

# NEX 614

Mini-ITX, 6th Generation Intel® Core™ i7/ i5/ i3 Celeron® Process Family with H110, VGA, HDMI, DP, LVDS, mini-PCIe, 2 x GbE/10 x USB/4 x COM, 12V~24V DC Input



## Main Features

- Support socket LGA1151 for 6th generation Intel® Core™ i7/i5/ i3 and Intel® Celeron® processors (codenamed Skylake) or next generation Intel® Core™/Celeron® processors
- Intel® Q170/H110 chipset
- 2 x 260-pin SO-DIMM DDR4 up to 32GB
- Triple display: HDMI/DP/VGA/LVDS
- 2 x GbE with Intel® I219LM and i211-AT
- 1 x Full size mini-PCIe
- 4 x SATA 3.0
- 4 x COM, 7 x USB, 4-in/4-out GPIO, HD Audio
- 1 x PCIe x16
- DC +12V~24V input ±5%

## Product Overview

NEX 614 is a Mini-ITX board with 6th generation Intel® Core™ i7/i5/i3 processors and Intel® Celeron® processors (codenamed Skylake) and as well as next generation Intel® Core™/Celeron® processors which integrated Intel® Skylake graphic controller. NEX 614 supports multi-displays by HDMI (4K/2K), DP, VGA and LVDS (dual channel 24-bit up to 1920 x 1200 @60Hz). With dual DDR4 SO-DIMM channel, the maximum memory supports up to 32GB.

NEX 614 embedded Intel® H110 as default provides three SATA, four serial ports, four USB 3.0 ports, four USB 2.0 ports, two Gigabit Ethernet LAN port, one PCIe x16 slot and one full size mini-PCIe with 3G/Wi-Fi/mSATA interface. The power input covers from 12V to 24V DC. With optional Intel® Q170 chipset, NEX 614 expends 4th SATA function for mass storage. NEX 614 features versatile displays, riches I/O support for multimedia as well as critical mission of industrial embedded applications, such as Kiosk, digital signage, gaming, automation applications...etc.

## Specifications

### CPU Support

- Socket LGA1151, Intel® 6th and next generation Core™ i7/i5/i3 processor and Intel® Celeron® processors , 14nm process

### Main Memory

- Dual DDR4/SO-DIMMs, up to 32GB

### Chipset

- Intel® H110 PCH
- Intel® Q170 PCH as optional

### BIOS

- AMI system BIOS
- Plug and play support

### On-board LAN

- 2 x RJ45 connectors with Intel® I219LM and i211-AT GbE controller
- Support PXE boot from LAN, wake on LAN function

### Display

- 1 x HDMI 1.4 connector (resolution up to 4K/2K@30Hz)
- 1 x DP 1.2 connector (resolution up to 4096 x 2304)
- 1 x VGA (resolution up to 1920 x 1200)
- 1 x LVDS (support dual port 24-bit)

### Expansion Slot

- 1 x mini-PCI express slot support mSATA, Wi-Fi module and 3G module built with card holder

### I/O Interface

- COM1/3/4: RS232, 9-pin wafer with cable JST connector
- COM2 : RS232/422/485, 1 x DB9 male connector on edge I/O
- USB 2.0/3.0: 7 ports
  - USB 3.0 x 4 ports edge connector
  - USB 2.0 x 3 ports by 2.54mm pin connector
- 4-in/4-out GPIO
- 2 x 7-pin header with PWR button/reset button/PWR LED/HDD LED
- 1 x 4-pin fan connector support PWM fan
- 1 x 3-pin system fan

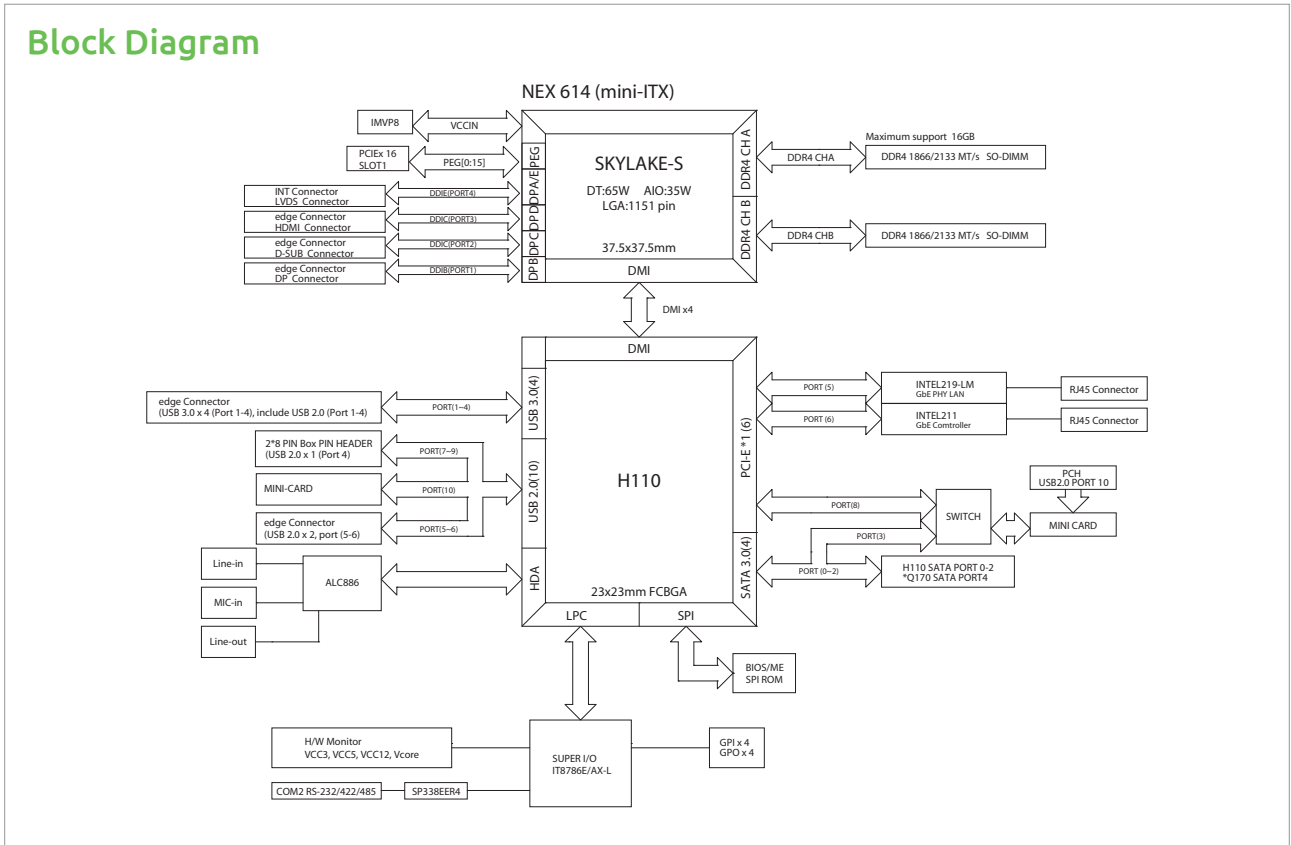
### Storage

- 3 x 7-pin SATA 6Gb/s connector; one supports SATA-DOM
- 4th SATA connector reserved for Q170 as optional to support RAID 0/1/5
- 2 x 4-pin connector for SATA power

### Audio

- Realtek ALC886 HD codec

## Block Diagram



### Power Requirements

- AT/ATX mode (by jumper setting default-AT)
- 4-pin power connector (right angle) for DC power input
- +12V~24V DC input (with ±5%)

### Optional function

- TPM module (EBK-TPM)

### Dimensions

- 170mm (L) x 170mm (W) (6.7" x 6.7")

### Environment

- Board level operating temperatures: 0°C to 60°C
- Relative humidity:
  - 10% to 90% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)

### Certifications

- Meet CE
- FCC Class A

## Ordering Information

### • NEX 614 (P/N: TBD)

Mini-ITX, Intel® 6th gen. Skylake Core™ processor family, with DP/HDMI/VGA/LVDS interface/2 x Gigabit LAN/PCIe x16/mPCIe/8 x USB/4 x COMs/TPM (option)/4 x SATA/12V~24V DC input