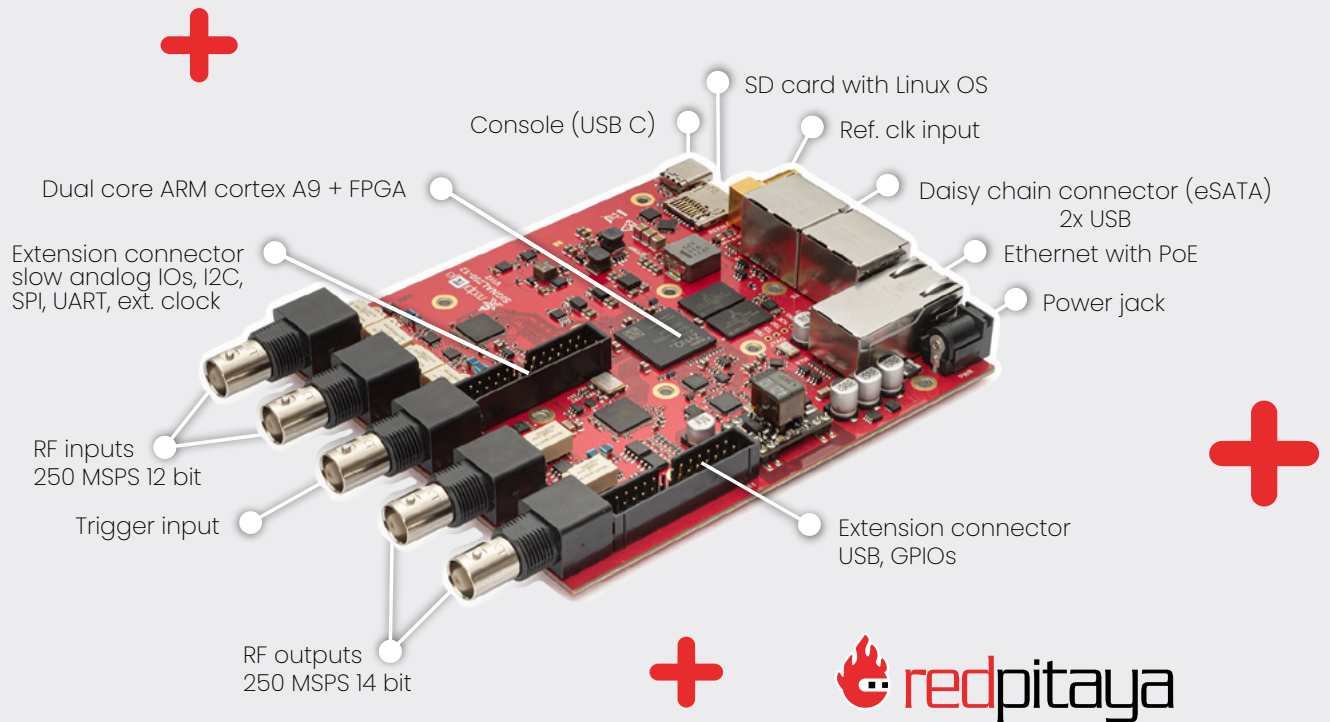


RED PITAYA

SIGNAL^{lab} 250-12



SIGNALlab 250-12 is most sophisticated Red Pitaya product, built for more demanding industrial applications and research, where robustness and performance matter more than cost.

The device has full software control over the hardware and additional hardware features compared to other Red Pitaya products. Its larger Xilinx Zynq 7020 FPGA enables greater real-time processing capabilities plus a faster 250MSPS sampling rate, and just like other Red Pitaya products it offers the benefits of remote access, with an online app user interface accessible through Ethernet or Wi-Fi.

■ Key features

- Small form RF signal acquisition and generation platform
- Ethernet connectivity
- Xilinx SoC (CPU & FPGA)
- Two fast analog inputs and two outputs
Possibility of integration into own system/
product Open software source code available
- Power over Ethernet
- Works with Linux or Windows PC
- Free online apps (oscilloscope & signal generator, spectrum, Bode analyzer, logic analyzer, LCR meter*, streaming, network manager and calibration tool)
- Can be controlled remotely using LabVIEW, MATLAB, Python, or Scilab
- Can be programmed to meet custom needs
- An app marketplace with several free apps available

* Requires an extension module.

■ Technical Specifications

BASIC

Processor	DUAL CORE ARM CORTEX A9
FPGA	FPGA Xilinx Zynq 7020 SOC
RAM	1 GB (8 Gb)
System memory	Micro SD up to 32 GB
Console connection	USB-C
Power connector	Power jack RJ45 (PoE version only)
Power consumption	24 V, 0.5 A max

CONNECTIVITY

Ethernet	1 Gbit
USB	2x USB 2.0
WIFI	Requires WIFI dongle
Synchronisation	Daisy chain connector (up to 500 Mbps)

RF INPUTS

RF input channels	2
Sample rate	250 MS/s
ADC resolution	12 bit
Input impedance	1 MOhm
Full scale voltage range	± 1 V / ± 20 V (software selectable)
Input coupling	AC / DC (software selectable)
Absolute max. input voltage range	30 V
Input ESD protection	Yes
Overload protection	Protection diodes
Bandwidth	DC - 60 MHz

RF OUTPUTS

RF output channels	2
Sample rate	250 MS/s
DAC resolution	12 bit
Load impedance	50 Ohm
Voltage range	± 2 V / ± 10 V (Hi-Z load) (software selectable)
Short circuit protection	Yes
Connector type	BNC
Output slew rate	10 V / 17 ns
Bandwidth	DC - 60 MHz

EXTENSION CONNECTOR

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

SYNCHRONIZATION

Trigger input	Through BNC connector
Daisy chain connection	Over SATA connection (up to 500 Mbps)
Ref. clock input	Through SMA connector