

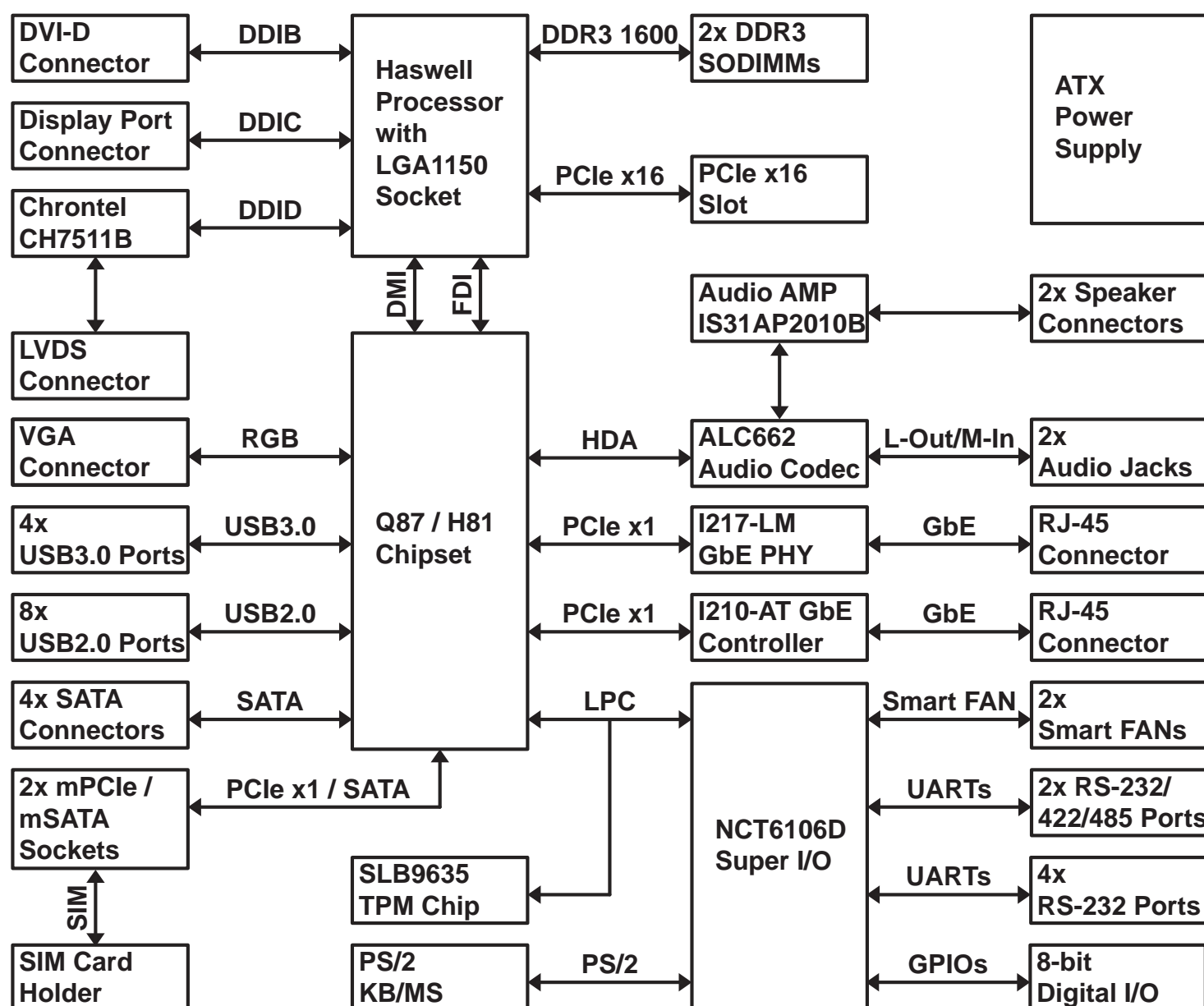
KEMX-8200 Series

Standard / Extended Temperature Industrial Motherboard
in Mini-ITX Form Factor
with 4th Generation Intel® Core™ i / Celeron® Processor



- LGA1150 Socket 4th Generation Intel® Core™ i / Celeron® Processor
- Intel® H81 / Q87 Chipset
- 2x DDR3 SO-DIMM Socket up to 16GB
- 1x VGA, 1x DVI-D, 1x DP, 1x LVDS, 1x eDP (optional)
- 2x GbE, 2/4x USB3.0, 6/8x USB2.0, 6x COM
- 1x PCIe x16, 2x mPCIe or 2x mPCIe/mSATA, 1x SIM
- 8-bit Digital I/O supported
- RAID support (KEMX-8201/8201T only)
- Extended temperature model available: -20°C ~ 70°C

Block Diagram



Technical Information

CPU Support	FCLGA1150 Socket 4th Generation Intel® Core™ i / Celeron® Processor (Dual / Quad Core, 2M ~ 8M Cache, 1.90 ~ 4.00 GHz, 35W ~ 84W TDP)
Chipset	KEMX-8200: Intel® H81 KEMX-8201/T: Intel® Q87
Memory	2x DDR3 1333/1600 SO-DIMM up to 16GB
Graphic Controller	Intel® HD Graphics 4600 (Core™ i) Intel® HD Graphics (Celeron®)
Display Interfaces	1x LVDS (24-bit, 2-ch, 1920 x 1200 @ 60Hz) 1x VGA (on rear, 1920 x 1200 @ 60Hz) 1x DVI-D (on rear, 1920 x 1200 @ 60Hz) 1x DP (on rear, 2560 x 1600 @ 60Hz) 1x eDP (optional, 2560 x 1600 @ 60Hz)
Multiple Display	Triple
Audio Chipset	Realtek ALC662
Audio Interfaces	1x Speaker-out (3W) 1x Line-out (on rear) 1x Mic-in (on rear)
Ethernet	2x LAN (RJ-45 on rear, 1x Intel® I217-LM, 1x Intel® I210-AT)
USB	2x USB3.0 (Type A on rear, KEMX-8200) 4x USB3.0 (2x Type A on rear, 2x by header, KEMX-8201/T) 6x USB2.0 (2x Type A on rear, 4x by header, KEMX-8200) 8x USB2.0 (2x Type A on rear, 6x by header, KEMX-8201/T)
Serial Ports	2x RS-232/422/485 (1x DB9 on rear, 1x by header) 4x RS-232 (by header)
Other I/O Ports	1x PS/2 Keyboard (Mini-DIN on rear) 1x PS/2 Mouse (Mini-DIN on rear) 1x 8-bit DIO (by wafer)
Storage & Expansion	4x SATA (RAID support for KEMX-8201/T) 2x mSATA / mPCIe (KEMX-8201/T) 2x mPCIe (KEMX-8200) 1x PCIe16 1x SIM Card Cage (by wafer)
Power Supply	2x12-pin ATX connector (DC +5V / -5V / +12V / -12V / +3.3V / 5VSB) 2x2-pin ATX connector (DC 12V)
Firmware	BIOS: AMI uEFI BIOS w/ 128Mb SPI Flash Watchdog: Programmable WDT to generate system reset event H/W Monitor: Input & Core Voltages, CPU & System Temperatures Real Time Clock: Chipset integrated RTC TPM: for KEMX-8201/T (Infineon SLB 9635 TPM 1.2) iAMT: depending on processor
System Control & Monitoring	1x Header for Reset button, HDD LED & External Speaker 1x Header for Power button, Power LED & SM bus
Cooling	1x CPU Smart Fan (by wafer) 1x System Smart Fan (by wafer)
OS Support	Windows 7, Windows 8, Linux
Dimensions (L x W)	Mini-ITX (170 x 170 mm / 6.70" x 6.70")
Environmental Characteristics	Operation Temp.: 0°C ~ 60°C / 32°F ~ 140°F (Standard) -20°C ~ 70°C / -4°F ~ 158°F (Extended) Storage Temp.: -20°C ~ 80°C / -4°F ~ 176°F (Standard) -40°C ~ 85°C / -40°F ~ 185°F (Extended) Humidity: 0% ~ 95%
Certification	CE, FCC Class A

KEMX-8200 Series I/Os



Ordering Information

Article	Part No.	Description
KEMX-8200	BMMX8200-001000T	Intel® LGA1150 Socket, Intel® H81 Chipset, 2x DDR3 SO-DIMM, 2x GbE, 1x VGA, 1x DVI-D, 1x DP, 1x LVDS, 2x USB3.0, 6x USB2.0, 2x mPCIe, w/o TPM, w/o RAID support, Operation Temp.: 0°C ~ 60°C
KEMX-8201	BMMX8200-011000T	Intel® LGA1150 Socket, Intel® Q87 Chipset, 2x DDR3 SO-DIMM, 2x GbE, 1x VGA, 1x DVI-D, 1x DP, 1x LVDS, 4x USB3.0, 8x USB2.0, 2x mPCIe/mSATA, w/ TPM, w/ RAID support, Operation Temp.: 0°C ~ 60°C
KEMX-8201T	BMMX820T-011000T	Intel® LGA1150 Socket, Intel® Q87 Chipset, 2x DDR3 SO-DIMM, 2x GbE, 1x VGA, 1x DVI-D, 1x DP, 1x LVDS, 4x USB3.0, 8x USB2.0, 2x mPCIe/mSATA, w/ TPM, w/ RAID support, Operation Temp.: -20°C ~ 70°C