

## Abstract

Lightweight ciphers (e.g., Katan) are crucial for secure communication for resource-constrained devices. The Katan cipher algorithm was proposed for low-resource devices. This paper examines implementing Katan Cipher on field programmable gate array (FPGA) platform. The paper discusses several implementations, with 80-bits key size and 64-bits block size. The energy and power dissipations are examined to select the optimum design. Models for resources and power are derived with average error of 12% and 17.