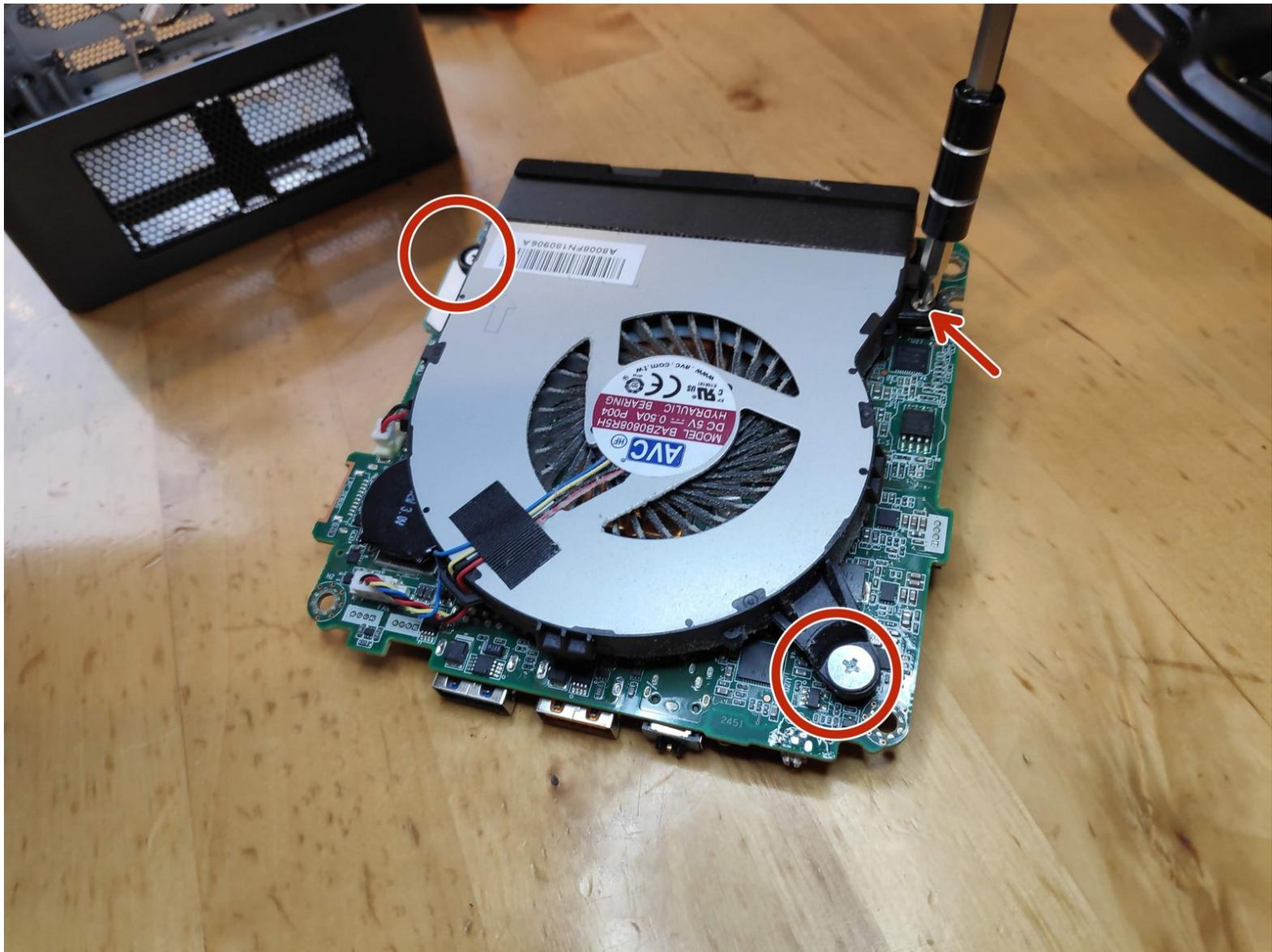




Fix NUC8i7BEH overheating

How to solve the overheating and thermal throttling in the NUC8i7BEH NUC mini PC

Written By: Vladimir Knobel



INTRODUCTION

The small form factor makes the NUC too prone to overheating due dust accumulation in the CPU cooler air outlet fins

TOOLS:

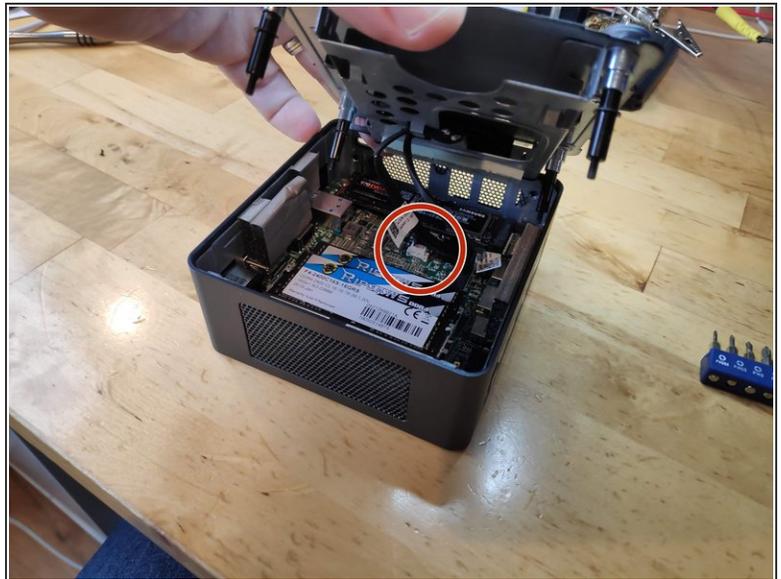
- [Phillips #0 Screwdriver](#) (1)
 - [Phillips #1 Screwdriver](#) (1)
 - [Phillips #2 Screwdriver](#) (1)
 - [Thermal Paste](#) (1)
 - [Isopropyl Alcohol 70%](#) (1)
-

Step 1 — Turn NUC upside down



- Place the NUC upside down and select a PH2 Phillips screw driver bit

Step 2 — Unscrew lower lid



- Start by using a Phillips head #2 screw driver to remove the lower screws on the lower case door.
- These screws are held in with retainers, so they won't fall out when you flip the lid.

Step 3 — Lid and HDD Bracket



- Lift the door, and keep an eye on the cables that connect to the NUC's motherboard. These cables are the power and data cables for the 2.5" hard drive bay.
- Carefully unplug the cables from the motherboard, and set the bracket aside.
- In the last photo, the slot for a blade SSD is marked with a red arrow. This is where you would install the blade SSD, and use a screw to hold it in place.

Step 4 — SSD removal



- Change the screw driver bit to the PH1 one.
- Unscrew the V-NAND SSD and carefully slide it out of its connector.

Step 5 — SSD removal (video)



- Previous step as video

Step 6 — Motherboard Removal (Screw driver)



- Change the screw driver bit to PH1

Step 7 — Motherboard Removal



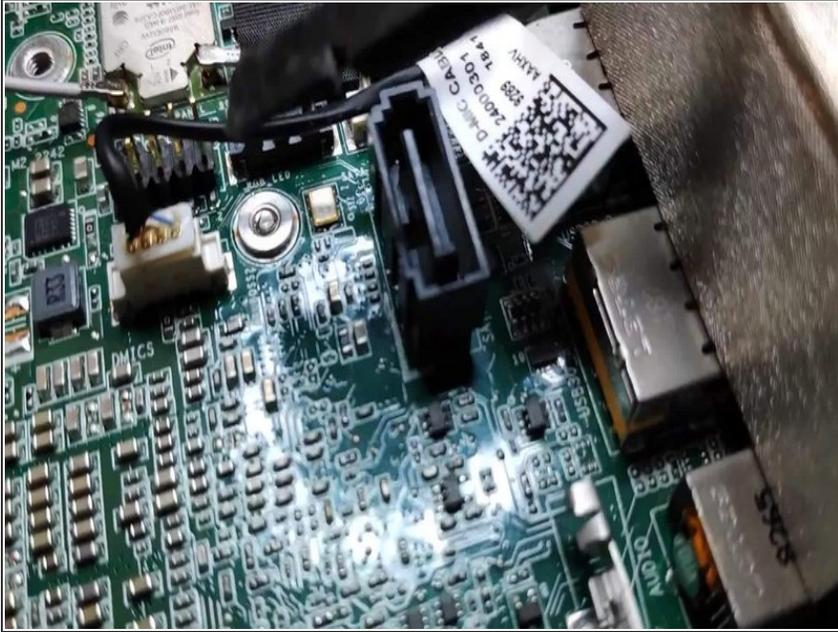
- Unscrew the screws marked in red circles

Step 8 — Motherboard Removal, continued.



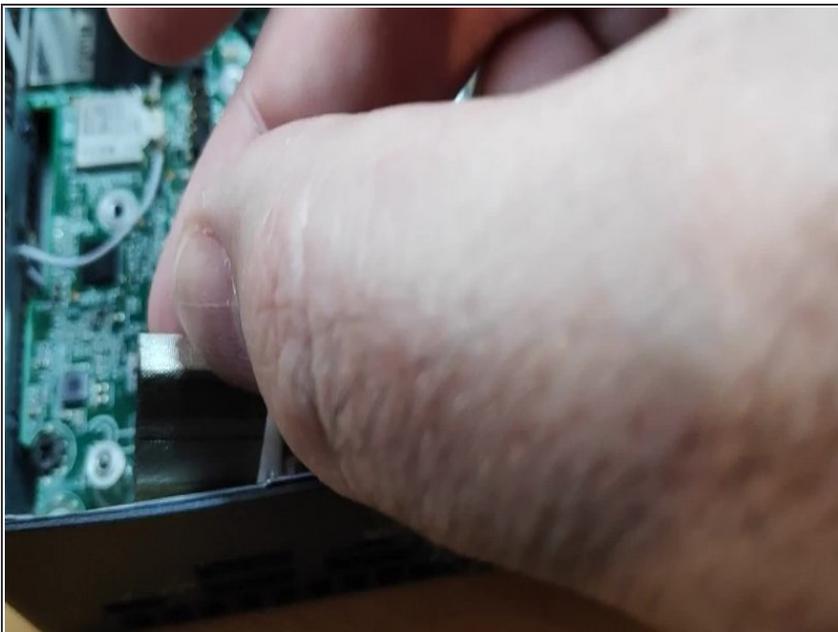
- Remove the WiFi and Bluetooth antenna cables (be extremely careful when doing this otherwise you risk to rip the base contact terminal off the PCB)
- Remove the stereo mic cable from the motherboard connector.
- Pay attention to the WiFi cable hidden under a black piece of tape

Step 9 — Motherboard Removal, continued (video).



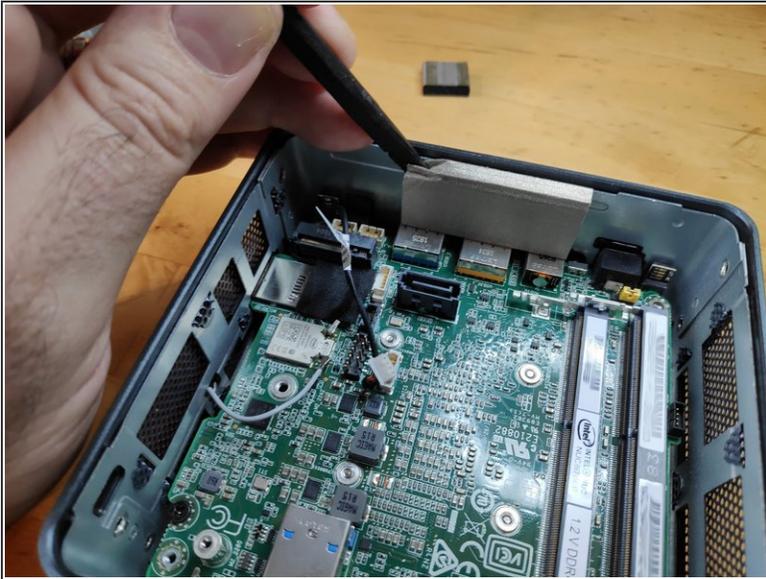
- Disconnect mic cable

Step 10 — Remove protection padding



- Remove padders from the sides

Step 11 — Remove protection padding, continued



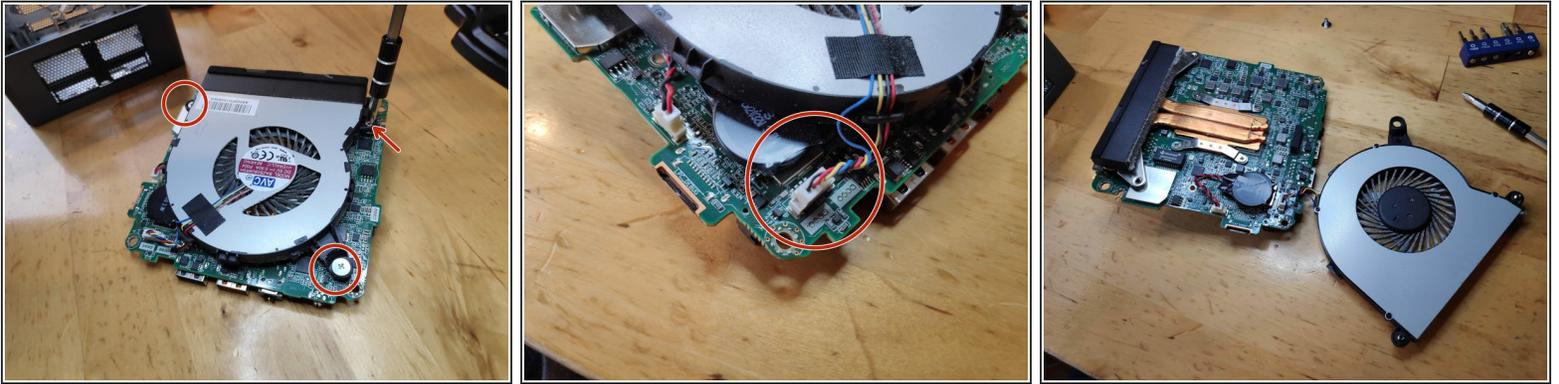
- Not all are necessary only the two depicted.

Step 12 — Motherboard Removal, final step



- Use a pry tool to lift the motherboard from the casing
- Marked with red circles the dust signs evident on first sight

Step 13 — Remove CPU fan



- Remove the 3 screws fixing the CPU fan
- Remove the fan power connect from the motherboard

Step 14 — Blast off dust from CPU air exit fins



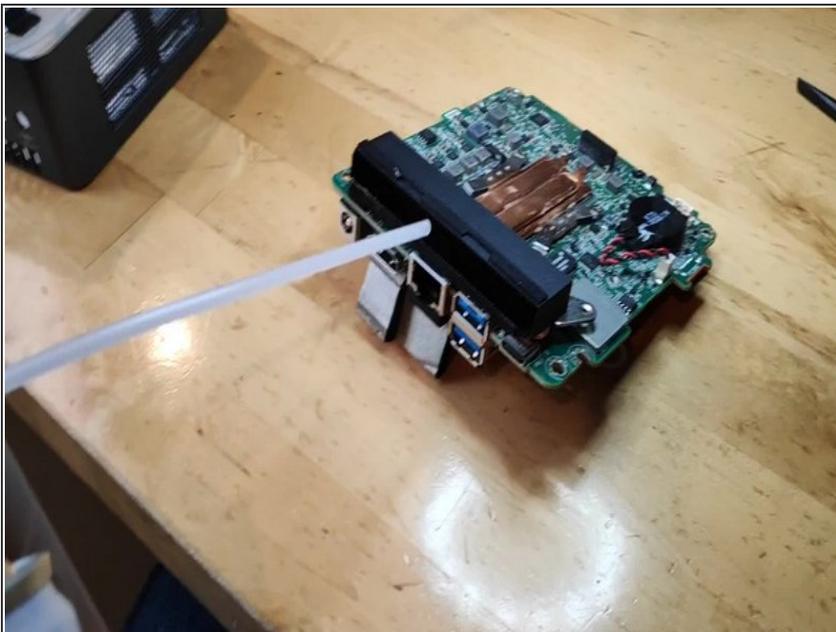
- You will need to use compressed air, a small vacuum cleaner or something similar to blast off all the stucked dust.

Step 15 — Blast off dust from CPU air exit fins, continued



- I'm using a compressed air can (optional)

Step 16 — Blast off dust from CPU air exit fins, continued



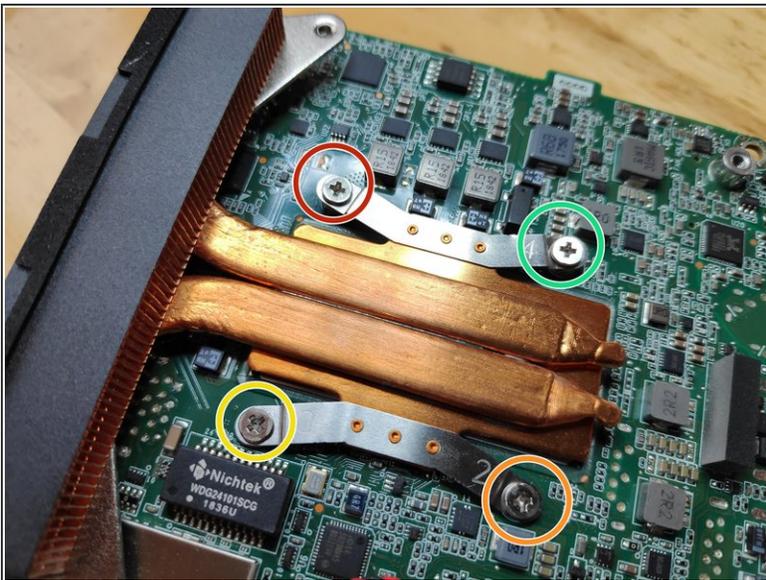
- [Video of the procedure](#)

Step 17 — Blast off dust from CPU air exit fins, continued



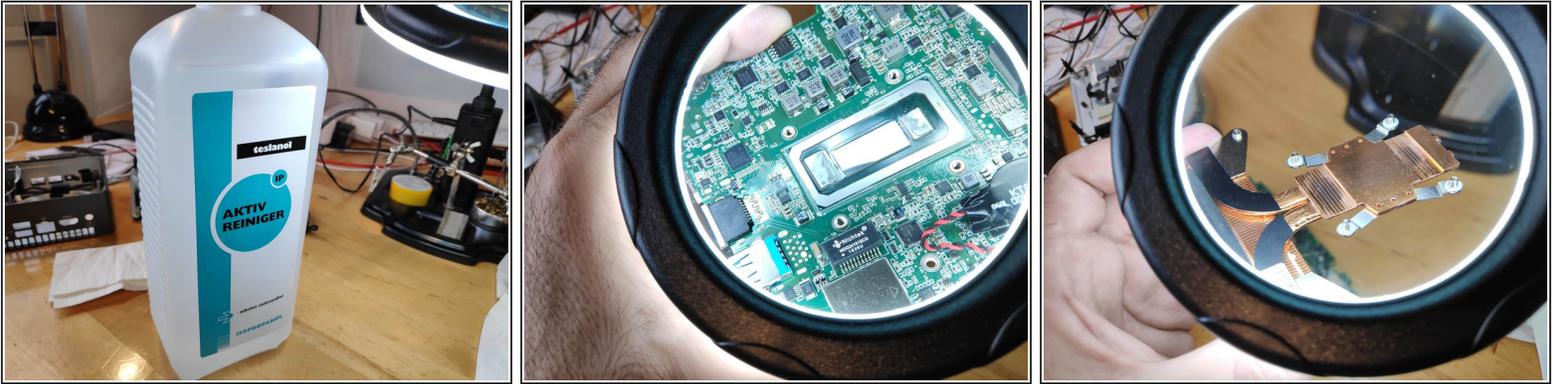
- [Video of the procedure](#)

Step 18 — Exchange thermal paste for CPU cooler (optional)



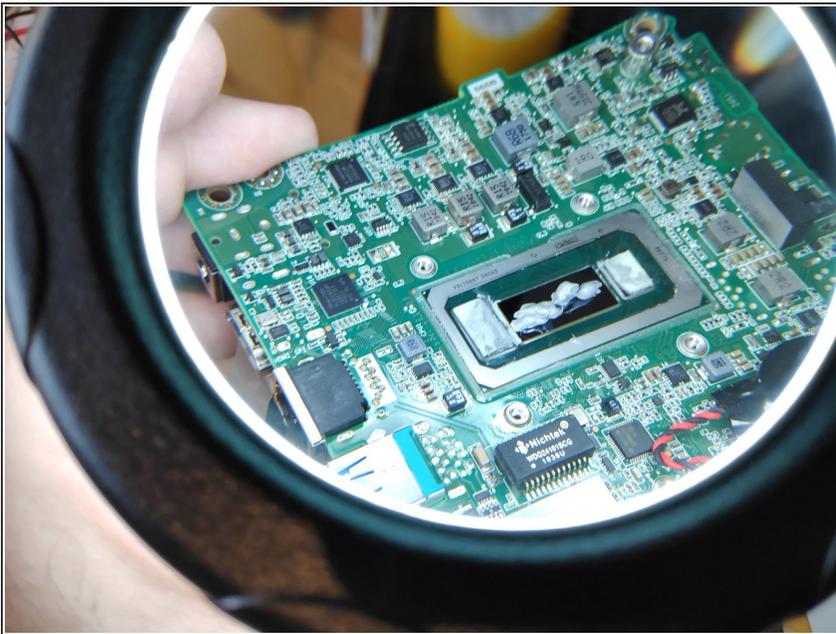
- This step is probably not necessary, but for the sake of completeness here it is.
- Remove the screws holding the CPU cooler following the numbers on them.

Step 19 — Clean old CPU thermal paste



- Use isopropyl alcohol for this, be careful not to touch the the thermal pads on the chips around the CPU.

Step 20 — Reapply CPU thermal paste



- Be careful not to apply too much of it.

To reassemble your device, follow these instructions in reverse order.