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QuickLogic and Antmicro Partner to Bring Low Power Machine Learning to Endpoint IoT Devices

SAN JOSE, Calif., March 4, 2020 /PRNewswire/ -- QuickLogic Corporation (NASDAQ: QUIK), a developer of ultra-low power multi-core voice-enabled SoCs, embedded FPGA IP, and Endpoint AI solutions, and Antmicro, a high-tech company focusing on introducing open technologies to modern edge computing systems and an edge AI ecosystem leader, today announced QuickFeather™, a small form factor development board perfectly positioned to enable the next generation of low-power Machine Learning (ML) capable IoT devices.

According to a January 19th, 2020 article on the Forbes website, the global Machine Learning market will grow at a Compound Annual Growth Rate of 42.8% from 2018 to 2024, reaching $30.6B in four years. The QuickFeather board is designed to help facilitate that growth by simplifying the implementation of ML algorithms on endpoint IoT devices.

On top of the open source hardware design, available on GitHub today, Antmicro has also added support for the QuickFeather board in the Zephyr Real Time Operating System (RTOS) as well as in its open source Renode simulation framework.

The QuickFeather board is powered by QuickLogic's EOS™ S3, the first FPGA-enabled SoC to be fully supported in the Zephyr RTOS, with flexible eFPGA logic integrated with an Arm Cortex®-M4F MCU and functionality such as:

- 16-Mbit of flash memory
- MC3635 accelerometer
- Infineon DPS310 pressure sensor
- Infineon IM69D130 PDM digital microphone
- User button and RGB LED
- Powered from USB or a single Li-Po battery
- Integrated battery charger
- USB data signals tied to programmable logic

The QuickFeather development board was created to give developers a powerful and effective way to explore the functionality of the EOS S3 platform and enable compatibility with extensions available for the Feather PCB format from Adafruit, recently also added as a Zephyr Project member. As announced in late 2019, the EOS S3 is supported in Antmicro's Renode open source simulation framework for rapid prototyping, development and testing of

multi-node systems, offering a more efficient hardware/software co-design approach. Utilizing Renode gives developers the flexibility and functionality to fully evaluate the QuickFeather development board across a number of deployment and configuration scenarios with or without access to hardware.

"An open hardware development board for a cost effective, FPGA-enabled SoC platform coupled with useful sensors, supported in a mainstream open source RTOS and the open source Renode simulation framework, QuickFeather is ideally positioned for use in tiny ML applications such as SensiML's AI Software Platform and Google's TensorFlow Lite," said Michael Gielda, vice president of business development at Antmicro. "We are proud to be helping QuickLogic build an open hardware and software ecosystem that can serve as a model for the entire industry."

"Machine learning applications are being deployed at an amazing rate and the new QuickFeather board will further accelerate that trend," said Brian Faith, president and chief executive officer of QuickLogic. "Developers love the fact that it and its associated Renode simulation framework are open source, making it even more attractive for implementing ML algorithms on endpoint IoT applications."

Availability
The QuickFeather board with integrated EOS S3 voice and sensor processing SoC, and the Renode simulation environment are all sampling now and will be available in early Q2.

About Antmicro
Antmicro is a software-driven tech company developing modern edge AI systems for various branches of industry. Antmicro provides applied R&D for customers worldwide, offering assistance in prototyping, new product development and adoption of modern embedded technologies, both hardware and software. Antmicro's projects involve a broad range of open source technologies such as RISC-V, Renode, Zephyr, TensorFlow, ROS, Linux and Android. Antmicro is a Platinum Founding Member of the RISC-V Foundation, as well as a member of the Linux Foundation, Zephyr Project and CHIPS Alliance.

About QuickLogic
QuickLogic Corporation (NASDAQ: QUIK) is a fabless semiconductor company that develops low power, multi-core semiconductor platforms and Intellectual Property (IP) for Artificial Intelligence (AI), voice and sensor processing. The solutions include embedded FPGA IP (eFPGA) for hardware acceleration and pre-processing, and heterogeneous multi-core SoCs that integrate eFPGA with other processors and peripherals. The Analytics Toolkit from our recently acquired wholly owned subsidiary, SensiML Corporation, completes the end-to-end solution with accurate sensor algorithms using AI technology. The full range of platforms, software tools and eFPGA IP enables the practical and efficient adoption of AI, voice and sensor processing across mobile, wearable, hearable, consumer, industrial, edge and endpoint IoT. For more information, visit www.quicklogic.com and https://www.quicklogic.com/blog/.

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