

NEW



Features

- Single, dual or quad-core Intel® Atom™ Processor E3800 Series System-on-Chip
- Up to 8 GB DDR3L at 1066/1333 MHz
- DisplayPort/TDMS and LVDS
- GbE, camera interface
- 2x SATA 3Gb/s, 1x USB 3.0, 6x USB 2.0
- Extreme Rugged™ operating temperature: -40°C to +85°C
- Supports Smart Embedded Management Agent (SEMA) functions



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
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 Video decode HW acceleration for H.264, MPEG2, VC1, VP8 formats Video encode HW acceleration for H.264, MPEG2 formats
LVDS	Dual channel 24-bit LVDS from DDIO
Displayport	DP/TDMS from DDH1 (up to 2,560 x 1,600 pixels)

Audio

Chipset	Intel® HD Audio integrated in SOC
Ports	I²S and HDA for audio codec on carrier

Ethernet

Intel® MAC/PHY Interface	1x Intel® i210IT Ethernet controller 10/100/1000 GbE
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I/O Interfaces

PCIe	3x PCIe x1 Gen2
USB	1x USB 3.0 + 6x USB 2.0
SATA	2x SATA 3 Gb/s
eMMC	Soldered, bootable eMMC flash storage from 4 GB to 64 GB (optional)
SDIO	1x SDIO (4-bit)
Camera	CSI 4L/1L on separate connector
Serial	2x SPI, 3x I²C, 1x I²S, Power Management, 1x UART
LPC	1x LPC

Power

Standard Input	3.0 V ~ 5.25 V DC ±5%
Power States	Supports C0-C6, S0, S3, S4, S5

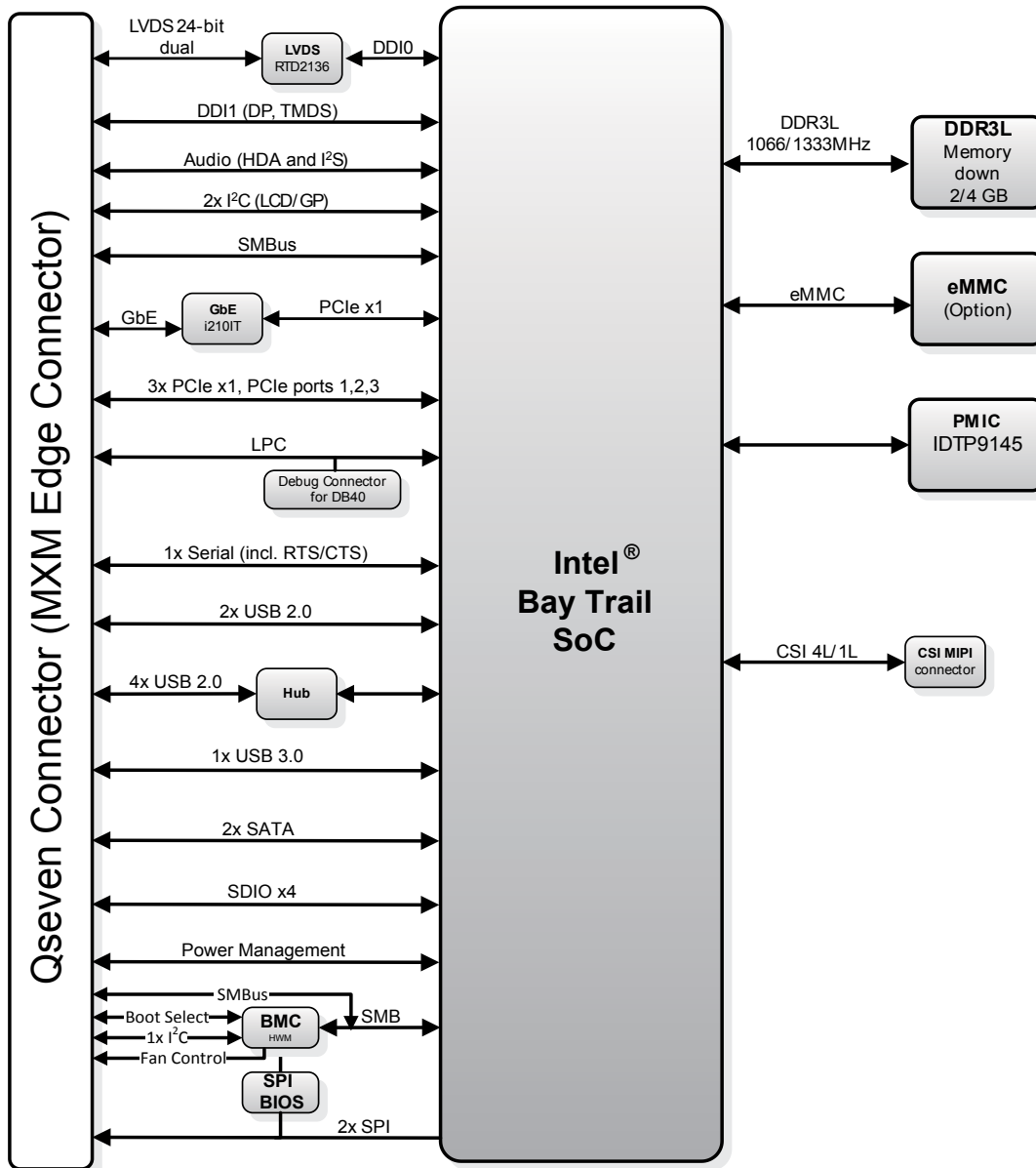
Mechanical and Environmental

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 Standard Size Module with Intel® Atom™ E3845, quad core, 4 GB DDR3L, 8GB eMMC, Extreme Rugged™ operating temperature: -40°C to +85°C
Q7-BT2-4G-8G-ER	Qseven Standard Size Module with Intel® Atom™ E3826, dual core, 4 GB DDR3L, 8GB eMMC, Extreme Rugged™ operating temperature: -40°C to +85°C
Q7-BT1-2G-8G-ER	Qseven Standard Size Module with Intel® Atom™ E3815, single core, 2 GB DDR3L, 8GB eMMC, Extreme Rugged™ operating temperature: -40°C to +85°C
Q7-BT-HS	Heatspreader for Q7-BT

* Other configurations by request

Note: All specifications are subject to change without further notice.