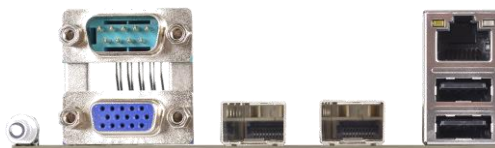


# The4thware Industrial Board (MATX)

3<sup>th</sup> Generation Intel Atom C3000 Series Platform

## T4WARR-C3558-MATX



## PRODUCT SPECIFICATION

Physical Status	
Form Factor	Micro-ATX
Dimensions	9.6" x 9.6" (244 mm x244 mm)
Processor System	
CPU	Intel® Atom C3558 Series Processor: 4core, 16W
Socket	SOC
System Memory	
Supported DIMM Quantity	4 DIMM slots 288-pin DDR4 Support up to 128GB DDR4 ECC RDIMM (32 GB w/8Gb DRAM) Support up to 64GB DDR4 ECC/non-ECC UDIMM (16 GB w/8Gb DRAM)
Supported Type	Dual Channel DDR4 memory technology Supports DDR4 ECC/non-ECC UDIMM, and ECC RDIMM
Max. Capacity per DIMM	Non-ECC UDIMM :4GB, 8GB, 16GB ECC UDIMM: 4GB, 8GB, 16GB RDIMM: 4GB, 8GB, 16GB, 32GB
Max. DIMM Frequency	Non-ECC UDIMM: 1600/1866/2133MHz ECC UDIMM: 1600/1866/2133MHz RDIMM: 1600/1866/2133MHz
Voltage	1.2V
PCIe Expansion Slots (SLOT7 close to CPU)	
PCIe x 8	SLOT6: PCIe3.0 x8 (option with LSI 3008)
PCIe x 4	SLOT7: PCIe3.0 x4
Other PCIe Expansion Connectors	
M.2 slot	1 (PCIe x1 or SATA 6Gb/s), supports 2230/2242/2260/2280/22110 form factor
SATA/SAS Storage	
PCH Built-in Storage	Intel C3558 : 4 SATA3 6.0 Gb/s (PORT SATA_3 switch with M.2)
Additional SATA Controller	Marvell 9172 x2 for 4 port SATA3 6.0 Gb/s
Ethernet	
Interface	Gigabit LAN 1000/10000 Mbps
Additional GbE Controller	2 SFP+ 10G fiber by PCH CS4227 - Supports Energy Efficient Ethernet 802.3az - Supports Dual LAN with Teaming function - Supports PXE - LAN1 Supports NCSI
Server Management	
BMC Controller	ASPEED AST2500 : IPMI (Intelligent Platform Management Interface) 2.0 with ikvm and vMedia support
IPMI Dedicated GLAN	1 Realtek RTL8211E for dedicated management LAN
Features	Watch Dog NMI

## PRODUCT SPECIFICATION

Graphics	
Controller	ASPEED AST2500
VRAM	DDR4 4Gb
Output	Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz
Rear I/O	
UID Button/LED	1
VGA Port	1 D-sub
Serial Port	1 (COM)
USB 2.0 Port	2 Type-A (USB2.0)
RJ45	2 SFP+ 10G Optical Fiber (CS4227) 1 RJ45 Dedicated IPMI LAN port - LAN Ports with LED (ACT/LINK LED and SPEED LED)
Dedicate LAN	RT8211E
Internal Connector/Headers	
Power Connector	1 (24-pin, ATX main power), 1 (8-pin, ATX 12V) support 12V DC-in
Other Power Connectors	1 (4-pin, SATA DOM Power)
Auxiliary Panel Header	1 (include chassis intrusion, location button & LED, front LAN LED, event log LED)
System Panel	1
COM Header	1
Buzzer	1
Fan Header	4 (4-pin)
TPM Header	1
SGPIO Header	1
SMBus header	1
PMBus header	1
IPMB Header	1
Clear CMOS	1 (short pin)
ME/SPS Recovery	1
USB 2.0 Header	1 (9-pin, 2 USB2.0)
NMI Header	1
LED Indicators	
Fan Fail LED	4
System BIOS	
BIOS Type	128Mb AMI UEFI Legal BIOS
BIOS Features	Plug and Play (PnP), ACPI 1.1 Compliance Wake Up Events, SMBIOS 2.3.1 Support, ASRock Instant Flash

## PRODUCT SPECIFICATION

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_AUX, 3.3V_AUX, CPU Vcore, DRAM, +1.05V,+1.8V, +BAT
Supported OS	
OS	Microsoft® Windows® - Server 2016 (64 bit) - Server 2012 (64 bit) - Server 2012 R2 (64 bit) Linux - RedHat Enterprise Linux Server 7.4 (64 bit) - CentOS 7.3 (64 bit) - SUSE Enterprise Linux Server 12 SP3 (64 bit) - Fedora core 24 (64 bit) - Ubuntu 16.10/17.04 (64 bit)  * Please refer to our website for the latest OS support list.
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C  *Install a CPU Fan when the airflow through the heatsink is below 2CFM.
Humidity	Non operation humidity: 20% ~ 90% ( Non condensing)