

Red Pitaya's STEMLab PRO Gen 2 versions now shipping worldwide, powering real-world industrial & scientific deployments

ANAHEIM, CA, UNITED STATES, November 4, 2025 /EINPresswire.com/ -- Red Pitaya, a leader in software-defined instrumentation, today announced the full commercial availability of its [STEMLab PRO Gen 2 series](#). Following a strong response to its initial reveal earlier this year, the Gen 2 platform is now mass-produced and shipping globally, marking the company's next phase in expanding modular instrumentation for industry, research, and education.



Red Pitaya Gen 2

Red Pitaya's community has grown to over 150,000 engineers, students, and researchers worldwide, spanning 5,000 industrial customers, 1,500+ universities, and nearly 700 research institutes. Its platforms are trusted by some of the world's most advanced innovation hubs, from quantum labs and aerospace R&D centers to top-tier engineering schools and emerging technology companies.

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Mateja Lampe Rupnik, Red Pitaya CEO

STEMLab Gen 2 architecture builds on a decade of field experience. It offers enhanced RF input performance, lower noise, reduced distortion, and a modernized hardware stack that ensures reliable operation in both laboratory and harsh industrial settings. The system's new power and operating-system management module, complete with eMMC storage and watchdog functionality, enables faster booting, remote updates, and improved resilience.

Already proven in real-world deployment, Red Pitaya boards are used across a broad spectrum

of industrial and scientific applications, from aerospace testing to renewable energy systems and quantum measurement labs. Colorado-based LongPath Technologies has integrated the Red Pitaya STEMLab PRO Gen 2 into its laser-based methane detection network that monitors greenhouse-gas emissions across hundreds of square kilometers.

“With Gen 2, we’ve observed improvement in frequency stability compared to the original boards, along with lower harmonic noise on both ADCs and DACs,” said Colin Wargo, Senior Electrical Engineer at LongPath Technologies. “These improvements directly translate to cleaner signals, better detection of weak signals, and higher stability.”

LongPath’s system, based on Nobel Prize-winning dual-frequency-comb spectroscopy, demonstrates how compact, FPGA-enabled data-acquisition hardware can take precision laser physics from the lab to large-scale industrial deployment.

The STEMLab 125-14 Gen 2 series, comprising the STEMLab PRO Gen 2 and [PRO Z7020 Gen 2](#), is now available across all configurations for immediate order through Red Pitaya’s online store and distributors such as DigiKey, Mouser, and Farnell. Each model maintains full backward compatibility while delivering measurable gains in analog isolation, synchronization, and signal quality.

Red Pitaya will present the Gen 2 family at Embedded North America 2025 (Booth N#9042, Anaheim Convention Center), where visitors can see live demonstrations of FPGA-based signal acquisition and control.

“Gen 2 moves Red Pitaya from an R&D platform to a proven industrial instrument,” said Mateja Lampe Rupnik, CEO of Red Pitaya. “Our community’s growth, from a few hundred early adopters to tens of thousands of engineers and researchers, shows that developer-friendly hardware can deliver true industrial-grade results. We’re seeing our users deploy it in environments that demand precision, reliability, and long-term operation: from quantum labs to methane monitoring networks.”

“The response from early partners like LongPath Technologies confirms the value of combining open software with deterministic, high-performance hardware,” added Črt Valentinčič, Red Pitaya’s CTO. “As Gen 2 ships globally, it’s enabling engineers to scale from prototypes to production faster than ever.”

For more information, visit [Red Pitaya’s website](#) or contact media@redpitaya.com.

About Red Pitaya

Red Pitaya accelerates industrial and scientific innovation with compact, open-source, high-speed signal acquisition and processing platforms. Used by more than 5000 industrial customers worldwide, 1,500 universities, and 700 research institutes, its technology is trusted by innovators such as NASA and Apple and by leading research institutions including MIT, Stanford, and CERN.

Over 150,000 engineers, students, and researchers have used Red Pitaya boards to bridge laboratory precision with industrial scalability—helping companies reduce time-to-market and build better products faster. Learn more at www.redpitaya.com.

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