**VLSI IMPLEMENTATION OF BOOLEAN ALGEBRA BASED CRYPTOGRAPHIC ALGORITHM**

**Abstract:**

FPGA is an integrated circuit, which can be reconfigured by designers themselves. FPGA are reprogrammable silicon chips. Field Programmable Gate Arrays (FPGA) are used for hardware implementations of cryptographic algorithm. This paper presents an FPGA based Hardware implementation of Boolean algebra based cryptographic algorithm for secure transmission. Using this algorithm, we can hide the meaning of a message in unreadable characters. ASCII values of characters, numbers and symbols are used for encryption and decryption. ASCII values converted into binary number and it takes 32 bits in implementation. Boolean operations such as 1's and 2's complement and xor operation are used for encryption and decryption. Xilinx – sparton3E FPGA kit is used for the synthesizing and implementation of cryptographic algorithm.

**Keywords**—Cryptography; Encryption; Decryption; BAC Algorithm (Boolean algebra Cryptography); Complement; XOR operation, Unicode

**TOOLS:**

1. **XilinxISE 14.7**

**LANGUAGE:**

1. **VerilogHDL**