



Synaptics Rio Touch Controller Enables Power-Efficient LTPO Display Panels in Premium OLED Mobile Devices from Oppo and OnePlus

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Delivering high performance touch sensing with variable refresh rates and optimal battery life

SAN JOSE, Calif., June 29, 2021 (GLOBE NEWSWIRE) -- Synaptics® Incorporated (Nasdaq: [SYNA](#)) today announced that its Rio family of OLED touch controllers is being used to support LTPO-enabled OLED displays in new flagship mobile phones from leading manufacturers Oppo and One Plus. LTPO displays improve power efficiency by adapting their refresh rate to the content being played while also being sensitive to interference from touch controllers that do not properly support constantly shifting refresh rates. The Synaptics Rio family dynamically adapts to the LTPO panel refresh rate, enabling a smooth touch experience without interfering with the display performance.

The Synaptics Rio touch controller enables a best-in-class touch experience on LTPO display in the [Oppo Find X3/X3Pro](#) and [OnePlus 9/9Pro](#) devices. In a recent review of the OnePlus 9, [Tom's Hardware](#) noted: "A newcomer to the LTPO mix, the OnePlus 9 Pro, seems to have found the right balance between a fast-refreshing display that adjusts on the fly and good battery life. When we tested OnePlus' new flagship with its dynamic display enabled, it lasted for 10 hours, 40 minutes on our demanding battery test. That's well above average for a smartphone and close to landing on our best phone battery life list. Even better, when we set the phone's display to 60 Hz, it didn't impact battery life at all."

Low temperature polycrystalline oxide (LTPO) thin film transistor technology is rapidly increasing in popularity as it allows the OLED display to dynamically lower its refresh rate depending on the use case, which results in higher power efficiency. While LTPO's varying refresh rates have significant power benefits, the noise generated as the display shifts between different refresh rates poses unique challenges to touch controllers. At the same time, LTPO displays are especially sensitive to interference from touch sensors as it shifts to different refresh rates, which can result in display artifacts like ripples or black rolling bands. Rio controllers dynamically adapt to different display refresh rates from 1-120 Hz while maintaining optimum touch performance and avoiding any interference with LTPO displays.

"LTPO is a key technology to improve the power consumption on mobile devices, but challenges with enabling a superior touch experience has held back adoption," said Craig Stein, SVP & GM, Mobile & IoT Division at Synaptics. "We are excited that Oppo and OnePlus selected Synaptics' Rio touch controller that supports the widest range of LTPO refresh rates in the industry, maximizing system power efficiency while delivering incredible touch performance."

About Synaptics Incorporated:

Synaptics (Nasdaq: [SYNA](#)) is changing the way humans engage with connected devices and data, engineering exceptional experiences throughout the home, at work, in the car, and on the go. Synaptics is the partner of choice for the world's most innovative intelligent system providers who are integrating multiple experiential technologies into platforms that make our digital lives more productive, insightful, secure, and enjoyable. These customers are combining Synaptics' differentiated technologies in touch, display, and biometrics with a new generation of advanced connectivity and AI-enhanced video, vision, audio, speech, and security processing. Follow Synaptics on [LinkedIn](#), [Twitter](#), and [Facebook](#), or visit [synaptics.com](#).

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