

## USRP™ X300 and X310 X Series

### FEATURES

- Two wideband RF daughterboard slots
  - Up 160MHz bandwidth per channel
  - Selection covers DC to 6 GHz
- Large, customizable Kintex-7 FPGA
  - USRP X300 - XC7K325T
  - USRP X310 – XC7K410T
- UHD architecture provides compatibility:
  - GNURadio
  - C++ API/Python
  - Other third-party frameworks & applications
- Multiple high-speed interfaces
  - Dual SFP(+) ports for 1/10 Gigabit Ethernet
  - PCIe x4
- Flexible clocking architecture
  - Configurable sample clock
  - Optional GPS-disciplined OCXO
  - Coherent operation with 10 MHz/1 PPS
- Compact and rugged half-wide 1U form factor

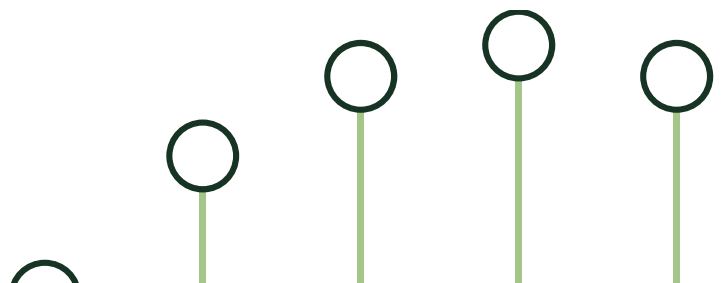


### SAMPLE APPLICATIONS

- Advanced Wireless Prototyping (WiFi/Cellular)
- Massive MIMO Testbeds
- Passive RADAR
- Signals Intelligence

### USRP X300 and X310 Product Overview

The Ettus Research USRP X300 and X310 are high-performance, scalable software defined radio (SDR) platforms for designing and deploying next generation wireless communications systems. The hardware architecture combines two extended bandwidth daughterboard slots covering DC – 6 GHz with up to 160MHz of baseband bandwidth, multiple high-speed interface options (PCIe, Dual 1/10 GigE), and a large user-programmable Kintex-7 FPGA in a convenient desktop or rack-mountable half-wide 1U form factor. In addition to providing best-in-class hardware performance, the open source software architecture of the USRP X300 and X310 provides cross-platform UHD driver support making it compatible with a large number of USRP supported development frameworks, reference architectures, and open source projects.



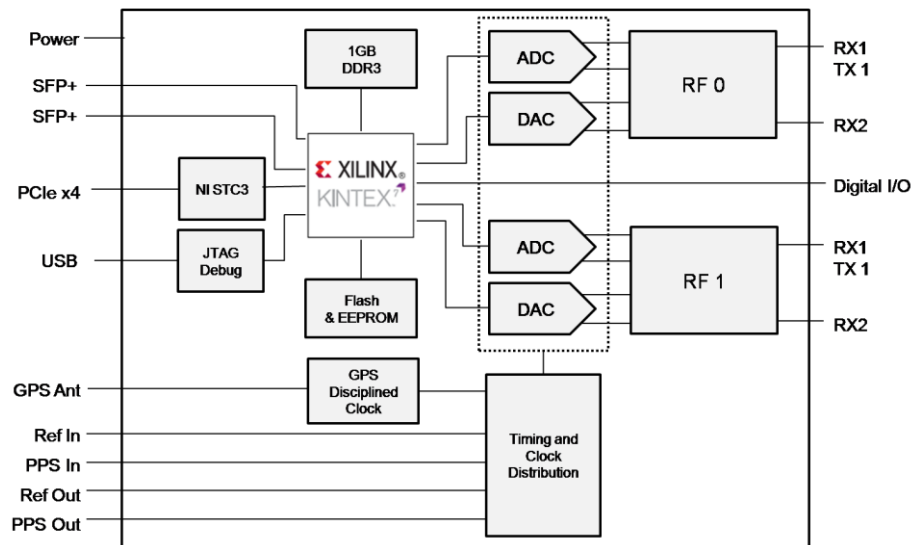
# USRP™ X300 and X310 X Series

Spec	Typ.	Unit
<b>Power</b>		
DC Input	12	V
Power Consumption (2x UBX-160)	45	W
<b>Conversion Performance and Clocks</b>		
ADC Sample Rate (max)	200	MS/s
ADC Resolution	14	bits
DAC Sample Rate (max)	800	MS/s
DAC Resolution	16	bits
Host Sample Rate (16b) **	200	MS/s
Internal Reference Accuracy	2.5	ppm
Accuracy w/ GPSDO Option (not locked to GPS)	20	ppb

Spec	Typ.	Unit
<b>RF Performance (with UBX-160)</b>		
<b>Receiver</b>		
RX Noise Figure (50 MHz - 4 GHz)	<5	dB
IQ Imbalance	<-30	dBc
RX IIP3 (>35MHz)	8 - 13	dBm
<b>Transmitter</b>		
<3.5 GHz	>18	dBm
6 GHz	>5.5	dBm
<b>Physical</b>		
Dimensions (half-wide, 1U)	26.7 x 21.8 x 4.1	cm
Weight (w/ 2x UBX-160)	1.6	kg

\*All specifications are subject to change without notice.

\*\* Host sample rate dependent on selected interface and host-PC performance.



## 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 products maintain support from a variety of software frameworks, including GNU Radio. 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 Mountain View, California. As of 2010, Ettus Research is a wholly owned subsidiary of NI.

11500 N. Mopac Expwy  
Austin, TX 78759-3504  
United States of America  
[www.ettus.com](http://www.ettus.com)  
[www.ni.com](http://www.ni.com)