

# USRP<sup>™</sup> B200/B210 Bus Series

### **FEATURES**

- RF coverage from 70 MHz 6 GHz
- GNU Radio, C++ and Python APIs
- USB 3.0 SuperSpeed interface
- Standard-B USB 3.0 connector
- Flexible rate 12 bit ADC/DAC
- Grounded mounting holes

#### **USRP B200**

- 1 TX & 1 RX, Half or Full Duplex
- Xilinx Spartan 6 XC6SLX75 FPGA
- Up to 56 MHz of instantaneous bandwidth
- USB Bus powered

#### USRP B210

- 2 TX & 2 RX, Half or Full Duplex
- Fully-coherent 2x2 MIMO capability
- Xilinx Spartan 6 XC6SLX150 FPGA
  - Up to 56 MHz of instantaneous bandwidth in 1x1
- Up to 30.72 MHz of instantaneous bandwidth in 2x2
- Includes DC power supply
- GPIO capability

## **USRP B200/B210 Product Overview**

The USRP B200 and B210 hardware covers RF frequencies from 70MHz to 6 GHz, has a Spartan6 FPGA, and USB 3.0 connectivity. This platform enables experimentation with a wide range of signals including FM and TV broadcast, cellular, Wi-Fi, and more. The USRP B200 features one receive and one transmit channel in a bus-powered design. The USRP B210 extends the capabilities of the B200 by offering a total of two receive and two transmit channels, incorporates a larger FPGA, GPIO, and includes an external power supply. Both use an Analog Devices RFIC to deliver a cost-effective RF experimentation platform, and can stream up to 56 MHz of instantaneous bandwidth over a highbandwidth USB 3.0 bus on select USB 3.0 chipsets (with backward compatibly to USB 2.0). Because the B200 and B210 are enabled with our USRP Hardware Driver™ (UHD), users can develop their applications and seamlessly port their designs to high-performance or embedded USRPs such as the USRP X310 or USRP E310. UHD is an open-source, cross-platform driver that can run on Windows, Linux, and MacOS. It provides a common API, which is used by several software frameworks, such as GNU Radio. With this software support, users can collaborate with a vibrant community of enthusiasts, students, and professionals that have adopted USRP products for their development. As a member of this community, users can find assistance for application development, share knowledge to further SDR technology, and contribute their own innovations.



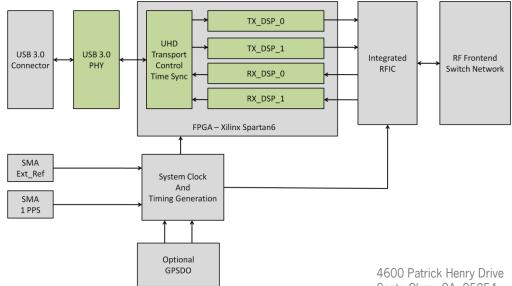
# USRP \*\* B200/B210 **Bus Series**

Spec	Тур.	Unit	
Power			
DC Input	6	V	
Conversion Performance and Clocks			
ADC Sample Rate (max)	61.44	MS/s	
ADC Resolution	12	bits	
ADC Wideband SFDR	78	dBc	
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	
W/ GPS Unlocked TCXO Reference	±75	ppb	
W/ GPS Locked TCXO Reference	< 1	ppb	

Spec	Тур.	Unit	
RF Performance (single channel)			
SSB/LO Suppression	-35/50	dBc	
3.5 GHz	1.0	deg RMS	
6 GHz	1.5	deg RMS	
Power Output	>10	dBm	
IIP3 (@ typ NF)	-20	dBm	
Receive Noise Figure	<8	dB	
Physical			
Dimensions	9.7x15.5x1.5	ст	
Weight	350	g	

\*All specifications are subject to change without notice.

\*\* See benchmark results for sample rates in various configurations.



### About Ettus Research

Ettus Research is an innovative provider of software defined radio hardware, including the original Universal Software Radio Peripheral (USRP) family of products. Ettus Research is a leader in the GNU Radio open-source community, and enables users worldwide to address a wide range of research, industry and defense applications. The company was founded in 2004 and is based in Santa Clara, California. As of 2010, Ettus Research is a wholly owned subsidiary of National Instruments.

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