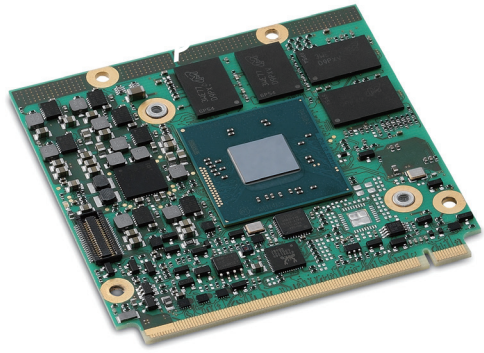
Q7-BT

Qseven® Standard Size Module with Intel® Atom™ Processor E3800 Series System-on-Chip

Features

- Single, dual or quad-core Intel® Atom™ Processor E3800 Series System-on-Chip
- Up to 4 GB DDR3L at 1066/1333 MHz
- HDMI 1.4b and dual channel LVDS
- GbE, MIPI CSI camera interface
- 2x SATA 3Gb/s or 1x SATA and 1x SATA-SSD
- Extreme Rugged™ -40°C to +85°C or commercial temp. 0°C to +60°C
- Supports Smart Embedded Management Agent (SEMA) functions 2.5 or 3.0



Specifications

Core System

CPU
Intel® Atom Atom™ Processor E3800 Series, single, dual or quad-core SoC with integrated graphics
E3845 (4C/1333), 1.91 GHz, Gfx 542/792 MHz (Turbo), 10 W TDP
E3826 (2C/1066), 1.46 GHz, Gfx 533/667 MHz (Turbo), 7 W TDP
E3815 (1C/1066), 1.46 GHz, Gfx 400 MHz (no Turbo), 5 W TDP
E3805 (2C/1066), 1.33 GHz (No GFX) 3W TDP
Other processors on request

Memory
Up to 4 GB DDR3L at 1066/1333 MHz

Embedded BIOS
AMI UEFI with CMOS backup in 8 MB SPI BIOS, Fast Boot support

Cache
512 kB to 2 MB L2 cache

SEMA Board Controller
Supports: Voltage/Current monitoring, Power Sequencing, Logistics and Forensic Information, Flat Panel Control, I²C Bus Control, GPIO Control, User Flash, Failsafe BIOS (dual BIOS), Watchdog Timer and Fan Control

Audio

Chipset
Intel® HD Audio integrated in SoC

Ports
HDA for audio codec on carrier

Ethernet

Intel® MAC/PHY
1x Intel® i210-IT Ethernet controller

Interface
1x 10/100/1000 GbE

I/O Interfaces

PCIe
3x PCIe x1 Gen2

USB
1x USB 3.0 + 5x USB 2.0 host + 1x USB 2.0 client

SATA
2x SATA 3 Gb/s or 1x SATA & 1x SATA-SSD (optional)

SSD
onboard SATA-SSD (optional)

SDIO
1x SDIO (4-bit)

Camera
CSI 4L/1L on feature connector

Serial
1x I²C, 1x SPI, 1x HS-UART, Power Management, SMBus

eMMC
Soldered, bootable eMMC flash storage from 4GB to 64GB (optional)

LPC
1x LPC

Video

GPU Feature Support
7th generation Intel® graphics core architecture with four execution units, supports two independent displays 2D and 3D graphics hardware acceleration Support for DirectX 11.1, OGLES 2.0, OGL 3.2
Video decode HW acceleration for H.264, MPEG2, VC1, VP8 formats
Video encode HW acceleration for H.264, MPEG2 formats

LVDS
Single channel 18/24-bit LVDS from DDI0

HDMI/DP++
HDMI 1.4a from DDI1

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Mechanical and Environmental

Form Factor
Qseven Specification 2.0

Dimension
Standard size, 70 mm x 70 mm

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

Extreme Rugged: -40°C to +85°C

Humidity
5-90% RH operating, non-condensing
5-95% RH storage (and operating with conformal coating)

Shock and Vibration
IEC 60068-2-64 and IEC-60068-2-27, MIL-STD-202 F, 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

Power

Standard Input
3.0 V~5.25 V DC ±5%

Power States
C0-C6, S0, S3, S4, S5

Operation System

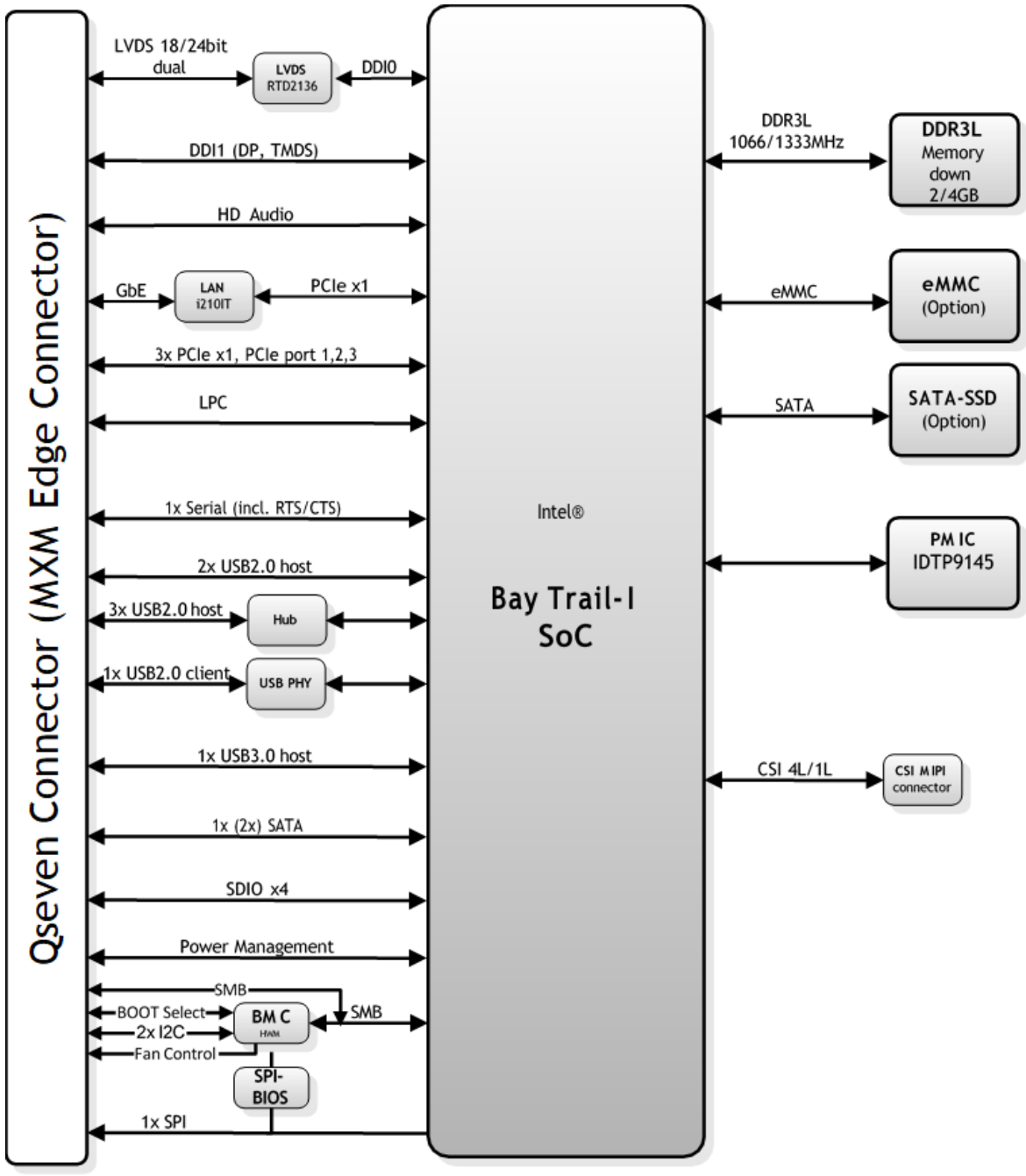
Standard Support
Linux, VxWorks, Windows 7/8, Windows Embedded, Compact 7

On Request
QNX, Android

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

- **Q7-BT4-4G-8G-ER**
  Qseven module with Intel® Atom E3845, quad core, 4 GB DDR3L, 8GB eMMC, -40°C to +85°C
- **Q7-BT2-4G-8G-ER**
  Qseven module with Intel® Atom E3826, dual core, 4 GB DDR3L, 8GB eMMC, -40°C to +85°C
- **Q7-BT4-4G-8GS-ER**
  Qseven module with Intel® Atom E3845, quad core, 4 GB DDR3L, 8GB SATA SSD, -40°C to +85°C
- **Q7-BT1-2G-8G-ER**
  Qseven module with Intel® Atom E3815, single core, 2 GB DDR3L, 8GB eMMC, -40°C to +85°C
- **Q7-BT-HS**
  Heatspreader for Q7-BT
- **Q7-BT-HS2**
  Passive heatsink for Q7-BT, dual core, 0°C to 70°C

*other configurations by request

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