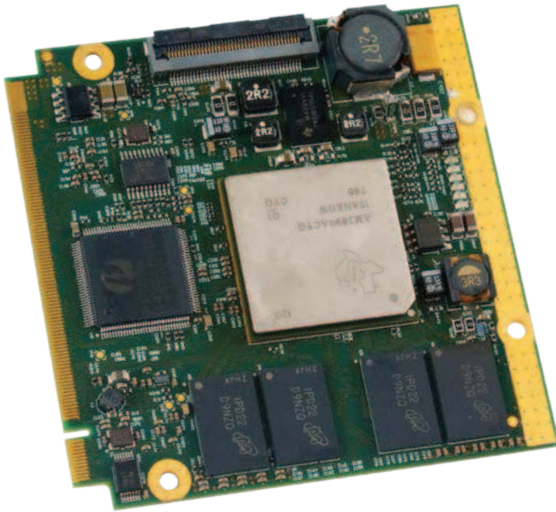


# EMBEDDED++

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## EPP-Q7-DM8168



## Description

**EPP-Q7-DM8168** COM module is an innovative product that brings the power of DSP along with the HD video capability in the Qseven™ arena. With its unique combination of high-performance C674x DSP core, three enhanced HD Coprocessor and ARM Cortex A8 CPU, this powerful COM module is especially suited for Machine/Industrial vision systems, High-end test & measurement systems, Medical/Biological Imaging as well as Multi-channel full HD video encode/decode applications.

This board enables DSP-intensive applications to benefit from usage of industry standard computer-on-module board with rich set of standard PC interfaces. In most cases Qseven™ are plugged into application-specific baseboard.

For evaluating purposes, a number of reference baseboards are available.



### Highlights

- Texas Instruments TMS320DM8168
  - ARM Cortex A8 CPU up to 1.2 GHz
  - DSP C674x up to 1.0 GHz
  - Three enhanced HD Coprocessors
- 1GB DDR3 SDRAM
- Up to 4GB Flash SSD soldered on board
- Gigabit Ethernet
- One PCI Express 1.1 port
- HDMI/DVI up to 1920x1080 resolution
- Single Channel LVDS 24 bit up to 720p
- Two SATA 3.0 interfaces
- Six USB 2.0
- AC'97 audio

|                        |             |
|------------------------|-------------|
| Dimensions             | 70x70 mm    |
| Typ. Power Dissipation | 11W         |
| Performance            | Mid         |
| Temperature            | -40°C +85°C |

## Technical Data –EPP-Q7-DM8168

### Core Logic, Memory

#### CPU

TMS320DM8168 DaVinci SoC combining a C674x floating/fixed point DSP operating up to 1.0 GHz,  
ARM Cortex-A8 core operating up to 1.2 GHz and three enhanced HD Coprocessor

#### RAM

up to 1 GByte DDR3-1600 SDRAM (soldered)

#### Flash

Up to 4 GB NAND Flash

### Storage Interfaces

2 x SATA 3.0 interfaces

1 x MMC/SD card support

### Bus Interfaces

PCI Express 1.1 port (dual lane)

5 x USB 2.0 host, 1x USB Client/Host

### Display Interface

#### Integrated

SGX 3D graphics engine – Up to 27M polygons/second  
HDMI Interface (1080p)  
Single channel LVDS interface (24bit,1280x720 @60Hz)

### LAN Interface

#### Ethernet

1x 10/100/1000 Base-T Gigabit Ethernet  
IEEE 802.3 compliant

### Sound Interface

#### Audio

AC'97 audio interface

### Qseven Interface

Version 1.20 compliant

### Miscellaneous

#### Real Time Clock

battery buffered via Qseven connector

### Additional Interfaces

#### Serial I/O

I<sup>2</sup>C up to 400KBit/s, SPI interface  
(2x SS# + 2x SS# on feature connector)

1 x UART, (TxD, RxD) routed to Qseven connector

1 x UART, routed to feature connector

#### Camera Interface

1x 8-bit YCbCr (Embedded or external sync),  
on feature connector

### Firmware, Software

#### Linux 5.03.01

Board Support Package

#### Android 2.3

Board Support Package

### Power Supply

#### Power

+5V +/-5%, 5V Standby  
Power Consumption: 9W typ.

### Environment

#### Ambient Temp.

0°C + 60°C (operating) commercial  
-40°C . + 85°C (operating) extended  
-40°C . + 125°C (storage)

#### Humidity

5 ... 90% (operating, non condensing)  
5 ... 90% (storage, non-condensing)

### Mechanical

#### Dimensions

Length: 70 mm  
Width: 70 mm  
Height: 13 mm with heat spreader installed

## Order Reference – EPP-Q7-DM8168

| Order Number           | Description  |
|------------------------|--|
| EPP-Q7-DM8168-12-1-2-C | Qseven-compatible CPU module (70x70mm) TI ARM Cortex A8 at 1.2 GHz, 1024MB DDR3, soldered, integrated DSP C674x at 1.0 GHz and three enhanced HD coprocessors, HDMI/DP 1920x1080, LVDS 1280x720, GbE, 1 x PCIe, 2 x SATA, 6 x USB 2.0, 2GB Flash, Comercial temperature range  |
| EPP-Q7-DM8168-12-1-2-I | Qseven-compatible CPU module (70x70mm) TI ARM Cortex A8 at 1.2 GHz, 1024MB DDR3, soldered, integrated DSP C674x at 1.0 GHz and three enhanced HD coprocessors, HDMI/DP 1920x1080, LVDS 1280x720, GbE, 1 x PCIe, 2 x SATA, 6 x USB 2.0, 2GB Flash, Industrial temperature range |
| EPP-Q7-DM8168-12-1-4-C | Qseven-compatible CPU module (70x70mm) TI ARM Cortex A8 at 1.2 GHz, 1024MB DDR3, soldered, integrated DSP C674x at 1.0 GHz and three enhanced HD coprocessors, HDMI/DP 1920x1080, LVDS 1280x720, GbE, 1 x PCIe, 2 x SATA, 6 x USB 2.0, 4GB Flash, Comercial temperature range  |
| EPP-Q7-DM8168-12-1-4-I | Qseven-compatible CPU module (70x70mm) TI ARM Cortex A8 at 1.2 GHz, 1024MB DDR3, soldered, integrated DSP C674x at 1.0 GHz and three enhanced HD coprocessors, HDMI/DP 1920x1080, LVDS 1280x720, GbE, 1 x PCIe, 2 x SATA, 6 x USB 2.0, 4GB Flash, Industrial temperature range |

## Accessories

| Order Number | Description  |
|--------------|--|
| TBD          | <b>Cooling</b> <ul style="list-style-type: none"><li>- Heat spreader for EPP-Q7-DM8168</li><li>- Heat rail for Qseven baseboards, recommended for additional heat dissipation from the Qseven module to the Qseven baseboard</li></ul> |

