Lattice Semiconductor Introduces New Development Kit for Low Power, Embedded AI Applications

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Enables Designers to Quickly Implement AI in IoT Devices

HILLSBORO, Ore--(BUSINESS WIRE)--May 29, 2019-- Lattice Semiconductor Corporation (NASDAQ: LSCC), the low power programmable leader, today announced the availability of the HM01B0 UPduino Shield, a comprehensive development kit for implementing AI in devices using vision and sound as sensory inputs. This rapid prototyping board, in the Arduino form factor, includes components designers need to quickly develop always-on, low power smart IoT devices.

This new development kit consists of a Lattice iCE40 UltraPlus™ FPGA-based Updiuno 2.0 board and a Himax HM01B0 image sensor module. Optimized for IoT devices and embedded AI applications, the iCE40 UltraPlus FPGA is one of world's smallest, lowest power distributed processing solutions, with power consumption as low as 75 µW in sleep mode and 1-10mA when active. The iCE40 UltraPlus also supports I/O port configuration flexibility, including the ability to combine multiple signals for transmission over one port. This flexibility helps designers easily investigate and experiment with different designs and to accelerate product prototyping. Proof-of-concept demos such as Human Presence Detection and Hand Gesture Detection are included in this modular hardware platform to further simplify and accelerate vision-based AI systems.

"The Updiuno Shield development kit offers substantial flexibility to product developers by making the addition of vision-based AI support to IoT-connected devices quick and easy," said Peiju Chiang, Product Marketing Manager at Lattice Semiconductor. "And because the kit uses our low-power iCE UltraPlus FPGA, adding AI support to IoT products is possible without significant increase in product power consumption, a key requirement for IoT devices operating at the network Edge."

Key features of the UPduino Shield development kit include:

- Lattice UltraPlus FPGA with 5.3K LUTs, 1 Mb SPRAM, 120 Kb DPRAM, 8 Multipliers
- FTDI FT232H USB to SPI Device for FPGA programming
- 12 Mhz Crystal Oscillator Clock Source
- 34 GPIOs on 0.1" headers for connecting to the adapter board
- SPI Flash, RGB LED, 3.3 V and 1.2 V voltage regulators
- Can be used with the new Lattice Radiant® Design Software 1.1
- Priced at under $50 USD to enable broad adoption

About Lattice Semiconductor

Lattice Semiconductor (NASDAQ: LSCC) is the low power programmable leader. We solve customer problems across the network, from the Edge to the Cloud, in the growing communications, computing, industrial, automotive and consumer markets. Our technology, long-standing relationships, and commitment to world-class support lets our customers quickly and easily unleash their innovation to create a smart, secure and connected world.

For more information about Lattice, please visit www.latticesemi.com. You can also follow us via LinkedIn, Twitter, Facebook, YouTube, WeChat, Weibo or Youku.

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