SI No	Particulars		
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3.	PhD Thesis Title	Implementation of High Speed FPGA Based Scalar Multiplication for Elliptic Curve Cryptography	
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7.	Brief synopsis		

Security of data plays a vital role in an organization. Normally data is transmitted or shared through insecure channels. In order to protect the confidential data, cryptography has come to its rescue. Accordingly cryptography finds its usage for confidentiality, authentication, data integrity, and non-repudiation. Cryptography can be divided into two types: secret-key cryptography and public-key cryptography. Elliptic curve cryptography (ECC) is one type of public key crypto-system. Its attractive feature is smaller key size with the same level of security compared to other cryptographic algorithms like RSA.

In ECC, the message that needs to be transmitted is converted as a point (Co-ordinate) on the elliptic curve. Since the scalar multiplication is the most time consuming operation in ECC, the objective of the research is focused on how to increase the speed of point or scalar multiplication in ECC.

In general, the binary field is suitable for hardware applications and the prime field is suitable for software applications. Still lot of challenges exists in hardware realization of ECC over GF(p) to accomplish better speed. To meet this objective, we have investigated several hardware realizations of fast elliptic curve point multiplication over prime field GF(p).