Power modeling of blockchain applications in mobile systems

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***Abstract*—Since security has become a major concern in the everyday use of technology. The impact of mobiles and the growing dependency that the general population has in mobile devices and systems has increased its potentially harmful impact of a security breach. Most of the interaction between users with systems, including banking and e-commerce are made using mobile devices. Recently the introduction of the blockchain technology as an effective security solution for many applications that involve transactions, also as hardware evolves those mobile devices now have larger processing capabilities that make it possible to run blockchain based solution in the mobile space. A definition of a power model allow us to describe, understand and predict the expected behavior of the power consumption demand in those kind of solutions and will help the system designers to estimate how the devices will behave in terms of power consumption. Also, it will help application designers to define the scope of its application in terms of performance and power consumption when it is executed in a mobile device and a high compute rate is expected to perform the blockchain mining process. In regard of related work, there is a research about a blockchain system for mobile systems [1], and an energy model for blockchain consensus algorithm [2] [3]. Also, blockchain edge is researched in [4] [5] [6]. Deep learning approaches are researched in [7] [8]. There is a research about wireless mobile miners [9] and also energy systems are researched in [10] [11].**

***Index Terms*—LaTeX mobile systems, blockchain, power modeling.**

I. Introduction

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