

The4thware Industrial Board (MITX)

10th/11th Generation Intel Core Series Platform

T4WARR-Z490-MITX



PRODUCT SPECIFICATION

Physical Status	
Form Factor	mini-ITX
Dimensions	6.7" x 6.7" (170mm x 170mm)
Processor System	
CPU	Supports 11th and 10th Gen. Intel® Core™ Processors
Socket	LGA 1200
Thermal Design Power	125 W
Chipset	Intel® Z490
System Memory	
Supported DIMM Quantity	2 DIMM (1DPC)
Supported Type	Supports DDR4 288-pin ECC/non-ECC UDIMM
Max. Capacity per DIMM	up to 32GB
Max. DIMM Frequency	up to 2933 MHz
Voltage	1.2V
PCIe Expansion Slots (SLOT7 close to CPU)	
PCIe x 16	SLOT7: PCIe4.0 x16 * Supports PCIe3.0 x16 when installing 10th Gen. Intel® Core™ Processors
M.2	1 M-key* (PCIe4.0 x4) support 2280 form factor [CPU] *Supports PCIe3.0 x4 or SATA [PCH] when installing 10th Gen. Intel® Core™ Processors
Other PCIe Expansion Connectors	
OCuLink	1 Oculink (PCIe3.0 x4 or 4 SATA 6Gb/s) [PCH] 1 Oculink (PCIe3.0 x4 or 2 SATA 6Gb/s) [PCH]
SATA/SAS Storage	
Additional SATA Controller	Intel Z490 (6 SATA 6Gb/s; RAID 0/1/5/10): 2 OcuLink
Ethernet	
Additional GbE Controller	1 Intel® i210: 1 RJ45 (1 GbE) 1 Intel® i219-LM: 1 RJ45 (1 GbE)
Server Management	
BMC Controller	ASPEED AST2500: IPMI (Intelligent Platform Management Interface) 2.0
IPMI Dedicated GLAN	1 x Realtek RTL8211E for dedicated management GLAN

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Graphics	
Controller	ASPEED AST2500: 1 DB15 (VGA) Intel® Integrated Processor Graphics: 1 HDMI, 1 DisplayPort
Rear I/O	
UID Button/LED	1
VGA Port	1 DB15, 1 HDMI, 1 DisplayPort
USB 3.2 Gen1 Port	2 Type-A (USB3.2 Gen1)
USB 3.2 Gen2 Port	2 Type-A (USB3.2 Gen2)
RJ45	2 RJ45 (1GbE) 1 dedicated IPMI
Audio	1 (3 jacks),
Internal Connector/Headers	
Power Connector	1 (4-pin, ATX PSU signal) w/ ATX 24-pin adapter cable, 1 (8-pin, ATX 12V) support 12V DC-in
Other Power Connectors	1 (4-pin) for HDD power when using 12V DC-in power source
Auxiliary Panel Header	1 (9-pin): chassis intrusion, system fault LED, LAN1/LAN2 activity LED, locate
System Panel	1 (9-pin): power switch, reset switch, system power LED, HDD activity LED
COM Header	1
Fan Header	3 (4-pin)
Thermal Sensor Header	1
TPM Header	1 (13-pin, SPI)
SGPIO Header	1
SMBus header	1
PMBus header	1
IPMB Header	1
Clear CMOS	1
USB 3.2 (Gen1) Header	1 (19-pin, 2 USB3.2 Gen1)
LED Indicators	
Standby PWR LED 5vsb	1
Fan Fail LED	3
BMC heartbeat LED	1
Humidity	Non operation humidity: 20% ~ 90% (Non condensing)

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System BIOS	
BIOS Type	AMI UEFI BIOS; 256 Mb (32MB) SPI Flash ROM
BIOS Features	Plug and Play, ACPI 3.0 compliance wake up events, SMBIOS 3.2, ASRock Rack instant flash
Hardware Monitor	
Temperature	CPU, MB, TR1 Temperature sensing
Fan	"CPU/Rear/Front Fan Tachomete CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) CPU/Rear/Front Fan Multi-Speed Control"
Voltage	VCORE,VCCSA,VCCM,3V, 5V, 12V, +1.05V_PCH_AUX,+BAT, 3VSB, 5VSB, VCCIO,+2.5V_VPP
Supported OS	
OS	<p>Microsoft® Windows® : Windows® 10 (64 bit)</p> <p>Linux : RedHat Enterprise Linux Server 7.9 (64 bit) / 8.2 (64 bit) CentOS 7.9 (64 bit) / 8.2 (64 bit) SUSE Enterprise Linux Server 12 SP5 (64 bit) / 15 SP2 (64 bit) Ubuntu 19.04 (64 bit) / 20.04.1 (64 bit)</p> <p>Hypervisor : VMWare® ESXi 7.0 U1/ vSphere 7.0 U1</p> <p>* Supports UEFI BOOT only. * The Intel® RAID mode is not supported on the Linux system.</p>
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C