Dell EMC PowerEdge C6525

Technical Specifications Guide

Regulatory Model: E63S Series
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DELL Technologies

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Contents

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Technical specifications

The technical and environmental specifications of your system are outlined in this section.

Topics:

Sled dimensions

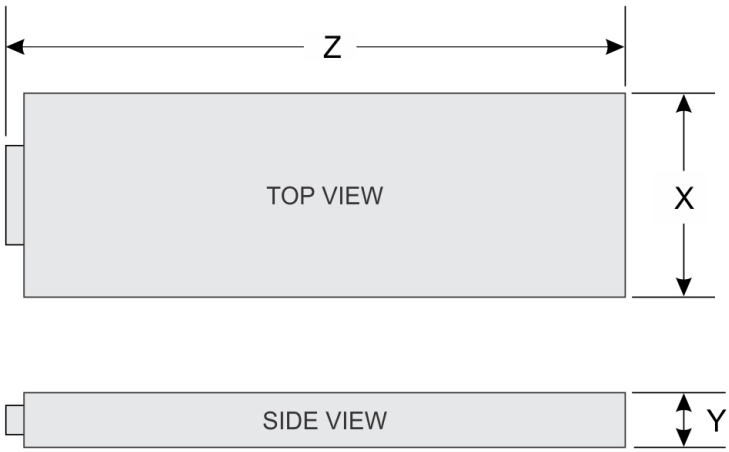

Figure 1. Sled dimensions

Table 1. Dimensions of the PowerEdge C6525 sled

X	Y	Z
174.4 mm (6.86 inches)	40.1 mm (1.58 inches)	570.34 mm (22.45 inches)

Chassis weight

Table 2. Chassis weight with sleds

System	Maximum weight (with all sleds and drives)
12 x 3.5-inch configuration	45.53 kg (100.37 lb)
24 x 2.5-inch configuration	41.5 kg (91.49 lb)
System with no backplane	35.15 kg (77.49 lb)

Processor specifications

The PowerEdge C6525 sled supports up to two processors in each of the four independent sleds. Each processor supports up to 64 cores.

Table 3. Processor specifications

Supported processor	Number of processors supported
AMD EPYC™ 7002 and 7003 Series processor	2

Supported operating systems

The PowerEdge C6525 supports the following operating systems:

- Canonical Ubuntu LTS
- Citrix XenServer
- Microsoft Windows Server
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- VMware ESXi
- CentOS

NOTE: For more information, see www.dell.com/ossupport.

System battery specifications

The PowerEdge C6525 sled supports CR 2032 3.0-V lithium coin cell system battery.

NOTE: One battery is supported on each PowerEdge C6525 sled.

Expansion card installation guidelines

The following table describes the supported expansion cards:

WARNING: Consumer-Grade GPU should not be installed or used in the Enterprise Server products.

PCIe slot priority

Table 4. Expansion card riser configurations

Riser options	Slot 1	Slot 2	Length	Height	Primary processor	Minimum processor requirement	Supported configurations
Riser 1A	Riser 1A PCIe Gen 4 x 16	NA	Half Length	Low Profile	1	1	• 12 x 3.5-inch drives • 24 x 2.5-inch drives • 8 x 2.5-inch NVMe drives • No backplane
Riser 1A+2A	Riser 1A PCIe Gen 4 x 16	Riser 2A PCIe Gen 4 x 16	Half Length	Low Profile	1 and 2	2	• 12 x 3.5-inch drives • 24 x 2.5-inch drives • 8 x 2.5-inch NVMe drives • No backplane
Riser 2A	NA	Riser 2A PCIe Gen 4 x 16	Half Length	Low Profile	2	2	• 12 x 3.5-inch drives • 24 x 2.5-inch drives • 8 x 2.5-inch NVMe drives • No backplane
No riser	NA	NA	Half Length	Low Profile	NA	1	• 12 x 3.5-inch drives • 24 x 2.5-inch drives • 8 x 2.5-inch NVMe drives • No backplane

The following table provides guidelines for installing expansion cards to ensure proper cooling and mechanical fit. The expansion cards with the highest priority should be installed first using the slot priority indicated. All the other expansion cards should be installed in the card priority and slot priority order.

Table 5. Riser configurations: No riser - Processor 1 and 2

Card Type	Slot Priority	Maximum number of cards
LOM riser ; 1G (Intel) (BASeT)	3	1
LOM riser ; 10G (Mellanox/Broadcom/ QLogic) (BASeT/SFP/SFP+)	3	1
LOM riser ; 25G (QLogic/Mellanox/Intel)	3	1
BOSS S1V5 (Inventec)	4	1
Card,Network 10G (Broadcom) (BASeT)	3	1

Table 6. Riser configurations: Riser 1A - Processor 1 and 2

Card type	Slot priority	Maximum number of cards
LOM riser ; 1G (Intel/Broadcom) (BASeT)	3	1

Table 6. Riser configurations: Riser 1A - Processor 1 and 2 (continued)

Card type	Slot priority	Maximum number of cards
LOM riser ; 10G (Broadcom/QLogic) (BASeT/SFP/SF+/SFP+)	3	1
LOM riser ; 25G (QLogic/Mellanox)	3	1
Card,Network 1G (Broadcom/Intel)	1	1
Card,Network 10G (Broadcom/Intel/ QLogic)	1	1
Card,Network 10G (Broadcom) (BASeT)	3	1
Card,Network 25G (Broadcom/Intel/ QLogic/Mellanox/SolarFlare)	1	1
Card,Network 100G (Mellanox/Intel)	1	1
GPU: Nvidia T4 16GB	2	1
PCIe SSD (Samsung/Intel)	1	1
PERC 10: External Adapter (Inventec/ Foxconn)	1	1
HBA: External Adapter (Foxconn)	1	1
BOSS S1V5 (Inventec)	4	1
ASSY,CRD,CTL,H750,ADPT,250MM (Broadcom)	1	1
ASSY,CRD,CTL,H350,ADPT (Broadcom)	1	1
ASSY,CRD,CTL,H750,ADPT (Broadcom)	1	1

Table 7. Riser configurations: Riser 1A + Riser 2A - Processor 2

Card type	Slot priority	Maximum number of cards
LOM riser ; 1G (Intel/Broadcom) (BASeT)	3	1
LOM riser ; 10G (Broadcom/QLogic) (BASeT/SFP/SF+/SFP+)	3	1
LOM riser ; 25G (/QLogic/Mellanox)	3	1
Card,Network 1G (Broadcom/Intel)	1, 2	2
Card,Network 10G (Broadcom/Intel/ QLogic)	1, 2	2
Card,Network 10G (Broadcom) (BASeT)	3	1
Card,Network 25G (Broadcom/Intel/ QLogic/Mellanox/SolarFlare)	1, 2	2
Card,Network 100G (Mellanox/Intel)	1, 2	2
GPU: Nvidia T4 16GB	2	1
PCIe SSD (Samsung/Intel)	1, 2	2
PERC 10: External Adapter (Inventec/ Foxconn)	1	1
HBA: External Adapter (Foxconn)	1	1
BOSS S1V5 (Inventec)	4	1

Table 7. Riser configurations: Riser 1A + Riser 2A - Processor 2 (continued)

Card type	Slot priority	Maximum number of cards
ASSY,CRD,CTL,H750,ADPT,250MM (Broadcom)	1	1
ASSY,CRD,CTL,H350,ADPT (Broadcom)	1	1
ASSY,CRD,CTL,H750,ADPT (Broadcom)	1	1

Table 8. Riser configurations: Riser 2A - Processor 2

Card type	Slot priority	Maximum number of cards
LOM riser ; 1G (Intel/Broadcom) (BASeT)	3	1
LOM riser ; 10G (Broadcom/QLogic) (BASeT/SFP/SF+/SFP+)	3	1
LOM riser ; 25G (QLogic/Mellanox)	3	1
Card,Network 1G (Broadcom/Intel)	2	1
Card,Network 10G (Broadcom/Intel/ QLogic)	2	1
Card,Network 10G (Broadcom) (BASeT)	3	1
Card,Network 25G (Broadcom/Intel/ QLogic/Mellanox/SolarFlare)	2	1
Card,Network 100G (Mellanox/Intel)	2	1
GPU: Nvidia T4 16GB	2	1
PCIe SSD (Samsung/Intel)	2	1
BOSS S1V5 (Inventec)	4	1

Memory specifications

Table 9. Memory specifications

Memory module sockets	DIMM type	DIMM rank	DIMM capacity	Single processor		Dual processors	
				Minimum RAM	Maximum RAM	Minimum RAM	Maximum RAM
Sixteen 288-pins	LRDIMM	Octal rank	128 GB	128 GB	1024 GB	256 GB	2048 GB
	RDIMM	Single rank	8 GB	8 GB	64 GB	16 GB	128 GB
		Dual rank	16 GB	16 GB	128 GB	32 GB	256 GB
			32 GB	32 GB	256 GB	64 GB	512 GB
			64 GB	64 GB	512 GB	128 GB	1024 GB

Drives specifications

The PowerEdge C6525 sled supports SAS and SATA hard drives and Solid State Drives (SSDs).

Table 10. Supported drive options for the PowerEdge C6525 sled

Maximum number of drives in the sled	Maximum number of drives assigned per sled
12 x 3.5-inch drive systems	Three SAS or SATA hard drives and SSDs per sled
24 x 2.5-inch Non-NVMe drives configuration	Six SAS or SATA hard drives and SSDs per sled
8 x 2.5-inch NVMe drives configuration (2 NVMe drives per sled / 8 NVMe drives per chassis)	The NVMe backplane supports either of these configurations: • Two NVMe drives and four SAS or SATA hard drives and SSDs per sled ⓘ **NOTE:** NVMe drives are limited to PCIe Gen3 speed. • Six SAS or SATA hard drives and SSDs per sled
M.2 SATA drive (optional)	The supported capacity of the M.2 SATA card is up to 480 GB ⓘ **NOTE:** The M.2 SATA card can be installed on the M.2 riser or on the BOSS card
Micro-SD card (optional) for boot (up to 64 GB)	One on riser 1A

Ports and connectors specifications

USB ports specifications

Table 11. PowerEdge C6525 sled USB port specifications

Back panel
One USB 3.0-compliant port

Display port specifications

The PowerEdge C6525 sled supports one Mini display port.

NIC ports specifications

The PowerEdge C6525 sled supports one 10/100/1000 Mbps Network Interface Controller (NIC) port located on the rear of the sled.

iDRAC9 port specifications

The PowerEdge C6525 sled supports one iDRAC9 direct port that is located on the rear of the system.

Storage specifications

The PowerEdge C6525 sled supports RAID options with M.2 SATA drives.

Table 12. Supported RAID options with M.2 SATA drives

Options	Single M.2 SATA drive without RAID	Dual M.2 SATA drives with hardware RAID
Hardware RAID	No	Yes
RAID Mode	N/A	RAID 1
Number of drives supported	1	2

Table 12. Supported RAID options with M.2 SATA drives (continued)

Options	Single M.2 SATA drive without RAID	Dual M.2 SATA drives with hardware RAID
Supported CPUs	CPU 1	CPU 1

NOTE: RAID options are only supported on BOSS cards which support two M.2 SATA drives.

Video specifications

The PowerEdge C6525 sled supports one Matrox G200 integrated graphics card with 16 MB RAM.

Table 13. Supported video resolution options

Resolution	Refresh rate (Hz)	Color depth (bits)
1024 x 768	60	up to 24
1280 x 800	60	up to 24
1280 x 1024	60	up to 24
1360 x 768	60	up to 24
1440 x 900	60	up to 24
1600 x 900	60	up to 24
1600 x 1200	60	up to 24
1680 x 1050	60	up to 24
1920 x 1080	60	up to 24
1920 x 1200	60	up to 24

Environmental specifications

The sections below contains information about the environmental specifications of the system.

NOTE: For additional information about environmental certifications, please refer to the Product Environmental Datasheet located with the Manuals & Documents on www.dell.com/poweredgemanuals.

Standard operating temperature specifications

NOTE:

1. Not available: Indicates that the configuration is not offered by Dell EMC.
2. Not supported: Indicates that the configuration is not thermally supported.

NOTE: All components including the DIMMs, communication cards, M.2 SATA, and PERC cards can be supported with sufficient thermal margin if the ambient temperature is equal to or below the maximum continuous operating temperature listed in these tables.

NOTE: Some of the system hardware configurations require a lowered upper temperature limit. For more information about the operating temperature requirement, contact technical support.

Table 14. Standard operating temperature specifications

Standard operating temperature	Allowable Operation
Temperature Ranges (For Altitude ≤900 meters or 2953 feet)	5 to 40°C (41 to 104°F) with no direct sunlight on the platform
	Excursion Limited Operation
	5 to 35°C (41 to 95°F) Continuous Operation 35 to 40°C (95 to 104°F) 10% Annual Runtime
Humidity Percent Ranges	8%RH with -12°C minimum dew point to 85%RH with 24°C (75.2°F) maximum dew point
Operational Altitude De-Rating	Maximum temperature is reduced by 1°C/175 meters (1.8°F/574 feet) above 900 meters (2,953 feet)

NOTE: Some configurations require a lower ambient temperature.

The following tables list key restrictions on ambient temperature based on which CPU is configured in the system. All inlet temperatures that are provided below are in continuous degrees centigrade.

Table 15. Maximum continuous operating temperature for dual processor with 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7513	200	32	20	20	25	25	30
7443	200	24	20	20	25	25	30
7413	180	24	20	20	25	25	30 (-2)
7313	155	16	25	25	25	25	30
7662	225	64	Not supported	Not supported	Not supported	Not supported	20
7713	225	64	Not supported	Not supported	Not supported	Not supported	20
7543	225	32	Not supported	Not supported	Not supported	Not supported	20
7763	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7H12	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7742	225	64	Not supported	Not supported	Not supported	Not supported	20
7642	225	48	Not supported	Not supported	Not supported	Not supported	20
7542	225	32	Not supported	Not supported	Not supported	Not supported	20
7702	200	64	20	20	25	25	30
7552	200	48	20	20	25	25	30
7532	200	32	20	20	25	25	30
7502	180	32	20	20	25	25	30
7402	180	24	20	20	25	25	30
7452	155	32	25	25	25	25	30
7352	155	24	25	25	25	25	30

Table 15. Maximum continuous operating temperature for dual processor with 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7302	155	16	25	25	25	25	30
7262	155	8	25	25	25	25	30
7282	120	16	30	30	30	35	35
7272	120	12	30	30	30	35	35
7252	120	8	30	30	30	35	35
7F72	240	24	Not supported	Not supported	Not supported	Not supported	20
7F52	240	16	Not supported	Not supported	Not supported	Not supported	Not supported
7F32	180	8	20	20	25	25	30

NOTE: Thermal corner case is when the system is working at CPU intensive workload. From the above table, (-2) represents the thermal impact at thermal corner case.

NOTE: H745 is Not supported for CPU TDP ≥ 180 Watts.

NOTE:

- 85C Optics Transceiver is required for OCP cards.
- Additional thermal restrictions are required for 128GB LRDIMM and GPU configuration.

Table 16. Maximum continuous operating temperature for dual processor with 3.5-inch Direct drive configuration - Air cooled

CPU	TDP	Cores	12 x drives	8 x drives	4 x drives
7513	200	32	Not supported	Not supported	Not supported
7443	200	24	Not supported	Not supported	Not supported
7413	180	24	Not supported	Not supported	Not supported
7313	155	16	Not supported	Not supported	Not supported
7662	225	64	Not supported	Not supported	Not supported
7713	225	64	Not supported	Not supported	Not supported
7543	225	32	Not supported	Not supported	Not supported
7763	280	64	Not supported	Not supported	Not supported
7H12	280	64	Not supported	Not supported	Not supported
7742	225	64	Not supported	Not supported	Not supported
7642	225	48	Not supported	Not supported	Not supported
7542	225	32	Not supported	Not supported	Not supported
7702	200	64	Not supported	Not supported	Not supported
7552	200	48	Not supported	Not supported	Not supported
7532	200	32	Not supported	Not supported	Not supported
7502	180	32	Not supported	Not supported	Not supported
7402	180	24	Not supported	Not supported	Not supported
7452	155	32	Not supported	Not supported	Not supported

Table 16. Maximum continuous operating temperature for dual processor with 3.5-inch Direct drive configuration - Air cooled (continued)

CPU	TDP	Cores	12 x drives	8 x drives	4 x drives
7352	155	24	Not supported	Not supported	Not supported
7302	155	16	Not supported	Not supported	Not supported
7262	155	8	Not supported	Not supported	Not supported
7282	120	16	20	20	20
7272	120	12	20	20	20
7252	120	8	20	20	20
7F72	240	24	Not supported	Not supported	Not supported
7F52	240	16	Not supported	Not supported	Not supported
7F32	180	8	Not supported	Not supported	Not supported

NOTE:

- 85C Optics Transceiver is required for OCP cards
- Additional thermal restrictions are required for 128GB LRDIMM and GPU configuration

Table 17. Maximum continuous operating temperature for dual processor with 2.5-inch direct / 2.5-inch NVMe drive configuration - Liquid cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7513	200	32	35	35	35	35	35
7443	200	24	35	35	35	35	35
7413	180	24	35	35	35	35	35
7313	155	16	35	35	35	35	35
7662	225	64	35	35	35	35	35
7713	225	64	35	35	35	35	35
7543	225	32	35	35	35	35	35
7763	280	64	35	35	35	35	35
7H12	280	64	35	35	35	35	35
7742	225	64	35	35	35	35	35
7642	225	48	35	35	35	35	35
7542	225	32	35	35	35	35	35
7702	200	64	35	35	35	35	35
7552	200	48	35	35	35	35	35
7532	200	32	35	35	35	35	35
7502	180	32	35	35	35	35	35
7402	180	24	35	35	35	35	35
7452	155	32	35	35	35	35	35
7352	155	24	35	35	35	35	35
7302	155	16	35	35	35	35	35
7262	155	8	35	35	35	35	35
7282	120	16	35	35	35	35	35

Table 17. Maximum continuous operating temperature for dual processor with 2.5-inch direct / 2.5-inch NVMe drive configuration - Liquid cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7272	120	12	35	35	35	35	35
7252	120	8	35	35	35	35	35
7F72	240	24	35	35	35	35	35
7F52	240	16	35	35	35	35	35
7F32	180	8	35	35	35	35	35

Table 18. Maximum continuous operating temperature for dual processor with 3.5-inch Direct drive configuration - Liquid cooled

CPU	TDP	Cores	12 x drives	8 x drives	4 x drives
7513	200	32	35	35	35
7443	200	24	35	35	35
7413	180	24	35	35	35
7313	155	16	35	35	35
7662	225	64	35	35	35
7713	225	64	35	35	35
7543	225	32	35	35	35
7763	280	64	35	35	35
7H12	280	64	35	35	35
7742	225	64	35	35	35
7642	225	48	35	35	35
7542	225	32	35	35	35
7702	200	64	35	35	35
7552	200	48	35	35	35
7532	200	32	35	35	35
7502	180	32	35	35	35
7402	180	24	35	35	35
7452	155	32	35	35	35
7352	155	24	35	35	35
7302	155	16	35	35	35
7262	155	8	35	35	35
7282	120	16	35	35	35
7272	120	12	35	35	35
7252	120	8	35	35	35
7F72	240	24	35	35	35
7F52	240	16	35	35	35
7F32	180	8	35	35	35

NOTE: Additional thermal restrictions are required for 128GB LRDIMM and GPU configuration

Table 19. Maximum continuous operating temperature for single processor with 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7713P	225	64	30	30	30	35	35
7513	200	32	35	35	35	35	35
7543P	225	32	30	30	30	35	35
7443	200	24	35	35	35	35	35
7443P	200	24	35	35	35	35	35
7313P	155	16	35	35	35	35	35
7413	180	24	35	35	35	35	35
7313	155	16	35	35	35	35	35
7662	225	64	30	30	30	35	35
7713	225	64	30	30	30	35	35
7543	225	32	30	30	30	35	35
7763	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7H12	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7742	225	64	30	30	30	35	35
7642	225	48	30	30	30	35	35
7542	225	32	30	30	30	35	35
7702	200	64	35	35	35	35	35
7702P	200	64	35	35	35	35	35
7552	200	48	35	35	35	35	35
7532	200	32	35	35	35	35	35
7502	180	32	35	35	35	35	35
7502P	180	32	35	35	35	35	35
7402	180	24	35	35	35	35	35
7402P	180	24	35	35	35	35	35
7452	155	32	35	35	35	35	35
7352	155	24	35	35	35	35	35
7302	155	16	35	35	35	35	35
7302P	155	16	35	35	35	35	35
7262	155	8	35	35	35	35	35
7282	120	16	35	35	35	35	35
7272	120	12	35	35	35	35	35
7252	120	8	35	35	35	35	35
7232P	120	12	35	35	35	35	35
7F72	240	24	30	30	30	35	35
7F52	240	16	30	30	30	35	35

Table 19. Maximum continuous operating temperature for single processor with 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7F32	180	8	35	35	35	35	35

NOTE: Additional thermal restrictions are required for 128GB LRDIMM and GPU configuration

Table 20. Maximum continuous operating temperature for single processor with 3.5-inch Direct drive configuration - Air cooled

CPU	TDP	Cores	12 x drives	8 x drives	4 x drives
7713P	225	64	20	25	25
7513	200	32	25	35	35
7543P	225	32	20	25	25
7443	200	24	25	35	35
7443P	200	24	25	35	35
7313P	155	16	30	35	35
7413	180	24	25	35	35
7313	155	16	30	35	35
7662	225	64	20	25	25
7713	225	64	20	25	25
7543	225	32	20	25	25
7763	280	64	Not supported	Not supported	Not supported
7H12	280	64	Not supported	Not supported	Not supported
7742	225	64	20	25	25
7642	225	48	20	25	25
7542	225	32	20	25	25
7702	200	64	25	35	35
7702P	200	64	25	35	35
7552	200	48	25	35	35
7532	200	32	25	35	35
7502	180	32	25	35	35
7502P	180	32	25	35	35
7402	180	24	25	35	35
7402P	180	24	25	35	35
7452	155	32	30	35	35
7352	155	24	30	35	35
7302	155	16	30	35	35
7302P	155	16	30	35	35
7262	155	8	30	35	35
7282	120	16	35	35	35
7272	120	12	35	35	35

Table 20. Maximum continuous operating temperature for single processor with 3.5-inch Direct drive configuration - Air cooled (continued)

CPU	TDP	Cores	12 x drives	8 x drives	4 x drives
7252	120	8	35	35	35
7232P	120	12	35	35	35
7F72	240	24	20	25	25
7F52	240	16	20	25	25
7F32	180	8	25	35	35

Other thermal restrictions for 280W CPU

- 128GB LRDIMM is Not supported.
- Limits 280W CPU enabled with GPU.
- Does not support PSU redundant mode(1+1).
- Supports PSU Non-Redundant mode (2+0) configuration mode.

T4 GPU card restrictions

Table 21. Maximum continuous operating temperature for dual processor with 1x T4 GPU card for 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7513	200	32	Not supported				25
7443	200	24	Not supported				25
7413	180	24	Not supported				25
7313	155	16	Not supported				25
7662	225	64	Not supported				
7713	225	64	Not supported				
7543	225	32	Not supported				
7763	280	64	Not supported				
7H12	280	64	Not supported				
7F72	240	24	Not supported				
7F52	240	16	Not supported				
7742	225	64	Not supported				
7642	225	48					
7542	225	32					
7702	200	64	Not supported				25
7552	200	48					25
7532	200	32					25
7502	180	32					25
7402	180	24					25
7F32	180	8					25
7452	155	32					25

Table 21. Maximum continuous operating temperature for dual processor with 1x T4 GPU card for 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7352	155	24	Not supported				25
7302	155	16					25
7262	155	8					25
7282	120	16	Not supported		25	25	30
7272	120	12			25	25	30
7252	120	8			25	25	30

NOTE:

- 3.5" chassis (Air cooled) is not able to support GPU card.
- 128GB LRDIMM is Not supported.
- 1x GPU card + OCP card is supported. Slot #2 is first priority for T4 GPU.
- 1x GPU card + PCIe card is supported. Slot #2 is first priority for T4 GPU.

Table 22. Maximum continuous operating temperature for dual processor with 1x T4 GPU card for 2.5-inch direct / 2.5-inch NVMe drive configuration - Liquid cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7513	200	32	30	30	30	30	30
7443	200	24	30	30	30	30	30
7413	180	24	30	30	30	30	30
7313	155	16	30	30	30	30	30
7662	225	64	30	30	30	30	30
7713	225	64	30	30	30	30	30
7543	225	32	30	30	30	30	30
7763	280	64	30	30	30	30	30
7H12	280	64	30	30	30	30	30
7F72	240	24	30	30	30	30	30
7F52	240	16	30	30	30	30	30
7742	225	64	30	30	30	30	30
7642	225	48	30	30	30	30	30
7542	225	32	30	30	30	30	30
7702	200	64	30	30	30	30	30
7532	200	32	30	30	30	30	30
7502	180	32	30	30	30	30	30
7402	180	24	30	30	30	30	30
7F32	180	8	30	30	30	30	30
7452	155	32	30	30	30	30	30
7352	155	24	30	30	30	30	30
7302	155	16	30	30	30	30	30
7262	155	8	30	30	30	30	30

Table 22. Maximum continuous operating temperature for dual processor with 1x T4 GPU card for 2.5-inch direct / 2.5-inch NVMe drive configuration - Liquid cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7282	120	16	30	30	30	30	30
7272	120	12	30	30	30	30	30
7252	120	8	30	30	30	30	30

NOTE:

- 128GB LRDIMM is not supported.
- 3.5“ chassis is not supported

Table 23. Maximum continuous operating temperature for single processor with 1x T4 GPU card for 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7713P	225	64	20	20	20	20	25
7513	200	32	20	25	25	25	30
7543P	225	32	20	20	20	20	25
7443	200	24	20	25	25	25	30
7443P	200	24	20	25	25	25	30
7313P	155	16	20	25	25	25	35
7413	180	24	20	25	25	25	30
7313	155	16	20	25	25	25	35
7662	225	64	20	20	20	20	25
7713	225	64	20	20	20	20	25
7543	225	32	20	20	20	20	25
7763	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7H12	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7F72	240	24	20	20	20	20	25
7F52	240	16	20	20	20	20	25
7742	225	64	20	20	20	20	25
7642	225	48	20	20	20	20	25
7542	225	32	20	20	20	20	25
7702	200	64	20	25	25	25	30
7702P	200	64	20	25	25	25	30
7532	200	32	20	25	25	25	30
7502	180	32	20	25	25	25	30
7502P	180	32	20	25	25	25	30
7402	180	24	20	25	25	25	30
7402P	180	24	20	25	25	25	30
7452	155	32	20	25	25	25	35

Table 23. Maximum continuous operating temperature for single processor with 1x T4 GPU card for 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7352	155	24	20	25	25	25	35
7302	155	16	20	25	25	25	35
7302P	155	16	20	25	25	25	35
7262	155	8	20	25	25	25	35
7282	120	16	25	25	25	30	35
7272	120	12	25	25	25	30	35
7252	120	8	25	25	25	30	35
7232P	120	12	25	25	25	30	35

NOTE:

- 3.5" chassis (Air cooled) is not able to support GPU card.
- 128GB LRDIMM is Not supported.
- OCP card is supported.

Table 24. Maximum continuous operating temperature for dual processor with 128GB LRDIMM for 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7513	200	32	20	20	25	25	25
7443	200	24	20	20	25	25	25
7413	180	24	20	20	25	25	25
7313	155	16	20	20	25	25	30
7662	225	64	Not supported	Not supported	Not supported	Not supported	20
7713	225	64	Not supported	Not supported	Not supported	Not supported	20
7543	225	32	Not supported	Not supported	Not supported	Not supported	20
7763	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7H12	280	64	Not supported	Not supported	Not supported	Not supported	Not supported
7742	225	64	Not supported	Not supported	Not supported	Not supported	20
7642	225	48	Not supported	Not supported	Not supported	Not supported	20
7542	225	32	Not supported	Not supported	Not supported	Not supported	20
7702	200	64	20	20	25	25	25
7532	200	32	20	20	25	25	25
7502	180	32	20	20	25	25	25
7402	180	24	20	20	25	25	25
7452	155	32	20	20	25	25	30

Table 24. Maximum continuous operating temperature for dual processor with 128GB LRDIMM for 2.5-inch direct / 2.5-inch NVMe drive configuration - Air cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7352	155	24	20	20	25	25	30
7302	155	16	20	20	25	25	30
7262	155	8	20	20	25	25	30
7F72	240	24	Not supported	Not supported	Not supported	Not supported	20
7F52	240	16	Not supported	Not supported	Not supported	Not supported	Not supported
7282	120	16	20	20	25	30	30
7272	120	12	20	20	25	30	30
7252	120	8	20	20	25	30	30

NOTE: H745 is Not supported for CPU TDP ≥ 180 Watts.

NOTE:

- 128GB LRDIMM is Not supported on 3.5" chassis.
- T4 GPU card is Not supported with 128GB LRDIMM.

Table 25. Maximum continuous operating temperature for dual processor with 128GB LRDIMM for 2.5-inch direct / 2.5-inch NVMe drive configuration - Liquid cooled

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7513	200	32	30	30	30	30	30
7443	200	24	30	30	30	30	30
7413	180	24	30	30	30	30	30
7313	155	16	30	30	30	30	30
7662	225	64	30	30	30	30	30
7713	225	64	30	30	30	30	30
7543	225	32	30	30	30	30	30
7763	280	64	30	30	30	30	30
7H12	280	64	30	30	30	30	30
7F72	240	24	30	30	30	30	30
7F52	240	16	30	30	30	30	30
7742	225	64	30	30	30	30	30
7642	225	48	30	30	30	30	30
7542	225	32	30	30	30	30	30
7702	200	64	30	30	30	30	30
7532	200	32	30	30	30	30	30
7502	180	32	30	30	30	30	30
7402	180	24	30	30	30	30	30
7F32	180	8	30	30	30	30	30
7452	155	32	30	30	30	30	30

Table 25. Maximum continuous operating temperature for dual processor with 128GB LRDIMM for 2.5-inch direct / 2.5-inch NVMe drive configuration - Liquid cooled (continued)

CPU	TDP	Cores	24 x drives	16 x drives	8 x drives	4 x drives	No BP
7352	155	24	30	30	30	30	30
7302	155	16	30	30	30	30	30
7262	155	8	30	30	30	30	30
7282	120	16	30	30	30	30	30
7272	120	12	30	30	30	30	30
7252	120	8	30	30	30	30	30

NOTE:
- T4 GPU card is not supported with 128GB LRDIMM.
- 128GB LRDIMM is not supported on 3.5" chassis.

Expanded operating temperature specifications

Table 26. Expanded operating temperature

Expanded operating temperature	Allowable Operation
Temperature Ranges (For Altitude ≤900 meters or 2953 feet)	5 to 45°C (41 to 113°F) with no direct sunlight on the platform
	Excursion Limited Operation
	5 to 35°C (41 to 95°F) Continuous Operation 35 to 40°C (95 to 104°F) 10% Annual Runtime 40 to 45°C (104 to 113°F)1% Annual Runtime
Humidity Percent Ranges	8% RH with -12°C minimum dew point to 90% RH with 24°C (75.2°F) maximum dew point
Operational Altitude De-Rating	Maximum temperature is reduced by 1°C/125 meters (1.8°F/410 feet) above 900 meters (2,953 feet)

NOTE: When operating in the expanded temperature range, system performance may be impacted.

NOTE: When operating in the expanded temperature range, ambient temperature warnings may be reported in the System Event Log.

Particulate and gaseous contamination specifications

Table 27. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit.
NOTE: This condition applies only to data center environments. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.	
NOTE: Air entering the data center must have MERV11 or MERV13 filtration.	
Conductive dust	Air must be free of conductive dust, zinc whiskers, or other conductive particles.
NOTE: This condition applies to data center and non-data center environments.	

Table 27. Particulate contamination specifications (continued)

Particulate contamination	Specifications
Corrosive dust	Air must be free of corrosive dust.
Residual dust present in the air must have a deliquescent point less than 60% relative humidity.	
NOTE: This condition applies to data center and non-data center environments.	

Table 28. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper coupon corrosion rate	<300 Å/month per Class G1 as defined by ANSI/ISA71.04-2013
Silver coupon corrosion rate	<200 Å/month per Class G1 as defined by ANSI/ISA71.04-2013
NOTE: Maximum corrosive contaminant levels measured at ≤50% relative humidity.	

Relative humidity specifications

Table 29. Relative humidity specifications

Relative humidity	Allowable Operation
Temperature Ranges (For Altitude ≤900 meters or 2953 feet)	10 to 35°C (50 to 95°F) with no direct sunlight on the platform
Humidity Percent Ranges	8% RH with -12°C minimum dew point to 80% RH with 21°C (69.8°F) maximum dew point
Operational Altitude De-Rating	Maximum temperature is reduced by 1°C/300 meters (1.8°F/984 feet) above 900 meters (2,953 feet)

Maximum vibration specifications

Table 30. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.26 Grms at 5 Hz to 350 Hz (all operation orientations).
Storage	1.88 Grms at 10 Hz to 500 Hz for 15 min (all six sides tested).

Maximum shock specifications

Table 31. Maximum shock specifications

Maximum shock	Specifications
Operating	Six consecutively executed shock pulses 6 G in the positive and negative x, y, z axis for up to 11 ms (four pulses on each side of the system).
Storage	Six consecutively executed shock pulses in the positive and negative x, y, and z axis (one pulse on each side of the system) of 71 G for up to 2 ms.

Maximum altitude specifications

Table 32. Maximum altitude specifications

Maximum altitude	Allowable Operation
Maximum Temperature Gradient (applies to both operation and non-operation)	20°C in an hour* (36°F in an hour) and 5°C in 15 minutes (9°F in 15 minutes), 5°C in an hour* (9°F in an hour) for tape hardware
Non-Operational Temperature Limits	-40 to 65°C (-40 to 149°F)
Non-Operational Humidity Limits	5% to 95% RH with 27°C (80.6°F) maximum dew point. Atmosphere shall be non-condensing at all times
Maximum Non-Operational Altitude	12,000 meters (39,370 feet)
Maximum Operational Altitude	3,048 meters (10,000 feet)

Operating temperature de-rating specifications

Operating temperature de-rating specifications

Table 33. Operating temperature de-rating specifications

Operating temperature de-rating	Specifications
< 35°C (95°F)	Maximum temperature is reduced by 1°C/300 m (1°F/547 ft) above 950 meters (3,117 ft).
35°C-40°C (95°F-104°F)	Maximum temperature is reduced by 1°C/175 m (1°F/319 ft) above 950 meters (3,117 ft).
> 45°C (113°F)	Maximum temperature is reduced by 1°C/125 m (1°F/228 ft) above 950 meters (3,117 ft).

Fresh Air Operation

Table 34. Fresh Air operation restrictions

Liquid cooled	Air Cooled
• NVMe SSD is not supported. • LRDIMM is not supported. • PCIe cards greater than 25W are not supported. • GPU card is not supported. • 3.5-inch drive configuration is not supported.	• NVMe SSD is not supported. • LRDIMM is not supported. • PCIe cards greater than 25W are not supported. • GPU card is not supported. • 3.5-inch drive configuration is not supported. • The 2.5-inch, no backplane configuration supports a maximum processor TDP of 200 Watts only. • Supports single processor configuration only. No support for dual processor configuration.