Spec Sheet

Cisco Compute Hyperconverged with vSAN

HCIVS245C M8 All-NVMe vSAN ReadyNode

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https://www.cisco.com/c/en/us/products/hyperconverged-infrastructure/compute-hyperconverged/datasheet-listing.html

CISCO SYSTEMS
170 WEST TASMAN DR.
SAN JOSE, CA, 95134
WWW.CISCO.COM

PUBLICATION HISTORY

REV A.01 SEPTEMBER 24, 2025

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OVERVIEW

VMware vSAN Express Storage Architecture (ESA) is a software-defined storage solution that runs natively as part of ESXi hypervisor. It aggregates local storage from multiple hosts to create a shared storage pool for virtual machines that can then be accessed by all hosts in the vSAN cluster.

Cisco Compute Hyperconverged with vSAN solutions are purpose-built platforms that unify compute, storage, and networking into a single, software-defined infrastructure. Cisco and VMware by Broadcom have partnered to deliver a robust, scalable, and high-performance hyperconverged infrastructure (HCI) solution for modern workloads.

VMware vSAN Ready Node is pre-configured, tested, and jointly certified by Broadcom and Cisco to deliver enterprise-grade storage performance and reliability for IT customers. When deployed on Cisco UCS® servers qualified as vSAN Ready Nodes customers can confidently build a robust hyperconverged infrastructure stack that maximizes hardware utilization, simplifies operations, and scales linearly with business growth.

The Cisco Compute Hyperconverged HCIVS245C M8 All-NVMe vSAN ReadyNode. The server features a 2U form factor, single-socket design, with the AMD EPYC™ CPUs.The server offers the following:

CPU:

- Up to 2x 5th Gen. AMD EPYC™ CPUs with up to 160 cores per processor **or**

Memory:

- 24 x 256GB DDR5-6400 DIMMs, in a 2-socket configuration with 5th Gen. AMD EPYC™ processors
- Up to 6 TB of capacity

See **Figure 1 on page 3** for front and rear views of the server.

Figure 1 Cisco Compute Hyperconverged HCIVS245C M8 All-NVMe vSAN ReadyNode

24 Front drives are NVMe (up to 4 direct attach NVMe drives in front) and optionally 4 direct attach NVMe rear drives

Front View

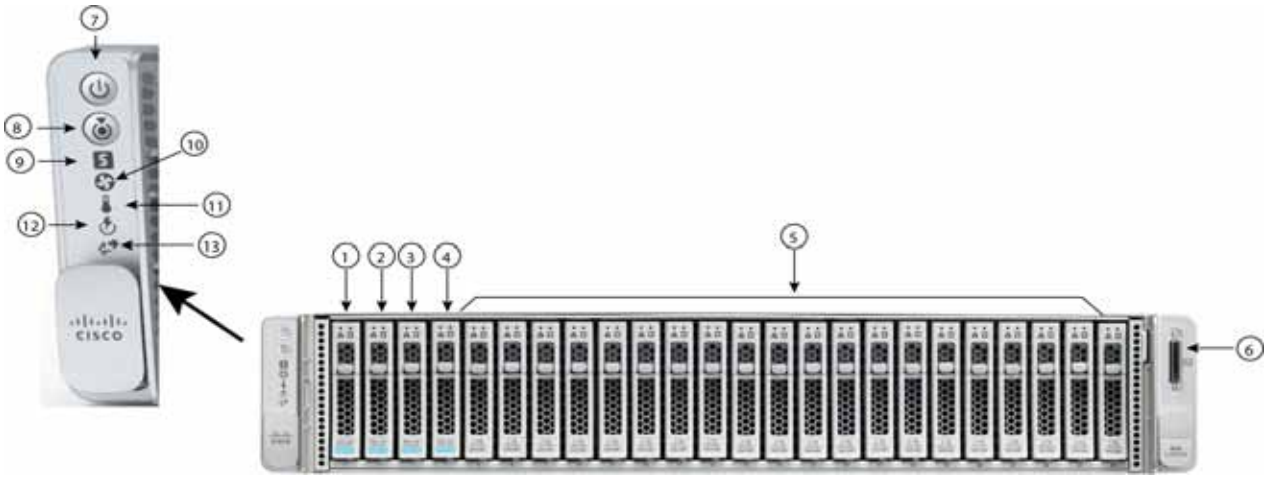
Rear View (all slots shown unpopulated - see **Figure 3 on page 5** for details)

DETAILED VIEWS

Chassis Front View

Figure 2 shows the 24 Front drives are NVMe (up to 4 direct attach NVMe drives in front) and optionally 4 direct attach NVMe rear drives.

Figure 2 Chassis Front View

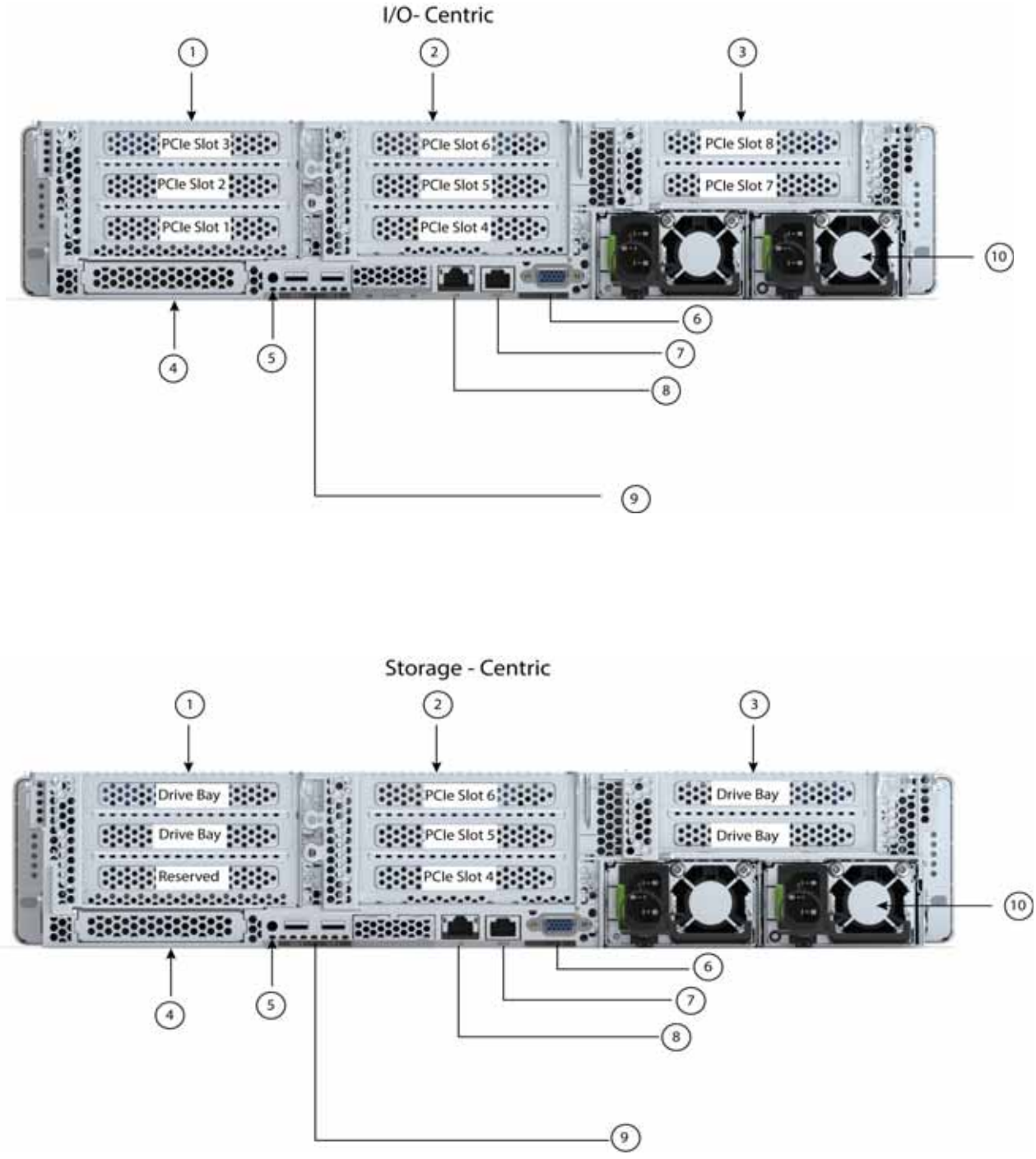


1 - 4	Up to 4 direct attach NVMe drives supports in front	**9**	System status LED
5	1-24 Support NVMe SSDs	**10**	Fan status LED
6	KVM connector (used with KVM cable that provides two USB 2.0, one VGA, and one serial connector)	**11**	Temperature status LED
7	Power button/Power status LED	**12**	Power supply status LED
8	Unit Identification button/LED	**13**	Network link activity LED

Chassis Rear View

Figure 3 shows the external features of the rear panel.

Figure 3 Chassis Rear View



1	There are three Riser 1 options: **Riser 1A (I/O-centric, Gen 4, CPU1 control)** Supports three Gen 4 PCIe slots: ■ Slot 1 is full-height, 3/4 length, x8, NCSI, single wide GPU ■ Slot 2 is full-height, full-length, x16, NCSI, single/double wide GPU ■ Slot 3 is full-height, full-length, x8, no NCSI, single wide GPU **Riser 1B (storage-centric, CPU1 control)** Supports two drive bays: ■ Slot 1 is reserved ■ Drive bay 102, x4, NVMe ■ Drive bay 101, x4, NVMe **Riser 1C (I/O-centric, Gen 5, CPU1 control)** Supports two Gen 5 PCIe slots: ■ Slot 1 is full-height, 3/4 length, x16, NCSI, single wide GPU ■ Slot 2 is full-height, full-length, x16, no NCSI, single/double wide GPU	**6**	VGA display port (DB15 connector)
2	There are two Riser 2 options: **Riser 2A (I/O-centric, Gen 4, CPU2 control)** Supports three Gen 4 PCIe slots: ■ Slot 4 is full-height, 3/4 length, x8, NCSI, single wide GPU ■ Slot 5 is full-height, full-length, x16, NCSI, single/double wide GPU ■ Slot 6 is full-height, full length, x8, no NCSI, single wide GPU **Riser 2C (I/O-centric, Gen 5, CPU2 control)** Supports two Gen 5 PCIe slots: ■ Slot 4 is full-height, 3/4 length, x16, NCSI, single wide GPU ■ Slot 5 is full-height, full-length, x16, no NCSI, single/double wide GPU	**7**	COM port (RJ45 connector)
3	There are three Riser 3 options **Riser 3A (I/O-centric, CPU2 control)** Supports two PCIe slots: ■ Slot 7 is full-height, full-length, x8, no NCSI, no GPU ■ Slot 8 is full-height, full-length, x8, no NCSI, no GPU **Riser 3B (storage-centric, CPU2 control)** Supports two drive bays: ■ Drive bay 104, x4, NVMe ■ Drive bay 103, x4, NVMe **Riser 3C (for GPU, CPU2 control)** Supports one PCIe Slot: ■ Slot 7 is one full-height, full-length, x16, no NCSI, double wide GPU ■ Slot 8 is blocked by double wide GPU (not used) **Riser 3D (storage-centric, CPU2 control)** Supports two drive bays: ■ Drive bay 105, x4, NVMe ■ Drive bay 106, x4, NVMe	**8**	1 GbE dedicated Ethernet management port
4	Modular LAN-on-motherboard (mLOM)/OCP 3.0 card slot (x16)	**9**	USB 3.0 ports (two)
5	System ID pushbutton/LED	**10**	Power supplies (two)

BASE SERVER STANDARD CAPABILITIES and FEATURES

Table 1 lists the capabilities and features of the base server. Details about how to configure the server for a particular feature or capability (for example, number of processors, disk drives, or amount of memory) are provided in **CONFIGURING the SERVER, page 9**.

Table 1 Capabilities and Features

Capability/ Feature	Description
Chassis	Two rack unit (2RU) chassis
CPU	■ One or two AMD EPYC™ 97x4, 9004 Series, and 9004 Series with 3D V-Cache™ Technology Processors **or** ■ One or two AMD EPYC™ 9005 Series Processors
Memory	24 slots for registered DIMMs (RDIMMs)
Multi-bit Error Protection	This server supports multi-bit error protection.
Video	The Cisco Integrated Management Controller (CIMC) provides video using the Matrox G200e video/graphics controller: ■ Integrated 2D graphics core with hardware acceleration ■ Embedded DDR memory interface supports up to 512 MB of addressable memory (8 MB is allocated by default to video memory) ■ Supports display resolutions up to 1920 x 1200 16bpp @ 60Hz ■ High-speed integrated 24-bit RAMDAC ■ Single lane PCI-Express host interface running at Gen 1 speed
Power subsystem	Up to two of the following hot-swappable power supplies: ■ 1050 W (DC) ■ 1200 W (AC) ■ 1600 W (AC) ■ 2300 W (AC) One power supply is mandatory; one more can be added for 1 + 1 redundancy.
Front Panel	A front panel controller provides status indications and control buttons.
ACPI	This server supports the advanced configuration and power interface (ACPI) version 6.3
Fans	Six hot-swappable fans for front-to-rear cooling
Infiniband	The InfiniBand architecture is supported by the PCIe slots.
Expansion slots	■ Riser 1A (three Gen 4 PCIe slots) ■ Riser 1B (two drive bays) ■ Riser 1C (two Gen 5 PCIe slots) ■ Riser 2A (three Gen 4 PCIe slots) ■ Riser 2C (two Gen 5 PCIe slots) ■ Riser 3A (two Gen 4 PCIe slots) ■ Riser 3B (two drive bays) ■ Riser 3C (one full-length, double-wide GPU) ■ Riser 3D (two drive bays) For more details on the variations of riser 1, riser 2, and riser 3, see **Riser Card Configurations and Options, page 37**.

Capability/ Feature	Description
Interfaces	■ Rear panel • One 1Gbase-T RJ-45 management port • One RS-232 serial port (RJ45 connector) • One DB15 VGA connector • Two USB 3.0 port connectors • One flexible modular LAN on motherboard (mLOM)/OCP 3.0 slot that can accommodate various interface cards. ■ Front panel • One KVM console connector (supplies two USB 2.0 connectors, one VGA DB15 video connector, and one serial port (RS232) RJ45 connector)
Internal storage devices	■ Up to 4 front facing NVMe SSDs ■ Optionally, up to 4 SFF rear-facing NVMe drives
	Other storage: ■ A mini-storage module connector on the motherboard supports a boot-optimized RAID controller carrier that holds up to two SATA M.2 SSDs. Mixing different capacity SATA M.2 SSDs is not supported. ■ 8GB FlexMMC utility storage for staging of firmware and other user data. 8GB FlexMMC storage is built into the motherboard on M8
Integrated management processor	Baseboard Management Controller (BMC) running Cisco Integrated Management Controller (CIMC) firmware. Depending on your CIMC settings, the CIMC can be accessed through the 1GE dedicated management port or a Cisco virtual interface card (VIC). CIMC manages certain components within the server, such as the Cisco 12G SAS HBA.
Modular LAN on Motherboard (mLOM)/Open Compute Project (OCP) 3.0 slot	The dedicated mLOM/OCP 3.0 slot on the motherboard can flexibly accommodate the following cards: ■ Cisco Virtual Interface Cards ■ OCP 3.0 network interface card
Fabric Interconnect	Compatible with the Cisco UCS 6454, 64108 and 6536 fabric interconnects
UCSM	UCS Manager (UCSM) 4.3(2) or later runs in the Fabric Interconnect and automatically discovers and provisions some of the server components.
Intersight	Intersight provides server management capabilities
CIMC	Cisco Integrated Management Controller 4.3(1) or later
Firmware standards	■ UEFI Spec **2.9** ■ ACPI **6.5** ■ SMBIOS Ver **3.6**

CONFIGURING the SERVER

Follow these steps to configure the Cisco Compute Hyperconverged HCIVS245C M8 All-NVMe vSAN ReadyNoder:

STEP 1 VERIFY SERVER SKU

Top level ordering product ID (PID) is shown in *Table 2*

Table 2 Top level ordering PID (major line bundle)

Product ID (PID)	Description
HCI-M8-VSAN-MLB	Cisco Compute Hyperconverged M8 with vSAN MLB

Select server product ID (PID) from *Table 3*.

CAUTION: This products may not be purchased outside of the approved bundles. (must be ordered under the MLB)

Table 3 PID of the Cisco Compute Hyperconverged HCIVS245C M8 All-NVMe vSAN ReadyNode

Product ID (PID)	Description
HCIVS245C-M8SN	Cisco Compute Hyperconverged HCI 245cM8 vSAN Node

The Cisco Compute Hyperconverged HCIVS245C M8 All-NVMe vSAN ReadyNode:

- Includes a 24-drive backplane
- Does not include power supply, CPU, memory DIMMs, hard disk drives (HDDs), solid-state drives (SSDs), NVMe drives, SD cards, riser 1, riser 2, riser 3, tool-less rail kit, or option cards.

NOTE: Use the steps on the following pages to configure the server with the components that you want to include.

STEP 2 AI INTENT (OPTIONAL)

Select AI Intent

The available AI Intent options are listed in *Table 4*.

Table 4 AI Intent

Product ID (PID)	Description
COMPUTE-AI	Compute Artificial Intelligence Use Case
COMPUTE-OTHER	Compute Other Use Case

STEP 3 SELECT MANAGMENT MODE (REQUIRED)

- The available management modes are listed in *Table 5*.

Table 5 Management Modes

Product ID (PID)	Description
IMM-MANAGED	Deployment mode for UCS FI connected Servers in IMM mode
UMM-MANAGED	Deployment mode for UCS FI connected Servers in UCSM mode
ISM-MANAGED	Deployment mode for C Series Servers in Standalone mode

NOTE: Cisco UCS M8 servers are the last generation to support UCS Manager (UCSM). Any customers choosing to use UCSM with M8 servers should proactively plan to transition to IMM by 2027.

STEP 4 SELECT RISER CARDS (REQUIRED)

Select desired risers from *Table 6*.

CAUTION:

- Mixing storage riser and I/O Risers are not allowed with the exception of Riser 2
- Mixing Gen 4 and Gen 5 Risers are not allowed with the exception of Riser 3.

Table 6 PIDs of the Risers

Product ID (PID)	Description
Option 1	
UCSC-RIS1A-240-D (I/O riser, Gen 4)	UCS C-Series M8 Riser1A; (x8;x16x, x8); StBkt; (CPU1) **(Gen4)** ■ Slot 1 is full-height, 3/4 length, x8, Supports NCSI and single wide GPU ■ Slot 2 is full-height, full-length, x16, Supports NCSI and single/double wide GPU ■ Slot 3 is full-height, full-length, x8, Supports single wide GPU **Note:** This riser can only be select with UCSC-RIS2A-240-D, UCSC-RIS3A-240-D, UCSC-RIS3C-240-D.
UCSC-RIS1B-245M8 (storage riser)	UCS C-Series M8 2U Riser 1B support rear SAS & NVMe Drives ■ Slot 1 is reserved ■ Drive bay 102, x4, Supports NVMe drives ■ Drive bay 101, x4, Supports NVMe drives **Note:** UCSC-RIS2A-240-D, UCSC-RIS2C-245M8, and UCSC-RIS3B-245M8.
UCSC-RIS1C-245M8 (I/O riser, Gen 5)	UCS C-Series M8 2U Riser 1C PCIe Gen5 (2x16) ■ Slot 1 is full-height, 3/4 length, x16, Supports NCSI and single wide GPU ■ Slot 2 is full-height, full-length, x16, supports single/double wide GPU **Note:** If Selected can only select with UCSC-RIS2C-245M8, UCSC-RIS3A-240-D, UCSC-RIS3C-240-D.
Option 2	
UCSC-RIS2A-240-D (I/O riser, Gen 4)	C245 M8 Riser2A; (x8;x16;x8);StBkt; (CPU2) ■ Slot 4 is full-height, 3/4 length, x8, Supports NCSI and single wide GPU ■ Slot 5 is full-height, full-length, x16, Supports NCSI and single/double wide GPU ■ Slot 6 is full-height, full length, x8, Supports single wide GPU
UCSC-RIS2C-245M8 (I/O riser, Gen 5)	UCS C-Series M8 2U Riser 2C PCIe Gen5 (2x16); (CPU2) ■ Slot 4 is full-height, 3/4 length, x16, Supports NCSI and single wide GPU ■ Slot 5 is full-height, full-length, x16, Supports single/double wide GPU

Table 6 PIDs of the Risers

Product ID (PID)	Description
Option 3 (2-CPU must be selected)	
UCSC-RIS3A-240-D (I/O riser, Gen 4)	C245 M8 Riser3A (x8;x8); StBkt; (CPU2) (GEN4) ■ Slot 7 is full-height, full-length, x8 ■ Slot 8 is full-height, full-length, x8
UCSC-RIS3B-245M8 (storage riser, Gen 4)	UCS C-Series M8 2U Riser 3B support rear SAS & NVMe Drives (GEN 4) ■ Drive bay 104, x4, NVMe drives ■ Drive bay 103, x4, NVMe drives
UCSC-RIS3C-240-D (GPU riser)	C245 M8 Riser 3C (GEN4) ■ Slot 7 is one full-height, full-length, x16, Supports double wide GPU ■ Slot 8 is blocked by double wide GPU (not used)
UCSC-RIS3D-245M8 (storage riser, Gen 4)	UCS C-series M8 2U C245 Riser 3D (GEN 4) ■ Drive bay x4, NVMe drives ■ Drive bay x4, NVMe drives
NOTE: Please note, if you are adding additional risers and raid controller later, you may need to order the accessories with it.	

NOTE:

- For additional details on riser cards, see **Riser Card Configurations and Options, page 37**.
- For GPU support on a particular riser slot, see **Table 12 on page 25**.

STEP 5 SELECT CPU(s)

- 5th Gen. AMD EPYC™ processors highlights are:
  - CPU-to-CPU communication using Infinity Fabric Interconnect
  - Cache size of up to 512 MB
  - Up to 160 cores
  - Power: Up to 400Watts

Select CPUs

- The available 5th Gen. AMD EPYC™ processors are listed in *Table 7*.

CAUTION:

- For systems configured with processors operating above 28° C [82.4° F], a fan fault or executing workloads with extensive use of heavy instructions sets may assert thermal and/or performance faults with an associated event recorded in the System Event Log (SEL).
- The power for the selected CPU is capped at 320W when ordered with GPUs exceeding 75W.

Table 7 Available 5th Gen. AMD EPYC™ CPUs

Product ID (PID)[1]	Maximum Socket	Core	CPU Base Frequency	CPU Boost Frequency	Default TDP	Cache Size	Highest DDR5 DIMM Clock
	(S)	(C)	(GHz)	(GHz)	(W)	(MB)	(MT/s)[2]
5th Gen EPYC 9005 Series Processors							
UCS-CPU-A9845	2S	160	2.10	3.70	390	320	6000
UCS-CPU-A9825	2S	144	2.20	3.70	390	384	6000
UCS-CPU-A9745	2S	128	2.40	3.70	400	256	6000
UCS-CPU-A9655	2S	96	2.60	4.50	400	384	6000
UCS-CPU-A9645	2S	96	2.30	3.70	320	256	6000
UCS-CPU-A9565	2S	72	3.15	4.30	400	384	6000
UCS-CPU-A9555	2S	64	3.20	4.40	360	256	6000
UCS-CPU-A9535	2S	64	2.40	4.30	300	256	6000
UCS-CPU-A9455	2S	48	3.15	4.40	300	256	6000
UCS-CPU-A9365	2S	36	3.40	4.30	300	192	6000
UCS-CPU-A9355	2S	32	3.55	4.40	280	256	6000
UCS-CPU-A9335	2S	32	3.00	4.40	210	128	6000
UCS-CPU-A9255	2S	24	3.20	4.30	200	128	6000
UCS-CPU-A9135	2S	16	3.65	4.30	200	64	6000
UCS-CPU-A9115	2S	16	2.60	4.10	125	64	6000
UCS-CPU-A9015	2S	8	3.60	4.10	125	64	6000

Table 7 Available 5th Gen. AMD EPYC™ CPUs

Product ID (PID)[1]	Maximum Socket	Core	CPU Base Frequency	CPU Boost Frequency	Default TDP	Cache Size	Highest DDR5 DIMM Clock
	(S)	(C)	(GHz)	(GHz)	(W)	(MB)	(MT/s)[2]
UCS-CPU-A9575F	2S	64	3.30	5.00	400	256	6000
UCS-CPU-A9475F	2S	48	3.65	4.80	400	256	6000
UCS-CPU-A9375F	2S	32	3.80	4.80	320	256	6000
UCS-CPU-A9275F	2S	24	4.10	4.80	320	256	6000
UCS-CPU-A9175F	2S	16	4.20	5.00	320	512	6000
UCS-CPU-A9655P	1S	96	2.60	4.50	400	384	6000
UCS-CPU-A9555P	1S	64	3.20	4.40	360	256	6000
UCS-CPU-A9455P	1S	48	3.15	4.40	300	256	6000
UCS-CPU-A9355P	1S	32	3.55	4.40	280	256	6000

Notes:

1. Any CPU PID ending in “P” cannot be used in a 2-CPU system. They can only be used in a 1-CPU system.
2. If higher or lower speed DIMMs are selected than what is shown in **Table 9 on page 19** for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock.

Approved Configurations

- For 1-CPU systems, select one CPU from **Table 7 on page 15**
- For 2-CPU systems, select two identical CPUs from **Table 7 on page 15**

NOTE:

- You cannot have two CPUs ending in a “P” suffix in a two-CPU configuration.
- If you configure a server with one CPU with a “P” suffix, you cannot later upgrade to a 2-CPU system with two of these CPUs.

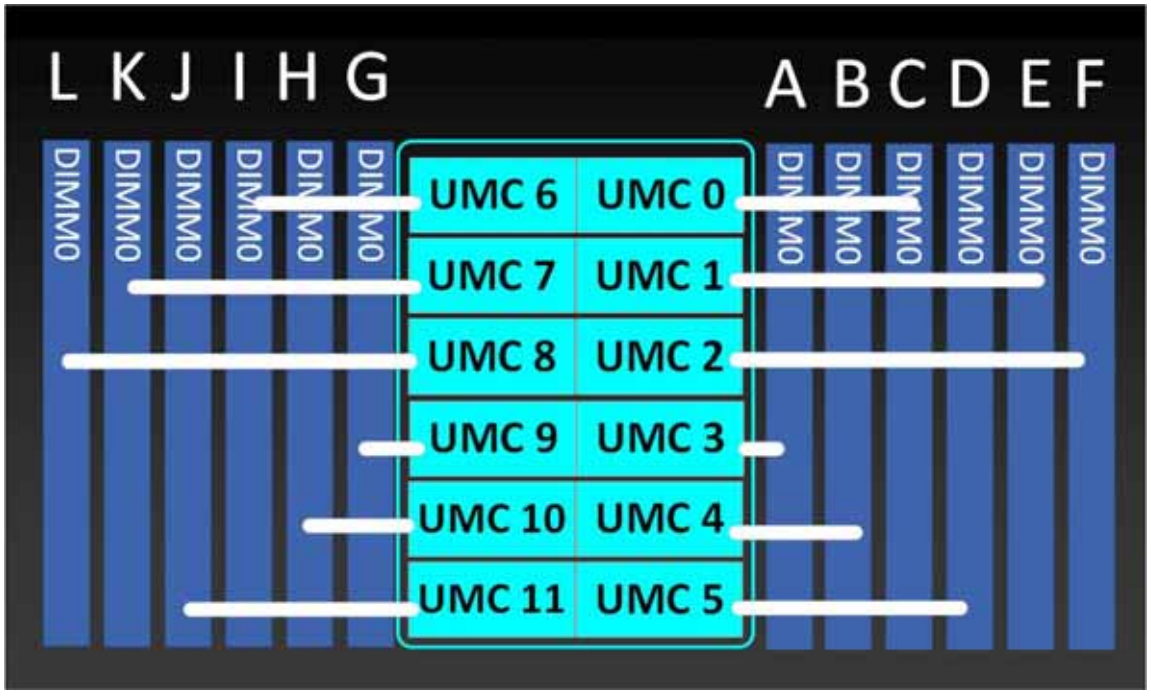
STEP 6 SELECT MEMORY

The *Table 8* below describes the main memory DIMM features supported on Cisco Compute Hyperconverged HCIVS245C M8 All-NVMe vSAN ReadyNode.

Table 8 C245 M8 Main Memory Features

Memory DIMM server technologies	Description
DDR5 memory clock speed	5th Gen. AMD EPYC™ CPUs: Up to 6000 MT/s 1DPC
Operational voltage	1.1 Volts
DRAM fab density	16Gb, 24Gb, and 32Gb
DRAM DIMM type	RDIMM (Registered DDR5 DIMM)
Memory DIMM organization	Twelve memory DIMM channels per CPU; 1 DIMM per channel only
Maximum number of DRAM DIMM per server	Up to 24 (2-Socket)
DRAM DIMM Densities and Ranks	16GB 1Rx8, 32GB 1Rx4, 48GB 1Rx4, 64GB 2Rx4, 96GB 2Rx4, 128GB 4Rx4, 128GB (32Gb) 2Rx4, 256GB 8Rx4
Maximum system capacity (DRAM DIMMs only)	6TB (24x256GB)

Figure 4 12-Channel Memory Organization



Select DIMMs

The supported memory DIMMs are listed in *Table 9*.

NOTE:

- When paired with 5th Gen. AMD EPYC™ CPUs, all memory DIMMs must be Cisco DDR5-6400 memory PIDs, although the memory will operate at the maximum speed of the 5th Gen. AMD EPYC™ CPUs memory controller, up to 6000 MT/s.

CAUTION: On C245 M8, when 256GB DIMMs are configured in the C245 server, ambient temperature is limited to a maximum 30°C. 256GB DIMMs cannot be used in systems with GPUs > 75 Watts.

Table 9 Available DDR5 DIMMs for 5th Gen. AMD EPYC™ CPUs

Product ID (PID)	PID Description	Ranks/DIMM
DDR5-6400 MT/s PIDs list[1]		
UCS-MR256G4RG5	256GB DDR5-6400 RDIMM 4Rx4 (32Gb)	4
UCS-MR128G2RG5	128GB DDR5-6400 RDIMM 2Rx4 (32Gb)	2
UCS-MRX96G2RF5	96GB DDR5-6400 RDIMM 2Rx4 (24Gb)	2
UCS-MRX64G2RE5	64GB DDR5-6400 RDIMM 2Rx4 (16Gb)	2
UCS-MRX48G1RF5	48GB DDR5-6400 RDIMM 1Rx4 (24Gb)	1
UCS-MRX32G1RE5	32GB DDR5-6400 RDIMM 1Rx4 (16Gb)	1
UCS-MRX16G1RE5	16GB DDR5-6400 RDIMM 1Rx8 (16Gb)	1
DIMM Blank[2]		
UCS-DIMM-BLK	UCS DIMM Blank	

Notes:

1. If higher or lower speed DIMMs are selected than for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock. check the *Table 7* column "**Highest DDR5 DIMM Clock Support**"
2. Any empty DIMM slot must be populated with a DIMM blank to maintain proper cooling airflow.

Memory configurations and mixing rules

GOLDEN RULE: Memory on every CPU socket shall be configured identically. Therefore, the memory configuration of CPU-1 will be identical to CPU-2 for a 2-Socket system. Unbalanced populations are unsupported.

- System speed is dependent on the CPU DIMM speed support. Refer to **Available 5th Gen. AMD EPYC™ CPUs, page 15** for DIMM speeds.
- For full details on supported memory configurations see the **M8 Memory Guide.**

STEP 7 SELECT DRIVES (REQUIRED)

The standard drive features are:

- 2.5-inch small form factor
- Hot-pluggable
- Drives come mounted in sleds

Select Drives

The available NVMe SSDs drives are listed in *Table 10*

CAUTION: Cisco uses solid state drives (SSDs) from a number of vendors. All solid state drives (SSDs) are subject to physical write limits and have varying maximum usage limitation specifications set by the manufacturer. Cisco will not replace any solid state drives (SSDs) that have exceeded any maximum usage specifications set by Cisco or the manufacturer, as determined solely by Cisco.

Table 10 Available U.3 NVMe drives

Product ID (PID)	PID Description	Drive Type	Capacity
Capacity Drive			
UCS-NVMEG4-M1600D	1.6TB 2.5in U.3 15mm P7450 Hg Perf Hg End NVMe (3X)	NVMe	1.6 TB
UCS-NVMEG4-M1920D	1.9TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	NVMe	1.9 TB
UCS-NVMEG4-M3840D	3.8TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	NVMe	3.8 TB
UCS-NVMEG4-M7680D	7.6TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	NVMe	7.6 TB
UCS-NVMEG4-M1536D	15.3TB 2.5in U.3 15mm P7450 Hg Perf Med End NVMe	NVMe	15.3 TB
UCS-NVMEG4-M3200D	3.2TB 2.5in U.3 15mm Micron P7450 Hg Perf Hg End NVMe (3X)	NVMe	3.2 TB
UCS-NVMEG4-M6400D	6.4TB 2.5in U.3 15mm Micron P7450 Hg Perf Hg End NVMe (3X)	NVMe	6.4 TB
Boot Drive			
HCI-M2-480G	480GB M.2 SATA SSD	SATA	480GB
HCI-M2480OA1V	480GB M.2 Boot Solidigm S4520 SATA 1X SSD	SATA	480GB
M.2 Raid controller (Internal)			
HCI-M2-HWRAID2	Cisco Boot optimized M.2 Raid controller for SATA drives		

Approved Configurations

- Two to eight capacity drives
- Two boot drives with M.2 Raid controller

NOTE:

- Dual M.2 SATA SSD with the HW RAID controller is the only supported boot configuration for this solution.
- It is recommended that M.2 SATA SSDs be used as boot-only devices.
- Order one or two identical M.2 SATA SSDs for the boot optimized RAID controller
- You cannot mix M.2 SATA SSD capacities.
- The SATA M.2 drives can boot in UEFI mode only. Legacy boot mode is not supported.
- CIMC is supported for configuring of volumes and monitoring of the controller and installed SATA M.2 drives

STEP 8 SELECT OPTION CARD(s)

For up-to-date server compatibility, please check the Hardware and Software compatibility list (HCL) at https://ucshcltool.cloudapps.cisco.com/public/.

The standard card offerings are:

- Modular LAN on Motherboard (mLOM)
- Virtual Interface Cards (VICs)
- Network Interface Cards (NICs)

Select Option Cards

The available option cards are listed in *Table 11*

Table 11 Available Option Cards

Product ID (PID)	PID Description	Location	Card Size[1]
Modular LAN on Motherboard (mLOM)/OCP			
UCSC-M-V5Q50GV2-D	Cisco UCS VIC 15427 Quad Port CNA MLOM with Secure Boot	mLOM	HHHL, SS
UCSC-M-V5D200GV2D	Cisco VIC 15237 2x 40/100/200G mLOM C-Series w/Secure Boot	mLOM	HHHL, SS
Virtual Interface Card (VICs)			
UCSC-P-V5Q50G-D	Cisco UCS VIC 15425 Quad Port 10/25/50G CNA PCIE	Riser 1 or 2	HHHL, SS
UCSC-P-V5D200G-D	Cisco UCS VIC 15235 Dual Port 40/100/200G CNA PCIE	Riser 1 or 2	HHHL, SS
Network Interface Cards (NICs)			
25 GbE NICs			
UCSC-P-I8D25GF-D	Cisco-Intel E810XXVDA2 2x25/10 GbE SFP28 PCIe NIC	Riser 1, 2, or 3	HHHL, SS

Notes:

1. HHHL = half-height, half-length; HHHL = half-height, half-length; SS = single-slot; DS = double-slot

Caveats

- For 1-CPU systems:
  - All the PCIe slots on riser 1A and 1C are supported for the PCIe Cards.
  - Riser 2 and 3 are not supported in 1-CPU system.
  - Only a single plug-in PCIe VIC card may be installed on a 1-CPU system, and it must be installed in slots 1 or 2 of riser 1A or slot 1 of riser 1C.
  - You can order an mLOM VIC card to be installed in the mLOM/OCP 3.0 slot internal to the chassis and thus have two VIC cards in operation at the same time. If you order a double-width GPU, it must be installed in slot 2; then a PCIe VIC can be installed in slot 1. See the **Table 11 on page 22** for the selection of plug-in and mLOM/OCP 3.0 VIC cards.
- For 2-CPU systems:

- All the PCIe slots on riser 1, 2, and 3 are supported for the PCIe Cards.
- You can order an mLOM VIC card to be installed in the mLOM slot internal to the chassis.You can also have up to two PCIe VICs.
  - If Riser 1A an 2A are selected, two PCIe VIC can be installed in slot 2 of Riser 1A and slot 5 of Riser 2A. If GPUs are installed in slot 2 of riser 1A or slot 5 of riser 2A, the NCSI capability automatically switches over to slot 1 of riser 1A or slot 4 of Riser 2A. Therefore, Cisco PCIe VICs can be installed in slot 1 of Riser 1A and slot 4 of Riser 2A if GPUs are installed in slots 2 of Riser 1A and slot 5 of Riser 2A.
  - If Riser 1C and 2C are selected, two PCIe VIC and be installed in slot 1 of Riser 1C and slot 4 of Riser 2C.

See **Table 12 on page 25** for the selection of plug-in and mLOM VIC cards. See also **Server With Top Cover Off, page 35** and below table for the PCIe slot physical descriptions.

- The server supports up to two PCIe Cisco VICs plus an MLOM VIC. However, single wire management is supported on only one VIC at a time. If multiple VICs are installed on a server, only one slot has NCSI enabled at a time and for single wire management, priority goes to the MLOM slot, then slot 2 of riser 1A/slot 1 of riser 1C, then slot 5 of riser 2A/slot 4 of riser 2C for NCSI management traffic. When multiple cards are installed, connect the single wire management cables in the priority order mentioned above.
- For installation in the mLOM slot, you can order either an mLOM VIC, or the OCP NIC - but not both. If ordering the OCP NIC, the OCP Mechanical Kit (UCSC-OCP3-KIT) must also be installed in order to mount OCP NIC in the mLOM slot.

NOTE:

- UCSM managed servers are discoverable only if a PCIe VIC is installed or a VIC is installed in the MLOM slot.
- Select Cisco UCS Virtual Interface Cards incorporate VIC Secure Boot technology to ensure the integrity of the VIC hardware and firmware upon server boot. VIC Secure Boot is independent of server-level secure boot from Cisco, but both technologies contribute to the Cisco trust model ensuring customers' equipment is genuine and running validated firmware.
- To help ensure that your operating system is compatible with the card you have selected, or to see additional cards that have been qualified to work with the UCS C240 M7 server, but are not sold on the Cisco price list, check the **Hardware Compatibility List** link.

ORDER OPTIONAL PCIe OPTION CARD ACCESSORIES

- At the time of first launch, the 3rd Party Ethernet adapters were tested for interoperability with an initial selection of Optical Modules and Cables. Please check the Product Briefs for this initial list of interoperable optics and cables at https://www.cisco.com/c/en/us/products/servers-unified-computing/third-party-adapters-listing.html.
- For list of supported optics and cables for VIC 15428 and VIC 15238, refer to the VIC 15000 series data sheet at https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/unified-computing-system-adapters/ucs-vic-15000-series-ds.html
- Cisco Transceiver Module Group (TMG) conducts tests with Cisco optics and cables and publishes the results in the TMG Compatibility Matrix. The latest compatibility with optical modules and DACs can be found at https://tmgmatrix.cisco.com/
- Refer to the these links for additional connectivity options.

Intel:
Product Guide
Speed White Paper

STEP 9 ORDER GPU CARDS (OPTIONAL)

Select GPU Options

The available GPU PCIe options and their riser slot compatibilities are listed in *Table 12*.

CAUTION:

- 256GB DIMMs cannot be combined with GPU cards, and the ambient temperature shall be limited to a maximum of 28ºC.
- With multiple GPU >75W installed, normal operating temperature is 30º C [86º F], lowered to 25º C [77º F], with a fan fault.
- Power for the select CPU is limited to 320W when ordered with GPUs >75W

NOTE:

- GPUs cannot be mixed
- All GPU cards must be procured from Cisco as there is a unique SBIOS ID required by CIMC and UCSM
- If a GPU with TDP equal or greater than 150W is ordered, all the 3 risers are required, and GPU airblocker will be installed in the middle slot of any empty riser in the system.
- If GPUs are installed in slot 2 of riser 1A/1C or slot 5 of riser 2A/2C, the NCSI capability automatically switches over to slot 1 of riser 1A/1C or slot 4 of Riser 2A/2C. Therefore, Cisco PCIe VICs can be installed in slots 1 and 4, if GPUs are installed in slots 2 and 5. If you order multiple GPUs, they must be installed as shown in **Table 12 on page 25**.
- Please refer to **installation guide** for the installation of the GPUs.

Table 12 Available PCIe GPU Cards

GPU Product ID (PID)	PID Description	Card Size	Max GPU Per Node	Riser Slot Compatibility[1]			
				Riser 1A/1C	Riser 2A/2C	Riser 3C[2]	Riser 1B/3A/3B
UCSC-GPU-H100-NVL	NVIDIA H100: 400W, 92GB, 2-slot FHFL GPU	double -wide	2	slot 2 (Riser 1C Only)	slot 5 (Riser 2C Only)	n/a	n/a
UCSC-GPU-L40	NVIDIA L40: 300W, 48GB, 2-slot FHFL GPU	double -wide	3	slot 2	slot 5	slot 7	n/a
UCSC-GPU-L4[3]	NVIDIA L4:70W, 24GB, 1-slot HHHL GPU	Single-wide	8	All slots	All slots	slot 7	slot 7

Table 12 Available PCIe GPU Cards

GPU Product ID (PID)	PID Description	Card Size	Max GPU Per Node	Riser Slot Compatibility[1]			
UCSC-GPU-L40S[4]	NVIDIA L40S: 350W, 48GB, 2-slot FHFL GPU	double -wide	2	slot 2 (Riser 1C Only)	slot 5 (Riser 2C Only)	n/a	n/a
UCSC-GPU-A16-D	NVIDIA A16 PCIE 250W 4X16GB	double -wide	3	slot 2	slot 5	slot 7	n/a
UCSC-GPU-MI210	AMD Instinct MI210:300W, 64GB, 2-slot FHFL GPU	double -wide	3	slot 2	slot 5	slot 7	n/a

Accessories/spare included with GPU:

- When a GPU ready configuration is ordered, the server comes with low-profile heatsinks PID (UCSC-HSLP-C45M8), and special airblocker PID (UCSC-RISAB-245M8) for GPUs.
- Air duct (UCSC-GPUAD-C245M8) is **not** auto-included with the double wide GPUs, however it is required selection under configuration. For GPU UCSC-GPU-L4 **air duct is not** required.
- CBL-G5GPU-C240M7 power cable included with the selection of UCSC-GPU-L40S GPU.
- CBL-L40GPU-C240M7 Power cable included with the selection of UCSC-GPU-L40 GPU.
- UCS-P100CBL-240-D Power cable included with the selection of UCSC-GPU-MI210.

NOTE: If you are adding GPUs later to non-GPU ready configuration system, you may need to order the GPU airblocker on any empty risers in the system, GPU airduct, low profile heatsinks and cables needed along with the spare GPU.

Notes:

1. 1C and 2C are Gen 5 riser and 1A and 2A are Gen 4 riser.
2. The server supports one full-height, full-length, double-wide GPU (PCIe slot 7 only) in Riser 3C.
3. L4 is supported on all slots in PCIe risers. The maximum would be 8 when you have riser 1A+2A+3A and populate all 8 slots with L4. No cable is required.
4. Not supported with Gen4 riser

STEP 10 ORDER POWER SUPPLY

Power supplies share a common electrical and physical design that allows for hot-plug and tool-less installation into M6 C-series servers. Each power supply is certified for high-efficiency operation and offer multiple power output options. This allows users to “right-size” based on server configuration, which improves power efficiency, lower overall energy costs and avoid stranded capacity in the data center. Use the power calculator at the following link to determine the needed power based on the options chosen (CPUs, drives, memory, and so on):

http://ucspowercalc.cisco.com

WARNING:

- Starting 1st January 2024, only Titanium rated PSUs are allowed to be shipped to European Union (EU), European Economic Area (EEA), United Kingdom (UK), Switzerland and other countries that adopted Lot 9 Regulation.
- DC PSUs are not impacted by Lot 9 Regulation and are EU/UK Lot 9 compliant

Table 13 Power Supply

Product ID (PID)	PID Description
PSU (Input High Line 210VAC)	
UCSC-PSU1-1200W-D	1200W Titanium power supply for C-Series Servers
UCSC-PSUV21050D-D[1]	Cisco UCS 1050W -48V DC Power Supply for Rack Server
UCSC-PSU1-1600W-D	UCS 1600W AC PSU Platinum (Not EU/UK Lot 9 Compliant)
UCSC-PSU1-2300W-D	Cisco UCS 2300W AC Power Supply for Rack Servers Titanium
PSU (Input Low Line 110VAC)	
UCSC-PSU1-1600W-D	UCS 1600W AC PSU Platinum (Not EU/UK Lot 9 Compliant)
UCSC-PSU1-2300W-D	Cisco UCS 2300W AC Power Supply for Rack Servers Titanium

Notes:

1. If chosen, you must select from the available DC Power Cord PIDs.

NOTE: In a server with two power supplies, both power supplies must be identical.

STEP 11 SELECT INPUT POWER CORD(s)

Using *Table 14* and *Table 15*, select the appropriate AC power cords. You can select a minimum of no power cords and a maximum of two. If you select the option R2XX-DMYMPWRCORD, no power cord is shipped with the server.

NOTE: *Table 14* lists the power cords for servers that use power supplies less than 2300 W. *Table 15* lists the power cords for servers that use 2300 W power supplies. Note that the power cords for 2300 W power supplies use a C19 connector so they only fit the 2300 W power supply connector.

Table 14 Available Power Cords (for server PSUs less than 2300 W)

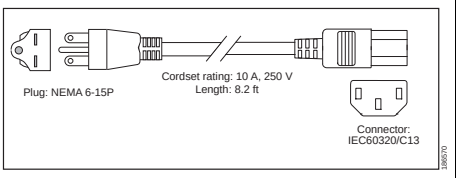
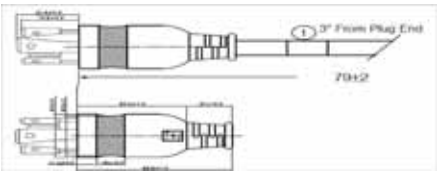
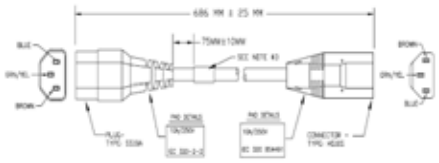
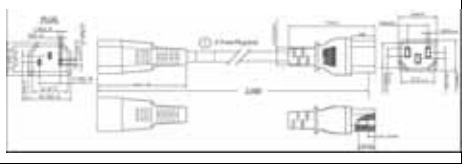
Product ID (PID)	PID Description	Images
NO-POWER-CORD	ECO friendly green option, no power cable will be shipped	
R2XX-DMYMPWRCORD	No power cord (dummy PID to allow for a no power cord option)	Not applicable
CAB-48DC-40A-8AWG	C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A	
CAB-N5K6A-NA	Power Cord, 200/240V 6A, North America	
CAB-AC-L620-C13	AC Power Cord, NEMA L6-20 - C13, 2M/6.5ft	
CAB-C13-CBN	CABASY,WIRE,JUMPER CORD, 27" L, C13/C14, 10A/250V	
CAB-C13-C14-2M	CABASY,WIRE,JUMPER CORD, PWR, 2 Meter, C13/C14,10A/250V	

Table 14 Available Power Cords (for server PSUs less than 2300 W)

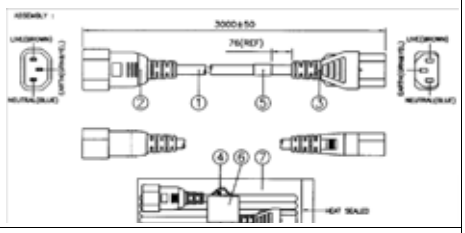
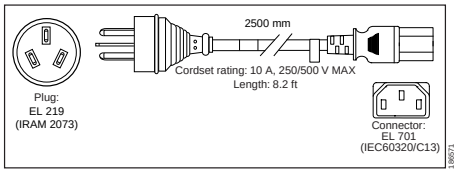
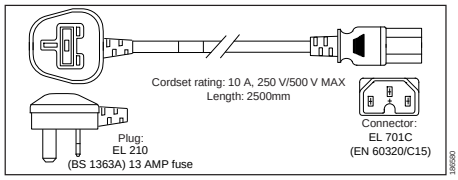
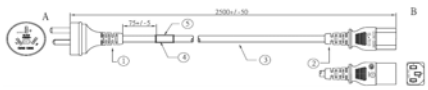
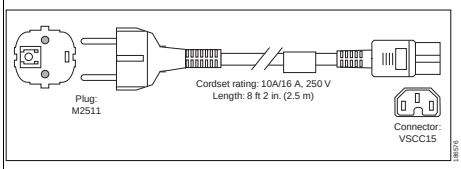
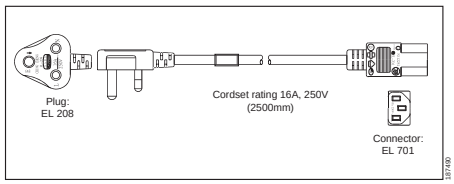
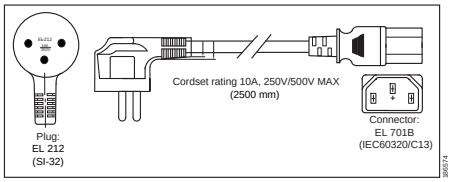
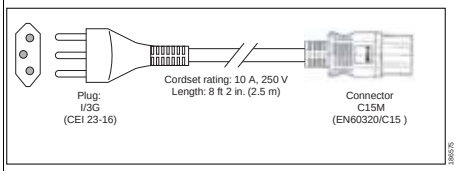
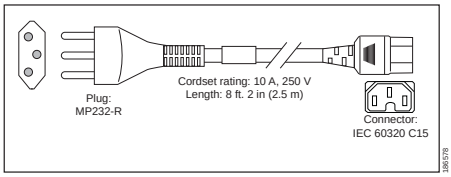
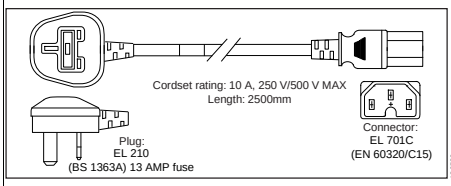
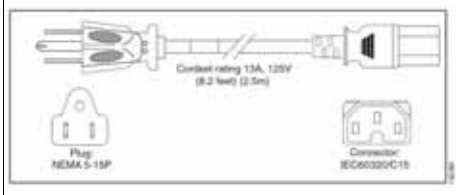
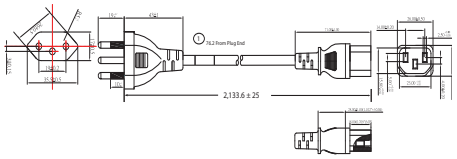
Product ID (PID)	PID Description	Images
CAB-C13-C14-AC	CORD,PWR,JMP,IEC60320/C14,IEC60320/C13, 3.0M	
CAB-250V-10A-AR	Power Cord, 250V, 10A, Argentina	
CAB-9K10A-AU	Power Cord, 250VAC 10A 3112 Plug, Australia	
CAB-250V-10A-CN	AC Power Cord - 250V, 10A - PRC	
CAB-9K10A-EU	Power Cord, 250VAC 10A CEE 7/7 Plug, EU	
CAB-250V-10A-ID	Power Cord, 250V, 10A, India	
CAB-C13-C14-3M-IN	Power Cord Jumper, C13-C14 Connectors, 3 Meter Length, India	Image not available
CAB-C13-C14-IN	Power Cord Jumper,C13-C14 Connectors,1.4 Meter Length, India	Image not available
CAB-250V-10A-IS	Power Cord, SFS, 250V, 10A, Israel	

Table 14 Available Power Cords (for server PSUs less than 2300 W)

Product ID (PID)	PID Description	Images
CAB-9K10A-IT	Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy	
CAB-9K10A-SW	Power Cord, 250VAC 10A MP232 Plug, Switzerland	
CAB-9K10A-UK	Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK	
CAB-9K12A-NA[1]	Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	
CAB-250V-10A-BR	Power Cord - 250V, 10A - Brazil	
CAB-C13-C14-2M-JP	Power Cord C13-C14, 2M/6.5ft Japan PSE mark	Image not available
CAB-9K10A-KOR[1]	Power Cord, 125VAC 13A KSC8305 Plug, Korea	Image not available
CAB-ACTW	AC Power Cord (Taiwan), C13, EL 302, 2.3M	Image not available
CAB-JPN-3PIN	Japan, 90-125VAC 12A NEMA 5-15 Plug, 2.4m	Image not available

Notes:

1. This power cord is rated to 125V and only supported for PSU rated at 1050W or less

Table 15 Available Power Cords (for servers with 2300 W PSUs)

Product ID (PID)	PID Description	Images
CAB-C19-CBN	Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors	Not applicable
CAB-S132-C19-ISRL	S132 to IEC-C19 14ft Israeli	Image not available
CAB-IR2073-C19-AR	IRSM 2073 to IEC-C19 14ft Argen	Image not available
CAB-BS1363-C19-UK	BS-1363 to IEC-C19 14ft UK	Image not available
CAB-SABS-C19-IND	SABS 164-1 to IEC-C19 India	Image not available
CAB-C2316-C19-IT	CEI 23-16 to IEC-C19 14ft Italy	Image not available
CAB-L520P-C19-US	NEMA L5-20 to IEC-C19 6ft US	Image not available
CAB-C14C19-10A-EU	Power Cord C14-C19 10A EU	Image is not available
CAB-US515P-C19-US	NEMA 5-15 to IEC-C19 13ft US	Image not available
CAB-US520-C19-US	NEMA 5-20 to IEC-C19 14ft US	Image not available
CAB-US620P-C19-US	NEMA 6-20 to IEC-C19 13ft US	Image not available

STEP 12 ORDER TOOL-LESS RAIL KIT AND OPTIONAL REVERSIBLE CABLE MANAGEMENT ARM

Select a Tool-less Rail Kit

Select a tool-less rail kit (or no rail kit) from *Table 16*.

Table 16 Tool-less Rail Kit Options

Product ID (PID)	PID Description
UCSC-RAIL-D	Ball Bearing Rail Kit for C225 & C245 M8 rack servers
UCSC-RAIL-NONE-D	No rail kit option

NOTE: Cisco recommends a minimum quantity of 1 Rail Kit.

Select an Optional Reversible Cable Management Arm

The reversible cable management arm mounts on either the right or left slide rails at the rear of the server and is used for cable management. Use *Table 17* to order a cable management arm.

Table 17 Cable Management Arm

Product ID (PID)	PID Description
UCSC-CMA-C240-D	Reversible CMA for C240 M8 ball bearing rail kit

For more information about the tool-less rail kit and cable management arm, see the *Cisco UCS C245 M8 Installation and Service Guide* at this URL:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c245m6/install/c245m6.html

NOTE: If you plan to rackmount your server, you must order a tool-less rail kit. The same rail kits and CMAs are used for M5 and M6 servers.

STEP 13 ORDER SECURITY DEVICES (OPTIONAL)

A Trusted Platform Module (TPM) is a computer chip (microcontroller) that can securely store artifacts used to authenticate the platform (server). These artifacts can include passwords, certificates, or encryption keys. A TPM can also be used to store platform measurements that help ensure that the platform remains trustworthy. Authentication (ensuring that the platform can prove that it is what it claims to be) and attestation (a process helping to prove that a platform is trustworthy and has not been breached) are necessary steps to ensure safer computing in all environments.

A chassis intrusion switch gives a notification of any unauthorized mechanical access into the server.

The security device ordering information is listed in *Table 18*

NOTE:

- The TPM module used in this system conforms to TPM v2.0, as defined by the Trusted Computing Group (TCG). It is also SPI-based.
- TPM installation is supported after-factory. However, a TPM installs with a one-way screw and cannot be replaced, upgraded, or moved to another server. If a server with a TPM is returned, the replacement server must be ordered with a new TPM.

Table 18 Security Devices

Product ID (PID)	PID Description
UCS-TPM2-002D-D	Trusted Platform Module2.0 FIPS 140-2 and Windows 22 compliant for AMD M8 servers
UCSX-TPM-OPT-OUT-D	OPT OUT, TPM 2.0, TCG, FIPS140-2, CC EAL4+ Certified[1]
UCSC-INT-SW02-D	C220, C240 M7 and C245 M8 Chassis Intrusion Switch

Notes:

1. Please note that Microsoft certification requires a TPM 2.0 for bare-metal or guest VM deployments. Opt-out of the TPM 2.0 voids the Microsoft certification

STEP 14 SELECT LOCKING SECURITY BEZEL (OPTIONAL)

An optional locking bezel can be mounted to the front of the chassis to prevent unauthorized access to the drives.

Select the locking bezel from *Table 19*.

Table 19 Locking Bezel Option

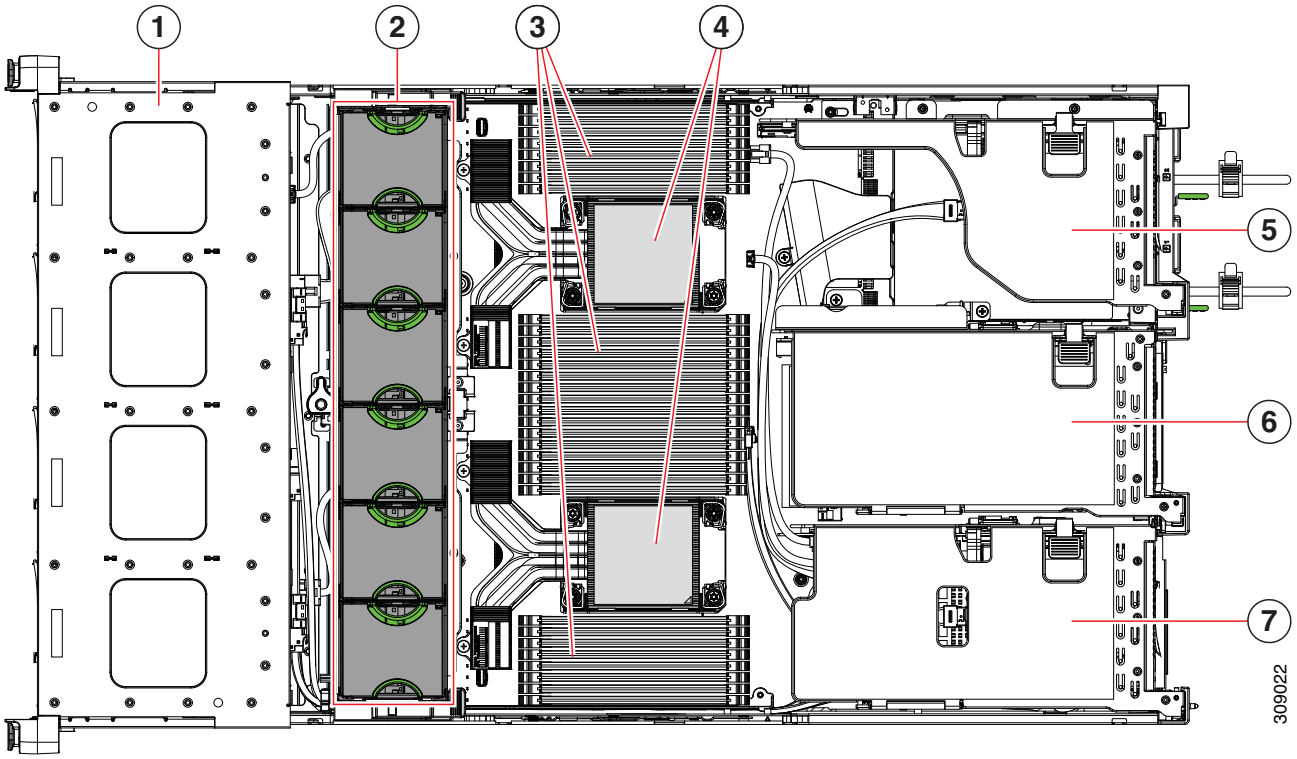
Product ID (PID)	Description
UCSC-BZL-C240-D	Security Bezel

SUPPLEMENTAL MATERIAL

Chassis

An internal view of the Server chassis with the top cover removed is shown in *Figure 5*.

Figure 5 Server With Top Cover Off



1	Front-loading drive bays.	**2**	Cooling fan modules (six, hot-swappable)
3	DIMM sockets on motherboard (12 per CPU) An air baffle rests on top of the DIMMs and CPUs when the server is operating. The air baffle is not displayed in this illustration.	**4**	CPU sockets CPU 2 is at the top and CPU 1 is at the bottom.

5	PCIe riser 3 (PCIe slots 7 and 8 numbered from bottom to top), with the following options: ■ 3A (I/O Option): **Slot 7** (x24 mechanical, x8 electrical) supports full height, full length GPU card **Slot 8** (x24 mechanical, x8 electrical) supports full height, full length GPU card ■ 3B (Storage Option): **Drive bay 103** (x4 electrical) supports 2.5-inch SFF universal HDD **Drive bay 104** (x4 electrical) supports 2.5-inch SFF universal HDD ■ 3C (GPU Option): **Slot 7** (x24 mechanical, x16 electrical) support a full height, full length, double-wide GPU card **Slot 8** empty (No NCSI support)	**6**	PCIe riser 2 (PCIe slots 4, 5, 6 numbered from bottom to top), with the following options: ■ 2A (I/O Option): **Slot 4** (x24 mechanical, x8 electrical) supports full height, ¾ length card; **Slot 5** (x24 mechanical, x16 electrical) supports full height, full length GPU card; **Slot 6** (x16 mechanical, x8 electrical) supports full height, full length card ■ 2C (I/O Option): **Slot 4** (x24 mechanical, x16 electrical) supports full height, ¾ length card; **Slot 5** (x16 mechanical, x16 electrical) supports full height, full length GPU card
7	PCIe riser 1 (PCIe slot 1, 2, 3 numbered bottom to top), with the following options: ■ 1A (I/O Option): **Slot 1** (x24 mechanical, x8 electrical) supports full height, ¾ length card; **Slot 2** (x24 mechanical, x16 electrical) supports full height, full length GPU card; **Slot 3** (x24 mechanical, x16 electrical) supports full height, full length card. ■ 1B (Storage Option): **Slot 1** is reserved; **Drive bay 101** (x4 electrical), supports 2.5-inch SFF universal HDD; **Drive bay 102** (x4 electrical), supports 2.5-inch SFF universal HDD ■ 1C (I/O Option): **Slot 1** (x24 mechanical, x16 electrical) supports full height, ¾ length card; **Slot 2** (x16 mechanical, x16 electrical) supports full height, full length GPU card.	**-**	

Riser Card Configurations and Options

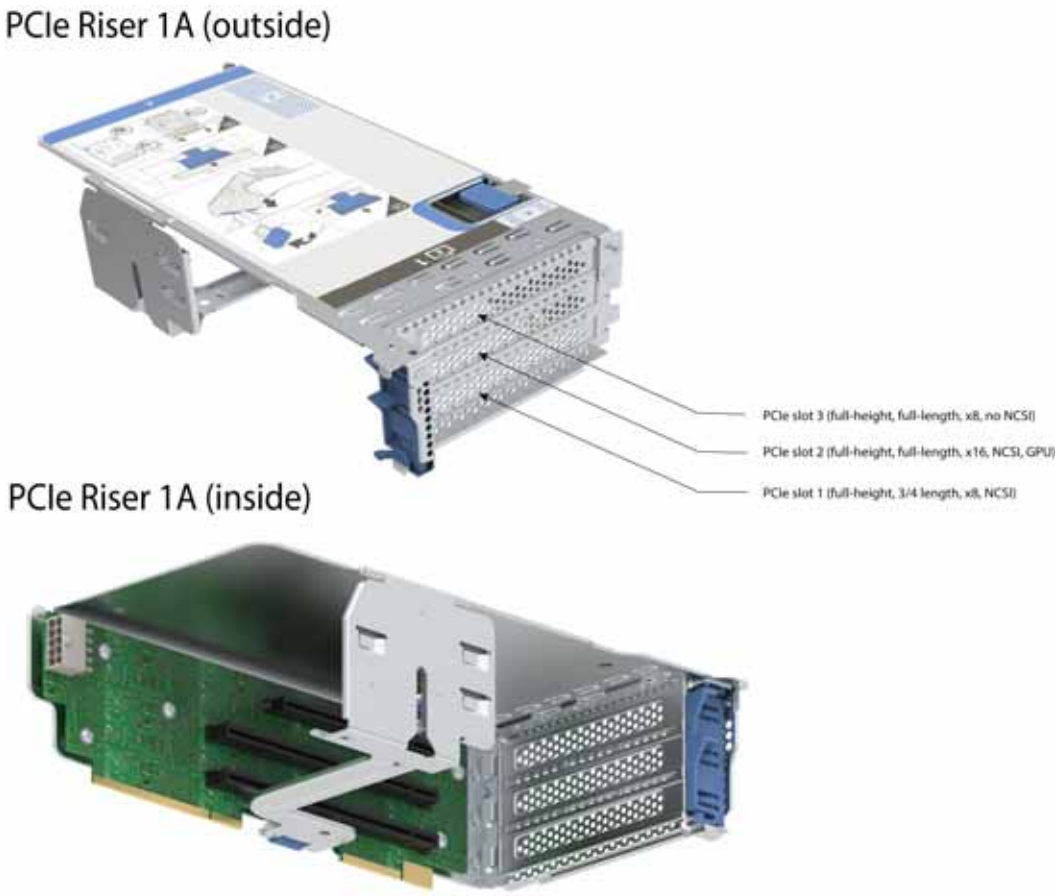
The riser card locations are shown in *Figure 6*.

Figure 6 Riser Card Locations

Riser 1A

Riser 1A mechanical information is shown in *Figure 7*.

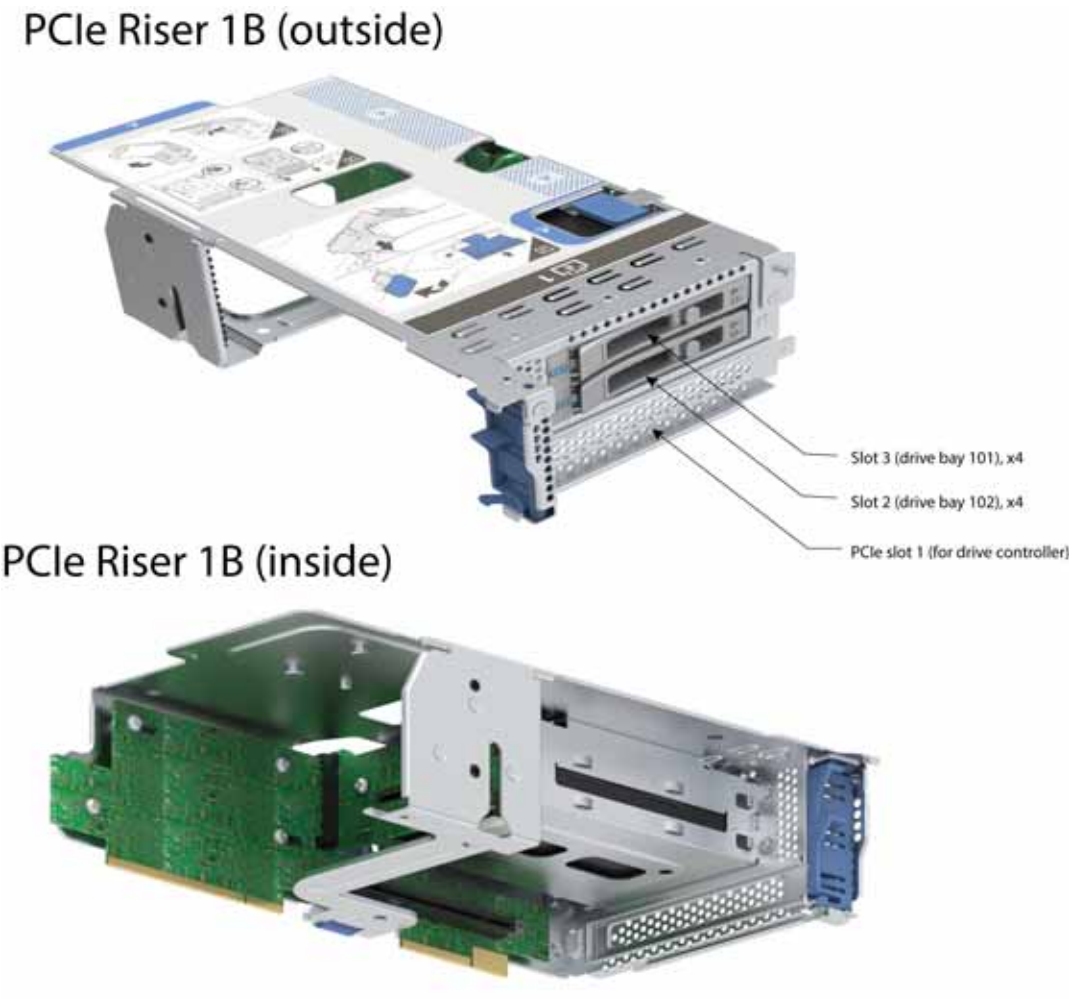
Figure 7 Riser Card 1A



Riser 1B

Riser 1B mechanical information is shown in *Figure 8*.

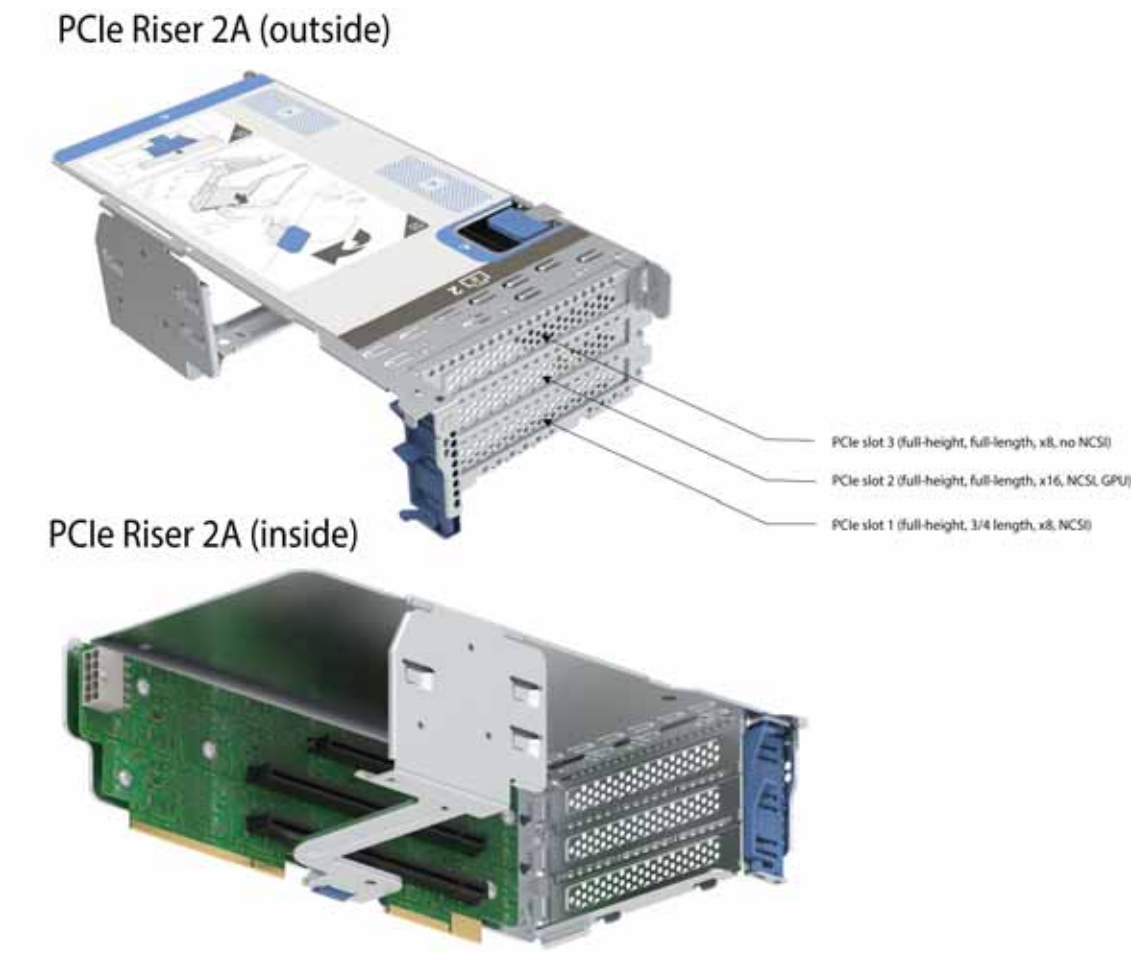
Figure 8 Riser Card 1B



Riser 2A

Riser 2A mechanical information is shown in *Figure 9*.

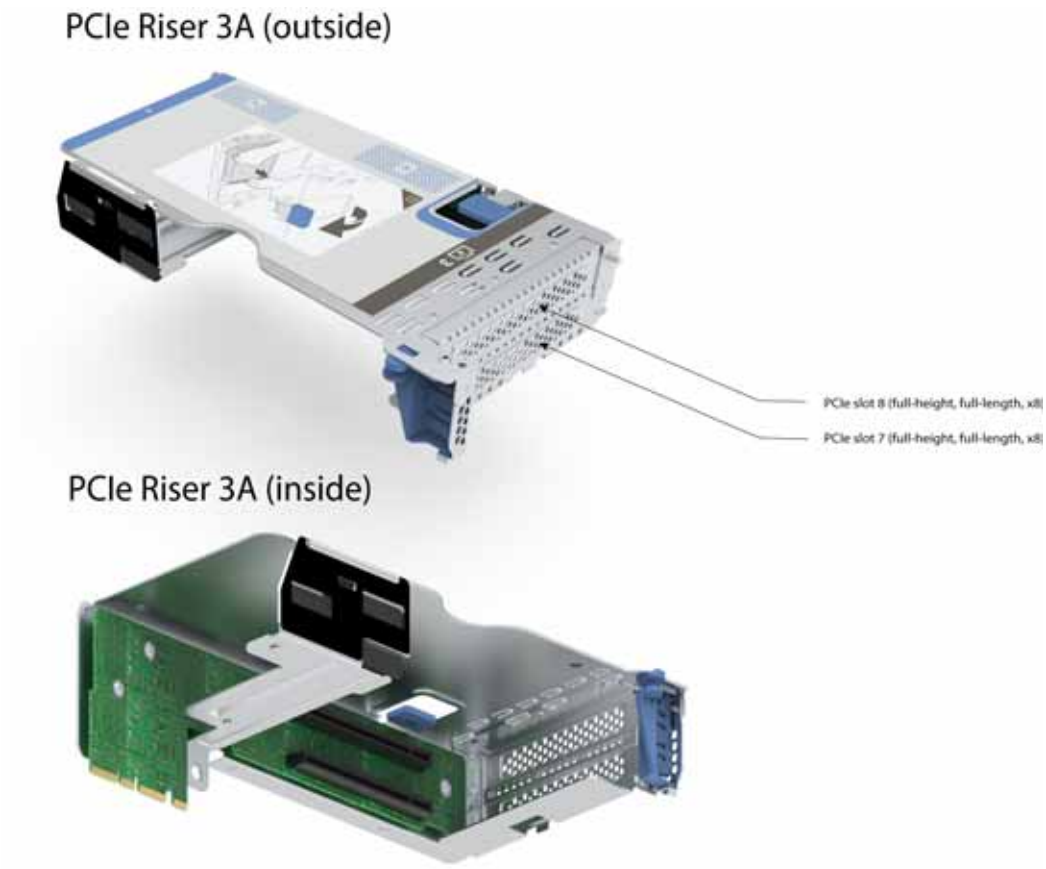
Figure 9 Riser Card 2A



Riser 3A

Riser 3A mechanical information is shown in *Figure 10*.

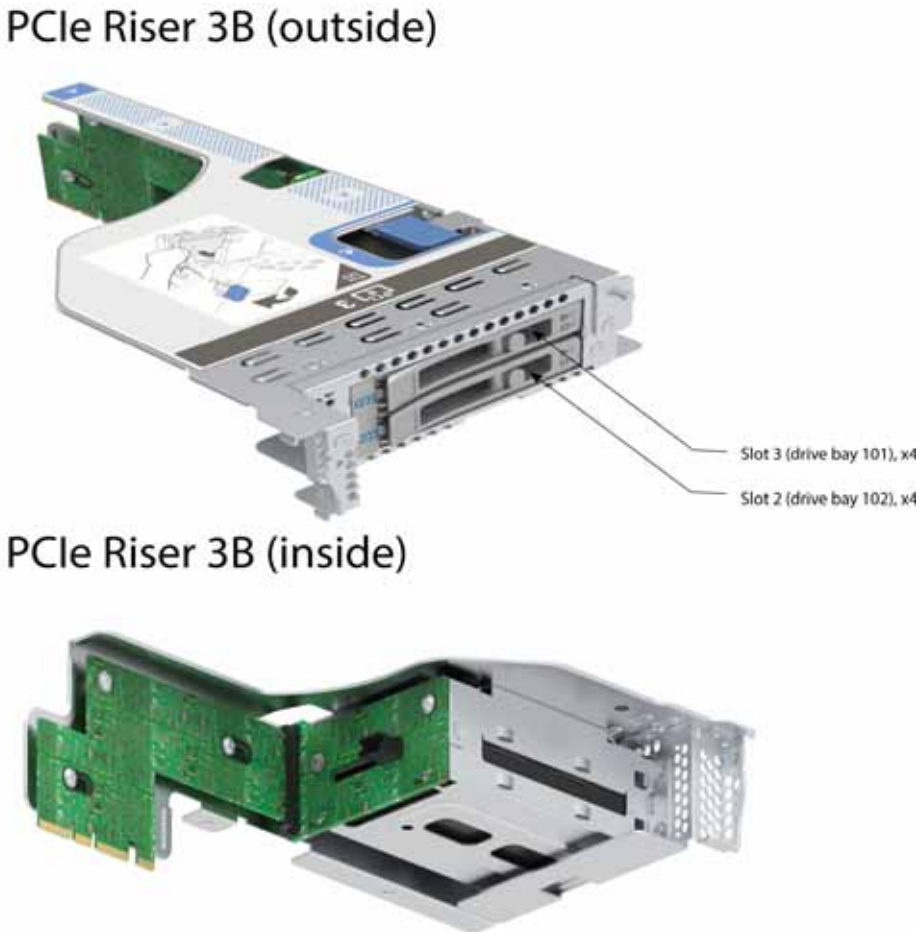
Figure 10 Riser Card 3A



Riser 3B

Riser 3B mechanical information is shown in *Figure 11*.

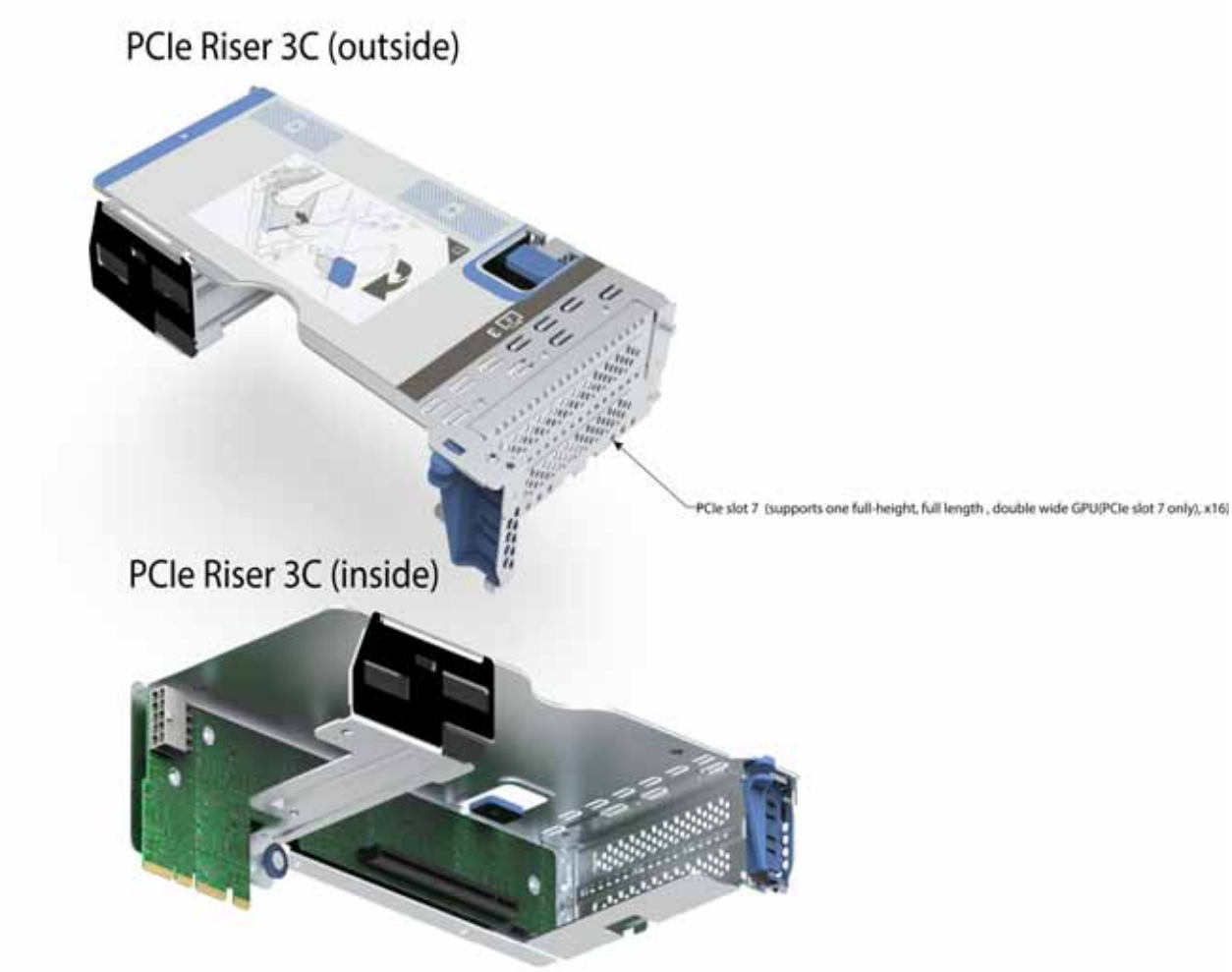
Figure 11 Riser Card 3B



Riser 3C

Riser 3C mechanical information is shown in *Figure 12*.

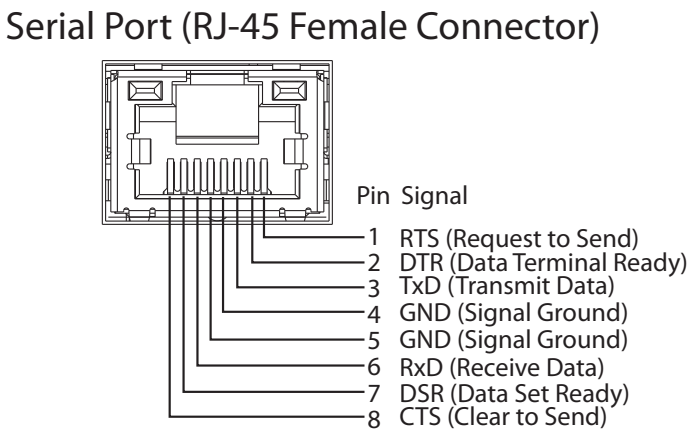
Figure 12 Riser Card 3C



Serial Port Details

The pinout details of the rear RJ-45 serial port connector are shown in *Figure 13*.

Figure 13 Serial Port (Female RJ-45 Connector) Pinout



KVM Cable

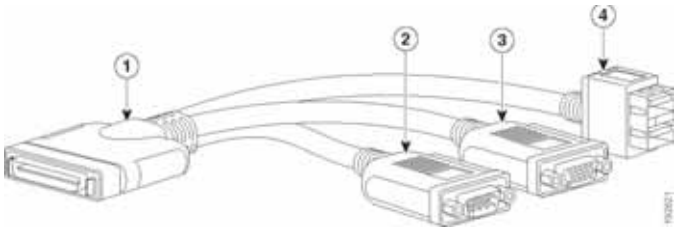
The KVM cable provides a connection into the server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB 2.0 ports for a keyboard and mouse. With this cable, you can create a direct connection to the operating system and the BIOS running on the server.

The KVM cable ordering information is listed in *Table 20*.

Table 20 KVM Cable

Product ID (PID)	PID Description
N20-BKVM	KVM cable for server console port

Figure 14 KVM Cable



1	Connector (to server front panel)	**3**	VGA connector (for a monitor)
2	DB-9 serial connector	**4**	Two-port USB 2.0 connector (for a mouse and keyboard)

TECHNICAL SPECIFICATIONS

Dimensions and Weight

Table 21 Dimensions and Weight

Parameter	Value
Height	3.42 in. (8.7 cm)
Width (Not including slam latches)	16.9 in.(42.9 cm)
Width (including slam latches)	18.9 in.(48.0 cm)
Depth	30 in. (76.2 cm)
Front Clearance	3 in. (76 mm)
Side Clearance	1 in. (25 mm)
Rear Clearance	6 in. (152 mm)
Weight	
Weight with following options and no rail kit: 0 HDD, 0 CPU, 0 DIMM, and 1 2400 W power supply	35.7 lbs (16.2 kg)
Weight with following options and including rail kit: 0 HDD, 0 CPU, 0 DIMM, and 1 2400 W power supply	44 lbs (20 kg)
Weight with following options and no rail kit: 1 HDD, 1 CPU, 1 DIMM, and 1 2400 W power supply	37.6 lbs (17 kg)
Weight with following options and including rail kit: 1 HDD, 1 CPU, 1 DIMM, and 1 2400 W power supply	45.9 lbs (20.8 kg)
Weight with following options and no rail kit: 8 HDDs, 2 CPUs, 32 DIMMs, and 2 2400 W power supplies	44.71 lbs (20.28 kg)
Weight with following options and including rail kit: 8 HDDs, 2 CPUs, 32 DIMMs, and 2 2400 W power supplies	49.2 lbs (22.32 kg)
Weight with following options and no rail kit: 0 HDD, 0 CPU, 0 DIMM, and 1 2400 W power supply	33.14 lbs (15 kg)
Weight with following options and including rail kit: 0 HDD, 0 CPU, 0 DIMM, and 1 2400 W power supply	41.45 lbs (18.8 kg)
Weight with following options and no rail kit: 1 HDD, 1 CPU, 1 DIMM, and 1 2400 W power supply	40.55 lbs (18.4kg)
Weight with following options and including rail kit: 1 HDD, 1 CPU, 1 DIMM, and 1 2400 W power supply	48.86 lbs (22.2 kg)
Weight with following options and no rail kit: 24 HDDs, 2 CPUs, 32 DIMMs, and 2 2400 W power supplies	58.8 lbs (26.7 kg)

Table 21 Dimensions and Weight

Parameter	Value
Weight with following options and including rail kit: 24 HDDs, 2 CPUs, 32 DIMMs, and 2 2400 W power supplies	61.7 lbs (28 kg)

Power Specifications

The server is available with the following types of power supplies:

- 1050 W V2 (DC) power supply (see *Table 22*)
- 1200 W (AC) power supply (see *Table 23*)
- 1600 W (AC) power supply (see *Table 24*)
- 2300 W (AC) power supply (see *Table 25*)

Table 22 Power Specifications (1050 W V2 DC power supply)

Parameter	Specification
Input Connector	Molex 42820
Input Voltage Range (V rms)	-48
Maximum Allowable Input Voltage Range (V rms)	-40 to -72
Frequency Range (Hz)	NA
Maximum Allowable Frequency Range (Hz)	NA
Maximum Rated Output (W)	1050
Maximum Rated Standby Output (W)	36
Nominal Input Voltage (V rms)	-48
Nominal Input Current (A rms)	24
Maximum Input at Nominal Input Voltage (W)	1154
Maximum Input at Nominal Input Voltage (VA)	1154
Minimum Rated Efficiency (%)[1]	91
Minimum Rated Power Factor[1]	NA
Maximum Inrush Current (A peak)	15
Maximum Inrush Current (ms)	0.2
Minimum Ride-Through Time (ms)[2]	5

Notes:

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at http://www.80plus.org/ for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 23 1200 W (AC) Power Supply Specifications

Parameter	Specification			
Input Connector	IEC320 C14			
Input Voltage Range (Vrms)	100 to 240			
Maximum Allowable Input Voltage Range (Vrms)	90 to 264			
Frequency Range (Hz)	50 to 60			
Maximum Allowable Frequency Range (Hz)	47 to 63			
Maximum Rated Output (W)[1]	1100		1200	
Maximum Rated Standby Output (W)	48			
Nominal Input Voltage (Vrms)	100	120	208	230
Nominal Input Current (Arms)	12.97	10.62	6.47	5.84
Maximum Input at Nominal Input Voltage (W)	1300	1264	1343	1340
Maximum Input at Nominal Input Voltage (VA)	1300	1266	1345	1342
Minimum Rated Efficiency (%)[2]	90	90	91	91
Minimum Rated Power Factor[2]	0.97	0.97	0.97	0.97
Maximum Inrush Current (A peak)	20			
Maximum Inrush Current (ms)	0.2			
Minimum Ride-Through Time (ms)[3]	12			

Notes:

1. Maximum rated output is limited to 1100W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Titanium certification, see test reports published at http://www.80plus.org/ for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 24 1600 W (AC) Power Supply Specifications

Parameter	Specification			
Input Connector	IEC320 C14			
Input Voltage Range (V rms)	200 to 240			
Maximum Allowable Input Voltage Range (V rms)	180 to 264			
Frequency Range (Hz)	50 to 60			
Maximum Allowable Frequency Range (Hz)	47 to 63			
Maximum Rated Output (W)	1600			
Maximum Rated Standby Output (W)	36			
Nominal Input Voltage (V rms)	100	120	208	230
Nominal Input Current (A rms)	NA	NA	8.8	7.9
Maximum Input at Nominal Input Voltage (W)	NA	NA	1778	1758
Maximum Input at Nominal Input Voltage (VA)	NA	NA	1833	1813
Minimum Rated Efficiency (%)[1]	NA	NA	90	91
Minimum Rated Power Factor[2]	NA	NA	0.97	0.97
Maximum Inrush Current (A peak)	30			
Maximum Inrush Current (ms)	0.2			
Minimum Ride-Through Time (ms)[2]	12			

Notes:

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at http://www.80plus.org/ for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 25 2300 W (AC) Power Supply Specifications

Parameter	Specification			
Input Connector	IEC320 C20			
Input Voltage Range (Vrms)	100 to 240			
Maximum Allowable Input Voltage Range (Vrms)	90 to 264			
Frequency Range (Hz)	50 to 60			
Maximum Allowable Frequency Range (Hz)	47 to 63			
Maximum Rated Output (W)[1]	2300			
Maximum Rated Standby Output (W)	36			
Nominal Input Voltage (Vrms)	100	120	208	230
Nominal Input Current (Arms)	13	11	12	10.8
Maximum Input at Nominal Input Voltage (W)	1338	1330	2490	2480
Maximum Input at Nominal Input Voltage (VA)	1351	1343	2515	2505
Minimum Rated Efficiency (%)[2]	92	92	93	93
Minimum Rated Power Factor[2]	0.99	0.99	0.97	0.97
Maximum Inrush Current (A peak)	30			
Maximum Inrush Current (ms)	0.2			
Minimum Ride-Through Time (ms)[3]	12			

Notes:

1. Maximum rated output is limited to 1200W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Titanium certification, see test reports published at http://www.80plus.org/ for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

NOTE: For configuration-specific power specifications, use the Cisco UCS Power Calculator at this URL: **http://ucspowercalc.cisco.com**

Environmental Specifications

The environmental specifications for Cisco Compute Hyperconverged HCIVS245C M8 All-NVMe vSAN ReadyNode are listed in *Table 26*.

Table 26 Environmental Specifications

Parameter	Minimum
Operating Temperature	5°C to 35°C (supports ASHRAE Class A4 and/or Class A3 and/or Class A2). ASHRAE Class A3 will be generic test profile unless otherwise specified by product engineering. System shall continue to operate with a single fan failure (one failed impeller in dual impeller housings) across the ASHRAE recommended operating range of 18 °C to 27 °C. While undesired, increased power consumption and/or acoustic noise is permitted during a fan fail event.
Non-Operating Temperature	Dry bulb temperature of -40°C to 65°C (-40°F to 149°F)
Operating Relative Humidity	8% to 90% relative humidity, non-condensing, with maximum wet bulb 28°C (82.4°F) within operational temperature range of 5°C to 50°C (41°F to 122°F)
Non-Operating Relative Humidity	5% to 93% relative humidity, non-condensing, with a maximum wet bulb temperature of 28°C across the 20°C to 40°C dry bulb range.
Maximum Operating Duration	Unlimited
Operating Altitude	A maximum elevation of 3050 meters (10,006 ft)
Non-Operating Altitude	An elevation of 0 to 12,000 meters (39,370 ft)
Sound Power level, Measure A-weighted per ISO7779 LWAd (Bels) Operation at 23°C (73°F)	2RU: 5.8B Racked product: 6.8B
Sound Pressure level, Measure A-weighted per ISO7779 LpAm (dBA) Operation at 23°C (73°F)	2RU: 43dB Racked product: 55dB

Compliance Requirements

The regulatory compliance requirements for C-Series servers are listed in *Table 27*

Table 27 UCS C-Series Regulatory Compliance Requirements

Parameter	Description
Regulatory Compliance	Products should comply with CE Markings per directives 2014/30/EU and 2014/35/EU
Safety	UL 60950-1/62368-1 CAN/CSA-C22.2 No. 60950-1/62368-1 IEC/EN 60950-1/62368-1 AS/NZS 62368.1 GB 4943.1-2022 CNS 15598-1:2020
EMC - Emissions	47CFR Part 15 (CFR 47) Class A AS/NZS CISPR32 Class A CISPR32 Class A EN55032 Class A ICES003 Class A VCCI-CISPR32 Class A EN61000-3-2 EN61000-3-3 KS C 9832 Class A EN 300386 Class A
EMC - Immunity	EN55035 EN55024 CISPR24/35 EN300386 KS C 9835 IEC/EN61000-6-1