

iPad Digitizer Rainbow mark, finger print and oil smudge issue analysis

If you guys have own a repair shop, or are doing related business, you must have encountered the iPad digitizer issues. What the reasons cause these issues? How to fix/avoid these? Here ETrade Supply will show you what we found and our suggestions.

Rainbow mark issue:

The Rainbow mark issue mainly happens to the iPad Mini or iPad Mini 2 digitizer or digitizer assembly product. It's due to the different materials used on each layer of their digitizers.

'The original iPad Mini or iPad Mini 2 digitizer's structure is:

Gorilla Glass lens (original) + hard plastic material touch function panel (original). Assembled by original solid OCA sheet.

In accordance with the physical nature of light reflection, the glass material lens and the plastic material touch panel should have different refraction rate which will causes rainbow effect when lights go through.

However because of the mature original factory's craftwork, and also the balancing effect thru the original solid OCA sheet. The original iPad Mini or iPad Mini 2 digitizer won't have any rainbow mark issues.

2) The assembled flex iPad Mini or iPad Mini 2 digitizer's structure is:

Gorilla Glass lens(original) + hard plastic material touch function panel(original). Assembled by normal liquid OCA glue.

In accordance with the physical nature of light reflection, the glass material lens and the plastic material touch panel should have different refraction rate which will cause rainbow effect when lights go through.

What's more, the OCA used by the third party factories for the digitizers assembling is the normal liquid OCA glue. It will not work as the original solid OCA sheet at all to balance the light. While without the mature craftwork as the original factory do, the assembled flex iPad Mini and iPad Mini 2 digitizers sometimes will bring the Rainbow Print(Mark) issue to repair shops.

2) The aftermarket iPad Mini or iPad Mini 2 digitizer's structure is:

High strength Glass lens(aftermarket) + hard glass material touch function panel(aftermarket). Assembled by normal liquid OCA glue.

In accordance with physical nature of light reflection, the glass material lens and the glass material touch panel should have same refraction rate which will not causes rainbow effect when

lights go thru.

By the way, the liquid OCA glue between the two layer of glass is too thin to cause visible refraction difference effects.

After all, that's why we found the rainbow mark issue only on the assembled flex iPad Mini or iPad Mini 2 digitizer or digitizer assembly product.

Finger Print Issue:

The Finger Print issue happens nearly to all the iPad series digitizer or digitizer assembly products.

According to the investigation report of the QC team from EtradeSupply, this kind of highly visible cosmetic fact will surely be found out and cleaned/NG at the very first QC process.

The reason why we found finger print on digitizers is because:

The size of iPad digitizer product is much bigger than any phone screens. When people are processing the QC or packaging for them, it's hard for them to handle the digitizer only by the fingers. Thus during the QC, packaging or even cleaning process for iPad digitizers, the palm or any other places of our hands will be highly likely touch and leave "finger print" on the items, especially the iPad digitizer itself and the files we put onto both can be called as "finger print collector".

Oil Smudge issue:

The oil smudge issue happens nearly to all the iPad series digitizer or digitizer assembly products.

According to the investigation report of the QC team from EtradeSupply, there are two different kind of oil smudge issue:

① Oil Smudge at edges:

As per all the assembled flex digitizers and high copy digitizers of iPads are all assembled by liquid OCA glue. The adhesion power of the liquid glue is not as strong as the solid OCA sheet. At the very occasion like the bumping during the parts transportation or the slightly bending during its installation the digitizer edges may got unglued.

From the cosmetic this ungluing looks very like oil smudge because of the semisolid appearance of the glue.

② Other irregular oil Smudge

According to the craftwork of the iPad series digitizers, the back side of the touch function panel was covered by a special transparent thin paint-coatng. When repair shop technicians are cleaning the digitizer, sometimes they would like to use alcohol. This will weaken the

paint-coating and easily damage it when the pressure from the fingers are too strong.

The cosmetic appearance of the broken paint-coating is very close to the oil smudge appearance will also have the oil smudge cosmetic appearance.

For the rainbow mark issue, we strongly recommend you not to buy assembled iPad mini and iPad mini 2 digitizers, because at this moment, this can't be fixed; if the OEM digitizers run out of stock, high-copy ones are better choice for these two models.

In order to avoid the fingerprint issue, all QC and packaging members of ETS will wear full hand gloves instead of finger cots when handling these digitizers.

For Oil Smudge issue, if you meet these issues, please contact us through sales@etradesupply.com for further help and assistants.