SWS launches development platform for MEMS inertial sensors

Si-Ware Systems is launching its Inertial Sensor Development Platform, the SWS61111 (formerly SWP210). For the first time sensor developers have a tool that can be used to evaluate an inertial sensor, such as a gyroscope or accelerometer, to understand the behaviour of the sensor and its performance with complete interface electronics.

The SWS61111 utilizes SWS's high performance inertial sensor interface ASIC, the SWS1110 (formerly SWI210). The SWS1110 is a configurable ASIC that has been successfully interfaced to multiple accelerometers and gyroscopes achieving best-in-class performance that exceeds that of competing MEMS sensor modules in the market today. With its ultra-low noise front-end, highly configurable open- and closed-loop (force-feedback) operation and high voltage capabilities, the SWS1110 is a perfect MEMS interface for high-end inertial sensing devices.

SWS's SWS61111 is designed to allow for the quick and easy interfacing of almost all capacitive MEMS devices to comprehensive and high performance electronics. Rapid and detailed evaluation of issues such as parasitic modes of oscillation, electrical and mechanical coupling, high-volt effects and temperature behaviours provide crucial insight to MEMS and ASIC designers. This enables rapid time-to-market and concurrent optimization of MEMS and electronics. The SWS6111 also serves as a tool to evaluate SWS's SWS1110 high performance ASIC, which is offered in die format with optional customization, for product targeting the high-end segment.

"For a number of years now we have been developing and utilizing development platforms internally that allow us to quickly and accurately understand and model the behaviour of our partners' MEMS devices," said Ayman Elsayed, ASIC solutions division manager at Si-Ware Systems. "With a thorough understanding of the MEMS device and its behaviour with interface electronics, potential pitfalls can be avoided and an interface ASIC can be developed much more efficiently."

The SWS61111 consists of a programming board, an ASIC daughter board with a sensor placeholder, a USB interface, and associated PC software. SWS provides options for mounting the sensor to the daughter board, including creating custom daughter boards to match a particular sensor. Through an easy to use software interface, the MEMS sensor can be interrogated and the ASIC parameters configured to best match the sensor. If desired, the ASIC parameters can then be burned into the memory of the ASIC and the sensor-ASIC daughter board can be removed and utilized for system level measurements.

In addition to its experience with MEMS inertial sensors, SWS has worked with piezoelectric sensors, MEMS resonators, and MEMS optics. The company has

developed an extensive IP library of electronics for MEMS and piezoelectric devices that can be utilized in the development of interface ASICs. The SWS61111 is the first development platform that SWS is making available to developers, but the company has many other internal development tools for the evaluation of MEMS or piezoelectric devices.

Contact SWS for a SWS61111 development platform, or for other MEMS or piezoelectric device ASIC requirements.

For more information, please visit www.si-ware.com [1].

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