

## 4U2S 8-GPGPU SERVER PLATFORM



### Thunder HX FT77D-B7109

B7109F77DV14HR-2T-NFZ / B7109F77DV10E4HR-2T-NFZ / B7109F77DV4HR-2T-NFZ



#### Front View



• Max up to (14) 2.5" Hot-Swap SSD/HDDs devices

#### Back View



• (2+1) 4,400W RPSU, 80+ Platinum

### 4U2S 8-GPU server platform designed for embarrassingly parallel workloads

- Dual LGA3647 socket
- (2) 2nd Gen. Intel® Xeon® Scalable Processors
- Max up to (14) SATA 6G, (10) SATA 6G + (4) NVMe U.2 or (4) SATA 6G
- (12+12) R/LRDIMM DDR4 2933/2666, Up to 768GB RDIMM, 1,536GB LRDIMM & 3,072GB LRDIMM 3DS
- Up to (8) FH/FL/DW PCI-E Gen3 x16 + (1) FH/FL/SW PCI-E Gen3 x16 slots
- (2) 10GbE+ (1) IPMI
- Onboard BMC w/ IPMI and iKVM support
- (2+1) 4,400W CRPS, 80+ Platinum

SKU	Storage	9th PCIe x16 slot
B7109F77DV14HR-2T-NFZ	(14) 2.5" Hot-swap SATA 6G	Available
B7109F77DV10E4HR-2T-NFZ	(10) Hot-swap 2.5" SATA 6G + (4) 2.5" Hot-swap NVMe U.2	In use (M2093 NVMe Retimer card)
B7109F77DV4HR-2T-NFZ	(4) 3.5"/2.5" Hot-swap SATA 6G	Available

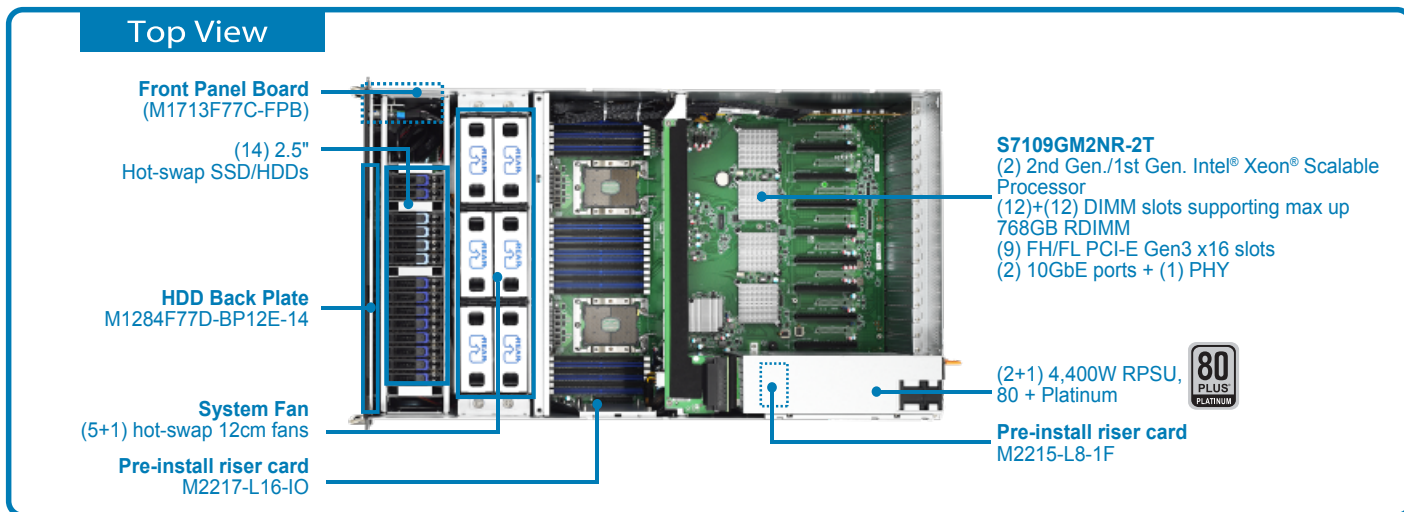


# Thunder HX FT77D-B7109

B7109F77DV14HR-2T-NFZ

# TYAN

## Specifications



System	Form Factor	4U Rackmount
	Chassis Name	FT77D
	Dimension (D x W x H)	30.31" x 17.24" x 6.93" (770 x 438 x 176mm)
	Motherboard	S7109GM2NR-2T #
	Motherboard Notification	# The motherboard not sold separately
Front Panel	Buttons	(1) RST, (1) NMI, (1) ID & (1) PWR w/ LED
	LEDs	(1) HDD, (1) ID, (1) Warning & (3) LAN
External Drive Bay	I/O Ports	(2) USB 2.0 ports
	Q'ty / Type	(14) 2.5" Hot-Swap SSD/HDD
System Cooling	HDD backplane support	SAS 12Gb/s, /SATA 6Gb/s & NVMe
	Supported HDD Interface	(14) SATA 6Gb/s
Power Supply	FAN	(5+1) Hot-swap 12cm Fans
	Type	CRPS
	Input Range	AC 200-240V/12.6A
	Efficiency	80+ Platinum
Processor	Output Watts	4,400 Watts
	Redundancy	2+1
Chipset	Supported CPU Series	(2) Intel® Xeon® Scalable Processors or 2nd Gen Intel® Xeon® Scalable Processors
	Thermal Design Power (TDP) wattage	Max up to 205W
	Chipset	Intel® C621
Memory	Switch IC	(4) PLX PEX8747
	Supported DIMM Qty	(12+12) DIMM slots
	DIMM Type / Speed	DDR4 RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS 2933/2666 & Intel® Optane DC Persistent Memory Module (DCPMM)
	Capacity	Up to 768GB RDIMM/ 1,536GB LRDIMM/ 3,072GB RDIMM 3DS/LRDIMM 3DS
	Memory channel	6 Channels
	Memory voltage	1.2V
	Notification	DDR4-2933 speed only supported with 2nd Gen Intel Xeon Scalable Processor (codename: Cascade Lake) and in a 1 DIMM per channel configuration. / Intel Optane DC Persistent Memory Module (DCPMM) only supported with specific 2nd Gen Intel Xeon Scalable Processor (codename: Cascade Lake). Please contact Tyan Technical Support for more detail.
Expansion Slots	PCI-E	(1) PCI-E Gen3 x16 slot (FH / FL / SW) (8) PCI-E Gen3 x16 slots (FH / FL / DW)
	Pre-install TYAN Riser Card (PCI-E Gen3)	(1) M2215-L8-1F # riser card for (1) LAN mezz. slot (left) (1) M2217-L16-IO # riser card for (1) storage mezz. slot
	Others	(1) PCI-E Gen3 x8 storage mezz. Slot (1) PCI-E Gen3 x8 LAN mezz. slot
	Notification	# The item not sold separately
	LAN	(2) 10GbE ports (1) GbE dedicated for IPMI
LAN	Controller	Intel® X550-AT2
	PHY	Realtek® RTL8211E

Storage	Connector	(2) Mini-SAS HD (8-ports)
	Controller	Intel® C621
	Speed	6Gb/s
	RAID	RAID 0/1/10/5 (Intel® RSTe)
sSATA	Connector	(2) SATA-III (1) Mini-SAS HD (4-ports)
	Controller	Intel® C621
Graphic	Speed	6Gb/s
	RAID	RAID 0/1/10/5 (Intel® RSTe)
Input /Output	Connector type	D-Sub 15-pin
	Resolution	Up to 1920x1200
	Chipset	Aspeed AST2500
TPM (Optional)	USB	(2) USB2.0 ports (@ front)
	COM	(1) DB-9 COM port
	VGA	(1) D-Sub 15-pin
	RJ-45	(2) 10GbE ports (1) dedicated GbE for IPMI
System Monitoring	TPM Support	Please refer to our TPM supported list.
	Chipset	Onboard Aspeed AST2500
	Voltage	Monitors voltage for CPU, memory, chipset & power supply
Server Management	Temperature	Monitors temperature for CPU & memory & system environment
	LED (On system front panel)	Over temperature warning indicator, Fan & PSU fail LED indicator
	Others	Watchdog timer support
BIOS	Onboard Chipset	Onboard Aspeed AST2500
	AST2500 iKVM Feature	24-bit high quality video compression, Supports storage over IP and remote platform-flash & USB 2.0 virtual hub
Regulation	AST2500 IPMI Feature	IPMI 2.0 compliant baseboard management controller (BMC) & 10/100/1000 Mb/s MAC interface
	Brand / ROM size	AMI / 32MB
Operating System	Feature	Hardware Monitor, SMBIOS 3.0/PnP/Wake on LAN, Boot from USB device/PXE via LAN/Storage, User Configurable FAN PWM Duty Cycle, Console Redirection, ACPI sleeping states S4,S5 & ACPI 6.1
	OS supported list	Please refer to our AVL support lists.
	FCC (SDoC)	Class A
Operating Environment	CE (DoC)	Class A
	VCCI	Class A
	RCM	Class A
	CB/LVD	Yes
RoHS	Operating Temp.	10° C ~ 35° C (50° F ~ 95° F)
	Non-operating Temp.	- 40° C ~ 70° C (-40° F ~ 158° F)
	In/Non-operating Humidity	90%, non-condensing at 35° C
	RoHS 6/6 Compliant	Yes

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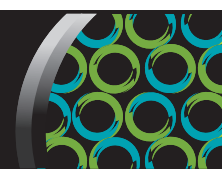
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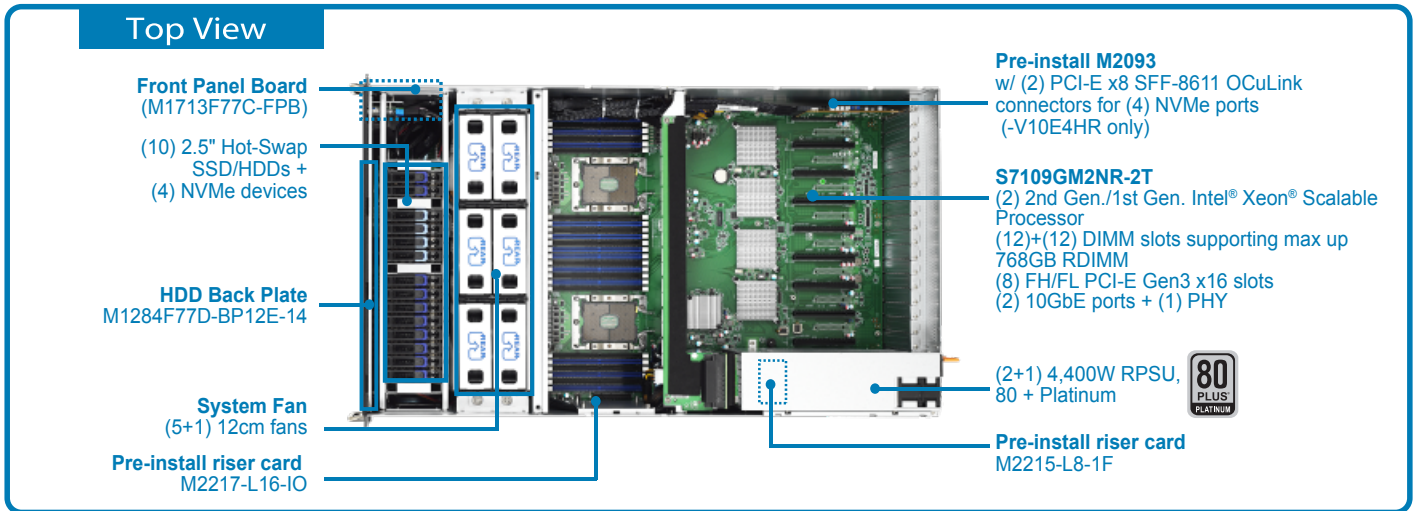


# Thunder HX FT77D-B7109

B7109F77DV10E4HR-2T-NFZ

# TYAN

## Specifications



<b>System</b>	<b>Form Factor</b>	4U Rackmount
	<b>Chassis Name</b>	FT77D
	<b>Dimension (D x W x H)</b>	30.31" x 17.24" x 6.93" (770 x 438 x 176mm)
	<b>Motherboard</b>	S7109GM2NR-2T #
	<b>Motherboard Notification</b>	# The motherboard not sold separately
<b>Front Panel</b>	<b>Buttons</b>	(1) RST, (1) NMI, (1) ID & (1) PWR w/ LED
	<b>LEDs</b>	(1) HDD, (1) ID, (1) Warning & (3) LAN
	<b>I/O Ports</b>	(2) USB 2.0 ports
<b>External Drive Bay</b>	<b>Q'ty / Type</b>	(10) 2.5" Hot-Swap SSD/HDD + (4) NVMe
	<b>Supported HDD Interface</b>	SAS 12Gb/s, /SATA 6Gb/s & NVMe
<b>System Cooling</b>	<b>FAN</b>	(5+1) Hot-swap 12cm Fans
<b>Power Supply</b>	<b>Type</b>	CRPS
	<b>Input Range</b>	AC 200-240V/12.6A
	<b>Efficiency</b>	80+ Platinum
	<b>Output Watts</b>	4,400 Watts
<b>Processor</b>	<b>Supported CPU Series</b>	(2) Intel® Xeon® Scalable Processors or 2nd Gen Intel® Xeon® Scalable Processors
	<b>Thermal Design Power (TDP) wattage</b>	Max up to 205W
	<b>Chipset</b>	Intel® C621
<b>Chipset</b>	<b>Switch IC</b>	(4) PLX PEX8747
	<b>Supported DIMM Qty</b>	(12+12) DIMM slots
<b>Memory</b>	<b>DIMM Type / Speed</b>	DDR4 RDIMM/LRDIMM 3DS/LRDIMM/LRDIMM 3DS 2933/2666 & Intel® Optane DC Persistent Memory Module (DCPMM)
	<b>Capacity</b>	Up to 768GB RDIMM/ 1,536GB LRDIMM/ 3,072GB RDIMM 3DS/LRDIMM 3DS
	<b>Memory channel</b>	6 Channels
	<b>Memory voltage</b>	1.2V
	<b>Notification</b>	DDR4-2933 speed only supported with 2nd Gen Intel Xeon Scalable Processor (codename: Cascade Lake) and in a 1 DIMM per channel configuration. / Intel Optane DC Persistent Memory Module (DCPMM) only supported with specific 2nd Gen Intel Xeon Scalable Processor (codename: Cascade Lake). Please contact Tyan Technical Support for more detail.
<b>Expansion Slots</b>	<b>PCI-E</b>	(8) PCI-E Gen3 x16 slots (FH / FL / DW)
	<b>Pre-install TYAN Riser Card (PCI-E Gen3)</b>	(1) M2215-L8-1F # riser card for (1) LAN mezz. slot (left) (1) M2217-L16-IO # riser card for (1) storage mezz. slot
	<b>Pre-install TYAN Mezz. Card (PCI-E)</b>	(1) M2093 storage mezz. card w/ (2) PCI-E x8 SFF-8611 OCuLink connectors for (4) NVMe ports
	<b>Others</b>	(1) PCI-E Gen3 x8 storage mezz. Slot (1) PCI-E Gen3 x8 LAN mezz. slot
	<b>Notification</b>	# The item not sold separately

(Specifications are subject to change without notice. Items pictured may only be representative.)

<b>LAN</b>	<b>Port Q'ty</b>	(2) 10GbE ports (1) GbE dedicated for IPMI	
	<b>Controller</b>	Intel® X550-AT2	
	<b>PHY</b>	Realtek® RTL8211E	
<b>Storage</b>	<b>SATA</b>	<b>Connector</b>	(2) Mini-SAS HD (8-ports)
		<b>Controller</b>	Intel® C621
		<b>Speed</b>	6Gb/s
	<b>RAID</b>	RAID 0/1/10/5 (Intel® RSTe)	
	<b>sSATA</b>	<b>Connector</b>	(2) SATA-III (1) Mini-SAS HD (4-ports)
<b>Controller</b>		Intel® C621	
<b>Speed</b>		6Gb/s	
<b>NVMe (OCuLink)</b>	<b>RAID</b>	RAID 0/1/10/5 (Intel® RSTe)	
	<b>Connector</b>	(2) SFF-8612 for (4) NVMe ports via Tyan M2093 PCI-E Gen3 x16 Card	
	<b>OCuLink</b>	(2) SFF-8612 for (4) NVMe ports via Tyan M2093 PCI-E Gen3 x16 Card	
<b>Graphic</b>	<b>Connector type</b>	D-Sub 15-pin	
	<b>Resolution</b>	Up to 1920x1200	
	<b>Chipset</b>	Aspeed AST2500	
<b>Input /Output</b>	<b>USB</b>	(2) USB2.0 ports (@ front)	
	<b>COM</b>	(1) DB-9 COM port	
	<b>VGA</b>	(1) D-Sub 15-pin	
	<b>RJ-45</b>	(2) 10GbE ports (1) dedicated GbE for IPMI	
<b>TPM (Optional)</b>	<b>TPM Support</b>	Please refer to our TPM supported list.	
	<b>Chipset</b>	Onboard Aspeed AST2500	
<b>System Monitoring</b>	<b>Voltage</b>	Monitors voltage for CPU, memory, chipset & power supply	
	<b>Temperature</b>	Monitors temperature for CPU & memory & system environment	
	<b>LED (On system front panel)</b>	Over temperature warning indicator, Fan & PSU fail LED indicator	
	<b>Others</b>	Watchdog timer support	
<b>Server Management</b>	<b>Onboard Chipset</b>	Onboard Aspeed AST2500	
	<b>AST2500 iKVM Feature</b>	24-bit high quality video compression, Supports storage over IP and remote platform-flash & USB 2.0 virtual hub	
	<b>AST2500 IPMI Feature</b>	IPMI 2.0 compliant baseboard management controller (BMC) & 10/100/1000 Mb/s MAC interface	
<b>BIOS</b>	<b>Brand / ROM size</b>	AMI / 32MB	
	<b>Feature</b>	Hardware Monitor, SMBIOS 3.0/PnP/Wake on LAN, Boot from USB device/PXE via LAN/Storage, User Configurable FAN PWM Duty Cycle, Console Redirection, ACPI sleeping states S4,S5 & ACPI 6.1	
<b>Operating System</b>	<b>OS supported list</b>	Please refer to our AVL support lists.	
<b>Regulation</b>	<b>FCC (SDoC)</b>	Class A	
	<b>CE (DoC)</b>	Class A	
	<b>VCCI</b>	Class A	
	<b>RCM</b>	Class A	
<b>Operating Environment</b>	<b>CB/LVD</b>	Yes	
	<b>Operating Temp.</b>	10° C ~ 35° C (50° F ~ 95° F)	
	<b>Non-operating Temp.</b>	-40° C ~ 70° C (-40° F ~ 158° F)	
<b>RoHS</b>	<b>In/Non-operating Humidity</b>	90%, non-condensing at 35° C	
	<b>RoHS 6/6 Compliant</b>	Yes	

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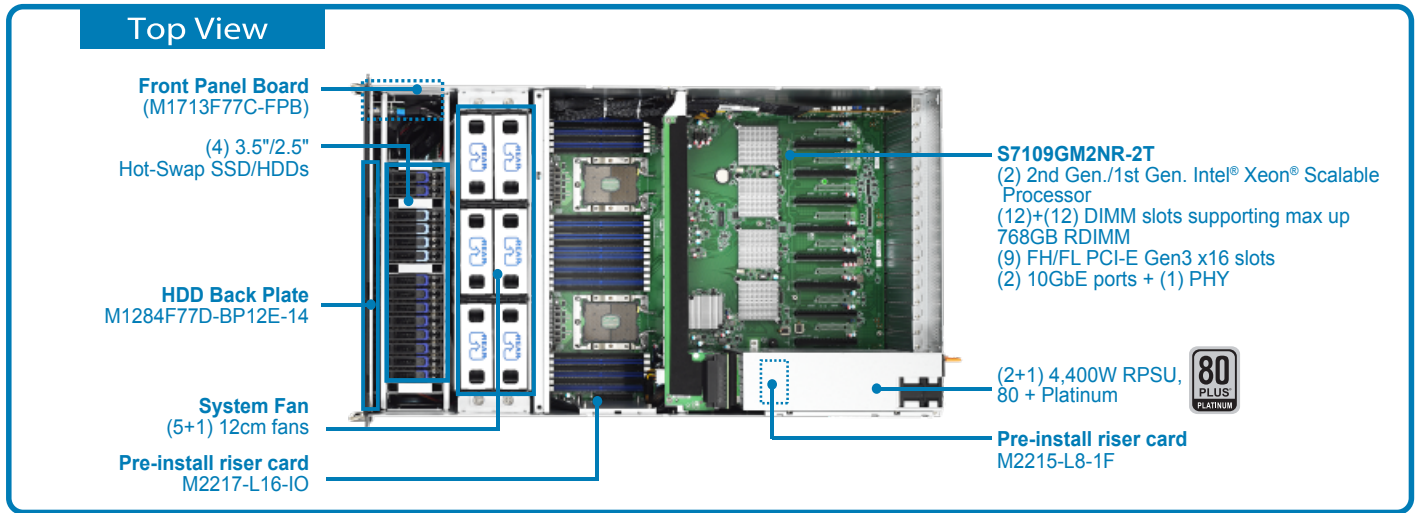


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B7109F77DV4HR-2T-NFZ

# TYAN

## Specifications



System	Form Factor	4U Rackmount
	Chassis Name	FT77D
	Dimension (D x W x H)	30.31" x 17.24" x 6.93" (770 x 438 x 176mm)
	Motherboard	S7109GM2NR-2T #
	Motherboard Notification	# The motherboard not sold separately
Gross Weight		45 kg (99.5 lbs)
	Net weight	26 kg (57.5 lbs)
Front Panel	Buttons	(1) RST, (1) NMI, (1) ID & (1) PWR w/ LED
	LEDs	(1) HDD, (1) ID, (1) Warning & (3) LAN
I/O Ports		(2) USB 2.0 ports
	Q'ty / Type	(4) 3.5"/2.5" Hot-swap SSD/HDD
External Drive Bay	Supported HDD	SAS 12Gb/s, /SATA 6Gb/s & NVMe
	Supported HDD Interface	(4) SATA 6Gb/s
System Cooling	FAN	(5+1) Hot-swap 12cm Fans
Power Supply	Type	CRPS
	Input Range	AC 200-240V/12.6A
	Efficiency	80+ Platinum
	Output Watts	4,400 Watts
Redundancy		2+1
Processor	Supported CPU Series	(2) Intel® Xeon® Scalable Processors or 2nd Gen Intel® Xeon® Scalable Processors
	Thermal Design Power (TDP) wattage	Max up to 205W
Chipset	Chipset	Intel® C621
	Switch IC	(4) PLX PEX8747
Memory	Supported DIMM Qty	(12+12) DIMM slots
	DIMM Type / Speed	DDR4 RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS 2933/2666 & Intel® Optane DC Persistent Memory Module (DCPMM)
	Capacity	Up to 768GB RDIMM/ 1,536GB LRDIMM/ 3,072GB RDIMM 3DS/LRDIMM 3DS *Follow the latest Intel® DDR4 Memory POR
	Memory channel	6 Channels
	Memory voltage	1.2V
	Notification	DDR4-2933 speed only supported with 2nd Gen Intel Xeon Scalable Processor (codename: Cascade Lake) and in a 1 DIMM per channel configuration. / Intel Optane DC Persistent Memory Module (DCPMM) only supported with specific 2nd Gen Intel Xeon Scalable Processor (codename: Cascade Lake). Please contact Tyan Technical Support for more detail.
	Others	
Expansion Slots	PCI-E	(1) PCI-E Gen3 x16 slot (FH / FL / SW) (8) PCI-E Gen3 x16 slots (FH / FL / DW)
	Pre-install TYAN Riser Card (PCI-E Gen3)	(1) M2215-L8-1F # riser card for (1) LAN mezz. slot (left) (1) M2217-L16-IO # riser card for (1) storage mezz. slot
	Others	(1) PCI-E Gen3 x8 storage mezz. Slot (1) PCI-E Gen3 x8 LAN mezz. slot
	Notification	# The item not sold separately

LAN	Port Q'ty	(2) 10GbE ports (1) GbE dedicated for IPMI
	Controller	Intel® X550-AT2
	PHY	Realtek® RTL8211E
Storage	Connector	(1) Mini-SAS HD (4-ports)
	Controller	Intel® C621
	RAID	RAID 0/1/10/5 (Intel® RSTe)
Graphic	Connector type	D-Sub 15-pin
	Resolution	Up to 1920x1200
Input /Output	Chipset	Aspeed AST2500
	USB	(2) USB2.0 ports (@ front)
	COM	(1) DB-9 COM port
	VGA	(1) D-Sub 15-pin
TPM (Optional)	RJ-45	(2) 10GbE ports (1) dedicated GbE for IPMI
	TPM Support	Please refer to our TPM supported list.
System Monitoring	Chipset	Onboard Aspeed AST2500
	Voltage	Monitors voltage for CPU, memory, chipset & power supply
	Temperature LED (On system front panel)	Monitors temperature for CPU & memory & system environment Over temperature warning indicator, Fan & PSU fail LED indicator
Server Management	Others	Watchdog timer support
	Onboard Chipset	Onboard Aspeed AST2500
BIOS	AST2500 iKVM Feature	24-bit high quality video compression, Supports storage over IP and remote platform-flash & USB 2.0 virtual hub
	AST2500 IPMI Feature	IPMI 2.0 compliant baseboard management controller (BMC) & 10/100/1000 Mb/s MAC interface
Operating System	Brand / ROM size	AMI / 32MB
	Feature	Hardware Monitor, SMBIOS 3.0/PnP/Wake on LAN, Boot from USB device/PXE via LAN/Storage, User Configurable FAN PWM Duty Cycle, Console Redirection, ACPI sleeping states S4,S5 & ACPI 6.1
Regulation	OS supported list	Please refer to our AVL support lists.
	FCC (SDoC)	Class A
	CE (DoC)	Class A
	VCCI	Class A
Operating Environment	RCM	Class A
	CB/LVD	Yes
RoHS	Operating Temp.	10° C ~ 35° C (50° F ~ 95° F)
	Non-operating Temp.	- 40° C ~ 70° C (-40° F ~ 158° F)
	In/Non-operating Humidity	90%, non-condensing at 35° C
	RoHS 6/6 Compliant	Yes

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