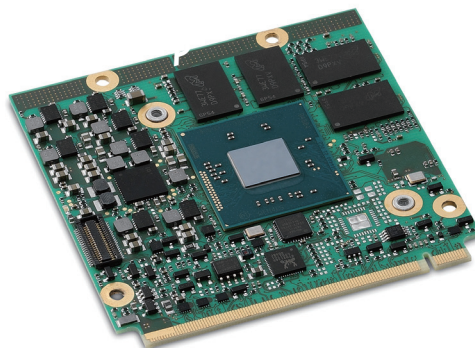


# Q7-BT

## 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™ 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, Logistics and Forensic information, Flat Panel Control, I2C Bus Control, User Flash, Failsafe BIOS (dual BIOS), Watchdog Timer and Fan Control

#### Video

GPU Feature Support	7th generation Intel® graphics core architecture with four execution units supporting 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	Dual channel 18/24-bit LVDS from DDIO
HDMI	HDMI from DDIO (up to 2,560 x 1,600 pixels)

#### Audio

Chipset	Intel® HD Audio controller integrated in SOC
Ports	HDA for audio codec on carrier

#### Ethernet

Intel® MAC/PHY	1x Intel® i210IT Ethernet controller
Interface	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)
eMMC	Soldered, bootable eMMC flash storage from 4GB to 64GB (optional)
SSD	onboard SATA-SSD (optional)
SDIO	1x SDIO (4-bit)
Camera	CSI 4L/1L on feature connector
Serial	1x I <sup>2</sup> C, 1x SPI, 1x HS-UART, Power Management, SMBus
LPC	1x LPC

#### Power

Standard Input	5.0 V ±5%
Power States	Supports C0-C6, S0, S3, S4, S5

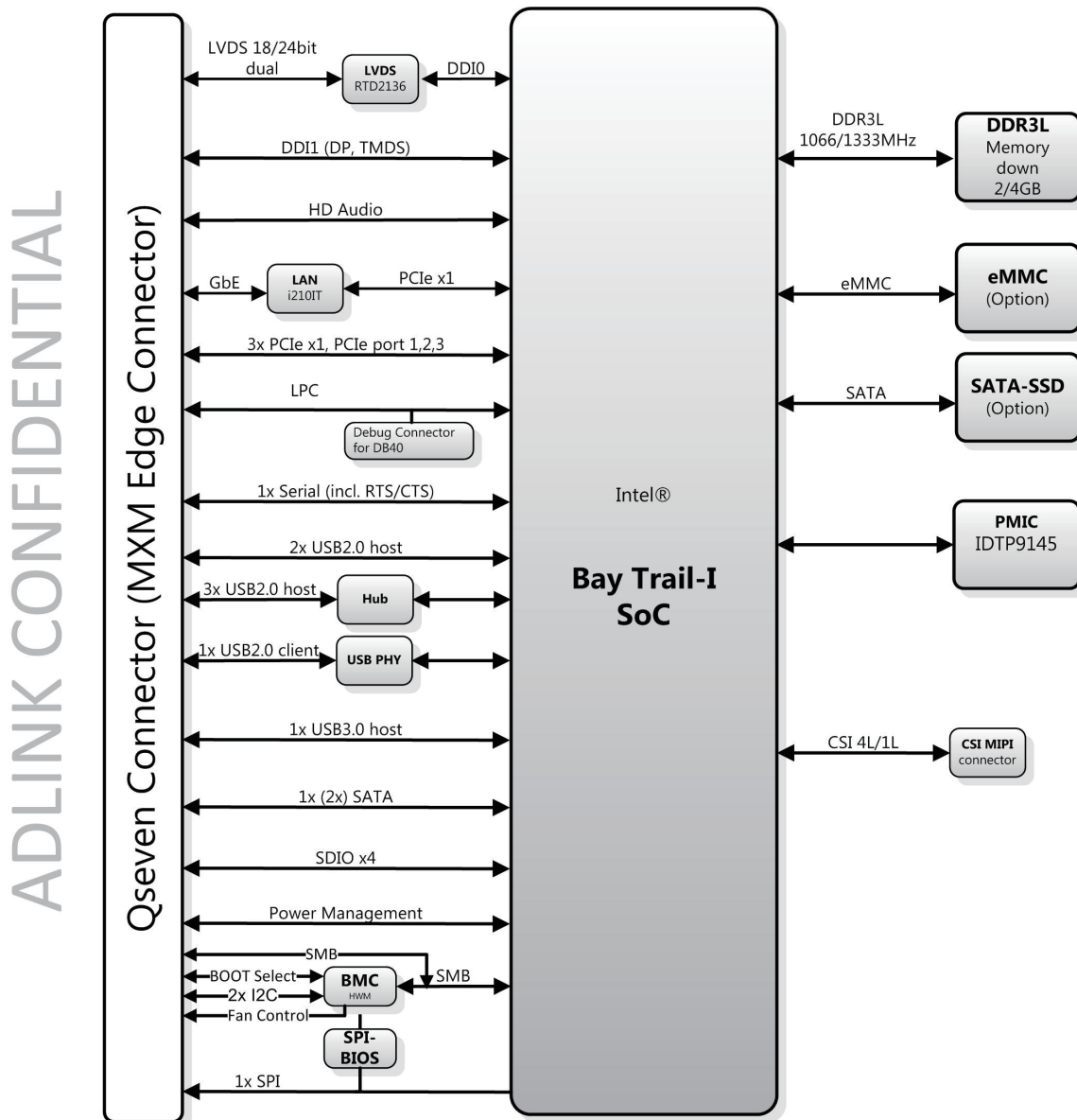
#### Operation System

Standard Support	Linux, VxWorks, Windows 7/8, Windows Embedded, Compact 7
On Request	QNX, Android

## 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-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

## Functional Diagram



## SEMA®:

- Local management, control of embedded computer systems
- Extended EAPI for monitoring, controlling and analytics applications
- Multiple OS support and across platforms (x86, ARM)

## SEMA Cloud®:

- Application ready comprehensive industrial grade IoT Platform
- Connecting Devices to a Cloud Platform and to Web Applications
- Remote monitoring and controlling managing of connected devices
- Enabling integration of operational device data into business processes
- Cloud based Platform as a Service (PaaS)

## 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