



HP EliteBook 840 G6 Repairability Assessment

Repairability assessment of the HP EliteBook 840 G6.

Written By: Sam Goldheart

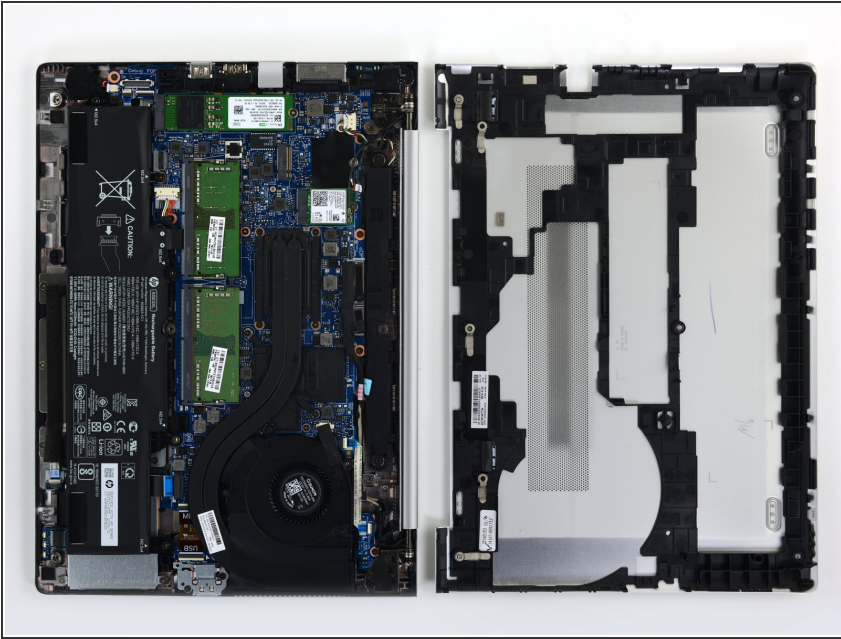


Step 1 — HP EliteBook 840 G6 Repairability Assessment



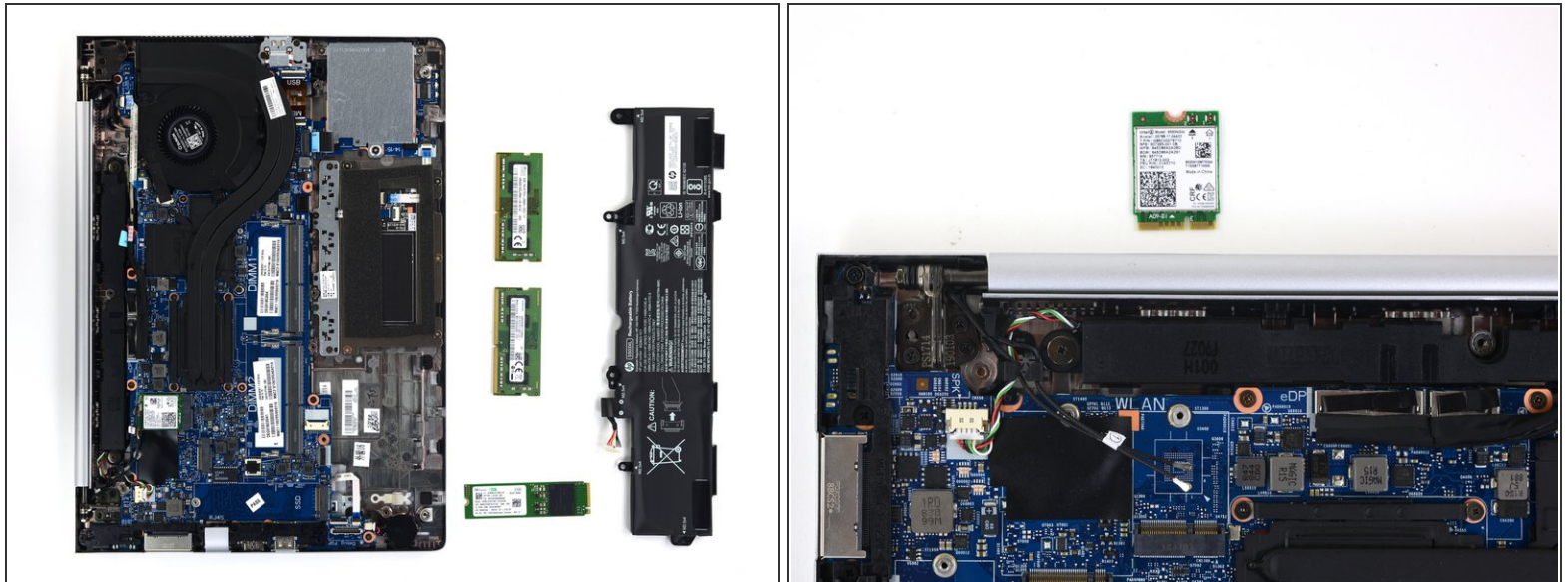
- Exterior reference photos.
- The laptop isn't ingress-proofed, so many gaps in the keyboard and lower case—including ports, vents, speaker grilles, etc.—may allow water damage or particle buildup.

Step 2



- The lower case is secured by a few Phillips screws, which are conveniently held captive, eliminating the chance of losing these screws.
- It also serves as encouragement from the manufacturer that yes, the user is intended to open this device, perhaps many times.
- The only drawbacks here are the plastic clips, which may break over time. The two recessed Phillips screws might be easy to miss the first time around, but aren't necessarily a detriment to repair.
- Nothing is left in the rear case, making for painless replacement if it breaks.
- Almost everything in the computer itself is immediately accessible. A flat design makes for easy, independent replacement of interior components.

Step 3



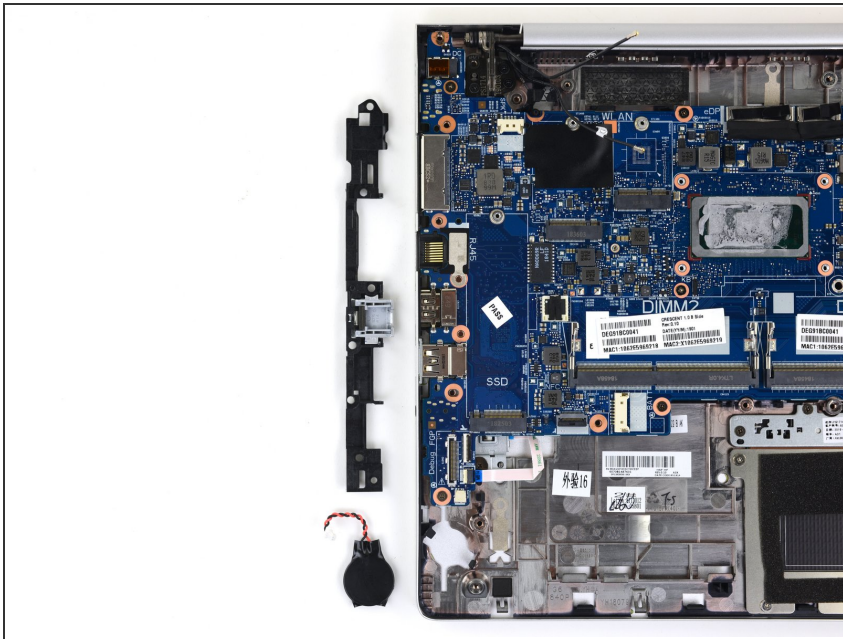
- The RAM sticks are immediately and independently accessible with no further tools. Simple clips hold them in place.
- The standard blade-style SSD slides right out after removing a single Phillips screw.
- The battery is replaceable after disconnecting its connector (there's even a diagram printed on the battery to explain how) and removing five labeled Torx screws. Immediate access and no adhesive make for a very simple replacement procedure.
- The use of Torx screws over the Phillips #0 screws used in the rest of the device is unfortunate. It adds another tool you have to buy and secures the most commonly replaced item in the laptop under an extra layer of obfuscation.
- The wireless card is accessible after disconnecting the two coax interconnect cables. The cables are labeled, making for painless reassembly.
- Additionally, component locations are labeled on the motherboard and ribbon cables for additional ease of reassembly.

Step 4



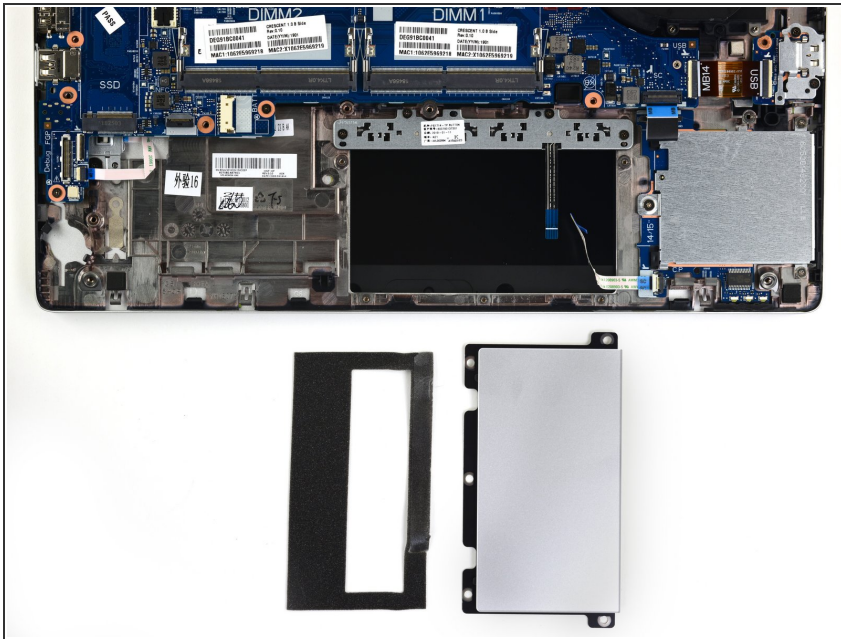
- The heatsink and speaker bar are readily removed after some screws; they can also come out upon opening, making replacement a breeze.
- The fan is, once again, not removable at this point.
- The fan's captive screws aren't the only ones holding it in—there are screws attaching it from the reverse side. The fan likely won't need replacing as often as it will need cleaning so this isn't a massive detriment, but does seem an odd design choice.

Step 5



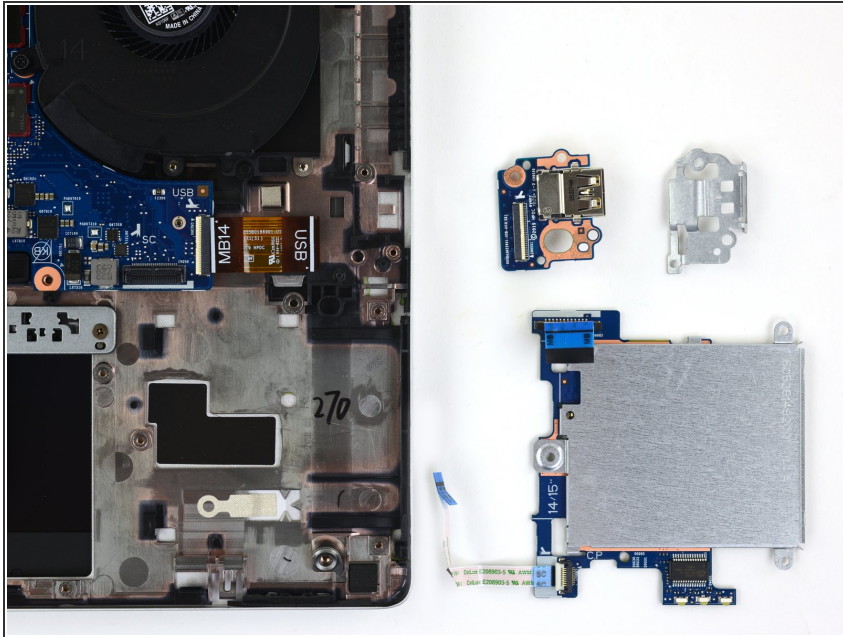
- The plastic port cover rail took a little finagling, but was also removable after a couple screws. It will need to be removed in order to extract the motherboard.
- This port cover is likely to help reinforce the ports. This is welcome since these high wear components are soldered to the motherboard and would be expensive to repair. It would be better to have modular ports and not have to bother with this piece.
- The CMOS battery is also readily accessible, and just needs to be wiggled free.

Step 6



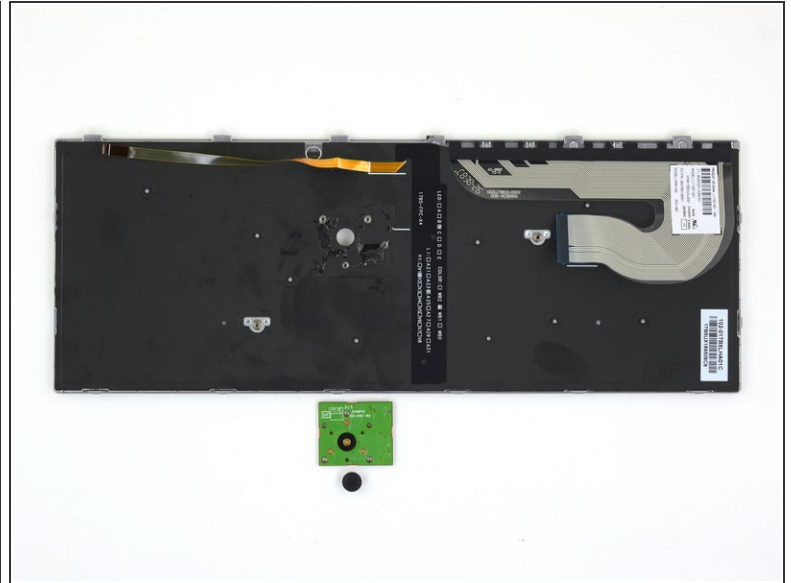
- The trackpad foam seems higher quality and easier to peel off the trackpad, while still allowing disconnection of the cables without removing the foam itself.
- The trackpad is replaced as a single unit, so you don't need to remove the foam to do a replacement— unless your replacement part doesn't come with the foam. Then, it must be peeled off. Some damage is likely but not dire.
- The fact that the frame is soldered to the trackpad probably doesn't increase the cost too much, which is good.

Step 7



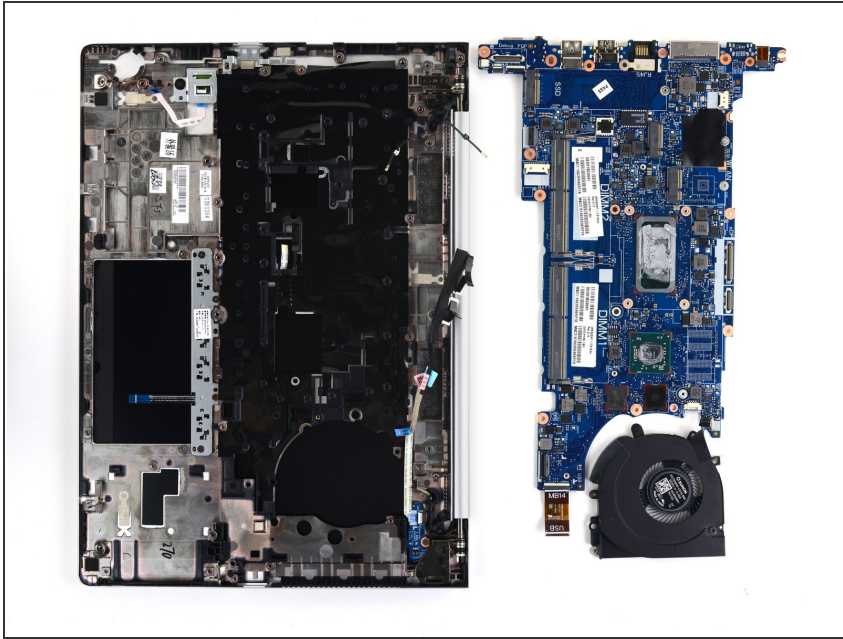
- Also removable after the battery are the left-hand USB port with its support bracket, and the card reader.
- Both components are labeled and only secured with Phillips #0 screws making for easy replacement of these mechanically wearing parts.
- It's especially nice to have a modular USB port in case the ones on your motherboard start misbehaving. This one will be cheap and easy to replace.

Step 8



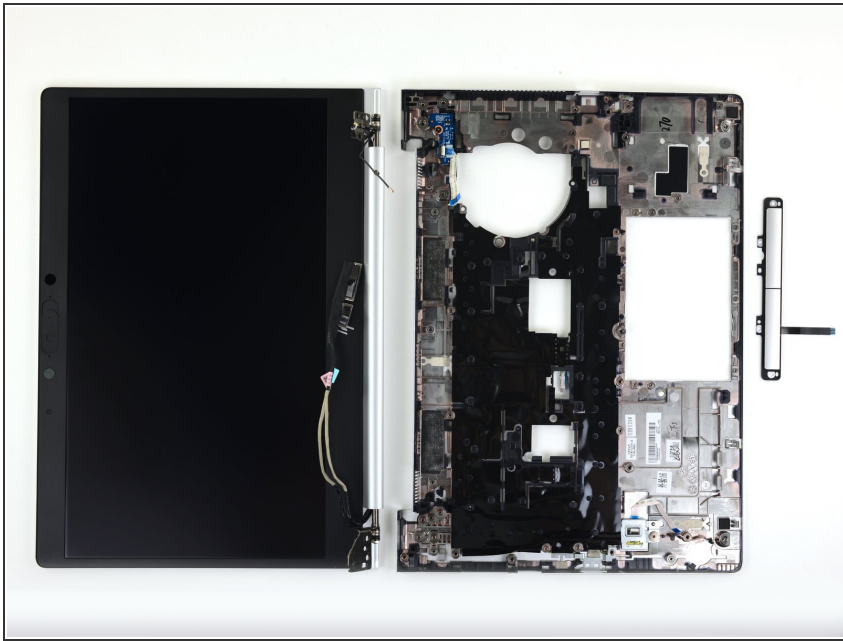
- The keyboard is secured with screws labeled KB, which are easy to dispatch. However, plastic clips also need to be unlatched.
- In popping these clips I broke one of them. This is likely to make the keyboard a bit floppier on reassembly, which is a shame. More screws or at least stronger plastic brackets would be preferred here.
- The expected cables under the keyboard are long enough to open the keyboard, but some stretch a little alarmingly. That said, the cables disconnect easily, making the procedure painless.
- The keyboard assembly comes out easily.
- The pointer board is glued fairly stubbornly to the keyboard, but once it is freed, it can be independently replaced. The rubber pointer itself pops out on the other side of the keyboard making for easy replacement.

Step 9



- The keyboard doesn't necessarily have to be fully removed to access the screws securing the motherboard and fan, but makes the procedure safer and easier.
- The fan and motherboard *can* be independently replaced almost from the outset—but the screws on both sides must be removed, which isn't intuitive at the outset.
- The motherboard has the majority of the computer's ports soldered to it. This is a ding to repairability, considering these components are high wear and may eventually need replacement. A non-modular part like this motherboard is expensive to replace.

Step 10



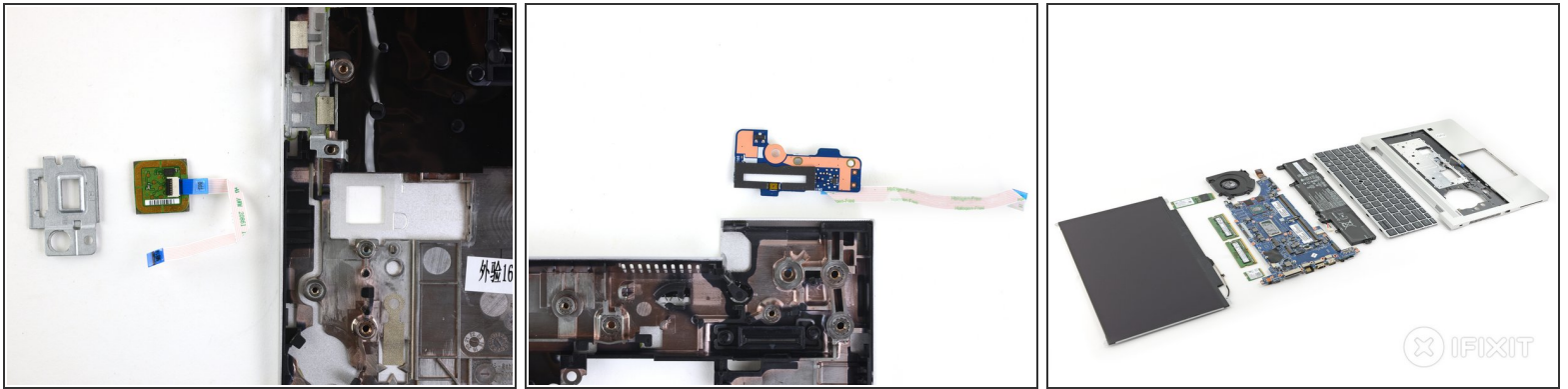
- The display assembly is readily available for replacement upon opening the device.
- While laptops get dropped less frequently than handheld mobile devices, they are still portable, and therefore droppable, so access to the screen is important.
- Just a few standard screws secure the hinges of the display assembly.
- The trackpad buttons are accessible after battery removal.

Step 11



- The cable cover on the display assembly is secured with plastic clips and is easy to remove.
- The hinges can be removed independently once the cable cover is removed.
- The bezel is secured with adhesive and some plastic clips. While the seam allowances seem tight, a plastic prying tool can lift the bezel without causing damage.
- The screen is secured with four standard screws and comes out freely.
- The display antennas and front-sensor array (including microphone and camera) are the remaining components in the display case.
 - Since the cables route through the display hinge, they may experience stress from repeated flexing, necessitating replacement.
 - They will need to be peeled up off their adhesives, and the various foil tapes will also need to be replaced without deformation, complicating repair.

Step 12



- Remaining in the case are:
 - The fingerprint sensor and its bracket, both easily removed after taking out the battery and motherboard.
 - The power switch board, easily removed if the left-hand hinges are removed, or just folded out of the way.
 - Unfortunately the power button cover is secured with mushroomed plastic, meaning it can't be removed without damage. If it was already damaged, it would be hard to properly replace.

Step 13 — Final Thoughts

REPAIRABILITY SCORE:



- The HP EliteBook 840 G6 earns a **10 out of 10** on our repairability scale (10 is the easiest to repair):
 - The RAM, SSD, and battery are easily accessible and removable.
 - All moving parts, including keyboard, trackpad, and pointing stick are modular and can be independently replaced.
 - The display can be quickly and independently replaced without any unnecessary disassembly.
 - All screws are standard Phillips #0 and #00, and T8 Torx.
 - The manufacturer provides free user-accessible repair documentation.