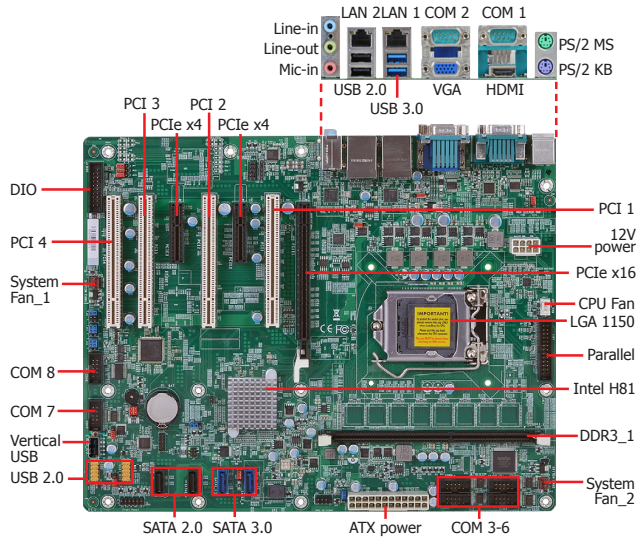


HD636-H81CS

ATX-Mainboard

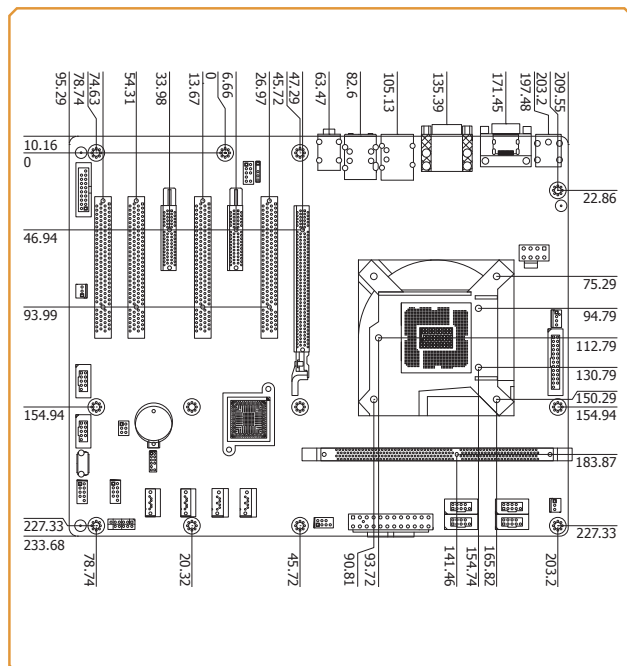


Features

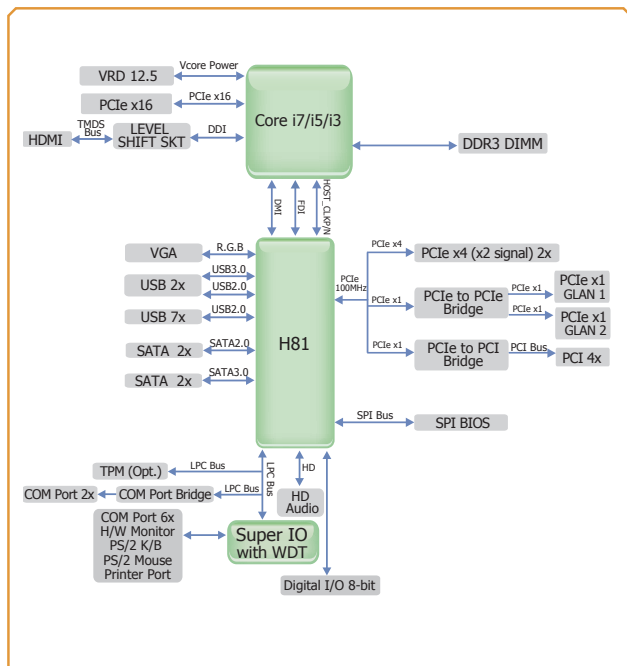
MEMORY	1 DDR3 DIMM up to 8GB
EXPANSION	1 PCIe x16 2 PCIe x4 (2 x2 signal) 4 PCI
DISPLAY OUTPUTS	1 HDMI, 1 VGA
LAN	2 LAN
COM	8 COM
USB	9 USB: 2 USB 3.0, 7 USB 2.0
STORAGE	4 SATA: 2 SATA 3.0, 2 SATA 2.0
PARALLEL	1 Parallel
DIO	8-bit DIO



Mechanical Drawing



Block Diagram



HD636-H81CS

ATX-Mainboard

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

- One 240-pin DDR3 DIMM socket
- Supports DDR3 1333/1600MHz
- Supports up to 8GB system memory
- Supports single 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 2 slot (PCIe 2.0)
- 2 PCIe x4 Gen 2 slots (PCIe 2.0)
 - 2 x2 signal
- 4 PCI slots (PCI 2.3)

ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: 1 HDMI, 1 VGA
- HDMI: resolution up to 4096x2304 @ 24Hz or 2560x1600 @ 60Hz
- VGA: 24-bit, 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 ALC888 5.1-channel High Definition Audio
- Audio outputs: Mic-in/Center+Subwoofer, line-in/surround and line out
- S/PDIF audio interface

ONBOARD LAN FEATURES

- 2 Intel® WG82574L PCI Express Gigabit Ethernet controllers
- 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
 - SATA port 0 provides adequate space for SATA DOM
- 2 SATA 2.0 ports with data transfer rate up to 3Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller

TRUSTED PLATFORM MODULE (TPM)*

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection
- Infineon TPM1.2 (optional)

USB INTERFACE

- XHCI Host Controller supports up to 2 super speed USB 3.0 ports

REAR PANEL I/O PORTS

- 2 mini-DIN-6 ports for PS/2 mouse/keyboard
- 2 DB-9 RS232 serial ports
- 1 HDMI port
- 1 VGA port
- 2 RJ45 LAN ports
- 2 USB 3.0/2.0/1.1 ports
- 2 USB 2.0/1.1 ports
- Line-in, Line-out, Mic-in jacks

I/O CONNECTORS

- 2 connectors for 4 external USB 2.0/1.1 ports and 1 vertical USB 2.0/1.1 port (default); or 3 connectors for 6 external USB 2.0/1.1 ports*
- 6 connectors for 6 external serial ports (2.54mm pitch)
 - 1 RS232/422/485 (RS232 and/or power)
 - 5 RS232
- 1 8-bit Digital I/O with power connector
- 1 front audio connector for line-out and mic-in jacks
- 1 S/PDIF connector
- 1 parallel port
- 4 Serial ATA connectors
- 1 24-pin ATX power connector
- 1 8-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 3 fan connectors

BIOS

- AMI BIOS
 - 64Mbit SPI BIOS

WATCHDOG TIMER

- Software programmable from 1 to 255 seconds

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 VCore/5V/3.3V/V_DIMM/12V/5VSB/VBAT voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed

POWER CONSUMPTION

- TBD

OS SUPPORT

- Windows XP Professional x86 & SP3 (32-bit) (limited function)
- 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)

Note: Windows 10 will be available upon request. Please contact DFI for more information.

TEMPERATURE

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

HUMIDITY

- 5% to 90%

MTBF

- 458,653 hrs @ 25°C; 269,481 hrs @ 45°C
- Calculation model: Telcordia Issue 2, Method I Case 3
- Environment: GB, GC – Ground Benign, Controlled

DIMENSIONS

- ATX form factor
- 305mm (12") x 244mm (9.6")

CERTIFICATION

- CE, FCC Class B, RoHS

▶ Packing List

- | |
|-----------------------------|
| • 1 HD636-H81CS motherboard |
| • 1 Serial ATA data cable |
| • 1 I/O shield |
| • 1 DVD |

▶ Optional Items

- | |
|-------------------------|
| • USB port cable |
| • Serial ATA data cable |
| • COM port cable |
| • I/O shield |