NEWS ANNOUNCEMENT ***FOR IMMEDIATE RELEASE***

Google Partners with SkyWater and Efabless to Enable Open Source Manufacturing of Custom ASICs

First open source foundry PDK enables full manufacturing chain for open hardware

Google-sponsored MPW shuttle program now accepting design submissions

BLOOMINGTON, Minn. and SAN JOSE, Calif., November 12, 2020 – SkyWater Technology, the trusted technology realization partner, and Efabless, a crowdsourcing design platform for custom silicon, today announced design submissions are now being accepted for a series of Google-sponsored open source Multi-Project Wafer (MPW) shuttles that will run at SkyWater. Through a partnership between Google, SkyWater and Efabless, open source designs selected by the program will be fabricated at no cost to the designers. The MPW program is enabled by the first foundry-supported open source process design kit (PDK) for 130 nm mixed-signal CMOS technologies (SKY130 process). The initiative will enable a complete open source manufacturing supply chain for custom application specific integrated circuits (ASICs) and has been discussed in a series of talks produced by the FOSSi (Free and Open Source Silicon) Foundation including presentations by Google and Efabless.

Google has a strong history of supporting open source silicon through being a founding member of both the RISC-V Foundation and the Linux Foundation's CHIPS Alliance project. Parthasarathy Ranganathan, distinguished engineer, Google said, "Working through its Open Source Programs Office (OSPO), Google is actively engaged in helping seed the open silicon space, specifically by providing funding, strategic, and legal support to key open hardware efforts including lowRISC and CHIPS Alliance."

In support of the shuttle program, Efabless has released a complete Apache 2.0-licensed open source RTL2GDS design stack, referred to as openLANE, that supports the SKY130 PDK and is available to designers worldwide. With open source designs and a standardized test harness produced by Efabless that is open and freely available, verification results can be easily and cost-effectively replicated by other designers, enabling a new model to evaluate and iterate on ideas. This community-based model also brings a new and effective approach to product verification and security.

This offering has implications for accelerating innovation in the 130 nm mixed-signal SoC node popular for IoT type applications by removing barriers and obstacles relating to experimentation and collaboration for IC design. The model and its innovative outcomes are extensible to advanced nodes over time.

“Launching the portal for design submission is a milestone in connecting a global community of experts who can openly collaborate to create and verify ASICs and supporting IP,” said Mohamed Kassem, Efabless chief technology officer and co-founder. “The open source model multiplies the collaboration in semiconductor chip design. And this is just the start. Over time we expect to see advanced (and high quality) designs coming from the open source community.”

John Kent, SkyWater executive vice president of technology development and design enablement said, “We expect the new open source foundry PDK to serve as an excellent enablement engine for generating re-usable IP which will amplify idea generation and feed product development that is ongoing in the IoT and industrial space.”

About the Google-sponsored MPW Shuttle Program

The open source foundry PDK is accessible at https://github.com/google/skywater-pdk and by the time of this announcement, has been downloaded more than 1700 times in the past two weeks. Efabless has created a digital portal to enable customers to follow a step by step workflow to submit their designs as candidates for the MPW shuttle. The Efabless portal is active now and will accept designs through November 30, 2020. Efabless will perform license and data integrity checks followed by design rule checking prior to assembling the shuttle. Each shuttle run will have 40 design slots (seats) and the first run is scheduled to launch in Q4 2020. In the case submitted designs exceed the number of seats on a shuttle, designers will be deferred to the next shuttle.

More details about the design submission process and requirements can be found at https://efabless.com/open_shuttle_program or https://www.skywatertechnology.com/mpw/open-source-mpw-program/. To learn more about the SKY130 PDK open source foundry offering, please visit https://skywater-pdk.slack.com/ or contact swfoundry@skywatertechnology.com.

About Efabless Corporation

Efabless.com offers a platform and marketplace that uses open source and community models to make the design and commercialization of ICs simple, inexpensive and accessible to everyone. Efabless accelerates the development of new products and initial proof of concepts through a novel solution based on configurable open source SoC design templates and automated design generation. Product developers use this solution to rapidly, cost-effectively and reliably create custom silicon. Chip developers use the solution to dramatically reduce cost and time to market for proof of concept of new and exciting ICs. Our model is extendible to advanced packaging, software, subsystems and full systems. Efabless is headquartered in San Jose, California. For more information, visit www.efabless.com.

About SkyWater Technology
SkyWater is the only U.S.-owned and U.S.-based pure play semiconductor foundry and is a DOD-accredited Trusted supplier, specializing in custom technology development services and volume manufacturing for integrated circuits and micro devices. Through its Technology Foundry model, SkyWater's world-class operations and unique processing capabilities enable mixed-signal CMOS, power, rad-hard and ROIC solutions. SkyWater's Advanced Technology Services empower development of superconducting and 3D ICs, along with carbon nanotube, photonic and MEMS devices. The company serves customers in growing markets such as aerospace & defense, automotive, biomedical, cloud & computing, consumer, industrial and IoT. For more information, please visit: www.skywatertechnology.com/.

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