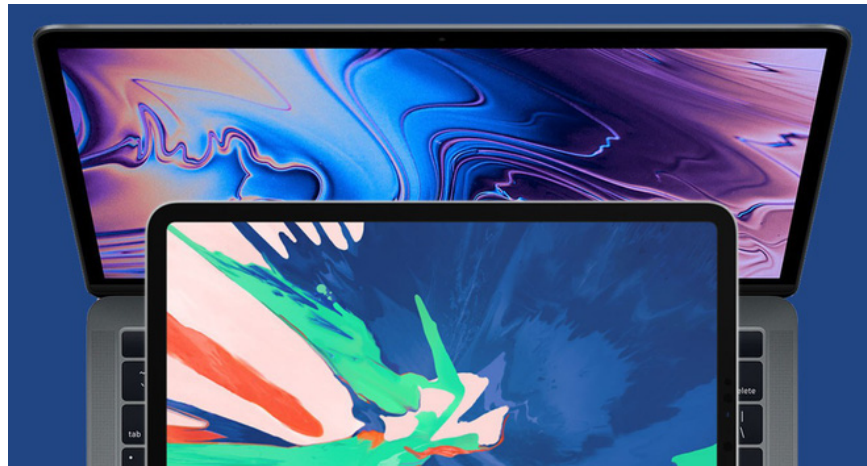


Instead of OLED or Micro-LED, why did Apple choose a Mini-LED for the new iPad Pro and MacBook Pro displays?

Not only has the ability to display superior to conventional LCD screens, Mini-LED also has the advantages of cost and supply, the points that Apple preferred when choosing new technology.

A reliable Apple analyst, Ming-Chi Kuo, has just sent investors a new forecast about when Apple will move on to adopt Mini-LED display technology. According to forecasts of this analysis, Mini-LED technology will land on iPads and MacBooks starting from the end of next year.

Kuo predicts that Apple will bring Mini-LEDs to 4-6 products over time, but the change will start with the 12.9-inch iPad Pro line in Q3 2020. Besides, Mr. Kuo also said that Apple will launch an upgraded version for the 16-inch MacBook Pro in Q4 2020 also using a Mini-LED screen.



12.9-inch iPad Pro and 16-inch MacBook Pro will have a version using Mini-LED screen by the end of 2020.

Why not OLED or Micro-LED?

Although the iPhone X has been using OLED displays since 2017, the iPads and MacBooks - Apple's big-screen devices - still use traditional LCD screens.

One of the reasons lies in the expensive cost of OLED technology, especially for devices with large display sizes, although it has superior advantages in visibility compared to LCD technology.

In addition, OLED screens have not completely eliminated their chronic illness as a burn-in phenomenon after a long time of use.



The Wall - TV using the first Micro LED technology in the world of Samsung.

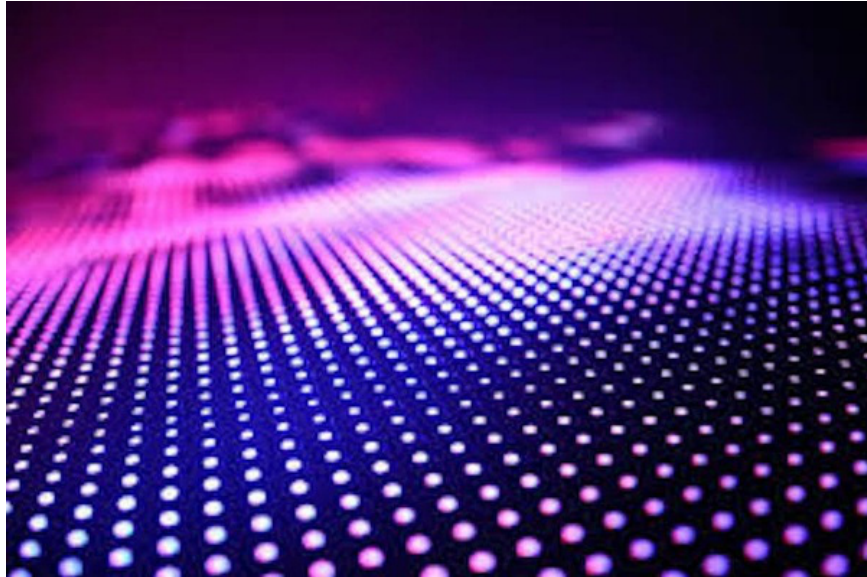
Meanwhile, there are many other rumors that Apple is also researching and developing Micro-LED screen technology - the technology of micro-LED light bulbs with the size of less than 100 micrometers. (typically only 3-15 micrometres per side).

While Micro-LED is a breakthrough both in visibility and immunity to burn-in on OLED, they are very expensive and difficult to produce, especially for large devices such as screens, laptop, tablet or TV. To create Micro-LED panels, manufacturers will have to invest in entirely new production lines, instead of reusing old ones, which will make it more expensive. than.

Mini-LED - a stepping stone for display technology

While Micro-LED was not technologically complete, OLED was too expensive for large sizes, and there were difficult technical problems to solve, Mini-LED was considered a suitable choice for Apple. for a comprehensive upgrade of visibility on iPad and MacBook.

With the same technology as the LCD screen, but with superior display enhancements, Mini-LED screens are easier to produce on a larger scale, have higher productivity and can take advantage of the facilities themselves. appears to produce. Currently, besides LG Display, there are many other manufacturers who have researched and developed Mini-LED for a long time such as Epistar, Zhen Ding, Radiant Opto-Electronics, Nichia, Avary Holding and TSMT.



This is one of the advantages that Apple has always preferred because they will not have to rely too much on a supplier to bring new technologies.

Moreover, the visibility of Mini-LED is also upgraded significantly compared to conventional LCD. Using small 100-micrometer LEDs to illuminate the LCD panel, the Mini-LED screen will be capable of local dimming by turning on or off certain LEDs in certain areas. This will result in higher contrast, HDR display, and higher energy efficiency.

Besides, Mini-LED is also significantly thinner than conventional LCD screens, even equivalent to OLED screens. Not only that, but the cost and production cost of a Mini-LED screen, though higher than that of LCD, is only 70% -80% of that of an OLED screen, while having the same contrast. In particular, Mini-LED also does not have burn-in problems like OLED.

The advantages of visibility, has been optimized in price as well as diverse supply capacity of Mini-LED technology are the points that Apple preferred when choosing a new technology to apply to my product.

Along with these advantages, the predictions of analyst Ming-Chi Kuo increasingly show, the launch date of the new iPads and MacBooks using this superior display technology is getting closer. If it launches at the end of 2020 as predicted, we will be less than a year away from them.

You finished reading the article "**Instead of OLED or Micro-LED, why did Apple choose a Mini-LED for the new iPad Pro and MacBook Pro displays?**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.