

The4thware Industrial Board (MITX)

10th Generation Intel Xeon E Series Platform

T4WARR-C246-MITX1



PRODUCT SPECIFICATION

Physical Status	
Form Factor	mini-ITX
Dimensions	6.7" x 6.7" (17.02 cm x17.02 cm)
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	2 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	- SLOT 7: PCIe3.0 x16
Other PCIe Expansion Connectors	
M.2 slot	- 1 x M.2 (NGFF 2242, PCI-E Gen3 x4 link or SATA signal)* *SATA 1 will be disable when M.2 is SATA signal
OCuLink	- NVMe SSDs PCIe4 (Share with SATA_0,1,2,3)
SATA/SAS Storage	
PCH Built-in Storage	- Intel® C246: 1 x OCuLINK (SATA_0,1,2,3); 4 x SATA3 6Gb/s (SATA_4,5,6,7), 1 x SATA DOM included *Please contact sales to buy the OCuLink to 4x SATA cable
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(TBD) - Supports PXE - LAN1 supports NCSI

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Server Management	
BMC Controller	- N/A
IPMI Dedicated GLAN	- N/A
Features	- Watch Dog - NMI
Graphics	
Controller	- CPU pGFX
Audio	
Audio	- Realtek ALC892
Rear I/O	
UID Button/LED	- N/A
VGA Port	- 1 x D-Sub, 1 HDMI, 1 DisplayPort
USB 2.0 Port	- 2
USB 3.2 Gen2 Port	- 4 (Type A Gen2 x4)
RJ45	- RJ45: 2x GLAN(by Intel® i210+ Intel® i219LM) - LAN Ports with LED (ACT/LINK LED and SPEED LED)
Audio	- 3+1 CH with SPDIF
Internal Connector/Headers	
Power Connector	- 1x (4-pin), 1x (8-pin)
Other Power Connectors	- 1x (4-pin)
Auxiliary Panel Header	- 1 (include chassis intrusion, location button & LED, front LAN LED, event log LED)
System Panel	- 1 (RST, HDLED, PLED, PERBTN)
COM Header	- 1
Speaker Header	- 1(4pin)
Buzzer	- N/A
Fan Header	- 3(1CPU/1Front/1Rear)
Thermal Sensor Header	- 1
TPM Header	- 1
SGPIO Header	- 2
Clear CMOS	- 1 (short pad)
USB 3.2 (Gen1) Header	- 1 (support 2 USB 3.0)
LED Indicators	
80 Debug Port LED	- N/A

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System BIOS	
BIOS Type	- 256Mb 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 Temperature Sensing - System Temperature Sensing - System Inlet 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	- 3V, Vcore, 12V, VCCST_SFR, 3VSB
Supported OS	
OS	Microsoft® Windows: Windows® 10 (64 bit) Linux - RedHat Enterprise Linux Server 6.10 (64 bit) / 7.5 (64 bit) - SUSE Enterprise Linux Server 11 SP4 (64 bit) / 12 SP3 (64 bit) - Ubuntu 16.04 (64 bit)/ 18.04 (64 bit) Virtual - VMWare® ESXi 6.5 u1 - Win hyper-V Server 2016
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C
Humidity	- Non operation humidity: 20% ~ 90% (Non condensing)