

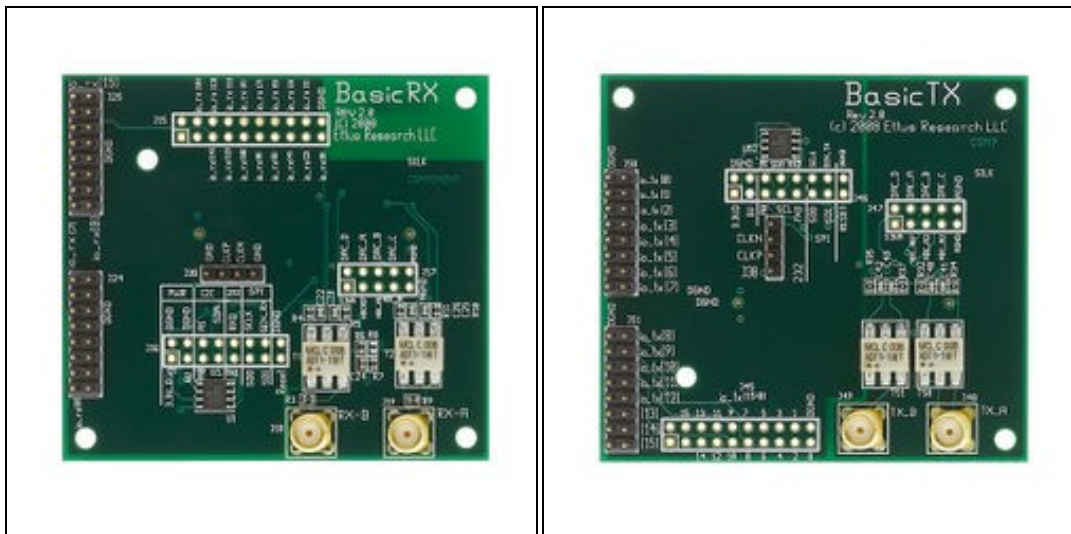
# BasicRX

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The BasicRX/BasicTX daughterboards are low-cost daughterboards that provides direct access to the ADC inputs. The boards can accept real-mode signals from 1 to 250 MHz. The BasicRX/BasicTX is ideal for applications using an external front end providing relatively clean signals within operable bandwidth. Wideband transformers couple each RF input to a single channel of the USRP device's ADC. The signals sampled by the ADC are manipulated in the FPGA, and the outputs can be processed independently, or as a single I/Q pair. The BasicTX/BasicRX daughterboards are supported by the USRP Hardware Driver? (UHD) software API for seamless integration into existing applications.

- 1-250 MHz coverage
- Real or Complex sampling



## BasicRX

The BasicRX has 4 frontends:

- **Frontend A:** real signal on antenna RXA
- **Frontend B:** real signal on antenna RXB
- **Frontend AB:** quadrature frontend using both antennas (IQ)
- **Frontend BA:** quadrature frontend using both antennas (QI)

## BasicTX

The BasicTX has 4 frontends:

- **Frontend A:** real signal on antenna TXA
- **Frontend B:** real signal on antenna TXB
- **Frontend AB:** quadrature frontend using both antennas (IQ)
- **Frontend BA:** quadrature frontend using both antennas (QI)

## BasicRX

- The BasicRX has no tunable elements or programmable gains. Through the magic of aliasing, you can down-convert signals greater than the Nyquist rate of the ADC.

#### BasicTX

- The BasicTX has no tunable elements or programmable gains. Through the magic of aliasing, you can up-convert signals greater than the Nyquist rate of the DAC.

#### BasicRX

- For Real-Mode (A or B frontend): 250 MHz
- For Complex (AB or BA frontend): 500 MHz

#### BasicTX

- For Real-Mode (A or B frontend): 250 MHz
- For Complex (AB or BA frontend): 500 MHz

- All RF Ports are matched to 50 Ohm with -10dB or better return loss generally. Detailed test is pending.

- The maximum input power for the BasicRX is +10 dBm.

- Ettus Research recommends to always use the latest stable version of UHD

- Current Hardware Revision: 1
- Minimum version of UHD required: 3.8.0

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- Minimum version of UHD required: 3.8.0

- 0-40 °C

- 10% to 90% non-condensing

- N or X Series

- N or X Series

#### Basic RX Schematics

#### Basic TX Schematics

Part Number	Description	Schematic ID (Page)
24LC025B	EEPROM	U1 (1); U52 (1)
ADT1?1WT	RF Transformer	T1 (1); T2 (1); T50 (1); T51 (1)

- BasicRX - File:cu ettus-cca-basic-rx.pdf

- The BasicTX/RX daughterboard features female SMA connectors for both the RX and TX connectors.

As of December 1st, 2010 all Ettus Research products are RoHS compliant unless otherwise noted. More information can be found at <http://ettus.com/legal/rohs-information>

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#### FPGA Resources

#### UHD Stable Binaries

#### UHD Source Code on Github