Innovative Startup Breaks Barriers to Entry in Growing Powerstage Market

arm

WANDOW POWER
Powering The Future

+ Name: WandowPower
+ Vertical: Power stage solutions
+ Funding: $5 million
+ HQ: Fremont, California
+ Founded: 2019

GOAL

Accelerate time to market for a configurable power-stage controller solution based on Arm's world-class renown architecture.

SOLUTION

WandowPower subscribed to Arm Flexible Access for Startups for zero-cost access to a broad portfolio of Arm IP, tools, and support, with licensing and royalties due only at tape out to minimize upfront expenses.

ARM FLEXIBLE ACCESS BENEFITS

— Freedom to select and experiment with included Arm IP and only pay for what is used at tape out.

— Access to industry-leading software tools and pre-existing scripts to save development time and effort.

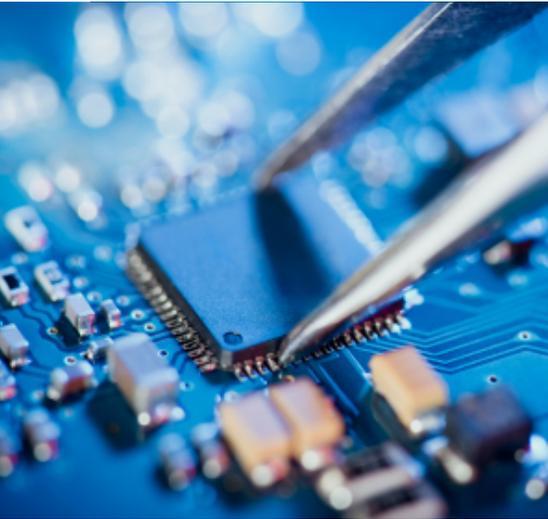— Excellent support and timely responsiveness from Arm experts.

Differentiate for Next-Gen Technology

While high-performance power solutions are essential for high-efficiency applications, such as cloud datacenters, AI computing, and 5G, overcoming the technology barriers to market entry can be challenging for cash-strapped startups looking to differentiate their offerings.

For innovative startup WandowPower, an Arm Flexible Access for Startups membership allows it to keep necessary development expenses to a minimum, while basing its technology-advancing solutions on Arm's world-class architecture.

"Without Arm Flexible Access for Startups, we'd simply not be able to get this far so quickly using high-performance, dependable technology," said Majid Kafi, co-founder and chief operating officer at WandowPower. "Not only are Arm IP and tools helping us accelerate time to market, but our customers are pleased to see us using something they know and use as well."

The WandowPower family of powerstage and controller solutions are designed to deliver 100+ amps with more than 95% load-line efficiency. Using Arm Flexible Access for Startups, the WandowPower team has developed a 12-phase configurable digital multi-phase controller, the WP9010K, with production anticipated in 2024. Separate pieces of the solution, including MOSFETs and smart drivers, are due to market even earlier.

Design for Configurability Across Markets

While the design uses Arm IP (Arm Cortex-M0+) for multiple sections, WandowPower's number-one goal was to make it highly configurable through the firmware. That meant enabling some computation on the chip itself, managing fault handling, and returning data back to the host. As a result, the microcontroller design is reconfigurable for multiple platforms—increasing market options without costly metal changes or full-layer design changes.

"Having the system design kit full of implementation guides, documentation, and a whole set of blocks to choose from—rather than having to regenerate or create from scratch—greatly helped speed up our design cycle," explained Khash Dolatshahi, head of digital design at WandowPower. "The familiarity and ease offered with Arm Flexible Access for Startups helped me ramp up very quickly and integrate Arm into our solution with great confidence in the design."

In addition, since Arm Flexible Access for Startups includes the Arm Keil compiler, the WandowPower team can easily compile new programs or new firmware based on testing existing software, making modifications, and recompiling the firmware again—reusing existing code wherever possible.

"With Arm Flexible Access for Startups, we don't have to expend valuable manpower building everything from scratch or verifying the MCU," Dolatshahi added. "We can rely on the performance of the IP, the design kit, blocks and scripts available to us, and focus our efforts on the rest of the design and peripherals that we're adding. That gives us a great jump start."

Save Time with Valuable Support

As well as the IP, tools, and libraries available in Arm Flexible Access for Startups, the team at WandowPower has also benefitted from the support of Arm experts and other partners in the Arm ecosystem.

"The support that we're getting through the Arm Flexible Access for Startups program from experts who've been right there with us when we've needed them has been excellent," Majid concluded. "For a small company without masses of funding, it has helped tremendously to have access to zero-cost IP and tools until we tape out and start see revenues grow."

A D D I T I O N A L   I N F O R M A T I O N

– WandowPower website
– Flexible Access for Startups