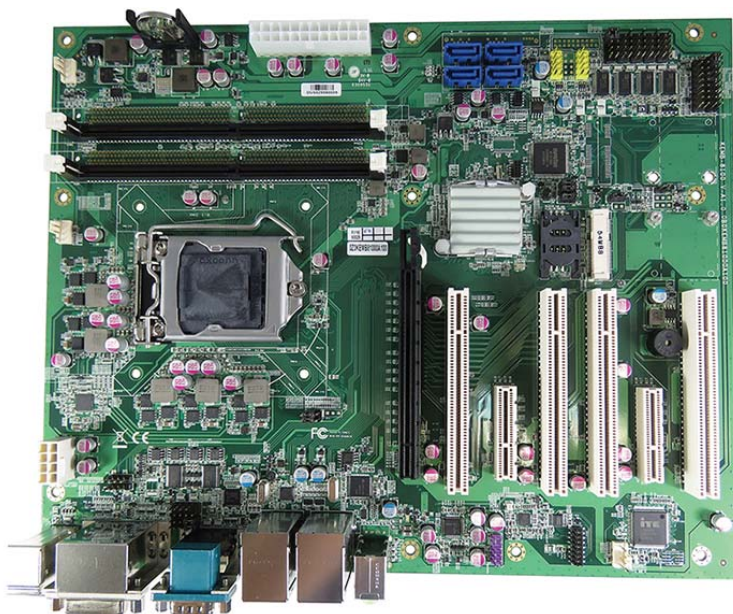


KEMB-8100 Series

Standard / Extended Temperature
Industrial Motherboard in ATX Form Factor
with 6th Generation Intel® Core™ i Processor



- 6th Generation Intel® Core™ i Processor
- Intel® H110 / Q170 Chipset
- Intel® ATX form factor
- 4x DDR4 UDIMM Slot up to 64GB
- 1x DVI-D, 1x DP, 1x HDMI, 1x VGA
- 2x GbE, 4x/6x USB3.0, 4x/6x USB2.0, 6x COM, 16-bit DIO
- 4x SATA
- 4x PCI, 1x PCIe16, 2x PCIe1 or 2x PCIe4/PCIe2/PCIe1
- 1x mPCIe or 2x mPCIe/mSATA, 1x SIM
- Watchdog Timer, Hardware Monitor
- Extended temperature model available: -20°C ~ 70°C

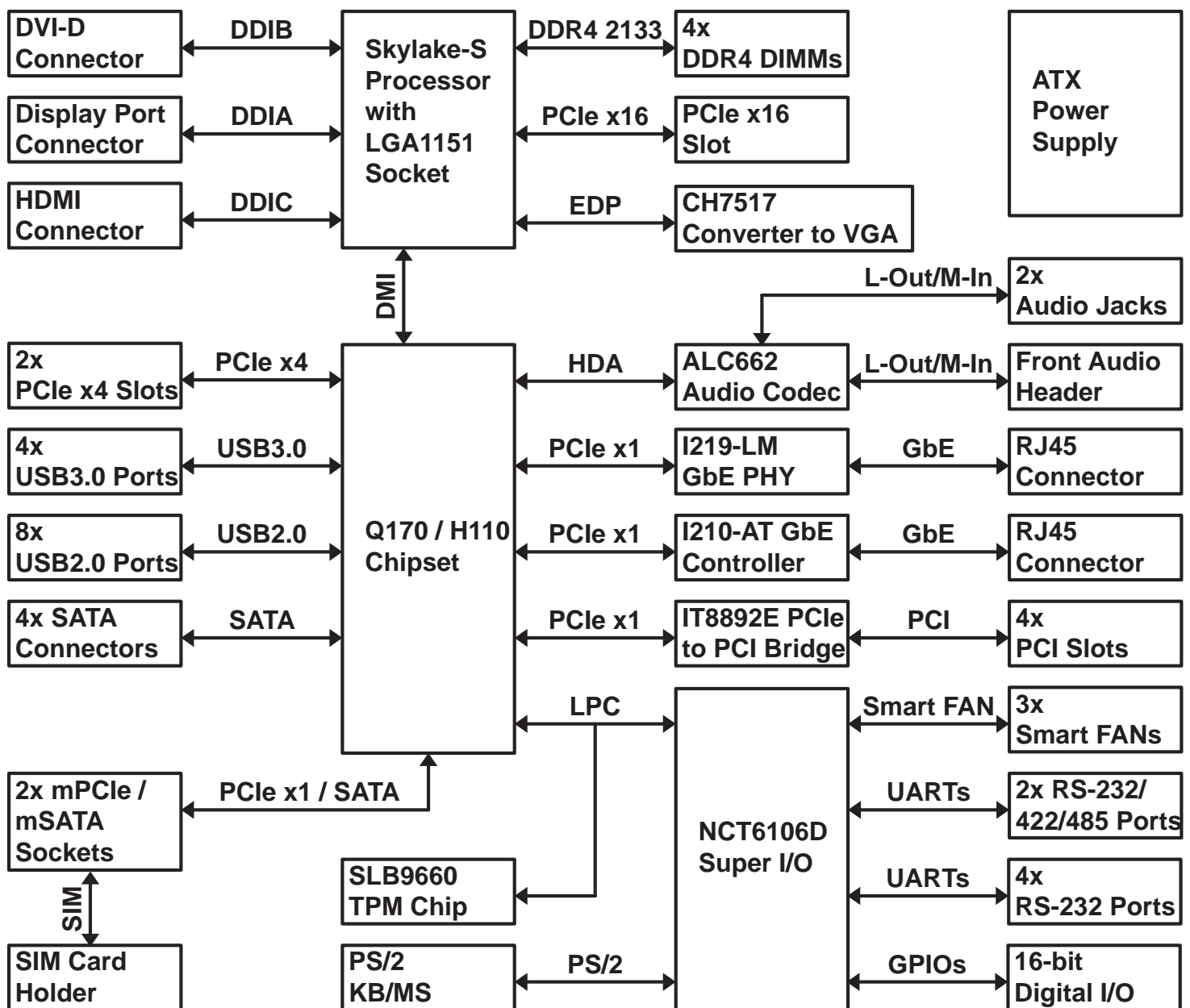
Product Overview

The KEMB-8100 series is an ATX form factor industrial-grade motherboard equipped with Intel®'s latest powerful 6th Generation Skylake Core™ i Processor. It delivers greatly improved graphics performance, power efficiency and wireless connectivity in comparison with the models powered by the previous generation processors. Thus, it allows developers to easily make a fanless system

In addition to 1x DVI-D, 1x DP, 1x HDMI, 1x VGA, up to 6x

USB3.0, up to 6x USB2.0, 6x COM, 16-bit DIO and 2x LAN for display support, peripheral applications and wired networking, it features a great number of expansion slots /sockets for wireless functionality, storage expansion and industrial legacy device connection, including PCI, PCIe x16, PCIe x4/PCIe x2/PCIe x1, mPCIe, SIM, SATA, mSATA slots / sockets. Finally, an extended temperature model is offered for this series and allows operation at extreme temperatures.

Block Diagram

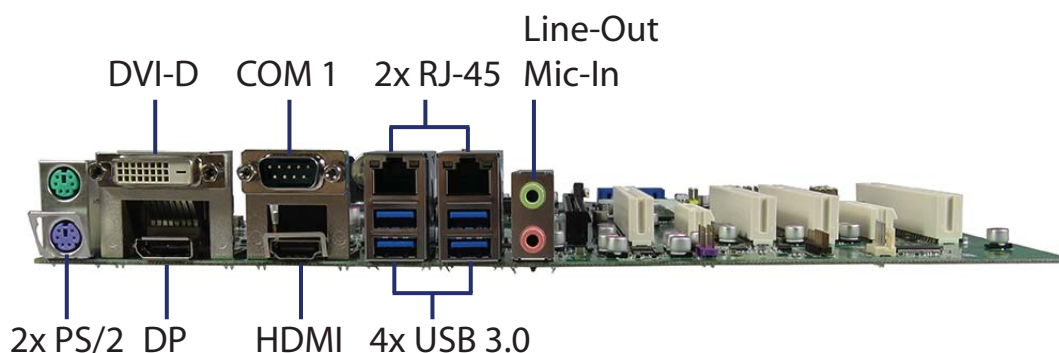


Technical Information

CPU Support
LGA1151 6th Generation Intel® Core™ i Processor
Chipset
Intel® H110 Chipset (KEMB-8100)
Intel® Q170 Chipset (KEMB-8101/T)
Memory
4x DDR4 UDIMM Slots support up to 64GB memory
BIOS
AMI uEFI BIOS
1x 128Mb SPI Flash memory onboard
Display
1x DVI-D (on rear)
1x DP (on rear)
1x HDMI (on rear)
1x VGA
Peripheral Support
4x 7P SATA Connector
2x mSATA / mPCIe (KEMB-8101/T)
4x USB3.0 Type-A Connector (KEMB-8100, on rear)
6x USB3.0 Type-A Connector (KEMB-8101/T, 4x on rear)
4x USB2.0 Type-A Connector (KEMB-8100)
6x USB2.0 Type-A Connector (KEMB-8101/T)
6x COM (COM1 & COM2 support RS-232/422/485, COM1 on rear)
1x 16-bit DIO
2x PS/2 KB&MS (on rear)
LAN
2x GbE RJ-45 Connector (1x Intel I219-LM, 1x Intel I210-AT)
Audio
1x Line-out (on rear)
1x MIC-in (on rear)
1x header for front Audio
MSIC Support
1x Header for Reset button, HDD LED and External Speaker
1x Header for Power button, Power LED and SM bus

Expansion
4x PCI Slot, 32-bit/33MHz
1x PCIe16 Slot
2x PCIe1 Slot (KEMB-8100)
2x PCIe4 / PCIe2 / PCIe1 Slot (KEMB-8101/T)
1x mPCIe Socket (KEMB-8100)
2x mPCIe/mSATA Socket (KEMB-8101/T)
1x SIM Card Holder
Power Connector
One 2x12-pin, pitch 4.2mm Wafer ATX power DC input
One 2x4-pin, pitch 4.2mm Wafer for CPU Core power supply
Cooling
3x Wafer for CPU, System & AUX Smart FAN
Watchdog Timer
Programmable WDT to generate System reset event
Hardware Monitor
Input & Core Voltages monitoring
CPU & System Temperatures monitoring
RTC
Chipset integrated RTC
TPM
TPM Support (KEMB-8101/T)
OS Support
Windows 7 / Windows 8 / Linux
Dimensions
Intel® ATX form factor (304.8 x 244 mm / 12" x 9.6")
Environmental Factors
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

KEMB-8100 Series Rear I/O



Ordering Information

Article	Part No.	Description
KEMB-8100	BMMB8100-000000T	ATX Board, Intel H110 Chipset, 1x DVI-D, 1x DP, 1x HDMI, 1x VGA, 2x GbE, 4x USB3.0, 4x USB2.0, 6x COM, 16-bit DIO, 2x PS/2, 4xSATA, 1x mPCIe, 4x PCI, 1x PCIe16, 2x PCIe1, 1x SIM, w/o TPM, Op. temp.: 0°C ~ 60°C
KEMB-8101	BMMB8100-010000T	ATX Board, Intel Q170 Chipset, 1x DVI-D, 1x DP, 1x HDMI, 1x VGA, 2x GbE, 6x USB3.0, 6x USB2.0, 6x COM, 16-bit DIO, 2x PS/2, 4xSATA, 2x mPCIe/mSATA, 4x PCI, 1x PCIe16, 2x PCIe4/PCIe2/PCIe1, 1x SIM, w/ TPM, Op. temp.: 0°C ~ 60°C
KEMB-8101T	BMMB810T-010000T	ATX Board, Intel Q170 Chipset, 1x DVI-D, 1x DP, 1x HDMI, 1x VGA, 2x GbE, 6x USB3.0, 6x USB2.0, 6x COM, 16-bit DIO, 2x PS/2, 4xSATA, 2x mPCIe/mSATA, 4x PCI, 1x PCIe16, 2x PCIe4/PCIe2/PCIe1, 1x SIM, w/ TPM, Op. temp.: -20°C ~ 70°C