

## Abstract

The aim of the project is to implement the DQPSK Modulation on FPGA.

The designer is provided to take full advantage and realize higher performance modulation system, with the advantage of the IP (Intellectual Property) cores, programmable flexibility in FPGA with out using the discrete components. The chosen Modulation technique is initially simulated in Matlab verifying the functionality.

Hardware Description Language (Verilog HDL) is chosen for FPGA design entry. The implementation is done on XC3S400- TQ144 Spartan-3 Family FPGA.

As the digital technology ramps up for this century, an ever increasing member of RF applications will involve the transmission of digital data from one point to another. The general scheme is convert the data into a suitable baseband signal that is then modulated on to the RF carrier. With the advancement of Digital Signal Processing in the FPGA, the modulation is moved to the digital domain. FPGA was judged good in the matter of time to market. FPGAs avail field-ready modifications to achieve functions and flexibility with software reprograms ability.