

The4thware Industrial Board (MATX)

10th Generation Intel Core, Pentium Series Platform

T4WA-Q470E-MATX



PRODUCT SPECIFICATION

SYSTEM	
PROCESSOR	Intel® 10th Generation (Comet Lake-S) Core™ i9 /i7/ i5 /i3, Pentium 14 nm LGA 1200 socket Processor, Max. 10 Core 80W
CHIPSET	Intel® Q470E Express Chipset
MEMORY	DIMM x 4, DDR4 (2933/2666/2400 MHz, max. 128GB) non-ECC, un-buffered memory Dual channel memory architecture
I/O CHIPSET	IT5121E + F81216HD
ETHERNET	Intel® PHY i219LM Giga LAN (supports Intel® AMT 12.0) x 1 Intel® i210AT Giga LAN x 1, RJ45 x 2
AUDIO	Realtek® ALC897 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AADYX TPM2.0 onboard (optional; default: onboard)
EXPANSION SLOT	PCIe 3.0[x16] Slot (16 lanes) (8 lanes when dual use PCIe[x16]) x 1, PCIe 3.0[x16] (8 lanes) x 1, PCIe 3.0[x4] Slot x 1, PCIe 3.0[x4] Slot (2 lanes) x 1, M.2 2230 E-key (PCIe/CNVI) x 1, M.2 3042/3052/2242 B-key (PCIe/USB/SATA) x 1, Micro SIM card Slot x 1
BIOS	256Mbit Flash ROM, 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+HDMI+VGA, HDMI+HDMI+LVDS, HDMI+VGA+LVDS, HDMI+HDMI+HDMI
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 60 / 30 Hz, with Digital Audio
DISPLAYPORT	—

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LVDS	Up to 1920 x 1200 @ 60 Hz, Dual Channel 18/24 bit
EDP	—
BACKLIGHT CONTROL	Yes
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	Micro-ATX Form Factor, 9.6"x9.6" (244 mm x 244 mm)
WEIGHT	1.76 lb (0.8 Kg)
MTBF (HOURS)	259,360 Hrs
REAR PANEL I/O PORTS	
USB	USB 3.2 Gen2 ports (10 Gbps) x 2, USB 3.2 Gen1 ports (5 Gbps) x 4
DISPLAY I/O	VGA x 1, HDMI x 3 (2.0 x 1, 1.4 x 2)
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 (supports RS-232/422/485, 5V/12V/RI) x 1
PS/2 PORT	—
OTHERS	BIOS recovery button
INTERNAL I/O CONNECTORS	
STORAGE	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280/2242 M-key (PCIex4) x 1
USB	USB3.2 Gen1 box header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1, USB3.2 Gen1 Type A (vertical) connector x 1, USB 2.0 header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1
DISPLAY I/O	40-pin LVDS connector x 1
AUDIO I/O	speaker header (Line-out) x 1, AAFP x 1
SERIAL PORT	RS-232 headers x 3
PS/2 PORT	—
PARALLEL PORT	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1

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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 64bit (20.04.0/Kernel 5.4)