

Documents

Hassan, A.E., Ghazo, J.A., Alzubaidi, L.

Human bio functions as fpgas chip design-an insulin perspective

(2012) *IAENG Transactions on Electrical Engineering Volume 1: Special Issue of the International Multiconference of Engineers and Computer Scientists 2012*, pp. 288-300.

Abstract

In this article, which is based on a paper by the same authors [16], the modeling and synthesis of human Insulin Hormone Secretion Mechanism is accomplished using VHDL and FPGAs technologies. A mathematical model is developed and analyzed using Matlab and Least-Square fitting algorithm. C++ is used to model the behavior of Insulin secretion in humans and converted to VHDL. Results are verified then the mechanism is realized on a Xilinx FPGAs chip. This chip is then tested with simulated input and its behavior is deemed consistent with the mathematical model. The chip is therefore an identical replica of the Human Insulin Secretion Mechanism. © 2013 by World Scientific Publishing Co. Pte. Ltd. All rights reserved.

2-s2.0-84973457752

Document Type: Book Chapter

Publication Stage: Final

Source: Scopus