



## OMAP-L138 SOM-M1

Essential features for handheld and embedded networking applications and DSP functionality

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).

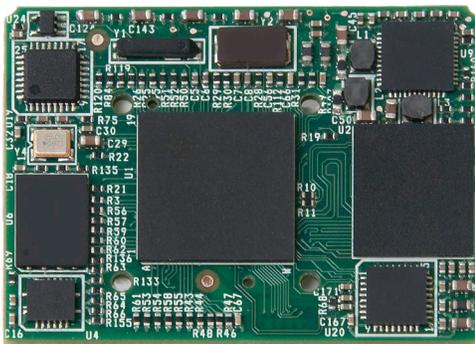
The OMAP-L138 SOM-M1 brings the industry leading low power ARM926 core to a small, off-the-shelf solution. The standard SOM-M1 form factor allows developers to reuse existing baseboard designs when upgrading to new OMAP processors, which extends roadmap possibilities for their end-product.

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 375 MHz
- Compact form factor—SOM-M1 (30 x 40 x 4.1 mm)
- Linux™ DVSDK
- Commercial temp (0 °C to 70 °C)  
Industrial temp (-40 °C to 85 °C)
- Long product lifecycle
- RoHS compliant

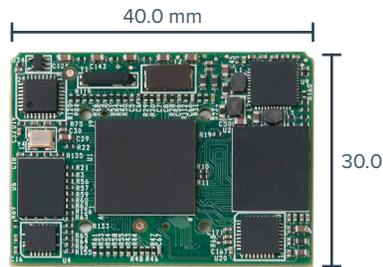
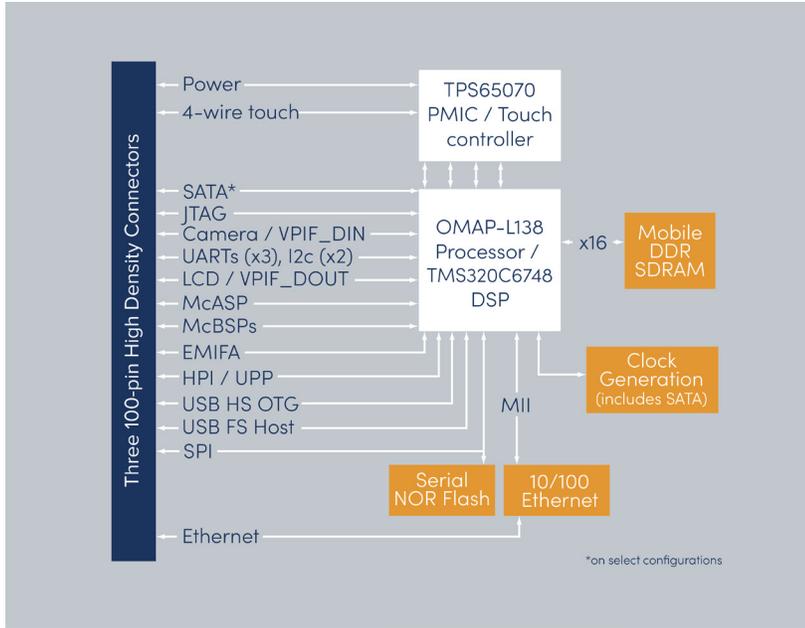


**OMAP-L138 SOM-M1**

*\*Enlarged to show detail*

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.

## OMAP-L138/C6748 SOM-M1 Block Diagram



Top View ▶ Actual Size

## OMAP-L138 SOM-M1 Ordering Information

MODEL NUMBER	PROCESSOR	SPEED (MHz)	mDDR (MB)	NOR FLASH (MB)	10/10 ETHERNET	SATA	TEMP. (°C)
SOMOMAPL138-10-1603AHCR	OMAPL138	375	128	16	Y	Y	0°-70°
SOMOMAPL138-10-1503QHCR	OMAPL138	375	64	16	Y	N	0°-70°
SOMOMAPL138-10-1603QHIR	OMAPL138	375	128	16	Y	N	-40°-85°
SOMC6748-10-1603AHCR	TMS320C6748	375	128	16	Y	Y	0°-70°

### NOTES:

1. Custom configurations are available by special order. Please contact Beacon EmbeddedWorks Sales for details.

## PRODUCT FEATURES

### Processor

- TI OMAP-L138 processor with dual core ARM926EJ-S and C6748 VLIW DSP running at 375 MHz
- TI TMS320C6748 VLIW DSP running at 375 MHz

### SDRAM Memory

- Mobile DDR, 64 or 128 MB

### Flash Memory

- Scalable serial NOR flash (16 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)
- Linux™ DVSDK
- Windows® Embedded CE SDK
- DSP/BIOS
- Board Support Library (BSL) sample programs

### Mechanical

- SOM-M1 form factor
- 30.0 mm wide x 40.0 mm long x 4.1 mm high

### RoHS Compliant