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 and 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) , I²C (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)

Multi I/O and Storage

USB	4 ports USB 2.0
PATA	Two PATA IDE with Master/Slave support
SATA	Two SATA 3Gb/s ports
SSD	Optional SATA SSD 2~64 GB (occupies one 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

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

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

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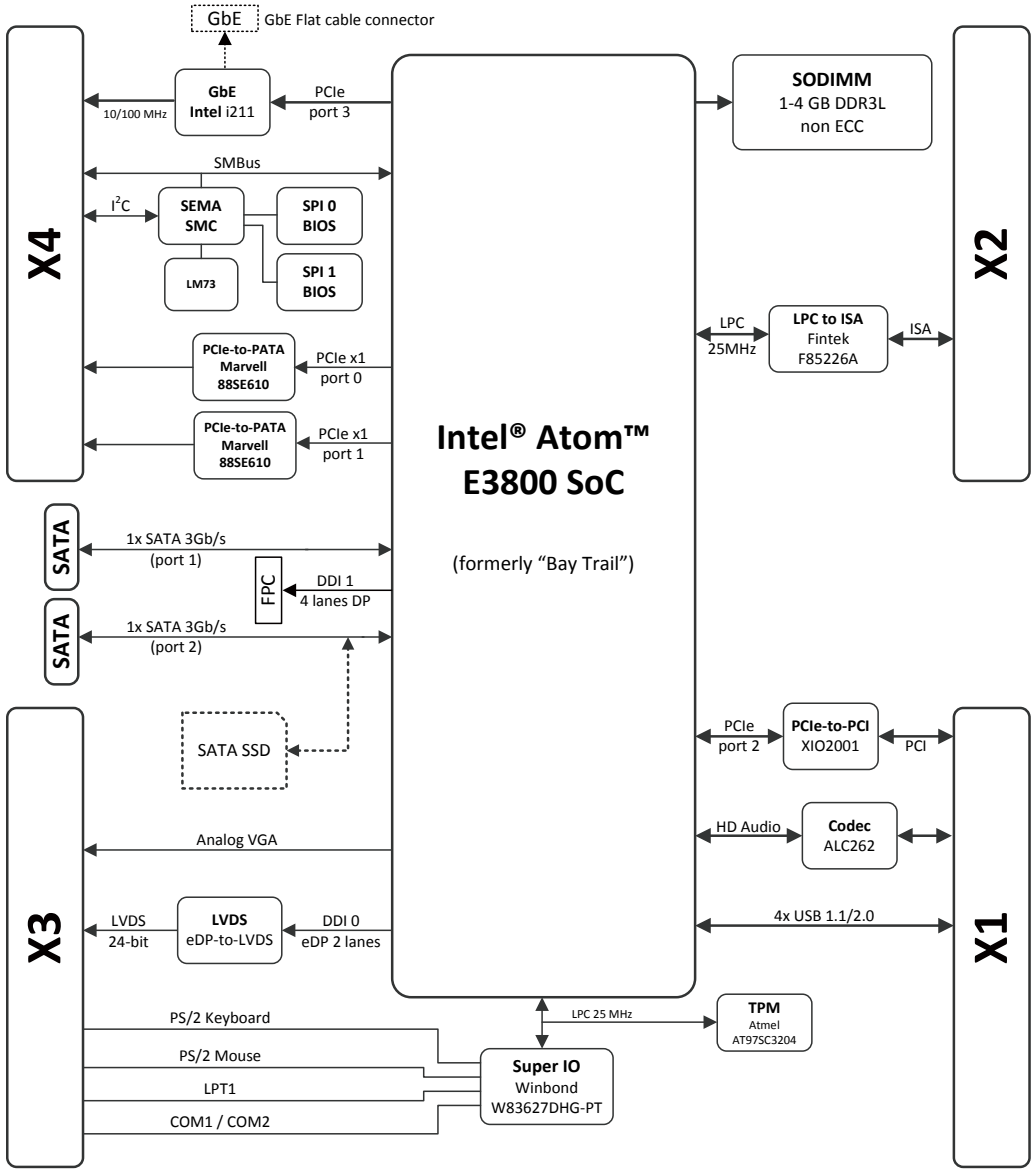
Functional Diagram



Ordering Information

Modules

Model Number	Description/Configuration
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-E3805	ETX Module with Intel® Atom™ E3805, 1.33 GHz 3W (2C/1067)
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

Model Number	Description/Configuration
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 stand-offs for top mounting
Passive Heatsink	
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