

Transceiver Daughterboards

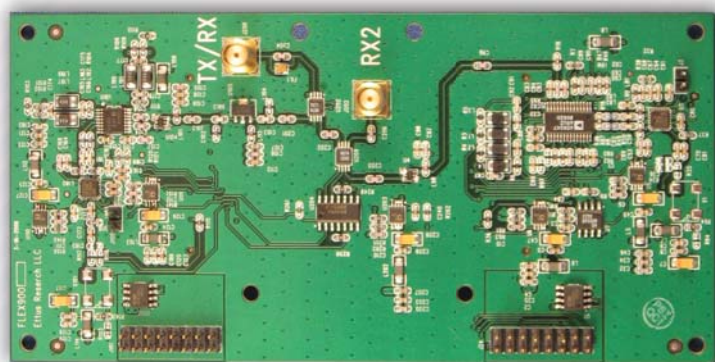
For the USRP Software Radio System

DESCRIPTION

The RFX family of daughterboards turns a USRP motherboard into a complete RF transceiver system. Just add an antenna, and you are ready for two-way, high bandwidth communications in many popular frequency bands. The boards have many features which facilitate their integration into more complex systems, such as digital control lines and the option for split transmit and receive ports.

FEATURES

- 20+ MHz transmit and receive bandwidth
- Fully synchronous design, MIMO capable
- All functions controllable from software or FPGA
- Independent local oscillators (LOs) for TX and RX enable split-frequency operation
- < 200us PLL lock time, can be used for frequency hopping
- Built-in T/R switching
- TX and RX on same connector or use auxiliary RX port
- 16 digital I/O lines to control external devices like antenna switches
- Built-in analog RSSI measurement (all except for RFX400)
- 70 dB of AGC range (except for RFX400 with 45dB)
- Adjustable transmit power
- Full-duplex capable (with some limitations)



BOARDS

RFX400

- Frequency Range: 400 to 500 MHz
- Transmit Power: 100mW (20dBm)

The frequency range of the RFX400 makes it ideal for UHF TV, public safety and land-mobile communications, low-power unlicensed devices (like key-fobs), wireless sensor networks (motest), and amateur radio. Additionally, minor modifications to the board can move the frequency range to anywhere from 200 MHz to 800 MHz (contact Ettus Research for details).

RFX900

- Frequency Range: 750 to 1050 MHz
- Transmit Power: 200mW (23dBm)

The RFX900 comes with a 902-928 MHz ISM-band filter installed for filtering strong out-of-band signals (like pagers). The filter can easily be bypassed to allow usage over the full frequency range, enabling use with cellular, paging, motest, and two-way radio, in addition to the ISM band.

RFX1200

- Frequency Range: 1150 to 1450 MHz
- Transmit Power: 200mW (23dBm)

Coverage of navigation, satellite, and amateur bands.

RFX1800

- Frequency Range: 1.5 to 2.1 GHz
- Transmit Power: 100mW (20dBm)

Coverage of DECT, US-DECT, and PCS (including unlicensed) frequencies.

RFX2400

- Frequency Range: 2.3 to 2.9 GHz
- Transmit Power: 50mW (17dBm)

The RFX2400 comes with a bandpass filter around the ISM band (2400-2483 MHz). The filter can be easily bypassed, allowing for coverage of the full frequency range.