

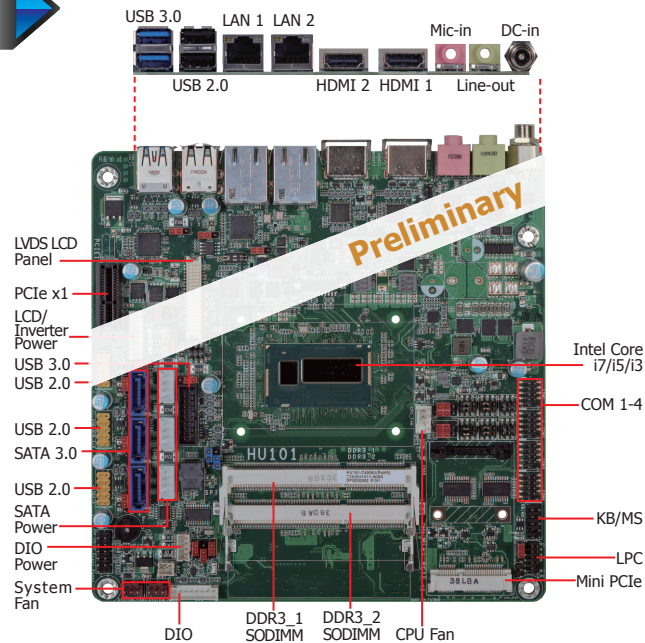


4th Gen Intel® Core™  
Mini-ITX

# HU101 Series

Mobile

ULT



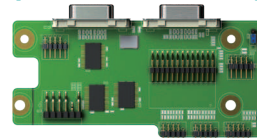
## Features

|                 |                              |
|-----------------|------------------------------|
| MEMORY          | 2 DDR3L SODIMM up to 16GB    |
| EXPANSION       | 1 PCIe x1                    |
|                 | 1 Mini PCIe                  |
| DISPLAY OUTPUTS | 1 LVDS/eDP, 2 HDMI           |
| LAN             | 2 LAN                        |
| COM             | 4 COM                        |
| USB             | 10 USB: 4 USB 3.0, 6 USB 2.0 |
| STORAGE         | 3 SATA 3.0                   |
| DIO             | 8-bit DIO                    |

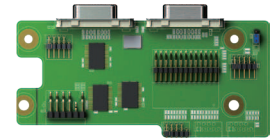


Vertical USB port for securing USB flash drive (optional)

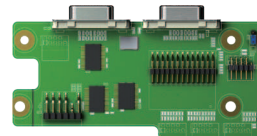
## 3 Modules for Additional COM/Parallel Ports (via the LPC connector)



**EXT-6C1PR**  
- 6 COM  
- 1 Parallel



**EXT-4C1PR**  
- 4 COM  
- 1 Parallel



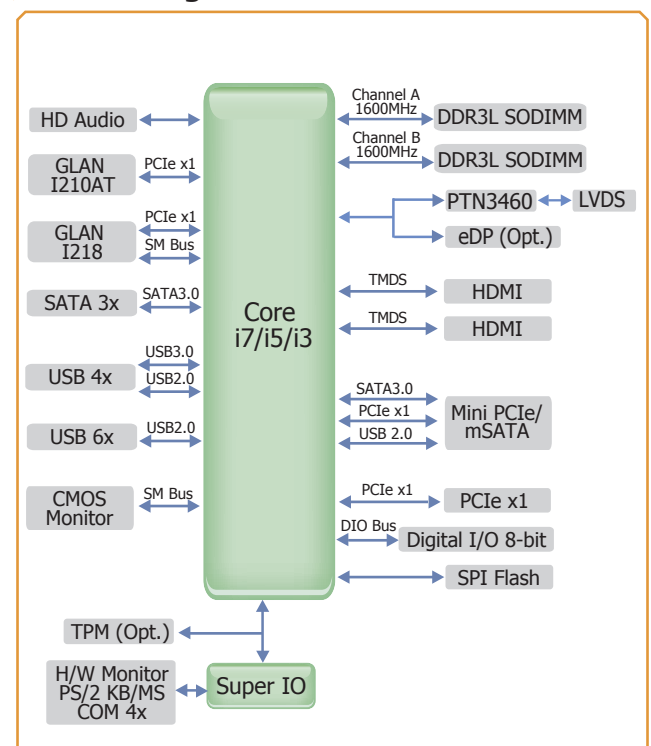
**EXT-2C1PR**  
- 2 COM  
- 1 Parallel

Note: To support the additional COM/Parallel ports, please contact your sales representative for the LPC module and its BIOS.

## Mechanical Drawing



## Block Diagram



## HU101 Series

## ► Specifications

## PROCESSOR

- 4th generation Intel® Core™ processors
  - BGA 1168 packaging technology
  - 22nm process technology
- Please refer to the Ordering Information below*

## SYSTEM MEMORY

- Two 204-pin SODIMM sockets
- Supports DDR3L 1600MHz
- Supports up to 16GB system memory
- Supports dual channel memory interface
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3L DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

## EXPANSION SLOTS

- 1 PCIe x1 slot
- 1 Mini PCIe slot
  - Supports USB and PCIe signals
  - Supports mSATA (optional)
  - Supports full size Mini PCIe card

## ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics
- Display ports: LVDS/eDP, HDMI
- LVDS: NXP PTN3460, 24-bit, dual channel, resolution up to 1920x1200 @ 60Hz
- eDP: resolution up to 3200 x 2000 @ 60Hz
- HDMI: resolution up to 4096x2304 @ 24Hz or 2560x1600 @ 60Hz
- Supports DirectX 11.1, OpenGL4.0, OpenCL 1.3, Full AVC, VC1, MPEG2 H/W encoder

## ONBOARD AUDIO FEATURES

- Realtek ALC888 7.1-channel High Definition Audio
- S/PDIF audio interface

## ONBOARD LAN FEATURES

- Intel® I210 PCI Express Gigabit Ethernet controller
- Intel® I218 with iAMT9.0 Gigabit Ethernet Phy
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

## SERIAL ATA INTERFACE

- 3 SATA 3.0 ports with data transfer rate up to 6Gb/s
  - SATA port 0 provides adequate space for SATA DOM
- Integrated Advanced Host Controller Interface (AHCI) controller
- Supports RAID 0/1/5

## INTEL ACTIVE MANAGEMENT TECHNOLOGY (AMT)

- Supports iAMT9.0
- Out-of-band system access
- Remote troubleshooting and recovery
- Hardware-based agent presence checking
- Proactive alerting
- Remote hardware and software asset tracking

## TRUSTED PLATFORM MODULE (TPM) - optional

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

## REAR PANEL I/O PORTS

- 1 12V DC-in jack (default) or 4-pin ATX power connector (optional)
- 2 HDMI ports
- 2 RJ45 LAN ports
- 2 USB 2.0 ports
- 2 USB 3.0 ports
- Line-out and mic-in jacks

## ► Ordering Information

| Model Name | Features                                              | Processors                                                                                                                                                                                                                               |
|------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HU101      | - B                                                   | 4650U                                                                                                                                                                                                                                    |
|            | B: 1 LAN, 2 COM<br>D: 2 LAN, 2 COM<br>N: 2 LAN, 4 COM | 4650U: Intel® Core™ i7-4650U, 4M Cache, up to 3.3 GHz, 15W<br>4300U: Intel® Core™ i5-4300U, 3M Cache, up to 2.9 GHz, 15W<br>4010U: Intel® Core™ i3-4010U, 3M Cache, 1.7 GHz, 15W<br>2980U: Intel® Celeron® 2980U, 2M Cache, 1.6 GHz, 15W |

## ► Packing List

|                                      |
|--------------------------------------|
| • 1 HU101 motherboard                |
| • 1 Serial ATA data with power cable |
| • 1 I/O shield                       |
| • 1 DVD                              |
| • 1 QR (Quick Reference)             |

## I/O CONNECTORS

- 2 connectors for 4 external USB 2.0 ports; or  
3 connectors for 6 external USB 2.0 ports (optional)
- 1 connector for 2 external USB 3.0 ports
- 1 vertical USB 2.0/1.1 port (optional)
- 4 connectors for 4 external serial ports
  - 2 RS422/485 (RS232 and/or power)
  - 2 RS232
- 1 LVDS LCD panel connector
- 1 LCD/inverter power connector
- 1 eDP connector (optional)
- 1 8-bit DIO connector
- 1 DIO power connector
- 1 front audio connector for line-out and mic-in jacks
- 1 S/PDIF connector
- 1 PS/2 connector for keyboard/mouse port
- 1 LPC connector
- 1 I²C connector
- 1 SMBus connector (optional)
- 3 Serial ATA connectors
- 3 Serial ATA power connectors
- 1 front panel connector
- 1 chassis intrusion connector
- 3 fan connectors

## WATCHDOG TIMER

- Watchdog timeout programmable via software from 1 to 255 seconds

## BIOS

- AMI BIOS
- 64Mbit SPI BIOS

## ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving (optional)
- Supports ACPI
- System Power Management
- Wake-On-Events include:
  - Wake-On-PS/2 KB/Mouse (optional)
  - Wake-On-USB KB/Mouse (optional)
  - Wake-On-LAN
  - RTC timer to power-on the system
- AC power failure recovery

## DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors VCore/12V/5V/DDR 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

- TBD

## TEMPERATURE

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

## HUMIDITY

- 5% to 90%

## DIMENSIONS

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

## ► Power Connector

