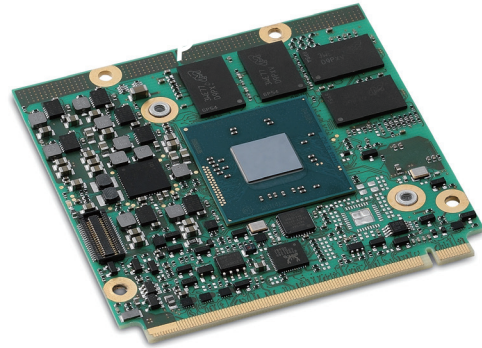


Q7-BT

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, OGL ES 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 DDIO

HDMI/DP++

HDMI 1.4a from DDIO

- **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

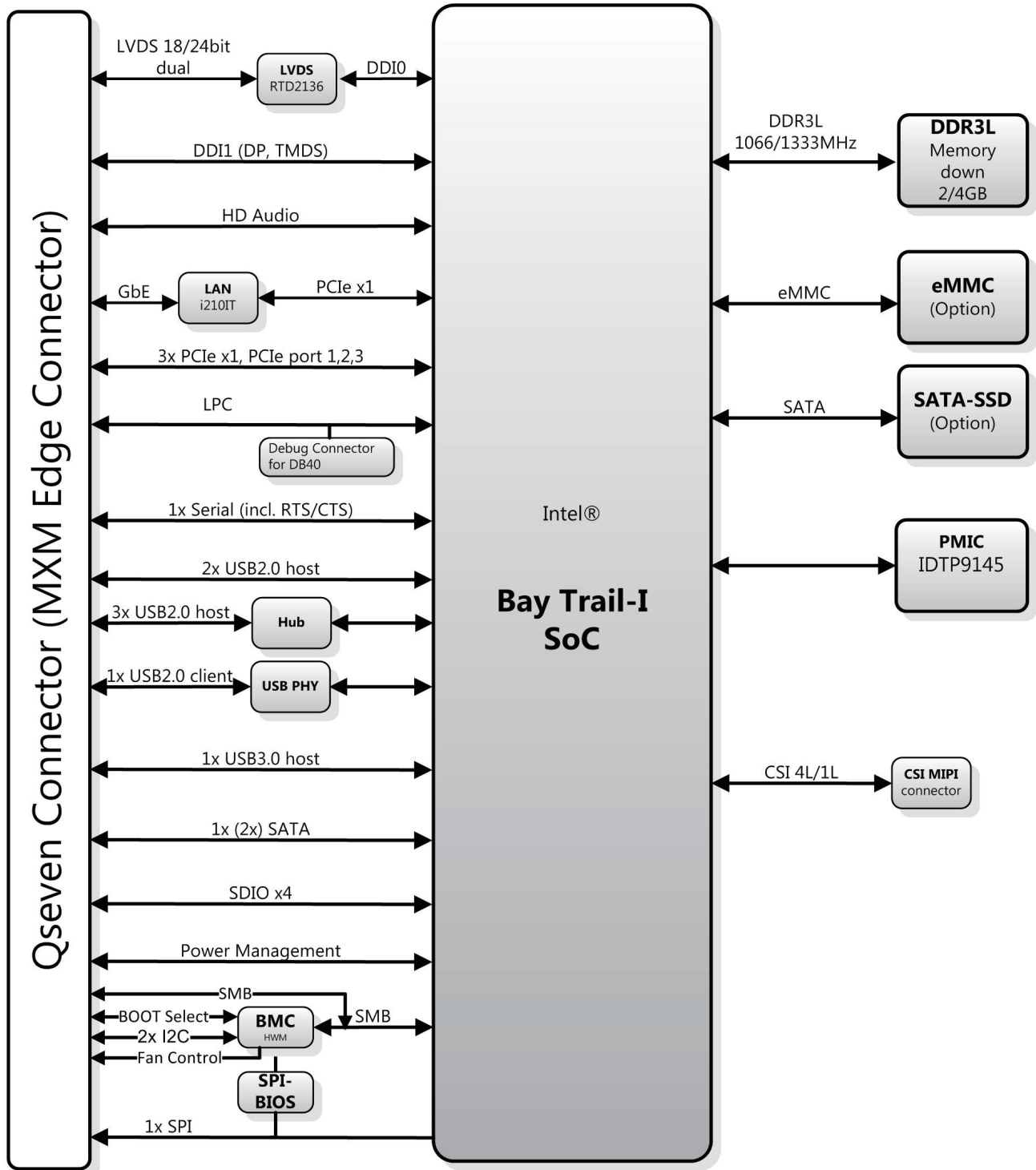
- **Intelligent Middleware**

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