A Dynamically Reconfigurable Transceiver for Software Defined Radio

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Abstract

Software Defined Radio (SDR) is an emerging field in the area of Digital Communications. The ever growing interest in SDR systems lies in the fact that it can provide multi-standard architecture. This paper describes a dynamically reconfigurable architecture of an SDR system on a Model Based Development (MBD) platform which is a new approach and saves a considerable amount of time in design, testing and implementation. In this work, four modulation schemes are chosen for this application of SDR namely BPSK, QPSK, 16-QAM, 256-QAM. The paper describes the implementation of these four modulation / demodulation schemes on an MBD platform. The receiver in this architecture is made intelligent enough to determine which modulation scheme the transmitter is transmitting and switches on to the corresponding demodulation scheme. Finally the results obtained are presented in graphical form.

References
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**Index Terms**

- Computer Science
- Signal Processing

**Keywords**

- FPGA
- SDR
- DSP
- MBD
- QAM