

SEEED-102060147

Red Pitaya SDRlab 122-16 Standard Kit for FPGA application



PRODUCT DETAILS

Features

- Tailored for Software-Defined Radio & other RF applications, HF and 50MHz bands
- No DC coupling - Minimum RF Input frequency (-3dB): 300kHz
- Comes with two 16 bit ADCs 50 ohm inputs; 14-bit DACs 50 ohm outputs
- Three times more performant dual-core ARM Cortex A9 + Xilinx Zynq 7020 FPGA for greater real-time processing capabilities

Description

The Red Pitaya SDRlab 122.88-16 Standard Kit contains the basic components to start developing high precision RF SDR applications with the Red Pitaya STEMLab 122.88-16 board. The board carries two 16-bit ADCs, 50-ohm inputs & 14-bit DACs with 50-ohm outputs, and features a powerful dual-core ARM® Cortex® A9 and Xilinx Zynq 7020 FPGA MCU. Clocked at 122.88 MHz, it is capable of ultra-low phase noise and has high hardware compatibility with high-performance SDR (HPSDR). It has also been rigorously tested for reduced distortions, noise & crosstalk, along with improved dynamic range & sensitivity, which will make it easy to build high-end RF applications.

Applications

- SDR Transceivers
- Radio Frequency Transmission
- Software Amplifiers
- RF Modulators / Demodulators

Specifications

Specification	Details
Processor	Dual-Core ARM Cortex-A9 MPCore
FPGA	Xilinx Zynq 7020
RAM	512MB
System Memory	MicroSD up to 32GB
Connectivity	Gigabit Ethernet USB 2.0 WiFi (Dongle required, not included)

Specification	Details	
RF Inputs	Channels	2
	Sample Rate	122.88MS/s
	ADC Resolution	16 bit
	Full Scale Voltage Range	$\pm 0.25V$ / -2 dBm
	Input Coupling	AC
	Bandwidth	300 kHz - 500 MHz
	Input Impedance	50 Ω
RF Outputs	Channels	2
	Sample Rate	122.88MS/s
	ADC Resolution	14 bit
	Full Scale Voltage Range	$\pm 0.5V$ / +4 dBm
	Shortcut Protection	N/A, RF Transformer & AC-coupled
	Bandwidth	300 kHz - 60 MHz
Peripherals	Digital IOs	16
	Analog Inputs	4 Channels, 0-3.5V 12 bit

Specification	Details	
	Analog Outputs	4 Channels, 0-1.8V 12 bit
	Communication Interfaces	I2C, UART, SPI
	Available Voltages	+5V, +3.3V, -4V
Synchronization	Trigger input through extension connector Daisy chain connection over SATA	

Part List

- 1 x Red Pitaya SDRlab 122-16 Standard kit
- 1 x Micro-SD Card (16GB, class 10)
- 1 x Micro-SD Card Adapter
- 1 x Ethernet cable (1m)
- 1 x International Power Adapter (5V, 2A)