Industry-first optical-based fingerprint sensors for smartphones

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Synaptics today announced an industry-first family of Natural ID biometric authentication solutions that leverage high-performance, highly secure optical-based fingerprint sensors for smartphones and tablets. The new Synaptics FS9100 optical fingerprint sensor family is capable of high-resolution scanning through 1mm of full cover glass and enables clean, button-free industrial designs.

Natural ID FS9100 optical fingerprint sensors are designed for placement under the cover glass, including 2.5D glass, located in the front, bottom bezel of devices. Under cover glass biometrics eliminates button cut-outs and glass thinning processes required by capacitive under-glass sensors, leading to glass yield improvements. The highly reliable FS9100 optical solution excels with wet finger performance, and being protected by glass, is durable, scratchproof, waterproof, and eliminates ESD concerns.

Unlike optical fingerprint sensors used for access control and public biometric identity verification, the advanced FS9100 sensor leverages unique Synaptics optical technology developed for mobile devices and breaks through key technical barriers with an extremely thin form factor and minimal power consumption.

FS9100 optical fingerprint sensors feature Synaptics' SentryPoint technology, offering OEMs a wide-range of unique and highly secure authentication features including Quantum Matcher with PurePrint anti-spoof technology. PurePrint examines fingerprint images using unique artificial intelligence technology to distinguish between fake and actual fingers.

Les Santiago, Research Director for IDC, says, "Optical sensing technology, which is very high performance and widely proven in other markets, has many advantages such as durability, scratch resistance, and resistance to ESD, but optical has not been widely adopted in smartphones and tablets due to form factor and power consumption limitations. By bringing optical sensing technology with the right form factor and power consumption envelope to smartphones and tablets, Synaptics is enabling the elimination of the home button which is a critical next step to full top-to-bottom, edge-to-edge smartphone and tablet displays. Synaptics is already a global leader in capacitive sensing technology, and is well positioned to continue to lead in fingerprint

biometric technologies with its existing capacitive sensor technology portfolio and newly announced optical fingerprint sensor offerings for both flagship and mainstream smartphones and tablets."

Anthony Gioeli, vice president of marketing, Biometrics Product Division, Synaptics, says, "Synaptics' FS9100 family of fingerprint sensors represent a new breed of optical fingerprint sensor technology that is designed to meet the needs of mobile devices, including the ability to image through thick 2.5D glass. In addition to opening the door to new industrial design options, it enables OEMs to provide highly durable, button-free cover glass and more easily provide water resistant products while eliminating low yield glass processing."

Provided by Synaptics