



## Features

PROCESSOR	4th Generation Intel® Core™	LAN	2 LAN
CHIPSET	Intel® H81	COM	2 COM
MEMORY	2 DDR3 SODIMM up to 16GB	USB	8 USB: 2 USB 3.0, 6 USB 2.0
EXPANSION	1 PCIe x16 1 Mini PCIe	STORAGE	2 SATA 3.0
DISPLAY OUTPUTS	1 HDMI, 1 DVI-I, 1 LVDS	DIO	8-bit DIO

**Product available until Q3 2020**

## Specification

### PROCESSOR

- LGA 1150 socket for:
- 4th Generation Intel® Core™ processors (22nm process technology)
  - : Intel® Core™ i7-4790S (8M Cache, up to 4.0 GHz); 65W
  - : Intel® Core™ i7-4770S (8M Cache, up to 3.9 GHz); 65W
  - : Intel® Core™ i7-4770TE (8M Cache, up to 3.3 GHz); 45W
  - : Intel® Core™ i5-4590S (6M Cache, up to 3.7 GHz); 65W
  - : Intel® Core™ i5-4590T (6M Cache, up to 3.0 GHz); 35W
  - : Intel® Core™ i5-4570S (6M Cache, up to 3.6 GHz); 65W
  - : Intel® Core™ i5-4570TE (4M Cache, up to 3.3 GHz); 35W
  - : Intel® Core™ i3-4360 (4M Cache, 3.7 GHz); 54W
  - : Intel® Core™ i3-4350T (4M Cache, 3.1 GHz); 35W
  - : Intel® Core™ i3-4340TE (4M Cache, 2.6 GHz); 35W
  - : Intel® Core™ i3-4330 (4M Cache, 3.5 GHz); 54W
  - : Intel® Core™ i3-4330TE (4M Cache, 2.4 GHz); 35W
  - : Intel® Pentium® G3420 (3M Cache, 3.2 GHz); 53W
  - : Intel® Pentium® G3320TE (3M Cache, 2.3 GHz); 35W
  - : Intel® Celeron® G1820 (2M Cache, 2.7 GHz); 53W
  - : Intel® Celeron® G1820TE (2M Cache, 2.2 GHz); 35W

### CHIPSET

- Intel® H81 Express Chipset

### SYSTEM MEMORY

- Two 204-pin DDR3 SODIMM sockets
- Supports DDR3 1333/1600MHz
- Supports up to 16GB system memory
- Supports dual channel memory interface
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3 DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

### EXPANSION SLOTS

- 1 PCIe x16 Gen 3 slot (PCIe 3.0)
- 1 Mini PCIe slot

- Supports USB and PCIe signals
- Supports mSATA

### ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: 1 HDMI, 1 DVI-I, 1 LVDS
- HDMI: resolution up to 4096x2304 @ 24Hz or 2560x1600 @ 60Hz
- DVI-I, VGA: resolution up to 1920x1200 @ 60Hz
- LVDS: 24-bit, dual channel, resolution up to 1920x1200 @ 60Hz
- Supports 20 Graphics Execution Units (EUs)
- Intel® Clear Video Technology
- DirectX Video Acceleration (DXVA) support for accelerating video processing

### ONBOARD AUDIO FEATURES

- Realtek ALC886 5.1-channel High Definition Audio
- S/PDIF audio interface

### ONBOARD LAN FEATURES

- Intel® I210 PCI Express Gigabit Ethernet controller
- Intel® I217 Gigabit Ethernet Phy
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

### SERIAL ATA (SATA) INTERFACE

- 2 SATA 3.0 ports with data transfer rate up to 6Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller

### REAR PANEL I/O PORTS

- 1 mini-DIN-6 PS/2 keyboard/mouse port
- 4 USB 2.0 ports
- 2 USB 3.0 ports
- 2 DB-9 RS232 serial ports
- 1 HDMI port
- 1 DVI-I port
- 2 RJ45 LAN ports
- Mic-in, line-in and line-out jacks

### TRUSTED PLATFORM MODULE (TPM)\*

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

### I/O CONNECTORS

- 1 connector for 2 external USB 2.0/1.1 ports
- 1 LVDS LCD panel connector
- 1 LCD/inverter power connector
- 1 8-bit Digital I/O connector
- 1 Digital I/O power connector
- 1 front audio connector for line-out and mic-in jacks
- 1 S/PDIF connector
- 1 LPC connector\*
- 2 SATA 3.0 ports
- 1 24-pin ATX power connector
- 1 4-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 2 fan connectors

### BIOS

- AMI BIOS
- 64Mbit SPI BIOS

### ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving\*
- Supports ACPI
- System Power Management
- Wake-On-Events include:
  - Wake-On-PS/2 KB/Mouse
  - Wake-On-USB KB/Mouse
  - Wake-On-LAN
- RTC timer to power-on the system
- CPU stopped clock control
- AC power failure recovery

### DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors V<sub>CORE</sub>/5V/3.3V/V<sub>DIMM</sub>/12V/5VSB voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed
- Watchdog timer function

### POWER CONSUMPTION

- TDB

### OS SUPPORT

- Windows XP Professional x86 & SP3 (32-bit)
  - Windows 7 Ultimate x86 & SP1 (32-bit)
  - Windows 7 Ultimate x64 & SP1 (64-bit)
  - Windows 8 Enterprise x86 (32-bit)
  - Windows 8 Enterprise x64 (64-bit)
- (based on Intel's Windows XP support list)

### TEMPERATURE

- Operating: 0°C to 60°C
- Storage: -20°C to 85°C

### HUMIDITY

- 10% to 90%

### DIMENSIONS

- Mini-ITX form factor
- 170mm (6.7") x 170mm (6.7")

### CERTIFICATIONS

- CE, FCC Class B, RoHS, UL

**Motherboards integrated into Rackmount, Wallmount, Desktop or Tower Solution. Contact Sales for further information**