

RFNoC

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Current FPGAs, like the Xilinx Kintex-7 and Zynq-7000 series used in third generation USRP SDRs, have incredible computational capability, but taking advantage of that capability can be difficult when using traditional FPGA design flows. RFNoC is designed to allow you to efficiently harness the full power of the latest generations of FPGAs without being an expert firmware developer. It provides the capability to create FPGA applications as easily as you can create GNU Radio flowgraphs. This includes the ability to seamlessly transfer data to & from an FPGA, from the host PC in your application, dramatically improving the ease of FPGA off-loading. Having a system-level view of the entire SDR application running on both the FPGA and the host PC enables far superior development and debugging. Mixing and matching host-based and FPGA-based processing is transparent to you, and that processing can scale across multiple FPGAs and devices across a network.

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- FIFO
- FFT
- FIR
- fosphor (real-time spectrum analyzer)
- Decimator (Keep 1 in N)
- Log Power Calculator
- Radio Interface
- Vector IIR (moving average)
- Window multiplier (for FFT)
- OFDM: Burst detection + synchronization, equalizer, packet demodulator

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