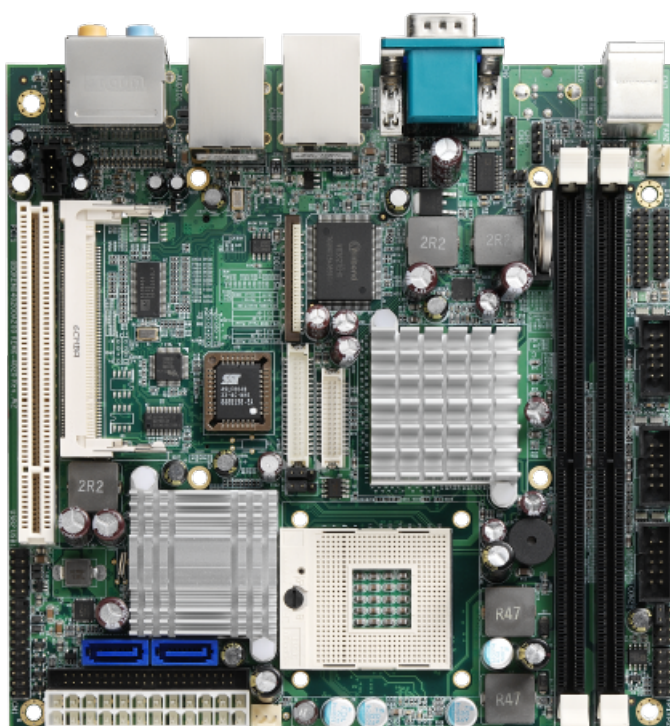


KEMX-4020

Industrial Motherboard in Mini-ITX form factor
with 945GM/ICH7M



- Intel® Core 2 Duo support – Socket-M, 478-pin μ FC-PGA
- Intel® 945GM/ICH7M chipset
- Dual Channel DDR2-667 up to 4GB
- Intel® GMA 950, 18-bit dual-channel LVDS up to UXGA
- Universal Graphics Module (UGM) support
- ATA100 & SATA 3 Gb/s, 1x PCI slot, 1x Mini PCI slot
- 2x PCI-e GbE, 8x USB 2.0, 4x RS232, HD Audio
- Watchdog Timer, Hardware Monitor, TPM 1.2



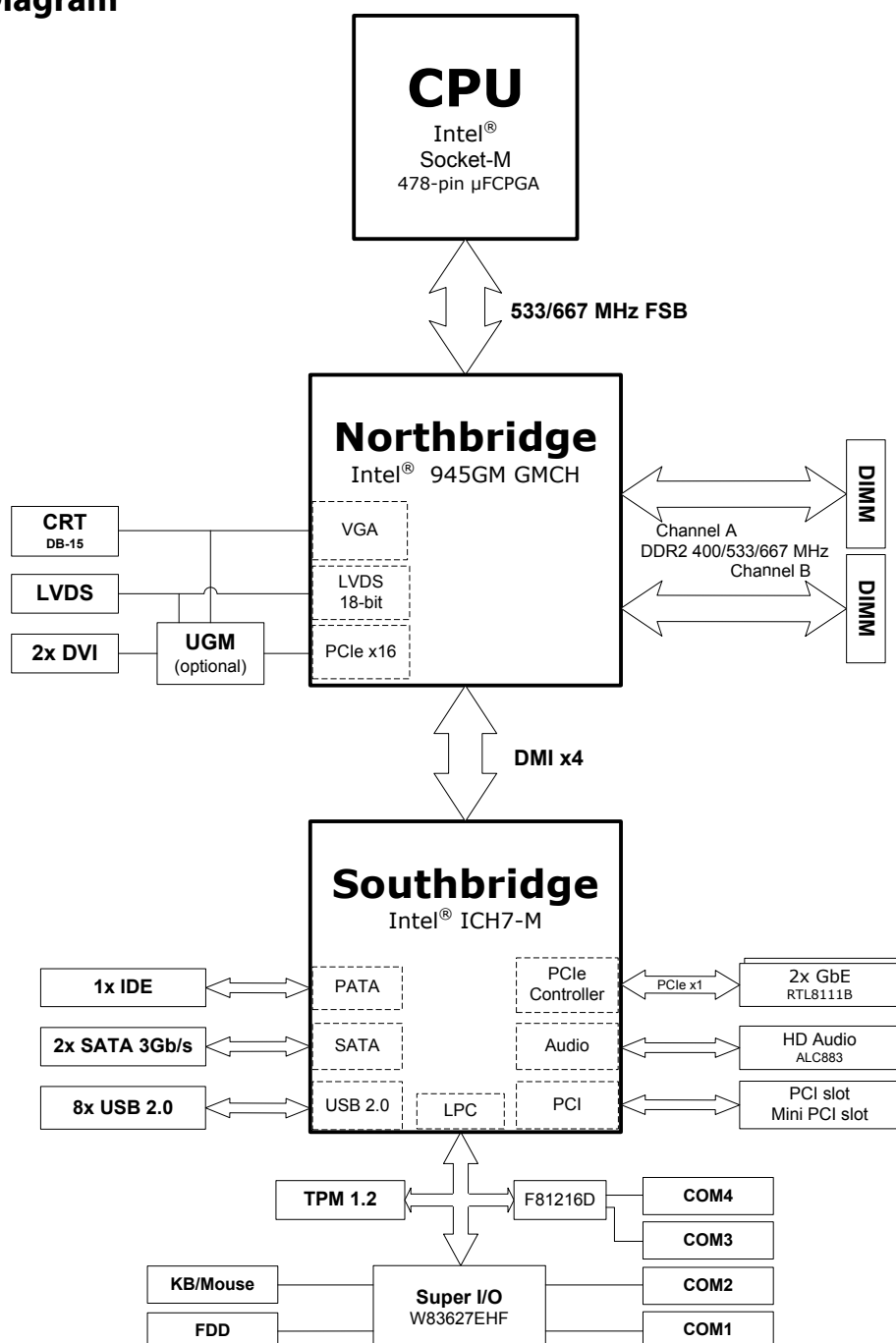
Product Overview

The KEMX-4020 is a Mini-ITX form factor industrial motherboard combining the high performance of the Intel® Core™2 Duo Processor (Socket-M, 478 μ FC-PGA package) with the high integration of the Intel® 945GM chipset and I/O Controller Hub ICH7M. Featured are a 667MHz Front Side Bus, Dual Channel DDR2-667 up to 4GB, Intel® GMA 950 graphics supporting Dual Display, 18-bit dual-channel LVDS, Universal Graphics Module (UGM) support, dual Gigabit Ethernet,

ATA100 & SATA 3 Gb/s, floppy drive, Mini PCI, 8x USB v2.0, 4x serial ports, HD audio, and keyboard/mouse.

The KEMX-4020 is a compact, high performance industrial motherboard with graphics-on-module capability that is ideal for Panel PC, gaming, mobile PC, and thin client applications requiring high-performance graphics.

Block Diagram

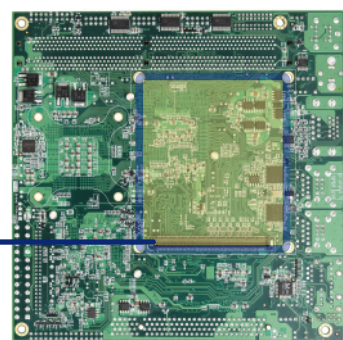


Technical Information

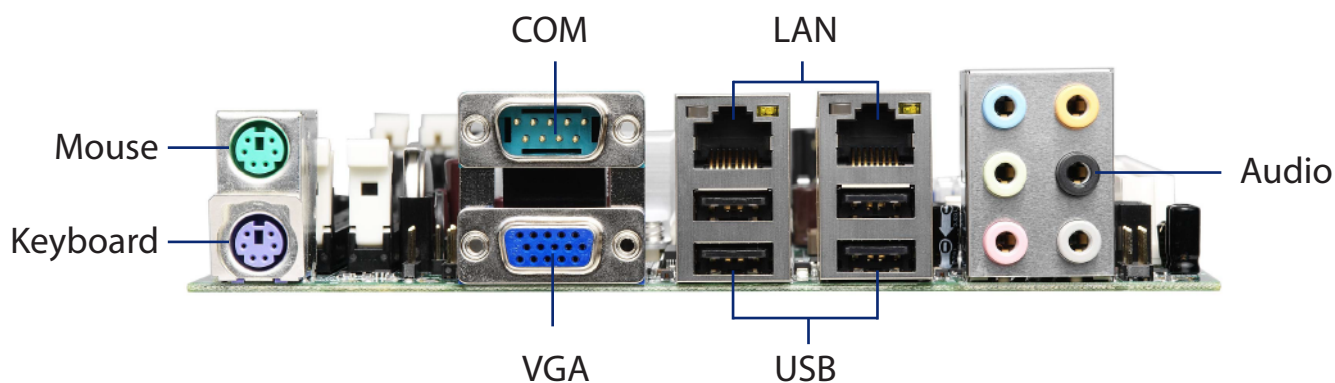
CPU Support	Intel® Core 2 Duo, Celeron® M (Socket M)
Chipset	Intel® 945GM + ICH7M
Memory	2x DDR2 400/533/667 DIMM Socket, up to 4GB
BIOS	Award PnP 4Mb Flash
Display	Intel® GMA 950, 2048x1536 @ 75Hz Supports Dual Display, Universal Graphics Module (UGM) 18-bit dual-channel LVDS up to UXGA Secondary LVDS connector available for UGM (up to 30-bit) 2x internal DVI connectors available for UGM 1x VGA
LAN	2x RJ-45, Gigabit Ethernet (Realtek 8111B)
Audio	HD Audio Codec, supports Line-in, Line-out & Microphone (Realtek ALC883)
Peripheral Support	1x IDE ATA-100 2x SATA 3Gb/s 4x COMs (RS-232) 8x USB 2.0 1x Internal floppy port 1x PS/2 Keyboard connector 1x PS/2 Mouse connector

TPM	TPM 1.2
Power Connector	ATX-24P
Expansion	1x PCI slot, 1x Mini PCI 1x Universal Graphics Module (UGM)
Watchdog Timer	1-255 step, can be set with software on Super I/O
Hardware Monitor	Operating voltage, CPU temperature and fan speed
Dimensions	Mini-ITX (170 x 170 mm)
Environmental Factors	Operation Temp: 0°C - 60°C Storage Temp.: -10°C - 85°C Humidity: 0% - 90%
Certifications	CE, FCC Class A

UGM Support (Please see below website for more info.)
<http://www.universal-graphics-module.org/>



KEMX-4020 Rear I/O



Ordering Information

Article	Part No.	Description
KEMX-4020	BMMX4020-001001T	Industrial Motherboard in Mini-ITX form factor with 945GM/ICH7M and UGM support
KEMX-4021	BMMX4020-011000T	Industrial Motherboard in Mini-ITX form factor with 945GM/ICH7M (no UGM support)
CPU Cooler	0H05CPU50503000L	CPU Cooler for Socket-M for KEMX-4020 Series