

**PRODUCT BRIEF:**

Logic :: Texas Instruments  
www.logicpd.com/ti

## OMAP-L138 SOM-M1 System on Module

**:: SUPPORTED PROCESSORS:**

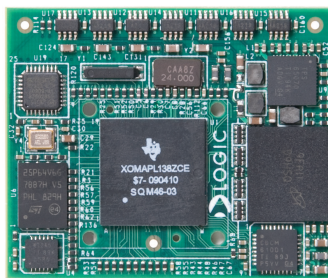
OMAP-L138  
TMS320C6748

The OMAP-L138 System on Module (SOM) is a compact, product-ready hardware and software solution that fast forwards embedded designs while reducing risk and controlling cost.

Based on Texas Instruments' OMAP-L138 processor and designed in the SOM-M1 form factor, the OMAP-L138 module offers essential features for handheld and embedded networking applications. The OMAP-L138 SOM-M1 features the superset OMAP-L138 processor, but also supports the TMS320C6748 digital signal processor (DSP).

The OMAP-L138 SOM-M1 brings the industry leading low power ARM926 core to a small, off-the-shelf solution. The standard SOM-M1 form factor allows developers to reuse existing baseboard designs when upgrading to new OMAP processors, which extends roadmap possibilities for their end-product.

Two Zoom™ Development Kit options allow developers to choose the platform best suited to their application needs. By starting with the corresponding Zoom Development Kit, engineers can write application software on the same hardware that will be used in their final product.



OMAP-L138 SOM-M1

The compact size of the OMAP-L138 SOM-M1 is ideal for medical patient monitoring wearables and other portable instrumentation applications; the built-in Serial ATA (SATA) controller provides fast access to large capacity storage devices. For medical, industrial, audio, and communication products, the OMAP-L138 SOM-M1 allows for powerful versatility, long-life, and greener products.

**OMAP-L138 SOM-M1 :: HIGHLIGHTS:**

- + Product-ready System on Module with a TI OMAP-L138 processor or TMS320C6748 DSP running at 300 MHz
- + Compact form factor—SOM-M1 (30 x 40 x 4.5 mm)
- + Long product lifecycle
- + Open source Linux™ BSP
- + 0°C to 70°C (commercial temp)
- + RoHS compliant

**ZOOM DEVELOPMENT KIT :: OPTIONS:**

**Low-cost eXperimenter Kit**

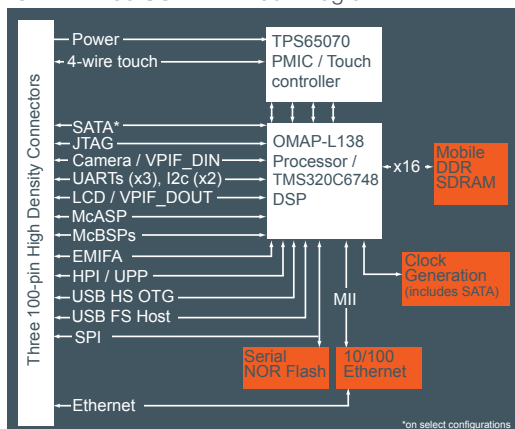
- + OMAP-L138 SOM-M1 (64 MB Mobile DDR)
- + Application baseboard

**EVM Development Kit**

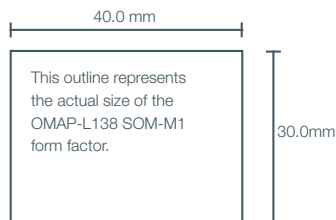
- + OMAP-L138 SOM-M1 (128 MB Mobile DDR)
- + TMS320C6748 SOM-M1 (128 MB Mobile DDR)
- + Application baseboard
- + User Interface (UI) board
- + Necessary accessories to immediately get up and running



## OMAP-L138 SOM-M1 Block Diagram



(Block diagram is not drawn to scale. For reference purposes only.)



## Product Features

### Choice of Processor

- + TI OMAP-L138 processor with dual core ARM926EJ-S and C6748 VLIW DSP running at 300 MHz
- + TI TMS320C6748 VLIW DSP running at 300 MHz

### SDRAM Memory

- + Mobile DDR, 64 or 128 MB

### Flash Memory

- + Scalable serial NOR flash (8 MB standard)

### Display

- + Programmable color LCD controller supports up to a 16 bpp TFT interface

### Touchscreen

- + Integrated 4-wire touchscreen controller (TPS65070)

### Network Support

- + 10/100 Base-T Ethernet controller

### Serial ATA Controller

- + SATA 1.5 & 3.0 Gbps support

### PC Card Expansion

- + MMC/SD card support

### USB

- + One USB 2.0 high-speed On-the-Go interface
- + One USB 1.1 full-speed host interface

### Serial Ports

- + Three external UARTs
- + Two I2Cs

### GPIO

- + Programmable I/O depending on peripheral requirements

### Software

- + U-Boot (bootloader/monitor)
- + Open source Linux BSP
- + Code Composer Studio (CCS) v3.3
- + DSP/BIOS
- + Board Support Library (BSL) sample programs

### Mechanical

- + SOM-M1 form factor
- + 30.0 mm wide x 40.0 mm long x 4.5 mm high

### RoHS Compliant



## OMAP-L138 SOM-M1 Ordering Information

| Model Number             | Processor   | Speed (MHz) | mDDR (MB) | NOR Flash (MB) | Wired Ethernet | SATA |
|--------------------------|-------------|-------------|-----------|----------------|----------------|------|
| SOMXOMAPL138-10-1602AHCR | XOMAPL138   | 300         | 128       | 8              | Y              | Y    |
| SOMXOMAPL138-10-1502AHCR | XOMAPL138   | 300         | 64        | 8              | Y              | Y    |
| SOMXOMAPL138-10-1502QHCR | XOMAPL138   | 300         | 64        | 8              | Y              | N    |
| SOMXC6748-10-1602AHCR    | TMX320C6748 | 300         | 128       | 8              | Y              | Y    |

NOTE: Custom configurations are available by special order. Please contact Logic Sales for details: product.sales@logicpd.com.

## Zoom™ OMAP-L138 Development Kit Ordering Information

| Development Kit <sup>1</sup> | Model Number           | SOM-M1 Configuration(s) Included                               | Suggested Resale |
|------------------------------|------------------------|----------------------------------------------------------------|------------------|
| EVM Development Kit          | TMDXOSKL138BET         | SOMXOMAPL138-11-1602AHCR <sup>2</sup><br>SOMXC6748-10-1602AHCR | \$849            |
| eXperimenter Kit             | SDK-XOMAPL138-10-6408R | SOMXOMAPL138-10-1502AHCR                                       | \$149            |

NOTES: 1. The EVM Development Kit is available through Texas Instruments distributors. The eXperimenter Kit is available through Logic distributors.

2. This configuration is the SOMXOMAPL138-10-1602AHCR with added power measurement circuitry.



411 N. Washington Ave. Suite 400 Minneapolis, MN 55401  
T: 612.672.9495 F: 612.672.9489 I: www.logicpd.com

### LOGIC WEBSITE :: DESIGN RESOURCES:

- + Logic Products : [www.logicpd.com/products](http://www.logicpd.com/products)
- + Logic Technical Support : [www.logicpd.com/product-support](http://www.logicpd.com/product-support)
- + For more information contact Logic Sales : [product.sales@logicpd.com](mailto:product.sales@logicpd.com)

© 2009 Logic Product Development Company. All rights reserved. PN: 1013566 Rev C