

# MATXM-C2-410-B

## MicroATX Motherboard

■ Embedded Computing for  
Business-Critical Continuity™

### PRELIMINARY DATA SHEET

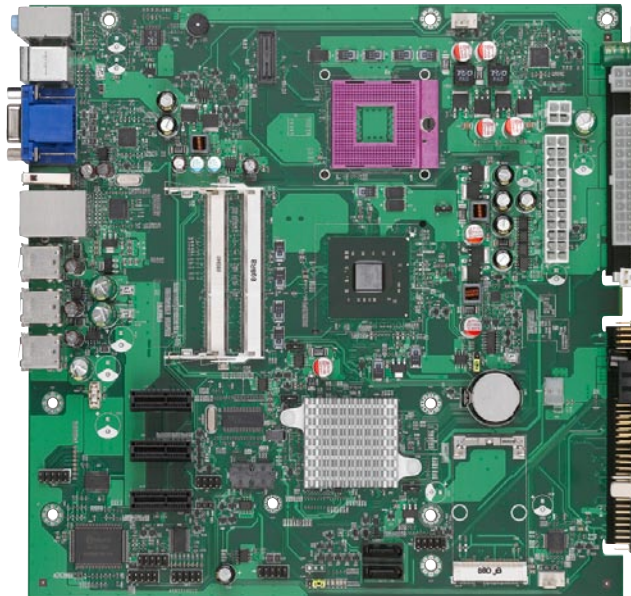
**The MATXM-C2-410-B is designed to ease deployment in a range of retail applications such as point-of-sale terminals, interactive product displays and customer kiosks.**

- 478-pin micro-FCPGA socket (socket P) for either Intel® Core™2 Duo Processor T9400 or Intel® Celeron® Processor 575
- Unique midplane allowing easy, cost-effective maintenance
- PoweredUSB ports for connection to point-of-sale peripherals
- 512MB to 8GB DDR3
- LVDS or VGA primary display, HDMI secondary display
- Quality assured by over 35 years of design experience, a TL 9000 and ISO 9001:2000 certified quality management system (FM 26789)

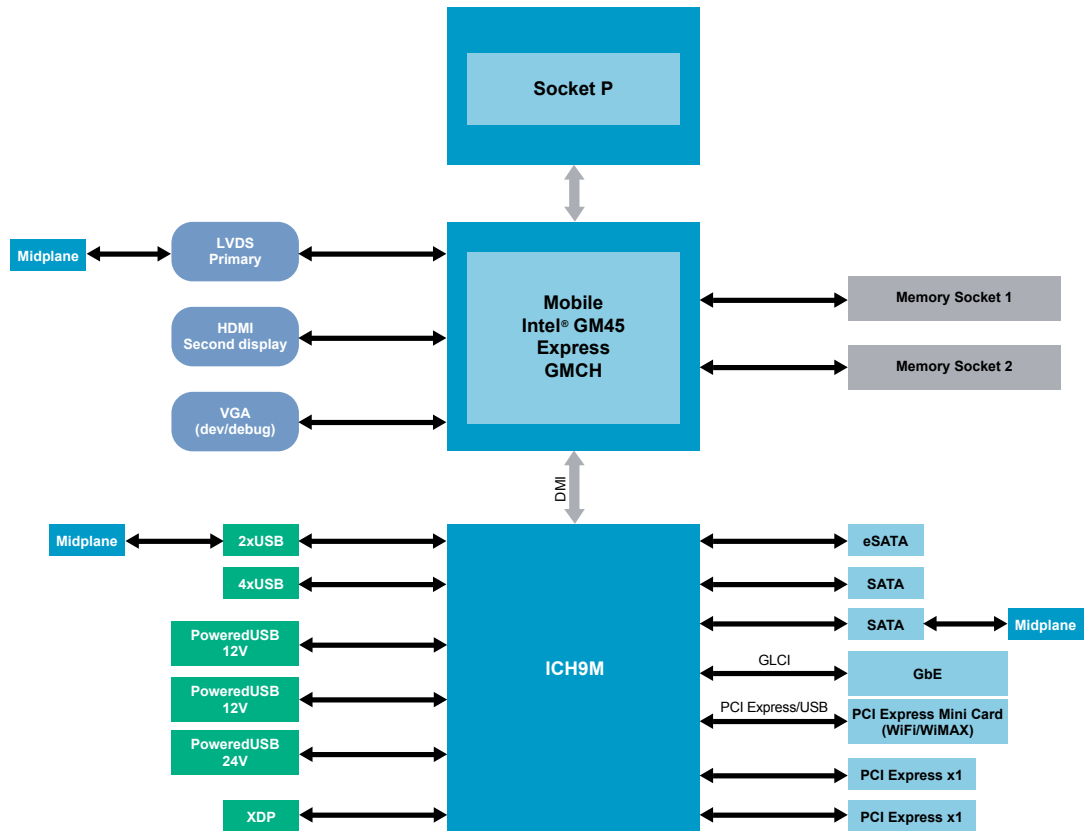
The Emerson Network Power MATXM-C2-410-B is a MicroATX motherboard with several modifications designed to ease deployment in a range of retail applications such as point-of-sale (POS) terminals, interactive product displays and customer kiosks. The MATXM-C2-410-B has a unique midplane which creates a level of modularity sufficient to allow cost-effective replacement during deployment. By routing all power and LCD display cabling through the midplane, the MATXM-C2-410-B motherboard reduces the likelihood of cabling errors during maintenance.

Specifically designed to support a wide range of POS peripherals, MATXM-C2-410-B has both 12 and 24 V PoweredUSB connections. These are suitable for powering devices like bar code scanners and POS printers without the expense of additional power supplies. This motherboard supports dual independent displays and has VGA/LVDS and HDMI interfaces for connection to the widest possible range of displays.

By minimizing the need for additional power supplies for peripherals and utilizing innovative power management features, the MATXM-C2-410-B can significantly reduce energy consumption. Low noise is very important in the retail environment and by providing energy saving features, the MATXM-C2-410-B can minimize noise during operation periods. By utilizing features like Intel® vPro™ technology, it is possible to remotely power on and turn off the system overnight to reduce carbon emissions and lower the total cost of ownership.



## Block Diagram



## Hardware Specifications

### PROCESSOR SOCKET

- 478-pin  $\mu$ FCPGA socket (socket P) for either Intel® Core™2 Duo Processor T9400 or Intel® Celeron® Processor 575

### CHIPSET

- Mobile Intel® GM45 Express Graphics and Memory Controller Hub (GMCH) and the ICH9M-E I/O hub

### MEMORY

- One DDR3 800 MHz/1066 MHz SO-DIMM per channel for a total of two DDR3 SO-DIMMs. Maximum memory capacity is 8GB (4GB per SO-DIMM); minimum capacity is a single 512MB SO-DIMM.

### MIDPLANE

- Alternative cabling points for power, LEDs, LCD display and SATA are available on a midplane allowing easy motherboard removal for service or upgrade.

### VIDEO

- Supports dual-independent displays using the Mobile Intel GM45 Express chipset's integrated graphics controller. The primary display is either LVDS or VGA, and the secondary display is HDMI. During boot, if a VGA monitor is detected then VGA is selected as the primary display, otherwise the default is LVDS.
- Dual-channel LVDS is supported by the integrated graphics controller on the GM45 chipset for up to 24-bit color per pixel. Using suitable cables, either 18-bit or 24-bit LCD panels can be driven for use in multiple types of display applications. Display and backlight connection is via a .100" x .100", 50-pin, dual-row header located on the midplane.
- A vertical VGA connector, intended for development use, is mounted vertically on the motherboard.
- The integrated type A HDMI interface connector is located in the back panel I/O region.

#### PCI EXPRESS

- MATXM-C2-410-B is fitted with three x1 PCI Express gen 1 slots in accordance with the MicroATX specification.

#### ETHERNET

- Single RJ-45 connector with integrated link/activity and connection speed LEDs mounted in the back panel I/O region for 10/100/1000 BaseT Ethernet connection provided by the ICH9M-E integrated MAC and Intel® 82567LM Gigabit Ethernet PHY.
- Wake-on-LAN and AMT are supported.

#### WIFI/WIMAX

- A PCI Express Mini Card connector is supplied supporting the Intel® WiMAX/WiFi Link 5050 and Intel® WiFi Link 5000 Series wireless devices.

#### STORAGE

- There are a total of three SATA interfaces to connect physical or solid state SATA disks. Two of the SATA ports are directly on the MATXM-C2-410-B motherboard and a third is situated on the midplane.
- In addition, there is a socket for a Z-U130 flash based hard drive that is available in sizes up to 16GB. These flash drives consume very little power, have impressive read/write speed and are extremely robust with a high mean time between failure (MTBF).

#### USB

- All USB ports, including PoweredUSB, support low-speed, full-speed, and high-speed connectors using the USB 2.0 Enhanced Host Controller Interface (EHCI). There are two standard type A connectors located on the back panel I/O region.

- In addition, there are two 12 V PoweredUSB ports and one 24 V PoweredUSB port. PoweredUSB ports use a standard USB host connector combined with an additional connector that is keyed to carry 5 V, 12 V, or 24 V supplemental power.

#### ADDITIONAL I/O

- On-board serial port for legacy applications implemented on a 10-pin dual row header
- Fan connections include one 4-wire header situated near the CPU socket and two 4-wire headers built onto the midplane
- PS2 keyboard and mouse
- Standard 3.5mm mini-jack audio connections are provided for line output, microphone and headphone. In addition, there is a 2-channel HD audio output as part of the integrated HDMI interface.
- Watchdog timer with programmable timeout

#### BIOS

- AMI EFI-based BIOS

#### EMC AND SAFETY

- FCC, VCCI, AS/NZ Class B
- EN 55024, EN 55022
- UL/CSA 60950-1, EN 60950-1 and IEC 60950-1 compliant

#### SOLUTION SERVICES

Emerson Network Power provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

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