



12+6 - 30pin Molex Adapter v2

13inch (A1278) Installation Instructions

Thanks for purchasing a 12+6 adapter please follow the instructions below to install your adapter, if you have any issues or questions please contact [Support](#) or check the [FAQ](#)

*****Please carefully read the [Compatibility Guide](#) before starting installation*****

Time

The installation of the adapter is intricate, and will take at least 1.5Hrs.

Preparation

Make sure you have a clean well lit workspace and have taken the appropriate anti-static precautions. Please read the instructions carefully before proceeding.

You will need:

- 12+6 - 30pin Kit (This should include the adapter, 4 IPEX adapters, a piece of 3m VHB tape and 3 sizes of heat shrink)
- [Suitable 12+6 WiFi Card](#)
- Tape (kapton or thin electrical tape)
- This guide, preferably on another device

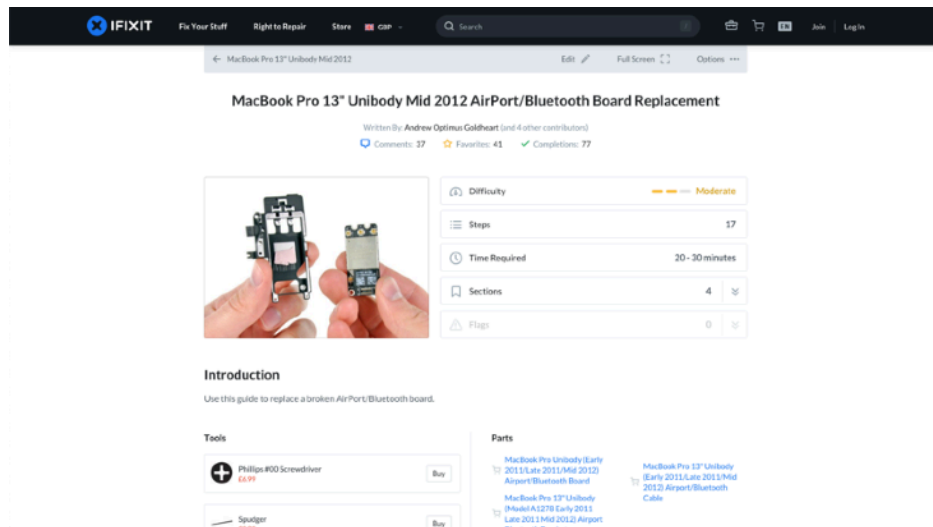
You will need the following tools:

- #00 Phillips screwdriver
- Plastic Spudger
- Side cutters, Small hacksaw or Dremel
- Metal file
- A hot air gun or hairdryer
- Scalpel or Knife

*****It is always good practice to back up your data and make sure your machine has been shut down properly before you start any work. This is a DIY unsupported modification to your laptop that you are undertaking at your own risk and intriguing industries will take no responsibility for any damage or data loss*****

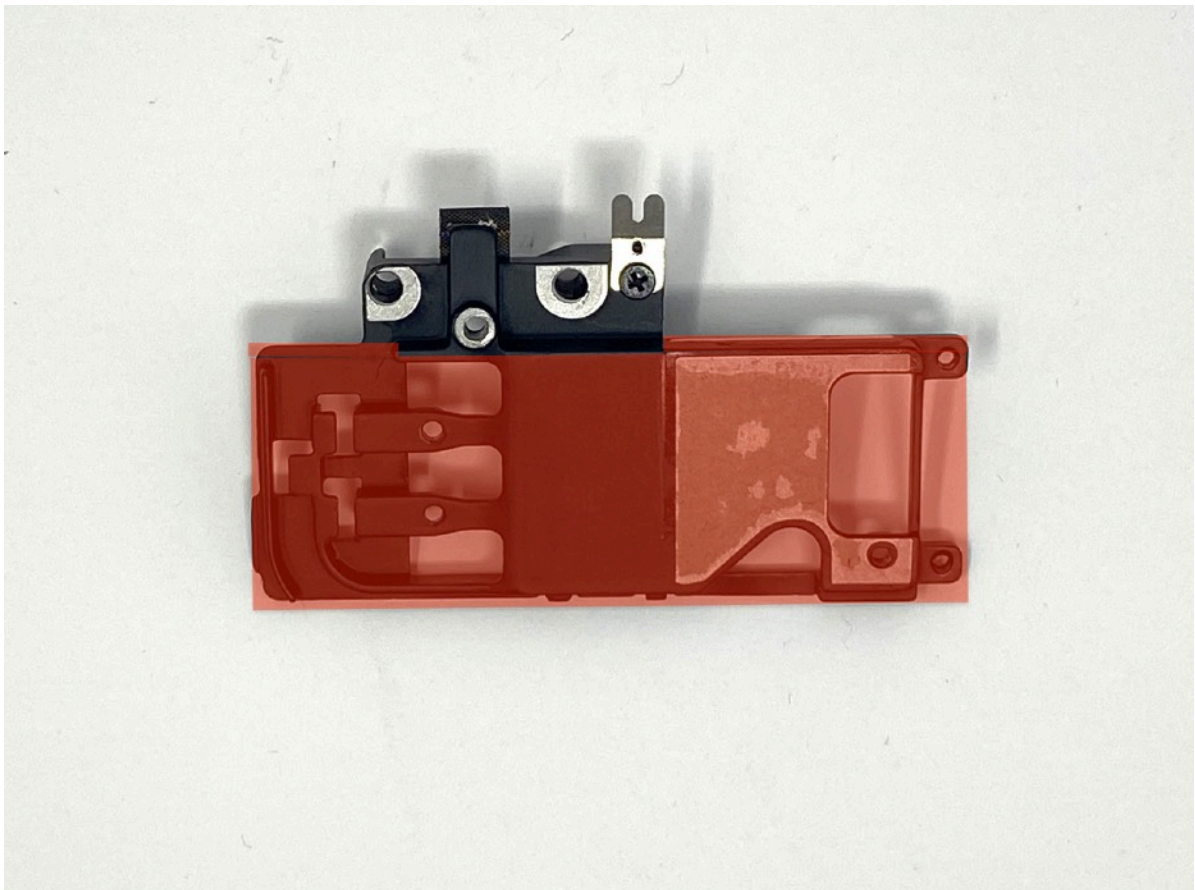
1. Remove the bottom cover and the existing WiFi card

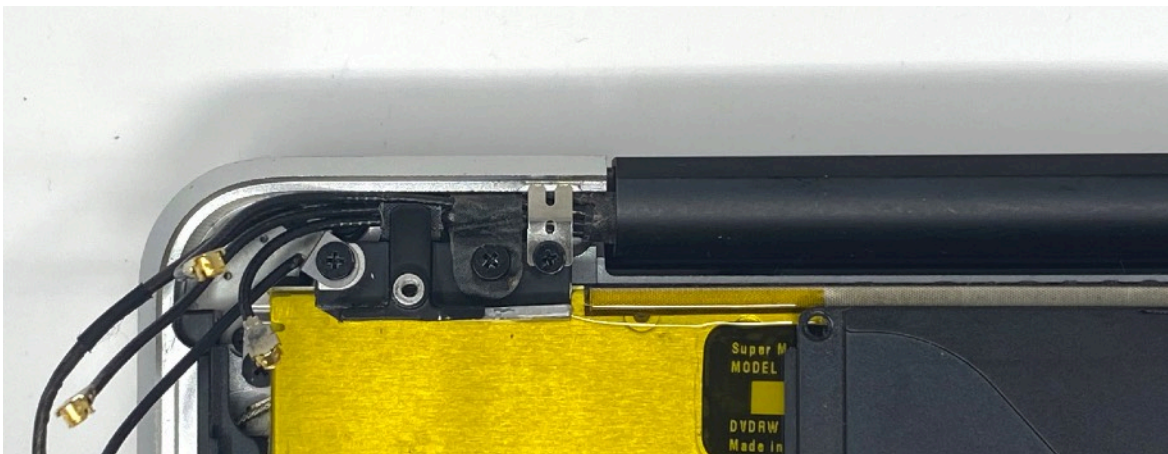
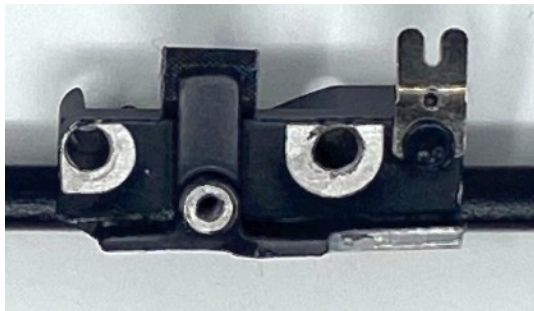
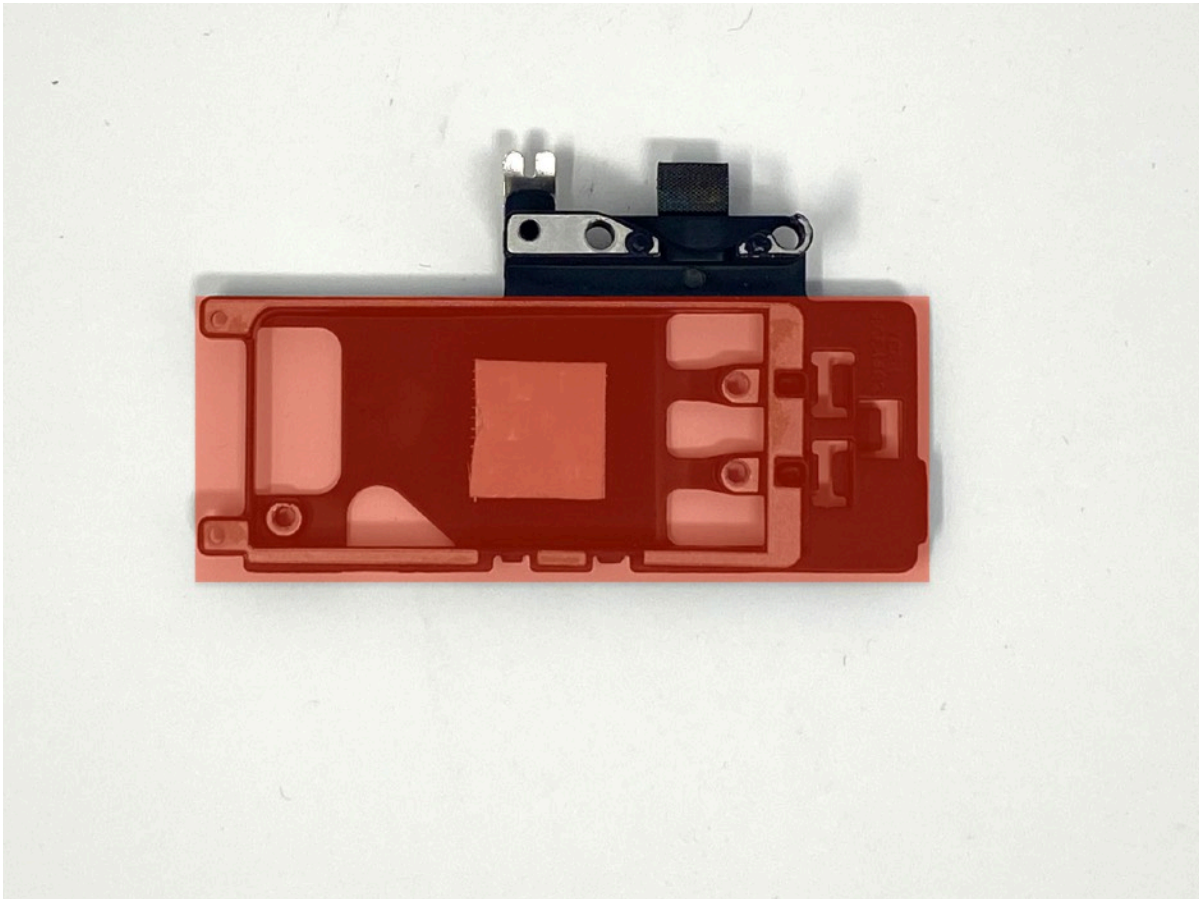
Follow the great [iFixit instructions](#) to remove the bottom case and wifi card and cage.



2. Modify the WiFi card cage

The cage will need to be modified by removing the area in red so you retain the hinge cable restraint and threaded hole for the bottom of the case. The metal is soft a pair of side cutters is sufficient too cut through it, you can also use a small hacksaw or Dremel. Make sure you smooth any rough edges with the file, or sharp scalpel. Refit the the cable restraint, which is the reverse of the cages removal.





3. Insulate the installation area

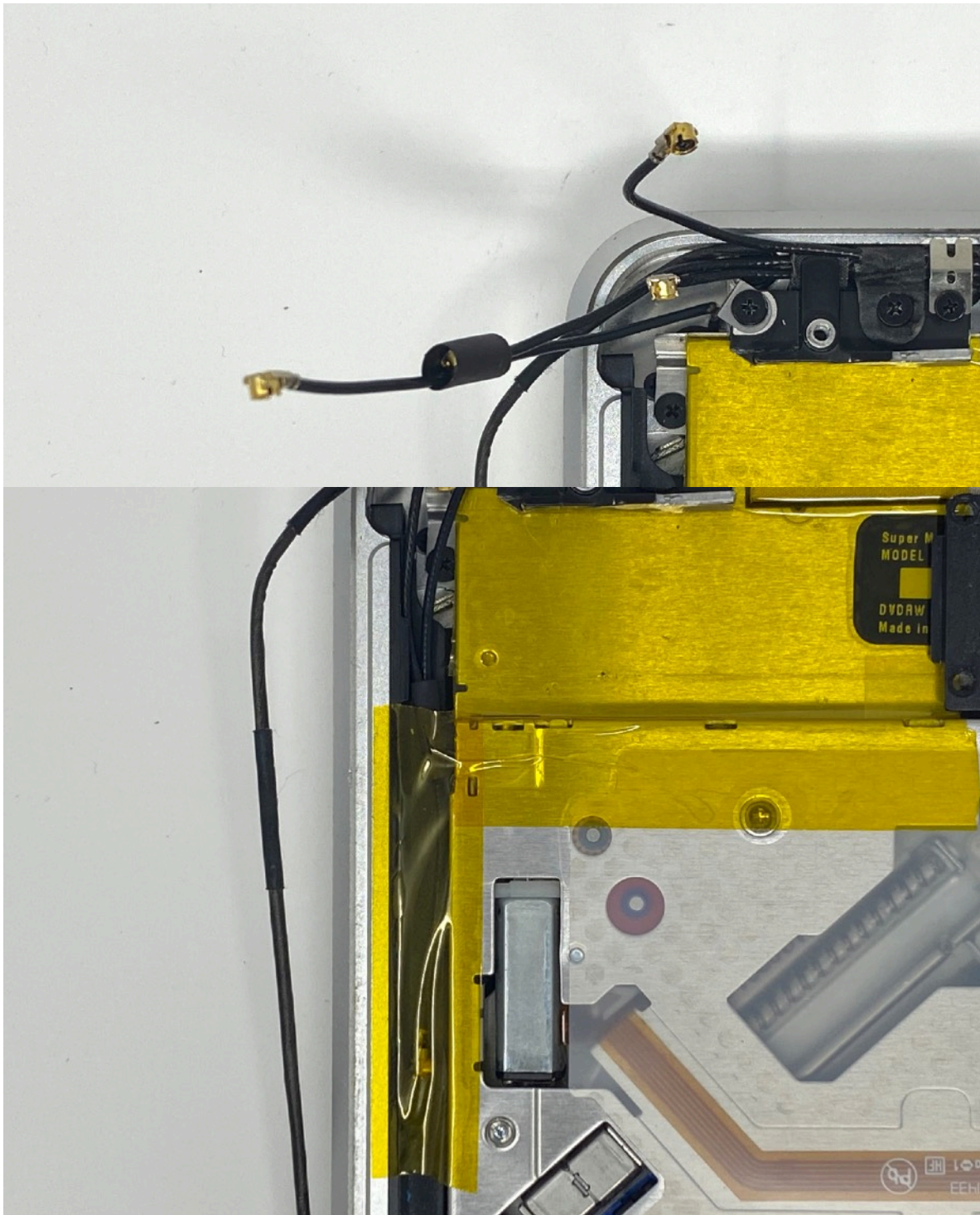
Insulate the installation area shown on both the bottom cover and DVD drive with either Kapton or electrical tape.



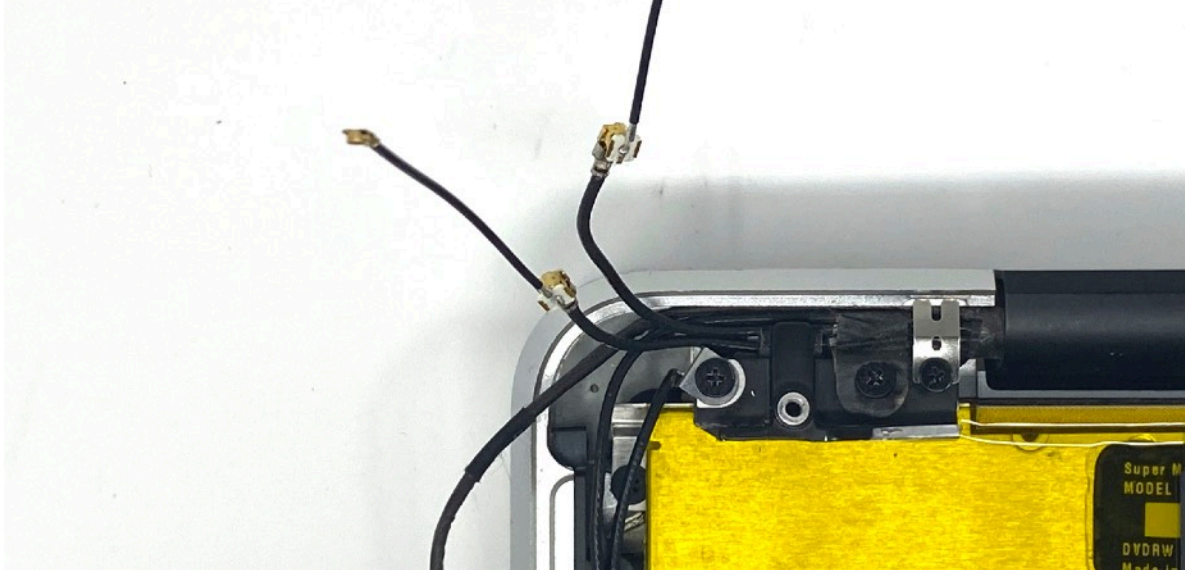
4. Install the IPEX antenna adapters

*****These are fragile please be careful ! They not to pull or bend at the conector, a spare is supplied with the kit if you have any issues. Once in the heat shrink they are much stronger*****

- a. You will have 4 antenna cables, take the longest (This is not needed as the Bluetooth antenna design changed in the newer WiFi cards.) and run it down the groove along the edge of the DVD drive and secure it out of the way with some tape. Depending on you choice of WiFi card you may also only need 2 of the antenna cables, if this is the case take the next longest cable and also tape it out of the way. You can use a 1cm piece of heat shrink to keep them together.



- b. Carefully attach the square end of the IPEX adapters to the remaining antenna cables. This is best done by using your thumb and fore finger and carefully compressing them together. If the antenna cables have never been removed and reattached before they will be quite stiff. Be careful as the square end is very fragile and will break easily. Try not to bend the cables at the point they attach together. If one breaks they can be removed with the careful use of a set of tweezers or a knife, don't pull them push the square end out.



- c. Cut 1cm lengths of **BLACK** heat shrink and slide these onto the remaining antenna cables.

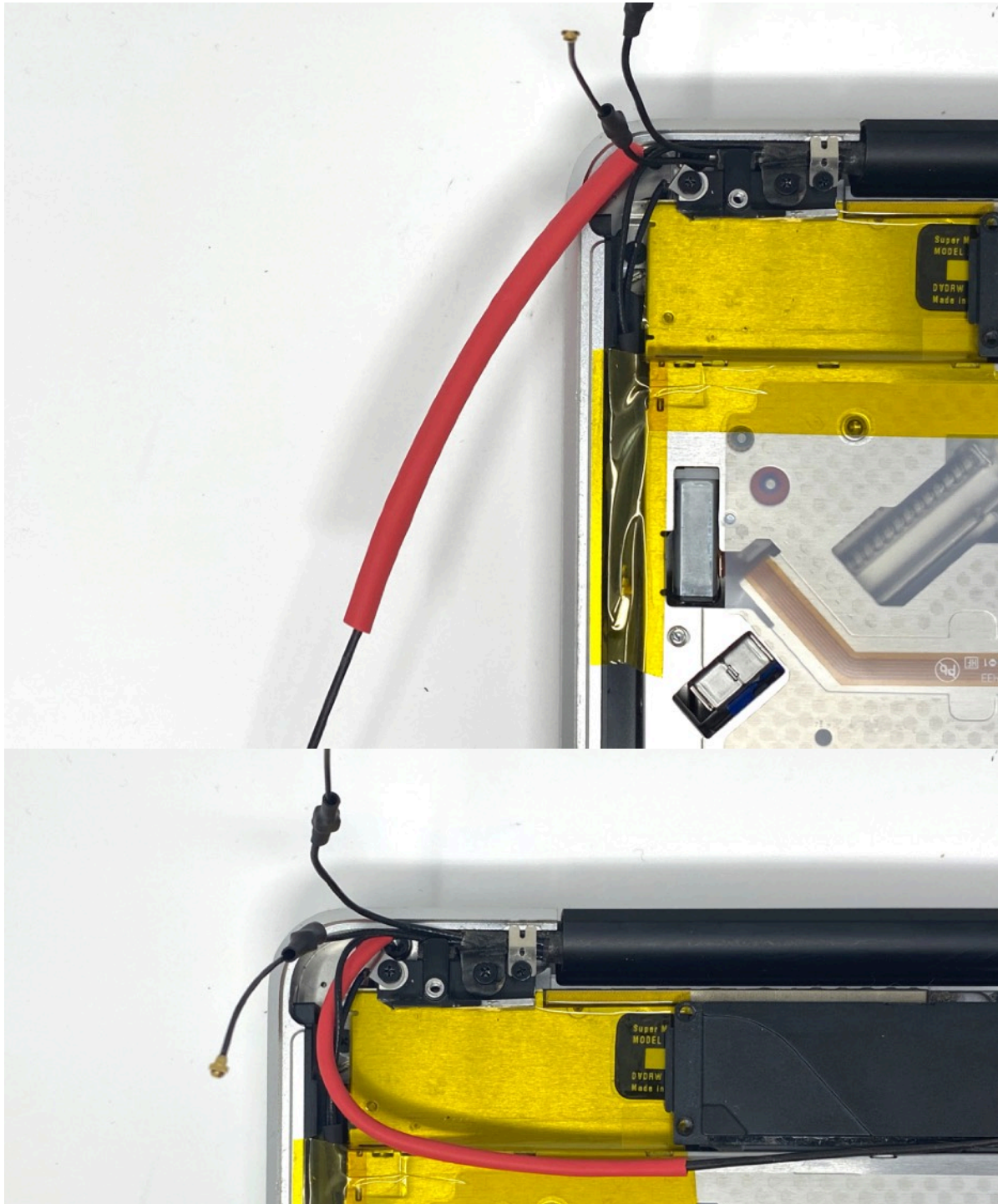


- d. Carefully slide the heat shrink over the connectors and shrink them either using a hot air gun or hair dryer.



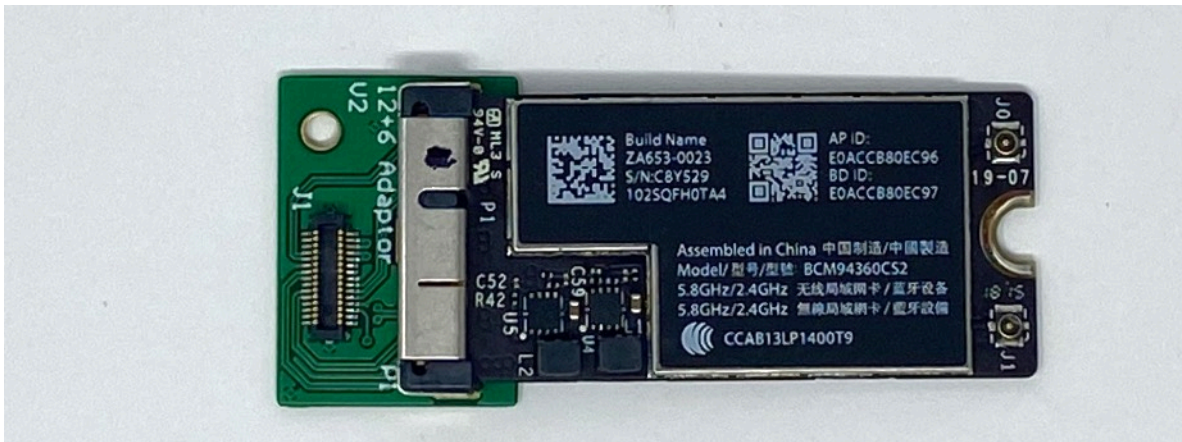
5. Insulate the Long USB cable

The covering of this cable is conductive, if it makes contact with components on the WiFi card it may cause a short. It will also help protect it from abrasion with the routing that will be needed. Take the **RED** heat shrink and cut it too **8.5cm** and slide it down the cable until it is just before where the cable bends into the hinge (Squashing the heat shrink as you move the connector down it will make it easier). Shrink it either using a hot air gun or hair dryer . Don't worry too much about the exact position as it will slide up and down the cable.



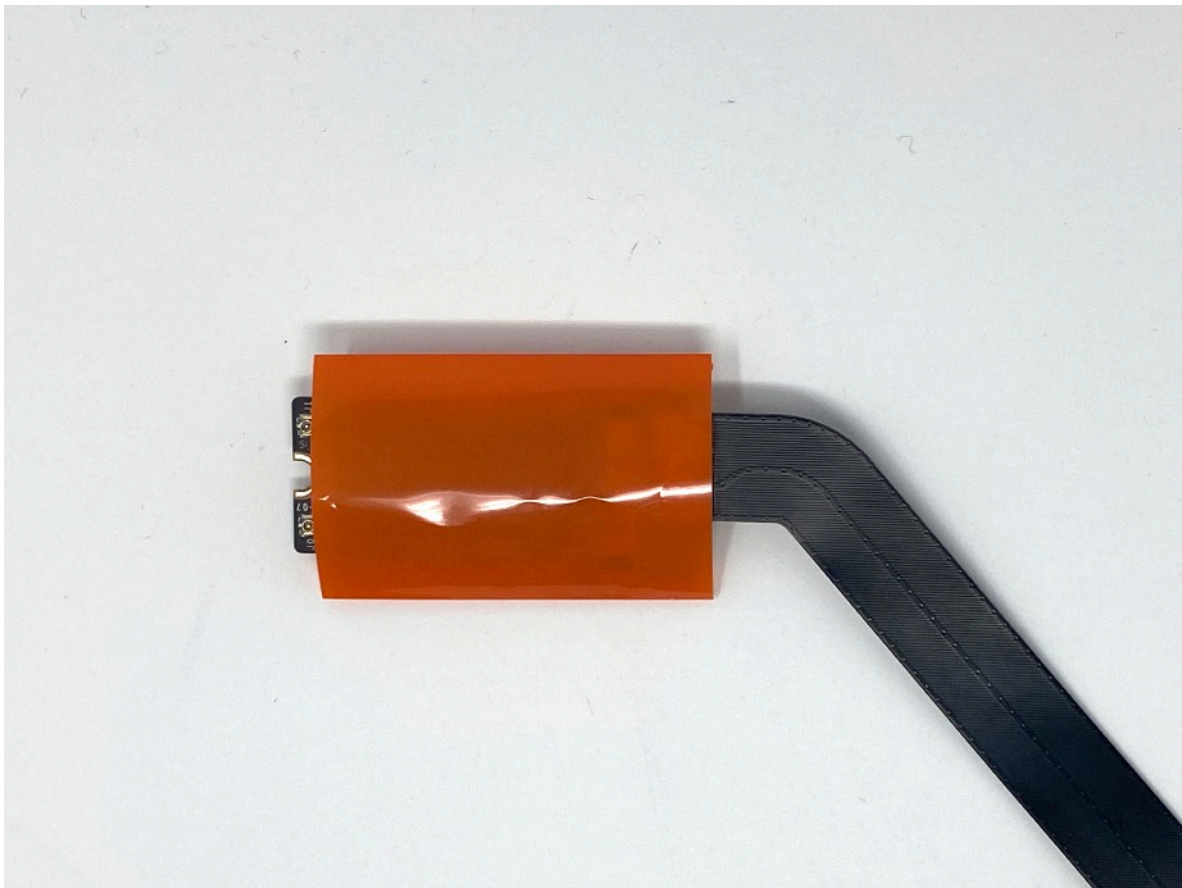
6. Install the 12+6 card into the adapter

Carefully install your Wifi card into the adapter it is keyed and will only fit one way make sure it is fully seated and attach the flex cable.



7. Insulate the WiFi Card and adapter

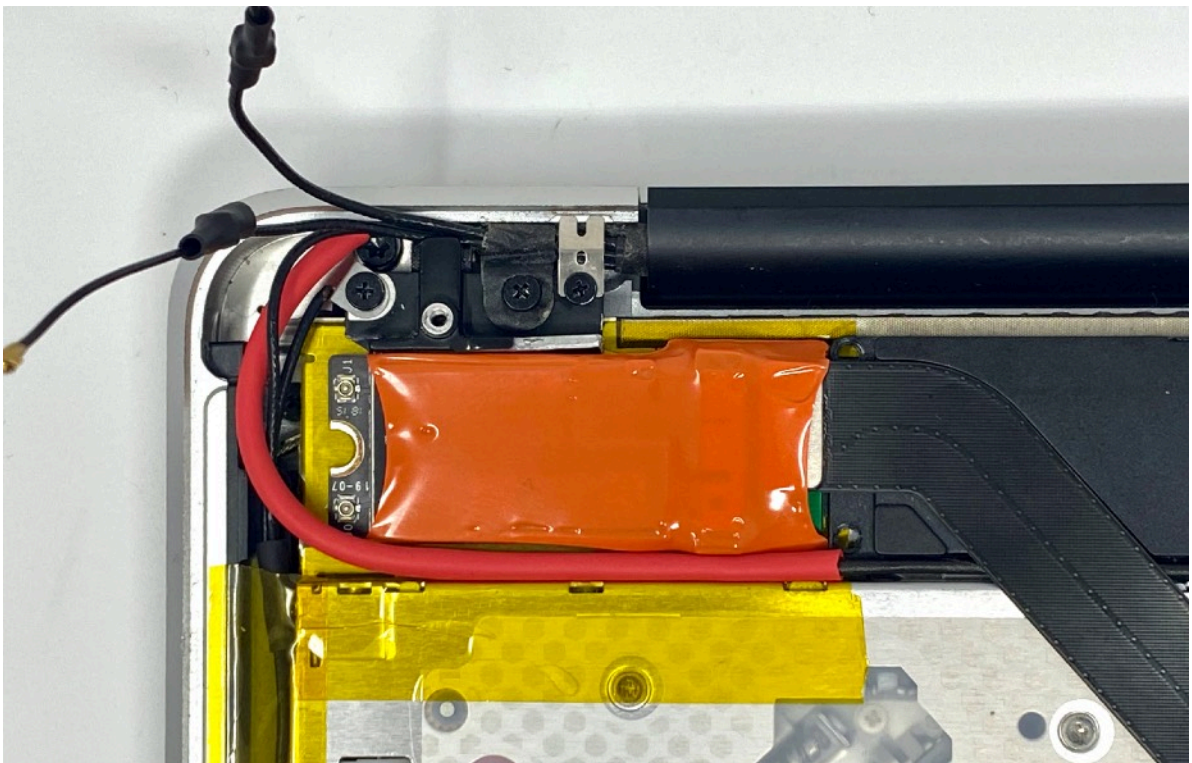
Using the **Orange** heat shrink cut it to **5cm** or **4.5cm** for a BCM94360CS2 slide it over the card and adapter and shrink it either using a hot air gun or hair dryer. For this heat shrink start on a low temperature and slowly increase it until it has conformed to the shape the card and adapter.





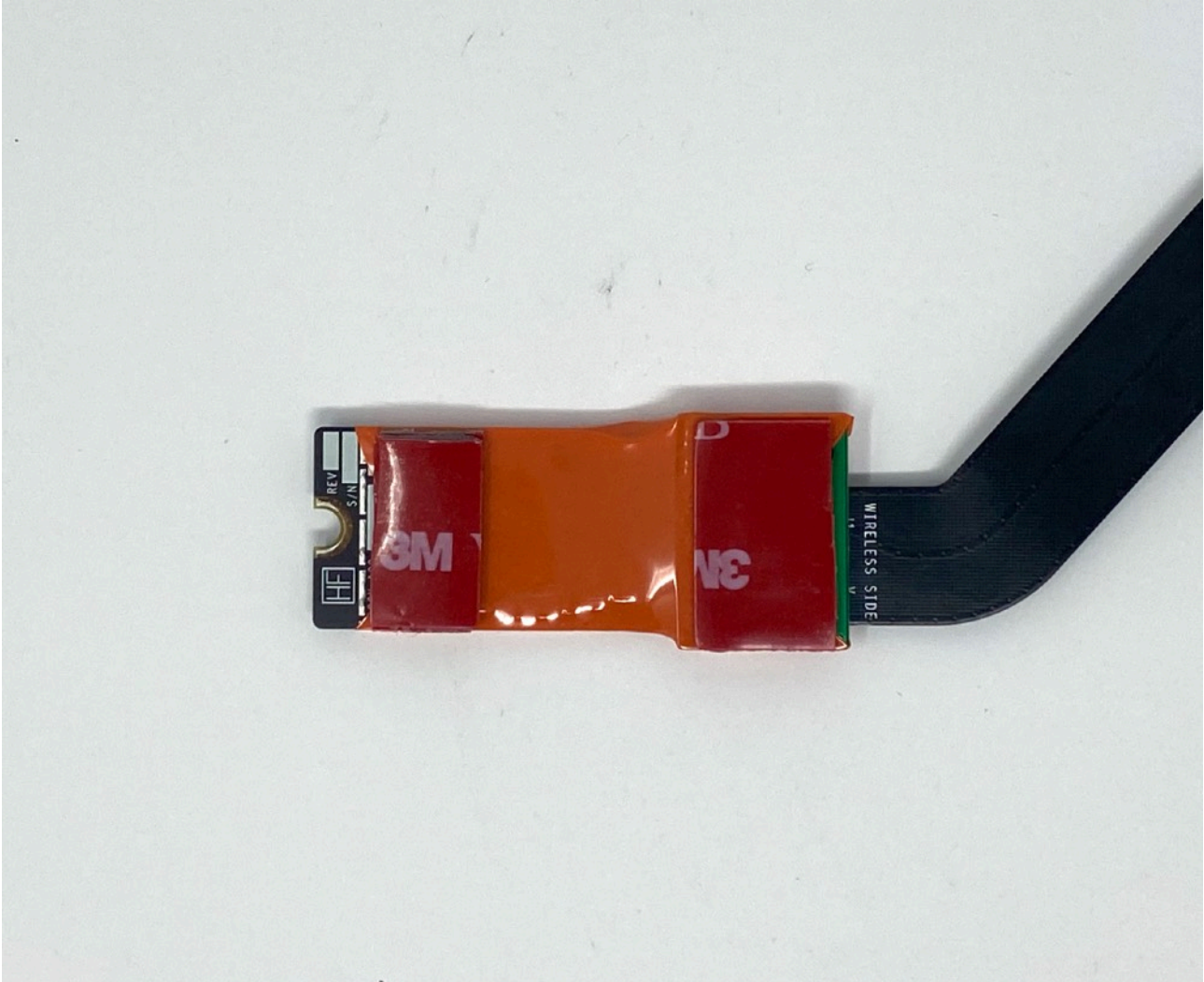
8. Attach the 30pin cable between the adapter and the Logic board and test fit

Test fit the adapter in the laptop the 30 pin cable should be sitting nearly flat.



9. Apply the 3M VHB tape to the adapter and card

Cut a small piece of the double-sided tape about 20mm15mm and stick it to the back of the adapter. Use the remaining tape to build up a layer of tape on the WiFi card so in will sit flat when installed. This will vary depending on the type of card used. Do not remove the backing yet.



10. Attach the antenna cables to the WiFi card

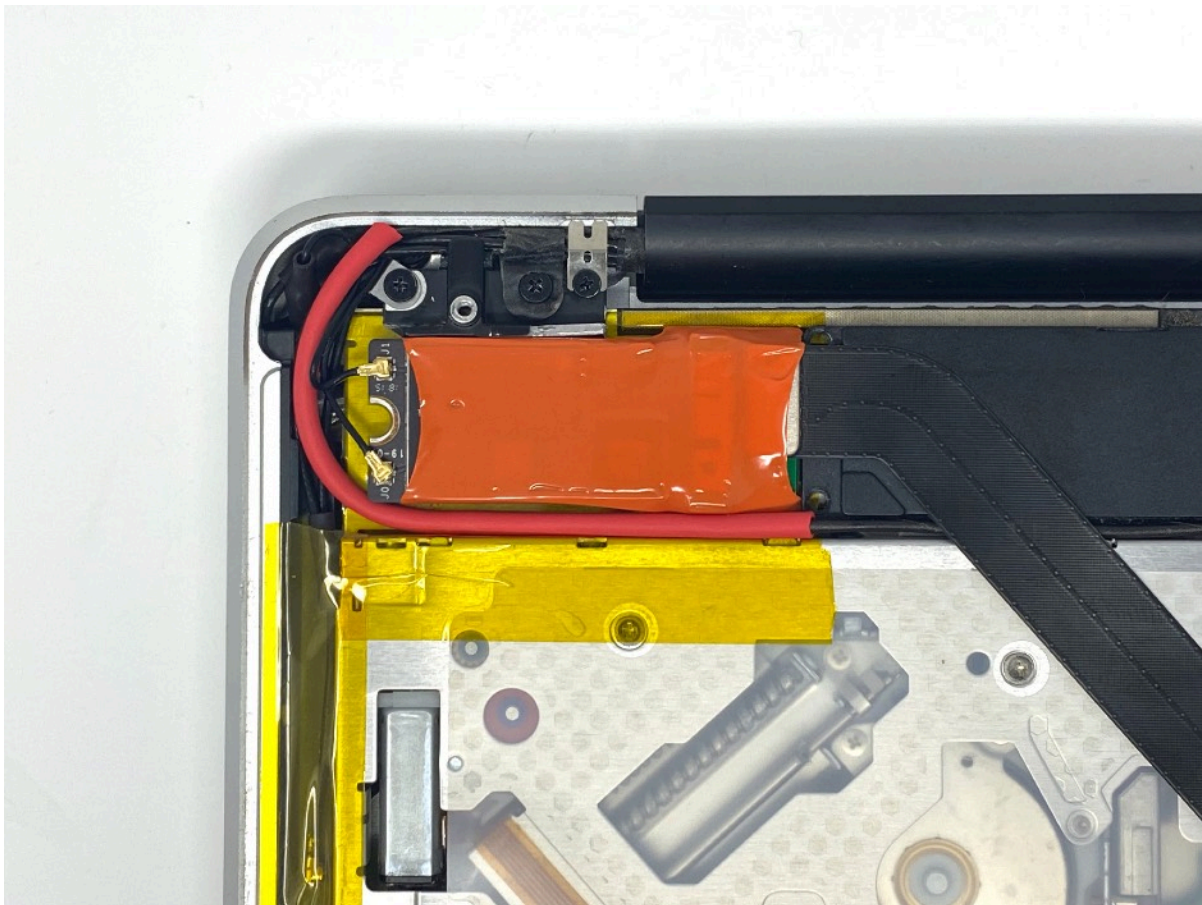
Carefully attach the antenna cables to the card these will be stiff, again compress them between your thumb and forefinger, trying not to bend them. The order is important, as it will make it easier to route and pack in the cables if they are done in order of shortest to longest working away from the hinge. This is important when using a BCM94360CS or BCM94360CS as the space is incredibly tight. These connectors will be tight you may find compressing them with the flat end of a spudger will help you attach them.

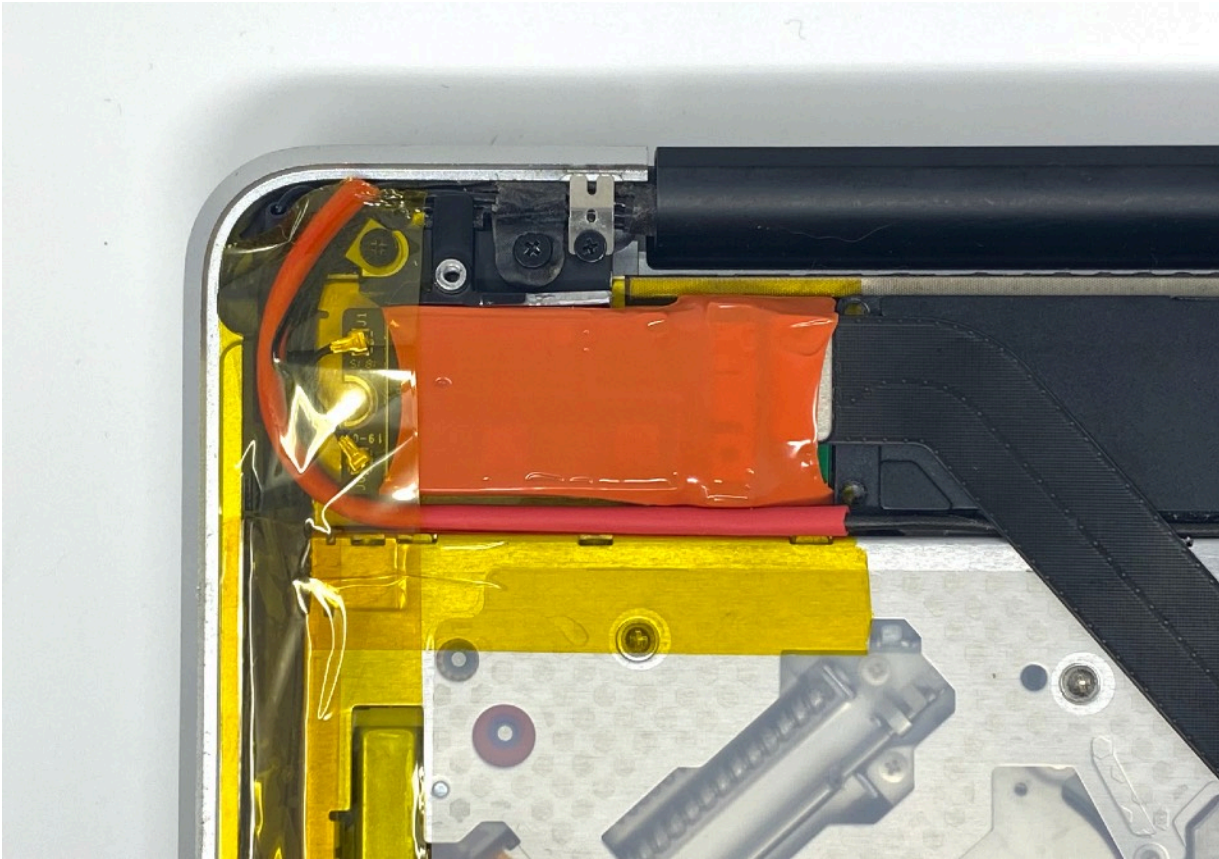
11. Remove the tape backing and carefully stick the adapter and card in place

The tape is activated by pressure and time so if you are careful you will be able to readjust it slightly quite easily. If you have issues with the fit and need to readjust latter you may find it easier to peel the tape of taking the whole assembly with it and readjusting.

12. Route and secure the antenna cables and USB cable

Route the antenna cables and USB cable in the space remaining, this will vary depending on your card choice and the number of antenna cables required. (Be careful to not put them where they will be squashed when the case is closed). Secure them in place with tape. Test fit with the bottom case in place. This will take some time and patience, see the photo for ideas of how to route the excess.





13. Reassemble the laptop

Reassemble the laptop using the [iFixit Guide](#) in reverse. Be very careful that the antenna cables are not squashed. The fit is tight, as the space is so limited but the case should close properly.

14. Test the card

Before testing be sure to [Reset the Pram](#) and [Reset the SMC](#)

You should be able to now connect via WiFi and Bluetooth as normal with the new features available with the card of your choice.

*****There is a small chance that you will have software issues because this will vary by OS etc they are out of the scope of this guide if so please contact [Support](#) and we will do our best to help you*****

Troubleshooting Links

[Continuity System Requirements](#)

[Apple Watch Unlocking](#)

[Handoff Support](#)

[Continuity Activation Tool](#)

[Pram Reset](#)

[SMC Reset](#)

Change Log

v1 - Initial version

v2- added photos

v2.1 compatibility link update

v2.2 Fixed and added troubleshooting links

v2.3 Corrected WiFi Card numbers