

Eyes of Iphone

The camera is our thrid eye
with super powers

Eyes of iPhone

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The release of iPhone 12 Pro and iPhone 12 Pro Max last year, brought us a powerful 5G experience and a variety of more advanced technologies, breaking the limits of innovation for users who want to maximize the usage of the iPhone's camera. The Pro-level camera system has been redesigned to include the main camera of the new machine, Apple introduced the technology of professional digital SLR cameras, that is, the sensor-based optical stabilization system and an ultra-wide-angle camera with a wide field of view, a telephoto camera (longer focal length on the iPhone 12 Pro Max), and a new wide-angle camera that can be used in bright light and low-light environments to produce beautiful professional-level images and videos.

The most noteworthy is that under the primary camera lens of the iPhone 12 Pro Max there is a larger and also "movable" sensor which is the sensor-based optical stabilization system, a first for Apple (most phone camera modules



iPhone 12 Pro Max

shift the lens rather than the sensor to offset camera movement). First of all, the common anti-shake technology on SLR cameras is mainly divided into two types, one is Optical image stabilization (OIS), and the other is In-Body Image Stabilization (IBIS), and In-Body Image Stabilization (IBIS) is what Apple has introduced on the iPhone 12 Pro Max. According to Apple, In-Body Image Stabilization (IBIS) can precisely control the dynamics of the X-axis and Y-axis, uses the movement of the photosensitive element to offset the handshake or vibration caused by the machine. For example, if you move your hand down, the sensor will actively move up to offset it, to maintain the stability of the sensor, achieve optical image stabilization, and obtain better imaging performance, this is the anti-shake principle of the new sensor of the iPhone 12 Pro Max. Through the entire optical image stabilization system, the iPhone 12 Pro Max can obtain a stable exposure time of up to 2 seconds under low-light conditions, which is equivalent to increasing the aperture exposure

by one level. It can provide significant improvements for indoor photography, especially in low-light scenes and when paired with the new optical image stabilization by sensor displacement.

ALL-NEW SENSOR
47% larger
1.7 μm pixels



Talking about the camera, both the iPhone 12 Pro and iPhone 12 Pro Max have a triple-lens camera setup on the back, equipped with a 12MP ultra-wide-angle with a wide field of view, wide-angle and a 65-mm focal length telephoto camera, allowing more flexibility to shoot close-up shots or more compact pictures. In addition, the system can achieve 5x optical zoom as a whole. The night mode

has also been further improved, and can now be used with the original depth and ultra-wide-angle cameras to bring brighter shooting effects furthermore in low-light scenes, longer exposures are possible, resulting in clearer videos, brighter light tracks, and smoother picture effects. iPhone 12 Pro Max brings the Pro-level camera system experience to the next level. The sensor size of the new $f/1.6$ aperture wide-angle camera has been increased by 47%, the pixel size has been increased to 1.7 microns, which allowed low-light shooting performance increased by 87%. Between ultra-wide-angle, wide-angle and telephoto lenses, Apple claims that iPhone 12 Pro Max has a total optical zoom range of 5x whereas the digital zoom of the iPhone 12 Pro Max can be up to 12x. Deep fusion technology has now come to all lenses, and become faster and better, coupled with the new smart HDR, even in complex scenes, users can shoot lifelike images.

In conclusion at present, iPhone 12 Pro Max may be one of the best choices for professional photographers and videographers when Apple has added a new sensor-based optical stabilization system and the ultrawide camera uses a 12MP imager making it the most powerful camera phone in Apple's history.

TELEPHOTO
 $f/2.2$ aperture
6-element lens
65 mm focal length
2.5x optical zoom
Optical image stabilization
Focus Pixels

ULTRA WIDE
 $f/2.4$ aperture
5-element lens
13 mm focal length
120° field of view

WIDE
New $f/1.6$ aperture
7-element lens
26 mm focal length
27% improved low light
Optical image stabilization
100% Focus Pixels

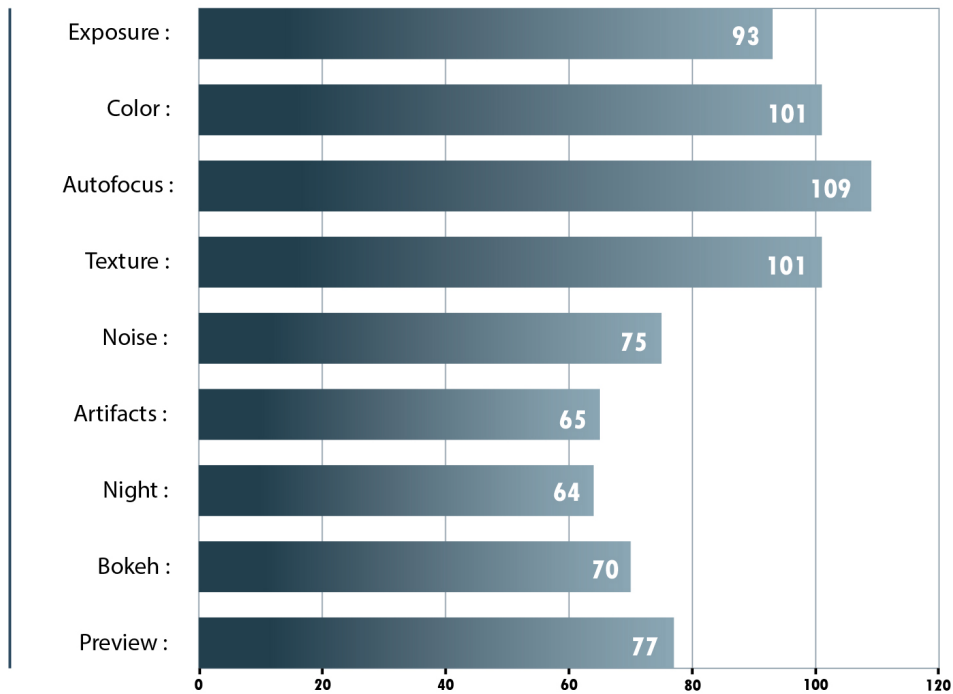


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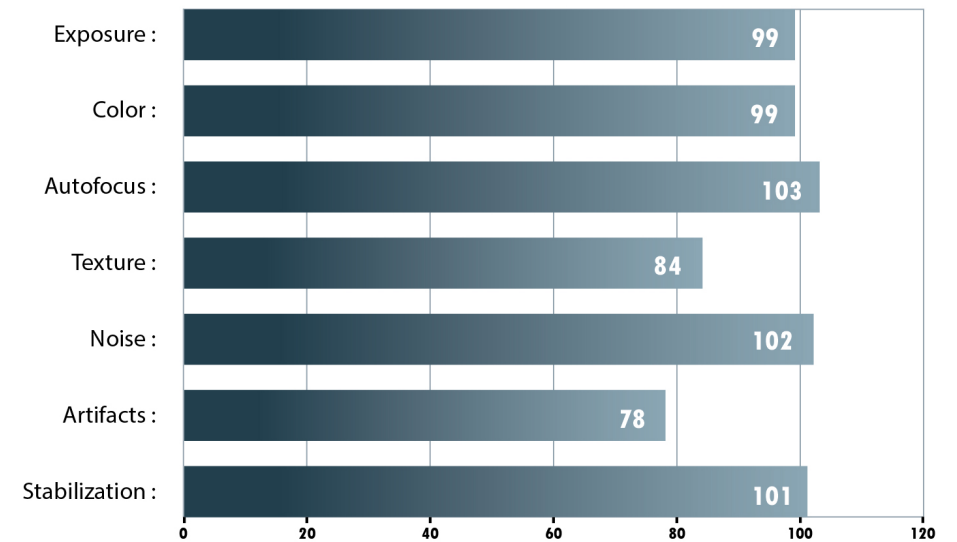
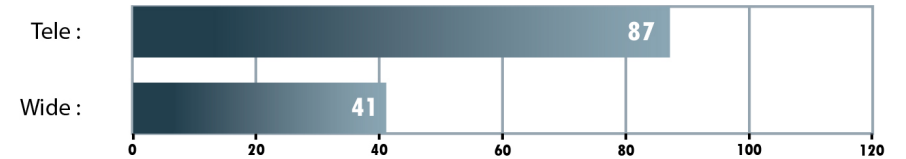
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DXOMARK Camera tests



Photo

Zoom



Video