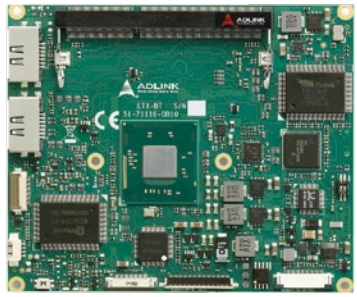
ETX-BT

ETX Module with Intel® Atom™ Processor E3800 Series SoC

Features

- Single, dual or quad-core Intel® Atom™ SoC or Celeron® Processor
- Single SODIMM for up to 4GB DDR3L Up to 4 GB Single SODIMM DDR3L at 1333 MHz
- Dual channel 24-bit LVDS, analog VGA
- 2 SATA or 2 PATA (M/S), 4x USB 2.0, 10/100 Mbps LAN (GbE via onboard connector)
- Extreme Rugged operating temperature: -40°C to +85°C (build option)
- Supports Smart Embedded Management Agent (SEMA) functions



Specifications

Core System

CPU

Single, dual or quad-core Intel® Atom™ or Celeron® Processor

Atom™ E3845 1.91 GHz 542/792 (Turbo) 10W (4C/1333)
Atom™ E3827 1.75 GHz 542/792 (Turbo) 8W (2C/1333)
Atom™ E3826 1.46 GHz 533/667 (Turbo) 7W (2C/1066)
Atom™ E3825 1.33 GHz 533 (No Turbo) 6W (2C/1066)
Atom™ E3815 1.46 GHz 400 (No Turbo) 5W (1C/1066)
Celeron® N2930 1.83 GHz, 400/756 (Turbo) 7.5W (4C/1066)
Celeron® J1900 2.00 GHz, 688/792 (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: Availability of features may vary between processor SKUs.

Memory

Single SODIMM socket for up to 4 GB non-ECC
1333/1066 MHz DDR3L memory

Embedded BIOS

AMI EFI with CMOS backup in 8MB SPI BIOS

Cache

Primary 32 kB, 8-way L1 instruction cache and 24 kB, 6-way L1 write-back data cache

Expansion Busses

PCI 32-bit rev 2.3 at 33MHz supporting 4 bus masters ISA 16-bit (through LPC-ISA bridge), no DMA support SMBus (system) , I^2C (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 I2C, Watchdog Timer

Debug Headers

40-pin multipurpose flat cable connector
Use in combination with DB-40 debug module providing BIOS POST code LEDs, BMC access, SPI BIOS flashing, power testpoints, debug LEDs

Audio

Chipset

Intel® HD Audio integrated in SOC

Audio Codec

Realtek ALC 262, 4-channel High Definition Audio

Ethernet

Type: Intel® i211 (MAC/PHY) Ethernet controller
Interface: 10/100 Mbps LAN (GbE via onboard connector)

Video

GPU Feature Support

7th generation graphics Intel core architecture with four Execution Units, supporting two independent displays

3D graphics hardware acceleration

Support for DirectX 11, OCL 1.1, OGL ES Halt/2.0/1.1, OGL 3.2

Video decode hardware acceleration including support for H.264, MPEG2, MVC, VC-1, WMV9 and VP8

Video encode hardware acceleration including support for H.264, MPEG2 and MVC formats

VGA

Analog VGA supporting resolutions of up to 2560 x 1600@60Hz, 24bpp

LVDS

Single/dual channel 18/24-bit LVDS from eDP (two lane)

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

Multi I/O and Storage

USB: 4 ports USB 2.0

PATA: max two PATA IDE with Master only supported through SATA to PATA controlle

SATA: 2 SATA 3Gb/s ports (shared with PATA)

default port 1 = PATA and port 2 = SATA

configuration of different PATA/SATA arrangements are “build options”

SSD: optional SATA SSD 4~64GB (occupies second SATA port)

Super I/O

Chipset: Nuvoton W83627DHG-PT

Serial: Two high speed RS-232C ports (COM1/COM2)

IrDA: Supports IrDA 1.0 SIR protocol or Sharp ASK-IR protocol

Parallel: SPP, ECP and EPP mode support (LPT1)

Keyboard Mouse: PS/2 type keyboard and mouse

Power

Standard Input: ATX = 5V±5% / 5Vsb ±5% or AT = 5V±5%

Management: ACPI 4.0 compliant, Smart Battery support

Power States: C0, C1, C1E, C4, C6; S0, S3, S4, S5
(Wake on USB S3/S4, WOL S3/S4/S5)

ECO mode: Supports deep S5 (ECO mode) for power saving

Operating Systems

Standard Support

Windows 7/8 32/64-bit, Linux 32/64-bit

Extended Support (BSP)

WES7/8, WEC7/8, Linux, VxWorks

Mechanical and Environmental

Form Factor: ETX Rev 3.02

Dimension: 114 mm x 95 mm

Operating Temperature

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

Screened Extreme Rugged™ Operating Temperature:
-40°C to +85°C (build option)

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

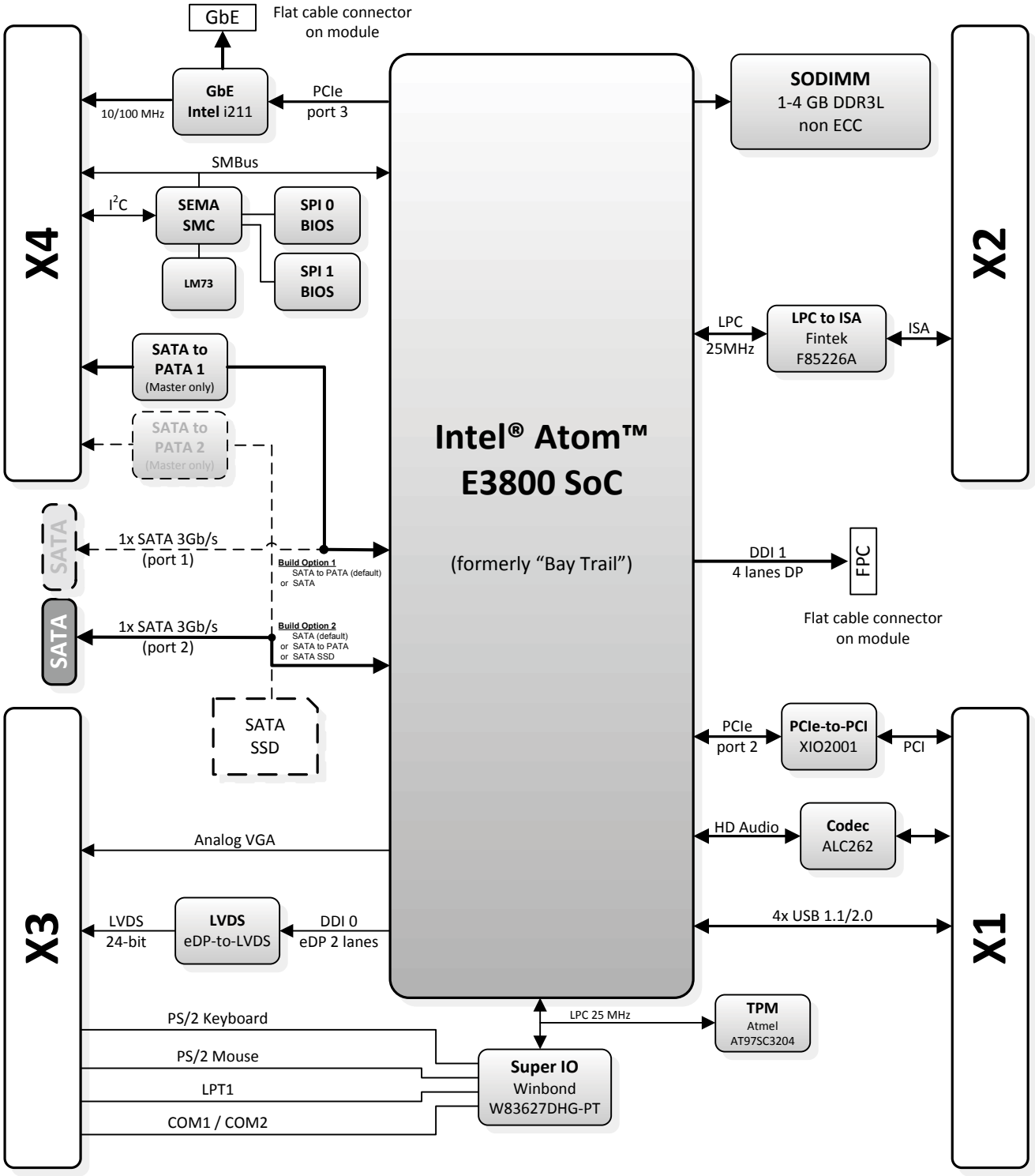
MIL-STD-202F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D

HALT

Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

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.

Functional Diagram



Ordering Information

- **ETX-BT-E3845**
  ETX Module with Intel® Atom™ E3845, 1.91 GHz 542/792 (Turbo), 10W (4C/1333)
- **ETX-BT-E3827**
  ETX Module with Intel® Atom™ E3827, 1.75 GHz 542/792 (Turbo), 8W (2C/1333)
- **ETX-BT-E3826**
  ETX Module with Intel® Atom™ E3826, 1.46 GHz 533/667 (Turbo), 7W (2C/1066)
- **ETX-BT-E3825**
  ETX Module with Intel® Atom™ E3825, 1.33 GHz 533 (No Turbo), 6W (2C/1066)
- **ETX-BT-E3815**
  ETX Module with Intel® Atom™ E3815, 1.46 GHz 400 (No Turbo), 5W (1C/1066)
- **ETX-BT-J1900**
  ETX Module with Intel® Atom™ J1900, 2 GHz, 688/792 (Turbo), 10W (4C/1333)
- **ETX-BT-N2807**
  ETX Module with Intel® Celeron® N2807, 2.16 GHz 4.5W (2C)
- **ETX-BT-N2930**
  ETX Module with Intel® Atom™ N2930, 1.86 GHz, 400/756 (Turbo), 7.5W (4C/1066)

Accessories

Heat Spreaders

- **HTS-eBT-B**
  Heatspreader for ETX-BT with threaded standoffs for bottom mounting
- **HTS-eBT-BT**
  Heatspreader for ETX-BT with through-hole standoffs for top mounting

Passive Heatsinks

- **THS-eBT-BL**
  Low profile heatsink for ETX-BT with threaded standoffs for bottom mounting
- **THS-eBT-BTL**
  Low profile heatsink for ETX-BT with through-hole standoffs for top mounting

Active Heatsink

- **THSF-eBT-B**
  High profile heatsink for ETX-BT with threaded standoffs for bottom mounting

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