



# iPhone 6 Keeps Searching For Signal – Logic Board Repair

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## INTRODUCTION

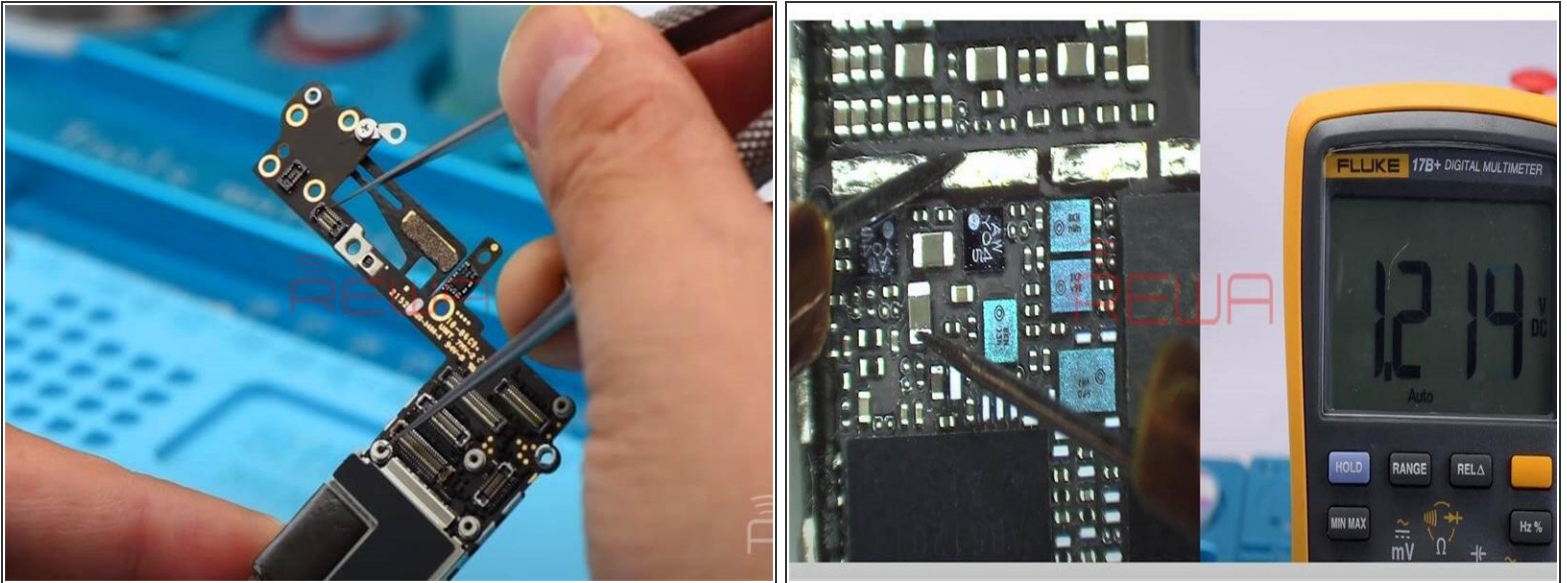
iPhone 6 keeps searching for signal? Causes can be different and solutions flexible. Replace with a new SIM card? Restart your phone? Or reset the network? If the problem has been fixed, well, congratulations! If not, you may be interested in our chip level solution regarding to the 'Searching' issue caused by power amplifier IC.

## Step 1 — Problem



- Signal bars in the upper-left corner have been replaced by 'Searching...'. Go to Settings>General>About. Normal ICCID, which indicates that SIM card can be read.
- IMEI, MEID and Modem Firmware are also normal. Which indicates that baseband circuit is in normal state.
- Judging from this, the searching issue has something to do with radio-frequency circuit.

## Step 2 — Diagnosis



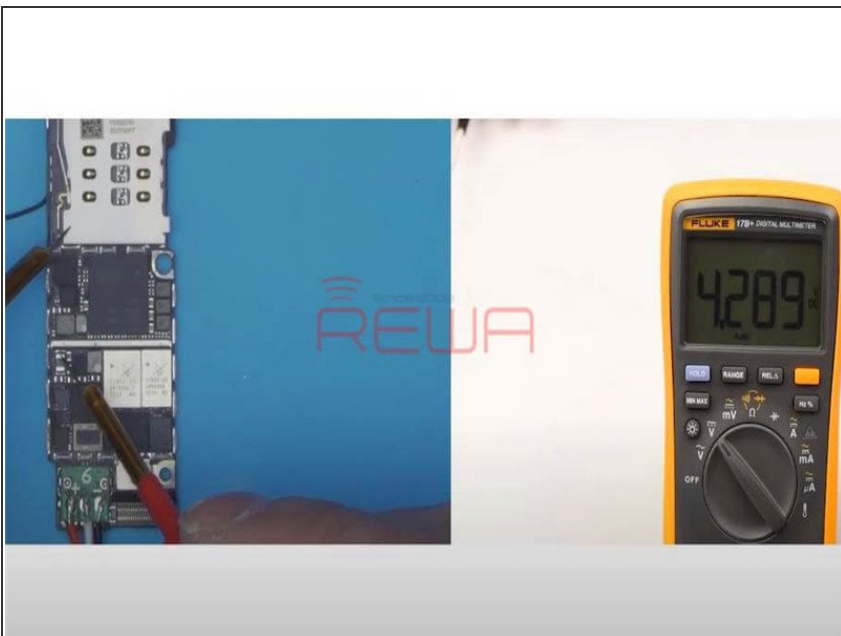
- Let's begin with measurement of RF circuit power supply voltage.
- Go with one set of voltage first, PP\_LDO8 2V0. Measure the voltage value of corresponding capacitor, C3801. The voltage value is 2V0, which is normal.
- Then the second set of voltage, PP\_LDO1 1V3. The voltage value of corresponding capacitor C3808 is 1V3, which is normal. The third set of voltage, PP\_LDO11 1V8 is also normal.

### Step 3 — Diagnosis



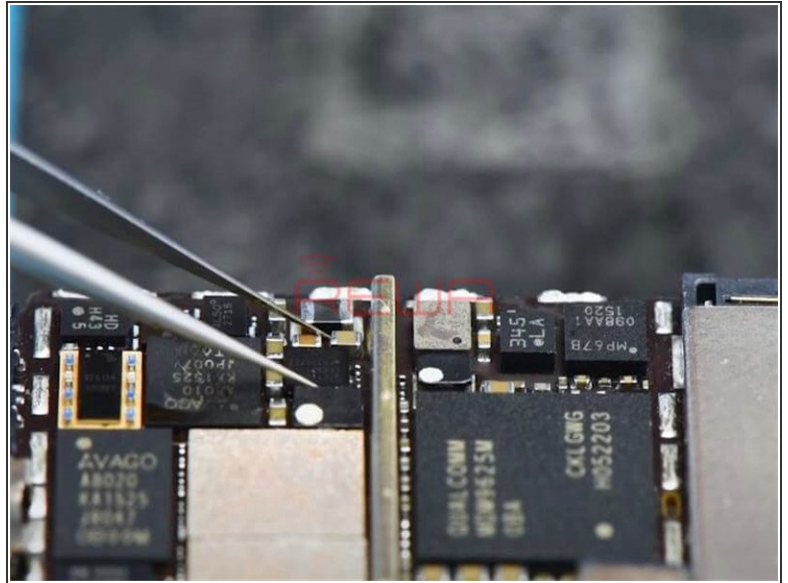
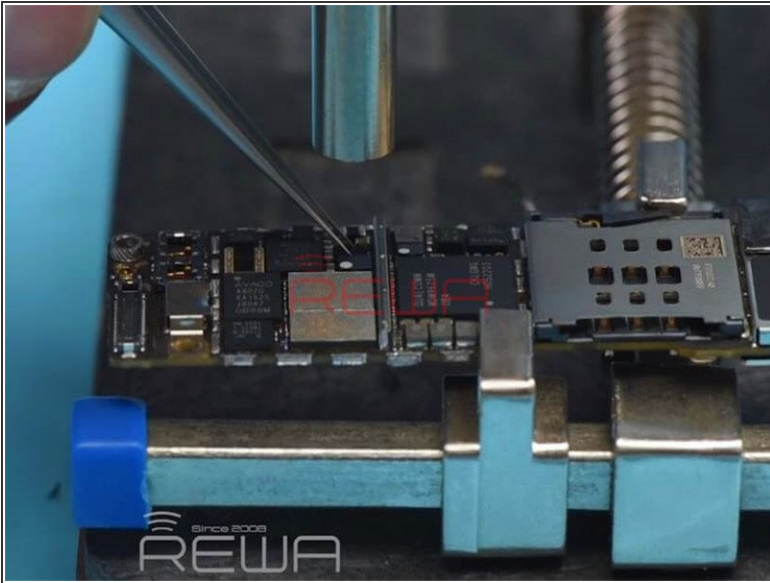
- Next, let's continue with the signal amplifier power supply voltage, VPA\_APT. Measure the voltage value of corresponding capacitor, C4108. There is no voltage value. Normal voltage value should be 3V7.

### Step 4 — Diagnosis



- C4108 3V7 voltage is outputted by U\_QPOET. Yet U\_QPOET 4V2 voltage is inputted from L4001-RF.
- Measure the voltage of L4001-RF. The voltage value is 4V2, which is normal. We can conclude that U\_QPOET broke down, which resulted in abnormal value of VPA\_APT 3V7.

## Step 5 — Troubleshooting



- So we need to replace with a new U\_QPOET.
- Apply some BGA Paste Flux around U\_QPOET. Then take down the IC with Hot Air Gun. Once the IC has been removed successfully, clean the bonding pad with Soldering Iron.
- Apply some BGA Paste Flux to the bonding pad. Align the new IC to the right place. Solder the new IC with Hot Air Gun.

## Step 6 — Reassemble And Test



- Get the logic board assembled and connect the battery. Buckle the display assembly and insert SIM card. Power on and test.
- Signal bars in the upper-left corner are back to normal. Make a phone call, the talk getting through normally. Fault cleared.