



Award-winning Lattice sensAI Solutions Stack Further Extends Lead in Ultra Low-power AI at the Edge

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Updated sensAI Solutions Stack Delivers Highly Accurate, Low Power AI Solutions for Industrial, Automotive, Compute, and Consumer Applications

HILLSBORO, Ore.--(BUSINESS WIRE)--Oct. 23, 2019-- [Lattice Semiconductor Corporation](#) (NASDAQ: LSCC), the low power programmable leader, today announced the availability of performance enhancements and new and improved application reference designs for its award-winning sensAI™ solutions stack. Lattice sensAI helps OEMs develop AI and ML experiences for next-generation smart devices with power consumption measured in milliwatts. The performance enhancements include support for more compact/efficient neural network models, as well as deeper quantization support to accommodate larger models for processing higher resolution and/or faster frames-per-second images in vision applications, delivering more accurate Edge AI performance. The reference designs let Lattice sensAI customers quickly and easily create popular AI experiences, including new enhanced key phrase detection and human face recognition.

"MCUs struggle to deliver the performance needed for Edge AI applications while still maintaining strict power budgets. But thanks to their small size, support for parallel processing and sensor-agnostic AI inferencing, Lattice FPGAs are a compelling platform for any number of Edge AI applications requiring low power operation," said Hussein Osman, Market Segment Manager, Lattice Semiconductor. "Running our enhanced sensAI solutions stack on Lattice's iCE40 UltraPlus and ECP5 FPGAs makes it easier than ever to add high performance Edge AI applications to new and existing product designs."

The latest enhancements to the Lattice sensAI solution stack include:

- sensAI on the iCE40 UltraPlus™ FPGA now supports 8-bit quantization, which allows customers to double their neural network model's size for more accurate AI performance
- sensAI on the ECP5™ FPGA now supports the MobileNet and ResNet neural network models, which can process higher resolution images to deliver more accurate AI performance with no increase in power consumption
- New application reference designs for fast implementation of additional Edge AI applications, including:
 - Enhanced key phrase detection for AI/ML-enabled human machine interface applications using microphones. This reference design provides the ability for customers to retrain the neural network model to recognize new key words or phrases as needed
 - Enhanced human face recognition, which, in addition to detecting a human face, can now identify specific registered users. New registered users can be added to the face recognition application without retraining the device's entire neural network, providing significant savings to both system design time and cost
- Enhancements to existing presence detection and object counting reference designs that deliver more accurate AI performance at low power for applications like:
 - Wake-on approach for printers and laptops
 - Defect detection and operator compliance in industrial smart cameras

For more information, please visit www.latticesemi.com/sensAI.

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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