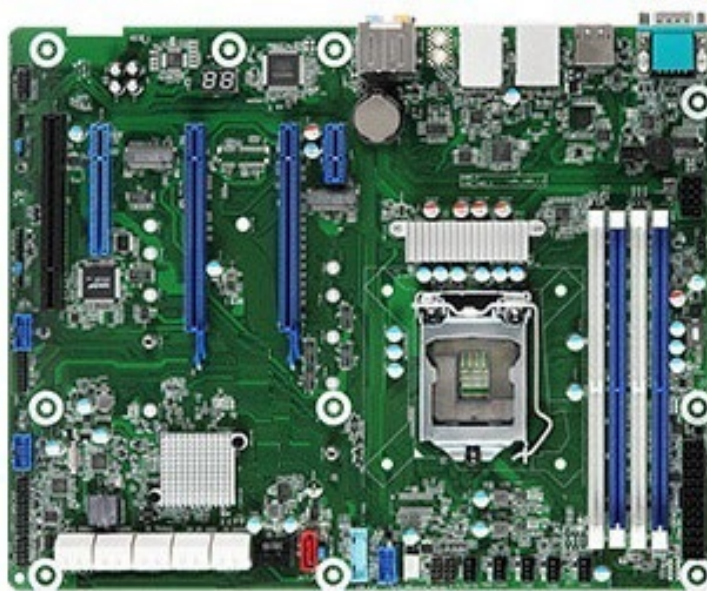


# The4thware Industrial Board (ATX)

10<sup>th</sup> Generation Intel Xeon E Series Platform

T4WARR-C246-ATX



## PRODUCT SPECIFICATION

Physical Status	
Form Factor	ATX
Dimensions	12"x 9.6" (305 mm x244 mm)
Processor System	
CPU	Supports Intel® Xeon® E-2100/E-2200 Series Processors
Socket	Single Socket LGA 1151
Thermal Design Power	Max. 95W
Chipset	Intel® C246
System Memory	
Supported DIMM Quantity	4 DIMM slots
Supported Type	Dual Channel memory technology DDR4 288-pin ECC/non-ECC UDIMM
Max. Capacity per DIMM	32GB
Max. DIMM Frequency	ECC/Non-ECC UDIMM: 2666/2400/2133 MHz
Voltage	1.2V
PCIe Expansion Slots (SLOT7 close to CPU)	
PCIe x 16	- SLOT6: PCIe3.0 x16, auto switch to x8 when SLOT4 is occupied - SLOT4: PCIe x16 (PCIe3.0 x8)
PCIe x 8	- SLOT2: PCIe x8 (PCIe3.0 x4)* *M2_2 shared with SLOT2
PCIe x 1	- SLOT7: PCIe3.0 x1
PCI	- SLOT1: PCI
Other PCIe Expansion Connectors	
M.2 slot	- M2_1: (2230/2242/2260/2280/22110, Supports PCIE3.0(X4)/SATA3) - M2_2: (2230/2242/2260/2280/22110, Supports PCIE3.0(X4)) - M2_3 (BTO) : (2230, WiFi/ BT antenna)
SATA/SAS Storage	
PCH Built-in Storage	- Intel® C246 : 8 x SATA3 6.0 Gb/s, support RAID 0, 1, 5, 10
Additional SATA Controller	- Marvell SE9172: 4 x SATA3 6.0 Gb/s, support RAID 0, 1, 5, 10
Ethernet	
Interface	- 1000 /100 /10 Mbps
Additional GbE Controller	- 2 x RJ45 GLAN by Intel® i210 + Intel® i219LM - Supports Wake-On-LAN - Supports Energy Efficient Ethernet 802.3az - Supports Dual LAN with Teaming function - Supports PXE
Features	- Watch Dog - NMI

## PRODUCT SPECIFICATION

Graphics	
Controller	- CPU pGFX
Audio	
Audio	- Realtek ALC892
Rear I/O	
VGA Port	- 1 x D-Sub, 1 HDMI, 1 DisplayPort
Serial Port	- 1
USB 3.2 Gen2 Port	- 3 x TypeA + 1 x TypeC ports
RJ45	- RJ45: 2 x GLAN(by Intel® i210 + Intel® i219LM) - LAN Ports with LED (ACT/LINK LED and SPEED LED)
Audio	- 1 (5+1 jack)
Internal Connector/Headers	
Power Connector	- 1 (24-pin) + 1 (8-pin)
Auxiliary Panel Header	- 1 (includes chassis intrusion, front LAN LED)
System Panel	- 1 (RST, PWRBTN, HDDLED, PWRLED)
Speaker Header	- 1 (4pin)
Buzzer	- 1
Fan Header	- 6x Fan
Thermal Sensor Header	- 1
TPM Header	- 1
SGPIO Header	- 2
Clear CMOS	- 1 (short pad)
Others	- 1 Front Audio Panel
USB 3.2 (Gen1) Header	- 1 (support 2 x USB 3.0 ports)
USB 2.0 Header	- 3 (supports 6 x USB 2.0 ports)
NMI Header	- 1
LED Indicators	
80 Debug Port LED	- 1
System BIOS	
BIOS Type	- 256 Mb AMI UEFI Legal BIOS
BIOS Features	- Plug and Play (PnP) - ACPI 2.0 Compliance Wake Up Events - SMBIOS 2.8.0 Support - ASRock Rack Instant Flash

## PRODUCT SPECIFICATION

Hardware Monitor	
Temperature	- CPU/PCH Temperature Sensing - MB/Card side/TR1 Temperature Sensing
Fan	- CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) - Fan Multi-Speed Control
Voltage	- Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore, VCCM, VCCIO, VCCSA, VCCST_SFR, V1.0M, 3VSB
Supported OS	
OS	<p>Microsoft® Windows®</p> <ul style="list-style-type: none"> <li>- Windows® 10 (64bit)</li> </ul> <p>Linux</p> <ul style="list-style-type: none"> <li>- RedHat Enterprise Linux Server 8.1 (64 bit) / 6.9 (64 bit) / 7.4 (64 bit)</li> <li>- SUSE Enterprise Linux Server 11 SP4 (64 bit) / 12 SP3 (64 bit)</li> <li>- Ubuntu 16.04 (64 bit) / 18.04 (64 bit)</li> </ul> <p>Virtual</p> <ul style="list-style-type: none"> <li>- VMWare® ESXi 6.5 u1</li> </ul> <p>*Please refer to our website for the latest OS support list.            * Ubuntu 16.04(64bit)/ 18.04 (64 bit) Intel® Raid mode only support UEFI BOOT            * Marvell RAID mode not support Linux OS install            * In RedHat Enterprise Linux Server 7.4 (64 bit), please disable the Marvell 9172 controller in the BIOS.</p>
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C
Humidity	- Non operation humidity: 20% ~ 90% ( Non condensing)