



Shift5.1 Teardown

Teardown of the shift5.1 performed on May 13th, 2016.

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INTRODUCTION

The shift 5.1 is a 5 inch smart phone from the company shift located in Germany. It replaces the first version shift5 from their so called #lovephone series. Shift claims to produce its mobile devices mostly under fair conditions and is trying to use conflict free materials where possible.

TOOLS:

- [Tweezers](#) (1)
 - [Phillips #000 Screwdriver](#) (1)
 - [Spudger](#) (1)
 - [iFixit Opening Tools](#) (1)
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Step 1 — Shift5.1 Teardown



- The shift5.1 is the second biggest smartphone in the Shift series and features these specs:
 - 5-inch HD IPS display with a resolution of 1280x720 pixels (293,72 ppi)
 - Mediatek MT6582 Quadcore SoC with 1.3 GHz
 - 2GB DDR RAM + 16 GB internal memory
 - Dual sim (regular and micro sized)
 - 2000 mAh *user-removable* Li-Polymer battery
 - 5 MP front and 8 MP rear camera
 - Android 5.1 Lollipop

Step 2



- The shift5.1 measures in at 144 x 72 x 7 mm and weighs 140 grams.
 - ① This makes it about the same size as the [Fairphone 2](#). But a lot thinner.
- For those who did not already know—it holds a small warning on its rear case:
 - ① smartphones can be timekillers. there is no greater gift for you today, than the next 24hours. use them wisely. people are more important than machines.

Step 3



- Having a user-removable battery usually equates to an easily removed back cover.
- And that's what it is: very easy. We start with a small notch at the lower end of the cover and the flexible black plastic gives way to reveal the battery.

Step 4



- Taking the battery out is also easy as pie.
- The 2000 mAh brings you 7.6 Wh at 3.8V, settling behind the 9.2 Wh from the Fairphone 2 battery.

Step 5



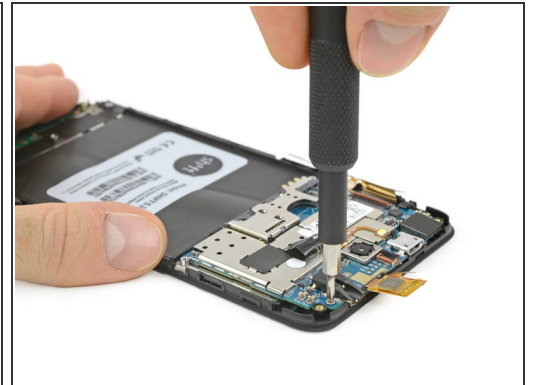
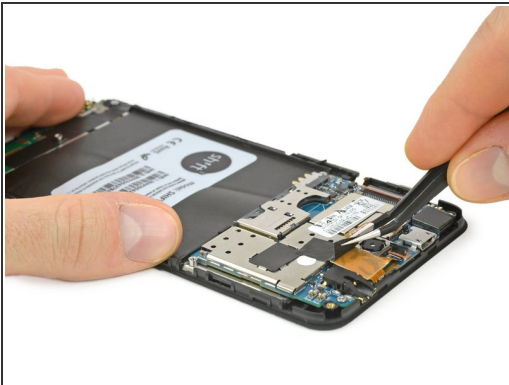
- We bring out the Phillips #000 to loosen the seven screws and get further into the shift5.1.
- A plastic opening tool helps us prying away the plastic frame.

Step 6



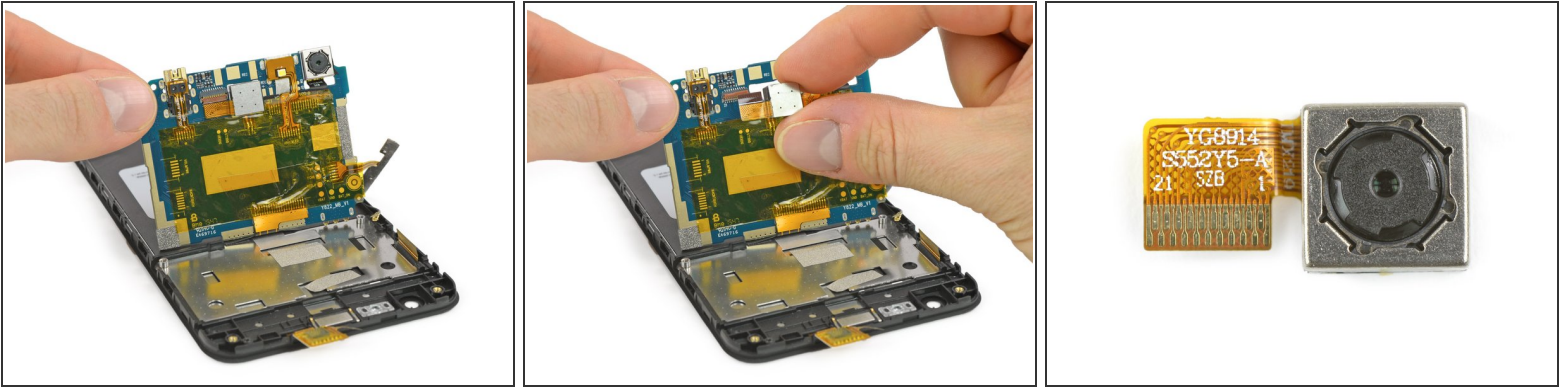
- Before we take the frame aside we take a short look at the loudspeaker which is embedded with a mild double sided adhesive tape.

Step 7



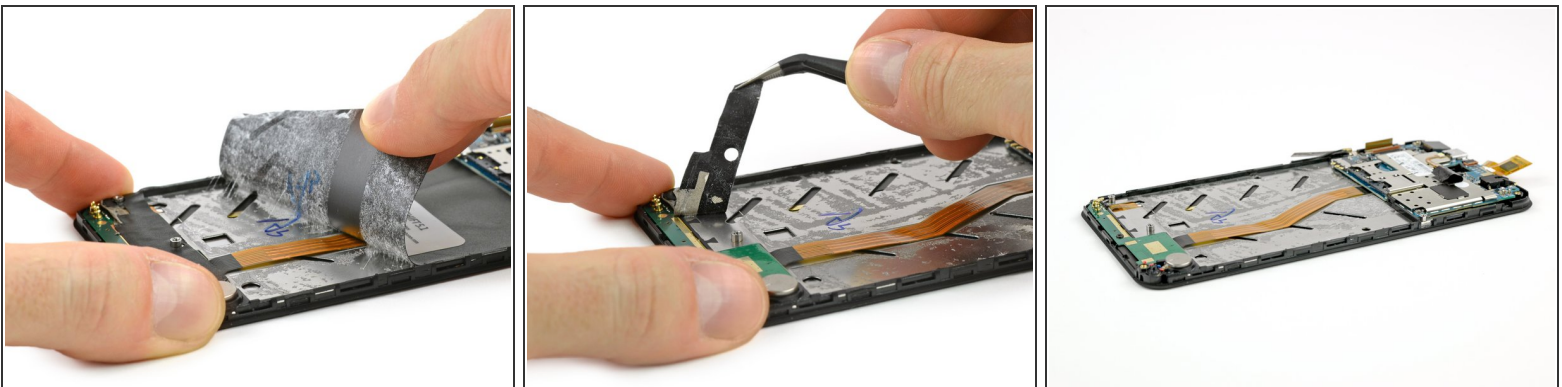
- On the back of the display unit we see the motherboard with a multitude of components mounted on it.
- We unplug both of the display connectors and peel the volume buttons and power button unit loose from the frame.
- A single Phillips screw holds the motherboard in place.

Step 8



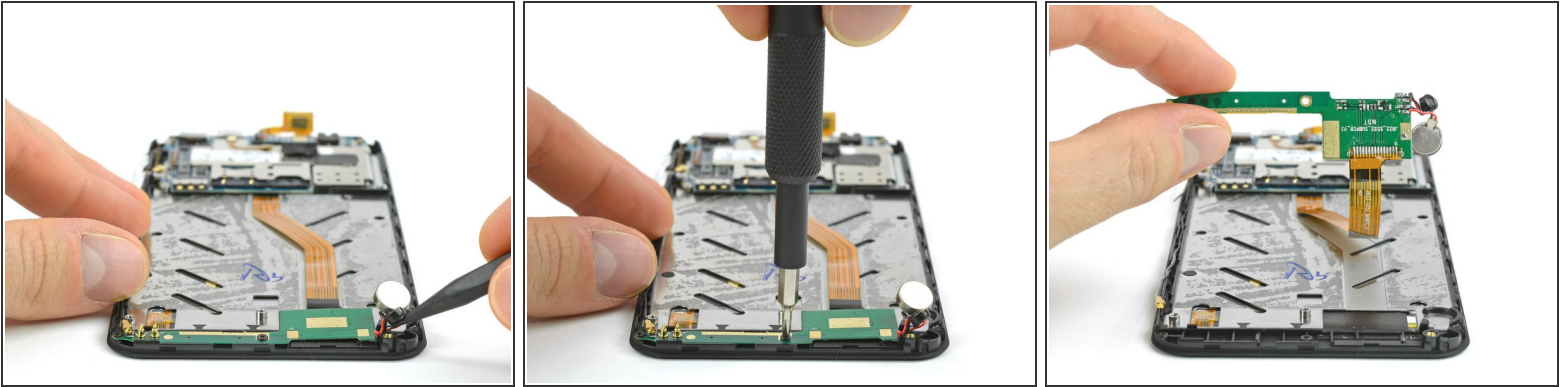
- Now we can carefully lift up the motherboard and take away the 8 MP rear camera.

Step 9



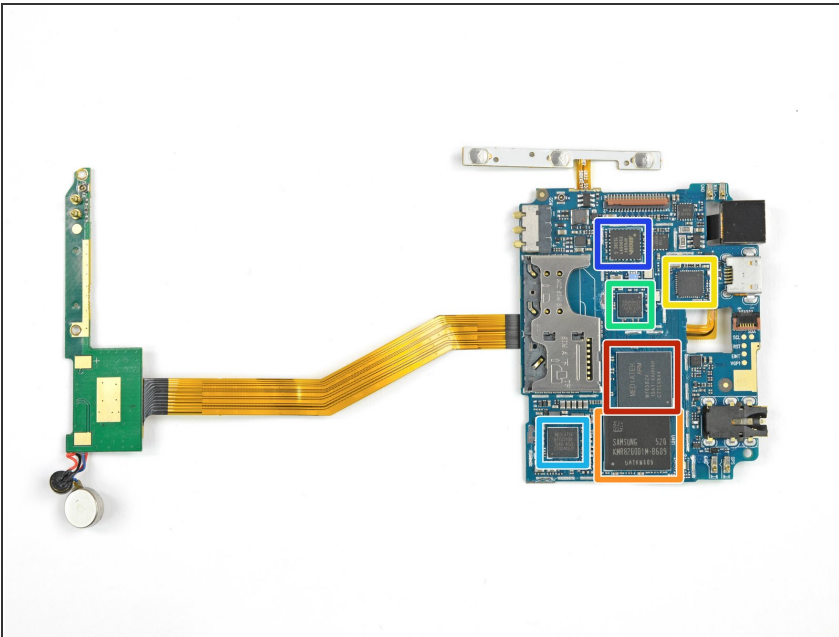
- In regular teardown fashion, we get to work peeling up the strongly-adhered plastic cover in the base of the battery housing.
- This huge black adhesive plastic foil hides the interconnect cable running from the motherboard to the daughterboard.
- ⓘ Breaking up adhesive is usually a destructive process, and this means that a simple daughterboard may become complicated quickly.
- There is also a little adhesive tape over the daughterboard.

Step 10



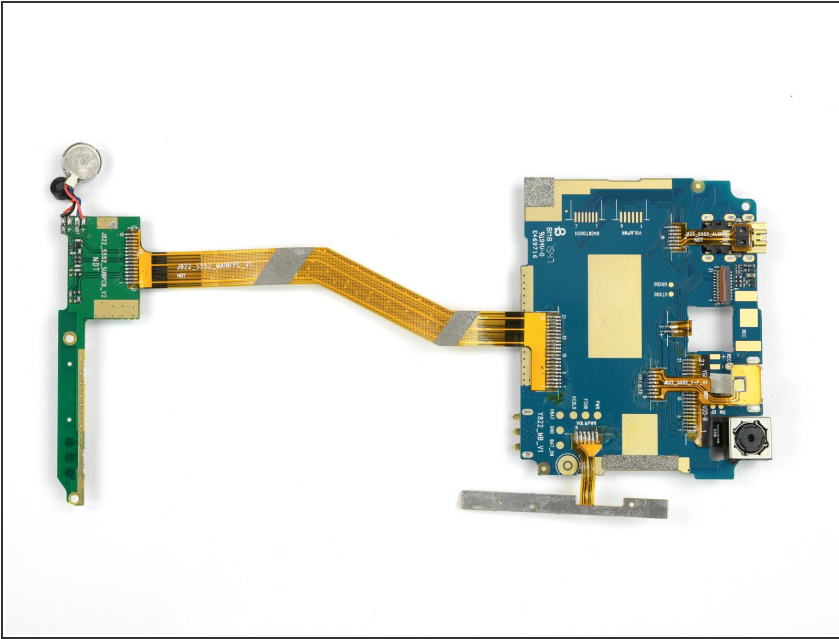
- After lifting the vibrator and the microphone carefully out of their recesses we free the daughterboard by loosening two more Phillips screws.

Step 11



- And here we have the heart of the shift5.1:
 - Mediatek MT6582 SoC with an [ARM Cortex A7](#)
 - Samsung [KMR820001M-B609](#) 2GB LPDDR2 memory
 - Mediatek MT6627 Diplexer QVL for WIFI/BT/GPS
 - Mediatek [MT6166V](#) RF transceiver
 - Mediatek [MT6323GA](#) PMIC
 - AIROHA [AP6684](#) quad-band GPRS front-end module

Step 12



- On the flip side we're met with an unfortunate surprise:
- All the remaining components are soldered to the motherboard, including the front facing camera, headphone jack and the power and volume buttons.
- ⓘ While taking a soldering iron to these connections isn't impossible, unskilled users would have trouble replacing these components without damaging their hardware.

Step 13



- Last but not least we have the remaining display which carries the earpiece speaker.
- Taking it out leaves us with the fused display which carries a [GOODiX GT9147](#) touch screen controller on the flex cable.

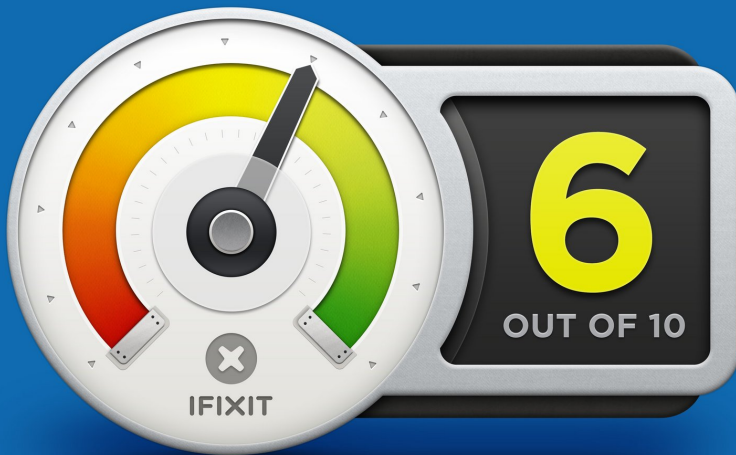
Step 14



- And here we have the shift5.1 spread out on the teardown table showing us all it has to offer.

Step 15 — Final Thoughts

REPAIRABILITY SCORE:



- Shift5.1 Repairability Score: **6 out of 10** (10 being the easiest to repair):
 - Cover and battery are easy to remove and can be swapped without using tools.
 - No excessive glue and no proprietary screws are used, only Phillips #000.
 - Shift offers a [forum](#) and a [youtube channel](#) with some information and tutorials (unfortunately only in German).
 - The fused display can be changed but you need to take out everything else reminding us of the iPhone 4 and 4s.
 - Lots of components and connectors are soldered to the motherboard. They could be soldered by hand if needed but this makes repairs more difficult.