

**NEW**



### Features

- Single, dual or quad-core Intel® Atom™ Processor E3800 Series System-on-Chip
- Up to 8 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 Atom™ E3845 (4C/1333), 1.91 GHz, Gfx 542/792 MHz (Turbo), 10 W TDP Atom™ E3826 (2C/1066), 1.46 GHz, Gfx 533/667 MHz (Turbo), 7 W TDP Atom™ E3815 (1C/1066), 1.46 GHz, Gfx 400 MHz (no Turbo), 5 W TDP Atom™ E3805 (2C/1066), 1.33 GHz (No GFX) 3W TDP
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Memory	Up to 8 GB DDR3L at 1066/1333 MHz, memory down
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
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	Video decode HW acceleration for H.264, MPEG2, VC1, VP8 formats Video encode HW acceleration for H.264, MPEG2 formats
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LVDS	Dual channel 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	I²S and 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 4 GB to 64 GB (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
LPC	1x LPC / (optional GPIO)

#### Power

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

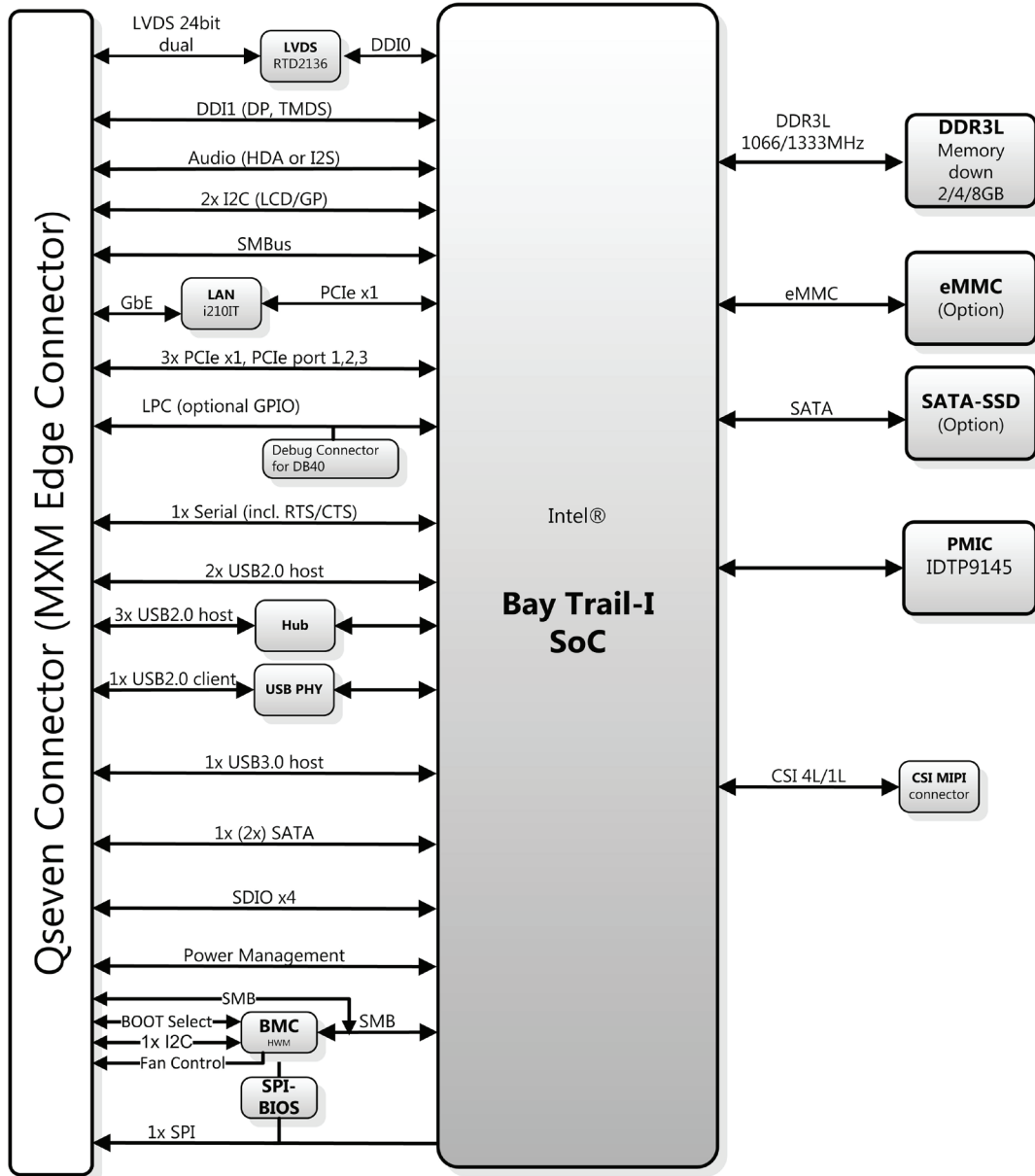
#### Mechanical and Environmental

Form Factor	Qseven Specification v2.0
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

#### Operating Systems

Standard Support	Linux, VxWorks, Windows 7/8, Windows Embedded Compact 7
Extended Support (BSP)	QNX, Android

## Functional Diagram



## Ordering Information

### Modules

Model Number	Description/Configuration
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