Ettus Research

USRP2

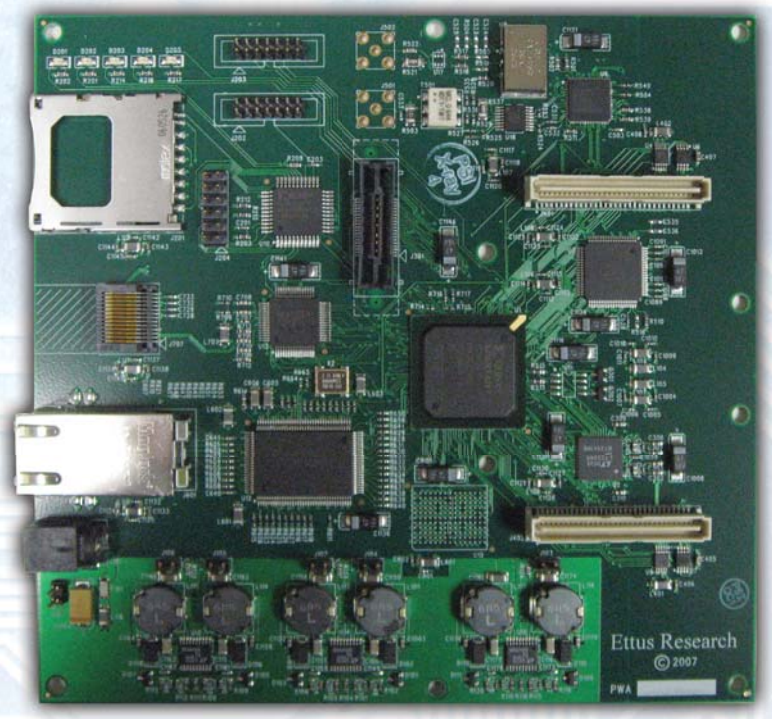
The Next Generation of Software Radio Systems

THE USRP2

The USRP2 builds on the success of the original USRP, offering higher performance and increased flexibility at a very low price. Higher-speed and higher precision ADCs and DACs allow for wider band signals while at the same time increasing dynamic range. A large field programmable gate array (FPGA) which is optimized for DSP applications allows for processing complex waveforms at high sample rates. A Gigabit Ethernet interface allows applications to simultaneously send 50 MHz of RF bandwidth in and out of the USRP2.

In the USRP2, high sample rate processing, like digital up- and down conversion, takes place in the FPGA. Lower sample rate operations can be performed on the host computer, or can even be done in the FPGA, which contains a 32-bit RISC microprocessor and has a significant amount of free space for user designs. The larger FPGA allows the USRP2 to be used as a standalone system without a host computer in many cases. USRP2 configurations and firmware are stored in a Secure Digital (SD) flash card, to allow for easy programming without special hardware.

Multiple USRP2 systems can be connected together to form fully coherent multiple antenna systems for MIMO with as many as 8 antennas. The master oscillator can be locked to an external reference, and there is a 1 pulse per second (1PPS) input for precise timing applications.



FEATURES

- Two 100 MS/s 14-bit analog to digital converters
- Two 400 MS/s 16-bit digital to analog converters
- Digital downconverters with programmable decimation rates
- Digital upconverters with programmable interpolation rates
- Gigabit Ethernet Interface
- 2 Gbps high-speed serial interface for expansion
- Capable of processing signals up to 100 MHz wide
- Modular architecture supports a wide variety of RF daughterboards
- Auxiliary analog and digital I/O support complex radio controls such as RSSI and AGC
- Fully coherent multi-channel systems (MIMO capable) with up to 8 antennas
- 1 Megabyte of on-board high-speed SRAM

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