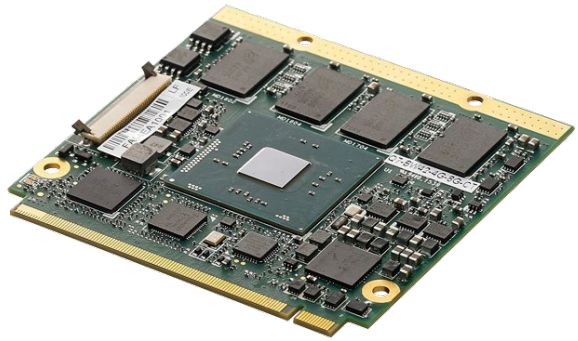
Q7-BW

Qseven® Standard Size Module with Intel® Pentium® and Celeron® Processor N3000 Series System-on-Chip

Features

- Dual or quad core Intel® N3000 Series System-on-Chip
- Up to 8 GB DDR3L at 1600 MHz
- eDP, LVDS, HDMI/DP
- 2x MIPI CSI camera interface, GbE
- 2x SATA3 6Gbit/s or 1x SATA and 1x SATA-SSD
- Operating temperature 0°C to +60°C
- Supports Smart Embedded Management Agent (SEMA) functions



Specifications

Core System

CPU

Intel® Pentium® N3710, 4 cores, 2.6GHz, 6W TDP
Intel® Celeron® N3160, 4 cores, 2.2GHz, 6W TDP
Intel® Celeron® N3060, 2 cores, 2.5GHz, 6W TDP
Intel® Celeron® N3010, 2 cores, 2.2GHz, 4W TDP
Intel® Atom™ X5-E8000, 1.04/2.0 (Burst) GHz, 320 (no Turbo), 5W (4C)
Other processors on request

Memory

Up to 8 GB DDR3L at 1600 MT/s dual channel, 64bit

Embedded BIOS

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

Cache

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

Ethernet

Intel® MAC/PHY

1x Intel® i211 Ethernet controller

Interface

10/100/1000 GbE

Video

GPU Feature Support

98th generation Intel® graphics core architecture with sixteen execution units, supports three independent displays 4K video (up to 3840 x 2160 @ 30fps), 2D and 3D graphics hardware acceleration, Support for DirectX 12/11.2, OpenGL 4.2/3.3, OpenCL 1.2, Video decode HW acceleration for HH.265, H.264, MPEG2, MVC, VC-1, WMV9, JPEG, VP8, Video encode HW acceleration for H.264, MVC, JPEG

Standard Display

Single/dual channel 18/24-bit LVDS HDMI/DP (3840x2160@30Hz or 2560x1600@60Hz)

Custom Options

2x eDP (2560x1440@60Hz) HDMI/DP (3840x2160@30Hz or 2560x1600@60Hz)

Power

Standard Input

5.0 V ±5%

Power States

Supports C0-C6, S0, S3, S4, S5

Audio

Ports

Intel® HD Audio for Audio codec on carrier

Specifications

I/O Interfaces

PCIe
3x PCIe x1 Gen2

USB
1x USB 3.0 host + 6x USB 2.0 client

SATA
2x SATA3 6Gbit/s or 1x SATA and 1x SATA-SSD (optional)

SSD
onboard SATA-SSD (optional)

SDIO
1x SDIO 3.0 (4bit)

Camera
2x MIPI CSI 4L/2L camera support

Serial
2x SPI, 1x I²C, 1x UART, 1x DB40, 1x HDA, 1x SMBus, 1x LPC

eMMC
Onboard eMMC (optional)

Operation System

Standard Support
Linux, Windows 7/8.1/10

On Request
QNX, Android, VxWorks

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

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

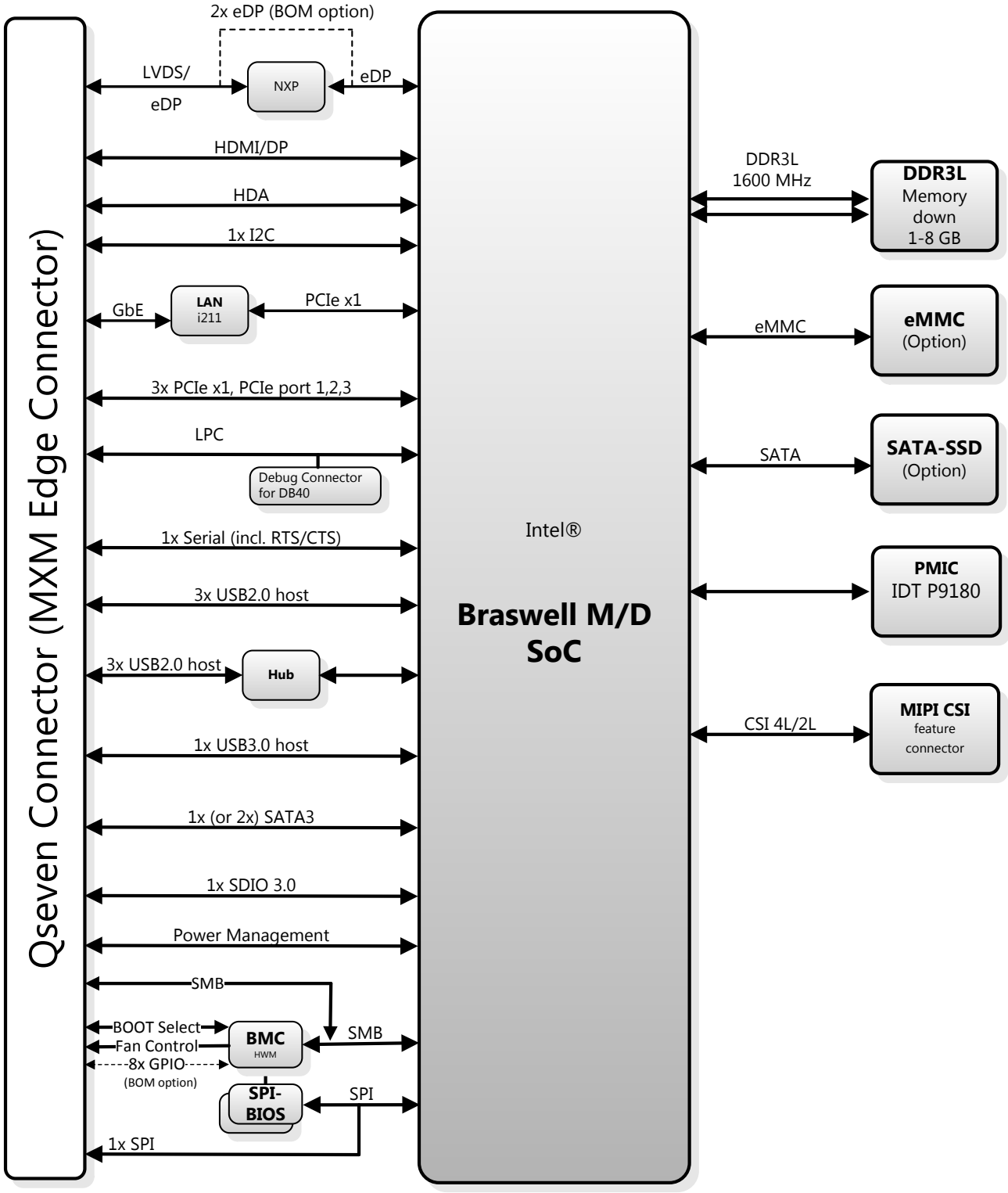
Shock and Vibration
IEC 60068-2-64 and IEC-60068-2-27, MIL-STD-202 F, Method 213B, Table 213-I, Condition A and Method 214A, Table 214-I, Condition D

HALT
Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

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-BW41-4G-8G-CT**
  Qseven module with Intel® Pentium® N3710, quad core, 4 GB DDR3L, 8 GB eMMC, 0°C to 60°C
- **Q7-BW42-4G-8G-CT**
  Qseven module with Intel® Celeron® N3160, quad core, 4 GB DDR3L, 8 GB eMMC, 0°C to 60°C
- **Q7-BW42-4G-8GS-CT**
  Qseven module with Intel® Celeron® N3160, quad core, 4 GB DDR3L, 8 GB SATA SSD, 0°C to 60°C
- **Q7-BW21-2G-8G-CT**
  Qseven module with Intel® Celeron® N3060, dual core, 2 GB DDR3L, 8 GB eMMC, 0°C to 60°C
- **Q7-BW22-2G-8G-CT**
  Qseven module with Intel® Celeron® N3010, dual core, 2 GB DDR3L, 8 GB eMMC, 0°C to 60°C
- **Q7-BW-HS**
  Heatspreader for Q7-BW
- **Q7-BW-HS2**
  Passive heatsink for Q7-BW, 0°C to 60°C

*other configurations by request

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