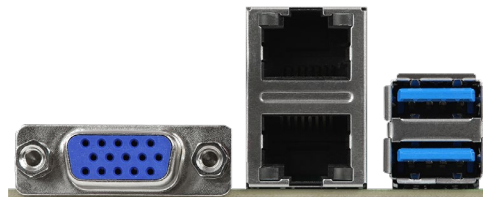
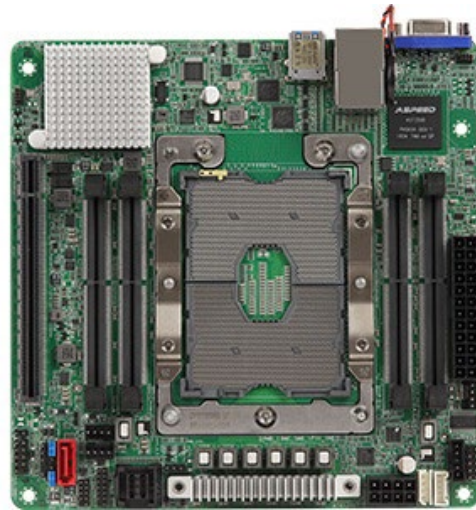


# The4thware Industrial Board (MITX)

1<sup>th</sup> Generation Intel Xeon Scalable Series Platform

T4WARR-C621-MITX1



## PRODUCT SPECIFICATION

Physical Status	
Form Factor	mini-ITX
Dimensions	6.7" x 6.7" (17.02 cm x 17.02 cm)
Processor System	
CPU	Intel® Xeon® Scalable Processors
Socket	Single Socket LGA3647 (Socket P)
Chipset	Intel® C621
System Memory	
Supported DIMM Quantity	4 x 260-pin DDR4 DIMM slots Support up to 64GB DDR4 SO-RDIMM, *ECC SO-DIMM.  *Conditional supported, for detail please refer below <a href="#">PDF</a>
Supported Type	Four Channel DDR4 memory technology Support DDR4 2933*/2666/2400/2133, SO-RDIMM, SO-ECCDIMM
Max. Capacity per DIMM	SO-RDIMM, SO-ECC DIMM:* 32GB, 16GB, 8GB, 4GB  *Conditional supported, for detail please refer below <a href="#">PDF</a>
Max. DIMM Frequency	SO-RDIMM, SO-ECC DIMM: 2933*/2666/2400/2133 MHz  *DDR4 2933 memory is supported only when using the Intel® Cascade Lake CPU and Intel® Cascade Lake BIOS.
Voltage	1.2V
PCIe Expansion Slots (SLOT7 close to CPU)	
PCIe x 16	SLOT7: PCIe3.0 x16
Other PCIe Expansion Connectors	
M.2 slot	2 M-key (PCIe3.0 x4 or SATA 6Gb/s), supports up to 2280 form factor
SATA/SAS Storage	
PCH Built-in Storage	7 SATA3 6Gb/s: 1 Mini-SAS HD, 1 SATA DOM, 2 M.2
Ethernet	
Interface	1000 /100 /10 Mbps
Additional GbE Controller	2 x 1GbE RJ45 via Intel® integrated MAC X722 + Marvell Alaska 88E1514 Supports Wake-On-LAN Supports Energy Efficient Ethernet 802.3az Supports Dual LAN with Teaming function Supports PXE LAN1 supports NCSI
Server Management	
BMC Controller	ASPEED AST2500
Features	Watch Dog NMI

## PRODUCT SPECIFICATION

Graphics	
Controller	ASPEED AST2500
VRAM	DDR4 256MB
Rear I/O	
VGA Port	1 (D-Sub)
USB 3.2 Gen2 Port	2
RJ45	2 RJ45 (1GbE)
Dedicate LAN	Dedicated IPMI LAN port
Internal Connector/Headers	
Power Connector	1 (24-pin, ATX main power), 1 (8-pin, ATX 12V)
System Panel	1 (9-pin): power switch, reset switch, system power LED, HDD activity LED
COM Header	1
Fan Header	3 (4-pin)
TPM Header	1
SMBus header	1
PMBus header	1
Clear CMOS	1 (contact pads)
ME/SPS Recovery	1
USB 2.0 Header	1
LED Indicators	
Standby PWR LED 5vsb	1
Fan Fail LED	3
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
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

## PRODUCT SPECIFICATION

Supported OS	
OS	<p>Microsoft® Windows® (Server OS):            Server 2012 R2 (64 bit)            Server 2016 (64 bit)            Server 2019 (64 bit)</p> <p>Linux:            Red Hat Enterprise Linux Server 6.9 (64 bit) / 7.6 (64 bit)            CentOS 6.9 (64 bit) / 7.6 (64 bit)            SUSE Enterprise Linux Server 11 SP4 (64 bit) / 12 SP4 (64 bit)            FreeBSD 11.2 (64 bit)            Ubuntu 16.04 (64 bit) / 18.04 (64 bit)</p> <p>Virtual:            VMWare® ESXi 6.5 u1/ vSphere 6.5 u1            Citrix XenServer 7.5</p> <p>*Please refer to our website for the latest OS support list.            *On the Ubuntu 16.04(64bit)/ 18.04 (64 bit) only support UEFI BOOT            *On the SUSE Enterprise Linux Server 11 SP4 ( 64 bit)/ 12 SP4 ( 64 bit) only support UEFI BOOT            *Cascade Lake CPU supports Red Hat 7.6 / CentOS 7.6.</p>
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C
Humidity	Non operation humidity: 20% ~ 90% ( Non condensing)