

## 4U2S GPU SERVER PLATFORM



### Thunder HX FT83-B7119

B7119F83V12HR-2T-NS / B7119F83V12HR-2T-N / B7119F83V8E4HR-2T-NS / B7119F83V8E4HR-2T-N



#### Front View



• Max up to (12) 3.5" Hot-Swap SSD/HDDs devices



• (8) 3.5/2.5" Hot-swap + (4) NVMe U.2

#### Back View



• (3+1) 4,800W CRPS, 80+ Platinum

4U2S 10-GPU server platform provides various CPU-to-GPU bandwidth for various parallel workloads

- Dual LGA3647 socket
- (2) 2nd Gen Intel® Xeon® Scalable Processors
- (12+12) DDR4-2933 DIMM slots
- (12) hot-swap, tool-less 3.5" drive bays; up to (4) NVMe support by SKU
- (21) PCIe slots support up to (10) FH/10.5"L/DW or (20) FH/10.5"L/SW GPU cards
- (2) 10GbE+ (1) IPMI
- Onboard BMC w/ IPMI and iKVM support
- (3+1) 4,800W CRPS, 80+ Platinum

#### Summary Table

SKU	Storage	CPU-GPU Link Topology	Pre-installed NVMe Adapter
B7119F83V12HR-2T-NS	(12) 3.5" SATA 6G	All GPUs connected to one CPU	-
B7119F83V12HR-2T-N	(12) 3.5" SATA 6G	GPUs connected to two CPUs evenly	-
B7119F83V8E4HR-2T-NS	(12) 3.5" SATA 6G w/ (4) NVMe U.2 support	All GPUs connected to one CPU	-
B7119F83V8E4HR-2T-N	(12) 3.5" SATA 6G w/ (4) NVMe U.2 support	GPUs connected to two CPUs evenly	(1) M7106-4E

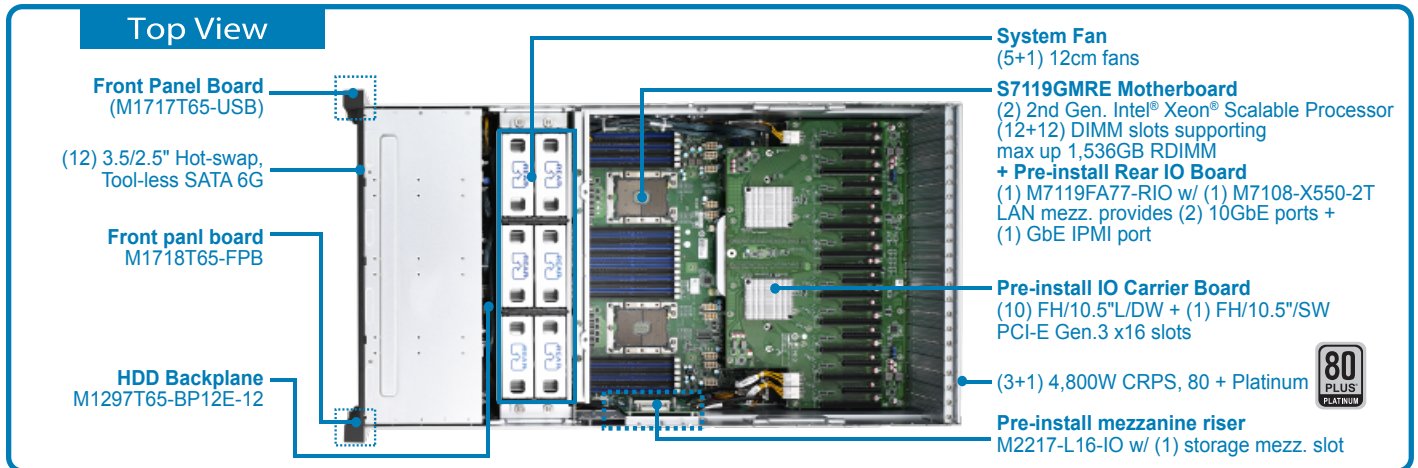


# Thunder HX FT83-B7119

B7119F83V12HR-2T-NS

# TYAN

## Specifications



<b>System</b>	<b>Form Factor</b>	4U Rackmount
	<b>Chassis Name</b>	FT83
	<b>Dimension (D x W x H)</b>	32.68" x 17.26" x 6.9" (830 x 438.4 x 176mm)
	<b>Motherboard</b>	S7119GMRE #
	<b>Motherboard Notification</b>	# The motherboard not sold separately
	<b>Gross Weight</b>	46 kg (101.4 lbs)
<b>Front Panel</b>	<b>Net weight</b>	39.3 kg (86.6 lbs)
	<b>Buttons</b>	(1) RST, (1) PWR w/ LED & (1) UID
	<b>LEDs</b>	(1) HDD, (1) ID, (2) LAN & (1) System Event
<b>External Drive Bay</b>	<b>I/O Ports</b>	(1) VGA port, (2) USB 3.0 ports & (1) COM Port
	<b>Q'ty / Type</b>	(12) 3.5" Hot-Swap, Tool-less SSD/HDDs
<b>System Cooling</b>	<b>HDD backplane support</b>	SAS 12Gb/s & SATA 6Gb/s
	<b>Supported HDD Interface</b>	(12) SATA 6Gb/s
<b>Power Supply</b>	<b>FAN</b>	(5+1) Hot-swap 12cm Fans
	<b>Type</b>	CRPS
	<b>Input Range</b>	AC 100-127V/12A AC 200-240V/9.48A
	<b>Efficiency</b>	80+ Platinum
	<b>Output Watts</b>	3,000 Watts (100-127Vac input) 4,800 Watts (200-240Vac input)
<b>Processor</b>	<b>Redundancy</b>	3+1
	<b>Q'ty / Socket Type</b>	(2) LGA3647
	<b>Supported CPU Series</b>	(2) Intel® Xeon® Scalable Processors or 2nd Gen Intel® Xeon® Scalable Processors
<b>Chipset</b>	<b>Thermal Design Power (TDP) wattage</b>	Max up to 205W
	<b>Chipset</b>	Intel® C621
<b>CPU-GPU Link Topology</b>	<b>Switch IC</b>	(2) PLX PEX8796
	<b>Single-root</b>	All GPU connected to single CPU
<b>Memory</b>	<b>Supported DIMM Qty</b>	(12+12) DIMM slots
	<b>DIMM Type / Speed</b>	DDR4 RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS 2933/2666, DDR4 JEDEC NVDIMM 2666 & Intel Optane DC Persistent Memory Module (DCPMM)
	<b>Capacity</b>	Up to 1,536GB RDIMM / 1,536GB LRDIMM / 3,072GB RDIMM 3DS / LRDIMM 3DS *Follow the latest Intel® DDR4 Memory POR
	<b>Memory channel</b>	6 Channels
	<b>Memory voltage</b>	1.2V
	<b>Notification</b>	DDR4-2933 DIMM is only supported with 2nd Gen Intel® Xeon® Scalable Processor (codename: Cascade Lake). Intel® Optane DC Persistent Memory Module (DCPMM) is only supported with specific 2nd Gen Intel® Xeon® Scalable Processor. Please contact Tyan Technical Support for more detail.
<b>Expansion Slots</b>	<b>PCI-E</b>	(10) PCI-E Gen.3 x16 slots (FH / 10.5"/L / DW) (1) PCI-E Gen.3 x16 slot (FH / 10.5"/L / SW)
	<b>Pre-install TYAN Riser Card (PCI-E Gen.3)</b>	(1) M2217-L16-IO # riser card for (1) storage mezz. slot
	<b>Pre-install TYAN Mezz. Card (PCI-E Gen.3)</b>	(1) M7108-X550-2T LAN mezz. card w/ (2) 10GbE ports

<b>Expansion Slots</b>	<b>Others</b>	(1) PCI-E Gen3 x16 storage mezz. slot	
	<b>Physical Dimension Abbreviation</b>	FH/10.5" L (Full-height / 10.5" in length) : 4.4" x 10.5" (111.2 x 266.7mm)	
	<b>Notification</b>	# The item not sold separately	
<b>LAN</b>	<b>Port Q'ty</b>	(2) 10GbE ports (1) GbE dedicated for IPMI	
	<b>Controller</b>	Intel® X550-BT2	
<b>Storage</b>	<b>PHY</b>	Realtek® RTL8211E	
	<b>SATA</b>	<b>Connector</b>	(2) Mini-SAS HD (8 ports)
		<b>Controller</b>	Intel® C621
		<b>Speed</b>	6Gb/s
	<b>SSATA</b>	<b>RAID</b>	RAID 0/1/10/5 (Intel® RSTe)
		<b>Connector</b>	(2) SATA-III (1) Mini-SAS HD (4 ports)
<b>Controller</b>		Intel® C621	
<b>Graphic</b>	<b>Speed</b>	6Gb/s	
	<b>RAID</b>	RAID 0/1/10/5 (Intel® RSTe)	
	<b>Connector type</b>	D-Sub 15-pin	
<b>Input /Output</b>	<b>Resolution</b>	Up to 1920x1200	
	<b>Chipset</b>	Aspeed AST2500	
	<b>USB</b>	(2) USB3.0 ports (@ rear) (2) USB3.0 ports (@ front)	
<b>TPM (Optional)</b>	<b>COM</b>	(1) DB-9 COM port (@ front)	
	<b>VGA</b>	(1) D-Sub 15-pin port (@ front)	
	<b>RJ-45</b>	(2) 10GbE ports (1) dedicated GbE for IPMI	
<b>System Monitoring</b>	<b>TPM Support</b>	Please refer to our TPM supported list.	
	<b>Chipset</b>	Aspeed AST2500	
	<b>Voltage</b>	Monitors voltage for CPU, memory, chipset & power supply	
<b>Server Management</b>	<b>Temperature</b>	Monitors temperature for CPU & memory & system environment	
	<b>LED</b>	Over temperature warning indicator, Fan & PSU fail LED indicator	
	<b>Others</b>	Watchdog timer support	
<b>BIOS</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>Operating System</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>Regulation</b>	<b>OS supported list</b>	Please refer to our AVL support lists.	
	<b>FCC (SDoC)</b>	Class A	
	<b>CE (DoC)</b>	Class A	
<b>Operating Environment</b>	<b>VCCI</b>	Class A	
	<b>RCM</b>	Class A	
	<b>CB/LVD</b>	Yes	
<b>RoHS</b>	<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>In/Non-operating Humidity</b>	90%, non-condensing at 35° C	
	<b>RoHS 6/6 Complaint</b>	Yes	

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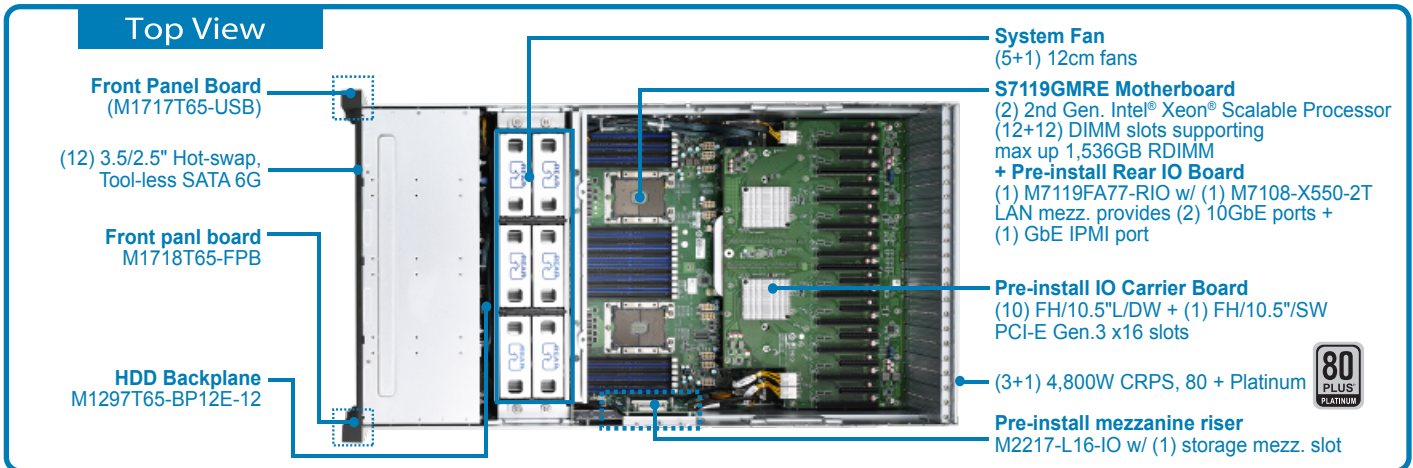


# Thunder HX FT83-B7119

B7119F83V12HR-2T-N

# TYAN

## Specifications



System	Form Factor	4U Rackmount	Expansion Slots	Others	(1) PCI-E Gen3 x16 storage mezz. slot		
	Chassis Name	FT83		Physical Dimension	FH/10.5" L (Full-height / 10.5" in length ): 4.4" x 10.5" (111.2 x 266.7mm)		
	Dimension (D x W x H)	32.68" x 17.26" x 6.9" (830 x 438.4 x 176mm)		Abbreviation	# The item not sold separately		
	Motherboard	S7119GMRE #		Notification			
	Motherboard Notification	# The motherboard not sold separately		Port Q'ty	(2) 10GbE ports (1) GbE dedicated for IPMI		
	Gross Weight	46 kg (101.4 lbs)		Controller	Intel® X550-BT2		
Front Panel	Net weight	39.3 kg (86.6 lbs)	LAN	PHY	Realtek® RTL8211E		
	Buttons	(1) RST, (1) PWR w/ LED & (1) UID		Storage	SATA	Connector	(2) Mini-SAS HD (8 ports)
	LEDs	(1) HDD, (1) ID, (2) LAN & (1) System Event				Controller	Intel® C621
I/O Ports	(1) VGA port, (2) USB 3.0 ports & (1) COM Port	Speed	6Gb/s				
External Drive Bay	Q'ty / Type	(12) 3.5" Hot-Swap, Tool-less SSD/HDDs	System Cooling	RAID	RAID 0/1/10/5 (Intel® RSTe)		
	HDD backplane support	SAS 12Gb/s & SATA 6Gb/s		Power Supply	sSATA	Connector	(2) SATA-III (1) Mini-SAS HD (4 ports)
Supported HDD Interface	(12) SATA 6Gb/s	Controller				Intel® C621	
System Cooling	FAN	(5+1) Hot-swap 12cm Fans	Speed			6Gb/s	
	Processor	Type	CRPS	RAID	RAID 0/1/10/5 (Intel® RSTe)		
		Input Range	AC 100-127V/12A AC 200-240V/9.48A	Graphic	Connector type	D-Sub 15-pin	
Efficiency		80+ Platinum	Resolution		Up to 1920x1200		
Output Watts	3,000 Watts (100-127Vac input) 4,800 Watts (200-240Vac input)	Chipset	Aspeed AST2500				
Processor	Redundancy	3+1	Input /Output	USB	(2) USB3.0 ports (@ rear) (2) USB3.0 ports (@ front)		
	Q'ty / Socket Type	(2) LGA3647		COM	(1) DB-9 COM port (@ front)		
	Supported CPU Series	(2) Intel® Xeon® Scalable Processors or 2nd Gen Intel® Xeon® Scalable Processors		VGA	(1) D-Sub 15-pin port (@ front)		
Chipset	Thermal Design Power (TDP) wattage	Max up to 205W	TPM (Optional)	RJ-45	(2) 10GbE ports (1) dedicated GbE for IPMI		
	Chipset	Intel® C621		TPM Support	Please refer to our TPM supported list.		
CPU-GPU Link Topology	Switch IC	(2) PLX PEX8796		System Monitoring	Chipset	Aspeed AST2500	
	Dual-root	All GPU connected to CPUs evenly	Voltage		Monitors voltage for CPU, memory, chipset & power supply		
Memory	Supported DIMM Qty	(12+12) DIMM slots	Server Management		Temperature	Monitors temperature for CPU & memory & system environment	
	DIMM Type / Speed	DDR4 RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS 2933/2666, DDR4 JEDEC NVDIMM 2666 & Intel Optane DC Persistent Memory Module (DCPMM)		LED	Over temperature warning indicator, Fan & PSU fail LED indicator		
	Capacity	Up to 1,536GB RDIMM / 1,536GB LRDIMM / 3,072GB RDIMM 3DS / LRDIMM 3DS *Follow the latest Intel® DDR4 Memory POR		Others	Watchdog timer support		
	Memory channel	6 Channels	Onboard Chipset	Onboard Aspeed AST2500			
	Memory voltage	1.2V	AST2500 iKVM Feature	24-bit high quality video compression, Supports storage over IP and remote platform-flash & USB 2.0 virtual hub			
	Notification	DDR4-2933 DIMM is only supported with 2nd Gen Intel® Xeon® Scalable Processor. Intel® Optane DC Persistent Memory Module (DCPMM) is only supported with specific 2nd Gen Intel® Xeon® Scalable Processor. Please contact Tyan Technical Support for more detail.	AST2500 IPMI Feature	IPMI 2.0 compliant baseboard management controller (BMC) & 10/100/1000 Mb/s MAC interface			
Expansion Slots	PCI-E	(10) PCI-E Gen.3 x16 slots (FH / 10.5"L / DW) (1) PCI-E Gen.3 x16 slot (FH / 10.5"L / SW)	BIOS	Brand / ROM size	AMI / 32MB		
	Pre-install TYAN Riser Card (PCI-E Gen.3)	(1) M2217-L16-IO # riser card for (1) storage mezz. slot		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		
	Pre-install TYAN Mezz. Card (PCI-E Gen.3)	(1) M7108-X550-2T LAN mezz. card w/ (2) 10GbE ports	Operating System		OS supported list	Please refer to our AVL support lists.	
Regulation	Operating Environment	RoHS	FCC (SDoC)	Class A			
			CE (DoC)	Class A			
			VCCI	Class A			
Operating Environment	RCM	Class A	Operating Temp.	10° C ~ 35° C (50° F ~ 95° F)			
	CB/LVD	Yes		Non-operating Temp.	-40° C ~ 70° C (-40° F ~ 158° F)		
RoHS	RoHS 6/6 Complaint	Yes	In/Non-operating Humidity	90%, non-condensing at 35° C			

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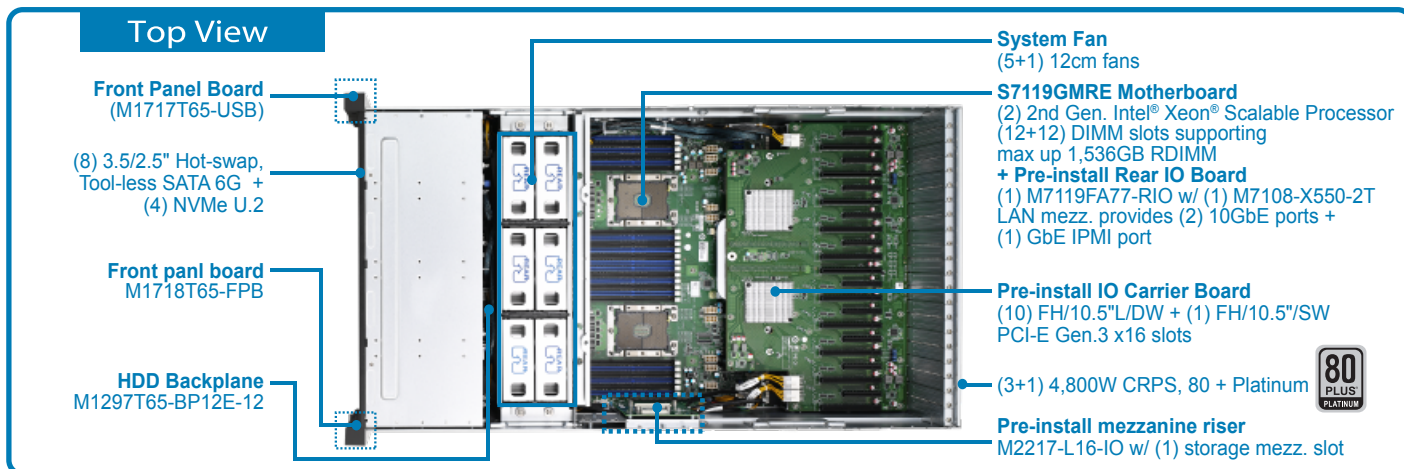




# Thunder HX FT83-B7119

B7119F83V8E4HR-2T-NS

# TYAN Specifications



<b>System</b>	<b>Form Factor</b>	4U Rackmount
	<b>Chassis Name</b>	FT83
	<b>Dimension (D x W x H)</b>	32.68" x 17.26" x 6.9" (830 x 438.4 x 176mm)
	<b>Motherboard</b>	S7119GMRE #
	<b>Motherboard Notification</b>	# The motherboard not sold separately
	<b>Gross Weight</b>	46 kg (101.4 lbs)
<b>Front Panel</b>	<b>Buttons</b>	(1) RST, (1) PWR w/ LED & (1) UID
	<b>LEDs</b>	(1) HDD, (1) ID, (2) LAN & (1) System Event
<b>External Drive Bay</b>	<b>I/O Ports</b>	(1) VGA port, (2) USB 3.0 ports & (1) COM Port
	<b>Q'ty / Type</b>	(12) 3.5" Hot-Swap, Tool-less SSD/HDDs
	<b>HDD backplane support</b>	SAS 12Gb/s, SATA 6Gb/s & NVMe
<b>System Cooling</b>	<b>Supported HDD Interface</b>	(12) SATA 6Gb/s with (4) NVMe ports
	<b>FAN</b>	(5+1) Hot-swap 12cm Fans
<b>Power Supply</b>	<b>Type</b>	CRPS
	<b>Input Range</b>	AC 100-127V/12A ; AC 200-240V/9.48A
	<b>Efficiency</b>	80+ Platinum
	<b>Output Watts</b>	3,000 Watts (100-127Vac input) 4,800 Watts (200-240Vac input)
<b>Processor</b>	<b>Redundancy</b>	3+1
	<b>Q'ty / Socket Type</b>	(2) LGA3647
	<b>Supported CPU Series</b>	(2) Intel® Xeon® Scalable Processors or 2nd Gen Intel® Xeon® Scalable Processors
<b>Chipset</b>	<b>Thermal Design Power (TDP)</b>	Max up to 205W
	<b>Chipset</b>	Intel® C621
<b>CPU-GPU Link Topology</b>	<b>Switch IC</b>	(2) PLX PEX8796
	<b>Single-root</b>	All GPU connected to single CPU
<b>Memory</b>	<b>Supported DIMM Qty</b>	(12+12) DIMM slots
	<b>DIMM Type / Speed</b>	DDR4 RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS 2933/2666, DDR4 JEDEC NVDIMM 2666 & Intel Optane DC Persistent Memory Module (DCPMM)
	<b>Capacity</b>	Up to 1,536GB RDIMM / 1,536GB LRDIMM / 3,072GB RDIMM 3DS / LRDIMM 3DS *Follow the latest Intel® DDR4 Memory POR
	<b>Memory channel</b>	6 Channels
	<b>Memory voltage</b>	1.2V
	<b>Notification</b>	DDR4-2933 DIMM is only supported with 2nd Gen Intel® Xeon® Scalable Processor (codename: Cascade Lake). Intel Optane DC Persistent Memory Module (DCPMM) is only supported with specific 2nd Gen Intel® Xeon® Scalable Processor. Please contact Tyan Technical Support for more detail.
<b>Expansion Slots</b>	<b>PCI-E</b>	(10) PCI-E Gen.3 x16 slots (FH / 10.5"L / DW) (1) PCI-E Gen.3 x16 slot (FH / 10.5"L / SW)
	<b>Pre-install TYAN Riser Card (PCI-E Gen.3)</b>	(1) M2217-L16-IO # riser card for (1) storage mezz. slot
	<b>Pre-install TYAN Mezz. Card (PCI-E Gen.3)</b>	(1) M7108-X550-2T LAN mezz. card w/ (2) 10GbE ports
	<b>Others</b>	(1) PCI-E Gen3 x16 storage mezz. slot
	<b>Physical Dimension Abbreviation</b>	FH/10.5" L (Full-height / 10.5" in length) : 4.4" x 10.5" (111.2 x 266.7mm)
<b>Notification</b>	# The item not sold separately	

<b>LAN</b>	<b>Port Q'ty</b>	(2) 10GbE ports (1) GbE dedicated for IPMI	
	<b>Controller</b>	Intel® X550-BT2	
<b>Storage</b>	<b>PHY</b>	Realtek® RTL8211E	
	<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</b>	<b>RAID</b>	RAID 0/1/10/5 (Intel® RSTe)	
	<b>Connector (U.2)</b>	(2) SFF-8612 onboard	
<b>Graphic</b>	<b>Notification</b>	The hot-swap, LED and temperature monitoring functions of NVMe are not supported. Please contact Tyan Technical Support for more details.	
	<b>Connector type</b>	D-Sub 15-pin	
<b>Input /Output</b>	<b>Resolution</b>	Up to 1920x1200	
	<b>Chipset</b>	Aspeed AST2500	
<b>TPM (Optional)</b>	<b>USB</b>	(2) USB3.0 ports (@ rear) (2) USB3.0 ports (@ front)	
	<b>COM</b>	(1) DB-9 COM port (@ front)	
	<b>VGA</b>	(1) D-Sub 15-pin port (@ front)	
	<b>RJ-45</b>	(2) 10GbE ports (1) dedicated GbE for IPMI	
<b>System Monitoring</b>	<b>TPM Support</b>	Please refer to our TPM supported list.	
	<b>Chipset</b>	Aspeed AST2500	
<b>Server Management</b>	<b>Voltage</b>	Monitors voltage for CPU, memory, chipset & power supply	
	<b>Temperature</b>	Monitors temperature for CPU & memory & system environment	
	<b>LED</b>	Over temperature warning indicator, Fan & PSU fail LED indicator	
<b>BIOS</b>	<b>Others</b>	Watchdog timer support	
	<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>Operating System</b>	<b>AST2500 IPMI Feature</b>	IPMI 2.0 compliant baseboard management controller (BMC) & 10/100/1000 Mb/s MAC interface	
	<b>Brand / ROM size</b>	AMI / 32MB	
<b>Regulation</b>	<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>OS supported list</b>	Please refer to our AVL support lists.	
	<b>FCC (SDoC)</b>	Class A	
	<b>CE (DoC)</b>	Class A	
<b>Operating Environment</b>	<b>VCCI</b>	Class A	
	<b>RCM</b>	Class A	
	<b>CB/LVD</b>	Yes	
<b>RoHS</b>	<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>In/Non-operating Humidity</b>	90%, non-condensing at 35° C	
	<b>RoHS 6/6 Complaint</b>	Yes	

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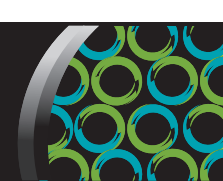
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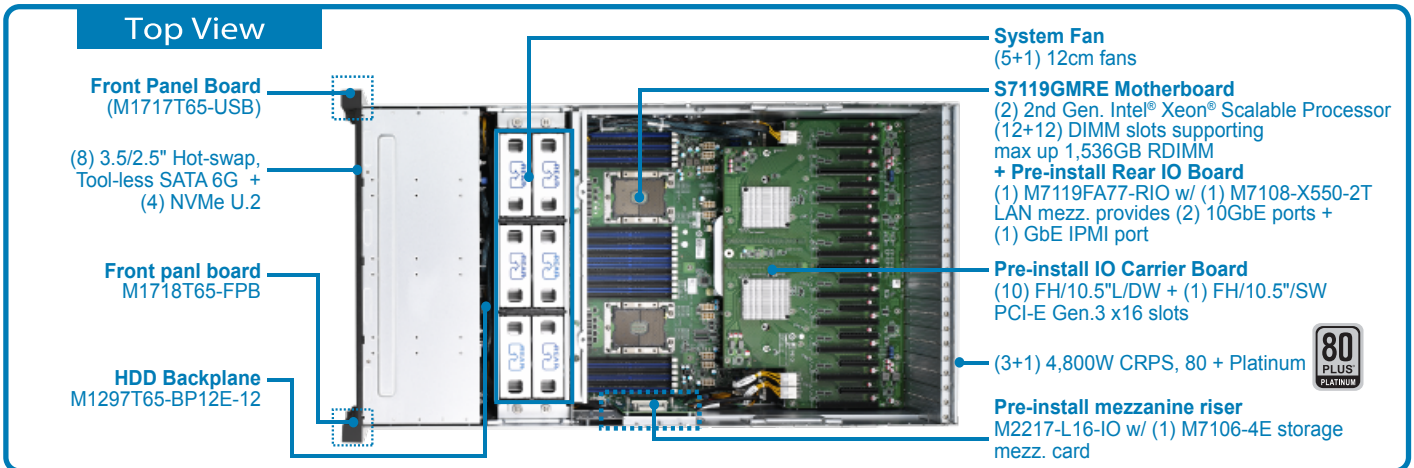


# Thunder HX FT83-B7119

B7119F83V8E4HR-2T-N

# TYAN

## Specifications



System	<b>Form Factor</b>	4U Rackmount	Expansion Slots	<b>Notification</b>	# The item not sold separately	
	<b>Chassis Name</b>	FT83		LAN	<b>Port Q'ty</b>	(2) 10GbE ports (1) GbE dedicated for IPMI
	<b>Dimension (D x W x H)</b>	32.68" x 17.26" x 6.9" (830 x 438.4 x 176mm)			<b>Controller</b>	Intel® X550-BT2
	<b>Motherboard</b>	S7119GMRE #			<b>PHY</b>	Realtek® RTL8211E
<b>Motherboard Notification</b>	# The motherboard not sold separately	Storage	SATA		<b>Connector</b>	(2) Mini-SAS HD (8 ports)
<b>Gross Weight</b>	46 kg (101.4 lbs)			<b>Controller</b>	Intel® C621	
<b>Net weight</b>	39.3 kg (86.6 lbs)		<b>Speed</b>	6Gb/s		
<b>Buttons</b>	(1) RST, (1) PWR w/ LED & (1) UID		<b>RAID</b>	RAID 0/1/10/5 (Intel® RSTe)		
Front Panel	<b>LEDs</b>	(1) HDD, (1) ID, (2) LAN & (1) System Event	sSATA	<b>Connector</b>	(2) SATA-III (1) Mini-SAS HD (4 ports)	
	<b>I/O Ports</b>	(1) VGA port, (2) USB 3.0 ports & (1) COM Port		<b>Controller</b>	Intel® C621	
	<b>Q'ty / Type</b>	(12) 3.5" Hot-Swap, Tool-less SSD/HDDs		<b>Speed</b>	6Gb/s	
External Drive Bay	<b>HDD backplane support</b>	SAS 12Gb/s, SATA 6Gb/s & NVMe		<b>RAID</b>	RAID 0/1/10/5 (Intel® RSTe)	
	<b>Supported HDD Interface</b>	(12) SATA 6Gb/s with (4) NVMe ports	NVMe	<b>Connector (U.2)</b>	(2) SFF-8612 from M7106-4E mezzanine	
System Cooling	<b>FAN</b>	(5+1) Hot-swap 12cm Fans		<b>Notification</b>	The hot-swap, LED and temperature monitoring functions of NVMe are not supported. Please contact Tyan Technical Support for more details.	
	<b>Type</b>	CRPS	Graphic	<b>Connector type</b>	D-Sub 15-pin	
	<b>Input Range</b>	AC 100-127V/12A AC 200-240V/9.48A		<b>Resolution</b>	Up to 1920x1200	
	<b>Efficiency</b>	80+ Platinum		<b>Chipset</b>	Aspeed AST2500	
<b>Output Watts</b>	3,000 Watts (100-127Vac input) 4,800 Watts (200-240Vac input)	Input /Output		<b>USB</b>	(2) USB3.0 ports (@ rear) (2) USB3.0 ports (@ front)	
<b>Redundancy</b>	3+1		<b>COM</b>	(1) DB-9 COM port (@ front)		
Processor	<b>Q'ty / Socket Type</b>		(2) LGA3647	<b>VGA</b>	(1) D-Sub 15-pin port (@ front)	
	<b>Supported CPU Series</b>		(2) Intel® Xeon® Scalable Processors or 2nd Gen Intel® Xeon® Scalable Processors	<b>RJ-45</b>	(2) 10GbE ports (1) dedicated GbE for IPMI	
Chipset	<b>Chipset</b>	Intel® C621	TPM (Optional)	<b>TPM Support</b>	Please refer to our TPM supported list.	
	<b>Switch IC</b>	(2) PLX PEX8796		<b>Chipset</b>	Aspeed AST2500	
CPU-GPU Link Topology	<b>Dual-root</b>	All GPU connected to CPUs evenly	System Monitoring	<b>Voltage</b>	Monitors voltage for CPU, memory, chipset & power supply	
	<b>Supported DIMM Qty</b>	(12+12) DIMM slots		<b>Temperature</b>	Monitors temperature for CPU & memory & system environment	
Memory	<b>DIMM Type / Speed</b>	DDR4 RDIMM/RDIMM 3DS/LRDIMM/LRDIMM 3DS 2933/2666, DDR4 JEDEC NVDIMM 2666 & Intel Optane DC Persistent Memory Module (DCPMM)		<b>LED</b>	Over temperature warning indicator, Fan & PSU fail LED indicator	
	<b>Capacity</b>	Up to 1,536GB RDIMM / 1,536GB LRDIMM / 3,072GB RDIMM 3DS / LRDIMM 3DS *Follow the latest Intel® DDR4 Memory POR		<b>Others</b>	Watchdog timer support	
	<b>Memory channel</b>	6 Channels	Server Management	<b>Onboard Chipset</b>	Onboard Aspeed AST2500	
	<b>Memory voltage</b>	1.2V		<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>Notification</b>	DDR4-2933 DIMM is only supported with 2nd Gen Intel® Xeon® Scalable Processor (codename: Cascade Lake). Intel® Optane DC Persistent Memory Module (DCPMM) is only supported with specific 2nd Gen Intel® Xeon® Scalable Processor. Please contact Tyan Technical Support for more detail.	<b>AST2500 IPMI Feature</b>	IPMI 2.0 compliant baseboard management controller (BMC) & 10/100/1000 Mb/s MAC interface		
	Expansion Slots	<b>PCI-E</b>	(10) PCI-E Gen.3 x16 slots (FH / 10.5" / DW) (1) PCI-E Gen.3 x16 slot (FH / 10.5" / SW)	BIOS	<b>Brand / ROM size</b>	AMI / 32MB
<b>Pre-install TYAN Riser Card (PCI-E Gen.3)</b>		(1) M2217-L16-IO # riser card for (1) storage mezz. slot	<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>Pre-install TYAN Mezz. Card (PCI-E Gen.3)</b>		(1) M7108-X550-2T LAN mezz. card w/ (2) 10GbE ports	Operating System	<b>OS supported list</b>	Please refer to our AVL support lists.	
<b>Physical Dimension Abbreviation</b>		FH/10.5" L (Full-height / 10.5" in length) : 4.4" x 10.5" (111.2 x 266.7mm)		Regulation	<b>FCC (SDoC)</b>	Class A
		<b>CE (DoC)</b>	Class A			
		<b>VCCI</b>	Class A			
		<b>RCM</b>	Class A			
		<b>CB/LVD</b>	Yes			
Operating Environment		<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>In/Non-operating Humidity</b>	90%, non-condensing at 35° C			
RoHS		<b>RoHS 6/6 Compliant</b>	Yes			

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