



New Lattice sensAI Solution Stack Accelerates Next-Generation Client Devices

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Latest Version of Solution Stack Offers New Features For Power-Efficient AI/ML Inferencing

HILLSBORO, Ore.--(BUSINESS WIRE)--Nov. 10, 2021-- [Lattice Semiconductor Corporation](#) (NASDAQ: LSCC), the low power programmable leader, today announced a roadmap of low power, AI/ML-enabled solutions that improve battery life and enable innovative user experiences in Edge applications such as Client Compute devices. Built with the award-winning [Lattice sensAI™](#) solution stack and running on low power [Lattice Nexus™](#) FPGAs, these new solutions will help OEMs develop smart, always-on devices with low power, hardware-accelerated AI capabilities that are field upgradeable to support future AI algorithms.

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Demand for more responsive and context-aware user experiences, high quality video conferencing, and collaboration applications on Client Compute devices is rising. Lattice Nexus FPGAs and the sensAI solution stack make a compelling platform for developing computer vision and sensor fusion

applications that improve engagement, privacy, and collaboration for users. For example, a Client device can leverage image data from its camera to determine if someone is standing too close behind the user and blur the screen for privacy or lengthen battery life by dimming the device's display when it "sees" the user's attention is focused elsewhere.

"AI applications based on vision, sound, and other sensors will revolutionize the Client Computing experience," said Matt Dobrodziej, Vice President of Segment Marketing and Business Development at Lattice. "Our sensAI solution stack supports a roadmap of Edge AI applications that make Client devices contextually aware of how, when, and where they're being used, and our Nexus FPGAs deliver that functionality with class-leading low power consumption."

Compute devices using an AI application developed with the sensAI solution stack and running on a Lattice FPGA have a 28 percent longer battery life in comparison to devices powering AI applications with their CPUs. The sensAI solution stack also supports in field software updates to keep pace with evolving AI algorithms and provides OEMs the flexibility to choose from different sensor and SoC technologies for their devices.

Lattice is working with leading AI ecosystem partners to develop the Lattice Client Compute AI experience roadmap.

"Our Glance by Mirametrix attention-sensing software captures a user's face, eyes, and gaze to understand user awareness and attention. This unique technology is used to create smart devices capable of more natural and immersive user experiences and device interaction," said Stephen Morganstein, Vice President at Mirametrix. "Lattice's sensAI solution stack and low power FPGAs help developers implement novel AI capabilities that can improve a device's battery life."

The latest version of the sensAI solution stack (v4.1) is available now and supports Lattice's roadmap of AI-based applications. Enhancements and new features of sensAI v4.1 include:

- Client Compute AI experience reference designs –
 - User presence detection to automatically power on/off Client devices as a user approaches or departs.
 - Attention tracking to lower a device's screen brightness to conserve battery life when the user isn't looking at the screen.
 - Face framing to improve the video experience in video conferencing applications.
 - Onlooker detection to realize when someone is standing behind a device and blurring the screen to maintain data privacy.
- Expanded application support – the performance and accuracy gains made possible with v4.1 expand the sensAI solution stack's target applications to include the highly-accurate object and defect detection applications used in automated industrial systems. The stack has a new hardware platform for voice and vision-based ML application development featuring an onboard image sensor, two I2S microphones, and expansion connectors for adding additional sensors.
- Easy-to-use tools – the sensAI solution stack has an updated neural network compiler and supports [Lattice sensAI Studio](#), a GUI-based tool with a library of AI models that can be configured and trained for popular use cases. sensAI Studio now

supports AutoML features to enable creation of ML modules based on application and dataset targets. Several of the models based on the Mobilenet ML inferencing training platform are optimized for the latest Nexus FPGA family, [Lattice CertusPro™-NX](#). The stack is compatible with other widely-used ML platforms, including the latest versions of Caffe, Keras, TensorFlow, and TensorFlow Lite.

For more information about Lattice technologies mentioned above, please visit:

- www.latticesemi.com/sensAI
- www.latticesemi.com/LatticeNexus
- www.latticesemi.com/sensAIstudio
- www.latticesemi.com/CertusPro-NX

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 let 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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