SOITEC'S NEW RF-SOI SUBSTRATES EXPAND THE FRONTIERS OF MOBILE COMMUNICATIONS

New Soitec eSI90 RF-SOI Wafer Improves RF Performance of High-End Smart Phone Components for LTE Advanced

Bernin (Grenoble), France, January 26th, 2015 — Soitec (Euronext), a world leader in generating and manufacturing revolutionary semiconductor materials for the electronics and energy industries, has introduced its eSI90 substrate, the newest high-end wafer in its radio-frequency silicon-on-insulator (RF-SOI) product family. The eSI90 is designed to improve the RF performance of mobile communication components such as high-linearity switches and antenna tuners that are integrated in high-end smart phones for LTE Advanced networks using carrier aggregation. This enables multiple LTE carriers to be used together, providing higher data rates to enhance user experience.

The new wafers are Soitec's second generation of eSI™ substrates, based on engineered high-resistivity (HR) substrates. Today, eSI substrates have been widely adopted by leading RF semiconductor companies to address device cost and performance needs for the 3G and 4G/LTE mobile wireless markets. Soitec's eSI90 product exhibits higher effective resistivity than first-generation eSI wafers, enabling a 10-decibel (dB) improvement in linearity performance in RF front-end modules to address the stringent new requirements of LTE Advanced smart phones.

"Soitec continues to be the innovation frontrunner in RF-SOI substrates for the mobile industry with the introduction of eSI90, enabling high-performance RF devices for LTE Advanced and next-generation smart phones," said Dr. Bernard Aspar, senior vice president and general manager of Soitec's Communication & Power Business Unit. "Today, we estimate that more than one billion RF devices are produced each quarter using our eSI wafers. We are pleased to help our customers, the leading RF IC companies, meet the booming demand from the LTE Advanced market."

Soitec developed a new metrology standard, the Harmonic Quality Factor (HQF), to predict the expected RF linearity of finished ICs. HQF correlates with the second harmonic distortion value of a coplanar waveguide deposited on the substrate. The new eSI90 wafers' HQF maximum value is set to -90 decibel-milliwatts (dBm) compared to -80 dBm for first-generation eSI substrates. The lower limit on eSI90 wafers enables chip makers to take advantage of design and process improvements to increase the RF performance of their semiconductor designs and to meet MIMO (Multi-Input Multi-Output) and Carrier Aggregation LTE Advanced requirements, providing faster data connections.

The new eSI90 substrates are already under evaluation at multiple leading chipmakers and foundries. Production-ready samples are now available from Soitec.

Soitec's eSI substrates: Soitec's innovative eSI products, based on Smart Cut™ technology, are the first 'trap-rich' type of materials in full production. They incorporate an innovative material (a trap-rich layer) between the high-resistivity handle wafer and the buried oxide, which significantly improves the performance of the finished ICs manufactured on these wafers.

About Soitec: Soitec is an international manufacturing company, a world leader in generating and manufacturing revolutionary semiconductor materials at the frontier of the most exciting energy and electronic challenges. Soitec's products include substrates for microelectronics (most notably SOI: silicon-on-insulator) and concentrator photovoltaic systems (CPV). The company's core technologies are Smart Cut™, Smart Stacking™ and Concentrix™ as well as expertise in epitaxy. Applications include consumer and mobile electronics, microelectronics-driven IT, telecommunications, automotive electronics, lighting products and large-scale solar power plants. Soitec has manufacturing plants and R&D centers in France, Singapore, Germany and the United States. For more information, visit: www.soitec.com.

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