Sundance Multiprocessor Technology
embedded signal processing solutions

PRESS RELEASE

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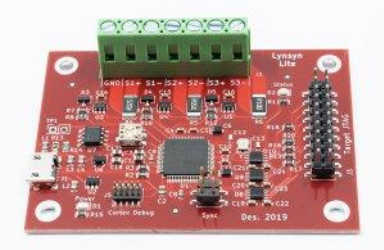
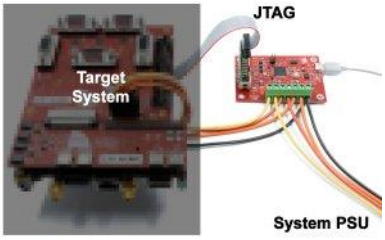
Sundance launches Lynsyn Lite - a low-cost power measurement tool for the development of energy-efficient embedded and CLEC systems

- **Accurately measures energy consumption based on application behaviour.**
- **Significantly eases the time-consuming process of tracking down the root causes of power issues at a fraction of the previous cost.**
- **Technology developed in conjunction with the Norwegian University of Science and Technology (NTNU) as part of the EU's recently completed TULIPP project.**



Photocaption 1: Lynsyn Lite – a low-cost power measurement tool for the development of energy-efficient embedded and CLEC systems

Photocaption 2; Lynsyn Lite board size comparison



Photocaption 3: Target system under test using Lynsyn Lite

Chesham, UK – January 20, 2020. Sundance Multiprocessor Technology Ltd., an established supplier and manufacturer of embedded modules, has launched Lynsyn Lite, a low-cost power measurement tool for the development of embedded and customized low-energy computing (CLEC) systems that require a high degree of energy efficiency. Lynsyn Lite provides accurate measurement of a system's energy consumption based on application behaviour, significantly easing the time-consuming process of tracking down the root causes of power issues compared to using traditional laboratory-grade power measurement equipment.

The core Lynsyn technology was developed by the Norwegian University of Science and Technology (NTNU) as part of its involvement in the EU's recently completed TULIPP project, to overcome the challenges of accurately measuring energy consumption in the development of the project's high performance, energy-efficient reference platform targeting the growing range of increasingly complex image processing applications.

Developed with technology transfer funding from TETRAMAX, the Horizon 2020 innovation hub for digitizing European industries in the domain of customized and low-energy computing, Lynsyn Lite has been engineered by NTNU in conjunction with Sundance Multiprocessor Technology, also a prominent member of the TULIPP consortium, to provide a low-cost, commercial implementation of the core Lynsyn technology. In 2018, NTNU won a Technology Transfer Award from HiPEAC, an EU-funded Network of Excellence, for its development of the core Lynsyn technology.

Lynsyn Lite measures the power usage of individual sections of source code deployed in embedded and CLEC systems. It connects over JTAG to non-intrusively sample the program counters of the system processors and correlate the power measurements with the source code, mapping consumption samples to application actions. A sampling frequency of up to 10kHz is used.

Lynsyn Lite features three sensors that measure both current and voltage and, although it has been designed to support application power profiling primarily of systems based on ARM Cortex A9, A53 and A57

cores, there is no need to purchase a separate JTAG pod as it is a replacement for the Xilinx Platform Cable USB-II and can, therefore, also be used as a generic JTAG programming device with the Xilinx Vivado tool suite and a remotely controlled current/voltage meter over USB. Lynsyn Lite is compatible with both Linux and Windows operating systems and includes open source software that both samples and visualizes measurement results.

Lynsyn Lite will to be sold by Sundance under license from NTNU. Priced at US$125, £85 or €99, it is 1/5th of the price of the original Lynsyn board developed for the TULIPP project and other competitive boards currently available on the market. Lynsyn Lite can be ordered by visiting: https://store.sundance.com/product/lynsyn-lite/.

“High-performance embedded and customized low-energy computing systems require a high degree of energy efficiency, the development of which demands accurate measurement of energy consumption based on application behaviour,” said Flemming Christensen, Managing Director of Sundance Multiprocessor Technology. “Lynsyn Lite quickly, easily and accurately overcomes the challenges involved at a fraction of the cost of previous solutions. Designed to perform application power profiling primarily of systems based on ARM Cortex A cores, it can also be used as a generic power profiling tool.”

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About Sundance Multiprocessor Technology

Sundance designs, develops, manufactures, and markets internationally high-performance signal processing and reconfigurable systems for original equipment manufacturers in embedded applications. Leveraging its multiprocessor expertise and experience, Sundance provides OEMs with modular systems as well as data acquisition, I/O, communication and interconnectivity products that are essential to multiprocessor systems where scalability and performance are important. Sundance, founded in 1989 by the current directors, is a member of the Xilinx Alliance, Texas Instruments’ Design Network and MathWorks’ Connection programs. Sundance is also a member of the PC/104 Consortium, the focal point for the entire PC/104 industry including manufactures and OEMs. It provides a place for information on current specifications, product offerings, news, and events and a place to advance and develop specifications that are consistent and stable for long-term use. For more information about Sundance Multiprocessor Technology and its products, visit http://www.sundance.com.

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Ref: SMT008
Words: 505

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