

APPLICATION NOTE

```
// Create an instant camera object with the first camera
Camera_t camera( CTIFactory::GetInstance().CreateCamera(0));

// Register an image event handler that accesses the camera
camera.RegisterImageEventHandler( new CSampleImageHandler(Ownership_TakeOwnership));

// Open the camera.
camera.Open();
```

Handling Frame Grabbers and Interface Cards

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1 Introduction

This application note provides information about how to handle frame grabbers and interface cards correctly to avoid damage to the products. It illustrates how to properly hold and insert frame grabbers and interface cards into PCIe slots and it also gives examples on how to not handle the products.

Read the information in this section carefully before installing and using frame grabbers and interface cards.



WARNING

Electric Shock Hazard

Installing a frame grabber and interface card while the computer is connected to power may cause electric shock. Serious injury or death may occur.

1. Before installing the frame grabber and interface card, switch off the computer and the connected devices and unplug all power cables from the computer.
2. Before power-up, close the computer case.

NOTICE

Frame grabbers and interface cards are highly sensitive electronical devices. Improper handling may damage the products.

1. Handle products with care.
2. Don't drop products or expose them to mechanical shock.
3. Don't apply direct, heavy pressure onto products.
4. Don't hold products by the heat sink.

NOTICE

Touching sensitive components may cause erosion and product failure.

1. When holding the products, don't touch the surface-mounted device (SMD) components (e.g., DRAMs, resistors, capacitors, chips) on the Printed Circuit Board (PCB).
2. Don't touch the PCIe's gold finger.
3. Don't touch the solder points.

NOTICE

Electrostatic discharge may damage electronic components.

1. Before touching the frame grabber and interface card, drain static charges from yourself to ground, e.g., by touching a metal water tap.
2. During installation, make sure that you remain properly grounded, e.g., by wearing an antistatic wrist strap.



This document uses graphics of the marathon ACL Frame Grabber as an example. It is also applicable to all Basler interface cards and other frame grabbers.

2 Holding Frame Grabbers and Interface Cards

Basler recommends holding the products with both hands as illustrated in Figure 1 below.

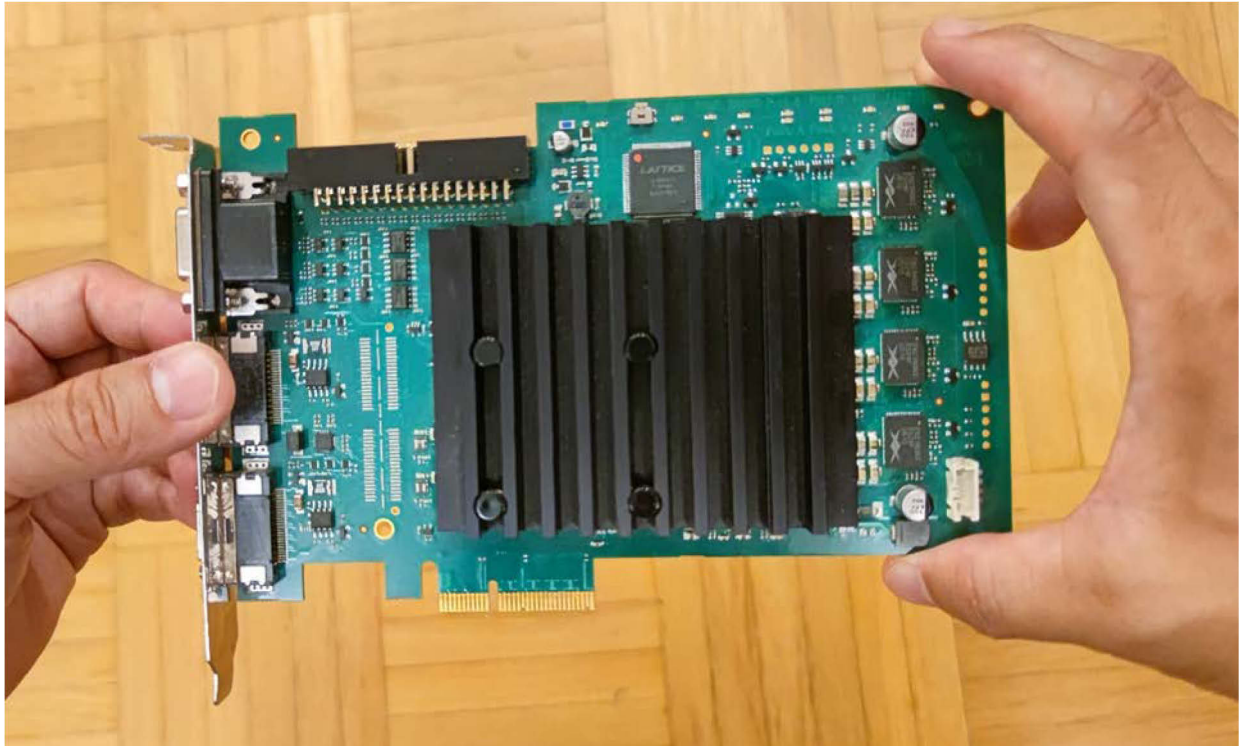


Figure 1: Holding Frame Grabbers and Interface Cards with Both Hands

2.1 How to Hold Frame Grabbers and Interface Cards

When holding frame grabbers and interface cards with both hands, note that:

- You can hold frame grabbers and interface cards at the PCIe metal bracket, as illustrated above.
- You can best hold frame grabbers and interface cards when only touching the PCBs edges with the fingertips as illustrated above.

It is also possible to hold frame grabbers and interface cards with one hand as illustrated in Figure 2.

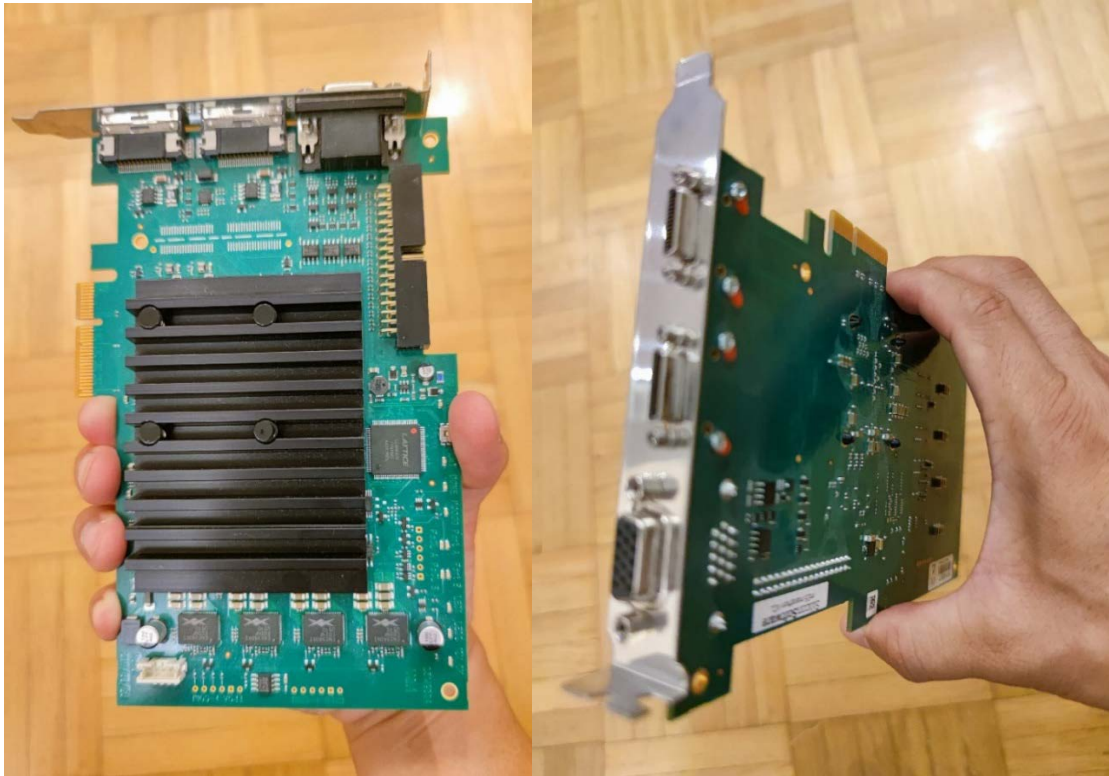


Figure 2: Holding Frame Grabbers and Interface Cards with One Hand

When holding frame grabbers and interface cards with one hand, note that:

- You can best hold frame grabbers and interface cards with one hand when only touching the PCBs edges with as many fingers as possible as illustrated above.
- You must not touch the PCB's surface and the PCIe's gold finger.

2.2 How to not Hold Frame Grabbers and Interface Cards

NOTICE

Holding frame grabbers and interface cards by the heat sink may cause the heat sink to shift or rotate. This may cause damage to the electrical components on the PCB.

1. Don't hold frame grabbers and interface cards by the heat sink.
2. Don't touch the heat sink or surface of the PCB.

NOTICE

Don't hold frame grabbers and interface cards by the PCIe's gold finger as this may cause product failure.

1. Don't touch the PCIe's gold finger.

The following figures illustrate **how you must not** hold frame grabbers and interface cards.

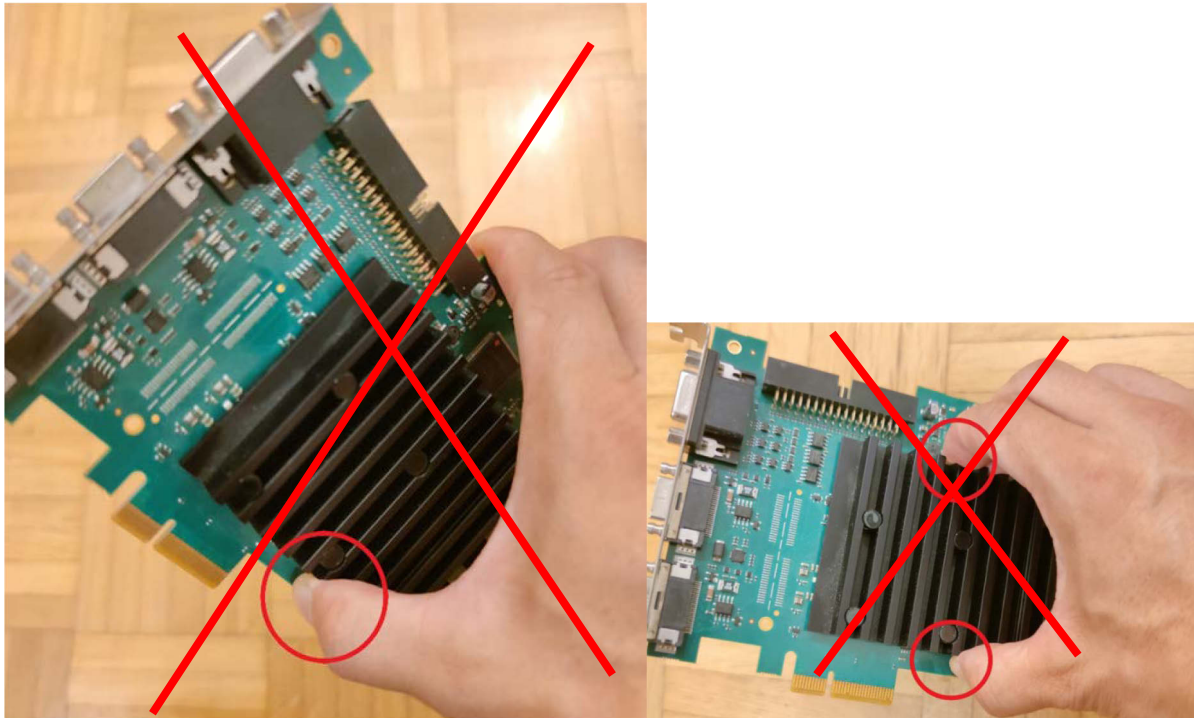


Figure 3: How Not to Hold Frame Grabbers and Interface Cards by the Heat Sink

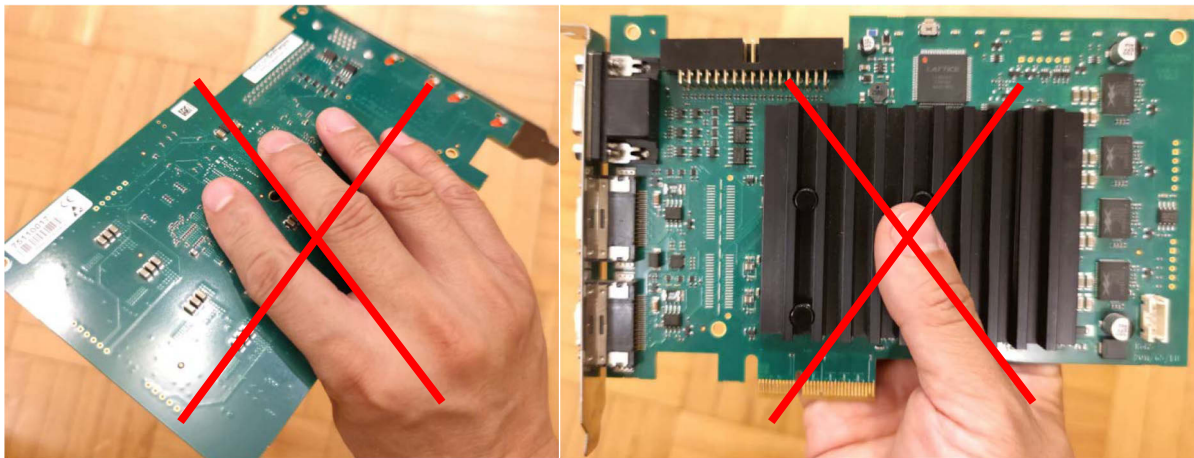


Figure 4: How Not to Touch the PCB's Surface and Not to Grab the Heat Sink

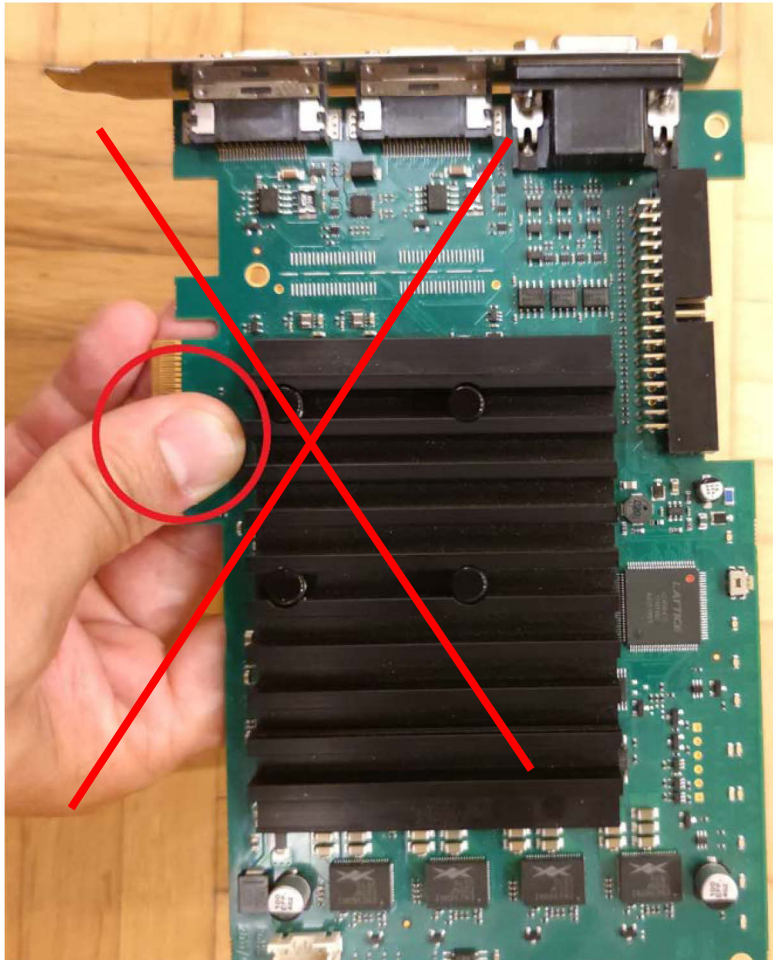


Figure 5: How Not to Hold Frame Grabbers and Interface Cards by the Gold Finger

3 Inserting Frame Grabbers and Interface Cards into PCIe Slots

3.1 How to Insert Frame Grabbers and Interface Cards into PCIe Slots

To insert frame grabbers and interface cards into PCIe slots, proceed as follows:

1. Make sure that the host computer is shut down and unplugged from the power outlet.
2. Lay down the computer on a firm, flat, and even surface.
3. Open the computer case.
4. Hold frame grabbers and interface cards with both hands as illustrated in Figure 6.



The GPIO connector is one of the most solid soldered components of frame grabbers and interface cards. Therefore, Basler recommends to hold frame grabbers and interface cards on the GPIO connector while inserting it into the PCIe slot.

In addition, grab the right upper corners of frame grabbers and interface cards. This part of the product does not contain so many sensitive components.

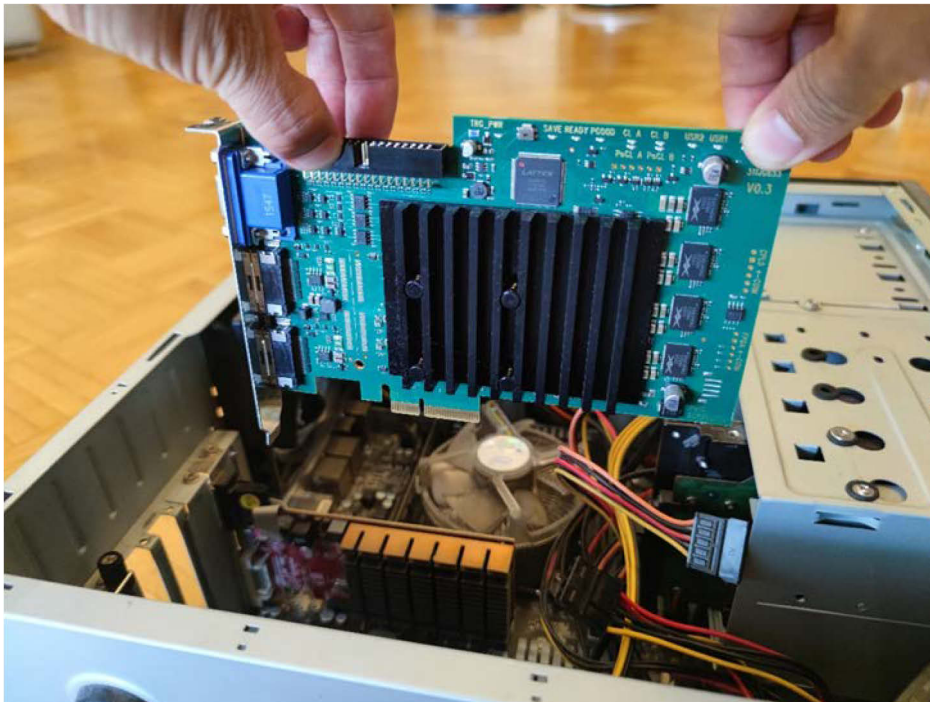


Figure 6: Holding Frame Grabbers and Interface Cards While Inserting it Into the PCIe Slot

5. Point the gold finger into the direction of the suitable PCIe slot.
6. Insert the frame grabber and interface cards gently into the PCIe slot.

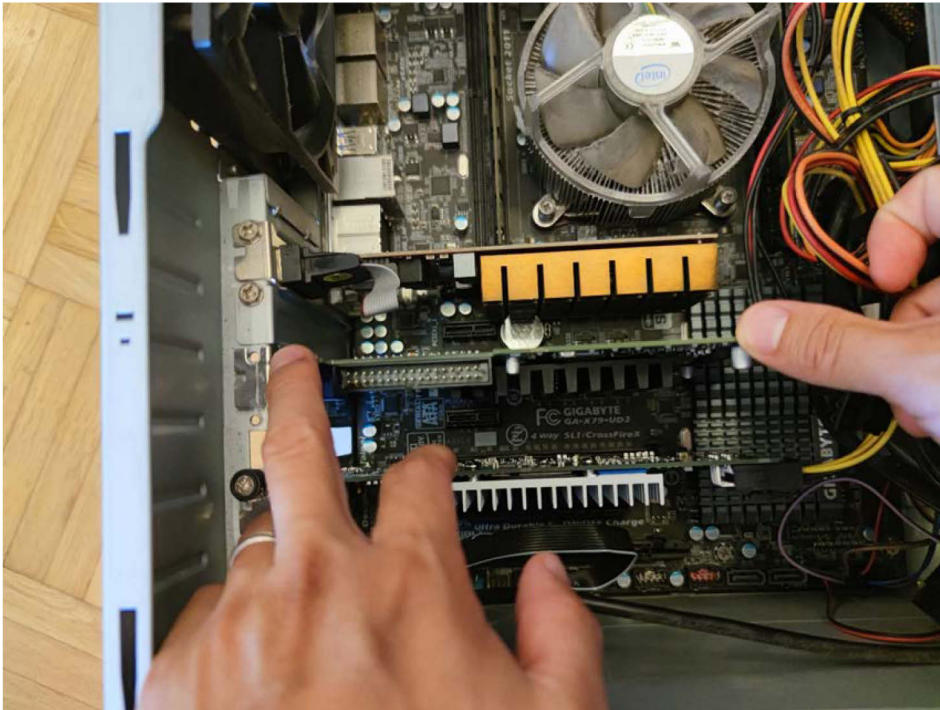


Figure 7: Inserting Frame Grabbers and Interface Cards Into PCIe Slots

7. Check if the gold finger is completely inserted into the PCIe slot.
8. To secure the PCIe bracket, tighten the locking screw.



Figure 8: Tightening the Locking Screw

9. If needed, connect the external power supply.

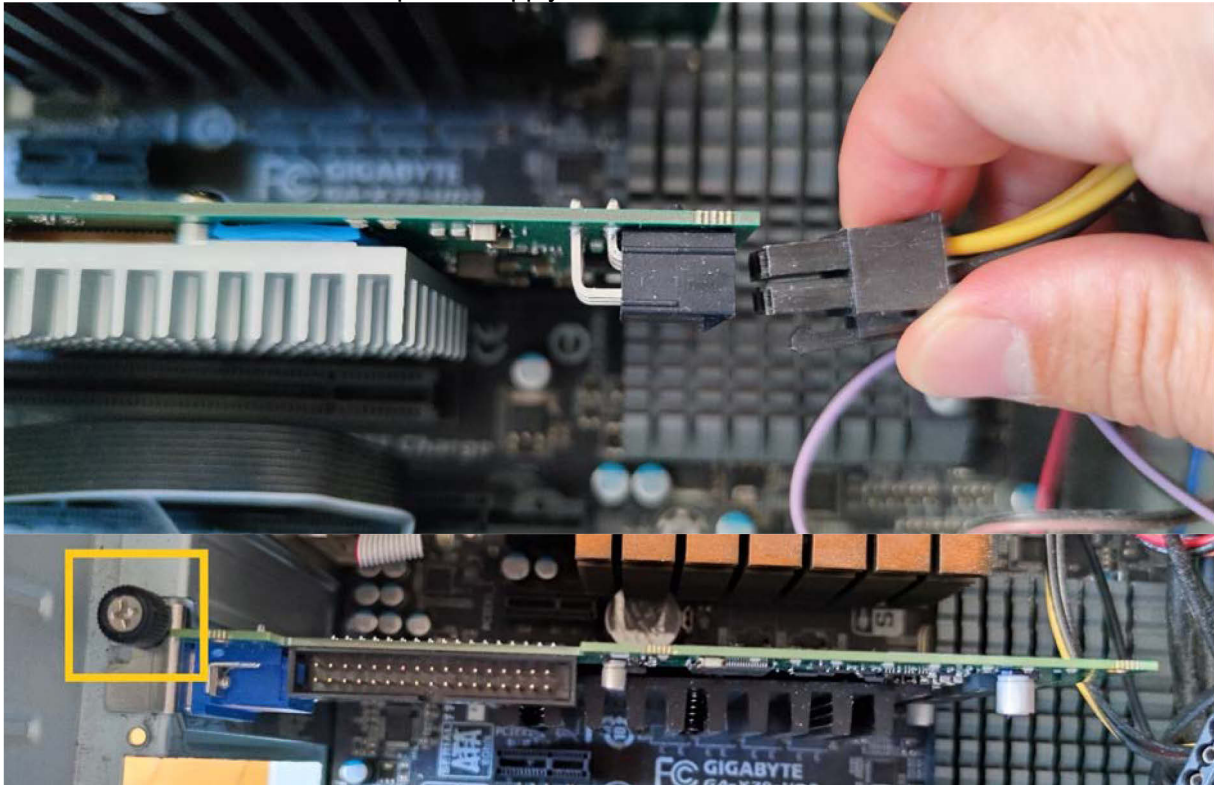


Figure 9: Connecting the External Power Supply

10. Close the computer case.
11. Plug in the power cable of the computer.

3.2 How to not Insert Frame Grabbers and Interface Cards into PCIe Slots

The following figures illustrate how **to not insert** frame grabbers and interface cards into PCIe slots.

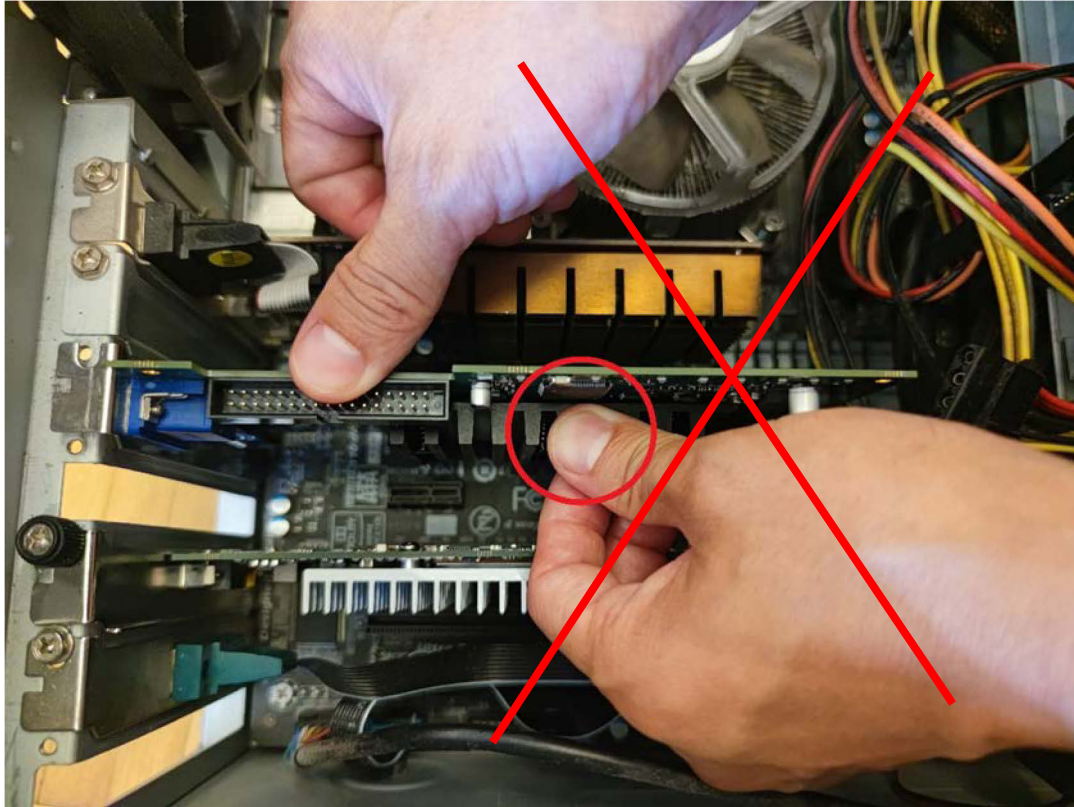


Figure 10: How Not to Insert Frame Grabbers and Interface Cards While Pushing the Heat Sink

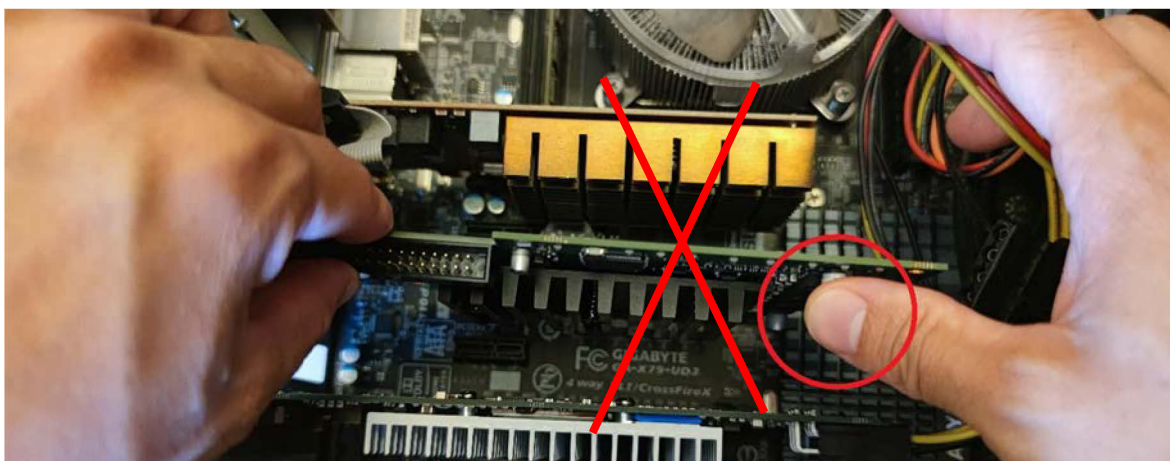


Figure 11: How Not to Touch the Electrical Components While Inserting Frame Grabbers and Interface Cards

Revision History

Document Number	Date	Changes
AW00175201000	11 August 2022	Initial release version of this document.