

MULTI LAYER PROTECTION OBFUSCATION TECHNIQUE FOR HARDWARE IP PROTECTION AND IDENTIFICATION

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ABSTRACT

System on a Chip (SoC) is an embedded system module that has functionality in a silicon chip board that can also be called Very Large Scale Integration (VLSI). The owner of the SoC design owns the copyright on the design of the system that has been created. Fabless manufacturing is a way of printing hardware modules that Integrated Circuit (IC) designers are Outsourcing from outside the printing factory. Fabless manufacturing from IC design has gap design theft. When the design will be printed or when the project requires multiple module with various functions from various designers. Therefore every module is VLSI. Of this chip designer requires proof of ownership of the designer or Production companies. In this study plans to make the verification of ownership design with 2 specific key verification that is Polygate as the main key that will activate the second key, and the second key will be active which process using digital filter algorithm.

Keywords: VLSI, Intellectual Properties, Hardware Security, Obfuscation

I. INTRODUCTION

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Hello, here is some text without a meaning. This text should show what a printed text will look

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II. INTRO DUTION

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asdasdsa

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- asdasd;
- asdasd.

asdasdasdasd \begin{enumerate} qwe-qwe \end{enumerate}.asdasddsasdasdsad \item.

1. asdasdas;
2. sadasd.

III. ASDASD

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Figure 1 – asdasd

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$$x_i^{-1} = 1 + \left(\frac{1}{1 - x^2} \right)^3. \quad (1)$$

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Table 1 – asdasd

asdasd	asdasd	asdasd- asdasd	asdasd- asdasd
asdasd 1	0.8824	0.9123	0.8264
asdasd asdd	0.8102	0.9185	0.6239

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IV. ASDASDASSAD

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$$\phi_n(\kappa) = \frac{1}{4\pi^2\kappa^2} \int_0^\infty \frac{\sin(\kappa R)}{\kappa R} \frac{\partial}{\partial R} \left[R^2 \frac{\partial D_n(R)}{\partial R} \right] dR + K_\lambda(x_2, y_2) \otimes \left| m_\lambda \left(\frac{x_2}{\lambda \cdot s_2}, \frac{y_2}{\lambda \cdot s_2} \right) \right| \quad (2)$$