



How To Troubleshoot A Dead iPhone 7 – CPU Repair

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INTRODUCTION

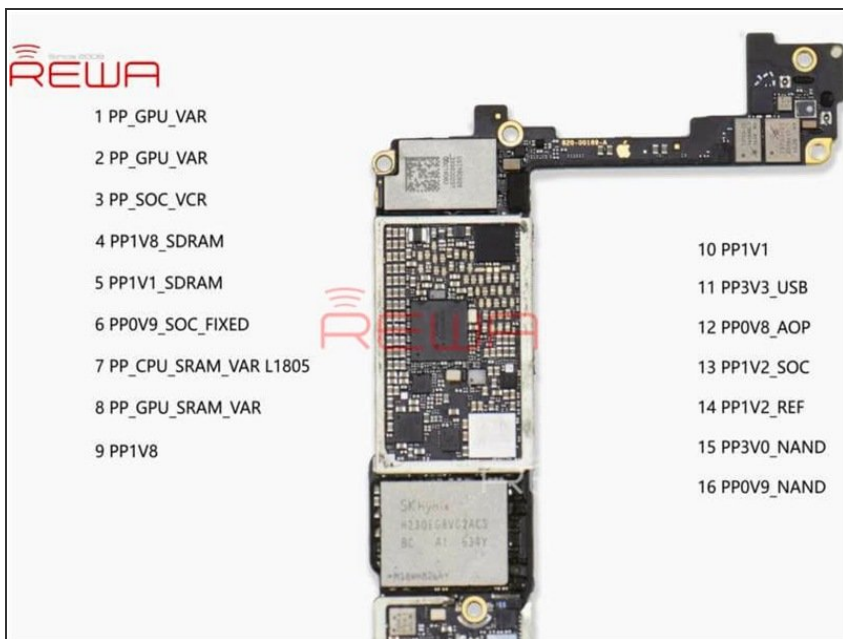
The CPU of mobile phones functions just like the brain of our body. Which makes CPU repair the most complicated subject in mobile phone repair.

Step 1 — Problem



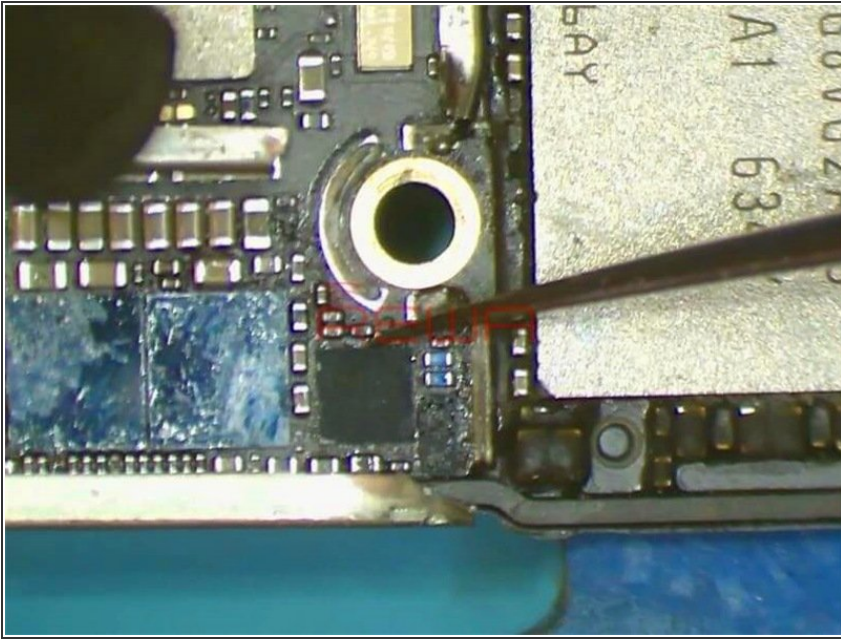
- Press the power button to turn on the phone. There is no response at all.
- Measure the boot current first. The current pointer moves from 0 to 50mA-60mA and then stays still. Connect the phone with computer. The phone can not be recognized.
- USB IC or power supply of the logic board might have malfunctioned. (Why? You can check out the boot circuit explanation [here](#))

Step 2 — Diagnosis



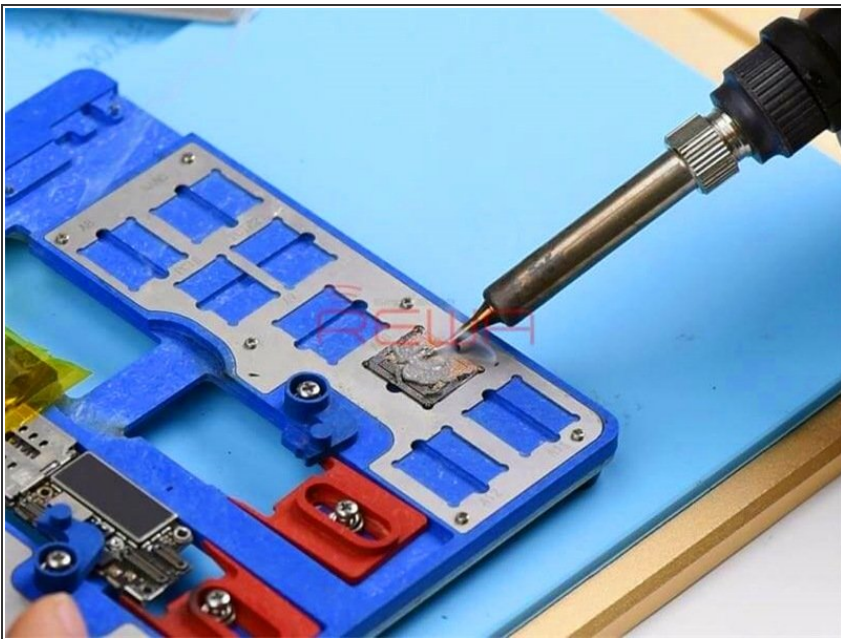
- First thing we do is to measure power supply of the logic board.
- Measure the 16 rails of logic board power supply. The measured value is normal.

Step 3 — Diagnosis



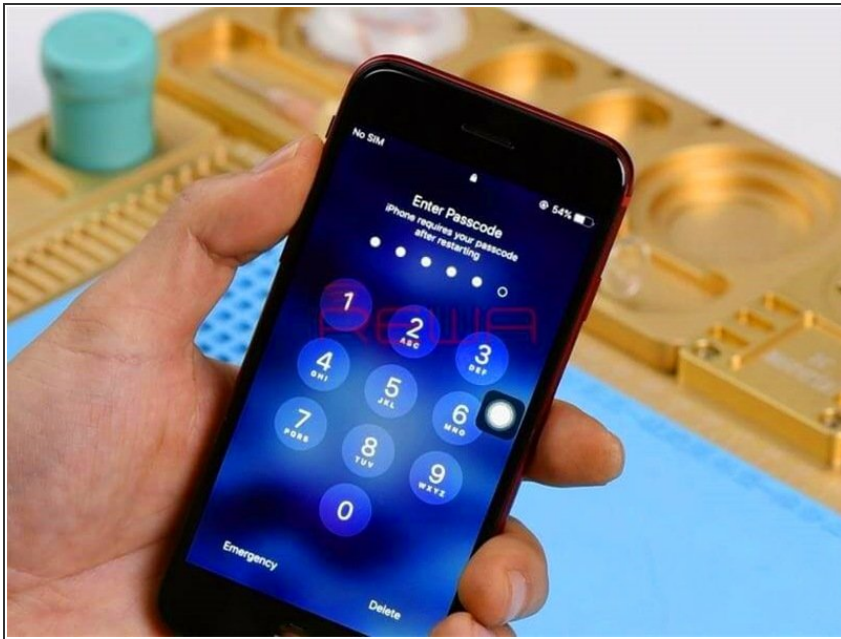
- So our next move is to replace the USB IC with a new one and see how it works.
- Detach the USB IC from the board with Hot Air Gun. Clean the bonding pad afterwards.
- Solder a new USB IC and test again. The problem remains unresolved.

Step 4 — Troubleshooting



- We can confirm now that CPU has pseudo soldered or damaged. Let's re-solder CPU and see how it works.
- Remove the shield plate with Hot Air Gun. Stick High-temperature Tape on components around CPU. Then detach CPU from the board with Hot Air Gun. Clean the bonding pad and remove solder on CPU afterwards.
- Get CPU reballed. Once done, wait for the CPU to cool for 2 minutes. Apply some BGA Paste Flux to the bonding pad. Get the reballing finished CPU in position and solder with Hot Air Gun.

Step 5 — Reassemble And Test



- Now we can assemble the phone and test.
- The phone turns on normally. Run function test. All going well. Problem fixed.