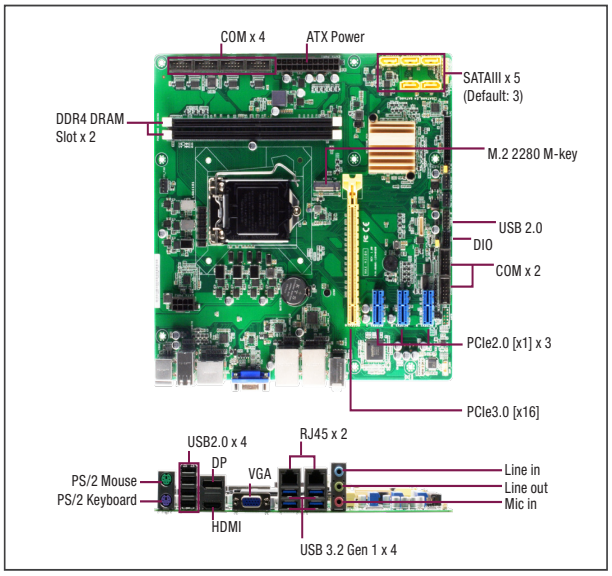
MAX-H310A

Micro-ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM



Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- DDR4 2666/2400/2133 MHz, max. 64GB
- Two Independent Displays: HDMI x 1, VGA x 1, DP x 1
- Dual Intel® Gigabit Ethernet, i210AT x 1, i219V x 1
- USB 3.2 Gen 1 ports x 4, USB 2.0 ports x 6
- M.2 M-key (PCIe or SATA) x 1, up to 5 SATA III (Optional)
- TPM Onboard

Specifications

System	
Processor	8th/9th Generation Intel® (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor
Chipset	Intel® H310 Express Chipset
Memory	DIMM x 2, DDR4 (2666/2400/2133 MHz, max. 64GB) non-ECC, un-buffered memory Dual-channel memory architecture
I/O Chipset	NCT6793D+ F81216HD
Ethernet	Intel® PHY i219V Gb LAN x 1 Intel® i210AT Gb LAN x 1 RJ45 x 2
Audio	Realtek® ALC897 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750 TPM2.0 onboard
Expansion Slots	PCIe 3.0[x16] Slot x 1 PCIe 2.0[x1] Slot (open edge) x 3 M.2 2280 M-key (BOM option: PCIe or SATA; default: SATA) x 1
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan x 1 Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	VGA+DP; VGA+HDMI; DP+HDMI
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Micro-ATX Form Factor, 9.6"x9.6" (244 mm x 244 mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	261,090
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 ports (5 Gbps) x 4, USB 2.0 ports x 4
Display I/O	DP x 1, VGA x 1, HDMI x 1
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2
Serial Port	—
PS/2 Port	PS/2 stack Port (Keyboard & Mouse) x 1
Others	—
Internal I/O Connectors	
Storage	SATA III (6.0Gb/s) ports x 3; BOM option: can support additional 2 SATA M.2 2280 M-key (BOM option: PCIex1 or SATA; default: SATA) x 1
USB	USB 2.0 header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1
Display I/O	—
Audio I/O	AAFP x 1
Serial Port	RS-232Box headers x 5 RS-232/422/485Box header (COM1, Pin9 supports 5V/12V/RI optional) x 1
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1 LPC box header x 1 3-pin ME lock header x 1 Buzzer on-board x 1
OS	
OS Support	Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64bit (18.04.1/Kernal4.8.0)

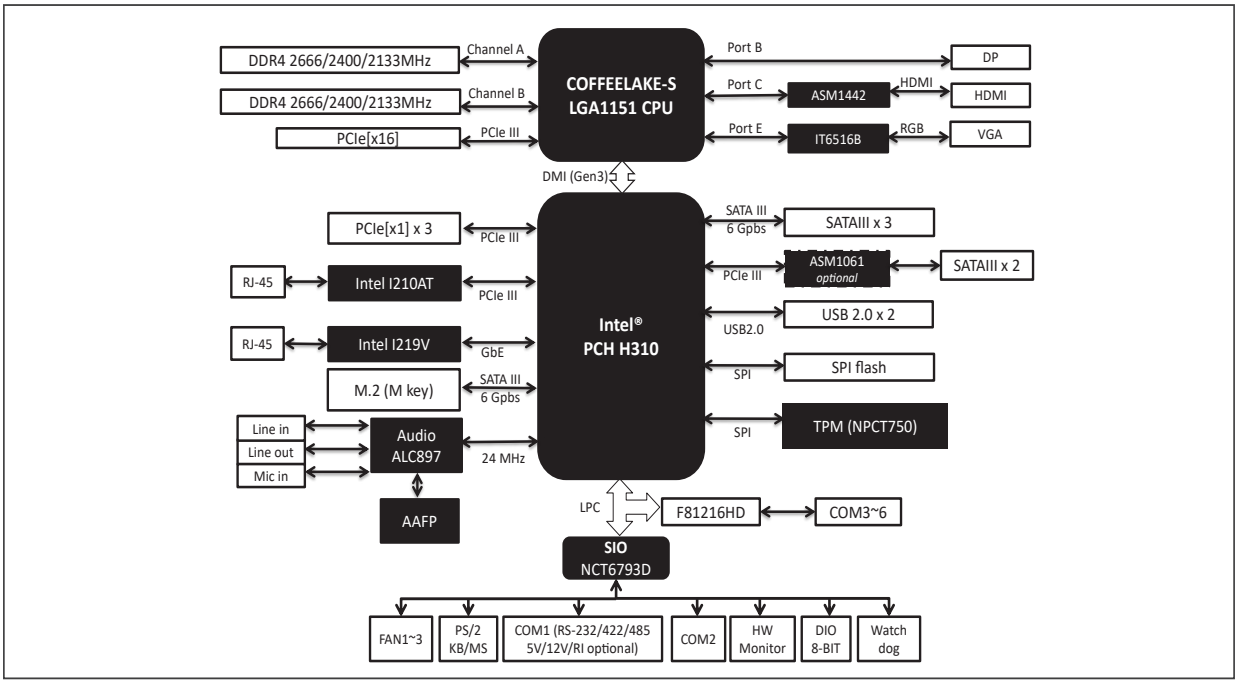
Packing List

- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- MAX-H310A

Note: All specifications are subject to change without notice.

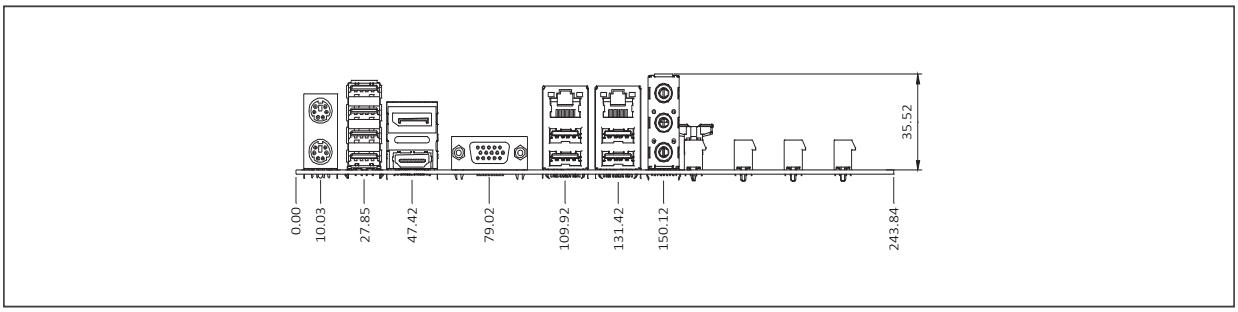
MAX-H310A

Block Diagram



Dimension

Unit: mm



Ordering Information

Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MAX-H310A-A11-210	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 1 VGA x 1 DP x 1	—	SATA3 x 3 M.2 2280 M-key (SATA) x 1	Intel®GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 6	5	1	PCIe[x16] x 1 PCIe[x1] x 3 M.2 2280 M-key (SATA) x 1	ATX	on-board	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)

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