FOR IMMEDIATE RELEASE

Ukalta Engineering Introduces FPGA-Based Fading Channel Simulators

Edmonton, Canada – January 20, 2010 – Ukalta Engineering, a provider of innovative wireless test products, today introduced its line of FPGA-based fading channel simulators. Available as ultra-compact IP cores, wireless developers can now rapidly and easily validate the performance of their communication systems under realistic radio channel conditions, all on a single FPGA. Ukalta's channel emulation technology leverages the programmability of FPGAs to provide a generic fading channel platform that easily supports the latest standards such as LTE, WiMax, and 802.11n, and readily scales to the wide bandwidths and high-order MIMO configurations anticipated in next-generation technologies.

Ukalta's fading simulators have been engineered to faithfully reproduce radio propagation environments in the smallest possible footprint on the FPGA. The channel emulation technology supports a wide variety of radio propagation scenarios and antenna configurations, scaling from flat-fading SISO channels to multipath MIMO environments with 8x8 or even higher-order antenna configurations. On contemporary FPGAs the simulators can generate hundreds of independent fading paths, each with a bandwidth in excess of 100 MHz.

"As wireless standards continue to evolve, optimizing the performance of a wireless transceiver across modulations, code rates, channel conditions, and antenna configurations has become increasingly challenging," said Saeed Fouladi Fard, vice president of engineering at Ukalta Engineering. "Software-based simulation of the physical layer to verify transmission schemes and detection techniques is prohibitively time-consuming and RF fading channel emulators are inconvenient for early-stage testing. In contrast, hardware-accelerated prototyping using FPGA platforms provides early insight into the suitability of alternative baseband processing algorithms and provides detailed information on the computational complexity and performance of candidate designs. Ukalta's fading channel emulation solutions provide designers with the perfect environment to optimize their products over a wide variety of channel conditions and configurations."

The fading channel simulator IP is offered in several versions, ranging from basic single-antenna single-path channel models to sophisticated multipath MIMO simulators featuring arbitrary Doppler spectrums or geometrically modeled scenarios. A comprehensive software suite allows for manual operation using a graphical user interface or automated testing using a programmable interface with bindings for TCL, C/C++, and Matlab. Optional enhancements available for the fading channel emulation platform include AWGN generators to model noise at the receiver and advanced radio propagation models based on Weibull and Nakagami distributions.

Availability

The fading channel simulation IP cores are available immediately under a flexible licensing model. For further information please visit http://www.ukalta.com/?page_id=228 or contact Ukalta Engineering at contact@ukalta.com

- More -

About Ukalta Engineering

Ukalta Engineering is a Canadian company focused on bringing a multidisciplinary approach to solving problems in the wireless test equipment domain. With seasoned ASIC and FPGA design experience and advanced knowledge of wireless communication systems, Ukalta is strategically positioned as an engineering solutions provider in the wireless industry. Ukalta Engineering endeavours to improve the wireless design and development cycles of its customers through the provision of innovative and cost-effective products for channel emulation. For more information, please visit Ukalta's website at www.ukalta.com

###

Media Contact:
Leendert van den Berg
Ukalta Engineering Corporation
leendert@ukalta.com
Phone: +1 (780) 701-1917 ext. 201