

What is Megapixel?

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Smart phones quickly evolve and do things that you have never done before, from playing terrible graphic games to digging bitcoin. When thinking about buying a new phone, depending on the need, each person will search for specifications related to monitors, microprocessors, memory . and one of them is very much interested. camera.

But looking at the camera parameters, many people have to wonder: what is megapixel? What does it say about camera quality? Megapixel is a parameter that many companies use to advertise the quality of camera they have. However, it is not necessarily reflected in the quality of the camera.

What is Megapixel?

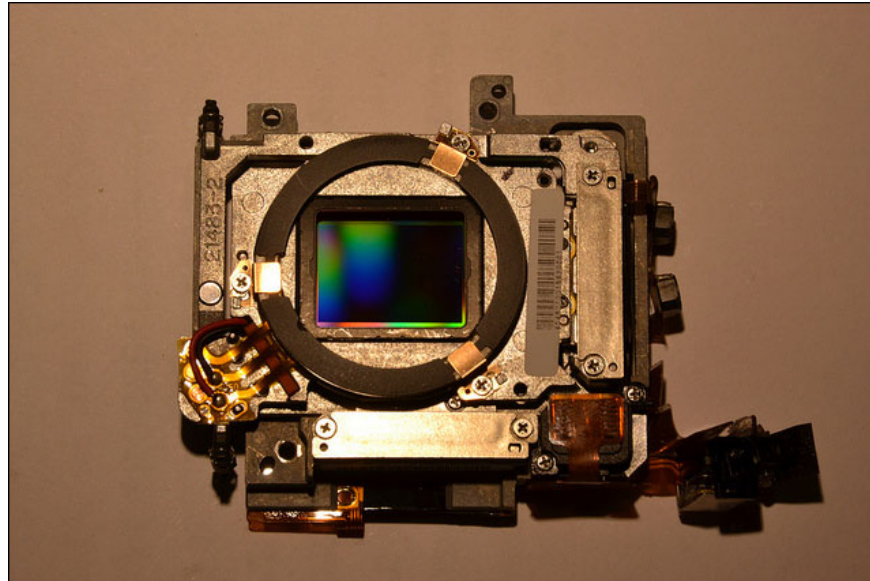
Uncompressed image resolution is measured in vertical and horizontal directions. If you take a picture and count the pixels vertically and horizontally and multiply them, you will have the total number of pixels of that image. The more pixels you have, the higher the resolution. Megapixel literally means adding a mega prefix - meaning millions of pixels.

To determine how many megapixels the camera produces, you only need to multiply the vertical and horizontal bands of the sensor and divide it by 1 million. For example, a 1000 x 1000 image is a pixel camera. 1920 x 1080 more than 2 megapixels. 4K photos will be over 8 megapixels.

The move from 1 to 2 megapixels is huge: it is a jump from SD to HD that we saw a few years ago when the number of pixels per inch was doubled. But from 5 to 6 megapixels, the change is only 20%, not too significant and difficult to recognize. That's not to mention if your device is capable of displaying large megapixel images.

Megapixel is not everything

How camera or point-and-shoot cameras work is quite simple. They use simple lenses to focus light on a piece of stained glass with red, green and blue colors stacked on top of each other. Behind the glass and an image sensor made of silicon to receive, determine the strength and weakness of the light.



Stained glass panels inside the camera

The color filter plate leads to the sensor and by measuring the difference between the bits of the glass plate, the camera produces colors corresponding to each pixel to display.

However, there are some limitations: the sensor has a certain noise level - it is the random value in the sensor, although the exposure is how much. Low noise sensors will be harder to make and more expensive. For most normal cameras this is not a problem because just having enough light will not interfere.

But as the sensor gets smaller and smaller, the less light you get, the more noise it will reduce. To push the number of megapixels up (for advertising purposes, for example), many manufacturers also allow for increased noise levels, although this also reduces the overall quality of the image.

There is a problem. As the resolution increases, the lens quality also reaches the critical point. Cheap lenses often have a certain degree of blur, increasing the resolution of the image sensor is greater than the quality of the lens that will increase the number of pixels but not enough information for those pixels.

Worse, the difference between the lens quality and the sensor's resolution may cause false colors because light passing through the color filter can go to the light sensor corresponding to another color, causing inaccuracy.

How to choose a good camera?

So when buying a phone and want to choose a good camera, don't just care about megapixels. Look at the color accuracy, the ability to capture low light and the quality of the lens. However, very rarely do you know these parameters from the manufacturer, so another way is to look at reviews from trial use and compare these cameras with other cameras.

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