## STEMlab 125-14 Diagnostic Kit



This kit is based on <u>STEMlab 125-14</u> digitizer, our most versatile and practical digitizer, introduced to the market in 2013 when Red Pitaya was established. Since then it has been used in a wide variety of contexts, from hobbyists and ham radio operators to industry, research, and space applications.

The Red Pitaya STEMlab 125-14 Diagnostic Kit offers a wide range of functionalities, including an oscilloscope, spectrum analyzer, signal generator, and more. With its high-performance capabilities, you can accurately measure and analyze signals with ease.

This kit is equipped with user-friendly software, allowing you to control and visualize your measurements conveniently. Its compatibility with popular programming languages such as C, Python and MATLAB enables seamless integration into your existing workflow.

Whether you are working on educational projects, research, or professional applications, the Red Pitaya STEMlab 125-14 Diagnostic Kit provides a reliable and efficient solution for your measurement and testing requirements.

## **Key features:**

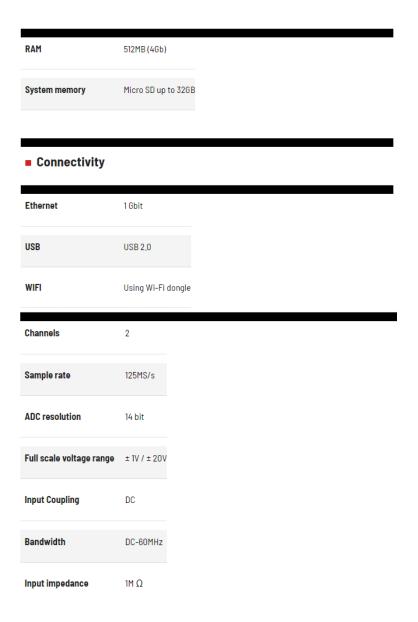
- Small form factor multi-instrument
- Dual-Core ARM Cortex-A9 MPCore Xilinx ZYNQ 7010 SoC (CPU & FPGA)
- FPGA and CPU integration for enhanced performance
- Fast sampling speed:125MSPS, for the two simultaneous inputs
- And the same fast generation speed for the two outputs
- Open-source design for customization and flexibility
- Ethernet connectivity and included WiFi dongle
- Open-source software code available with application examples
- Works with Linux, Windows PC, Android, IOS, basically anything with a web browser

Classification: Genel\Public

- Free web apps (oscilloscope & signal generator, spectrum, Bode and logic analyzer, SDR, VNA, PID)
- Can be controlled remotely using C, LabVIEW, MATLAB, Python, or Scilab
- Can be programmed to meet custom needs

## What is in the box

- Red Pitaya STEMlab 125-14 digitizer board
- SD card (16GB, class 10)
- Ethernet cable (1m)
- Power supply (5V, 2A)
- Aluminium case
- Logic analyzer extension module
- 2x oscilloscope probes
- 2x SMA to BNC adapter
- 2x 50 ohm termination
- 2x SMA T adapter
- WiFi dongle



Channels	2	
Sample rate	125MS/s	
DAC resolution	14 bit	
Full scale voltage range	± 1V	
Load impendance	50 Ω	
Shortcut protection	Yes	
Typical raising/falling time	2V / 10ns	
Bandwidth	DC-60MHz	
Digital IOs	16	
Analog inputs	4 channels	0-3,5V 12bit
Analog outputs	4 channels	0-1,8V 12bit
Communication interfaces	I2C, SPI, UA	ART
Available voltages	- 4V, + 3.3V	/, + 5V
Synchronisation		
Trigger input	Through ex	ctension connec
Daisy chain connection	Over SATA	connection
Ref. clock input	N/A	
Use case	Academi	a, Industry
Weight	1,2 kg	
Dimensions	41 × 14,5	× 9 cm