

10 best smartphone photography today

TipsMake - According to the rankings of DxOMark, Huawei P20 Pro, Apple iPhone XS Max, Samsung Galaxy Note 9, Xiaomi Mi MIX 3 are the phones with the highest DoX points.

The DxO score is given by DxOMark to vote for the phones with the best imaging performance by measuring and evaluating image quality of cameras and lenses. However, this is just a reference channel when choosing to buy a phone because to take beautiful pictures, it needs the contribution of many factors on the camera.

Here are 10 phones DxOMark rated the most at this time

1. Huawei P20 Pro



Huawei P20 Pro is China's top and latest smartphone with improved camera technology. With three lenses set up on the back of the phone with an aperture of $f / 1.8$, the camera of the P20 Pro offers a far field of view compared to the 2x modules in iPhone or Samsung Galaxy devices.

The camera sensor uses Quad Bayer structure with a total pixel count of 40 Mp, uses a large chip that is approximately twice the size of the Samsung Galaxy S9 chip, easily exports data in 2x2 pixel units with quality images. Amount up to 10 Mp.

With an equivalent focal length of 80 mm, the optical stabilizer's camera is capable of detailed zooming with a 2x zoom factor, which helps with estimating depth for the bokeh effect, reducing noise level, increasing the

ability to take photons. , enhance picture quality when zoomed in and low light.

Camera specifications:

- Main camera: 40 Mp, 1 / 1.73 μ m, RGB sensor with Quad Bayer structure, f / 1.8 aperture lens with 27 mm equivalent focal length.
- Secondary camera: 20 Mp, 1 / 2.78 μ m, monochrome sensor, f / 1.6 aperture lens with 27 mm equivalent focal length.
- Telephoto camera: 8 Mp, 1 / 4.4 μ m, RGB sensor, f / 2.4 aperture lens with 80 mm equivalent focal length and optical images.
- Phase detection autofocus (PDAF).
- 4K video (not the default mode).
- 960 fps slow-motion video at 720p.
- 6.1 inch screen, 2240 x 1080 resolution.
- Kirin 970 Chipset.

With a total score of 109, the Huawei P20 Pro sets a new standard for smartphone cameras, surpassing all rivals such as Apple iPhone X, Google Pixel 2 and Samsung Galaxy S9 Plus with a margin of 10 points or more.

2. Apple iPhone XS Max



Among Apple phones, the iPhone XS Max has the largest screen, which is considered a 6.5-inch Super AMOLED version quite similar to the iPhone X.

However, compared to the iPhone X, the iPhone XS Max has more improvements in the camera, such as the 12 Mp sensor in the wide-angle module now larger than before, having a 1.4 μ m pixel compared to 1.22 μ m on the iPhone. X.

As for the details of f / 1.8 aperture and f / 2.4 aperture, 2x telephoto camera comes with 1.0 μm pixels, optically stabilized lens . it is almost identical to the iPhone X.

iPhone XS Max is capable of displaying HDR images in real time. During still photography, the camera continuously captures a multi-frame buffer at different exposures.

In video mode, the iPhone XS Max can record 4K videos at 60 fps and 1080p Full HD at speeds up to 240 fps.

In addition, the camera can record extended dynamic scenes when the aspect ratio is limited to 30 frames per second and reduce the jello effect.

Camera specifications:

- Main camera: 12 Mp, 1 / 2.55 "(1.4 μm pixel) sensor, f / 1.8 aperture lens with 26 mm equivalent focal length.
- 2 megapixel telephoto camera: 12 Mp, 1 / 3.4 sensor "(1.0 μm pixels), f / 2.4 aperture lens with a focal length equivalent to 52 mm.
- Phase detection autofocus (PDAF).
- Dual-tone flash.

- 4K video at 30/60 fps.
- 1080p video at a maximum speed of 240 frames per second.

With a total score of 105, the Apple iPhone XS Max features brilliant water, vibrant colors and high levels of detail, keeping camera shake to a minimum, and an extremely standard autofocus system. minus points in zoom performance need to be further improved.

3. HTC U12 +



Launching U12 +, Taiwanese manufacturer HTC has really enhanced its imaging capabilities, with the Ultraspeed Autofocus 2 system that provides phase detection and laser autofocus, simulating bokeh to blur the

background. Portrait photo, equipped with two-tone LED flash.

U12 + uses a 12 Mp sensor and wide angle lens (27 mm equivalent) with $f / 1.75$ aperture and OIS for the main camera, along with a 16 Mp sensor and telephoto lens (equivalent to 54 mm) with mode 2x for secondary camera.

Running QUALCOMM's latest Snapdragon 845 chipset, the U12 + has plenty of power for photography tasks, along with the "Pro" photography mode for manual control and support for RAW file export. In addition, U12 + can also record movies at 4K resolution up to 60 frames per second.

Camera specifications:

- Main camera: 12 Mp, $1 / 2.55$ "sensor (1.4 pixelm pixel size), $f / 1.75$ lens and OIS.
- Secondary camera: 16 Mp (1.0 μ m pixel size), f telephoto lens / 2.6 and 2x zoom.
- Laser phase detection and autofocus are supported.
- Dual LED flash.
- 4K video at 60 frames per second.

With a total score of 103, the HTC U12 + is significantly improved compared to the previous version, U11, superior in both color, focus, flash, zoom and bokeh. While great zoomed-in images at 2x using a telephoto lens, the HTC U12 + is still limited to the display range and image noise in low light.

4. Samsung Galaxy Note 9



Samsung Galaxy Note 9 is equipped with a stylus, comes with a dual camera setup, has a wide-angle camera with 12 Mp sensor, $f / 1.5-2.4$ dual aperture lens, and two-pixel autofocus Additional secondary camera with 12 Mp sensor with 2x telephoto lens with $f / 2.4$ aperture.

In addition to being equipped with dual cameras, Note 9 also supports AI in the camera, which can identify key elements in the image, optimize shooting settings and image processing based on one of 20 separate categories. .

The video can record 4K footage at 30/60 fps, 6.4-inch Super AMOLED screen (2960 × 1440), AKG-tuned speakers, Qualcomm Snapdragon 845 or Exynos 9810 Octa chipset.

Camera specifications:

- Main camera: 12 Mp, 1 / 2.55 "sensor, two-pixel lens, PDAF, with variable aperture f / 1.5-2.4.
- Secondary camera: 12 Mp, 1 / 3.6" inch sensor, AF, f / 2.4 aperture.
- OIS on both cameras.

- Single LED flash.

- 4K video at 30/60 fps.

With a total score of 103, the Samsung Galaxy Note 9 is strongest when shooting still images with high autofocus performance, noise reduction, good color rendering, accurate white balance, zoom in detail, and ability to captures high-contrast scenes with shadows and bright highlights, making it easy to take photos in bokeh mode, both outdoors and in indoor lighting conditions.

When recording video, the Note 9 always makes artifacts and controls noise, responds quickly to changing light conditions, delivering bright and vivid colors, only sometimes the glare and chroma have visible in low light scenes.

5. Xiaomi Mi MIX 3



As Xiaomi's latest high-end smartphone, officially launched in late October 2018, the Mi MIX 3 is powered by Qualcomm's Snapdragon 845 chipset, has the same camera hardware as the Mi 8 and Mi MIX 2S.

The main camera comes with a 12 Mp wide-angle camera, 1 / 2.55 "sensor and f / 1.8 aperture lens. The secondary telephoto camera is optically unstable, providing a 2x zoom factor and lens The f / 2.4 aperture is a bit slow, and a dual-LED flash lets you take photos in low light.

Camera specifications:

- Dual camera with wide angle lens and telephoto lens.
- OIS on the main camera.
- Phase detection autofocus.
- Qualcomm Snapdragon 845 Chipset.

With a total score of 103, Xiaomi Mi MIX 3 excels in still photography thanks to its fine-tuning algorithms and processing software.

The most powerful of the MIX 3 is its ability to deliver exceptional color in all lighting conditions, fast and accurate autofocus performance, outstanding flash images, accurate white balance, pleasant contrast. in outdoor images, yielding high results in red eye.

6. Huawei P20



It is not equipped with 3 cameras like the P20 Pro but the Huawei P20 still takes very good photos with a large sensor and dedicated telephoto lens.

A 1 / 2.3 "primary RGB sensor paired with a 1 / 2.78" monochrome sensor creates bokeh effects, reduces image noise, increases image details when shaken. Both modules have a focal length equivalent to 27 mm with an aperture of f / 1.8 and f / 1.6.

Camera specifications:

- Main camera: 12 Mp with 1 / 2.3 RGB RGB sensor, f / 1.8 aperture lens and 27 mm equivalent focal length.
- Secondary camera: 20 Mp with 1 / 2.78 " monochrome sensor, f / 1.6 aperture lens and 27 mm equivalent focal length.
- Phase detection autofocus (PDAF).
- 5.8 inch screen, 2240 x 1080 resolution.

With a total score of 102, the Huawei P20 has a high level of still image performance, delivering great detail and dynamic photography in all conditions, both the bokeh and the zoom feature work at a high level.

7. Samsung Galaxy S9 Plus



Samsung Galaxy S9 Plus is the latest model in the high-end Galaxy S smartphone line of the Korean manufacturer. It comes with a dual camera similar to the Galaxy Note 8, but adds a lens with a variable aperture on the main camera.

In low light conditions, the camera uses a very fast f / 1.5 aperture to maximize light capture. In brighter conditions, it switches to a slower f / 2.4 aperture for optimal detail and sharpness.

Adding a 2x zoom mode to the secondary camera and ultra-motion video mode, the S9 + offers one of the most comprehensive photography features available today.

Camera specifications:

- Main camera: 12 Mp with 1 / 2.55 " sensor, variable aperture f / 1.5 and f / 2.4 lens.
- Secondary camera: 12 Mp with 1 / 3.6 " sensor, 2x telephoto aperture lens and f / 2.4.
- OIS for both lenses.

- Dual-pixel PDAF on main camera.
- LED light.
- 4K video at 60 fps
- Super 720p 720p video at 960 fps.

With a total score of 99, the Samsung Galaxy S9 Plus works well on all photo and video categories, making it an ideal choice for any user who wants the best possible image quality without affecting video.

8. Xiaomi Mi 8



Xiaomi Mi 8 is powered by Qualcomm Snapdragon 845 chipset and comes with the same camera hardware as the specifications of Mi MIX 2S.

The main camera has a wide angle with 1 / 2.55 "sensor, 1.4 μm pixel and f / 1.8 aperture lens. The telephoto camera has slightly slower speed with f / 2.4 aperture lens.

Camera specifications:

- Dual cameras with wide angle and telephoto lenses.
- OIS on the main camera.
- Phase detection autofocus.
- LED flash.
- Snapdragon 845 Chipset.

With a total score of 99, Xiaomi Mi 8 offers improvements in certain standards compared to the previous Mi MIX 2S. Mi 8 takes good photos in a variety of lighting conditions, delivers vibrant and vivid colors with neutral white balance, has fast and accurate autofocus, and creates a smooth bokeh effect, displays compelling colors, and a wide dynamic range when recording videos, only sometimes rendering colors still a bit "artificial".

9. Google Pixel 2



Google Pixel 2 only has a single camera design for the main camera but still produces beautiful photos. Although weaker in zoom and bokeh shooting than the Apple iPhone 8 Plus and Samsung Galaxy Note, Pixel 2 is still rated as one of the top photography smartphones.

Camera specifications:

- 12 Mp 1 / 2.6 "sensor with f / 1.8 aperture.
- Two-pixel autofocus.
- Optical image stabilization.
- HDR + technology.
- Supports new portrait photography software.

With a total score of 98, Google Pixel 2 achieved impressive image and video performance. For users who prefer low-light and backlit photography, Pixel 2 will be the right choice to provide beautiful, detailed images with high autofocus capability.

10. Apple iPhone X



To mark the 10th anniversary of the iPhone, the launch of the iPhone X is extremely important to Apple. The iPhone X has a dual-cam setup very similar to the iPhone 8 Plus but is equipped with a dual 12MP sensor, f / 1.8 wide-angle lens and f / 2.4 telephoto lens.

The front-facing camera has also been upgraded with Face ID technology to give users the need for selfie photography, including improved depth mapping that makes portrait mode and bokeh simulation as smooth as possible.

Camera specifications:

- Main camera: 12 Mp with wide-angle f / 1.8 OIS lens.
- Telephoto camera: 12 Mp with f / 2.4 OIS lens.
- Camera "selfie": 7 Mp with f / 2.2 lens and face detection mode.
- Autofocus with touch focus.
- Quad LED flash with slow sync mode.
- Portrait mode with portrait lighting.
- 4K video at 60 fps.

With a total score of 101, the Apple iPhone X significantly improved the performance of Zoom, Exposure, Color, Texture, Noise and Artifacts compared to the iPhone 8 Plus. Other strengths in still image mode include good exposure and HDR, accurate color rendering, natural bokeh in portrait mode, etc.

Founded in 2008, DxOMark is the ranking site of DxO Labs. DxOMark specializes in evaluating the image quality of smartphones, lenses and cameras, and ranks them based on experiments that evaluate factors such as color, exposure, contrast, autofocus, dynamic range, and level. color saturation, white balance, flash, zoom, effects like removing fonts .

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