VLSI implementation of ofdm specified FFT architecture for software defined radio

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ABSTRACT

The challenge for new generations of software defined radio is to maintain pliability while simultaneously supporting programming. This paper presents a novel Software-defined radios (SDRs) architecture which is viable for wide varieties of communication protocols and physical data channels. It focus on OFDM transceiver styles due to their bandwidth scalability and standards, such as IEEE 802.11 is deliberated. This paper presents frameworks comprises of OFDM techniques, VLSI mapping of algorithms, Quadrature Phase shift keying (QPSK), Fast Fourier transform (FFT). Two modulations such as, Quadrature amplitude modulation (QAM) and Quadrature phase shift keying (QPSK) of OFDM baseband transceivers are implemented and compared. The architecture proposed is implemented using Verilog HDL Language. The proposed SDR system jointly minimizes power, maximize algorithm pliability, and enables rapid software re-programming which provides data rate reliability, and efficient throughput.