Ettus Research

TX and RX Daughterboards

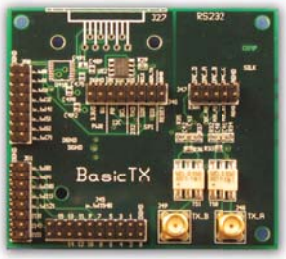
For the USRP Software Radio System

BasicTX and BasicRX

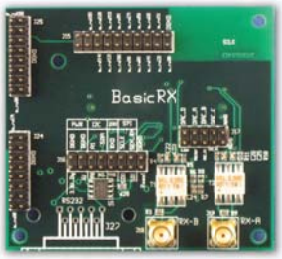
1 MHz to 250 MHz Transmitter and Receiver

The BasicTX and BasicRX are designed for use with external RF frontends as an intermediate frequency (IF) interface. The ADC inputs and DAC outputs are directly transformer-coupled to SMA connectors (50Ω impedance) with no mixers, filters, or amplifiers.

The BasicTX and BasicRX give direct access to all of the signals on the daughterboard interface (including 16 bits of high-speed digital I/O, SPI and I2C buses, and the low-speed ADCs and DACs), and as such are useful for developing your own daughterboards or custom FPGA designs.



BasicTX



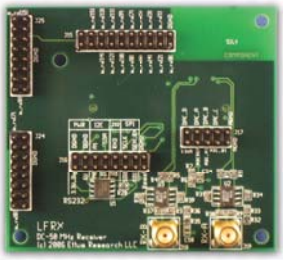
BasicRX

LFTX and LFRX

DC to 30 MHz Transmitter and Receiver

The LFTX and LFRX are very similar to the BasicTX and BasicRX, respectively, with 2 main differences. Because the LFTX and LFRX use differential amplifiers instead of transformers, their frequency response extends down to DC. The LFTX and LFRX also have 30 MHz low pass filters for antialiasing.

LFTX



LFRX

TVRX

50 MHz to 860 MHz Receiver

The TVRX daughterboard is a complete VHF and UHF receiver system based on a TV tuner module. Simply connect an antenna, and you can receive a 6 MHz wide block of spectrum from anywhere in the 50-860 MHz range. All tuning and AGC functions can be controlled from software. This board is useful for much more than just receiving television! Typical noise figure is 8 dB.

Note: The TVRX is the only daughterboard which is NOT MIMO capable.

TVRX

DBSRX

800 MHz to 2.4 GHz Receiver

The DBSRX is a complete receiver system for 800 MHz to 2.4 GHz with a 3-5 dB noise figure. The DBSRX features a software controllable channel filter which can be made as narrow as 1 MHz, or as wide as 60 MHz. The DBSRX frequency range covers many bands of interest, including all GPS and Galileo bands, the 902-928 Mhz ISM band, cellular and PCS, the Hydrogen and Hydroxyl radio astronomy bands, DECT, and many more. The DBSRX is MIMO capable, and can power an active antenna via the coax.

Note: The DBSRX is NOT guaranteed to cover the 2.4-2.48 GHz ISM band.

DBSRX

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