

Red Pitaya and Texas Instruments team up to launch next-gen STEMLab boards for high-performance data acquisition

Red Pitaya and Texas Instruments unveil new STEMLab board at Laser World of Photonics

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/EINPresswire.com/ -- Red Pitaya, a

[multi-award-winning leader](#) in

providing compact, open-source, high-

speed signal acquisition and processing boards and services, has announced a new board co-

developed with Texas Instruments, a global semiconductor company known for its precision

analog and embedded processing technologies. The product will be introduced at the Laser

World of Photonics trade fair in Munich, June 24–27, 2025, where the two companies will jointly

showcase its capabilities.



Red Pitaya Logo

[The new STEMLab TI board](#) is designed for advanced signal processing applications across photonics, sensing, and lab automation. It leverages key components from Texas Instruments to deliver high precision, low power consumption, and ultra-low jitter performance in a compact form factor.

Two versions of the board will be available:

STEMLab 125-14 TI, featuring the TI ADC3664 (14-bit, 125 MSps) with high SNR, low power, low latency, and on-chip digital filtering and digital downconversion (DDC).

STEMLab 65-16 TI, built around the Texas Instruments ADC3663 dual-channel 16-bit, 65 MSps ADC, optimized for low-noise and ultra-low-power operation.

Both models also include:

TI DAC2904Y, a 14-bit, 125 MSps dual-channel digital-to-analog converter

TI LMK03318, a programmable ultra-low jitter clock generator

2 RF inputs (125 MSps 14-bit or 62.5 MSps 16-bit with DC coupling)

2 RF outputs (125 MSps 14-bit)

Xilinx Z7020 FPGA with CPU and Ethernet connectivity

“Our customers increasingly need modular, ultra-low-latency tools that can be tailored to

demanding environments: whether in photonics, aerospace, or industrial sensing,” said Mateja Lampe Rupnik, CEO of Red Pitaya. “The collaboration with Texas Instruments helps us meet that need with even greater performance and precision, while keeping our commitment to accessibility and openness.”

The launch builds on an existing technical relationship between Texas Instruments and Red Pitaya. [Red Pitaya’s hardware](#) has been used by Texas Instruments in various development contexts and this co-developed board represents a natural next step, combining trusted open hardware with tighter integration and enhanced performance options for end users.

“The ADC3664 family of high-speed SAR ADCs bridge the gap between high-speed and precision performance to ease the design of digital control loops with high dynamic range and low latency while reducing power consumption,” said Dalton Stringer, marketing engineer at Texas Instruments. “Texas Instruments’ partnership with Red Pitaya showcases how these benefits can be implemented in a software-defined instrument that can be adapted to many high-speed control applications in research, education, and industrial.”

Designed with customization in mind, the STEMLab TI platform offers engineers a reliable and flexible foundation for building and scaling high-speed applications.

For more information, visit redpitaya.com.

Media Contact:
media@redpitaya.com

About Red Pitaya

Red Pitaya accelerates industrial innovation with compact, open-source, high-speed signal acquisition and processing boards and services designed to help companies reduce time-to-market and focus on what truly matters—building better products, faster. Whether you're a startup developing new technology or an enterprise optimizing complex workflows, Red Pitaya replaces rigid, expensive test equipment with flexible tools that scale with your innovation. Learn more at redpitaya.com.

About Texas Instruments

Texas Instruments Incorporated (Nasdaq: TXN) is a global semiconductor company that designs, manufactures and sells analog and embedded processing chips for markets such as industrial, automotive, personal electronics, enterprise systems and communications equipment. At our core, we have a passion to create a better world by making electronics more affordable through semiconductors. This passion is alive today as each generation of innovation builds upon the last to make our technology more reliable, more affordable and lower power, making it possible for semiconductors to go into electronics everywhere. Learn more at [TI.com](https://ti.com).

Nina Bizjak

Red Pitaya
+386 30 322 719
[email us here](#)

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