SDRlab 122-16 Standard Kit



Introducing the SDRlab 122-16 Standard Kit, an affordable and versatile open-source digitizer designed for creating your own SDR transceiver. This kit combines FPGA and CPU technology, offering a perfect blend of real-time processing and CPU flexibility.

SDRIab 122-16 was developed specifically for software-defined radio and more demanding RF applications. It comes with two 16-bit 50-ohm inputs and 14-bit 50-ohm outputs, Xilinx Zynq 7020 FPGA for real-time processing capabilities plus an ultra-low phase noise 122.88MHz clock which makes it more hardware-compatible with HPSDR compliant applications. RF inputs are optimized for minimal distortion, noise and crosstalk which significantly improves reception and broadens the choice of antenna.

Key features:

- Credit-card-sized RF signal acquisition and generation platform
- Dual-Core ARM Cortex-A9 MPCore Xilinx ZYNQ 7020 SoC (CPU & FPGA)
- FPGA and CPU integration for enhanced performance
- Open-source design for customization and flexibility
- Ethernet connectivity
- Configurable units of measurement for seamless integration
- Ideal for creating SDR transceivers
- Innovative lab tool for various applications
- Two simultaneous fast analog inputs and two outputs
- Possibility of integration into own system/product
- Open-source software code
- Works with Linux, Windows PC, Android, IOS, basically anything with a web browser
- Free web apps (oscilloscope & signal generator, spectrum, logic analyzer, SDR, VNA)
- Can be controlled remotely using C, LabVIEW, MATLAB, Python, or Scilab
- Can be programmed to meet custom needs

Applications:

- Software-defined radio
- Reverse beacon network (RBN)
- Skimmer server
- Communications
- Diversity radio systems
- RF HF applications
- Space and military RF applications
- FFT analysis and signal measurement
- Environmental electromagnetic measurements
- Universal test platform for RF prototyping

With the SDRIab 122-16 Standard Kit, you can unleash your creativity and explore the world of software-defined radio. Whether you are a hobbyist or a professional, this kit provides the tools you need to build your own SDR transceiver with ease.

What is in the box

- Red Pitaya SDRIab 122-16 digitizer board
- SD card (16GB, class 10)
- Ethernet cable (1m)
- Power supply (5V, 2A)
- Tailored for SDR & 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 bigger dual-core ARM Cortex A9 + Xilinx Zynq 7020 FPGA
- Bigger FPGA provides more real-time processing capabilities
- Hardware compatible with HPSDR
- Improved distortions, dynamic range, sensitivity, noise & crosstalk

Classification: Genel\Public

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RAM	512MB (4Gb)	Channels	2
System memory	Micro SD up to 32GB	Sample rate	122.8MS/s
		DAC resolution	14 bit
Connectivity		Full scale voltage range	+-0.5V / +4 dBm
Ethernet	1 Gbit	Load impendance	50 Ω
USB	USB 2.0	Shortcut protection	N/A, RF transformer & AC coupled
WIFI	Using Wi-Fi dongle	Typical raising/falling time	N/A
RF inputs		Bandwidth	300 kHz - 60MHz
Channels	2	Extension	
Sample rate	122.88MS/s	connector	
ADC resolution	16 bit	Digital IOs	16
Full scale voltage range	0.5Vpp/-2dBm	Analog inputs	4 channels 0-3.5V 12bit
Input Coupling	AC	Analog outputs	4 channels 0-1.8V 12bit
Bandwidth	300 kHz - 550 MHz	Communication interfaces	I2C, SPI, UART
Input impedance	50 Ω	Available voltages	- 4V, + 3.3V, + 5V

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

More

Use case	Industry, Radio Amateurs	
Weight	0,5 kg	
Dimensions	22 × 14,7 × 7,5 cm	