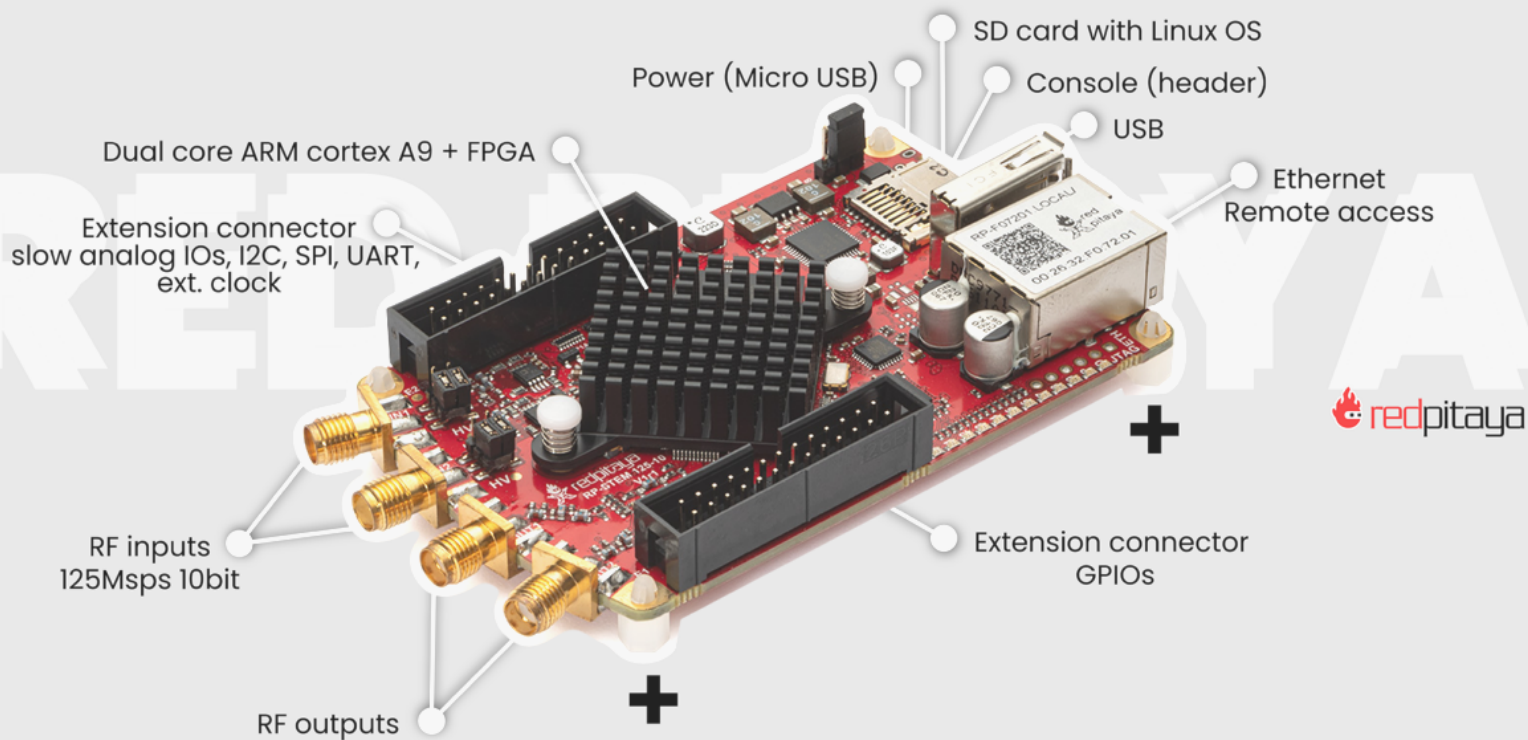


# STEMlab 125-10

**STEMlab 125-10 is Red Pitaya's most affordable DAQ platform and therefore a perfect fit for education and hobby purposes or professional applications where cost optimization is an important factor.**

The device comes with solid performance due to 10bit 125Msps ADC and DAC & Xilinx Zynq 7010 FPGA and offers the same benefits as other Red Pitaya products. The main benefits are remote accessibility, with a WEB app user interface accessible through Ethernet or Wi-Fi.



## Key features:

- Credit-card sized RF signal acquisition & generation platform
- Ethernet connectivity
- Xilinx SoC (CPU & FPGA)
- Two fast analog inputs & two outputs
- Possibility of integration into own system/product
- Open software source code available
- Works with a Linux or Windows PC
- Can be used as an oscilloscope & signal generator, spectrum, bode analyzer, logic analyzer, LCR meter\*, streaming, SDR, or vector network analyzer\*
- Can be controlled remotely using LabVIEW, MATLAB, Python, or Scilab
- Can be re-programmed to suit user's needs
- Supported by an app marketplace with several free apps available

*\* Requires an extension module.*

# Technical specifications **STEM<sup>lab</sup> 125-10**

## **BASIC**

Processor	DUAL CORE ARM CORTEX A9
FPGA	FPGA Xilinx Zynq 7010 SOC
RAM	256MB (2Gb)
System memory	Micro SD up to 32GB
Console connection	USB to serial converter required
Power connector	Micro USB
Power consumption	5V, 1,5A max

## **CONNECTIVITY**

Ethernet	1 Gbit
USB	USB 2.0
WIFI	Requires WIFI dongle

## **RF INPUTS**

RF input channels	2
Sample rate	125 MS/s
ADC resolution	10 bit
Input impedance	1 MOhm/10 pF
Full scale voltage range	±1V (LV) and ±20V (HV)
Input coupling	DC
Absolute max. input voltage range	30V
Bandwidth	DC-50MHz

## **RF OUTPUTS**

RF output channels	2
Sample rate	125 MS/s
DAC resolution	10 bit
Load impedance	50 Ohm
Voltage range	±1V
Short circuit protection	Yes
Connector type	SMA
Output slew rate	2V / 10ns
Bandwidth	DC-50 MHz

## **EXTENSION CONNECTOR**

Digital I/Os	16
Analog inputs	4
Analog inputs voltage range	0-3,5V
Sample rate	100kS/s
Resolution	12bit
Analog outputs	4
Analog outputs voltage range	0-1,8V
Communication interfaces	I2C, SPI, UART
Available voltages	+5V,+3,3V,-4V
External ADC clock	N/A

## **SYNCHRONIZATION**

Trigger input	Through extension connector
Daisy chain connection	N/A
Ref. clock input	N/A