



Intel® NUC 12 Pro X Kit - NUC12DCMv9, NUC12DCMv7

Intel® NUC 12 Extreme Kit - NUC12DCMi9, NUC12DCMi7

Intel® NUC 12 Pro X Compute Element- NUC12EDBv9,
NUC12EDBv7

Intel® NUC 12 Extreme Compute Element- NUC12EDBi9,
NUC12EDBi7

User Guide

February 2022



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Revision History

Date	Revision	Description
February 2022	1.0	Initial release.



1.0 Introduction

This User Guide provides step-by-step installation instructions for these products:

- Intel® NUC 12 Pro X Kit - NUC12DCMv9
- Intel® NUC 12 Pro X Kit - NUC12DCMv7
- Intel® NUC 12 Extreme Kit - NUC12DCMi9
- Intel® NUC 12 Extreme Kit - NUC12DCMi7

- Intel® NUC 12 Pro X Compute Element - NUC12EDBv9
- Intel® NUC 12 Pro X Compute Element - NUC12EDBv7
- Intel® NUC 12 Extreme Compute Element - NUC12EDBi9
- Intel® NUC 12 Extreme Compute Element - NUC12EDBi7

1.1 Before You Begin



CAUTIONS

The steps in this guide assume you're familiar with computer terminology and with the safety practices and regulatory compliance required for using and modifying computer equipment.

Disconnect the computer from its power source and from any network before performing any of the steps described in this guide.

Failure to disconnect power, telecommunications links, or networks before you open the computer or perform any procedures can result in personal injury or equipment damage. Some circuitry on the board can continue to operate even though the front panel power button is off.

Follow these guidelines before you begin:

- Always follow the steps in each procedure in the correct order.
- Create a log to record information about your computer, such as model, serial numbers, installed options, and configuration information.
- Electrostatic discharge (ESD) can damage components. Perform the procedures described in this chapter only at an ESD workstation using an antistatic wrist strap and a conductive foam pad. If such a station isn't available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.



1.2 Installation Precautions

When you install and test the Intel NUC, observe all warnings and cautions in the installation instructions.

To avoid injury, be careful of:

- Sharp pins on connectors
- Sharp pins on circuit boards
- Rough edges and sharp corners on the chassis
- Hot components (such as SSDs, processors, voltage regulators, and heat sinks)
- Damage to wires that could cause a short circuit

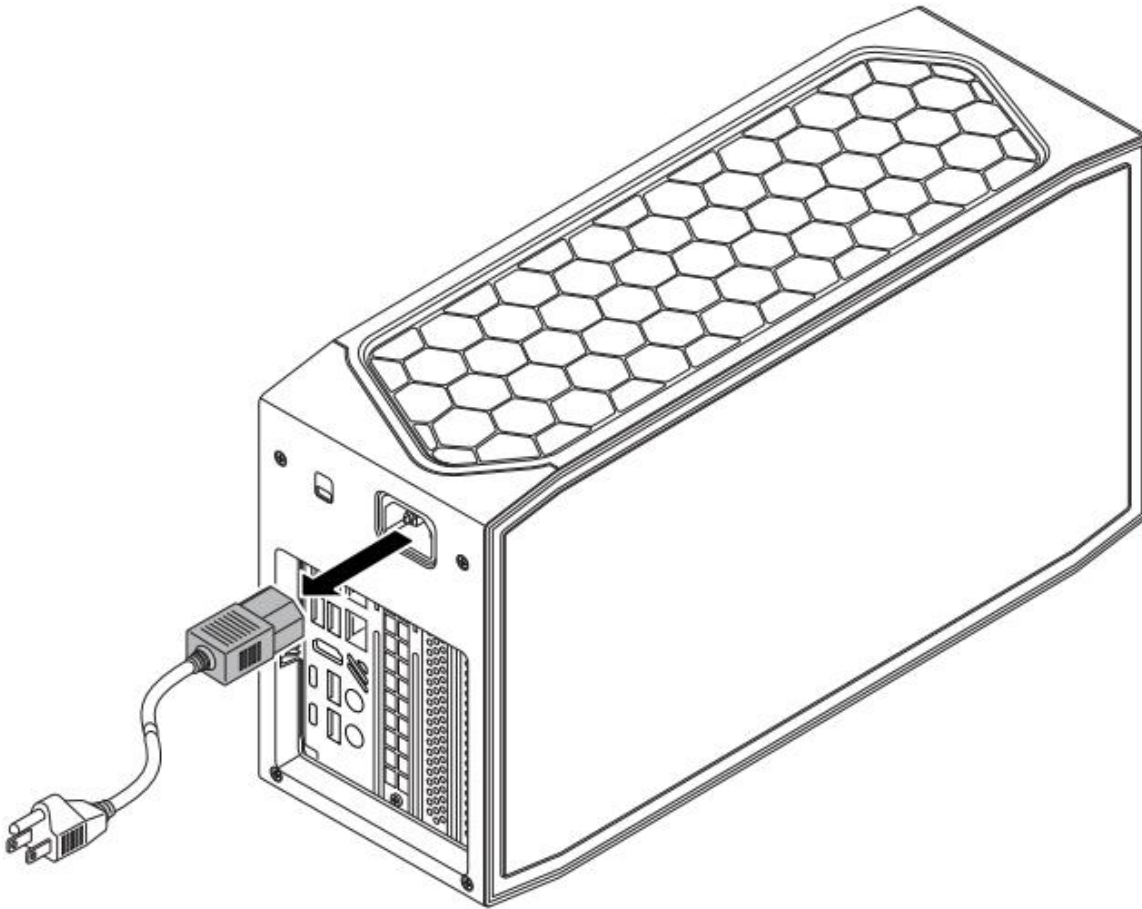
Observe all warnings and cautions that instruct you to refer computer servicing to qualified technical personnel.

1.3 Observe Safety and Regulatory Requirements

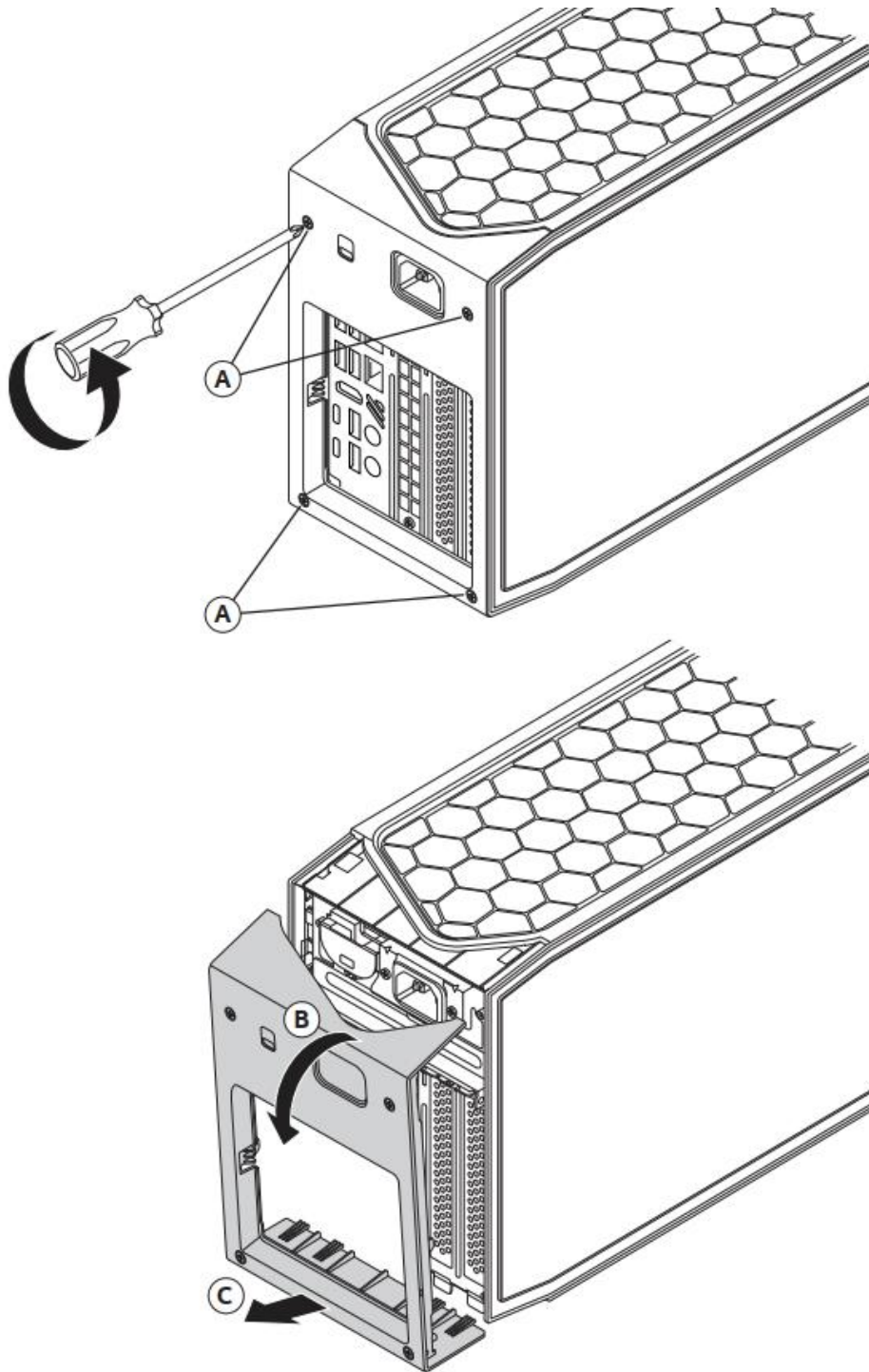
If you don't follow these instructions, you increase your safety risk and the possibility of noncompliance with regional laws and regulations.

2.0 *Open the Chassis*

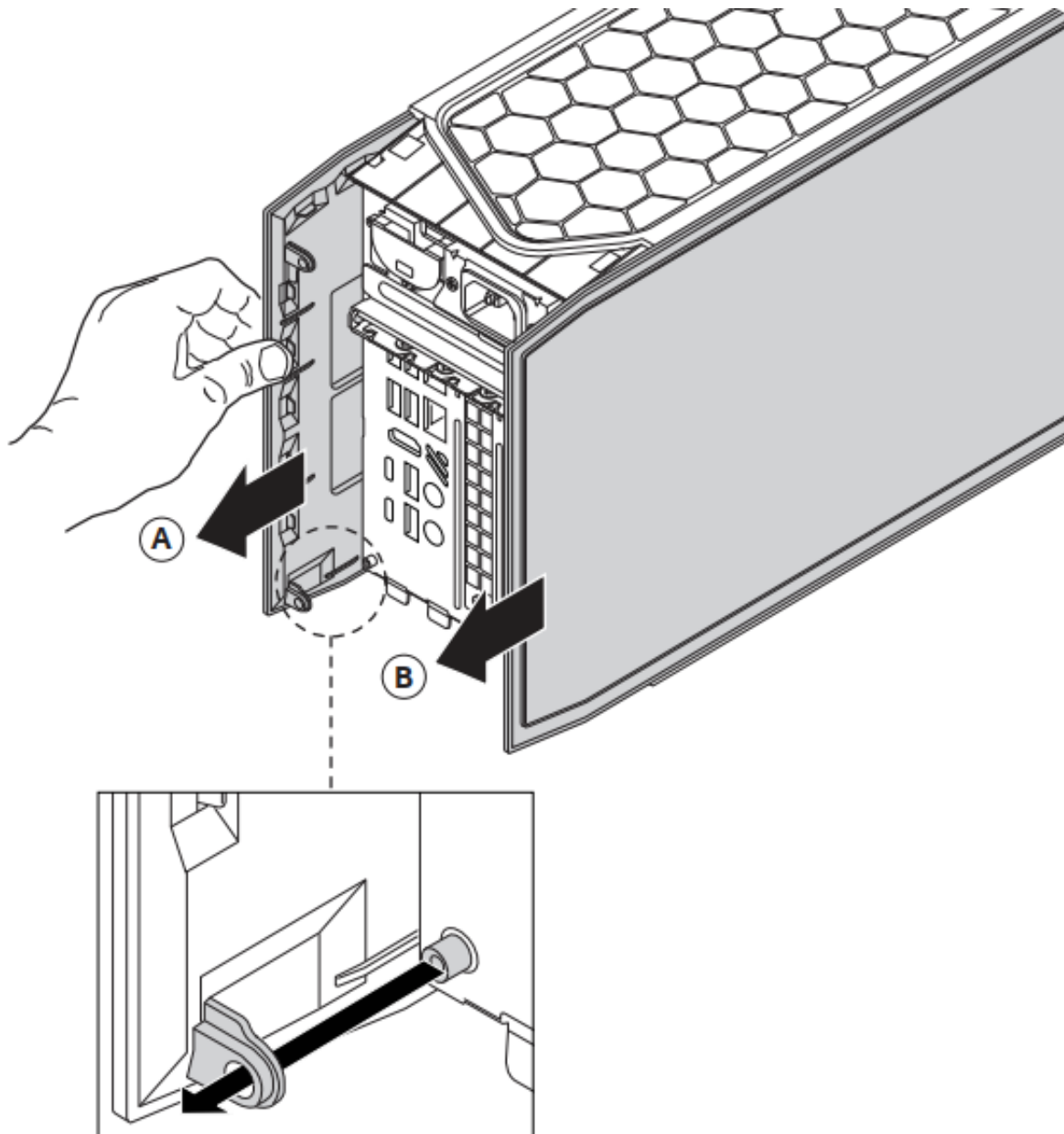
1. Disconnect the attached power cords, telecommunications systems, networks, and modems, if any of them are connected, before you open or service the device.



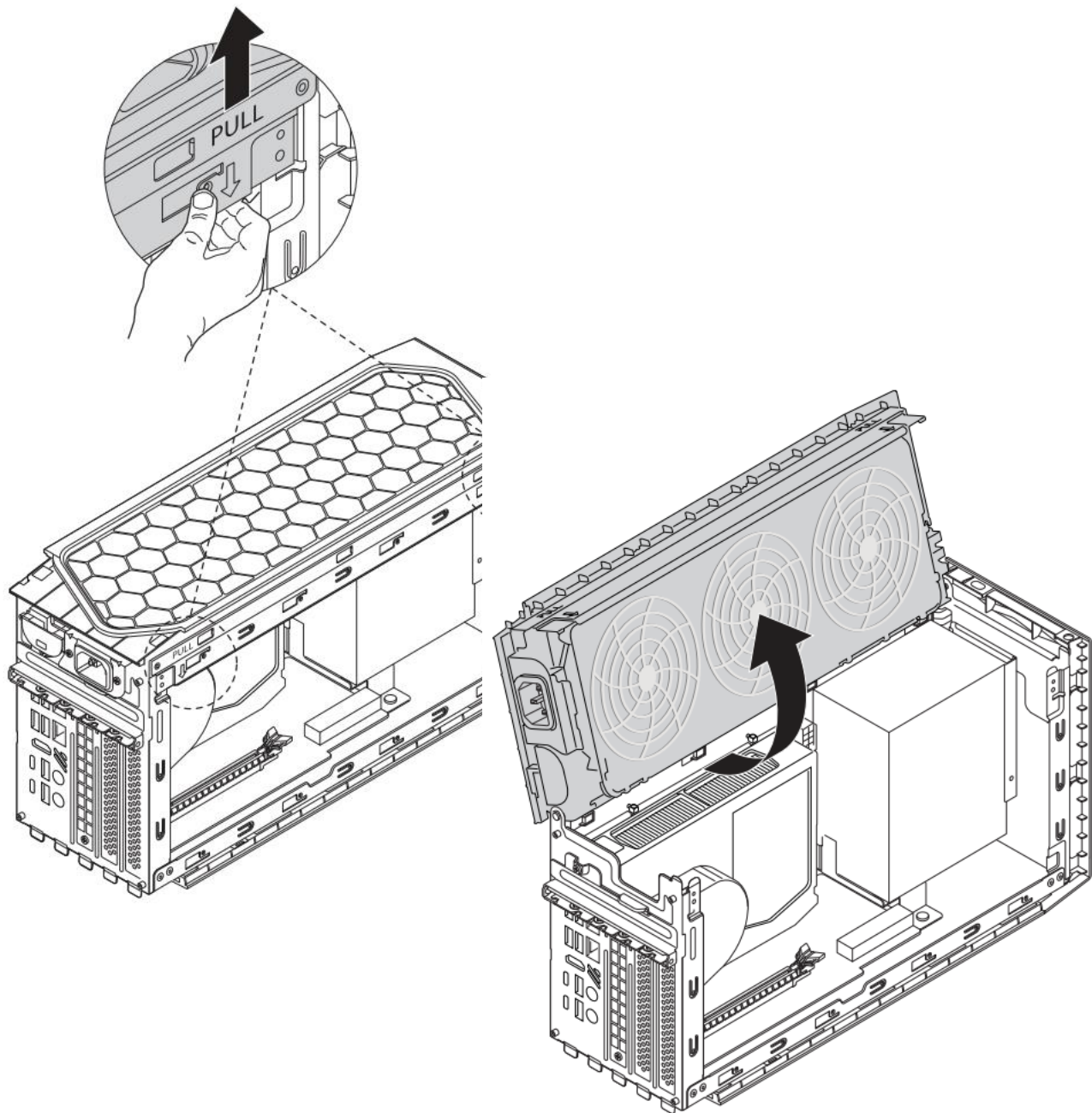
2. Unscrew the two top screws and two bottom screws (A) on the rear side of the chassis and shift first the upper side (B) and then lower side (C) of the cover:



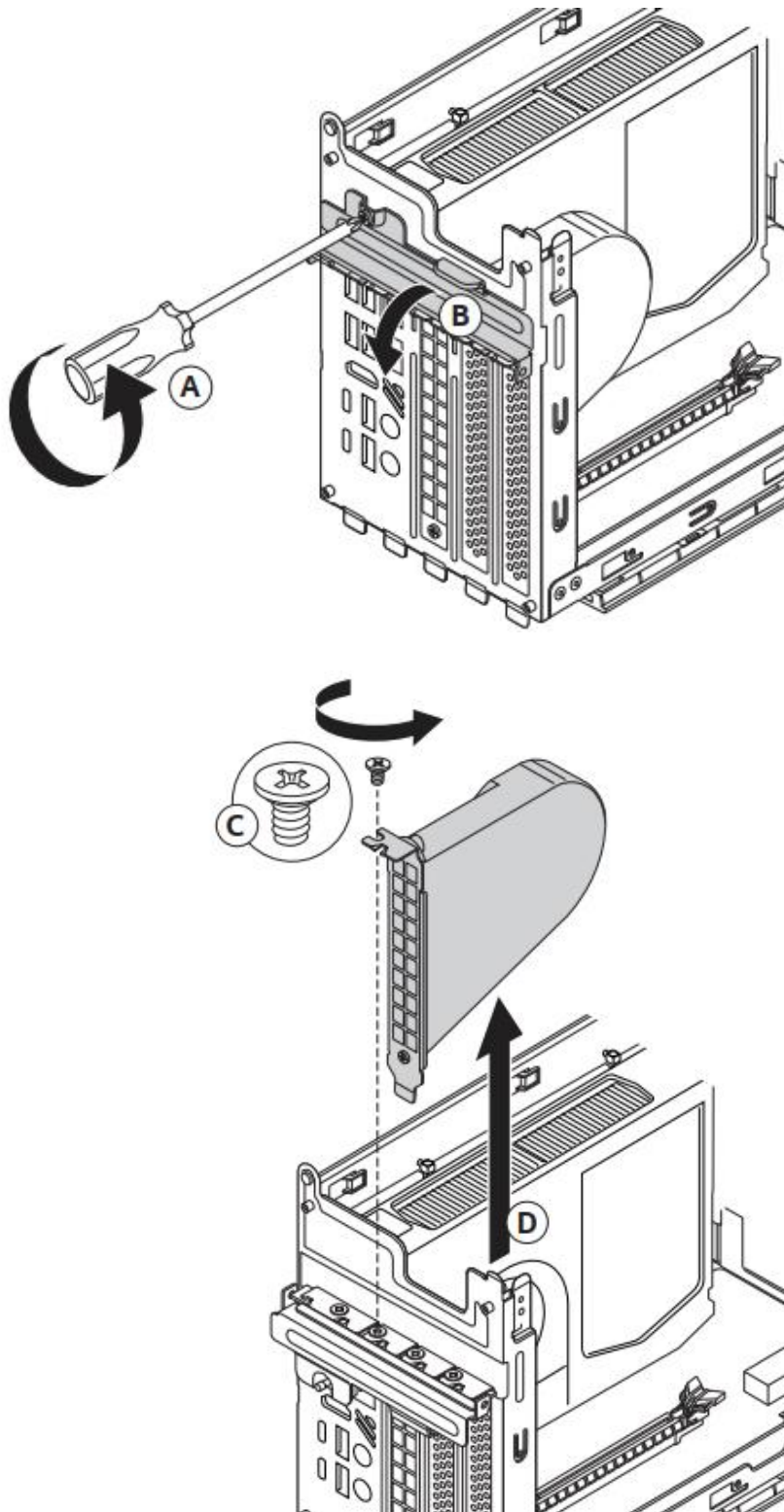
3. Remove the right-side panel (A) and left side panel (B) by sliding them back:

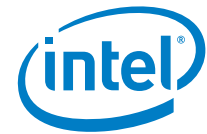


4. Lift the left side of the top lid

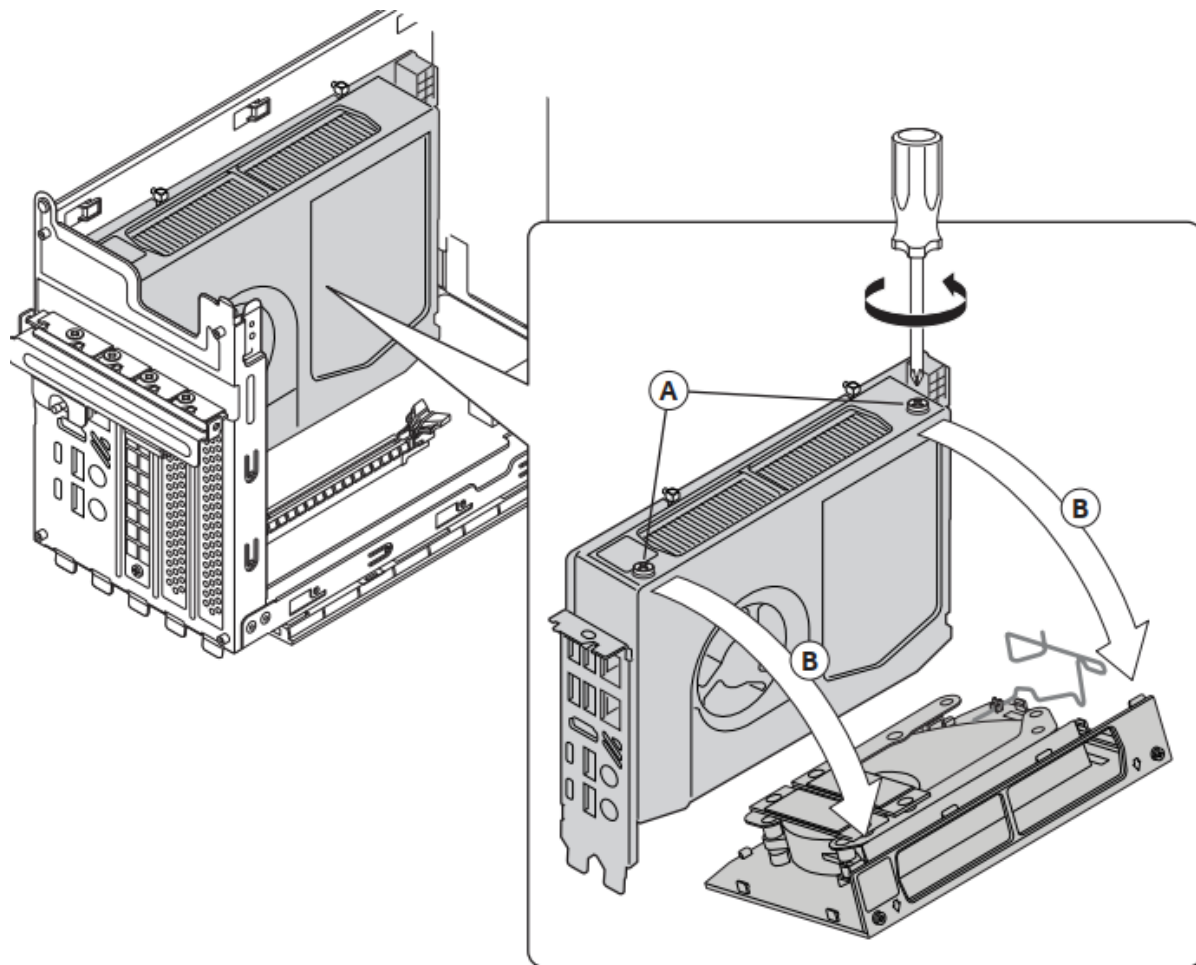


5. Unscrew the back plank (A) and fold it down (B). Unscrew the air guide (C) and lift it up (D)





6. Unscrew the top screws on the Intel® NUC Compute Element (A) and open the door down (B)





3.0 System Memory

Intel® NUC 12 Pro X Kit NUC12DCMv9, NUC12DCMv7, and Intel® NUC 12 Extreme Kit NUC12DCMi9, NUC12DCMi7 have two 260-pin DDR4 SO-DIMM sockets. Be sure to select memory modules that meet these requirements:

- 1.2 V and 1.35 V (with XMP) low voltage JEDEC memory only
- DDR4 3200 MHz SO-DIMMs
- Max capacity - 64GB
- Non-ECC
- Note: 2 Gb memory technology (SDRAM Density) is not compatible

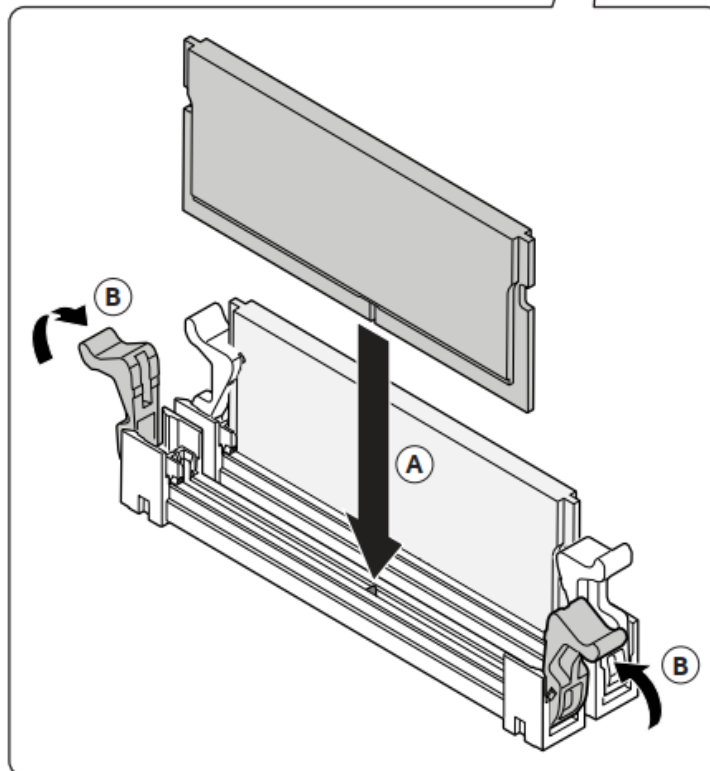
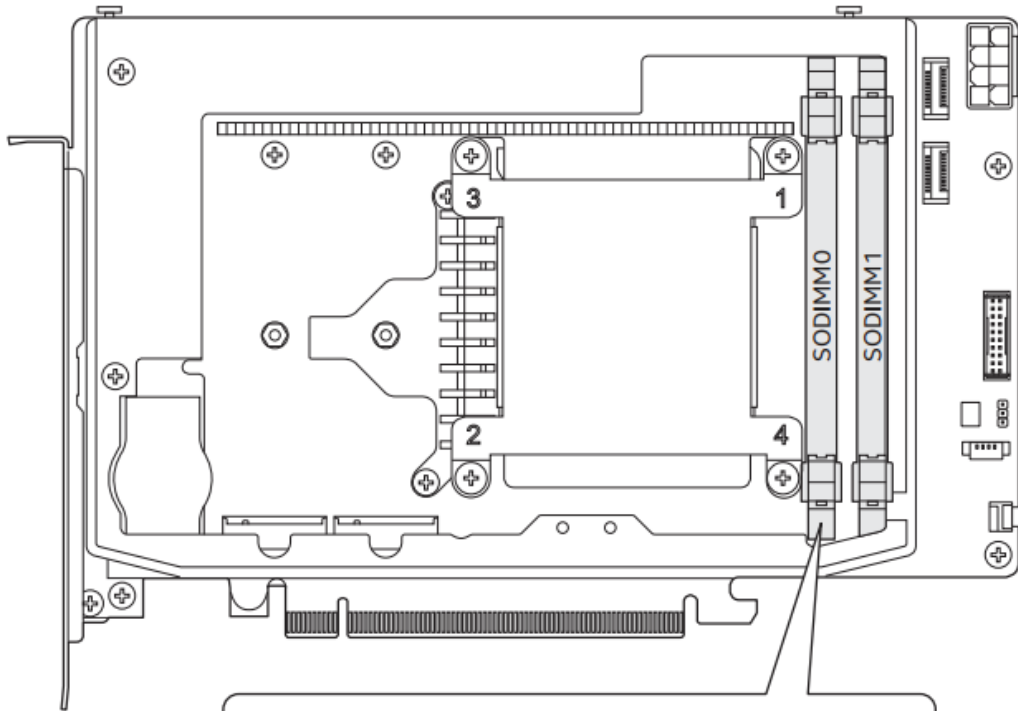
Find compatible memory modules in the Intel Product Compatibility Tool:

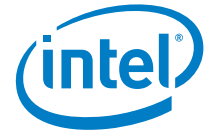
NUC12DCMv9	NUC12EDBv9
NUC12DCMv7	NUC12EDBv7
NUC12DCMi9	NUC12EDBi9
NUC12DCMi7	NUC12EDBi7

NOTE	If you plan to install only one memory module, install it in the left memory socket.
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To install memory, follow these steps:

1. Observe the precautions in "Before You Begin" on page 5.
2. Turn off all peripheral devices connected to the computer. Turn off the computer and disconnect the power cord.
3. Remove the computer's side and top chassis covers as per the instructions in the section 2.0 Open the chassis.
4. Align the small space (key) at the bottom edge of the memory module with the key in the socket.
5. Insert the bottom edge of the module vertically into the socket (A).
6. When the module is inserted, push up the retaining clips until they snap into place (B). Make sure the clips are firmly in place.





To remove a SO-DIMM, follow these steps:

1. Observe the precautions in "Before You Begin" on page 5.
2. Turn off all peripheral devices connected to the computer. Turn off the computer and disconnect the power cord.
3. Remove the computer's side and top chassis covers as per the instructions in the section 2.0 Open the chassis.
4. Gently push the retaining clips down at each end of the memory module to get it out of the socket.
5. Holding the module by the edges, lift it away from the socket, and store it in an anti-static package.
6. Reinstall and reconnect any parts you removed or disconnected to reach the memory sockets.
7. Replace the computer's covers and reconnect the power cord as per the instructions from section 5.0 Close the Chassis.



4.0 Change the M.2 SSD

Intel® NUC 12 Pro X Kit NUC12DCMv9, NUC12DCMv7, and Intel® NUC 12 Extreme Kit NUC12DCMi9, NUC12DCMi7 have the following storage options:

- Two SATA 6.0 Gb/s or PCIe Gen4 x4 AHCI, NVMe M.2 storage modules supporting M.2 2242, M.2 2280 Note: Supports key type M (PCI Express* x1/x2/x4 and SATA),
- One CPU-Attached PCIe Gen4 x4 NVMe M.2 2280. (Rear side of the Compute Element)

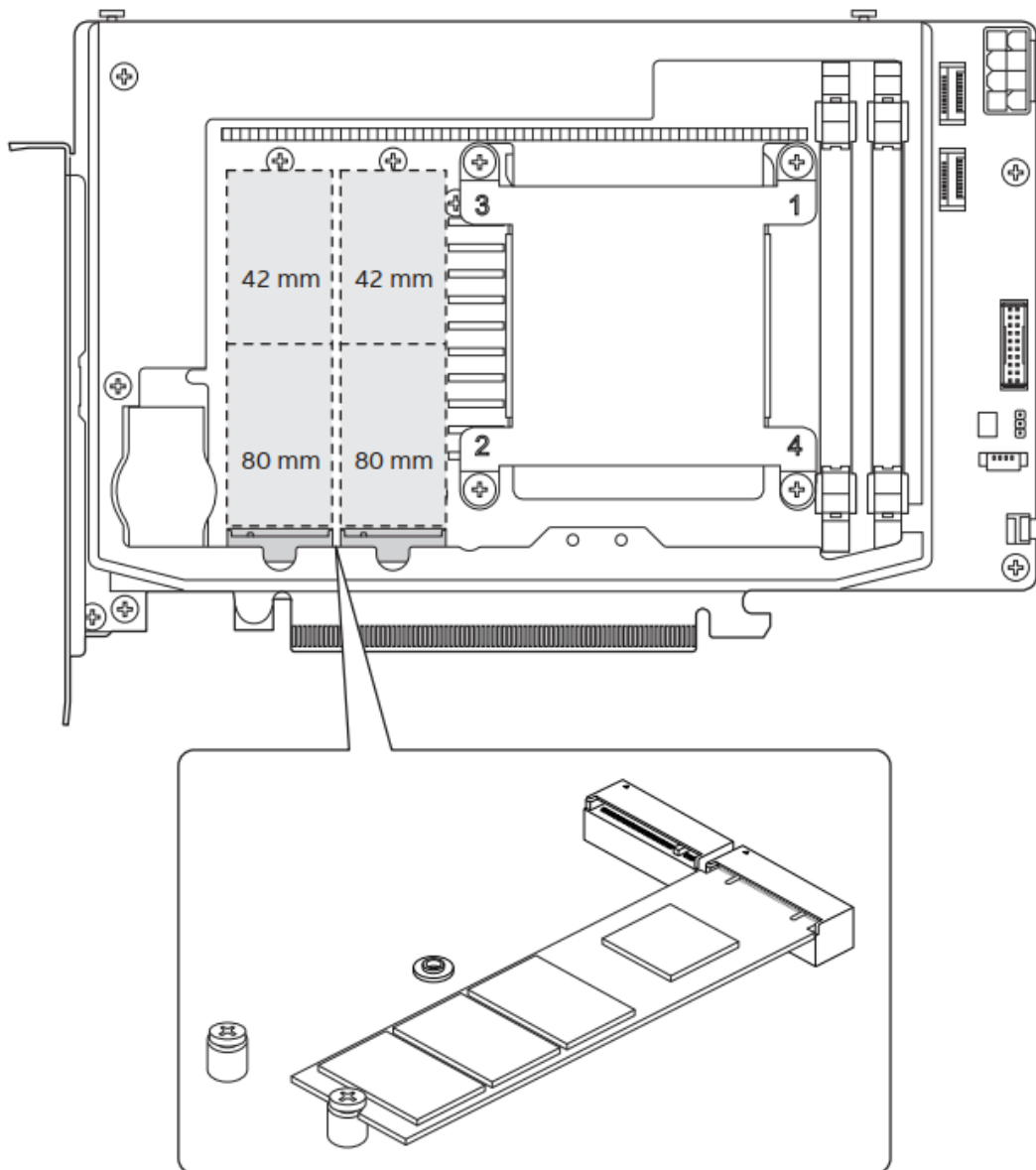
There are no pre-installed SSD available out of the box for the above SKUs.

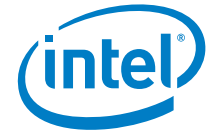
Find compatible M.2 SSDs in the Intel Product Compatibility Tool:

NUC12DCMv9	NUC12EDBv9
NUC12DCMv7	NUC12EDBv7
NUC12DCMi9	NUC12EDBi9
NUC12DCMi7	NUC12EDBi7

To install M.2 SSD:

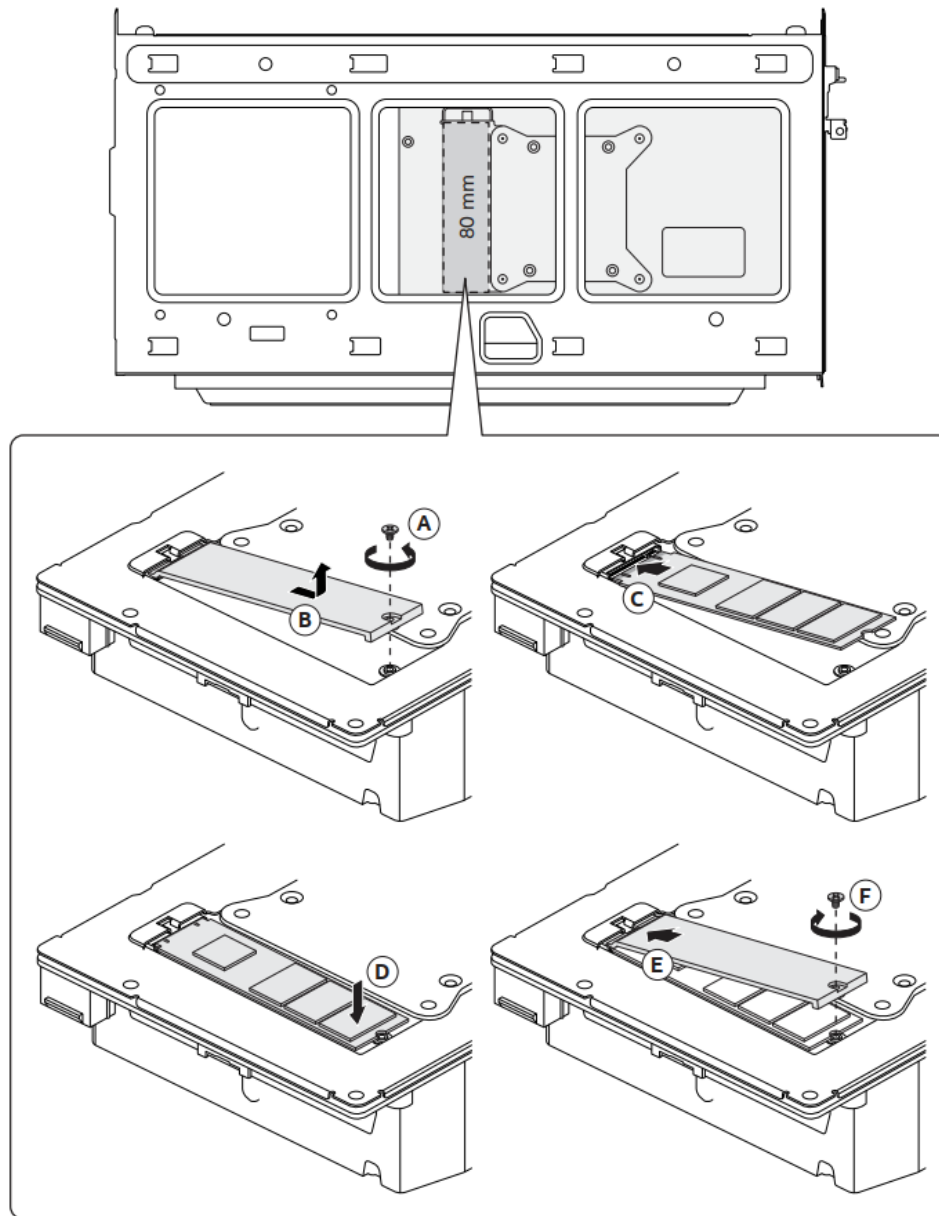
1. Remove the pre-installed SSD from the connector if there are any.
2. Make sure there is the metal standoff in the right position, depending on the length of the SSD you are going to install
3. Align the space at the bottom of the new M.2 SSD to the key on the connector and slide the SSD into the m.2 slot
4. Secure SSD with the small screw.





To install M.2 SSD to the CPU attached slot:

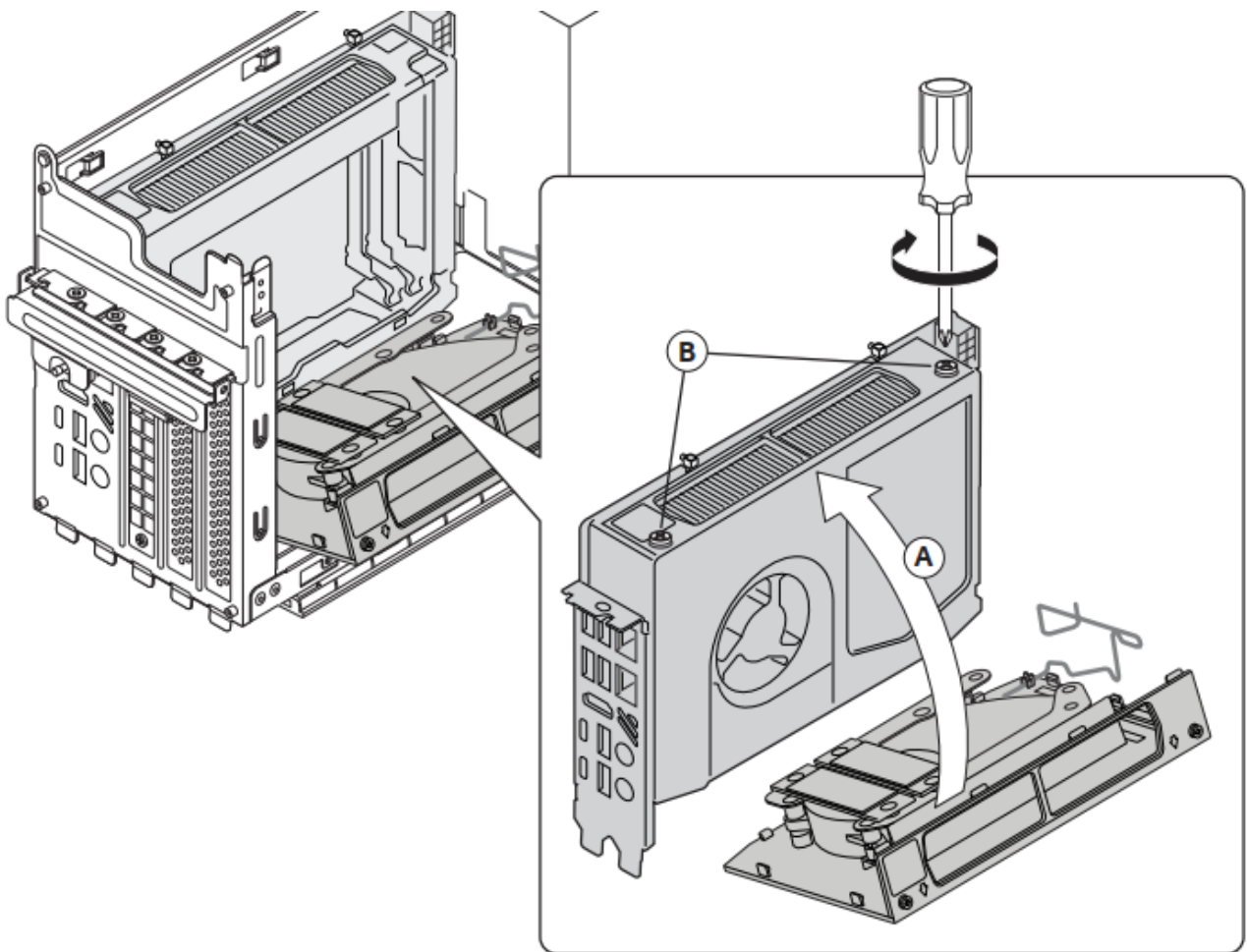
1. Remove the small screw from the storage cover panel (A) and shift it out and up from the m.2 slot (B).
2. Remove the pre-installed SSD from the connector if there are any.
3. Align the space at the bottom of the new M.2 SSD to the key on the connector and slide the SSD into the m.2 slot (C)
4. Press the card down (D).
5. Install (E) and secure back the storage cover panel with the small screw (F)



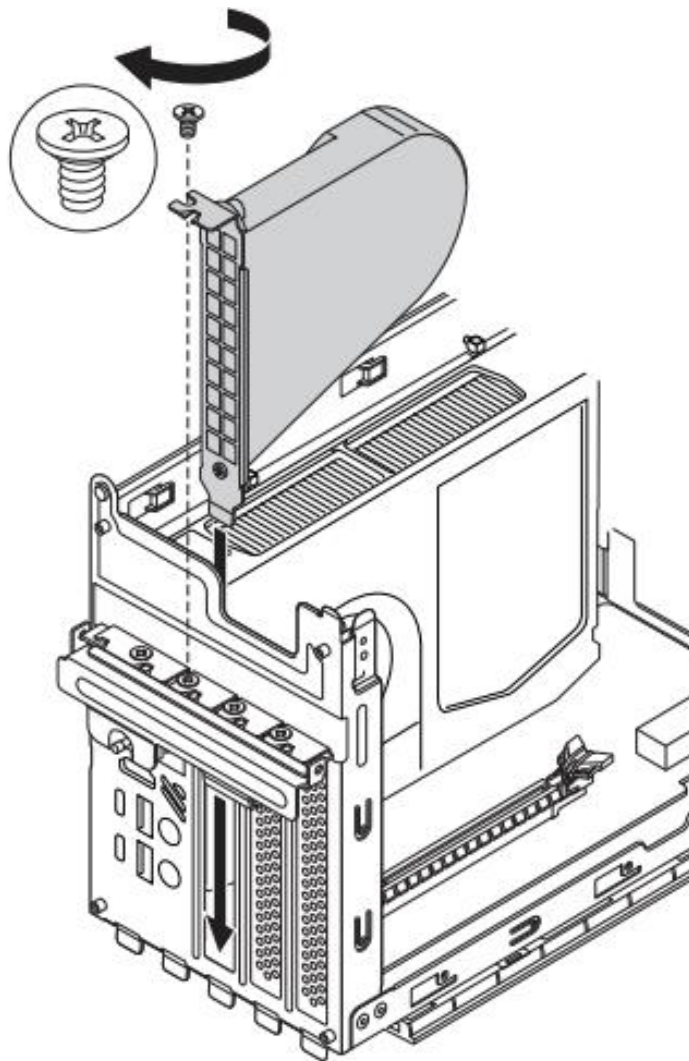
5.0 Close the Chassis

After all components have been installed to the Compute Element, close the Intel NUC chassis. Intel recommends this to be done by hand with a screwdriver to avoid over-tightening and possibly damaging the screws.

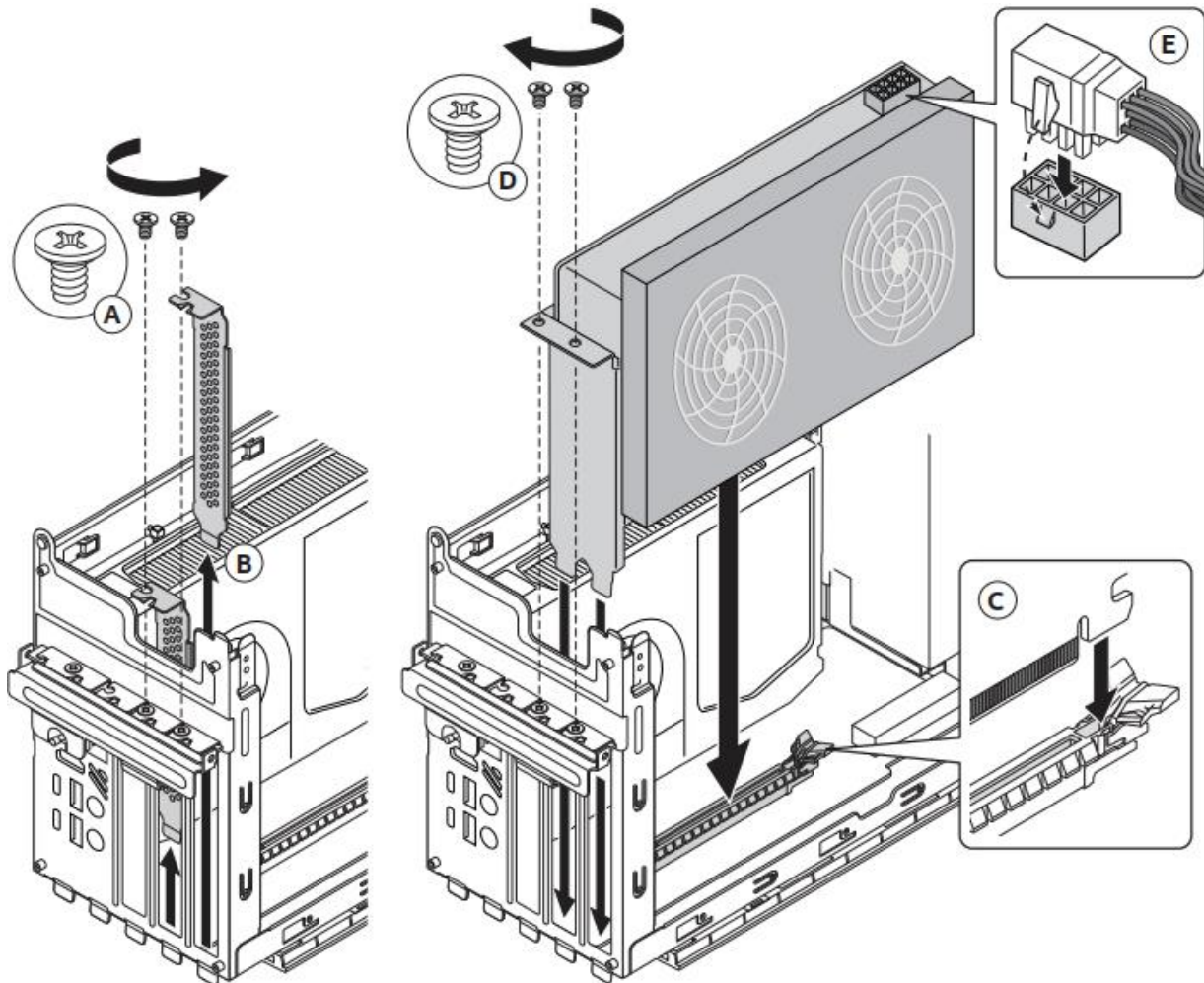
1. Close the NUC door up (A) and connect two top screws (B):



2. Slide down the air guide into place and secure it with the top screw:

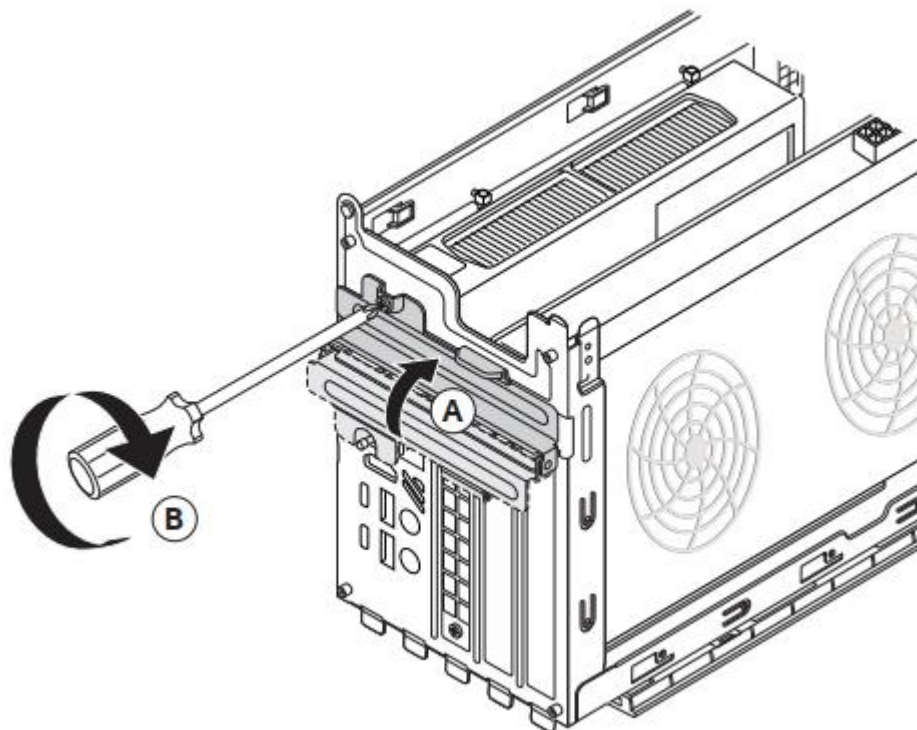


3. To install the external PCIe devices:
 - a) unscrew (A) and lift up (B) the metallic brackets covering the back panel frames for the PCIe device connectors.
 - b) install the PCIe device to the x16 PCIe slot and push it down until you hear the click (C);
 - c) secure the metallic bracket with the small screw (D) and connect the power (E)

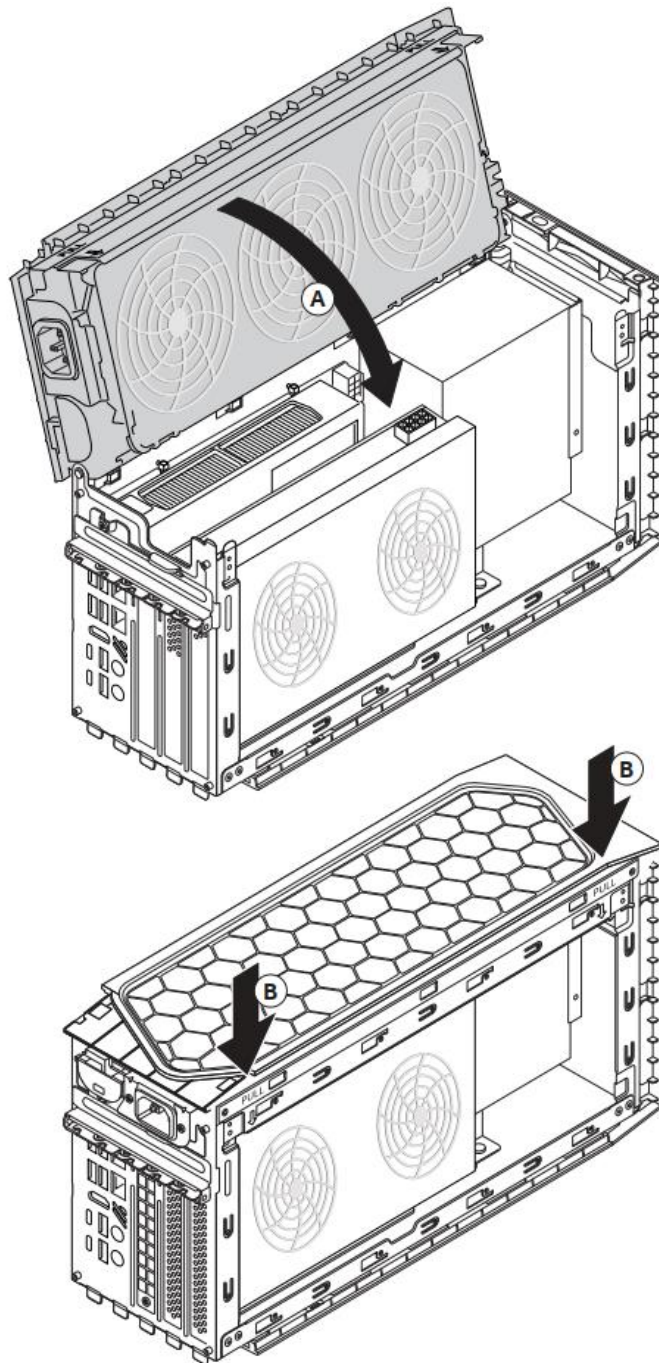


Note: to disconnect the discrete PCIe device – unscrew the metallic brackets (D), press down the lever (C) and lift up the PCIe device. Connect back the metallic brackets (B) covering the back panel frames and secure them with the metallic screws (A).

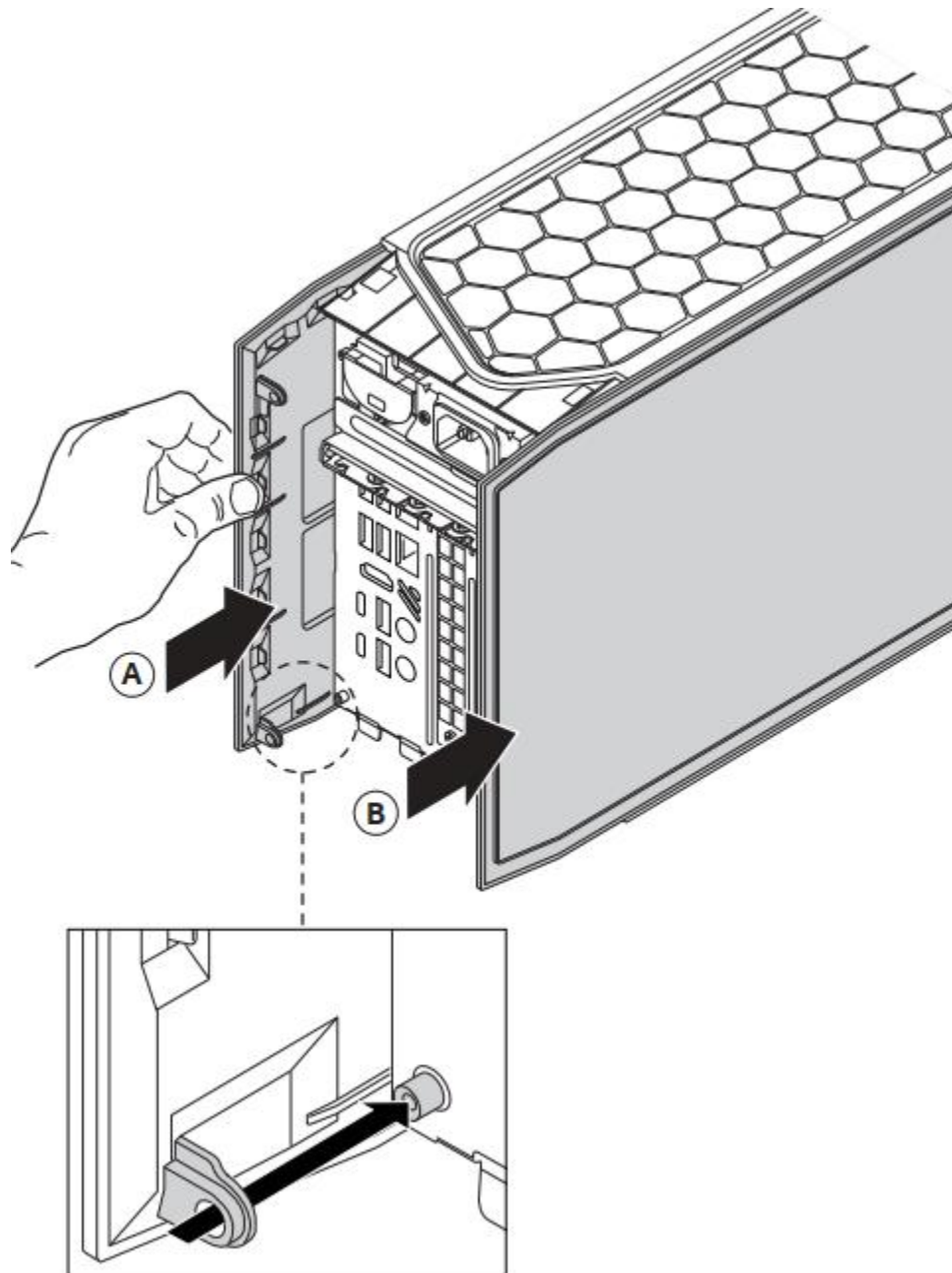
4. Fold up the back plank (A) and secure it with the screw (B).



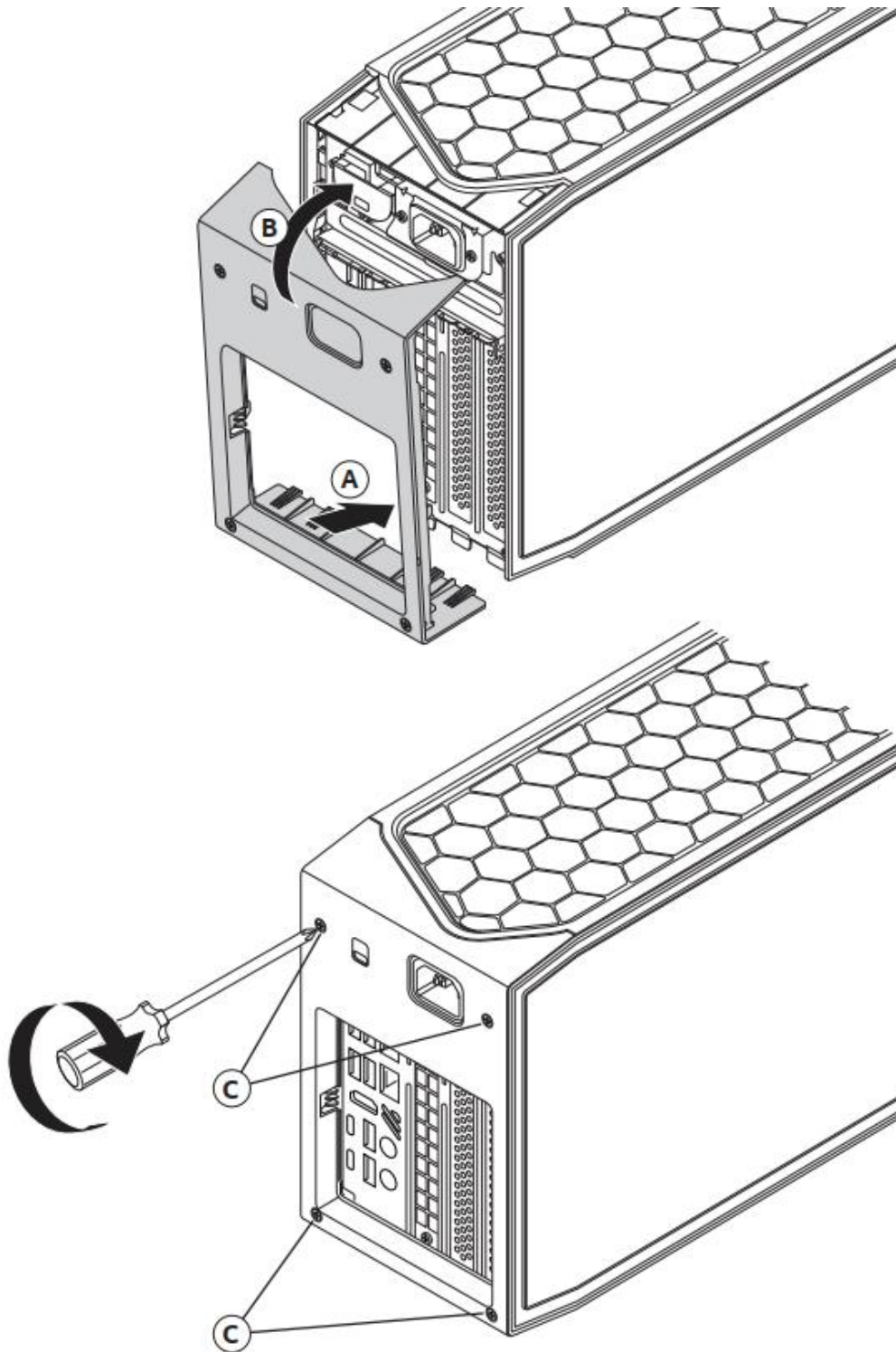
5. Fold back the top cover (A) and pull it down until you hear slight click (B).

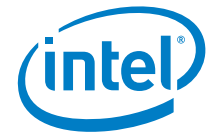


- Slide back the right (A) and left (B) side panels of the chassis so they are secured with the pins on the bottom part of back panel.

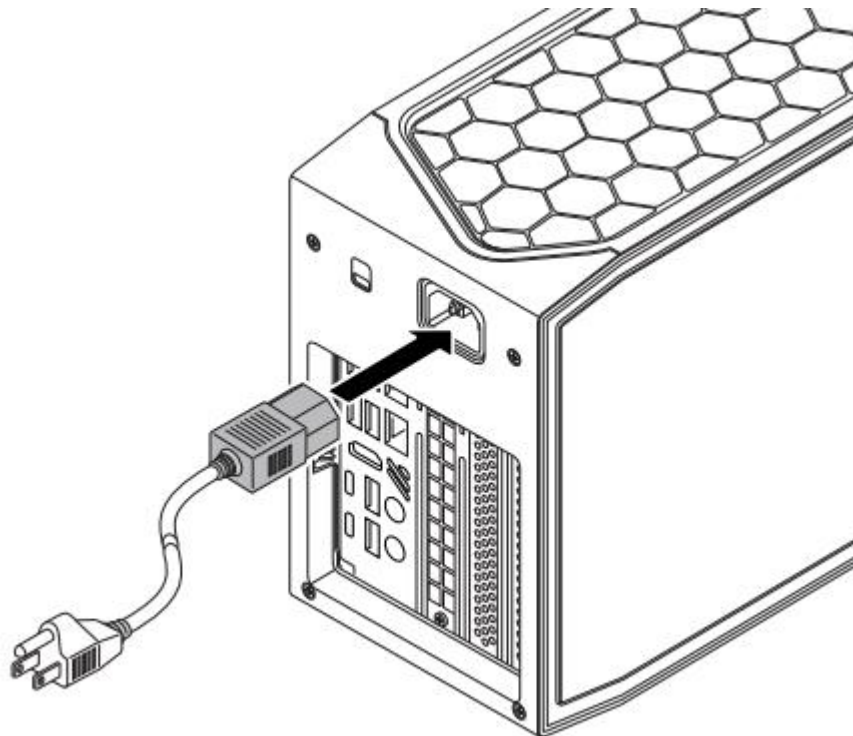


7. Insert the lower side (A) and then upper side (B) of the plastic back panel cover and secure it with the two top screws and two bottom screws (C).





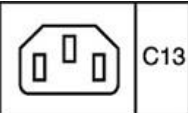
8. All chassis exterior panels must be installed before power is applied to the device

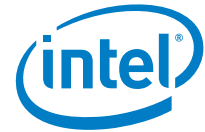




6.0 Connect Power

Each Intel NUC model includes either a region-specific AC power cord or no AC power cord.

Product codes	Power cord type
BNUC12DCMv90000 BNUC12DCMv70000 RNUC12DCMi90000 RNUC12DCMi70000 BNUC12EDBv90000 BNUC12EDBv70000 BNUC12EDBi90000 BNUC12EDBi70000	No power cord included. An AC power cord needs to be purchased separately. The connector on the power adapter is a C13 type connector. 
BNUC12DCMv90001 BNUC12DCMv70001 RNUC12DCMi90001 RNUC12DCMi70001	US power cord included.
RNUC12DCMi90002 RNUC12DCMi70002	EU power cord included.
RNUC12DCMi90003 RNUC12DCMi70003	UK power cord included.
RNUC12DCMi90004 RNUC12DCMi70004	Australia/New Zealand power cord included.
BNUC12DCMv70006 RNUC12DCMi90006 RNUC12DCMi70006	China power cord included.



7.0 *Install an Operating System*

See [Supported Operating Systems](#) for a list of Intel-validated Windows* operating systems.

The [Intel Product Compatibility Tool](#) lists versions of Linux* that have been reported as compatible by Intel NUC owners. If you need assistance with Linux on your Intel NUC, check the distribution's website and forums for peer assistance.

Refer to [Operating System Installation](#) for system requirements and installation steps.



8.0 *Install the Latest Device Drivers and Software*

Here are the options for keeping device drivers current:

- Allow the [Intel® Driver & Support Assistant \(Intel® DSA\)](#) to detect out-of-date drivers
- Manually download drivers, BIOS, and software from Download Center:

NUC12DCMv9	NUC12EDBv9
NUC12DCMv7	NUC12EDBv7
NUC12DCMi9	NUC12EDBi9
NUC12DCMi7	NUC12EDBi7

The following device drivers and software are available.

- Intel® Chipset Device Software
- Intel® Graphics
- Intel® Management Engine
- Intel® Gigabit Ethernet
- Intel® Wireless
- Intel® Bluetooth
- Intel® Serial IO Driver
- Realtek* High Definition Audio
- Intel® Rapid Storage Technology
- Thunderbolt® Networking Driver
- Intel® GNA Scoring Accelerator Driver