

## Preliminary Findings from a Research Survey on Evolution of Software Defined Radio

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**Abstract :** Communication of today world is dominated by wireless technology. This is mainly due to the revolutionary development of new wireless communication system generations. The evolving new generations of wireless systems are accommodating the demand through better resource management including improved transmission technologies with optimized communication devices. To keep up with the evolution of technologies, the communication systems must be designed to optimize transparent insertion of newly evolved technologies virtually at all stages of their life cycle. After the insertion of new technologies, the upgraded devices should continue the communication without squalor in quality. The concern of improving spectrum access and spectrum efficiency combined with both the introduction of Software Defined Radios (SDR) and the possibility of the software application to radios has led to an evolution of wireless radio research. The software defined radio term was coined in the 1970s to overcome the problems in the application of software to wireless radios which eliminates the requirement of hardware changes. SDR has become the prime theme of research since it eliminates the drawbacks associated with conventional wireless communication systems implementation. This paper identifies and discusses key enabling technologies and possibility of research and development in SDRs. In addition transmitter and receiver architectures of SDR are also discussed along with their feasibility for reconfigurable radio application.

**Keywords :** software defined radios, wireless communication, reconfigurable, reconfigurable transmitter, reconfigurable receivers, FPGA, DSP

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