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.
**Spec** | **Typ.** | **Unit**
---|---|---
**Power**
DC Input | 12 | V
Power Consumption (2x UBX-160) | 45 | W

**Conversion Performance and Clocks**
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

**RF Performance (with UBX-160)**

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**Receiver**
RX Noise Figure (50 MHz - 4 GHz) | <5 | dB
IQ Imbalance | <30 | dBc
RX IIP3 (>35MHz) | 8 - 13 | dBm

**Transmitter**
<3.5 GHz | >18 | dBm
6 GHz | >5.5 | dBm

**Physical**
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.

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**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.