بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

DESIGN OF BUFFER-LESS THREE DIMENSIONAL (3D) NETWORK ON CHIP (NoC) ROUTERS

By

Marwa Mohamed Zaky Shaheen

A thesis submitted to the
Faculty of Engineering at Cairo University
in Partial fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
Electronics and Communications Engineering

Faculty of Engineering, Cairo University
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Under the Supervision of

Prof. Dr. Mohamed Riad El-Gonemy

Professor
Electronics and Communications
Engineering Department
Faculty of Engineering

Prof. Dr. Hossam A. H. Fahmy

Professor
Electronics and Communications
Engineering Department
Faculty of Engineering

Associ. Prof. Dr. Hassan M. H. Mostafa

Assistant Professor
Electronics and Communications
Engineering Department
Faculty of Engineering

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Approved by the
Examining Committee

Prof. Dr. Mohamed Riad El-Gonemy	**Thesis Main Advisor**
Prof. Dr. Hossam A. H. Fahmy	**Advisor**
Associate Prof. Dr. Hassan M. H. Mostafa	**Advisor**
Prof. Dr. Ahmed Hussein M. Khalil	**Internal Examiner**
Prof. Dr. ElSayed Mostafa Saad - Helwan University	**External Examiner**

Faculty of Engineering, Cairo University
GIZA, EGYPT
2020

Engineer's Name:	Marwa Mohamed Zaky Shaheen	
Date of Birth:	20/7/1992	
Nationality:	Egyptian	
Email:	marwa.92.shaheen@gmail.com	
Phone:	01118041720	
Address:	Electronics and Communication Engineering Cairo University	
Registration Date:	20/9/2014	
Awarding Date:	-/-/2020	
Degree:	Master of Science	
Department:	Electronics and Communication Engineering	
Supervisors:	Prof. Dr. Mohamed Riad Al-Gonemy	
	Prof. Dr. Hossam A. H. Fahmy	
	Dr. Hassan M. H. Mostafa	
Examiners:	Prof. Dr. Mohamed Riad Al-Gonemy	(Thesis main advisor)
	Prof. Dr. Hossam A. H. Fahmy	(advisor)
	Dr. Hassan M. H. Mostafa	(advisor)
	Prof. Dr. Ahmed Hussein M. Khalil	(Internal examiner)
	Prof. Dr. ElSayed Mostafa Saad Helwan University	(External examiner)

Title of Thesis:

Design of Buffer-less Three Dimensional (3D) Network on Chip (NoC) Routers.

Keywords:
network on chip (NoC)

Summary:
In this work brief introduction to network on chip is included. Followed by an introduction to the architecture of CONNECT and related work in buffer-less router designs. Next, this work presents Modified CONNECT buffer-less router architecture that targets FPGA. A discussion on 3-dimensional network pros and cons is introduced followed by simulations of 3D-Modified CONNECT. Later, a brief study is introduced that discusses the optimum size and feature of 3D NoC. Finally, A CAD tool is presented that summarize the work and enables the user to configure different buffer-less 3D NoCs.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute. I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name ..... Date .....

Signature .....

Acknowledgement

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