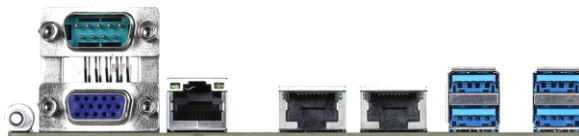


The4thware Industrial Board (MATX)

9th Generation Intel Xeon E Series Platform

T4WARR-C242-MATX1



PRODUCT SPECIFICATION

Physical Status	
Form Factor	Micro-ATX
Dimensions	9.6" x 9.6" (244 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® C242
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 [CPU]
PCIe x 8	- SLOT4: PCIe3.0 x8 [CPU]
PCIe x 1	- SLOT7: PCIe3.0 x1 [PCH]
Other PCIe Expansion Connectors	
M.2 slot	- 1 (2230/2242/2260/2280, Supports PCIE3.0(X4)/SATA3)
SATA/SAS Storage	
PCH Built-in Storage	- 6 x SATA3 6Gb/s (SATA0-5, SATA_0 supports SATA DOM) - 5 x SATA3 6Gb/s (SATA1-5) and 1 x M.2 SSD SATA connected* *The M.2 slot (M2_1) is shared with the SATA_0 connector. When M2_1 is populated with a M.2 SATA3 module, the Pin 7 of SATA_0 is disabled.
Ethernet	
Interface	- 10000/1000 /100 /10 Mbps
Additional GbE Controller	- 2 x RJ45 10G base-T by Intel® X550-AT2 - 1 x RJ45 Dedicated IPMI LAN port by RTL8211E - Supports Wake-On-LAN - Supports Energy Efficient Ethernet 802.3az - Supports Dual LAN with Teaming function - Supports PXE - LAN1 supports NCSI

PRODUCT SPECIFICATION

Server Management	
BMC Controller	- ASPEED AST2500
IPMI Dedicated GLAN	- 1 x Realtek RTL8211E for dedicated management GLAN
Features	- Watch Dog - NMI
Graphics	
Controller	- ASPEED AST2500
VRAM	- DDR4 16MB
Rear I/O	
UID Button/LED	- 1
VGA Port	- 1 DB15 (VGA)
Serial Port	- 1
USB 3.2 Gen1 Port	- 4 Type-A (USB3.2 Gen1)
RJ45	- 2 +1 RJ45 Gigabit Ethernet LAN ports - LAN Ports with LED (ACT/LINK LED and SPEED LED)
Internal Connector/Headers	
Power Connector	- 1x (24-pin) + 1x (8-pin)
Auxiliary Panel Header	- 1 (includes chassis intrusion, location button & LED, and front LAN LED)
System Panel Buzzer	- 1 (RST, PWRBTN, HDDLED, PWRLED)
Fan Header	- 6(1CPU/3Front/2Rear)
Thermal Sensor Header	- 1
TPM Header	- 1
SGPIO Header	- 2
SMBus header	- 1
PMBus header	- 1
IPMB Header	- 1
Clear CMOS	- 1 (header and short pin)
ME/SPS Recovery	- 1
USB 3.2 (Gen1) Header	- 1 (19-pin, 2 USB3.2 Gen1)
USB 2.0 Header	- 1 (9-pin, 2 USB2.0)
LED Indicators	
Fan Fail LED	- 1 (Header)

PRODUCT SPECIFICATION

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
Hardware Monitor	
Temperature	- CPU/PCH/DDR/LAN/Storage Temperature Sensing - MB/Card side/TR1 Temperature Sensing
Fan	- CPU/Rear/Front Fan Tachometer - CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) - CPU/Rear/Front Fan Multi-Speed Control
Voltage	- Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore, DRAM, 1.05V_PCH, +BAT, 3VSB, 5VSB
Supported OS	
OS	Microsoft® Windows® - Server 2016 (64 bit) Linux - RedHat Enterprise Linux Server 6.9 (64 bit) / 7.4 (64 bit) - SUSE Enterprise Linux Server 12 SP1 (64 bit) / 12 SP3 (64 bit) - Ubuntu 15.10 (64 bit) / 16.04 (64 bit)
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C
Humidity	- Non operation humidity: 20% ~ 90% (Non condensing)