NVIDIA DGX GB200 Service Manual

NVIDIA Corporation

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Contents

The *NVIDIA DGX GB200 Service Manual* is also available as a PDF.

Chapter 1. Introduction

This topic contains instructions for replacing the NVIDIA DGX™ GB200 system components. Make sure to familiarize yourself with the NVIDIA Terms and Conditions documents before attempting to perform any modification or repair to the DGX Gb200 system. These Terms and Conditions for the DGX GB200 system can be found through the NVIDIA DGX Systems Support page.

Contact NVIDIA Enterprise Support to obtain an RMA number for any system or component that needs to be returned for repair or replacement. When replacing a component, use **only** the replacement supplied to you by NVIDIA.

1.1. Customer-replaceable Components

Be sure to familiarize yourself with the NVIDIA Terms & Conditions documents before attempting to perform any modification or repair to the DGX GB200 system. These Terms & Conditions for the DGX GB200 system can be found through the NVIDIA DGX Systems Support page.

Customer Replaceable Units

Contact NVIDIA Enterprise Support to obtain an RMA number for any system or component that needs to be returned for repair or replacement. When replacing a component, use only the replacement supplied to you by NVIDIA.

You can obtain the following components for replacement in your data center.

- Power supply module
- Power supply management module
- E1.S cache drive module

Contact NVIDIA Enterprise Support for replacement instructions and guidance for specific components if those instructions are not included in this document.

1.2. Customer Support

Contact NVIDIA Enterprise Support for assistance in reporting, troubleshooting, or diagnosing problems with your DGX GB200200 system. Also contact NVIDIA Enterprise Support for assistance in installing or moving the DGX GB200 system.

For details on how to obtain support, visit the NVIDIA Enterprise Support web site (https://www.nvidia.com/en-us/support/enterprise/).

1.3. Running the Pre-flight Test

Instructions for running the DGX stress test.

NVIDIA recommends running the pre-flight stress test before putting a system into a production environment or after servicing. You can specify running the test on the GPUs, CPU, memory, and storage, and also specify the duration of the tests.

To run the tests, use NVSM.

Syntax:

```
sudo nvsm stress-test [--usage] [--force] [--no-prompt] [<test>...] [DURATION]
```

For help on running the test, issue the following.

```
sudo nvsm stress-test --usage
```

Recommended Command

The following command runs the test on all supported components (GPU, CPU, memory, and storage), and takes approximately 20 minutes.

```
sudo nvsm stress-test --force
```

Chapter 2. Power Supply Replacement

This topic describes how to replace the power supplies (PSUs) of the NVIDIA DGX™ GB200 system.

2.1. Power Supply Replacement Overview

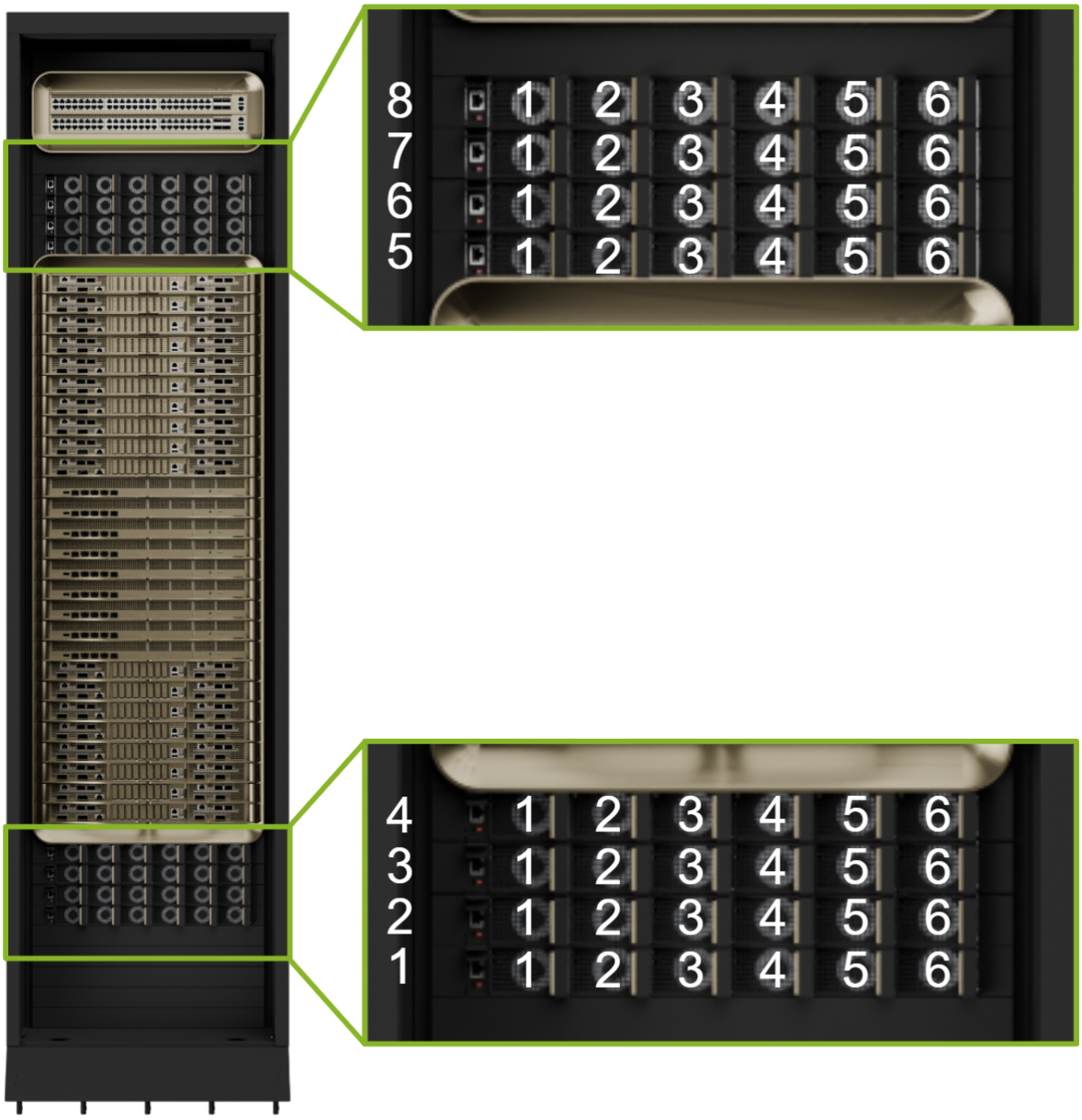
This section provides a high-level overview of the PSU replacement process.

1. Identify the failed PSU
2. Remove the failed PSU
3. Install the new PSU
4. Update the new PSU firmware, if required
5. Verify the new PSU is operational
6. If requested, return the failed unit to NVIDIA Enterprise Support using the provided packaging

2.2. Identify the Failed Power Supply

Identify the failed PSU by visually inspecting the LEDs on the power supply modules. The failed module will have an amber LED indicator.

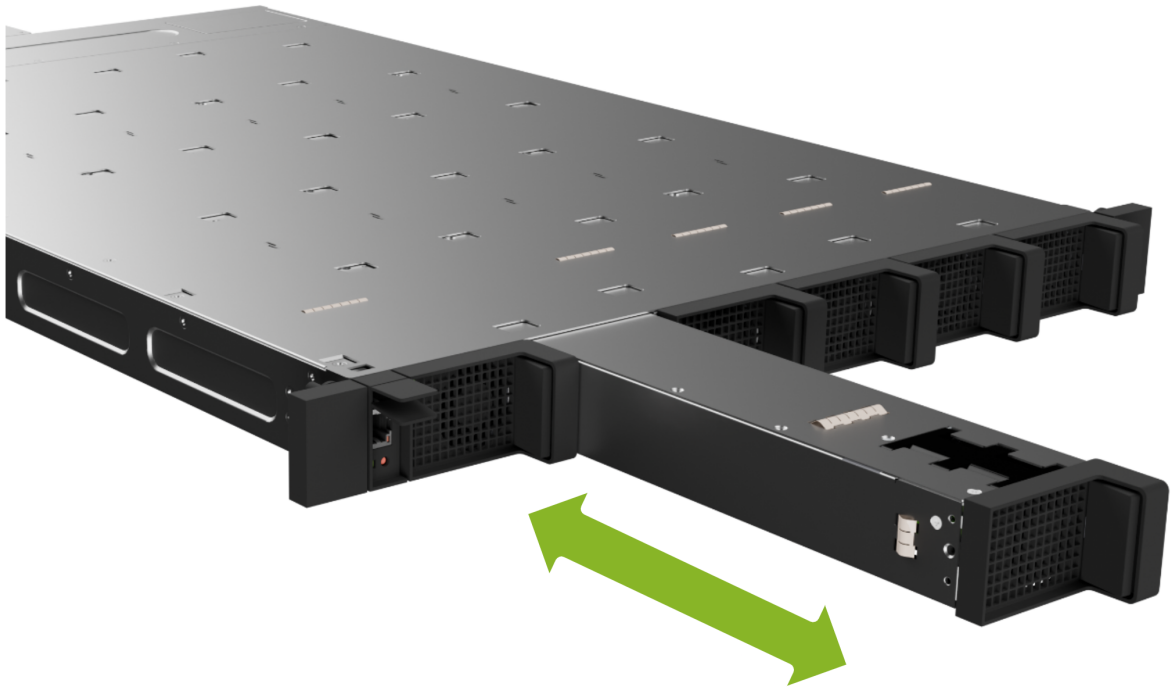
The power supplies are N+N redundant, so any one power supply can be replaced as long as at least four power shelves are fully active and healthy.



2.3. Replace the Power Supply

1. Once you've identified the failed power supply, push the release tab to the left and pull on the handle to eject it from the power shelf.

2. Pull the power supply straight out of the power shelf and set it aside.



3. Insert the new PSU until it locks into place. You'll hear an audible click when it's fully seated.
4. Perform the following health checks:
   - The PSU LED indicator should be green.
   - Use the Redfish API to check the health of the PSU through the Power Shelf Management Module.

     For more information about the Redfish API, see Redfish User Guide.
   - Navigate to the Power Shelf Dashboard and check **Power Management** or **System Monitoring** for PSU presence and PSU health.
5. If requested, return the failed unit to NVIDIA Enterprise Support using the provided packaging.

Chapter 3. Power Shelf Management Module Replacement

This topic describes how to replace a power shelf management module (PSMM) in an NVIDIA DGX™ GB200 system.

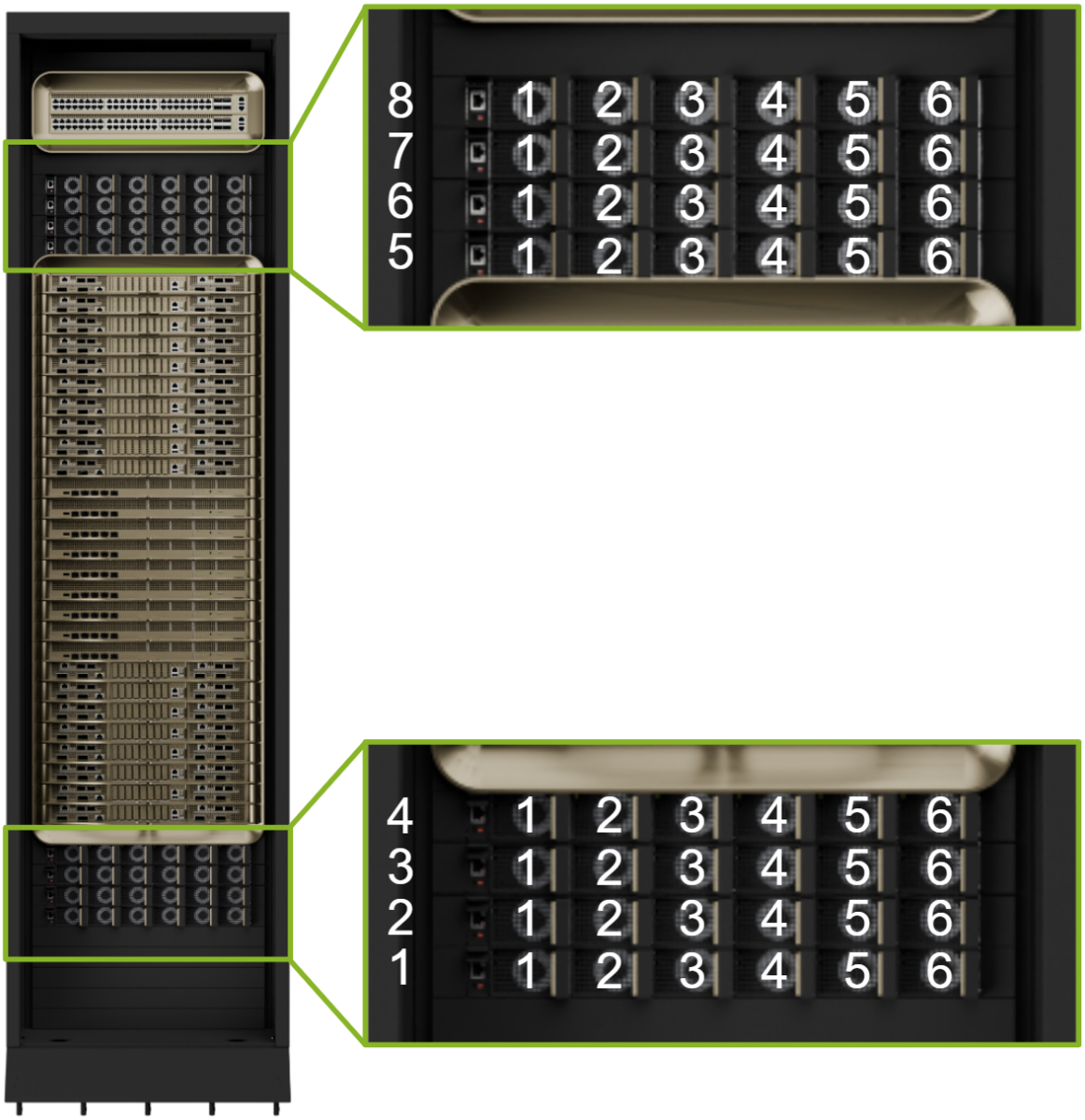
3.1. Power Shelf Management Module Replacement Overview

This section provides a high-level overview of the PSMM replacement process.

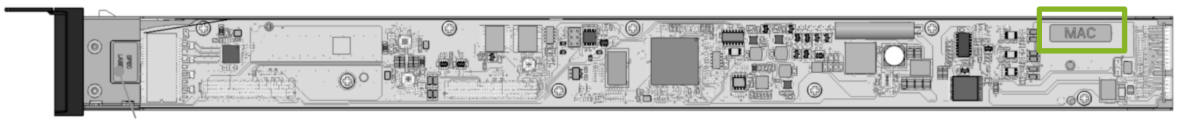
1. Identify the failed PSMM
2. Remove the failed PSMM
3. Install the new PSMM
4. Update the new PSMM firmware, if required
5. Verify the new PSMM is operational
6. If requested, return the failed unit to NVIDIA Enterprise Support using the provided packaging

3.2. Identify the Failed Power Shelf Management Module

1. Identify the failed PSMM by visually inspecting the LEDs on the power shelf management module. The failed module will have an amber LED indicator.



2. After unpacking the new PSMM, record the MAC address from the label and provide it to your system administrator. Ensure that the system administrator configures the IP address and host-name for the new PSMM.



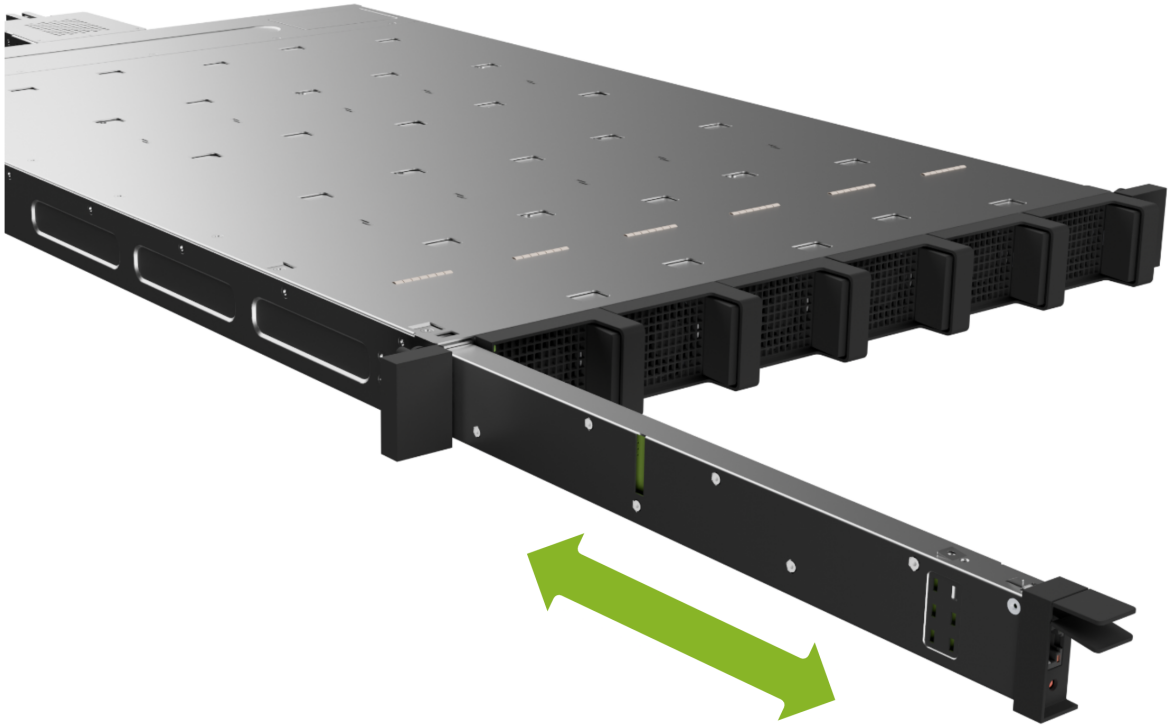
3.3. Replace the Power Shelf Management Module

Note

The power supplies will continue to operate during the power shelf management module replacement process.

1. Once you've identified the failed PSMM, remove its network management cable.

2. Push the release tab up and pull on the handle to remove the PSMM from the power shelf.
3. Pull the PSMM straight out of the power shelf and set it aside.



4. Insert the new module until it locks into place. You'll hear an audible click when it's fully seated.
5. After the PSMM is fully plugged in, connect the network management cable.

   After you connect the cable, the PSMM LED indicator status should turn green.
6. If requested, return the failed module to NVIDIA Enterprise Support using the provided packaging.

Chapter 4. E1.S Cache Drive Replacement

This topic describes how to replace an E1.S cache drive in the compute tray of the NVIDIA DGX™ GB200 system.

4.1. E1.S Cache Drive Replacement Overview

This is a high-level overview of the steps needed to replace a cache drive.

1. Identify the failed cache drive
2. Power down the compute tray being serviced
3. Replace the drive
4. Power up the compute tray
5. Rebuild the system RAID volume
6. Confirm system health with `nvsm show health`

4.2. Identify the Failed Cache Module

This diagram shows the physical location of each cache drive module slot. Only odd-numbered slots are used for NVMe E1.S storage devices.

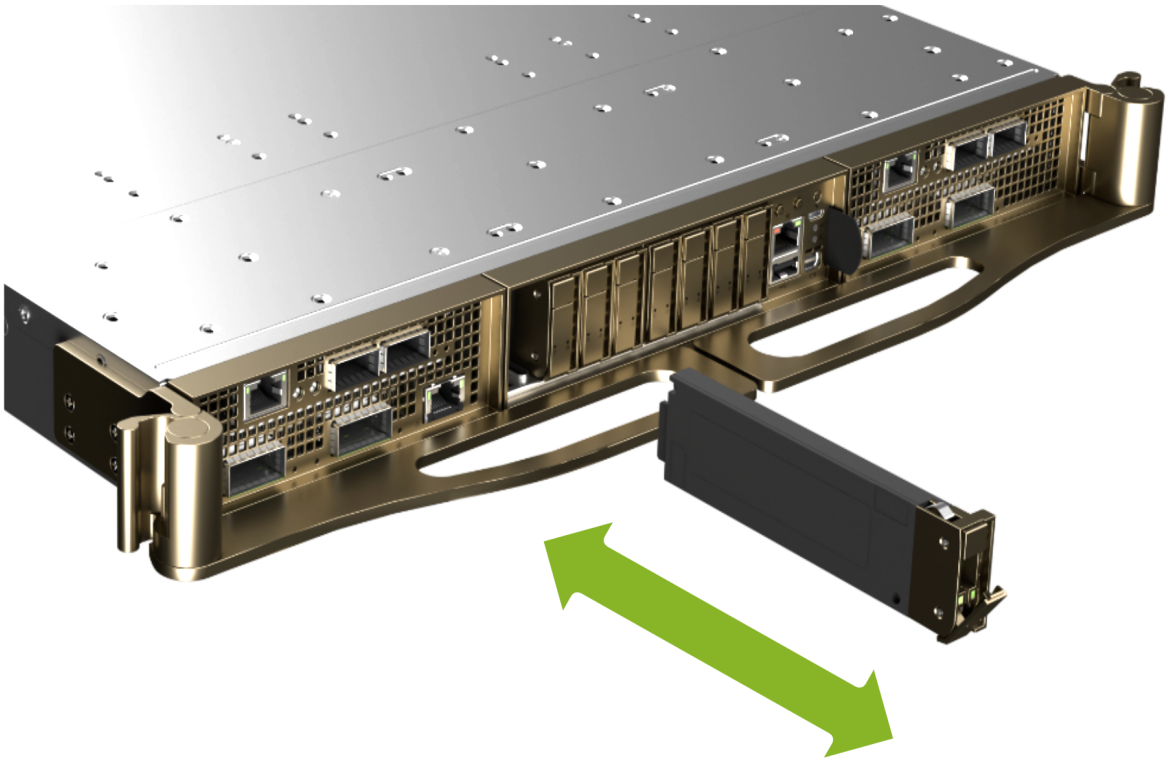
Identify a failed cache module using any of the following methods:

- Run `sudo nvsm show health` from a terminal session and look for drive alerts
- Use the BMC web interface to view the IPMI events log and look for drive alerts

4.3. Replace the Failed Cache Drive Module

1. Power down the compute tray being serviced.
2. Identify the NVMe E1.S drive that's being replaced. Press the button at the top of the drive to eject it and release the lever.

3. Use the lever to remove the failed drive module, and then insert the new one. As you insert the new module, press the latch button to ensure the lever stays in the open position.



4. Fully insert the drive module and close the lever to lock it in place.

4.4. Finalize the Replacement Procedure

1. Power up the system and log into the console.
2. Confirm the new drive module is recognized by running `sudo nvme list`. You'll see something like the following (one boot and four cache drives will be visible, but the names and models may differ):

```
Node          SN         Model    Namespace Usage                  Format
↪     FW Rev
------------- ---------- -------- --------- -------------------- ---------
↪--- --------
/dev/nvme0n1  S4YPNE0N3  SAMSUNG  1           3.84 TB / 3.84 TB  512 B +
↪0 B  EPK9CB5Q
/dev/nvme1n1  S4YPNE0N0  SAMSUNG  1           3.84 TB / 3.84 TB  512 B +
↪0 B  EPK9CB5Q
/dev/nvme2n1  S436NA0N4  SAMSUNG  1          44.44 GB / 1.92 TB  512 B +
↪0 B  EDA7602Q
/dev/nvme4n1  S4YPNE0N2  SAMSUNG  1           3.84 TB / 3.84 TB  512 B +
↪0 B  EPK9CB5Q
/dev/nvme5n1  S4YPNE0N1  SAMSUNG  1           3.84 TB / 3.84 TB  512 B +
↪0 B  EPK9CB5Q
```

3. If disk encryption is enabled, disable it before rebuilding the RAID array using the `sudo nv-disk-encrypt disable` command.
4. Rebuild the RAID cache volume using the `configure_raid_array.py -c -f` command. Enter `y` when prompted to confirm the operation.
5. If disk encryption is desired, enable it using the instructions in the DGX OS user guide.
6. Confirm the RAID volume is healthy by running the `sudo nvsm show volumes` command.
7. Return the failed cache module to NVIDIA Enterprise Support using the packaging provided.

Chapter 5. Safety

This section provides information about how to safely use the NVIDIA DGX™ GB200 system.

5.1. Safety Information

To reduce the risk of bodily injury, electrical shock, fire, and equipment damage, read this document and observe all warnings and precautions in this guide before installing or maintaining your server product.

In the event of a conflict between the information in this document and information provided with the product or on the website for a particular product, the product documentation takes precedence.

Your server should be integrated and serviced only by technically qualified persons.

You must adhere to the guidelines in this guide and the assembly instructions in your server manuals to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products I components will void the UL Listing and other regulatory approvals of the product and may result in noncompliance with product regulations in the region(s) in which the product is sold.

5.2. Safety Warnings and Cautions

To avoid personal injury or property damage, before you begin installing the product, read, observe, and adhere to all of the following safety instructions and information.

The following safety symbols may be used throughout the documentation and may be marked on the product and the product packaging.

- CAUTION: Indicates the presence of a hazard that may cause minor personal injury or property damage if the CAUTION is ignored.
- WARNING: Indicates the presence of a hazard that may result in serious personal injury if the WARNING is ignored.

Indicates potential hazard if indicated information is ignored.

Indicates shock hazards that result in serious injury or death if safety instructions are not followed.

Indicates hot components or surfaces

Indicates do not touch fan blades, may result in injury.

Shock hazard: The product might be equipped with multiple power cords. - To remove all hazardous voltages, disconnect all power cords. - High leakage current ground (earth) connection to the Power Supply is essential before connecting the supply.

Recycle the battery.

The rail racks are designed to carry only the weight of the server system. Do not use rail-mounted equipment as a workspace. Do not place additional load onto any rail-mounted equipment.

5.3. Intended Application Uses

This product was evaluated as Information Technology Equipment (ITE), which may be installed in offices, schools, computer rooms, and similar commercial type locations.

The suitability of this product for other product categories and environments (such as medical, industrial, residential, alarm systems, and test equipment), other than an ITE application, may require further evaluation.

5.4. Site Selection

Choose a site that is:

- Clean, dry, and free of airborne particles (other than normal room dust).
- Well-ventilated and away from sources of heat including direct sunlight and radiators.
- Away from sources of vibration or physical shock.
- In regions that are susceptible to electrical storms, we recommend you plug your system into a surge suppressor and disconnect telecommunication lines to your modem during an electrical storm.

- Provided with a properly grounded wall outlet.
- Provided with sufficient space to access the power supply cord(s), because they serve as the product's main power disconnect.

5.5. Equipment Handling Practices

To reduce the risk of personal injury or equipment damage, do the following:

- Conform to local occupational health and safety requirements when moving and lifting equipment.
- Use mechanical assistance or other suitable assistance when moving and lifting equipment.

5.6. Electrical Precautions

5.6.1. Power and Electrical Warnings

Caution

The power button, indicated by the stand-by power marking, DOES NOT completely turn off the system AC power; standby power is active whenever the system is plugged in. To remove power from system, you must unplug the AC power cord from the wall outlet. Make sure all AC power cords are unplugged before you open the chassis, or add or remove any non hot-plug components.

Do not attempt to modify or use an AC power cord if it is not the exact type required. A separate AC cord is required for each system power supply.

Some power supplies in servers use Neutral Pole Fusing. To avoid risk of shock use caution when working with power supplies that use Neutral Pole Fusing.

The power supply in this product contains no user-serviceable parts. Do not open the power supply. Hazardous voltage, current and energy levels are present inside the power supply. Return to manufacturer for servicing.

When replacing a hot-plug power supply, unplug the power cord to the power supply being replaced before removing it from the server.

To avoid risk of electric shock, tum off the server and disconnect the power cords, telecommunications systems, networks, and modems attached to the server before opening it.

5.6.2. Power Cord Warnings

Caution

To avoid electrical shock or fire, check the power cord(s) that will be used with the product as follows:

- Do not attempt to modify or use the AC power cord(s) if they are not the exact type required to fit into the grounded electrical outlets.

- The power cord(s) must meet the following criteria:
  - The power cord must have an electrical rating that is greater than that of the electrical current rating marked on the product.
  - The power cord must have safety ground pin or contact that is suitable for the electrical outlet.
  - The power supply cord(s) is/ are the main disconnect device to AC power. The socket outlet(s) must be near the equipment and readily accessible for disconnection.
  - The power supply cord(s) must be plugged into socket-outlet(s) that is /are provided with a suitable earth ground.

5.7. System Access Warnings

To avoid personal injury or property damage, the following safety instructions apply whenever accessing the inside of the product:

- Turn off all peripheral devices connected to this product.
- Turn off the system by pressing the power button to off.
- Disconnect the AC power by unplugging all AC power cords from the system or wall outlet.
- Disconnect all cables and telecommunication lines that are connected to the system.
- Retain all screws or other fasteners when removing access cover(s). Upon completion of accessing inside the product, refasten access cover with original screws or fasteners.
- Do not access the inside of the power supply. There are no serviceable parts in the power supply.
- Return to manufacturer for servicing.
- Power down the server and disconnect all power cords before adding or replacing any non hot-plug component.
- When replacing a hot-plug power supply, unplug the power cord to the power supply being replaced before removing the power supply from the server.

Caution

If the server has been running, any installed processor(s) and heat sink(s) may be hot. Unless you are adding or removing a hot-plug component, allow the system to cool before opening the covers. To avoid the possibility of coming into contact with hot component(s) during a hot-plug installation, be careful when removing or installing the hot-plug component(s).

Caution

To avoid injury do not contact moving fan blades. Your system is supplied with a guard over the fan, do not operate the system without the fan guard in place.

5.8. Rack Mount Warnings

The following installation guidelines are required by UL to maintain safety compliance when installing your system into a rack.

The equipment rack must be anchored to an unmovable support to prevent it from tipping when a server or piece of equipment is extended from it. The equipment rack must be installed according to the rack manufacturer's instructions.

Install equipment in the rack from the bottom up with the heaviest equipment at the bottom of the rack.

Extend only one piece of equipment from the rack at a time.

You are responsible for installing a main power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the server(s).

To avoid risk of potential electric shock, a proper safety ground must be implemented for the rack and each piece of equipment installed in it.

Elevated Operating Ambient- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

Reduced Air Flow -Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

Mechanical Loading- Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading- Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing- Reliable earthing of rack-mounted equipment should be maintained.

Particular attention should be given to supply connections other than direct connections to the branch circuit (for example, the use of power strips).

5.9. Electrostatic Discharge

Caution

ESD can damage drives, boards, and other parts. We recommend that you perform all procedures at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground (any unpainted metal surface) on your server when handling parts.

Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

5.10. Other Hazards

5.10.1. CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/perchlorate.

Perchlorate Material: Lithium battery (CR2032) contains perchlorate. Please follow instructions for disposal.

5.10.2. NICKEL

NVIDIA Bezel. The bezel's decorative metal foam contains some nickel. The metal foam is not intended for direct and prolonged skin contact. Please use the handles to remove, attach or carry the bezel. While nickel exposure is unlikely to be a problem, you should be aware of the possibility in case you are susceptible to nickel-related reactions.

5.10.3. Battery Replacement

Caution

There is the danger of explosion if the battery is incorrectly replaced. When replacing the battery, use only the battery recommended by the equipment manufacturer.

Dispose of batteries according to local ordinances and regulations. Do not attempt to recharge a battery.

Do not attempt to disassemble, puncture, or otherwise damage a battery.

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5.10.4. Cooling and Airflow

Caution

Carefully route cables as directed to minimize airflow blockage and cooling problems. For proper cooling and airflow, operate the system only with the chassis covers installed.

Operating the system without the covers in place can damage system parts. To install the covers:

- Check first to make sure you have not left loose tools or parts inside the system.
- Check that cables, add-in cards, and other components are properly installed.
- Attach the covers to the chassis according to the product instructions.

The equipment is intended for installation only in a Server Room/ Computer Room where both these conditions apply:

- Access can only be gained by SERVICE PERSONS or by USERS who have been instructed about the reasons for the restrictions applied to the location and about any precautions that shall be taken.
- Access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location.

Chapter 6. Compliance

The NVIDIA DGX™ H100/H200 System is compliant with the regulations listed in this section.

6.1. United States

Federal Communications Commission (FCC) FCC Marking (Class A)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including any interference that may cause undesired operation of the device.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

California Department of Toxic Substances Control: Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/perchlorate.

6.2. United States/Canada

TÜV Rheinland of North America is accredited as a Nationally Recognized Testing Laboratory (NRTL), by OSHA (The Occupational Safety and Health Administration) in the United States, and as a Product Certification Body by SCC (Standards Council of Canada) in Canada. Refer to https://www.tuv.com/usa/en/ctuvus-certification.html

cTUVus Mark

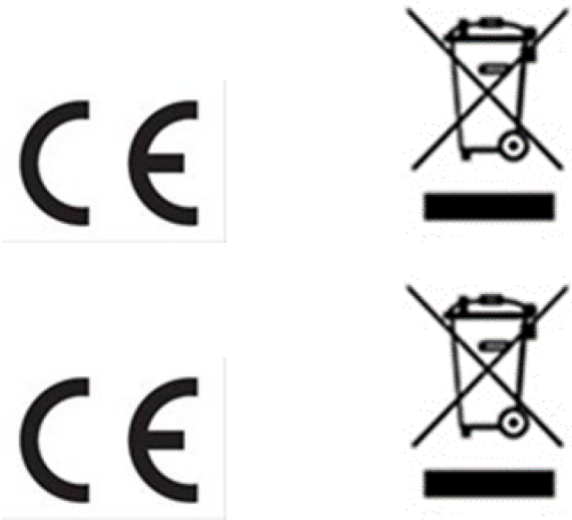
6.3. Canada

This device complies with Innovation, Science and Economic Development Canada (ISED) license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

6.4. EU

European Conformity; Conformité Européenne (CE)



This is a Class A product. In a domestic environment this product may cause radio frequency interference in which case the user may be required to take adequate measures.

This device bears the CE mark in accordance with Directive 2014/53/EU. This device complies with the following Directives:

- EMC Directive A, I.T.E Equipment.
- Low Voltage Directive for electrical safety.
- RoHS Directive for hazardous substances.
- Energy-related Products Directive (ErP).

The full text of EU declaration of conformity is available at the following URL: http://www.nvidia.com/support

A copy of the Declaration of Conformity to the essential requirements may be obtained directly from NVIDIA GmbH (Bavaria Towers – Blue Tower, Einsteinstrasse 172, D-81677 Munich, Germany).

6.5. Australia and New Zealand

Australian Communications and Media Authority

This product meets the applicable EMC requirements for Class A, I.T.E equipment.

6.6. Brazil

INMETRO

6.7. Japan

Voluntary Control Council for Interference (VCCI)

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。
VCCI－A

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。
VCCI－A

This is a Class A product.

In a domestic environment this product may cause radio interference, in which case the user may be required to take corrective actions. VCCI-A.

2008年、日本における製品含有表示方法、JISC0950が公示さ れました。製造事業者は、2006年7月１日
以降に販売さ れる電気・・・電子機器の特定化学物質の含有に付きまし て情報提供を義務付けら れまし た。
製品の部材表示に付きまし ては、以下をご覧く ださい。¶

A Japanese regulatory requirement, defined by specification JIS C 0950, 2008, mandates that manufacturers provide Material Content Declarations for certain categories of electronic products offered for sale after July 1, 2006.¶

To view the JIS C 0950 material declaration for this product, visit¶

¶

Japan RoHS Material Content Declaration

日本工業規格JIS C¶
0950:2008により、2006年 7 月 1 日以降に販売される特定分野の電気および電子機器について、製造者による含有物質の表示が義務付けられます。¶

機器名称：リ バ

¶ 主な分類	特定化学物質記号					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
筐体	除外項目	0	0	0	0	0
プリント基板	除外項目	0	0	0	0	0
プロセッサー	除外項目	0	0	0	0	0
マザーボード	除外項目	0	0	0	0	0
電源	除外項目	0	0	0	0	0
システムメモリ	除外項目	0	0	0	0	0
ハードディスクドライブ	除外項目	0	0	0	0	0
機械部品（ファン、ヒートシンク、ベゼル¶ ..)	除外項目	0	0	0	0	0
ケーブル/コネクター	除外項目	0	0	0	0	0
はんだ付け材料	0	0	0	0	0	0
フラックス、クリームはんだ、ラベル、その他消耗品	0	0	0	0	0	0

注：¶

1.「0」は、特定化学物質の含有率が日本工業規格 JIS C 0950:2008 に記載されている含有率基準値より低いことを示します。¶

2.「除外項目」は、特定化学物質が含有マークの除外項目に該当するため、特定化学物質について、日本工業規格 JIS C¶
0950:2008 に基づく含有マークの表示が不要であることを示します。¶

¶

3.「0.1wt%超」または「0.01wt%超」は、特定化学物質の含有率が日本工業規格JIS C 0950:2008 に記載されている含有率基準値を超えていることを示します。

A Japanese regulatory requirement, defined by specification JIS C 0950: 2008, mandates that manufacturers provide Material Content Declarations for certain categories of electronic products offered for sale after July 1, 2006.

Product Model Number: P3687 Server

Major Classification	Symbols of Specified Chemical Substance					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
Chassis	Exempt	0	0	0	0	0
PCA	Exempt	0	0	0	0	0
Processor	Exempt	0	0	0	0	0
Motherboard	Exempt	0	0	0	0	0
Power supply	Exempt	0	0	0	0	0

System memory	Exempt	0	0	0	0	0
Hard drive	Exempt	0	0	0	0	0
Mechanical parts (fan, heat sink, bezel...)	Exempt	0	0	0	0	0
Cables/Connectors	Exempt	0	0	0	0	0
Soldering material	0	0	0	0	0	0
Flux, Solder Paste, label and other consumable materials	0	0	0	0	0	0

Notes:

1. "0" indicates that the level of the specified chemical substance is less than the threshold level specified in the standard, JIS C 0950:2008.
2. "Exempt" indicates that the specified chemical substance is exempt from marking and it is not required to display the marking for that specified chemical substance per the standard, JIS C 0950: 2008.
3. "Exceeding 0.1wt%" or "Exceeding 0.01wt%" is entered in the table if the level of the specified chemical substance exceeds the threshold level specified in the standard, JIS C 0950: 2008.

6.8. South Korea

Korean Agency for Technology and Standards (KATS)

R-R-WT1-P3687

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Class A Equipment (Industrial Broadcasting & Communication Equipment). This equipment Industrial (Class A) electromagnetic wave suitability equipment and seller or user should take notice of it, and this equipment is to be used in the places except for home.

Korea RoHS Material Content Declaration

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문 준비	상호 :	엔비디아홍콩홀딩즈 리미티드(영업소)	법인등록번호	110181-0036373
	대표자성명	카렌테레사번즈	사업자등록번호:	120-84-06711
	주소	서울특별시 강남구 영동대로 511, 2101호 (삼성동,		
제품 내용				
제품의 종류	해당없음	제품명(규격)	해당없음	
세부모델명(번호):	해당없음	제품출시일	해당없음	
제품의 중량	해당없음	제조, 수입업자	엔비디아	
엔비디아의 그래픽 카드제품은 전기 전자제품 및 자동차의 자원순환에 관한 법률 시행령 제 11조 제 1항에 의거한 법 시행행규칙 제 3조에에따른 유해물질함유 기준을 확인 및 평가한 결과, 이를 준수하였음을 공표합니다.				
구비서류 : 없음 작성방법 ① 제품의 종류는 "전기.전자제품 및 자동차의 자원순환에관한 법률 시행령" 제 8조 제 1항 및 제 2항에 따른 품목별로 구분하여 기재합니다. ② 전기 전자 제품의 경우 모델명 (번호), 자동차의 경우, 제원관리번호를 기재합니다. ③ 해당제품의 제조업자 또는 수입업자를 기재합니다.				

Confirmation and Evaluation Form Concerning the Adherence to Acceptable Standards of Hazardous Materials Contained in Products				
Statement Prepared by	Company Name:	Nvidia HongKong Holding Ltd.Korea branch	Corporate Identification Number:	110181-0036373
	Name of Company Representative:	Karen Theresa Burns	Business Registration Number:	120-84-06711
	Address	2788 San Tomas Expressway, Santa Clara, CA 95051		
Product Information				
Product Category:	N/A	Name of Product:	N/A	
Detailed Product Model Name (Number):	N/A	Date of first market release:	N/A	
Weight of Product:	N/A	Manufacturer and/or Importer:	NVIDIA Corporation	
This for is publicly certify That NVIDIA Company has undergone the confirmation and evaluation procedures for the acceptable amounts of hazardous materials contained in graphic card according to the regulations stipulated in Article 3 of the 'Status on the Recycling of Electrical and Electronic Products, and Automobiles' and that company has graphic card adhered to the Enforcement Regulations of Article 11, Item 1 of the statute.				
Attachment: None * Preparing the Form ① Please indicate the product category according to the categories listed in Article 8, Items 1and 2 of the ' Enforcement Ordinance of the Statute on the Recycling of Electrical, Electronic and Automobile Materials' ② For electrical and electronic products, please indicate the Model Name (and number). For automobiles, please indicate the Vehicle Identification Number. ③ Please indicate the name of manufacturer and/or importer of the product.				

6.9. China

China Compulsory Certificate

No certification is needed for China. The NVIDIA DGX A100 is a server with power consumption greater than 1.3 kW.

China RoHS Material Content Declaration

产品中有害物质的名称及含量

The Table of Hazardous Substances and their Content

根据中国《电器电子产品有害物质限制使用管理办法》

as required by China's Management Methods for Restricted of Hazardous Substances Used in Electrical and Electronic Products

部件名称 Parts	有害物质 Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴联苯醚 (PBDE)
机箱 Chassis	X	O	O	O	O	O
印刷电路部件 PCA	X	O	O	O	O	O
处理器 Processor	X	O	O	O	O	O
主板 Motherboard	X	O	O	O	O	O
电源设备 Power supply	X	O	O	O	O	O
存储设备 System memory	X	O	O	O	O	O
硬盘驱动器 Hard drive	X	O	O	O	O	O
机械部件 (风扇、散热器、面板等) Mechanical parts (fan, heat sink, bezel...)	X	O	O	O	O	O
线材/连接器 Cables/Connectors	X	O	O	O	O	O

焊接金属 Soldering material	O	O	O	O	O	O
助焊剂，锡膏，标签及其他耗材 Flux, Solder Paste, label and other consumable materials	O	O	O	O	O	O

本表格依据SJ/T 11364-2014 的规定编制

The table according to SJ/T 11364-2014

O：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572-2011 标准规定的限量要求以下。

O: Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572-2011.

X：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572-2011 标准规定的限量要求。

X: Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in GB/T 26572-2011.

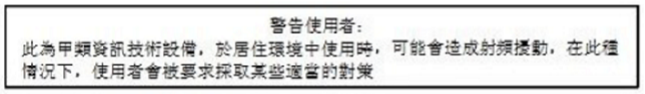
此表中所有名称中含 "X" 的部件均符合欧盟 RoHS 立法。

All parts named in this table with an "X" are in compliance with the European Union's RoHS Legislation.

Note: The referenced Environmental Protection Use Period Marking was determined according to normal operating use conditions of the product such as temperature and humidity.

6.10. Taiwan

Bureau of Standards, Metrology & Inspection (BSMI)

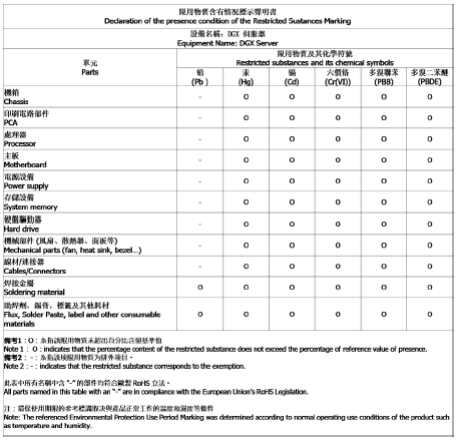


報驗義務人：

香港商輝達香港控股有限公司台灣分公司·・統一編號：80022300

臺北市內湖區基湖路8號.

Taiwan RoHS Material Content Declaration



限用物質含有情況標示聲明書 Declaration of the presence condition of the Restricted Sustances Marking						
設備名稱：DGX 伺服器 Equipment Name: DGX Server						
單元 Parts	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr(VI))	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
機箱 Chassis	-	O	O	O	O	O
印刷電路部件 PCA	-	O	O	O	O	O
處理器 Processor	-	O	O	O	O	O
主板 Motherboard	-	O	O	O	O	O
電源設備 Power supply	-	O	O	O	O	O
存儲設備 System memory	-	O	O	O	O	O
硬盤驅動器 Hard drive	-	O	O	O	O	O
機械部件 (風扇、散熱器、面板等) Mechanical parts (fan, heat sink, bezel...)	-	O	O	O	O	O
線材/連接器 Cables/Connectors	-	O	O	O	O	O
焊接金屬 Soldering material	O	O	O	O	O	O
助焊劑、錫膏、標籤及其他耗材 Flux, Solder Paste, label and other consumable materials	O	O	O	O	O	O

備考1：O：表示該限用物質未超出百分比含量基準值
Note 1：O：Indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.
備考2：-：表示該項限用物質為排外項目。
Note 2：-：Indicates that the restricted substance corresponds to the exemption.

此表中所有名稱中含"-"的部件均符合歐盟 RoHS 立法。
All parts named in this table with an "-" are in compliance with the European Union's RoHS Legislation.

注：環保使用期限的參考標識取決於產品正常工作的溫度和濕度等條件
Note: The referenced Environmental Protection Use Period Marking was determined according to normal operating use conditions of the product such as temperature and humidity.

6.11. Russia/Kazakhstan/Belarus

Customs Union Technical Regulations (CU TR)

This device complies with the technical regulations of the Customs Union (CU TR)

ТЕХНИЧЕСКИЙ РЕГЛАМЕНТ ТАМОЖЕННОГО СОЮЗА О безопасности низковольтного оборудования (ТР ТС 004/2011)

ТЕХНИЧЕСКИЙ РЕГЛАМЕНТ ТАМОЖЕННОГО СОЮЗА Электромагнитная совместимость технических средств (ТР ТС 020/2011)

Технический регламент Евразийского экономического союза “Об ограничении применения опасных веществ в изделиях электротехники и радиоэлектроники” (ТР ЕАЭС 037/2016)

Federal Agency of communication (FAC)

This device complies with the rules set forth by Federal Agency of Communications and the Ministry of Communications and Mass Media.

Federal Security Service notification has been filed.

6.12. Israel

SII

ודא שלמות ותקינות כבל החשמל והתקע אין להכניס או להוציא את התקע מרשת החשמל בידיים רטובות . אין לפתוח את המכשיר , במקרה של בעיה כלשהו יש לפנות למעבדת השירות הקרובה. יש להרחיק את המכשיר מנוזלים . במקרה של ריח מוזר, רעשים שמקורם במכשיר , יש לנתקו מיידית מרשת החשמל ולפנות למעבדת שירות המכשיר מיועד לשימוש בתוך המבנה , ולא לשימוש חיצוני ולא לשימוש בסביבה לחה. אין לחתוך, לשבור, ולעקם את הכבל החשמל. אין להניח חפצים על הכבל החשמל או להניח לו להתחמם יתר על המידה , שכן עלול לגרום לנזק ,דליקה או התחשמלות . יש להקפיד לחזק את התקן הניתוק במצב תפעולי מוכן לשימוש. אזהרה: אין להחליף את כבל הזינה בתחליפים לא מקוריים, חיבור לקוי עלול לגרום להתחשמלות המשתמש. בשימוש על כבל מאריך יש לוודא תקינות מוליך הארקה שבכבל .

6.13. India

Bureau of India Standards (BIS)

Authenticity may be verified by visiting the Bureau of Indian Standards website at http://www.bis.gov.in.

India RoHS Compliance Statement

This product, as well as its related consumables and spares, complies with the reduction in hazardous substances provisions of the “India E-waste (Management and Handling) Rule 2016”. It does not contain lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers in concentrations exceeding 0.1 weight % and 0.01 weight % for cadmium, except for where allowed pursuant to the exemptions set in Schedule 2 of the Rule.

6.14. South Africa

South African Bureau of Standards (SABS)

This device complies with the following SABS Standards:

SANS 2332: 2017/CISPR 32:2015 SANS 2335:2018/ CISPR 35:2016

National Regulator of Compulsory Specification (NRCS)

This device complies with following standard under VC 8055:

SANS IEC 60950-1

6.15. Great Britain (England, Wales, and Scotland)

UK Conformity Assessed

This device complies with the following Regulations:

- SI 2016/1091: Electromagnetic Compatibility (EMC)
- SI 2016/1101: The Low Voltage Electrical Equipment (Safety)
- SI 2012/3032: The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (As Amended)

A copy of the Declaration of Conformity to the essential requirements may be obtained directly from NVIDIA Ltd. (100 Brook Drive, 3rd Floor Green Park, Reading RG2 6UJ, United Kingdom)

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