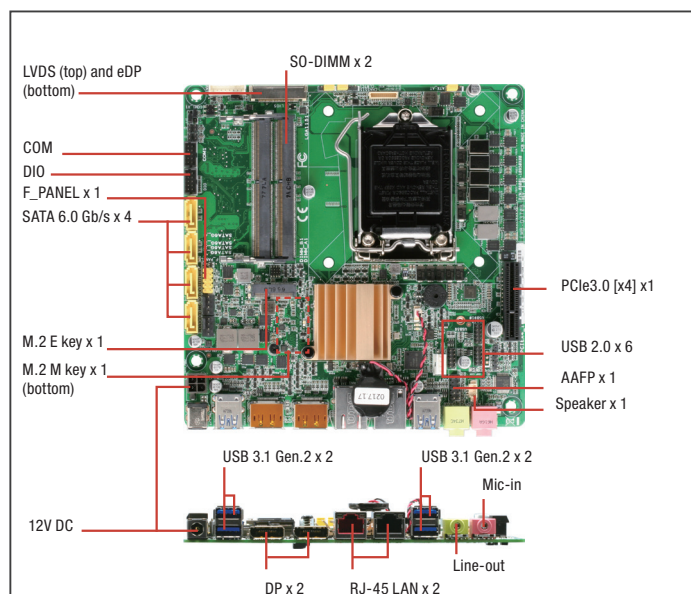


Mini-ITX, 8th Generation Intel® Core™ i7/ i5 /i3, Pentium® LGA1151 Socket Processor, Max. 65W TDPs



Specifications

System	
Processor	8th Generation Intel® Core™ i7/ i5 /i3, Pentium® LGA 1151 socket Processor (CoffeeLake-S), Max. 65W TDPs
Chipset	Intel® Q370 Express Chipset
Memory	SODIMM x 2, Max. 32GB, DDR4 2666/2400/2133 MHz, Non-ECC, Un-buffered Memory, Dual channel
I/O Chipset	NCT6793D
Ethernet	Intel® PHY i219LM Giga LAN (support Intel® AMT 12.0) x 1 Intel® i211AT Giga LAN x 1
Audio	Realtek® ALC887
TPM	Nuvoton TPM version 2.0
Expansion Slots	PCIe 3.0 [x4] x 1 M.2 M key (22 x 80mm) x 1 at Bottom side, SATA & PCIe [x4] M.2 E key (22 x 30mm) x 1 for Wireless-wifi module (PCIe+USB)
BIOS	256M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	Three Independent Display
VGA	—
DVI	—
HDMI	—
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio, DP++ supported
LVDS	LVDS Up to 1920 x 1200 @ 60 Hz, Dual Channel 18/24 bit (via Chrontel 7511)
eDP	eDP UP to 4096 x 2304 @ 60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC (Class A)
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	—

Features

- DDR4 SODIMM x 2, Up to 32 GB
- Three Independent Display: DP x 2, eDP x 1, LVDS x 1
- Intel® LAN 211AT x 1, 219LM for iAMT 12.0 x 1
- M.2 Slot (M-key) x 1
- M.2 Slot (E-key) x 1
- PCIe [x4] x 1
- Low Profile



Rear Panel I/O Ports

USB	USB 3.1 Gen. 2 x 4
Display I/O	DP x 2
Audio I/O	Mic-in x 1, Line out x 1
LAN I/O	LAN (RJ45) port x 2
Serial Port	—
PS/2 Port	—
Others	—

Internal I/O Connectors

Storage	SATA 6.0Gb/s x 4M x 2 M key (22 x 80mm) x 1 at Bottom side 4-pin SATA power x 1
USB	3 x USB 2.0 pin header support additional 6 USB ports
Display I/O	40-pin LVDS connector x 1 40-pin eDP connector x 1 LCD backlight connector (inverter) x 1
Audio I/O	Speaker for 2W/4Ω x 1 AAFP follow ASUS pin out x 1
Serial Port	Boxer header x 1 for COM (COM1: RS-232/422/485 supports 5V/12V/RI)
PS/2 Port	—
Parallel Port	—
DIO	8-bit x 1 (In/Out programmable)
FAN	4-pin Chassis Fan connector x 1 4-pin CPU Fan connector x 1
Power	12V DC Power jack x 1
Others	Front panel header x 1 Clear CMOS jumper x 1 AT/ATX select jumper x 1 Chassis Intrusion x 1

OS

OS Support	Windows® 10 64 bit, Ubuntu 16.04 LTS
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Packing List

- SATA Cable
- SATA Power Cable
- I/O Shield
- Product CD
- MIX-Q370D1

The diagram illustrates the system architecture for the Intel® Coffee Lake-S LGA1151 CPU. The CPU is connected to two channels of DDR4 SO-DIMM (2133/2400MHz). It has four display ports (Port B, C, D, A) connected to Display Port, Display Port, CH7511B (LVDS), and eDP respectively. The CPU is connected to the Intel® PCH Q370 via DMI (Gen3). The PCH Q370 is connected to various peripherals: Intel LAN1 I219LM and Intel LAN2_I211AT (RJ-45) via GbE and PCIe (Gen3); four PCIe3.0 [x4] ports via PCIe (Gen3); M.2 M-key and M.2 E-key via SATA III and PCIe (Gen3); USB 2.0 via USB 2.0; TPM 2.0 NPCT650xxxx via LPC; Nuvoton NCT6793D via LPC; 4 x USB 3.1 Gen2 via USB 3.1; 6 x USB 2.0 via USB 2.0; SPI flash via SPI; 4 x SATAIII via 6 Gbps; Audio ALC887 via Audio; and Line out, Mic in, AAFP, and DMIC via Audio. The Audio ALC887 is connected to an Audio AMP, which is connected to Int SPK. The Nuvoton NCT6793D is connected to Watch Dog, CHASSIS FAN, CPU FAN, COM1 (RS-232/422/485), HW Monitor, and DIO 8-BIT.

Timeline of Network Interface Cards (NICs) from 1970 to 1990:

- 0.00
- 6.89
- 22.29
- 41.24
- 63.24
- 82.9
- 102.05
- 119.99
- 135.44
- 148.99
- 170.18

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-Q370D1-A11	Socket	SODIMM x 2	Fan	DP x 2, LVDS, eDP	SATA3 x 4, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 6, USB3.1 x 4	—	1	PCIe3.0[x4] x 1, M.2(M-key) x 1, M.2(E-key) x 1	12V DC	—	32°F ~140°F (0°C ~ 60°C)

Part Number	Description
1759200172	(TF)CPU Cooler Fan, LGA 1156 socket, 4P, 12V, 2-Ball Bearing, Dynatron, K785, (2U cooler)
175921156B	(TF)CPU Cooler Fan, LGA 1156 socket, 12V, 4P, 2Ball (Tray), Dreamer, DSA-00273
COOLER-65W-01	CPU Cooler, LGA 1156, 12V, 65W, 4P, Kingcooler, 0571-1463R
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)
1255900846	Adapter 12V/84W