aeroTelesis Confirms Hardware Implementation For Breakthrough USM Technology

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aeroTelesis confirmed last Thursday the successful hardware implementation of a unique digital filter design into FPGAs (Field Programmable Gate Arrays) for the breakthrough Ultra Spectral Modulation (USM) technology.

Technical representatives of the Company witnessed a hardware demonstration, performed by Photron Technologies and AccelChip, of the digital filter operating in FPGA devices.

The completion of the patented filter is a major step towards the commercialization of USM which will enable wireless data transmission rates to reach 100 bps/Hz through USM's efficiency. It is also a vital component for implementing the USM technology into hardware systems.

The key to achieving the FPGA implementation solution in a short period of time was an extraordinary and revolutionary combination of software and hardware expertise.

The design flow was comprised of MATLAB simulation software and AccelChip Inc.'s AccelChip DSP Synthesis and AccelWare DSP IP Core Generators.

These innovative software combinations, coupled with powerful FPGA

development hardware and software, allowed the respective engineering teams to reduce the hardware development time to one-third the time of a traditional approach.

The FPGA hardware demonstration replicated and confirmed the efficiency of the USM MATLAB simulation which had been previously completed and demonstrated USM's ability to transmit data at rates of 5 megabits per second (Mbps) through a narrow 50 kilohertz (Khz) channel.

The success of the FPGA development now brings the reality of USM and potential for T3 data rates to the wireless industry one-step closer to market. The final phase of design work will retarget the FPGA into an ASIC (Application Specific Integrated Circuit) chipset.

Larry Garcia, Senior Technical and Operational Advisor for aeroTelesis, stated, "The transition from MATLAB simulations to FPGA devices is a monumental milestone and unequivocally brings us ever closer to the launch of a breakthrough technology that will become a new standard for wireless communications."

"With the growing importance in getting products to market faster, anything a company can do to decrease its design time will have an impact on the bottom line," said Vin Ratford, President and CEO, AccelChip.

"Our products can improve design productivity up to 20x by shortening the time between algorithm development and silicon implementation. We're proud to have contributed to the success of this significant step forward in wireless communications."

USM is a unique technology that significantly increases spectral efficiency in wireless applications and provides for high-speed and high-

capacity networks at substantially lower cost relative to existing wireless technologies.

This core technology platform is designed to avoid bottlenecks by providing data transmission channels with higher quality and throughput rates than those of conventional modulation techniques.