OnePlus 8 Series Establishes Unprecedented 120 Hz Smartphone Display Differentiation with Pixelworks Fifth Generation Visual Processor and Software

04/14/20

OnePlus 8 Series Tops DisplayMate A+ Rating, Establishes New Standard of Visual Quality with Dual MotionEngine, Always HDR and Adaptive Display Innovations from Pixelworks

SAN JOSE, Calif. and SHENZHEN, China, April 14, 2020 /PRNewswire/ -- Pixelworks, Inc. (NASDAQ: PXLW), a leading provider of innovative video and display processing solutions, and OnePlus, a premium global smartphone manufacturer, today announced that the new OnePlus 8 Pro flagship smartphone incorporates the fifth generation Pixelworks® visual processor with unique, industry leading features, including MotionEngine® technology with Dual MIPI processing, Always HDR Experience, also known as "HDR Boost," and Tone Adaptive Display. In addition, the new flagship series phones – OnePlus 8 and OnePlus 8 Pro – incorporate Pixelworks visual processing software running on the Qualcomm® Snapdragon™ 865 Mobile Platform with Pixelworks industry-leading color accuracy, flesh tone reproduction, flicker-free screen dimming and ultra-smooth adaptive brightness.

The OnePlus 8 series smartphones utilize the Qualcomm® Snapdragon™ 865 5G Mobile Platform and have top-of-the-line flagship specifications, culminating with the OnePlus 8 Pro, which features a dynamic 120 Hz AMOLED display at 6.78", 19.8:9 aspect ratio, QHD+ resolution (1440 x 3168 pixels), yielding a pixel density of 513 ppi and up to 1300 nits of peak brightness, supporting an infinite contrast ratio. The breathtaking OnePlus 8 Pro Fluid Display is the industry's first 120 Hz with the patented MotionEngine® solution with Dual MIPI from Pixelworks, optimized for high refresh rate displays to ensure superior visual quality across the widest range of video use cases, including those with graphics, text or a GUI (graphical user interface).

"We designed our flagship OnePlus 8 series smartphones to have the best display you will lay your eyes on in 2020. The OnePlus 8 Pro Fluid Display is a standout among 120 Hz smartphones, with some of the industry's most advanced visual processing technologies from Pixelworks to make your 5G enabled entertainment truly unforgettable," said Pete Lau, Founder and CEO of OnePlus. "We are pleased to partner with Pixelworks in this ongoing collaboration to push the boundaries of the smartphone visual experience for consumers."

"We are excited to team with OnePlus to enable cinematic big screen technology in the OnePlus 8 series with our most advanced technologies that harness our 22 years of video and display innovation," said Todd DeBonis, President and CEO of Pixelworks. "As an industry leader, OnePlus continues to redefine the market with a compelling technology vision aimed at exceeding expectations for flagship phones, and Pixelworks technology helps them take that vision to the next level. We look forward to continuing to advance the quality of 5G video, gaming and entertainment in future OnePlus models."

In independent testing by DisplayMate, the new OnePlus 8 series 120 Hz Fluid Display shattered 13 industry records for visual quality, taking mobile entertainment to a whole new level with the most advanced suite of technologies from Pixelworks.

The following Pixelworks features are only available in the OnePlus 8 Pro smartphone:

- **Dual MotionEngine® Technology –** Not all 120 Hz screens are created equal. The OnePlus 8 Pro leverages patented Pixelworks MotionEngine technology with Dual MIPI (Mobile Industry Processor Interface) support. This improves overall visual quality while preserving the intended motion appearance for movies, live TV, sports, shared video and other dynamic multimedia content.
- **Always HDR Experience –** Not all HDR-capable mobile displays are created equal, either. Today, an estimated 98% of available global video and gaming content is in SDR format[1]. The OnePlus 8 Pro leverages Always-HDR technology to upconvert all content for a cinematic experience that is visibly superior to the original SDR content.
- **Tone Adaptive Display** - Pixelworks adaptive display technology in the OnePlus 8 Pro utilizes the phone's RGB sensor to

automatically adapt the color tone of the display to match the color temperature of the ambient light and reduce blue light. This provides superior eye comfort for sustained gaming, movie watching or reading in a wide range of lighting conditions.

The following Pixelworks features are included in the OnePlus 8 and OnePlus 8 Pro smartphones:

- **Absolute Color Accuracy –** Every OnePlus 8 series smartphone is factory tuned with Pixelworks' patented, high-efficiency calibration software and runs Pixelworks color management software on the display processing unit of the Snapdragon 865 to optimize power while delivering a smartphone industry-record color accuracy for all apps and content spanning the sRGB and DCI-P3 color gamuts.
- **True Flesh Tones** – A calibrated flesh tone solution ensures accuracy across all display modes to convey true-to-life skin tones for all content involving real people, whether photos, video captured on the phone or popular movies.
- **Brightness Smoothing** – Finely tuned, automatic luminance control enables ultra-smooth display brightness transitions and mitigates screen flashing as ambient lighting changes, particularly in dimly lit viewing environments.
- **DC Dimming 2.0** solves a key eye strain and visual sensitivity issue that can occur at low brightness on AMOLED screens. To dim the screen, the Pixelworks solution dynamically adjusts the display's current to mitigate the screen flickering associated with conventional Pulse Width Modulation (PWM) dimming. This feature is enabled on both OnePlus 8 models.

As a Hollywood award-winning industry leader in motion processing, Pixelworks has evolved its patented Motion Estimation Motion Compensation (MEMC) technology for smartphones with multiple levels of content-specific optimization and a new Dual MIPI architecture with parallel processing that produces superior visual quality across a very wide range of content, video formats, frame rates and multimedia apps. As part of the Pixelworks fifth generation visual processor, the new Dual MotionEngine® technology featured in the OnePlus 8 Pro smartphone is mobile-optimized for high refresh rate displays and reduces power consumption by up to 50% as compared to the previous generation motion processing solution from Pixelworks.

About Pixelworks
Pixelworks provides industry-leading content creation, video delivery and display processing solutions and technology that enable highly authentic viewing experiences with superior visual quality, across all screens – from cinema to smartphone and beyond. The Company has a 20-year history of delivering image processing innovation to leading providers of consumer electronics, professional displays and video streaming services. Pixelworks is headquartered in San Jose, CA. For more information, please visit the company's web site at www.pixelworks.com.

About OnePlus
OnePlus is a global mobile technology company challenging conventional concepts of technology. Created around the "Never Settle" mantra, OnePlus creates exquisitely designed devices with premium build quality and high-performance hardware. OnePlus thrives on cultivating strong bonds and growing together with its community of users and fans. For more information, please visit OnePlus.com.

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[1]Sources: Streaming Observer (2019), Trusted Reviews (2019) and Pixelworks research and analysis.
[2]Source: Average color accuracy based on independent testing by DisplayMate. Just Noticeable Color Difference (JNCD) is a measure of absolute color accuracy where lower is better and a value of less than 1 means indistinguishable from the reference color by the human eye.

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