How To Fix iPhone 11 Pro Max Face ID Not Available - Motherboard Repair

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INTRODUCTION

As we all know, iPhone X and later models can easily come with Face ID failure after being dropped or water damaged. However, it should also be noted that improper operation during daily repair might also bring damage to Face ID relevant components and therefore result in Face ID failure.

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Step 1 — How To Fix iPhone 11 Pro Max Face ID Not Available - Motherboard Repair
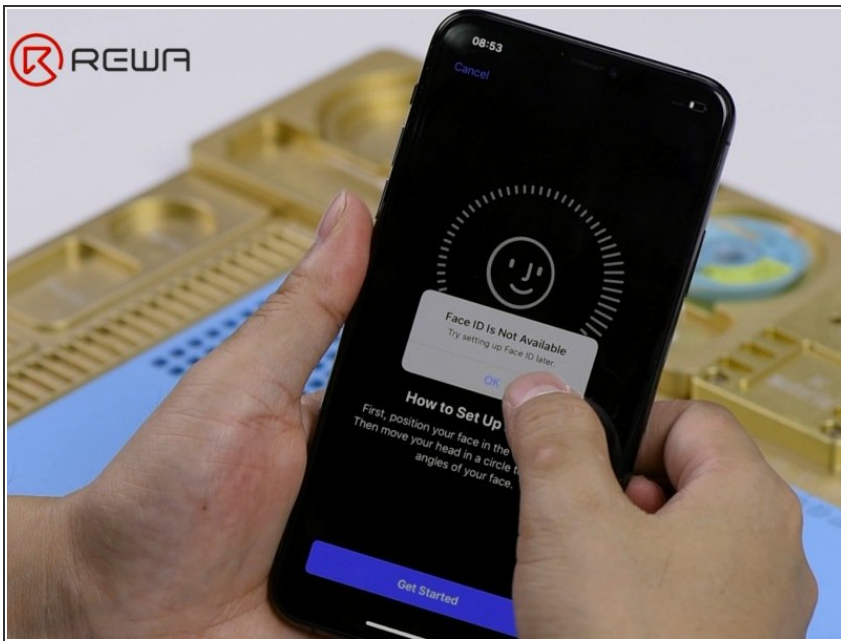

- Go to Settings > Face ID & Passcode > Reset Face ID. When trying to setup Face ID on the iPhone, we get the message 'Face ID is Not Available, try setting up Face ID later.

- Start the Camera app and select Portrait in the bottom bar. Switch to the front camera. When the camera detects a person's face, the name of the lighting effect 'Natural Light' stays the same. And there is also no flashing red light from the Dot Projector.

- Normally, when Portrait mode is ready, the name of the lighting effect 'Natural Light' should turn yellow. And there is also flashing red light from the Dot Projector.

Step 2

- Let's check Face ID parts first. Take apart the phone and take out the motherboard.

- Check the earpiece speaker and sensor flex cable. Nothing goes wrong. The dot projector flex cable, the infrared camera flex cable and the front camera flex cable also haven't been damaged.

Step 3
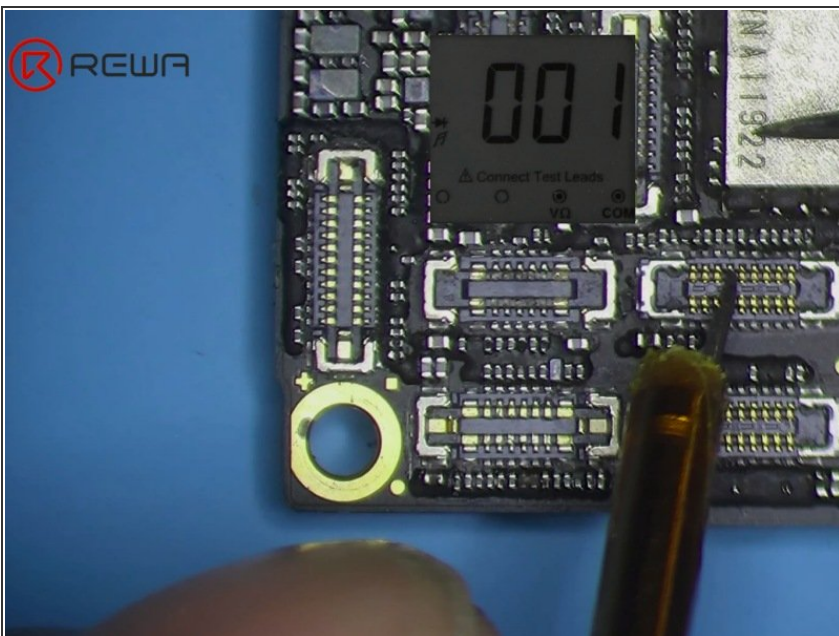
- Let's move on to the motherboard. Clean the motherboard with PCB Cleaner. Then run diode mode measurement of the earpiece speaker and sensor connector and the dot projector connector. The measured value is normal.

- Continue measuring the infrared camera connector. Judging by the measured value, Pin 8 relevant circuit has open-circuited. Normal value should be 260 or so.

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Step 4
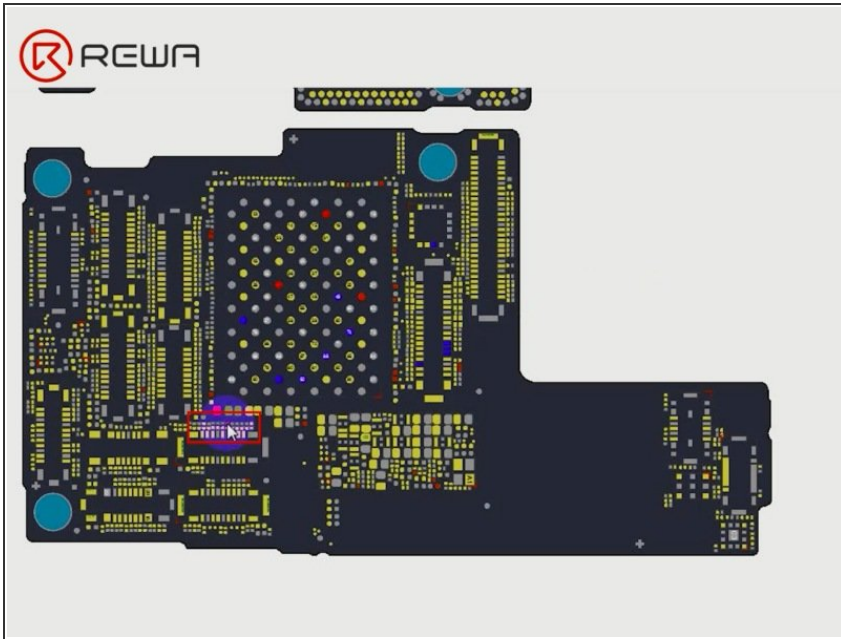
- Outputted from PMU, the 1.8V voltage reaches Pin 8 of the infrared camera connector by way of the inductor circled in red on the bitmap.

- Check relevant components of the rail. We can see that the inductor here is damaged.

- Our initial judgement is that when replacing the screen, the improper operation of our client during flex cable disconnecting accidentally damaged the inductor.

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Step 5
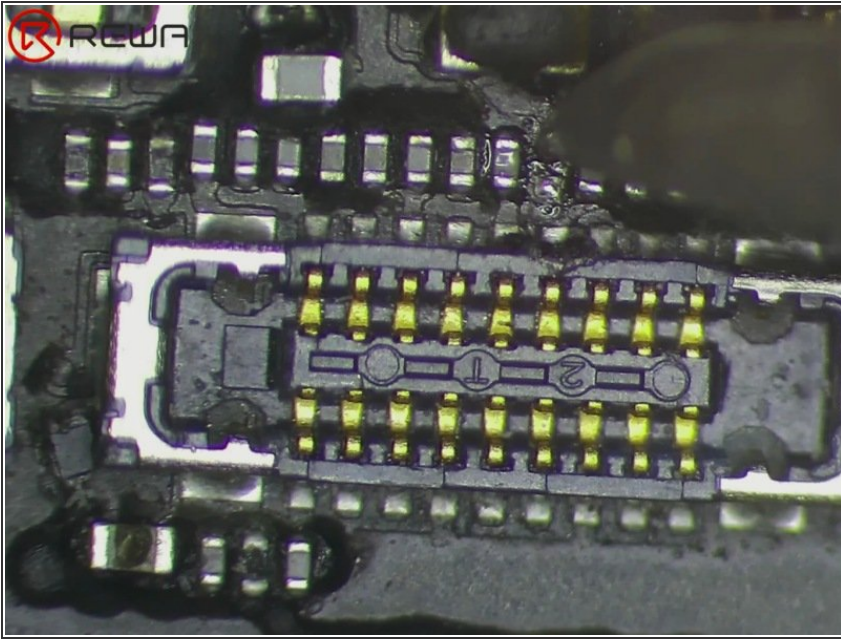
- Let's replace with a new inductor and see how it works.

- Remove black adhesive around first. Then apply some medium-temp solder paste to the bonding pad. Tin the bonding pad with solder paste with the help of the Soldering Iron at 365℃. Once done, clean with PCB Cleaner.

- Continue to apply some rosin to the bonding pad. We can see that the damaged inductor is really small. And the replacement inductor is difficult to find.

- We can solder a zero-ohm resistor instead. Get a zero-ohm resistor in the right position. Solder with Hot Air Gun at 330℃, air flow 1. Clean with PCB Cleaner afterwards.

- Again, let's run diode mode measurement of Pin 8 on the infrared camera connector. The measured value is 257, which is normal.

Step 6
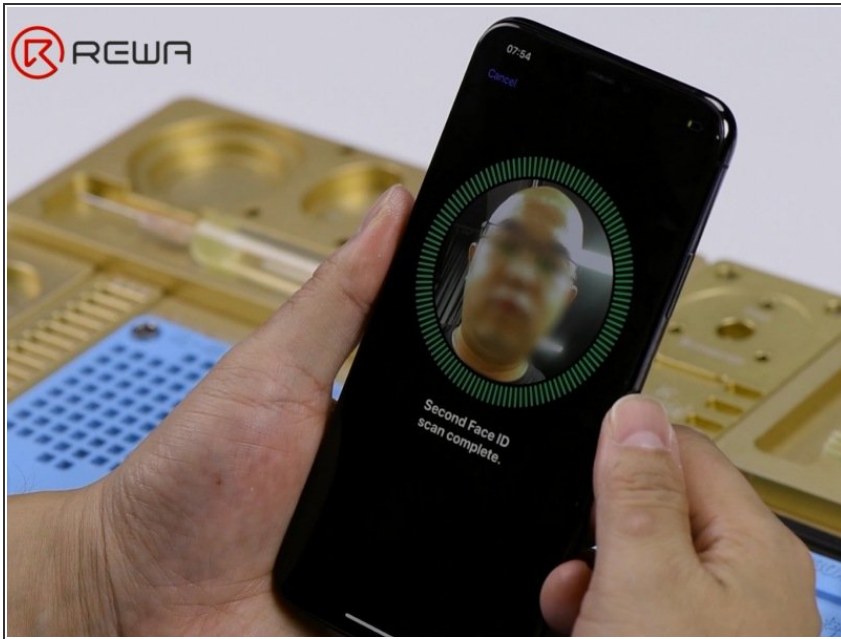
- Now we can assemble the phone and test.

- Start the Camera app. When the camera detects a person's face, the name of the lighting effect 'Natural Light' turns yellow. And there is also flashing red light from the Dot Projector.

- Go to Settings > Face ID & Passcode > Set Up Face ID. Face ID can be setup successfully. The phone can be unlocked with Face ID this time.

- To fully understand Face ID, you can also check Face ID Teardown here.
- '''How To Restore True Tone After Screen Replacement On iPhone XS'''
- '''How to Fix iPhone X Face ID Not Working After Screen Replacement'''