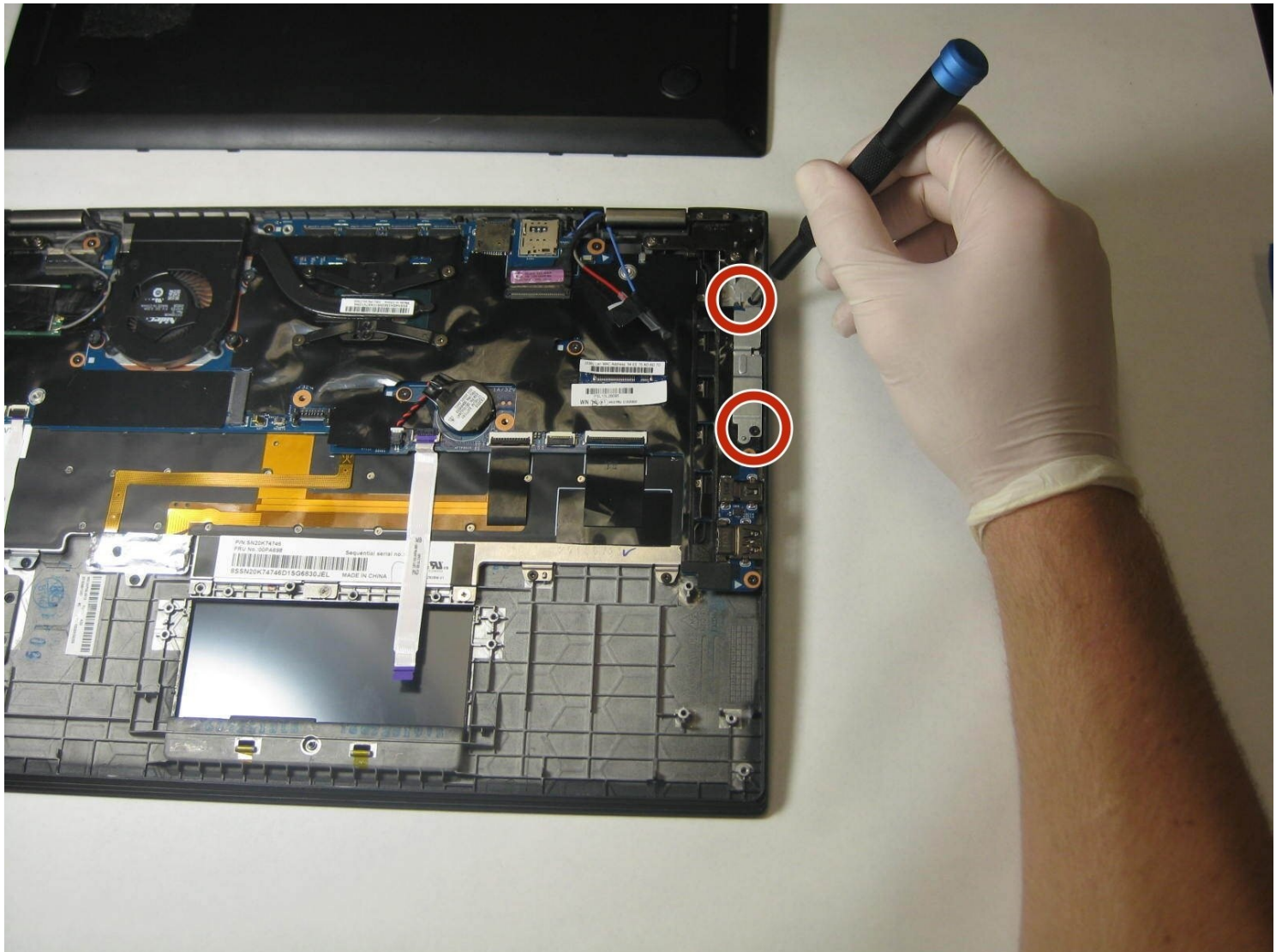




# Lenovo Thinkpad X1 Carbon 4th Gen Motherboard Replacement

If your Lenovo Thinkpad X1 Carbon 4th...

Written By: Dylan Wood



# INTRODUCTION

If your Lenovo Thinkpad X1 Carbon 4th Generation is giving a blue screen, restarting randomly, has a burning smell coming from the motherboard use this guide to replace the motherboard (also known as a Logic board).

The motherboard is the main part of the computer and if it fails may cause other parts to fail.

Before using this guide, inspect the ribbon cable connections for everything attached to the motherboard.

Before beginning, make sure to power off your computer completely and disconnect from any external power source.



## TOOLS:

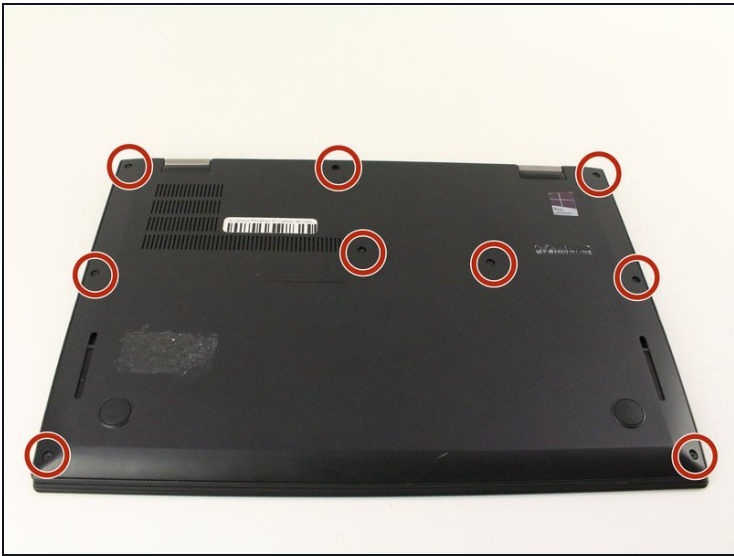
[Phillips #1 Screwdriver](#) (1)

[iFixit Opening Tool](#) (1)

[Spudger](#) (1)

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## Step 1 — Bottom Panel



- Unscrew the nine captive screws on the bottom cover of the laptop using a Phillips #1 screwdriver.
- ⓘ The screws do not fully come out of the back cover, so there is no need for screw management.
- There are a few small clips around the edge that you may need to pry at to free them. An opening pick may be helpful for this process.

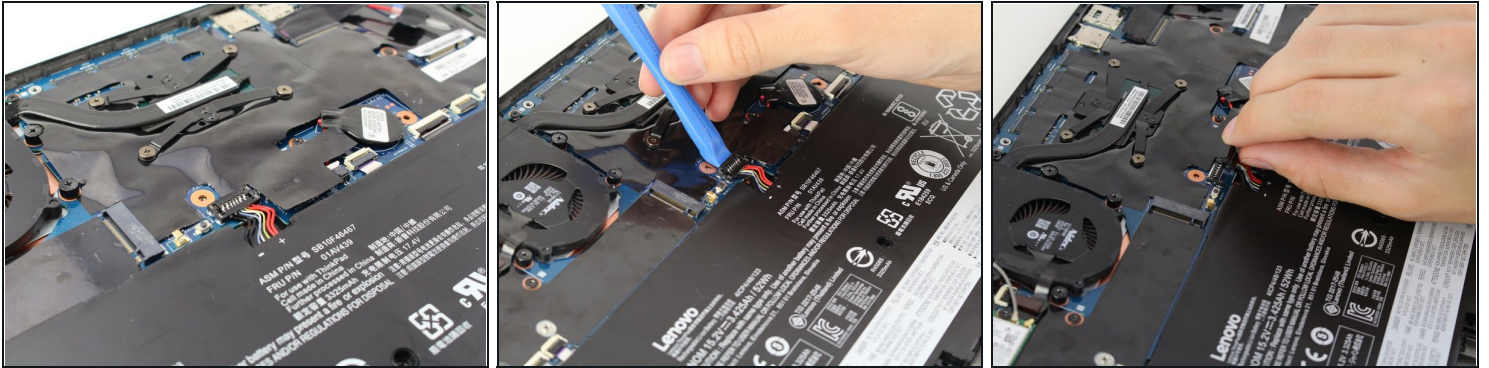
## Step 2



- Lift the back cover up and off of the computer.



## Step 3 — Lithium Battery



- Carefully lift the far end of the battery connector with an opening tool facing towards you.
- Remove the connector by pushing it forward and lifting.

## Step 4



- Remove the central 5 mm screw with a Phillips #1 screwdriver.

## Step 5



- Lift the battery up and out of the computer.

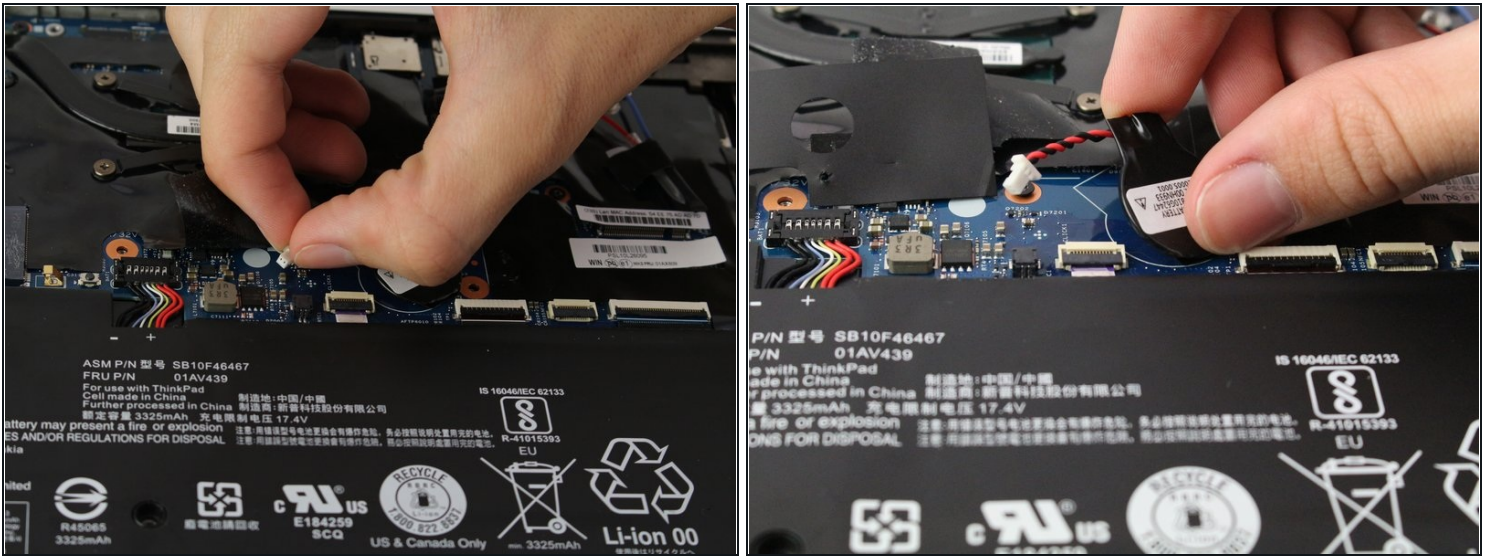
## Step 6 — Coin Cell Battery



- Peel back the plastic protective cover above the main battery section to expose the coin-cell's red and black wires.



## Step 7



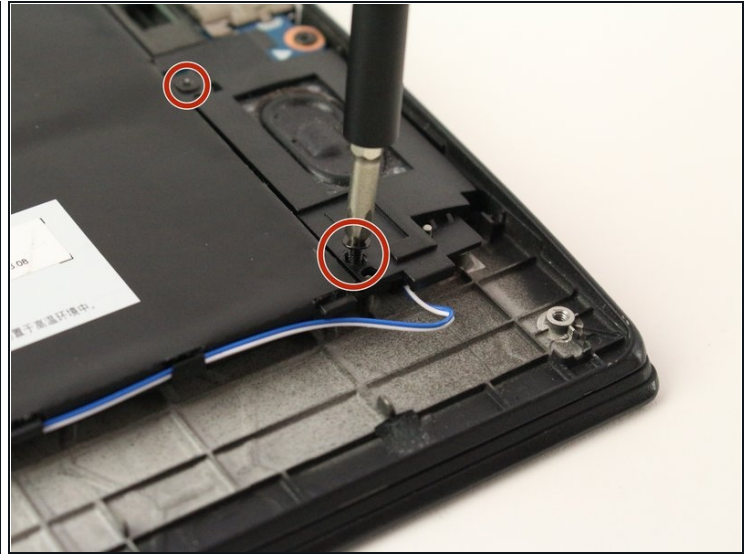
- Gently unplug the coin-cell wires from the connector by pulling horizontally away from the connector.
- Lift the coin cell out from the computer.

## Step 8 — Speakers



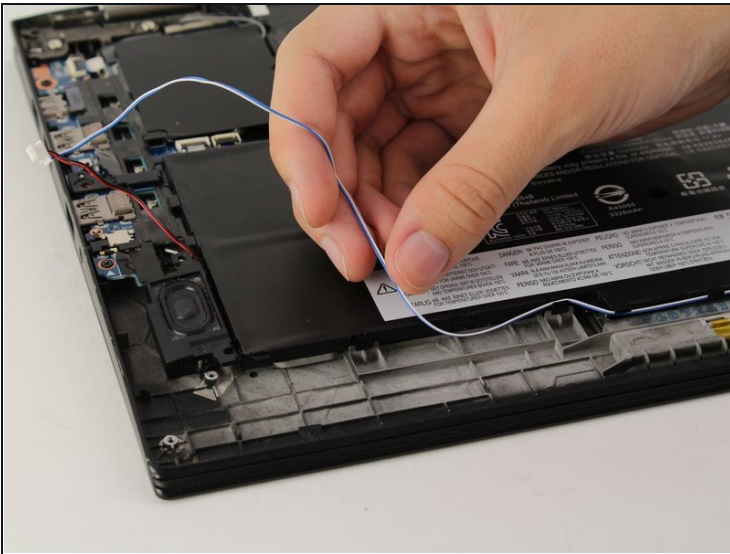
- Carefully unplug the speaker connector by pulling it towards you.

## Step 9



- Remove the two 5 mm screws on each speaker with a Phillips #1 screwdriver.

## Step 10



- Unweave the blue and white wires from underneath the plastic tabs connected to the battery.

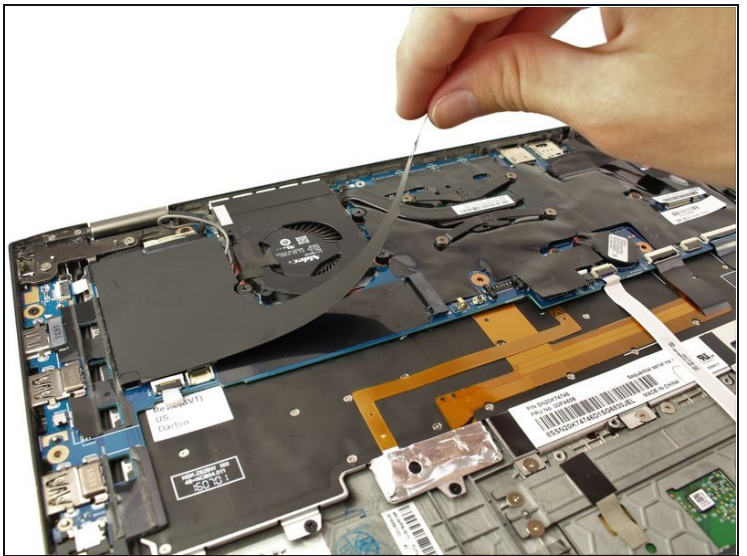
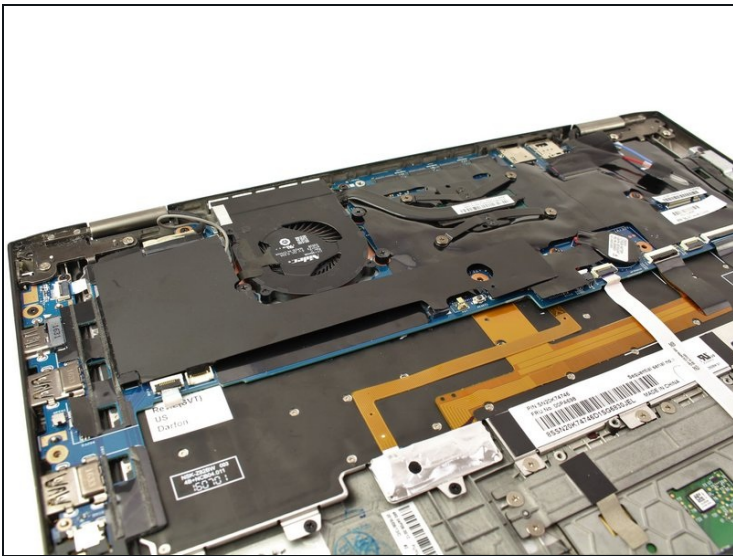


## Step 11



- Lift each speaker up and out from the computer.

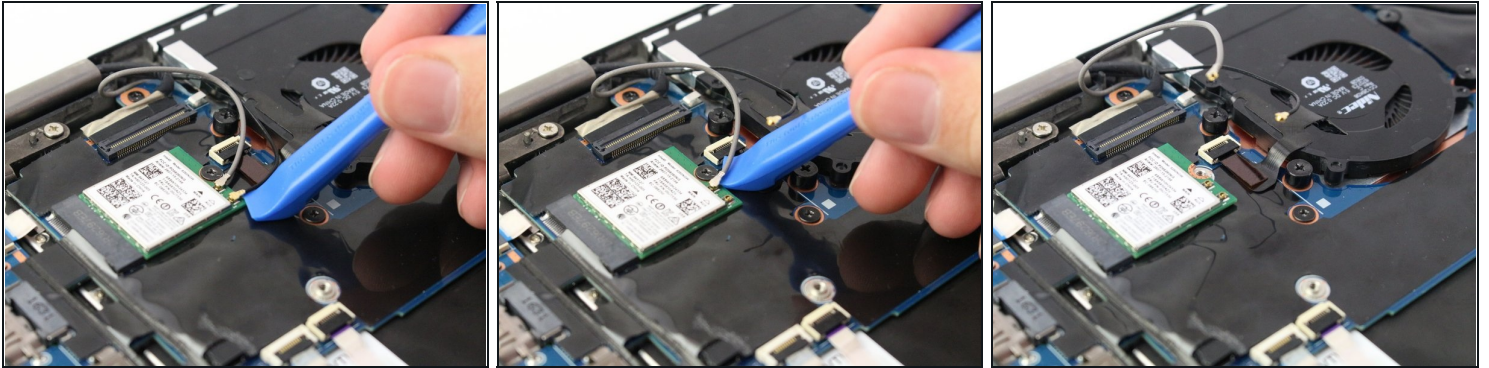
## Step 12 — Wireless LAN Card



- Remove the protective film to the left of the fan assembly.

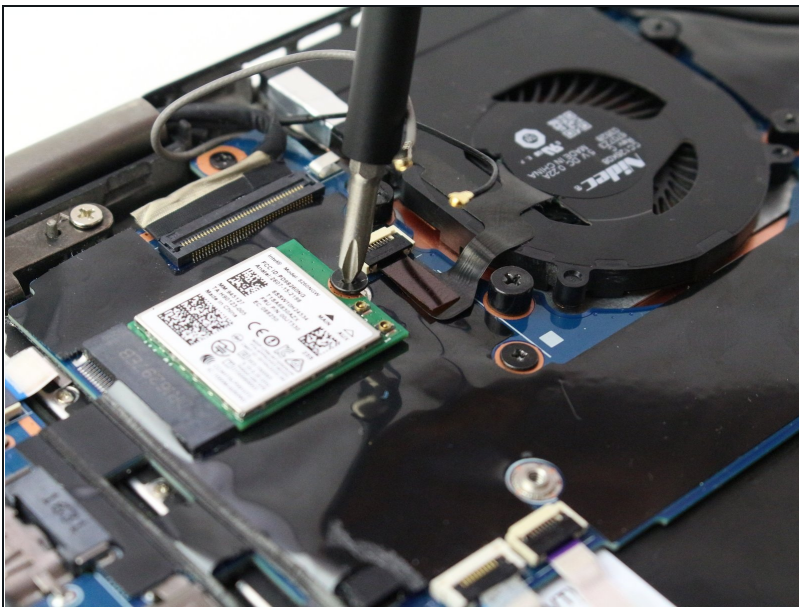


## Step 13



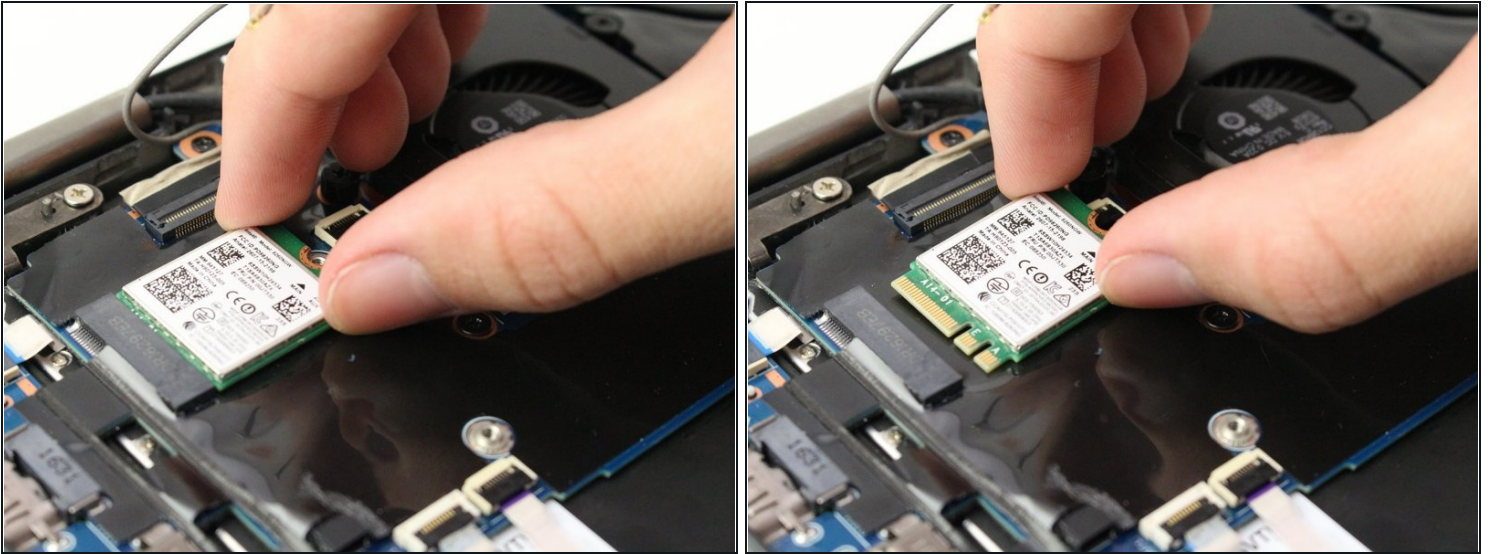
- Carefully disconnect the gray and black antenna connectors on the green wireless LAN card by lifting under the antennas with an opening tool.

## Step 14



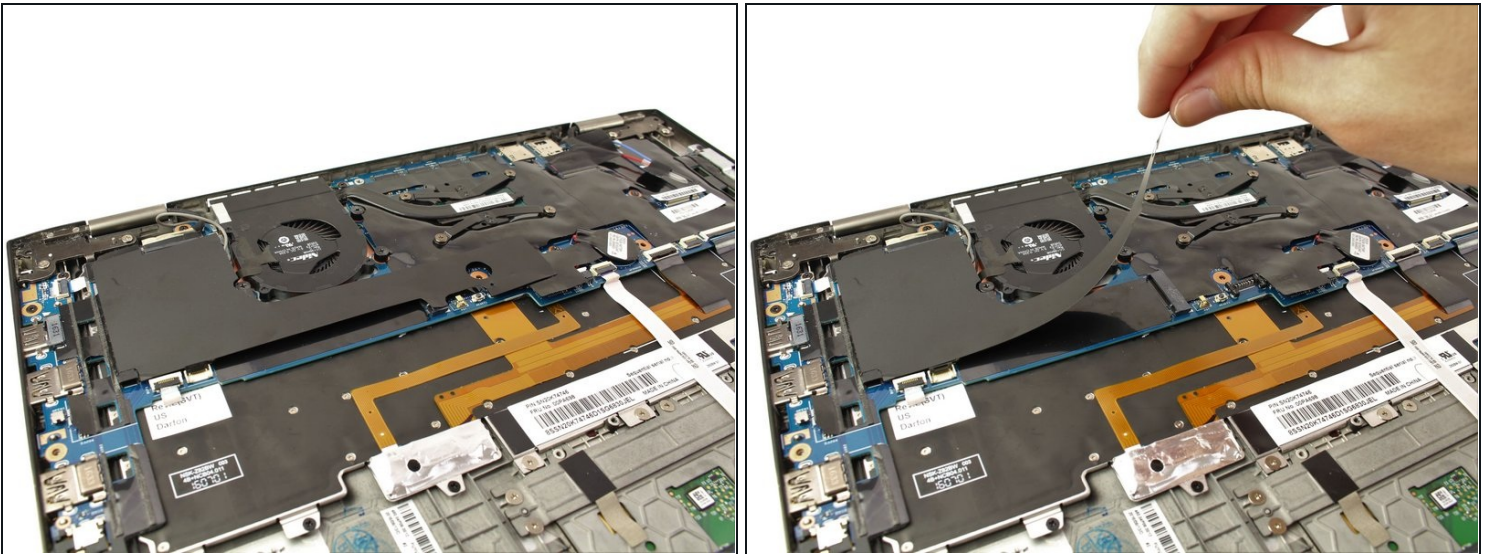
- Remove the 2.5 mm screw holding the card in place with a Phillips #1 screwdriver.

## Step 15



- Carefully slide the wireless card out of the slot by pulling it to the right.

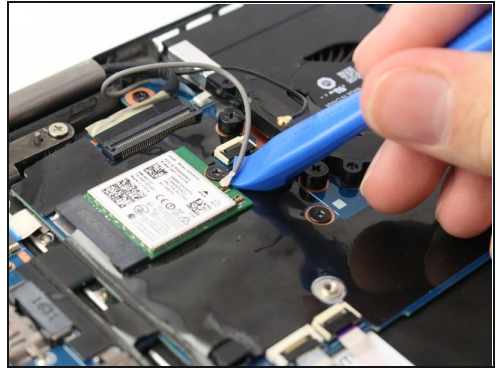
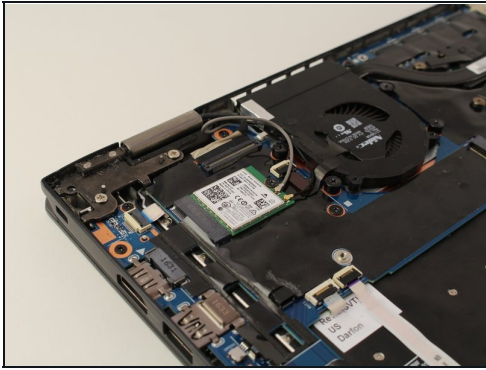
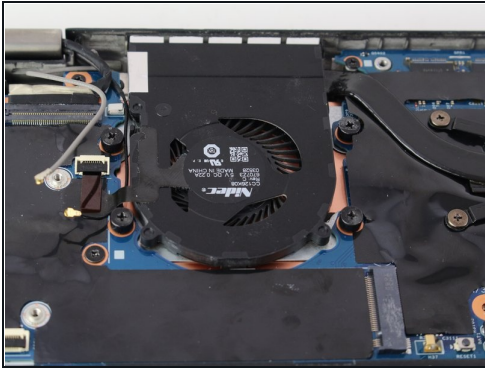
## Step 16 — Cooling Fan



- Peel off the black protective film to the left of the fan.

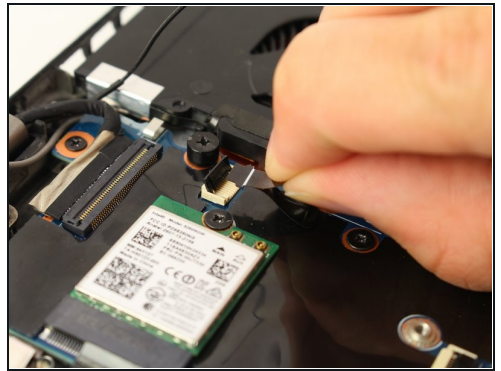
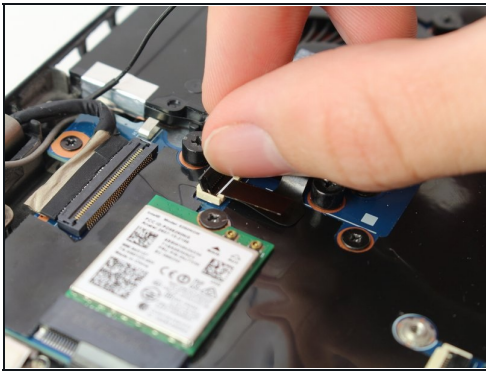
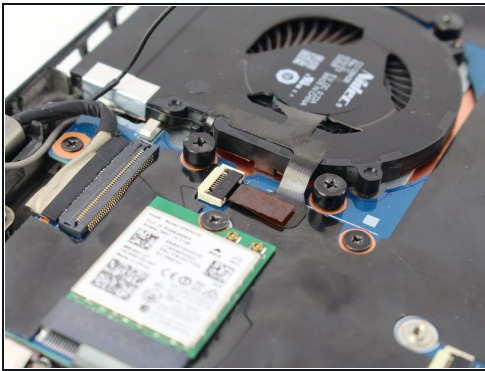


## Step 17



- ① Do not remove the four screws closest to the fan. They do not affect the fan assembly.
- Disconnect the antenna wires on green the wireless LAN card to the left of the fan.

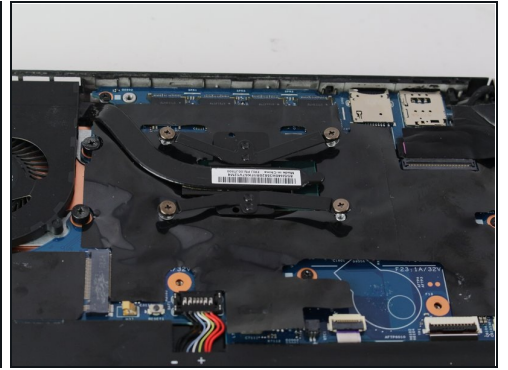
## Step 18



- Lift up the hinge connector that is attached to the fan's ribbon cable.
- Carefully disconnect the cable by pulling outwards from the ribbon connector.

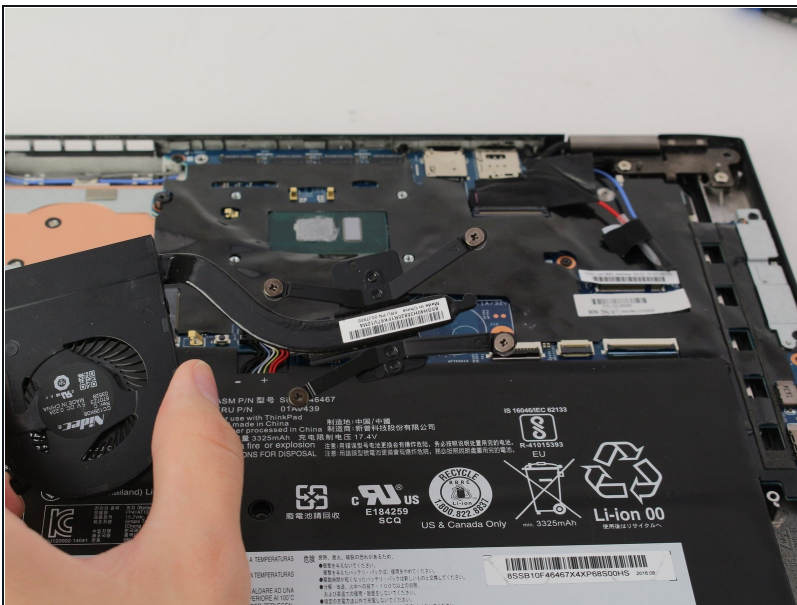


## Step 19



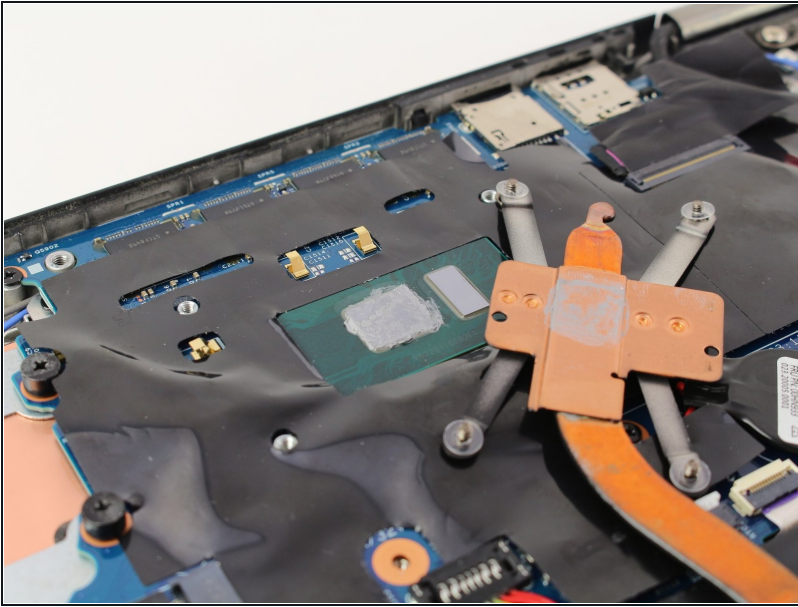
- Loosen the screws on the 'x' configuration of metal.
- ① These screws are held on to the metal 'x', so don't worry about them falling out.

## Step 20



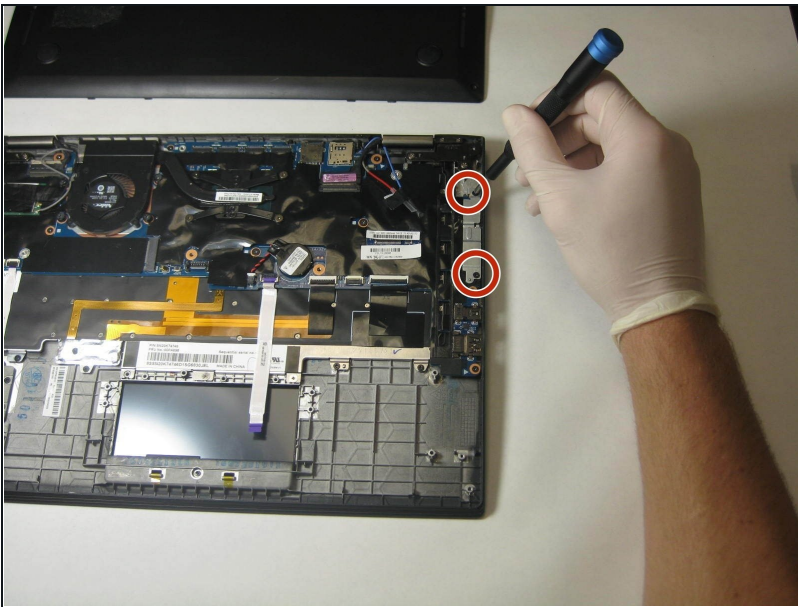
- Lift the fan upwards from the board.

## Step 21



- ★ It's best practice to replace the old thermal paste under the 'x' configuration of metal. (Guides on how to replace thermal paste can be found [here](#).)

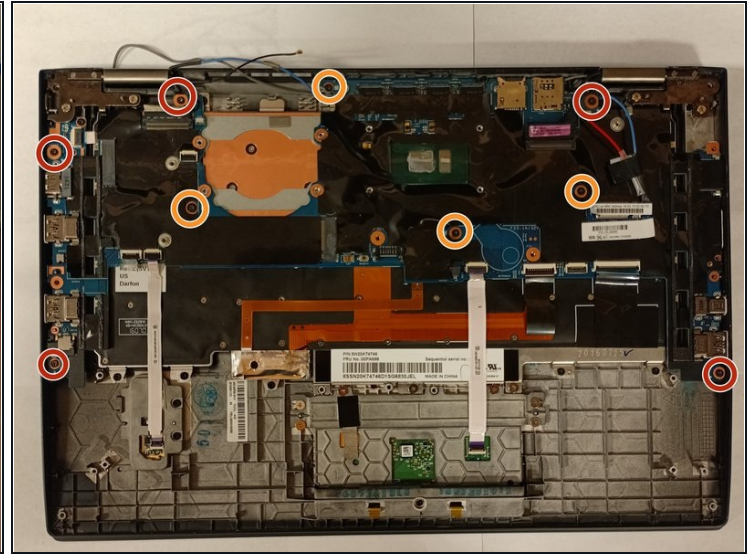
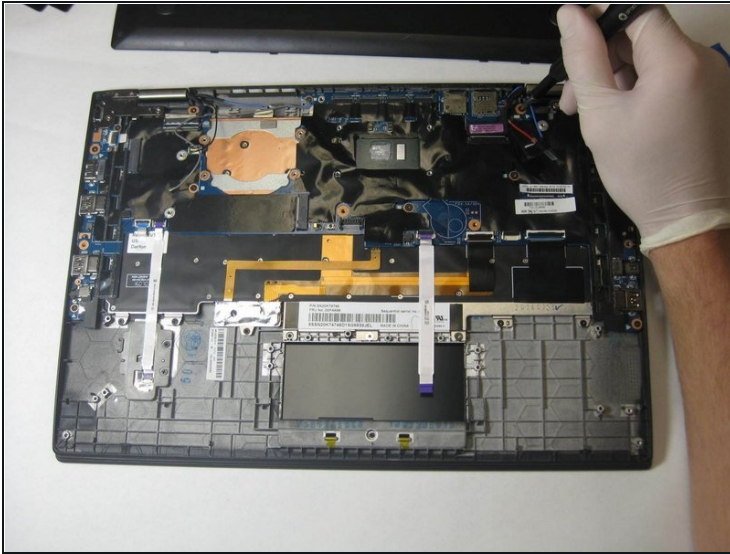
## Step 22 — Motherboard



- Using a Phillips #0 screwdriver, remove the two 5 mm screws securing the USB ports on the righthand side of the motherboard.



## Step 23



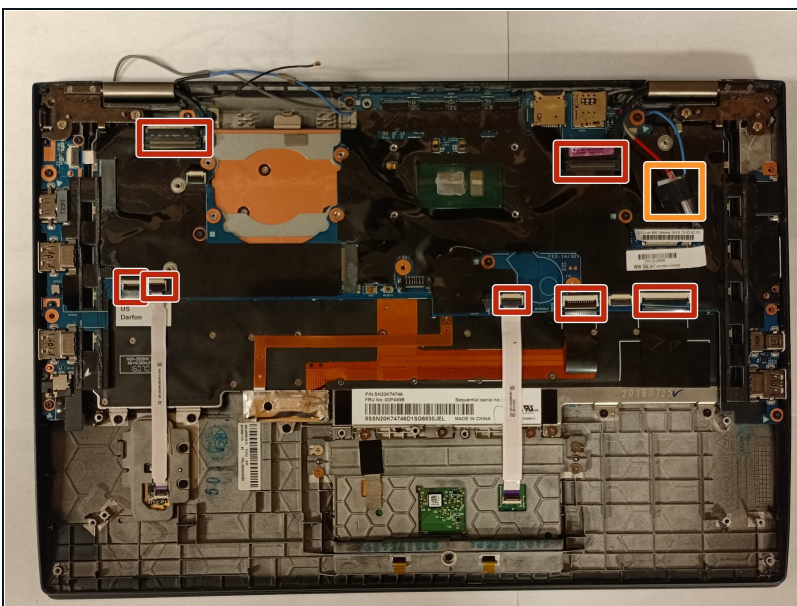
❶ The white triangle symbol on the motherboard identifies the longer 5mm length screws.

- Using a Phillips #0 screwdriver, remove the five 5mm screws.

❷ The white square symbol on the motherboard identifies 2mm length screws.

- Using a Phillips #0 screwdriver, remove the four 2mm screws.

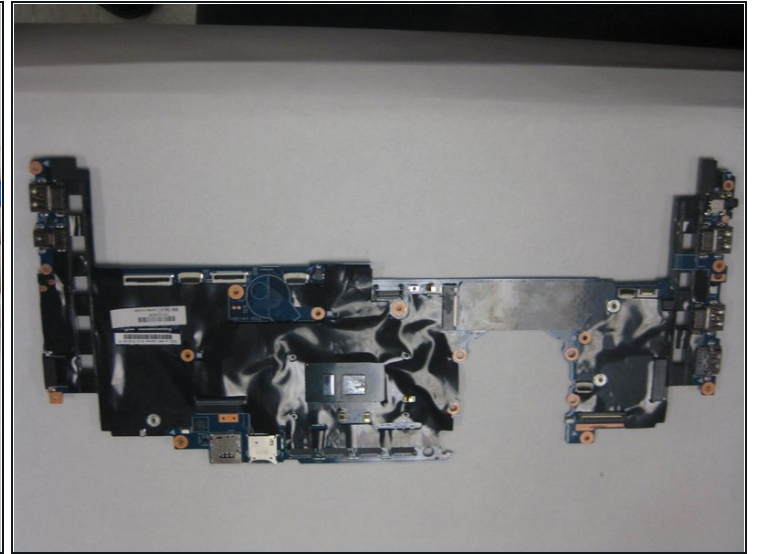
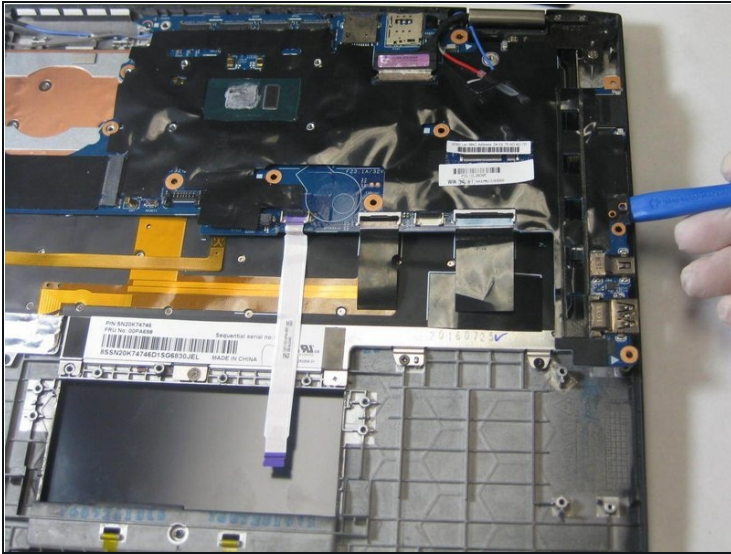
## Step 24



- Remove the 7 ribbon cables connecting the motherboard to their respective components by flipping up the locking black tabs with a spudger and pulling the cables from their connectors.
- Remove the red and blue wires attached to the motherboard.



## Step 25



- Using the plastic opening tool, gently lift up on the motherboard.
- ⚠ If resistance is felt double check to make sure all the screws and ribbon cables are out.
- Lift the motherboard out from the computer.

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