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X300

Industrial Mini-ITX Motherboard with Intel® 8th Gen. Core™ i7/ i5/ i3 Process Family with Q370/H310

HDMI, LVDS, M.2M, M.2E, 2 x GbE, 10 x USB, 3 x COM, 12V DC

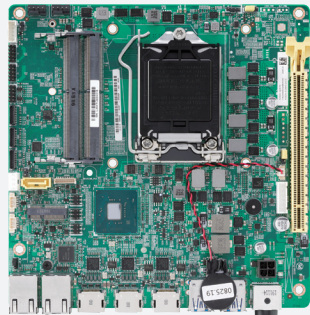


X300-Q370

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X300-Q370/H310

Mini-ITX, 8th Generation
Intel® Core™ i7/ i5/ i3 Process Family with Q370/H310
HDMI, LVDS, M.2M, M.2E, 2 x GbE, 10 x USB, 3 x COM, 12V DC



X300-Q370



X300-H310

Main Features

- Support socket LGA1151 for 8th generation Intel® Core™ i7/i5/ i3 (codenamed Coffeelake) processors
- Intel® Q370/H310 chipset
- 2 x 260-pin SO-DIMM DDR4 up to 32GB
- Triple display: HDMI/ LVDS
- 2 x GbE with Intel® I219-LM and i211-AT
- 1 x M.2 2230 Key E
- 1 x SATA 3.0 (Q370)
- 3 x COM, 10 x USB, 1 x Audio
- 1 x PCIe x16 (Q370) or 1 x LVDS (H310)

Product Overview

X300-Q370/H310 is a Mini-ITX board with 8th generation Intel® Core™ i7/i5/i3 processors (codenamed Coffeelake) which integrated Intel® UHD Graphics 630. X300-Q370/H310 supports multi-displays by HDMI (4K@60Hz) 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.

X300 embedded Intel® Q370 as default provides three HDMI, four serial ports, four USB 3.0 ports, six USB 2.0 ports, two Gigabit Ethernet LAN port, one PCIe x16 slot and one M.2 2230 Key E with Wi-Fi interface. The power input is 12V DC. With optional Intel® H310 chipset, X300 switches PCIe x16 to LVDS for multifunctional usage. X300-Q370/H310 features versatile displays, rich I/O support for multimedia as well as critical mission of industrial embedded applications, such as Kiosk, digital signage, gaming, gateway...etc.

Specifications

CPU Support

- Socket LGA1151, Intel® 8/9th Generation Core™ i9/i7/i5/i3 processor, 14nm process

Generation	Socket Type	CPU	Smart Cache	Cores	Threads	Base Frequency	TDP
8th Coffee Lake	FCLGA1151	i3-8100T	6M	4	4	3.1GHz	35W
8th Coffee Lake	FCLGA1151	i5-8500T	9M	6	6	2.1GHz	35W
8th Coffee Lake	FCLGA1151	i7-8700T	12M	6	12	2.4GHz	35W
8th Coffee Lake	FCLGA1151	i3-8300	8M	4	4	3.7GHz	65W
8th Coffee Lake	FCLGA1151	i5-8500	9M	6	6	3.0GHz	65W
8th Coffee Lake	FCLGA1151	i7-8700	12M	6	12	3.2GHz	65W
9th Coffee Lake Refresh	FCLGA1151	i3-9100TE	6M	4	4	2.2GHz	35W
9th Coffee Lake Refresh	FCLGA1151	i5-9500TE	9M	6	6	2.2GHz	35W
9th Coffee Lake Refresh	FCLGA1151	i7-9700TE	12M	8	8	1.8GHz	35W
9th Coffee Lake Refresh	FCLGA1151	i9-9900T	16M	8	16	2.1GHz	35W

Chipset

- Intel® PCH Q370
- Intel® PCH H310

Graphics

- Intel® UHD Graphics 630

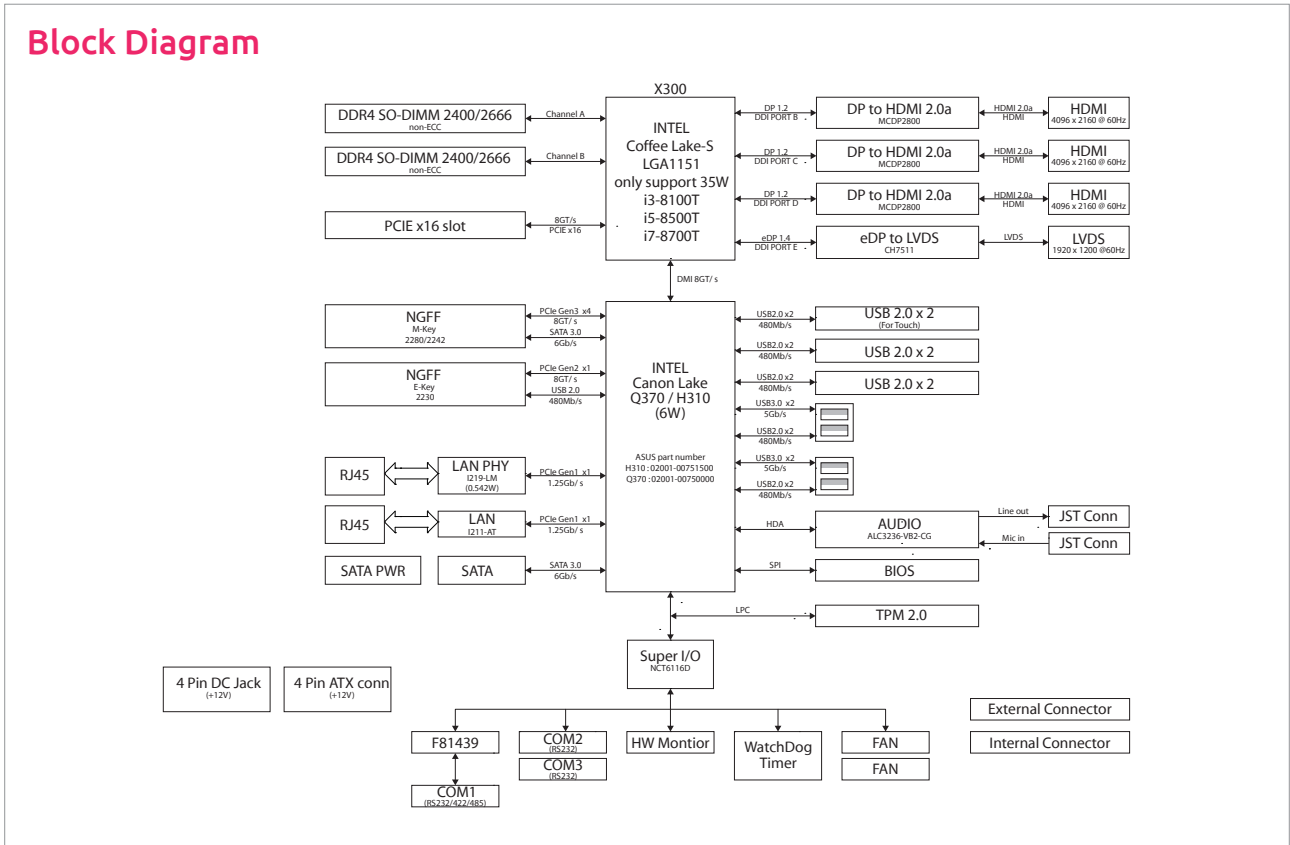
Main Memory

- 2x 260-pin SO-DIMM socket, support up to DDR4 2400/2666MHz, non ECC, un-buffered memory up to 32GB

Onboard LAN

- 2 x RJ45 connectors with Intel® I219-LM and i211-AT GbE controller
Support PXE boot from LAN, wake on LAN function

Block Diagram



Display

- Q370
 - 3 x HDMI 2.0 connector (resolution up to 4096 x 2160 @ 60Hz)
- H310
 - 2 x HDMI 2.0 connector (resolution up to 4096 x 2160 @ 60Hz)
 - 1 x LVDS (support dual port, resolution up to 1920 x 1200 @60Hz)
- COM1:RS232/422/485, 10-pin wafer with cable JST connector
- COM2/3: RS232, 10-pin wafer with cable JST connector
- 4-in/4-out GPIO
- USB 3.0 x 4 ports edge connector
- USB 2.0 x 2 ports by 6P, 2.5mm WtoB connector
- 1 x 5-pin connector with stand-by LED/PWR LED/HDD LED
- 2 x 4-pin connector support CPU/System fan
- 1 x 2-pin header support reset button
- 2 x 4-pin connector support line-out/mic-in
- Q370
 - USB 2.0 x 4 ports by 2x5P, 2.0mm pin header
 - 1 x 4-pin header support power button
- H310
 - USB 2.0 x 2 ports by 2x5P, 2.0mm pin header
 - 1 x 2-pin connector support power button

Expansion

- Q370
 - 1 x M.2 2230 Key E slot, support Wi-Fi with Bluetooth module
 - 1 x PCIe x16 slot
 - 1 x Onboard TPM2.0 IC
- H310
 - 1 x M.2 2230 Key E slot, support Wifi with Bluetooth module
 - 1 x LVDS connector

Audio

- Realtek ALC3236

Storage

- Q370
 - 1 x M.2 2280 Key M SSD with SATA/PCIe signal
 - 1 x 7-pin SATA 6Gb/s connector supports SATA-DOM

- 1 x 4-pin connector for SATA power
- H310
 - 1 x M.2 2280 Key M SSD with SATA signal

Power Requirements

- 5-pin DC power input jack on edge I/O
- +12V DC input only
- AT/ATX mode (by jumper setting default-AT)
- 4-pin power connector (right angle) for DC power input
- +12V DC input only

Environment

- Operating temperature: 0°C to 60°C
- Humidity: 95% (non-condensing)

Certification

- Meet CE (EMC EN55032 +EN55024)
- FCC Class A (EMI part 15B)

Dimensions

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

Ordering Information

• X300-Q370 (P/N: 10W10X30002X0)

Mini-ITX, 8th generation Intel® Core™ Coffeelake processor, PCH Q370 with 3 x HDMI, 1 x PCIe x16, 1 x SATA, M.2M, M.2E, 2 x GbE, 10 x USB, 3 x COM, 12V DC input

• X300-H310 (P/N: 10W10X30003X0)

Mini-ITX, 8th Generation Intel® Core™ Coffeelake processor, PCH H310 with 2 x HDMI, 1 x LVDS, M.2M, M.2E, 2 x GbE, 10 x USB, 3 x COM, 12V DC input

• Accessory

X300 CPU Cooler & CPU Bracket (P/N: 5050200153X00, 5061711340X00)

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