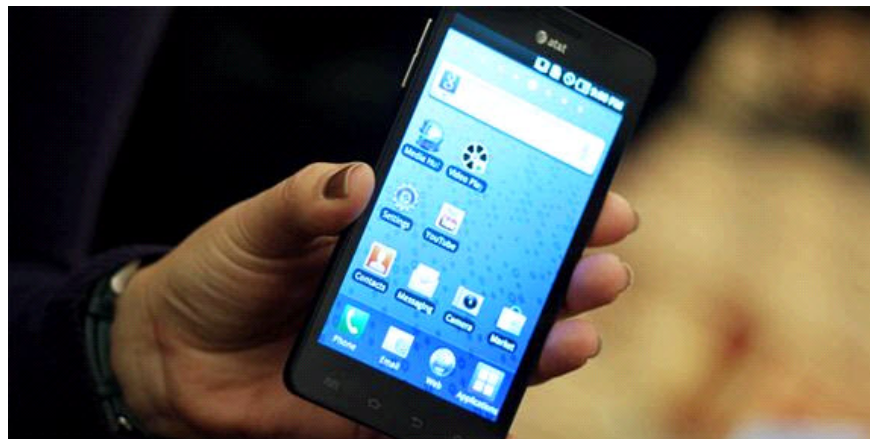


# The difference of the AMOLED PenTile and Real-Stripe technologies

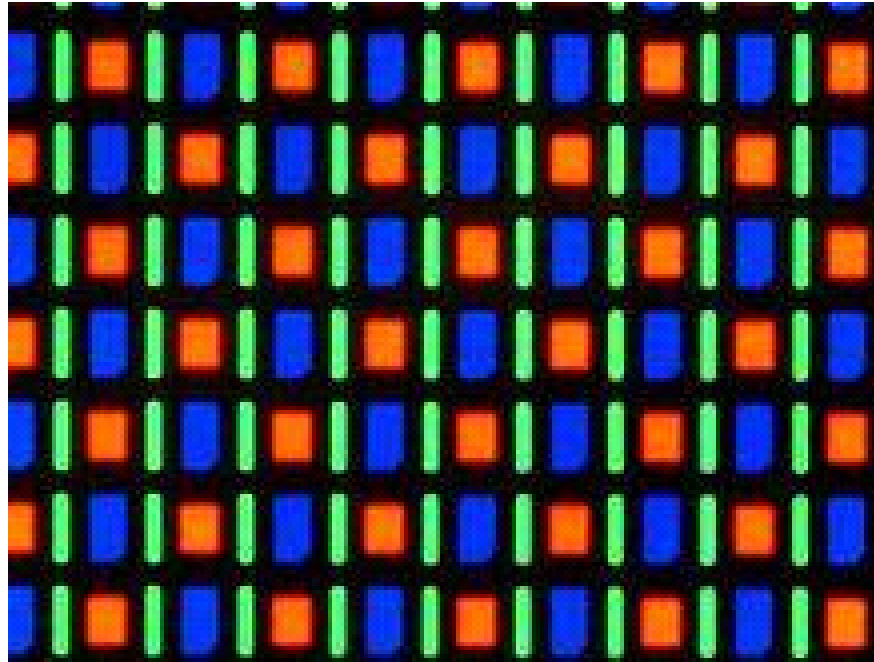
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**Compared to Android device manufacturers, Samsung has the advantage of being an 'end-to-end' manufacturer, meaning that it can 'self-supply' components for the device. me** Almost everything in Samsung Android phones comes from component manufacturing factories owned by Samsung's subsidiary or subsidiary. They are motivated to develop **AMOLED** display technology in recent years and **Super AMOLED** has found its way in the Samsung smartphone market.



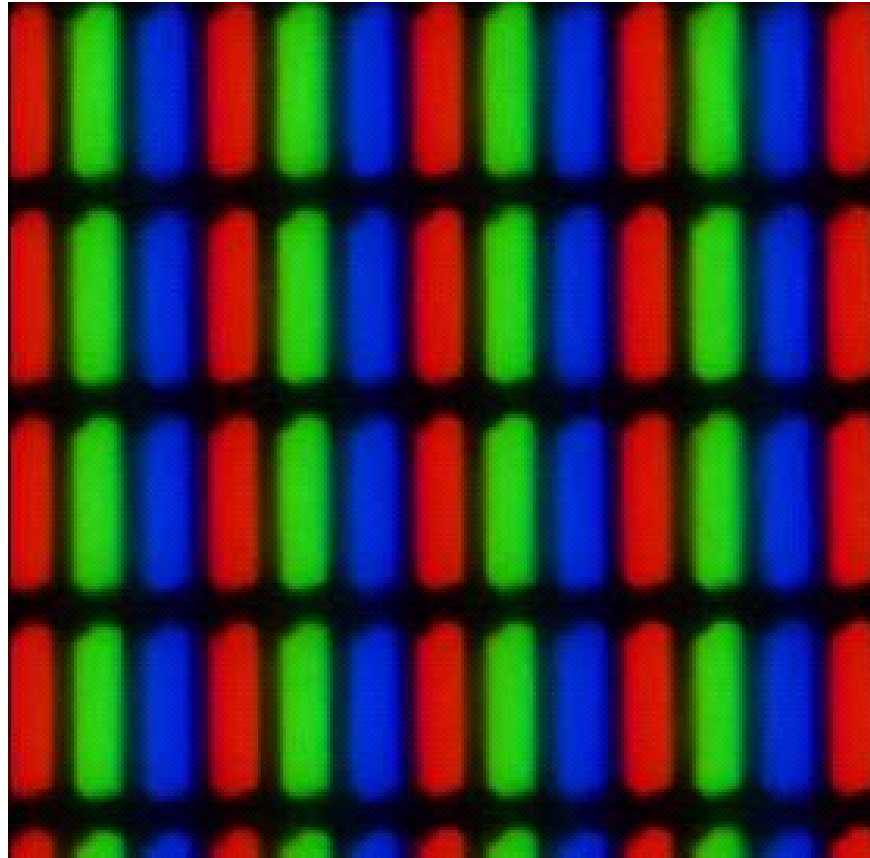
And Samsung's latest technology is called **Super AMOLED Plus** . New technology for good lighting is now even better. What has changed in new technology? That's the arrangement of sub-pixels that are called PenTile and Real-Stripe. With the article below, hopefully users can realize the difference between these technologies.

## The difference between PenTile and Real-Stripe



The layout of pixel points in Pentile style

All pixels of the phone are made up of many small pixels. The phone has a resolution (usually 854x480 or 800x480) measured in pixels. Each sub-pixel is given a certain color: red, dark blue or green. On Samsung's **Super AMOLED screen**, each pixel consists of 8 small pixels. PenTile refers to the arrangement of these elements. Unlike the standard RGB screen, PenTile is an arrangement in the style of RG-BG (Red Green-Blue Green), it repeats between alternating green colors between two dark blue and red. The screens are much easier to produce than the more difficult AMOLED capital.



The layout of pixel points in the traditional RGB style

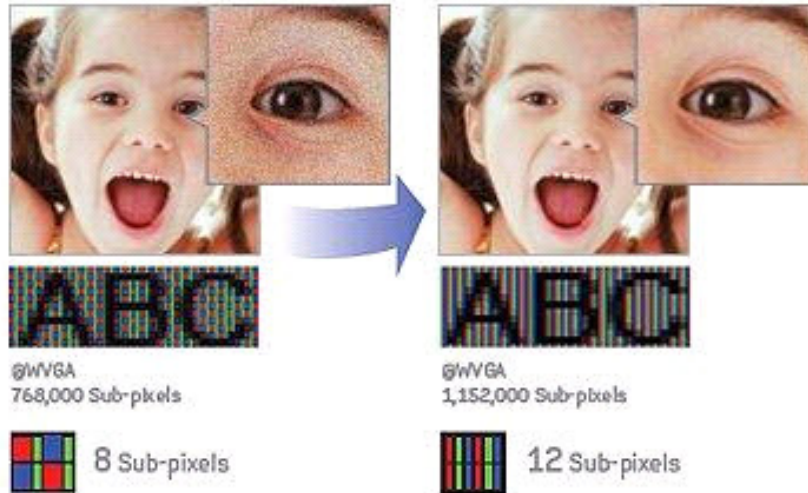
**Super AMOLED Plus** will change the pixel layout, it will arrange more than other screen technologies. This screen will use pixel pixel sorting in RGB-RGB style. Samsung has decided to name this brand Real-Stripe. While each pixel in PenTile is made up of 8 sub-pixels, Real-Stripe has 12 elements. That is a 50% increase in the number of sub-pixels that Samsung arranges.

### **Effectiveness of the layout of pixels**

When using **Super AMOLED screen** , if you pay close attention, you will definitely see the effect of PenTile screen. Some colors look almost particles, also known as grain breakage. This is more noticeable with warmer colors, users will see speckled marks while the text is a bit fainter. However, users still rate **Super AMOLED** better than the standard AMOLED screen of sharpness.

Ordinary  
AMOLED Display

SUPER  
AMOLED Plus

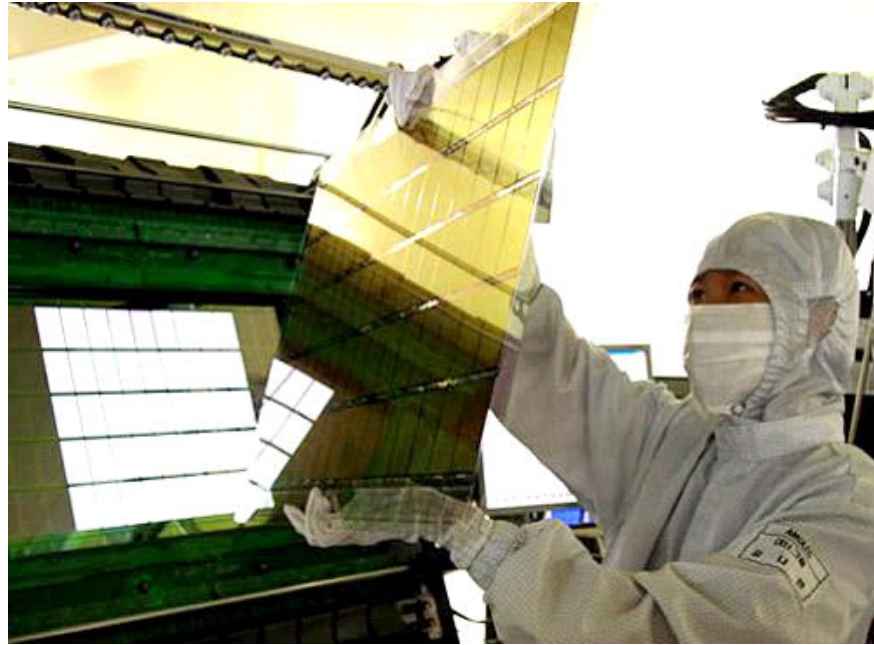


If you take a closer look at the **Super AMOLED Plus screen**, users will see additional working pixels. This will help users to see clearer, smudge-free pixels, and a lot more sharpness.

The drawback to Real-Stripe is that the total pixels are larger in size. That means the screen may be slightly larger to accommodate WVGA resolution. Phones using **Super AMOLED** screens such as Nexus S and Galaxy S are equipped with 4-inch screens. Meanwhile Infuse 4G and Galaxy S2 use **Super AMOLED Plus screen** which is respectively 4.5 inches and 4.3 inches in size. The increased size is due to larger pixels. And image quality is also considered much better than **Super AMOLED**.

### Open to the future

The enhancement of Real-Stripe pixel size is Samsung's technology used to produce their screens. Samsung currently uses Fine-Metal-Mask (FMM) technology to produce **Super AMOLED** and **Super AMOLED Plus**. This is a good method but it is expensive and has an accuracy of about 15 $\mu$ m (micro meters). Using this technique, Samsung can only make the screen have a density of about 200ppi. It's the right choice for a 4.3-inch WVGA screen.



Samsung hopes to soon switch to laser technology, thermal imaging (laser-induced thermal imaging, LITI). As users can expect, this is a cheaper and more accurate method of producing **AMOLED** panels. LITI has accuracy in accuracy of about 2.5µm. As a result, Samsung hopes to be able to produce boards with more than 300ppi. Currently, iPhone 4 uses circuit boards 326ppi, which is an unexpected screen technology.

The trust of Samsung's **Super AMOLED** and **Super AMOLED Plus** technology is likely to be a worthy successor on the future of smartphone screen technology village. Vivid colors, clearer images than AMOLED standards. The remaining problems with AMOLED are slowly eroded as a new production technology. Samsung phones will definitely continue to use the most impressive screens in the near future.

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