Abstract

The need of wireless access in many applications like voice and high data rate multi-media is rapidly growing and latest wireless communication systems serving this need through advanced resource management, and improved transmission technologies resulting in very small communication devices. During this optimization, communication systems must be designed for transparent insertion of new technologies at virtually every stage. The upgradation should not disturb the communication between upgraded devices. To satisfy future needs in spectrum access and spectrum efficiency, Software Defined Radios (SDR) was introduced as a new technology in 1970s. Software Defined Radio (SDR) has become significant in research since it substitutes conventional implementation on wireless communication system. The technical progress and conception of SDR has led to the evolution of high-performance digital signal
processors and required software to become key enabling technologies. This survey paper identifies the enabling technologies and research areas resulting in development of Software Defined Radios (SDR). Transmitter and Receiver architectures of SDR are also discussed and their feasibility for a reconfigurable radio application is investigated.

References


**Index Terms**

Computer Science

Wireless Communications

**Keywords**

Wireless communications SDR FPGA DSP