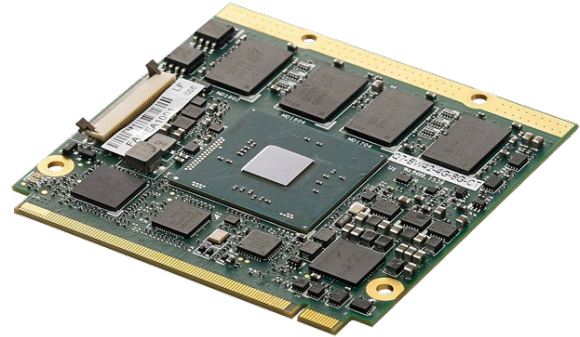


# Q7-BW

## 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, I<sup>2</sup>C 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 I<sup>2</sup>C, 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<sup>®</sup>**

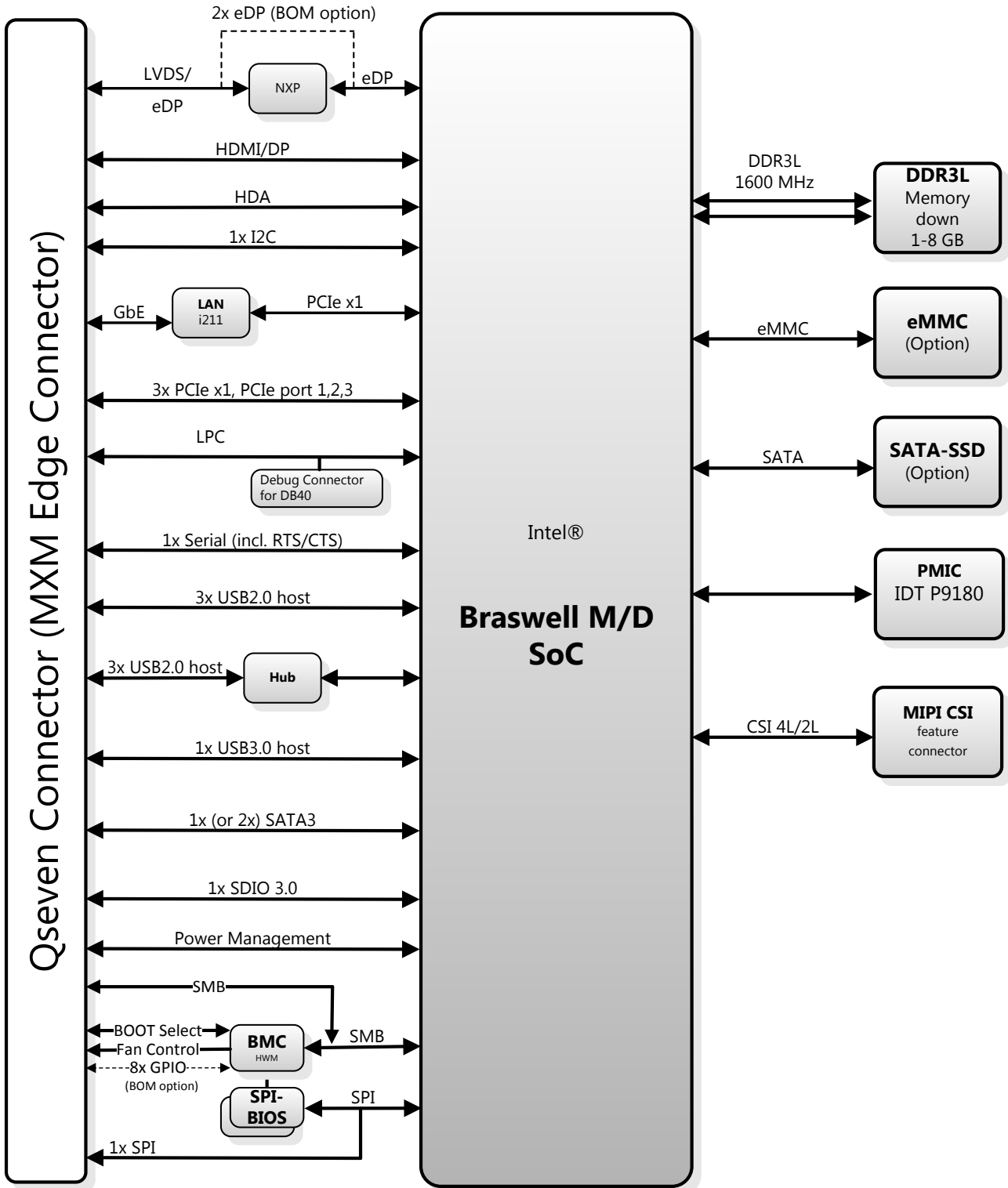


Local management, control of embedded computer systems

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