NEW PRODUCT	DIGILENT A National Instruments Company	*Release Year* 2020	*Released Quarter* Q4
Digilent Part Number 6002-410-021		*Category* FPGA	

OVERVIEW

Product Name: USRP B205mini-i: 1x1 USB Software-Defined Radio Platform

Product Subtitle: A wide frequency range (70 MHz to 6 GHz) and a user-programmable transceiver

Product Description: The USRP B205mini-i is a flexible and compact platform that is ideal for both hobbyist and OEM applications. It is designed by Ettus Research™ and provides a wide frequency range (70 MHz to 6 GHz) and a user-programmable, industrial-grade Xilinx Spartan-6 XC6SLX150 FPGA. USRPs are transceivers, meaning that they can both transmit and receive RF signals.

The RF front end uses the Analog Devices AD9364 RFIC transceiver with 56 MHz of instantaneous bandwidth. The board is bus-powered by a high-speed USB 3.0 connection for streaming data to the host computer. The USRP B205mini-i also includes connectors for GPIO, JTAG, and synchronization with a 10 MHz clock reference or PPS time reference input signal.

The hardware is conveniently accessible through the USRP Hardware Driver (UHD). UHD provides both a C/C++ and Python API and offers cross-platform support for multiple industry standard development environments and frameworks, including RFNoC, GNU Radio, LabVIEW and Matlab/Simulink. And to ensure you have no restrictions on how you use UHD, it is available on Linux, Windows, and Mac OS. UHD provides the necessary control used to transport user waveform samples to and from USRP hardware as well as control various parameters (e.g. sampling rate, center frequency, gains, etc) of the radio.

Key Search Terms: USRP, Ettus Research, Software-Defined Radio, Transceiver, GHz, FPGA, Spartan 6, Xilinx, Radio Frequency, Analog Devices, C,C++, Python, GNU Radio, Linux, Windows, signal processing, Simulink, LabVIEW

Video Link: N/A

Datasheet:
https://files.ettus.com/manual/page_usrp_b200.html
Hardware Resources USRP B205 Mini

Demo / Project Links:
Getting Started Guide with USRP B205 Mini
UHD Python API

Features

- Xilinx Spartan-6 XC6SLX150 FPGA
- Analog Devices AD9364 RFIC transceiver
- RF Specifications
  - Channels: 1 TX, 1 RX
  - Frequency range: 70 MHz to 6 GHz
  - Instantaneous Bandwidth: Up to 56 MHz
  - IIP3 (at typical NF): -20 dBm
  - Power Output: >10 dBm
  - Receive Noise Figure: <8 dB
- Conversion Performance and Clocks
  - ADC Sample Rate (Max.): 61.44 MS/s
  - ADC Resolution: 12 bits
  - DAC Sample Rate (Max.): 61.44 MS/s
  - DAC Resolution: 12 bits
  - Host Sample Rate (16b): 61.44 MS/s
  - Frequency Accuracy: +/-2.0 ppm
- Synchronization
  - 10 MHz clock reference
  - PPS time reference
- USB Power: 5V
- Operating Temp. Range: 0 - 45 °C
- Software
  - USRP Hardware Driver 3.9.2 (or later)
  - GNU Radio

Product Image

Image Links:

- https://drive.google.com/file/d/174KWDsXFYnlh8lWx3VCau_GhVOxVFVb5/view?usp=sharing (Bottom)
- https://drive.google.com/file/d/174KWDsXFYnlh8lWx3VCau_GhVOxVFVb5/view?usp=sharing (Oblique)
- https://drive.google.com/file/d/1SjIcA2NGh9VO8kc4WZlw76tT9ut6phD0/view?usp=sharing (Top)

Applications:

- AM/FM
- Cellular Communication / GPS / WiFi
- TV Broadcast
- Industrial, Scientific, and Medical (ISM)

Related Products: