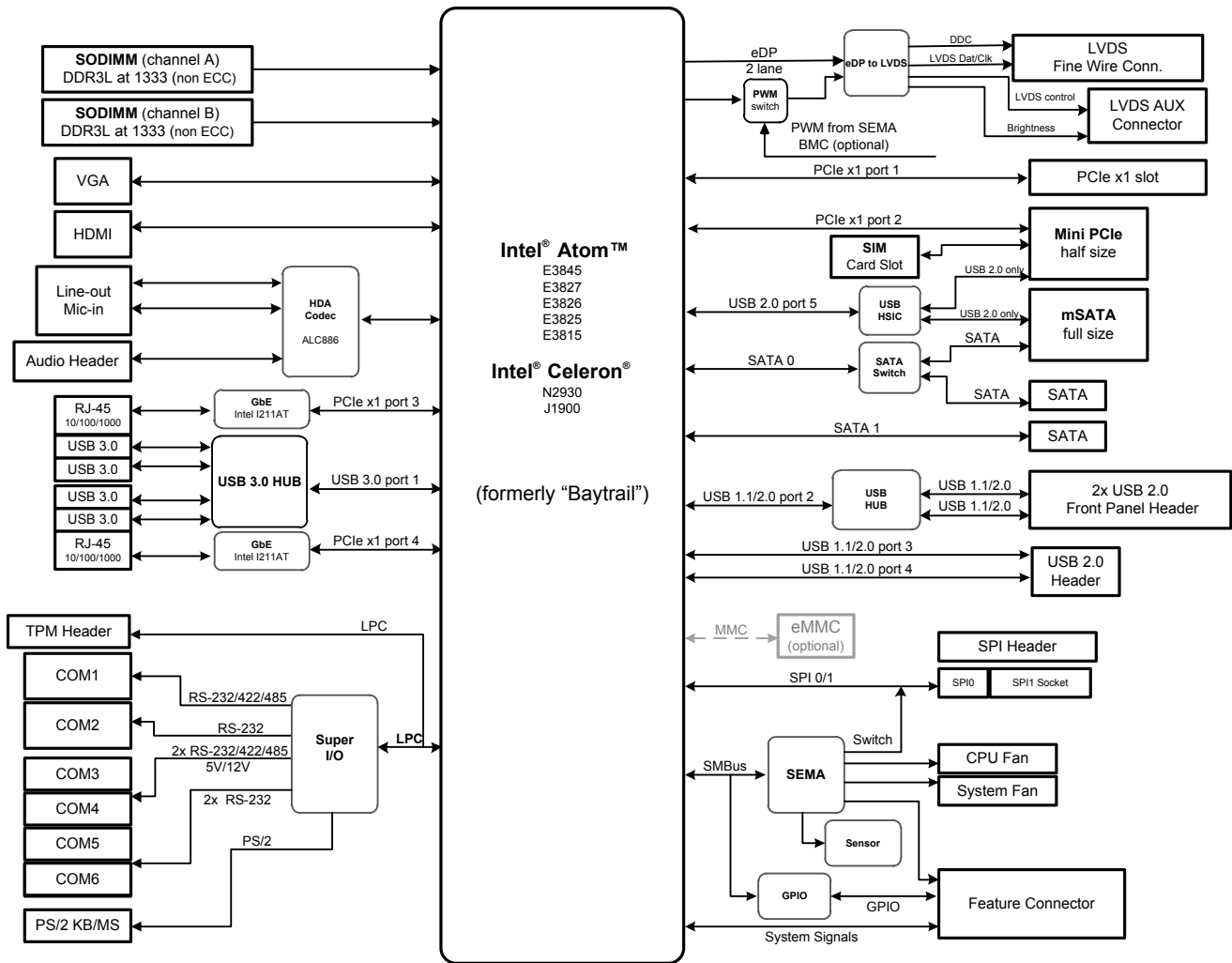
Specifications

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

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Functional Diagram



Ordering Information

Modules

Model Number	Description/Configuration
AmITX-BT-I-E3845	Mini-ITX motherboard with Intel® Atom™ E3845 processor at 1.91 GHz
AmITX-BT-I-E3827	Mini-ITX otherboard with Intel® Atom™ E3827 processor at 1.75 GHz
AmITX-BT-I-E3826	Mini-ITX motherboard with Intel® Atom™ E3826 processor at 1.46 GHz
AmITX-BT-I-E3825	Mini-ITX motherboard with Intel® Atom™ E3825 processor at 1.33 GHz
AmITX-BT-I-E3815	Mini-ITX motherboard with Intel® Celeron® E3815 processor at 1.46 GHz
AmITX-BT-I-N2930	Mini-ITX motherboard with Intel® Celeron® N2930 processor at 1.83 GHz
AmITX-BT-I-J1900	Mini-ITX motherboard with Intel® Celeron® J1900 processor at 2.00 GHz

Packing List

Model Number	Description/Configuration
30-20872-1000	ATX/AT Power Cable
30-20875-0000	SATA Dual Power Cable
30-10057-0600	SATA Cable
34-25313-0000	Rear I/O Shield

Optional Accessories

Model Number	Description
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
32-20493-0000	4010- CJ CPU Cooler with Fan (0°C to 60°C)
32-20493-1000	4010-RG CPU Cooler with Fan (0°C to 60°C)
32-20494-0000	4020-CJ CPU Cooler with Fan (-40°C to 85°C)
32-20510-0000	CU-CJ CPU Passive Heatsink (0°C to 60°C)