

The4thware Industrial Board (ATX)

8th/9th Generation Intel Core, Pentium Series Platform

T4WA-H310-ATX



PRODUCT SPECIFICATION

SYSTEM	
PROCESSOR	Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor, Max. 6 Core 95W
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 Giga LAN x 1 Intel® i210AT Giga LAN x 1 RJ45 x 2
AUDIO	Realtek® ALC897 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750 TPM2.0 onboard (optional, default: on-board)
EXPANSION SLOT	PCIe 3.0[x16] Slot x 1, PCIe 2.0[x4] Slot (open edge) x 2(#1: 1Lane #2: Default: 2Lanes, only support 1Lane when Mini PCIe slot is installed.), PCI x 3, M.2 2280/2242 M-key (PCIex1/SATA3) x 1, Mini PCIe + Micro SIM card Slot (optional, default: N/A)
BIOS	128Mbit Flash ROM x 1, AMI BIOS
H/W MONITOR	Temperature Monitor on CPU/Chassis, 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/ Chassis Fan x 2
WAKE ON LAN/ PXE	Yes (WOL / PXE)
POWER STATE	S3, S4, S5
GRAPHICS	
GRAPHICS CHIPSET	Intel® Graphics Media Accelerator
GRAPHICS MULTI DISPLAY	HDMI+VGA, HDMI+DP, VGA+DP
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 30 Hz
DISPLAYPORT	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio

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LVDS	—
EDP	—
BACKLIGHT CONTROL	—
ENVIRONMENTAL & POWER & ME	
BATTERY	Lithium battery
POWER REQUIREMENT	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
OPERATING TEMPERATURE	32°F ~ 140°F (0°C ~ 60°C)
STORAGE TEMPERATURE	-40°F ~ 185°F (-40°C ~85°C)
OPERATING HUMIDITY	0% ~ 90%RH, non-condensing
CERTIFICATION	CE & FCC Class A
FORM FACTOR	ATX Form Factor, 12" x 9.6" (305mm x 244mm)
WEIGHT	1.76 lb (0.8 Kg)
MTBF (HOURS)	285600
REAR PANEL I/O PORTS	
USB	USB 3.2 Gen 1 ports x 2, USB 2.0 ports x 4
DISPLAY I/O	HDMI x 1, VGA x 1, DP 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	DB-9 COM x 1 (supports RS-232/422/485, 5V/12V/RI)
PS/2 PORT	—
OTHERS	-
INTERNAL I/O CONNECTORS	
STORAGE	SATA III (6.0Gb/s) ports x 3 M.2 2280/2242 M-key (PCIex1/SATA3) x 1
USB	USB 3.2 Gen 1 headers support additional 2 USB ports (2x5PIN, p=2.54mm) x 1, USB 2.0 Type A (vertical) x 1
DISPLAY I/O	—
AUDIO I/O	AAFP x 1
SERIAL PORT	RS-232 headers x 5
PS/2 PORT	-
PARALLEL PORT	—

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DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector(s) (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, 3-pin ME lock header x 1, Buzzer on-board x 1
OS	
OS SUPPORT	Windows® 10 64bit, Windows® 11 64bit, Linux Ubuntu 64 bit (18.04.3/ Kernal5)